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in Economia e Finanza

Tesi di Laurea

Too Big To Fail
The policy of the mega-banks

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Chapter I. Introduction – Who they are ................................................................. 5

Chapter II. History – How we got here ................................................................. 9

Section I. TBTF in U.S. .............................................................................. 10
Section II. TBTF in Europe ....................................................................... 20
Section III. TBTF and the crisis .................................................................. 33
Section IV. TBTFs, SIBs, SIFIs, LCBGs and G-SIFIs ................................. 46

Chapter III. The intellectual debate - Why did they become TBTF? .......... 55

Section I. Does size help a bank? ............................................................... 56

For - Who says that TBTF is not a problem ............................................ 56

Against - Evidence on banks become too big ............................................ 57

A) Lower funding cost (the market’ side) ............................................... 58
B) Implicit and explicit subsidies encourage to take more risks (the supervisor’ side) ................................................................. 64
C) Whom is without subsidies forces himself to lower their prices and to homologate the products ......................................................... 68

Section II. How much have banks paid to become TBTF? .................... 71

Section III. Too big to fail or too big to be rescued? .............................. 75
Chapter IV. Practical solutions - How to prevent the next crisis? ........................................ 81

Section I. New Capital Requirement .......................................................................................... 83

Section II. More Supervision .................................................................................................... 85

Section III. What more to deal with TBTFs? ............................................................................. 88

  A) Restricting the ability to exercise certain activities .............................................................. 89

  B) Discouraging bigness through curbs and incentives .......................................................... 98

  C) Put a size cap and breakup bigger firms ............................................................................. 100

  D) Plan for their closure .......................................................................................................... 103

Section IV. What has been approved? ...................................................................................... 108

Chapter V. Conclusions ............................................................................................................ 125

  Section I. Costs and benefits .................................................................................................... 125

  Section II. These reforms will be enough? ............................................................................. 128

References .................................................................................................................................... 131
Chapter I. Introduction – Who they are

The banking sector consists of many firms for specialization and size which provide the money needed for the economy itself. Some of these companies are banks, characterized by liquidity constraints while others are called non-bank financial intermediaries.

In recent decades, a gradual process of financial innovation, globalization and banking de-regulation (or better de-specialization) has led to the creation of institutions increasingly large and complex. However, the reasons for this growth are not necessarily attributable to organic growth and functional, but also other hidden reasons.

This is the case of the institutes Too Big to Fail (TBTF). The present work focuses on these institutions, whose distinctive features can be recognized often without limitations, which involve size, complexity and systemic interconnectedness, Giannino (2014).

As a first approximation, these institutions are considered by the economic literature so large that their failure must be avoided by supervisors and governments through bailouts. The knowledge of having a safety net special behind would lead these institutions to exceed always, with great moral hazard, risk-taking, Brewer and Jagtiani (2009). Moreover, their counterparties have fully protected in turn triggers further risks from associated companies. “As result, these TBTFs operate under an implicit government undertaking that, although a private business, their continuous existence as a going concern is guaranteed by the taxpayer whatever the circumstances of the institution’s failure”, Avgouleas (2010).

Experts have used several names to call them but they are basically the same problem; to name a few: Too-big-to-unwind, Too-big-to-disciplines-it-adequately, Avgouleas et al. (2012), Too-inter-connected, Too-complex-to-fail, Liu et al. (2010), Too-big-to-unwind, Too-big-to-paid, Too-important-to-fail, Too-big-to-prosecute or jail, Kaufman (2013), Too big to be rescued, Rime (2005).

This work aims to explore this issue in the following order: after this brief introduction, there will be a historical overview of the genesis of these institutions. It will be presented first the U.S. institutions, where the term was coined in reference to the rescue of some commercial banks in the years ’80s. In its first definition TBTF was
intended as a protection only for debt-holders and then it is extended to all shareholders, Macey and Holdcroft (2011).

Secondly, the situation in Europe with the coming of the European Union and the establishment of universal banking model, whereas it is the holding company model in the USA. To complete the chapter there will be a discussion of TBTFs in the financial crisis of 2007-2008, which led to a rescue indiscriminate, exacerbating tensions and of reducing the incentive for Creditors and counterparties to safeguard against extreme outcomes. “These institutions were the accelerants of the crisis and, ironically, victims of it as well. The risk comes in the form of a possible disorderly liquidation with unknown but potentially serious spillover effects on other institutions and markets”, Hurley (2009). Sir Winston Churchill, in another context, said: “never so much was due to so few”.

Chapter III analyzes the reasons underlying their formation, from the economies of scale to agency costs, the efficiency of markets, the (ab)use of leveraging, how much they pay to become it and the risk inherent to the company, as an intellectual debate which connects different views of this problem. Furthermore, despite many authors focus on mega-banks, there are other institutions which can cause serious problems despite they don’t have credit as core business or not being dimensionally large but very related, whose crisis can infect accordingly related companies, so interconnected too to fail, Labonte (2013).

The Part IV gathers those who have been the major legislative proposals for change to stop or curb this problem that puts not only the financial sector but the whole economy in check by these institutions designated Systemically Important Financial Institutions, or SIFIs.

A system that in recent years on one hand has given benefits to private companies and, on the other, has imposed that the (possible) costs were borne by the taxpayers, Kaufman (2013).

To conclude this essay, it has been presented about the effectiveness and the quality of interventions and their impact.

The reforms that United States, Europe and individual states have implemented focused only partly TBTF, or because of the necessity of meeting all financial
Who they are

institutions (beyond the size) under common rules, or because the debate on these mega banks shifted attention from the physical to the systemic linkages.

These institutes have caused more damages than good ones, and only now it is been taking action to remedy by imposing barriers, not to competitiveness, but for the stability of the system.

Regulators and policy-makers should work to tighten the opportunity for these institutions to gamble, in order to avoid, or at least reduce, the impact of the next crisis.
Chapter II. History – How we got here

The first step to analyze this matter is to present an historical framework. Understand where, when and how TBTF were born is not easy. Some authors, such as Avgouleas (2010), wanting to give a globally recognizable response stated that the “mega-banks were emerged in the rest of the western world in the 1990s as a result of three factors”. Among these, he identified the financial globalization and the gradual destructuralization the financial market, first conceived for watertight compartments: not only the traditional separation between commercial banking and investment banking as well as the insurance industry (started with the Bancassurance) and then the pension system has been integrated into institutions in which it was possible to grow and operate in business before far between. In particular, the same Avgouleas (2010) points out that this liberalism of capital has made “the ever thinner profit margins for traditional lenders that did not normally engage in capital market activities” and because of globalization itself, has made it necessary for the investment banks larger capitals to compete in the market. This was made possible by a regulation (Basel) in favor of large institutions, believing that safer institutions. In fact, other authors identified in the ‘80s this step.

In this regard, it will be presented separately the origins and growth of ”Too Big” in the United States and Europe, so it’s better to identify their characteristics and peculiarities. After that, it will be shown synthetically, but useful too, the crisis of 2008. The chapter will be closed with the interventions made by regulators in the post-crisis to understand who they were facing.
Section I. TBTF in U.S.

Just starting from United States, it could be find the circumstance in which was coined the term TBTF.

As reconstructed by Haldane (2010), after the crisis of ’29, were enacted at the turn of period two laws that sought to restrict size and scope of banks, the McFadden (1927) and Glass-Steagall (1933) Acts; before, in USA, there was a distinction between nationally-chartered banks and state banks and the McFadden Act gave approximately the same branching rights but maintained the old organization created by US National Banking Act (1864)\(^1\) to forbid to national banks opening new branches across state lines. Continuing on the same road, the US Banking Act\(^2\) defined what was allowed to do and what a commercial bank could not do: it could cover a wide range of banking functions, including deposit taking and brokerage, but it was banned to handle securities business, including principal trading, underwriting and securities lending. US Banking Act also regulated investment banks which weren’t allowed to take deposits; that was made because the market boom of the 1920s had been fuelled by cheap credit.

Not only it was separated commercial banks from investment banks, but commercial banks were forbidden to speculate and investment banks were private companies that could only use their money and not borrow money.

Both laws had a long duration, and they allowed the Country to grow without that restrictions imposed on banks were a problem; the system of rules created by these laws seems to have limited the expansion (in terms of size) of U.S. banks from their entry into force until the mid-1970s. “Over this period – wrote Haldane (2010) - the average asset size of US banks in relation to nominal GDP was roughly flat”.

Otherwise, Focarelli et al. (2011) stated that “US investment banks became among the most competitive in the world and the share of financial intermediation grew rapidly as financial flows progressively shifted from the balance sheets of banks and other credit institutions to the financial markets”.

In the early ‘80s, something changes. The former actor Ronald Reagan became president of the U.S.A.; he is a fan of liberalism and he was convinced (or was

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\(^1\) Before that it was only an implicit rule.

\(^2\) It was co-sponsored by Senator Carter Glass and Representative Henry Steagall – hence “Glass-Steagall Act”.
convinced of this, since he had never before interested in economics) that restrictions inhibited the efficiency of banks and were at a disadvantage compared other lending vehicles, in particular way mutual funds. From that moment it began the deregulation of the financial sector, but only in 1999 (under the Clinton administration) will be approved a law (Gramm-Leach-Bliley Act), which will repeal the old Glass-Steagall Act. Reagan administration allowed States can open their frontier to out-of-state Bank Holding Companies (BHCs).

In 1982 there was also the deregulation of the Savings and Loan companies (Garn-St Germain Act) and made easier the process of merger and acquisition and this induced to a running for became bigger without that there was a real economic advantage or without adequate risk assessments, and many of these at the end of the decade failed. “During the period of 1980 to 1994, regulators approved a record number of mergers: the Fed\(^3\) approved 4507, the OCC\(^4\) approved 972 and the FDIC\(^5\) approved 868”, Karmel (2011). To make an example, Dudley (2012) reported that “Bank of America was the outgrowth of over 160 different mergers, which pushed up the size of the original acquirer from $23 billion of assets in 1980 to $2.2 trillion today”.

Financial companies’ mergers often hide needs to save and maintain what is too big to be liquidated.

Figure 2.1: Regulatory structure for US commercial banks and thrifts (before 2011).

Source: Agarwal et al. (2012).

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3 Federal Reserve System.  
4 Office of the Comptroller of the Currency.  
5 Federal Deposit Insurance Corporation.
However, in 1984 it happened that Continental Illinois National Bank and Trust Company (CINB) became insolvent. At the beginning of the decade, the management company had made an aggressive growth strategy, and loans-to-assets ratio increased dramatically from 57.9 percent in 1977 to 68.8 percent by year-end 1981; the bank was too risky and when some of its institutional clients went in dire straits, the location of the institute was aggravated. It was the seventh largest bank in the United States in the 1980s and it was a money center provider for many other hundreds smaller banks so its failure would have very strong implications for the retail market and the interbank.
TBTF and the recent crisis

More than 2300 banks had funds invested (42 percent of those more than $100,000), with a total investment of almost $6 billion.

Table 2.1: Commercial and Industrial loans (C&I) and asset from the ten largest U.S. banks ($Billion).

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<tr>
<td></td>
<td>Total Asset</td>
<td>Domestic C&amp;I</td>
<td>Total Asset</td>
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<td>Bank of America</td>
<td>$72.94</td>
<td>$7.06</td>
<td>$118.54</td>
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<td>Citibank</td>
<td>61.50</td>
<td>7.71</td>
<td>104.80</td>
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<tr>
<td>Chase Manhattan</td>
<td>44.75</td>
<td>9.24</td>
<td>76.84</td>
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<tr>
<td>Manufacturers Hanover</td>
<td>30.10</td>
<td>4.43</td>
<td>54.91</td>
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<td>Morgan Guaranty</td>
<td>28.49</td>
<td>3.07</td>
<td>53.72</td>
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<td>Chemical Bank</td>
<td>26.08</td>
<td>4.65</td>
<td>45.11</td>
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<tr>
<td>Bankers Trust</td>
<td>21.76</td>
<td>3.06</td>
<td>33.00</td>
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<td>Continental Illinois</td>
<td>21.44</td>
<td>5.09</td>
<td>45.15</td>
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<td>First National Bank of Chicago</td>
<td>18.68</td>
<td>4.04</td>
<td>32.55</td>
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<td>Security Pacific</td>
<td>16.15</td>
<td>2.49</td>
<td>30.46</td>
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To prevent the abrupt failure of various financial institutions, as a domino effect, the methods adopted in the resolution of Continental (the largest bank resolution in U.S. history before 2008, $40 billion) fostered disagreements due to the different policy between big and small banks.

Although it was possible bail out only the bank depositories, it was bailed out also uninsured creditors. The head of the Comptroller of the Currency, Sen. McKinney, while he was saying that other large banks might warrant similar support, uttered the now famous phrase: “We have a new kind of bank. It is called too big to fail. TBTF and it is a wonderful bank.” Moreover, adds Dudley (2012): “we could very well have seen a national, if not an international, financial crisis the dimensions of which were difficult to imagine”.

According to Brewer and Jagtiani (2009), the banking agencies did not have the means to close any of the 11 largest multinational banks without the closure having a significant impact on the U.S. financial system; in addition, the Comptroller specified the type and size of banking organizations that might be considered TBTF, still without naming directly which banks.

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6 Hearings before the Subcommittee on Financial Institutions, 1984, reported in Rochet (2009).
Several authors have tried to identify these institutions, and a list of credible is that proposed by Joines (2010).

Figure 2.2: TBTF List based on 1984 announcement by OCC.

1. Citigroup
2. Bank of America
3. J.P. Morgan Chase & Company
4. Wachovia
5. Wells Fargo
6. HSBC North America Inc.
7. US Bancorp
8. Suntrust
9. ABN Amro North America
11. National City Bank
12. Regions Financial Corp.
13. BB&T Corp.
14. PNC Financial Services Group, Inc.
15. State Street Corp.

Source: Joines (2010).

Disparate empirical studies have also analyzed the market reaction to this different style of treatment. Brewer and Jagtiani (2009) showed that banking organizations deemed to be TBTF experienced a statistically significant positive average abnormal return of 1.3 percent on the day the Comptroller’s announcement was made, with the highest returns going to the riskiest and very largest organizations.

Morgan and Stiroh (2005) found also that the naming of the TBTF banking organizations by the Office of the Comptroller of the Currency (OCC) in 1984 elevated the bond ratings of those companies about one notch compared to non-TBTF organizations. They, further, discovered that this spread and rating relation continues in the 1990s, suggesting that debt-holders perceived positively the possibility of support these TBTF. More details will be explained in the next chapter.

Many banks led depositors to consider them safer because of they would be always save so and some of these started to taking excessive risks.

Large -bank failures in the ‘80s and early ‘90s followed the same path and it would have serious evidence to important consequences for the Bank Insurance Fund (BIF): “although only 1 percent of failed institutions from 1986 to 1994 had more than $ 5 billion in assets, those banks made up 37 percent of the total assets of failed
TBTF and the recent crisis

institutions and accounted for 23 percent of BIF losses during that period”, FDIC (1997).

After the crisis (and saving) of the Bank of New England Corporation (BNEC) in January 1991, Congress decided to reform the FDIC, as it would be pushed too far in protecting the institutions, leading to dangerous externalities, first of all moral hazard, which will be discussed extensively in the next chapter.

The FDIC was prohibited from protecting any uninsured deposits or non-deposit bank debts in cases in which such action would increases losses to the insurance fund but retained the ability, as strongly desired by Federal Reserve Board Chairman Alan Greenspan, that the institution can discretionally operate, in accordance with the gravity of the situation and in the interests of macroeconomic stability.

The new system and the further laws, however, failed to eliminate the TBTF protection, enacted by necessity or interest lobbying helped to make companies systematically too big to fail.

In particular, please note the Riegle-Neal Act of 1994 (no restrictions on interstate branching for BHCS both domestic and foreign banks) and the 1999’s Gramm-Leach-Bliley Act repealed the prohibition for a bank holding companies to own other financial institutions.

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7 In the United States, financial holding companies continue to be prohibited from owning non-financial corporations.
Figure 2.3: Average assets relative to GDP of US commercial banks.(a)

(a) Blue vertical line represents the 1982 Garn-St Germain Act;
green vertical line represents the 1994 Riegle-Neal Act;
red vertical line represents the Riegle-Neal Act coming into effect in 1997.
Source: Haldane (2010).

Enlarging the circle, Adams (2012) has calculated that the U.S. banking system has been involved in over 10,000 mergers (for a turnover of $7 trillion in acquired assets) which have reduced the number of institutions. “There were 19,069 banks and thrifts operating in the U.S. in 1980 and 7,011 in 2010, a decline of over 60 percent. In 1980, the 10 largest banking organizations held only 13.5 percent of banking assets, increasing to 36 percent by 2000. By 2010, the 10 largest organizations held approximately 50 percent of banking assets.” He discovered that 99 percent of the concerned institutions were small and medium-sized so the market is now mainly formed by medium-big companies.

The later trend was a long series of mega-mergers between institutions that made the financial services market populated by fewer but larger fish. Someone like Avgouleas (2010) wrote that: “This trend was culminated in the "marriage" of Citicorp

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8 Wheelock and Wilson (2011) showed similar data: from 14482 to 7086 between 1984 and 2008.
TBTF and the recent crisis

(a banking company) with Travelers, a financial conglomerate with several insurance subsidiaries and a securities firm (Salomon Smith Barney) to produce Citigroup and it was followed by the merger of JP Morgan with Chase Manhattan in 2000”.

Table 2.2: M.&A. history four major U.S. banks.

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Source: The Daily Capitalist.

These mergers made mega-banks a menacing reality both to competitors and consumers and the financial system.

Investment banks became public companies so they could more easily obtain the capital needed to expand rapidly. For example, “when Goldman Sachs went public in 1999, it had about 15,000 employees and $250 billion of assets. Just eight years later, the firm had expanded to 35,000 employees and $1.1 trillion of assets. In the mid-1990s, the top five banks in the United States had total assets of $1 trillion or about 14 percent of gross domestic product (GDP). The top securities firms had total assets of $718 billion, or about 9 percent of GDP. By the end of 2007, the top five banks had assets of $6.8 trillion or 49 percent of GDP. Similarly, the top securities firms accounted for $3.8 trillion, or about 27 percent of GDP. In addition, the firms’ off-balance-sheet
exposures rose sharply. Reflecting the repeal of the Glass-Steagall Act, the biggest financial institutions have become much larger, both in absolute terms and relative to the overall size of the banking system”, Dudley (2012).

Figure 2.4: Concentration of Deposits 1998-2009 five major U.S. banks.

Source: FDIC.
Box 2.2: An example of aggressive corporate culture.

“What is important to our customers and to us is our ability to provide a better product, or package of products, at a lower cost. Our challenge is to view this from their perspective and ensure that our collective resources are focused accordingly.

The size, scale and scope of JPMorgan Chase also offer huge advantages: economies of scale in operations and systems; diversification of capital, risk and earnings; a great global brand; and the capability to make large investments at a lower cost of capital. In particular, the benefits of size and scale in operations and systems are vast, and they are real. Our diversified earning streams lower our risk, increase our credit ratings and reduce the cost of our capital. And since one of our major costs is the cost of money, the ability to raise funds cheaper, better, faster and more effectively around the world than other companies is a major advantage.

But size alone is not enough to win. In fact, if not properly managed, it can bring many negatives. Huge companies operating in complex, consolidating and fiercely competitive industries like ours can only achieve and sustain their success by competing where the “rubber hits the road” – at the level of the store, the product and the banker – not at corporate headquarters. We must equip those employees on the front lines to be responsive and responsible. The way we manage our size will reflect how much we recognize and respect this imperative. Bureaucracy and waste are lethal. To remain healthy and vibrant, we must constantly and consistently minimize bureaucracy, eliminate waste and insist upon excellent execution”.

James Dimon, Ceo of JPMorgan Chase

Source: JPMorgan Chase, Letter to shareholders, 8th March 2006.
Section II. TBTF in Europe

The situation in Europe is very different from that of the U.S.. As most people know, Europe, both as a geographic and as political entity, has recent origin.

After the end of World War II there was the interest to create a common system that would combine the individual states of the continent and would avoid further cases of the expansionist ambitions of a country at the expense of others. To do this, the first agreement, in the early '50s, was a founding treaty for the European Coal and Steel Community. The next step was the treaty signed in Rome in 1957 establishing the European Economic Community (EEC Treaty). The idea was to create a Community where there would be free movement of goods and capitals between member states, eliminating the system of duties currently in force and giving life to the Single Market; Furthermore, it was established the freedom of establishment (a company operating in a European state was free to open branches abroad). In fact this plan progressed slowly for many years, because every state wanted to maintain their status and they saw the Community as something that reduced their freedom in terms of trade policy, social and economic. The same European legislation was skinny because nobody wanted to relinquish power.\(^9\)

Only in the 80s, under the president Jacques Delors\(^10\) things unblocked: in 1987 entered into effect the Single European Act, “which amended the EEC Treaty to ensure a more effective decision-making process for the adoption of Community legislation. For example, it resulted in the introduction of qualified majority voting, instead of unanimity, for many policy areas under the EEC Treaty”, ECB (2012).

The desire to adopt a common currency\(^11\) to facilitate trade between the countries and their integration took them to sign on 9 February 1992 in Maastricht, the Treaty on European Union (EU Treaty). Through an operation based on multiple stages, in June 1998 were established the European Central Bank and the European System of Central Banks and, Euro was finally introduced on 1 January 2002; from the twelve

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\(^9\) To overcome this problem it was decided that the European laws had to be implemented by the individual states.

\(^10\) He is remembered as one of the most charismatic presidents in the history of the institution, capable of restoring the prestige and power of the European Commission and stating a model of president as leader of the European Union.

\(^11\) For further information see the 1989 Delors Report and the Commission study “One market, one money”.
countries initials Euro is now handled in 18 *Eurozone* countries, used by over 320 million people.

At the same time of Single coin, countries have worked for an integration that could not be start from the commercial one. As mentioned earlier, the will of a free market capital clashed with the financial system which was, at that time, fragmented and based on national rules, Lane (2012). In the financial sector, after an initial discouragement in the harmonization of European Banking law, it was necessary to use directives.

More specifically, the D.73/183, that asked for the elimination of national principles incompatible with Community law (in development); D.77/780, the Prime Banks Directive, which required the issuance of permits to operate in the banking sector on the basis of objective and non-discretionary measures. The real change is then given by the said Second Banking Directive (D.89/646).

This, then together with the Investment Services Directive of 1993, implemented the mutual recognition, that is the single authorization to operate valid throughout Europe\textsuperscript{12}; it also earned a minimum harmonization of the organization and has adjusted the System of supervision of the overseas subsidiaries according to Functional principle of home country control. In the same year it was adopted the Capital Adequacy Directive which equated banks in terms of assets. Following the German model, the Second Banking Directive (SBD) directive has resulted in many countries deregulation of the limits of operation of the banks; especially in many countries, it has abolished the limits of specialization (i.e. division of the bank that lends to long-term from the short-term ones, between retail banks and bank financing the industry or crafts, etc.) and authorizing financial products far from the traditional core business of banks.

At the same time, Continental Europe also looked at the situation in England. In United Kingdom, reported Avgouleas (2010), under the Thatcher government (in line with the liberal Reaganian mindset) it was abolished fixed commissions regime for the London Stock Exchange (LSE) and all attendant financial houses could access to the LSE for trading and broking services\textsuperscript{13}.

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\textsuperscript{12} Through this single passport a bank licensed in Spain, for instance, is able to open branches in Germany without a subsequent authorization by the German supervisor but only notifying a prior communication.

\textsuperscript{13} It was called “The big bang legislation” of 27 October 1986.
The European and British institutions, who until then had been much smaller in size than that of their U.S. counterparts, gave rise to mega-banks and a change in business culture, with the introduction of new models, such as *Bancassurance*.

**Box2.3: Bancassurance.**

Quirici (2006) pointed out that the phenomenon of bank offering insurance services has begun in some countries in the early '80s, as a result of regulatory changes written above, because of the insurance industry showed considerable profit profiles as customers prefer insurance products or investment funds to bank deposits (from the opposite side, the pattern of *Assurfinance* didn’t have the same achievement); the banking presence in the insurance industry was bursting in France and Spain, where there is no French bank that has not entered the life insurance market, and later in Portugal and Denmark.

However, Europe, with the Second Banking Directive, adopted a broad definition of credit institutions, corresponding to the modern universal bank. Vander Vennet (1998) stressed that, while the universal bank model was prohibited in the U.S. until 1999, in Europe, the Second Banking Directive permitted it (ten years before the U.S.) so European credit institutions could create financial conglomerates and hold equity stakes in non-financial companies.

In addition, Banks, investment firms and insurance companies may hold unlimited reciprocal equity participations without limits on the formation of financial conglomerates; these, according to the definition of Vander Vennet (1998), “are financial institutions that may offer the entire range of financial services”.

These institutions could support certain fixed costs in order to offer a greater range of products (or the cost of two joint activity is less than the single), thus making them more competitive in terms of cost/benefit (just consider, trivially, the sales network of a bank, available with low costs of staff training to provide even insurance products). At that time, the literature had produced many works on economies of scale.

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14 There remain, however, limits to the single non-financial companies (commercial and industrial) of 15% of shares of the bank's capital, while the sum of these participations must remain below 60% of the capital.

15 In Italy, probably one of the most successful cases of such economies is Poste Italiane; this company (100% owned by the state yet) has been able to use its sales network (14 thousand branches against 33 000 bank branches throughout Italy) and move revenues from the prevailing postal sector to the insurance and banking sector. See more in Mottura (2011).
and scope\textsuperscript{16} (a superb work about is Clark (1998)); other jobs less valuable and more biased about how capital markets improve the allocation of capital and risk were written by the same investment banks with the help of academics, like Dudley and Hubbard (2004).

The academics were somewhat divided in indicating whether or not non-banking activities would reduce the risks in bank holding companies (a summary of these proposal was collected before the crisis by Stiroh and Rumble (2006)). However, they hadn’t gone too far in investigating whether an overgrowth would have led to inefficiencies and negative externalities. As the flip side, the resolution of banking crises weakened the market, Cubillas et al. (2012).

By the way, according to Berger et al. (2001), the Second Banking Directive made universal bank the \textit{EU standard model}, “since any nation not allowing these powers put its own institutions at a competitive disadvantage”. Even Berger (2003) stated that not only the market has led to a redefinition of the ecosystem, but also what regulatory actions led to that; so it seems that companies have been forced to become larger, because as much as "big is beautiful and safe" they become global players able to cope in an increasingly competitive and technologically advanced. Having made less expensive for banks to operate cross borders within the EU has led to a booming and a cross-border competition. According to some studies of the period\textsuperscript{17}, it would arguably improve efficiency and reduce market power, inducing prices to converge and fall to the level of the most efficient producers\textsuperscript{18}.

\textsuperscript{16} A superb work about is Clark (1998); other jobs less valuable and more biased about how capital markets improve the allocation of capital and risk were written by the same investment banks with the help of academics, like Dudley and Hubbard (2004).

\textsuperscript{17} See Cecchini (1988); other papers are synthesized in ECB (2012).

\textsuperscript{18} Some works as ECB (2004) seem to confirm that there was an improvement in performance in the European Union after the ’90s mergers.
To become bigger, the first way was a series of mergers and acquisitions. Overall, this trend before the continental nations (France, Germany, Italy, the Netherlands, and Spain) were characterized by domestically headquartered banks while most smaller countries (Belgium, Finland, all former communist countries) dominated by local affiliates of foreign banks, Goldstein and Véron (2011). U.K. is quite different because London is an international financial center with a high presence of foreign banks among only a few domestic banks, Uhde and Heimeshoff (2008).

Avgouleas (2010) found that in the period starts from directive to the introduction of Euro (from 1990 to 2001) in Europe (including U.K.) there were about 1800 bank mergers, while from 2002 to 2006 around 350. Among these, the more important were:

- In the UK, the mega-mergers HSBC-Midland, Lloyds-TSB and Royal Bank of Scotland-National Westminster;
- In France, BNP Paribas and Credit Agricole-Credit Lyonnais;
- In Switzerland UBS was born by the merger between two major Swiss banks;
- In 2007 the acquisition of the Dutch bank ABN AMRO by Royal Bank of Scotland, Fortis and Santander;
- The creation of “pan-European” groups (such Santander and UniCredit).

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19 This term is due to Goldstein and Véron (2011).
Dimensional growth and diversification of the operating businesses were seen as factors that could increase safety and competitiveness in the scheme; in fact, similar to the American case, they gave rise to large complex financial conglomerates with very strong international business and assets, often difficult to manage and elements with opacity, reducing the ecosystem.

“For example, between 1990 and 1997, the total number of credit institutions in France fell by 33% from 779 to 519. Other major European nations had similar consolidation over this interval, with the numbers of credit institutions in Germany, Italy, the Netherlands, Switzerland, and the U.K. falling by 26%, 12%, 17%, 21%, and 13%, respectively”, Berger et al. (2001).

\(^{20}\) In this context, Liikanen (2012) used the term “Monetary financial institutions” (MFIs) taken by ECB to refer to credit institutions in the broadest sense, not just banks.
Currently around 70% of EU banking assets is in the hands of 43 banking groups with substantial cross border activities. Especially in the Central and Eastern European countries, the banking sectors are dominated by foreign (mostly Western European) financial groups.

Focarelli et al. (2011) reported that, permitting to commercial banks to underwrite securities, “their economies of scope may enable them to gain all of the underwriting business of their loan customers by lowering credit standards”; this means that could be employed more risks than in the past21.

Figure 2.7: Cross-border assets and liabilities of euro area banks 1977-2011.

The European Community, which later became Union (EU), did not think to establish size caps. As an anorexic who becomes obese, being outgrown actually leads to new problems.

First, the system has been weakened because those who have become larger have become all the same. As an example, think of the food: before there was a restaurant of French food, an Italian pizzeria, a German product, and so on. With the process of globalization, a customer was able to find in the same place a pizza, to eat Bavarian sausages or to taste fish & chips and baguettes. But when the crisis came, they

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21 The market knows that and considers riskier securities underwritten by universal banks than the specialized investment houses ones.
were all the same and did the same things, no one had anything more than the others (with few exceptions). Another way to say this is generally used for "Do not put all your eggs in one basket". Nowadays the global market is identical for all (biggest) institutions and the funding risks are the same for everybody. This, on the down side – wrote Goodhart and Wagner (2012) – “causes a more homogenous behavior of institutions and amplifies the impact of shocks in the financial system”\textsuperscript{22}.

\begin{tcolorbox}
Box2.4: European Cooperative Banks.
Being a European specificity, it is worth remembering that some banks have remained immune to the siren song to become a universal bank. We are talking of cooperative banks. While the American model (savings and loans banks) was in crisis in the years '80s, despite many changes and de-mortgaging (e.g. the formation of Swedbank in Sweden, changes in Erste, Raiffeisen in Austria, Banques Populaires-Caisse d'Epargne Groupe Crédit Agricole, Crédit Mutuel in France), in countries where co-operative banks have remained closer to the core retail business, they have been less affected by the crisis.
\end{tcolorbox}

Secondly, the dimensions assumed by financial intermediation in Europe are huge when compared to the European GDP, about 350% of EU GDP. A similar argument can be made comparing the assets of the institutions by country of origin (see Figure 2.8). In particular, readers can note the financial bubble in Ireland. ECB (2013) noted that some countries have very small geographic area for a huge amount of assets under management (The so-called tax havens, Luxembourg, Malta, Cyprus, Ireland has felt the same way but has faced a deep crisis while other countries); other countries such as Italy have remained more fragmented.

\textsuperscript{22} An interesting empirical work upstream of Hagendorff et al. (2012) argues that, while larger institutions (after M & A) are more closely monitored by supervisors, they didn’t find evidences in the case that these operations will reduce the security of businesses.
Figure 2.8: Total assets of MFIs in EU 2001-2011, aggregate (a) and by country (b), in % of EU GDP (index, 2001 = 100).

![Graph of total assets of MFIs in EU 2001-2011, aggregate (a) and by country (b), in % of EU GDP (index, 2001 = 100).]

Source: Liikanen (2012).

Making a comparison with the U.S. counterparts, both in numbers (see Figure 2.9) and in absolute terms of the balance sheets (see Figure 2.10), the European institutions seem to be not so different from the U.S. ones; the comparison becomes more difficult when comparing the two groups of institutions relative to domestic GDP (see Figure 2.11 and Table 2.3). In this way, instead it could get to observe a much stronger development of European banks in comparison to the Americans. Liikanen (2012) spoke of a European system more bank-centric, where there has been less development of non-bank financial intermediaries, while in the United States is more developed the so-called Shadow Banking System mainly via the Originate to distribute model (OTD) and the government-sponsored enterprises (GSEs, i.e. in the States United

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23 As mentioned before, the number of banks in both countries followed the same downward trend, although the number of U.S. banks still remains higher.
mortgages are held on the balance sheets of government-sponsored entities Fannie Mae and Freddie Mac, ECB (2013)).

The short change of trend in U.S.A. in the period 2006-2008 is explained, according to Hurley (2009), by the fact that, while in 2006, 19 of the 25 largest financial companies were not banks, in 2008, and 9 of these have failed or have been acquired by other companies or nationalized.

Figure 2.9: Number of banks (thousands).


Figure 2.10: Total assets of the largest EU and US banking groups, (2011, € billion).
Source: Liikanen (2012).

Figure 2.11: Total assets of the largest EU and US banking groups (2011, in % of GDP).

Source: Liikanen (2012).

Table 2.3: Size of EU and US bank sectors (2010).

<table>
<thead>
<tr>
<th></th>
<th>EU</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bank sector assets (€ trillion)</td>
<td>42.9</td>
<td>8.6</td>
</tr>
<tr>
<td>Total bank sector assets/GDP</td>
<td>349%</td>
<td>78%</td>
</tr>
<tr>
<td>Top 10 bank assets (€ trillion)</td>
<td>15.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Top 10 bank assets/GDP</td>
<td>122%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Source: Liikanen (2012).

Box 2.5: The Shadow Banking system.
Over the past two decades in the United States, parallel to the banking sector, it has developed a strong form of non-bank financial intermediation. This, which includes asset-backed commercial paper (ABCP) conduits, limited-purpose finance companies, structured investment vehicles, credit hedge funds, money market mutual funds, securities lenders, and government-sponsored enterprises is characterized by not having access to central bank liquidity or public sector credit guarantees that were then, and is characterized by greater risk in terms of volatility of assets, Pozsar et al. (2010). Following the crisis, there has been a change in the trend, with a decrease in liabilities (from $20 trillion in 2007 to below $15 trillion in 2010, while banking sector assets grew from around $13 trillion to $17 trillion).
Not everything that glitters is gold. Please note that the U.S. and Europe adopt different accounting standards (GAAP and IFRS rules in the USA rules in the EU) which recorded values significantly different for derivatives and repurchase agreements and reverse repurchase agreements).

Table 2.4: Total assets of selected large euro area and us banks (2012; USD billions).


Nevertheless, the introduction of internal models (Basel II) has allowed European banks to substantially increase their leverage and grow faster than they had done so far; this at the expense of the capacity to absorb shocks and losses (see Figure 2.12).

Figure 2.12: Some European Bank leverage and RWA/TA comparisons.
Section III. TBTF and the recent crisis

In the years 2000s a great buzz has created in the market. Low interest rates\(^{24}\) and a large injection of liquidity, also created by securitization and derivatives, have led to a large bubble. In particular, in the United States, where this bubble is born from the housing market, personal savings were virtually zero, because everyone thought they would find the money by borrowing.

The banks began to move from the traditional banks originate-to-hold (OTH) to a model more profitable. With the model OTH, banks had accurate information on providers, were risk analysis and monitoring because they had to maintain long loans and avoid incurring losses (in some way, the problems of moral hazard were limited, Ayadi et al. (2011)). Following the originate-to-distribute model (OTD), the lender was no longer worried that the borrower repay the debt, as he resold the loan securitizing (CDOs)\(^{25}\), for which the loans have increased tremendously, not caring what would happen if the borrower is found to be insolvent. Alternatively, the companies could ensure (CDSs)\(^{26}\) themselves, and they had no incentive to ensure high lending standards, starting to mispriced risks. “Subprime mortgage lending in the US rose significantly from $180 billion in 2001 to $625 billion in 2005”, de Larosière Group (2009).

Moreover, thanks to securitization, the financial institutions could greatly expand its capabilities by exploiting the leverage effect; so, the risk of default increased in magnitude\(^{27}\). When the bubble burst, in July 2007 (Bear Stearns revealed on 16 July 2007 that two of its sub-prime hedge funds had recorded huge losses), there have been repercussions around the world, because the market was so complex and intertwined that the contagion quickly spread outside the USA.

At the end of the month, IKB Deutsche Industriebank became one of the first European banks hit by the crisis. Although he was German lender to small and medium-

\(^{24}\) In the period 2001-2004, the Fed (led by Alan Greenspan) lowered rates (up to 1% in 2004) as the economic stimulus in response to the crisis of the Internet bubble in 2000 and the terrorist attacks of September 11, 2001.

\(^{25}\) Collateralized debt obligation.

\(^{26}\) Credit default swap.

\(^{27}\) “Suppose a financial institution with equity of 100 and 30 leverage (and thus activity of 3000): a 1% gain on these assets implies a gain of 30% on equity. Situation, however, exposes serious risks: a loss of 10% on assets (equal to 300 in total) is equal to 3 times the value of the equity!” Bianchi (2010).
sized enterprises, it had built a large portfolio of asset-backed commercial paper funds, that were rapidly devaluing, Liikanen (2012).

Investors started to settle their portfolios and institutions found difficult to find the money to meet their demands; in addition, a massive sale of securities led to their natural devaluation, accentuating the phenomenon of loss of value in the assets held by the institutions themselves.

Figure 2.13: Real estate bubble (chart).

![Real estate bubble diagram](www.privatewriting.com)


Then began a series of bankruptcies of major institutions which couldn’t honor their debts. The U.S. government was forced to save them, because they believed them to be too precious.

The purpose vehicle (created by banks to put in the asset-backed securities market) turned to the same banks for the necessary liquidity. These sought new capital in the interbank market. The game ran until banks started asking what titles had them in the stomach, and which real quality their guarantees offered them. The failure (or not saving) of Lehman Brothers in September 2008 accentuated this effect.

Before the disc finished playing, Lehman saw their CDS spreads increase, because the collapse of Bear Sterns had scared everyone and Lehman, singled out as the most vulnerable, saw its credit line credit closed by JP Morgan. When the music stopped, the remaining oxygen (liquidity) was not enough to satisfy customers. It was the beginning of the decline.

28 To maximize the rate of return on equity they adopted more short-term strategies which had reduced the capacity of having cash to cope with shocks, Ayadi et al. (2012).
A timeline of bailouts, buyouts and takeovers of financial services companies in the U.S. and Europe since the subprime mortgage crisis began. Figures are assets as last reported and do not include the value of securities that some companies, notably Fannie Mae and Freddie Mac, guaranteed.

Market interventions by central banks

- **2007 July**: KDB Deutsche Industriebank, Northern Rock
- **2007 Sept.**: Countrywide Financial, Bear Stearns, Düsseldorfer Hypothekenbank
- **2008 Jan.**: IndyMac Bancorp
- **2008 March**: Alliance & Leicester
- **2008 April**: Roskilde Bank
- **2008 July**: hpMg Bank
- **2008 Aug.**: ABN Amro


**Figure 2.14: Casualties of the Financial Crisis**

**Figure 2.15: Market Interventions by the Federal Reserve or the European central banks**

- **Dec. 12**: Central banks of the United States, the European Union, Canada and Switzerland announce a plan to provide at least $600 billion in short-term financing to banks.
- **Dec. 18**: The European Central Bank injects $500 billion into the financial system. The Bank of England auctions off $20 billion in three-month loans.
- **March 7**: The Federal Reserve offers up to $200 billion in 26-day loans to banks and big financial institutions.
- **March 11**: The European Central Bank offers investment banks up to $20 billion in Treasury securities in exchange for mortgage-backed securities.
- **March 21**: The European Central Bank offers up to $24 billion in loans to help banks shore up balance sheets. The Bank of England offers up to $10 billion in loans.
- **April 15**: The Federal Reserve offers to swap $50 billion in U.S. Treasury securities for Japanese yen through the Bank of Japan.
- **April 16**: The Federal Reserve offers a swap line to the Swiss National Bank.
- **April 18**: The Federal Reserve offers a swap line to the Bank of England.
- **April 19**: The Federal Reserve offers a swap line to the Bank of Canada.
- **April 20**: The Federal Reserve offers a swap line to the Bank of Australia.
- **April 21**: The Federal Reserve offers a swap line to the Bank of Korea.

**Source:** New York Times (from Bloomberg).
If regulators had at first neglected the impact of low interest rates (thinking to benefit the development of industrial and household consumption), they persevered in non-regulate, or not enough, the OTD market. “In the US, the regulatory and supervisory framework was highly fragmented and its scope was narrowly focused on insured deposit-taking institutions and did not cover all financial activities that posed economy-wide risks”, Kawai and Pomerleano (2010). More recently some authors have come to identify in the OTD model incorrect divisions of labor between banks and financial markets, which jeopardizes the comparative advantages of diversification and of risks taked and accentuates the opposite trend, Porteri (2010).

Americans lobbyists, for their part, dumped the blame on the rating agencies, indicating that these were replaced with market regulators officers. The agencies defended themselves stating how their were just opinions. Opinions, however, well-paid.  

Figure 2.15: Rating agencies as de facto “regulator”. 

![Diagram of Traditional Bank and CDO](source: Acman (2007).)

Among the bankers it was rumored that their companies could not declare bankruptcy because their absence would destabilize the ecosystem; regulators had so far confirmed this rumor, saving institutions that were not able to honor its debts. Unlike a non-financial, the failure of which may cause suffering to the satellite activities but its location can be absorbed in the market by competitors, the collapse of a financial firm, particularly a bank that issues loans and deposits, can leave difficulties in tens of
thousands of depositors. For this reason, a bank in a bad condition is usually sold to one or more competitors healthy. This system, perpetuated by many supervisor (in Italy, for example, this role belongs to the central bank “Banca d’Italia”) often leads to the creation of businesses that grow more in size than in quality (if I build a house with healthy boards and planks of rotten wood, hardly rotten boards will heal, but most likely will damage the other).

The failure of Lehman Brothers\(^{29}\), in the intention of President George W. Bush and Treasury Secretary Henry Paulson, would be a strong signal that “not all will be saved”, revealed a boomerang, triggering a crisis of confidence in the financial system\(^{30}\).

The plan was launched without even consulting regulators in other countries, considering the problem a chore that would soon deflated. Banks, paradoxically full of money thanks to the policy of Greenspan, now no longer trusted each other, and therefore ceased to lend money to each other and this led to the problem outside the national borders. “Some markets and institutions have stopped functioning. This, in turn, has negatively affected the real economy. Financial markets depend on trust. But much of this trust has evaporated”, de Larosière Group (2009). The time was too little, too little was the ability to thoroughly understand the problems; when in doubt, all were saved: “The turmoil that followed the failure of Lehman Brothers in September 2008 has indeed led governments to believe they had to commit to an unconditional support of any troubled financial institution whose failure might create major disruptions”, Freixas and Rochet (2010). Investors themselves, who come to TBTF, know that they will not fail, Blundell-Wignall and Atkinson (2013).

\(^{29}\) The fact that it was an investment bank rather than a commercial bank has made to strengthen the hypothesis of some economists that the American regulators deem TBTF only commercial banks.

\(^{30}\) Stern (2009) strongly criticizes this policy by saying: “Policymakers did not create and/or execute (1) an effective communication strategy regarding government intentions for uninsured creditors of firms perceived as TBTF; (2) a program to systematically identify the interconnections between these large firms; and (3) systems aimed at reducing the losses that these large firms could impose on other firms”.
Although in Europe the models of easy money in real estate market had not had a large grip (see the Box2.6: “The Irish slip”), and the failure of some banks had not compromise the stability of the system (see IKB Deutsche Industriebank or Northern Rock, aided by Bank of England in September 2007 and then nationalized in February 2008), the lack of trust and transparency in the interbank market and among financial institutions led banks with a short-term and capital-market-oriented funding profile lost access to liquidity, Liikanen (2012).
TBTF and the recent crisis

Box2.6: The Irish slip.
Over the years ’90s, having few domestic capitals, Ireland decided to attract foreign capitals through tax simplification and regulatory relief. The operation was able to give life to a thriving manufacturing industry, relaunched the construction sector, which in turn stimulated the growth of the banking sector. The brick industry grew and the banks were full of requests for funding; because of domestic deposits are insufficient to meet the demand, local banks began to borrow from abroad and from 2004 to 2008 their debts passed from 15 to 110 billion euros borrowed by short and loan to long term. To finance that, they bought and sold securities, including those offered by American investment banks. In 2006, they possessed securities that were worth 5 times the national GDP and 30 % of loans were real estate loans. With the downturn the mechanism broke but the debts remained there.

The government could have chosen to save depositors and let banks fail (being private companies); choosing to save them, the state in 2010 disbursed 46 billion euros of his own money and asked for 85 others to the IMF to nationalize the banks. The public debt of Ireland, a country ruined by the interests of individuals, went from 25% of GDP in 2007 to 117% in 2012. Source: Gesualdi (2013).

To remain active, the banks have started to sell good assets to be liquidated and reduce the credit to households and firms. While the sale of securities damaged banks because they were forced to sell at lower prices, reducing loans worsened budgets and had to record additional losses; additionally, the closing of the taps of the banks then began to have strong consequences on the real economy. Families and businesses are seen unable to tap new liquidity, paralyzing the system.

Figure 2.18: Evolution of market risk measures during crisis: Stock return volatility (a) and Credit default swap (CDS) spreads (b).

Source: Gesualdi (2013).
Monetary policy failed to contain financial imbalances, Kawai and Pomerleano (2010). Paradoxically, the credit used by governments (and therefore coming from the tax-payers) to fund the banks has not returned to those who asked, paralyzing the economic system and then causing a significant increase in unemployment. Who has probably kept the place were those who, with moral hazard and greed, have enriched themselves at the back of small savers and families.

Figure 2.19: Stylized representation of market segmentation and the impairment of the monetary policy transmission mechanism.

Original author’s note: The blue arrows denote the traditional channels of monetary policy transmission. Light reddish brown to dark reddish brown arrows denote the crisis-related shock transmission and the resulting impairment and segmentation of the respective monetary policy transmission channels, with dark reddish brown indicating a stronger degree of impairment than
light reddish brown. Similarly, the light reddish brown and dark reddish brown flashes of lightning indicate disruptions to the various stages of the interest rate channel as regards the transmission of changes in official interest rates to banks’ retail rates. The dashed box in the center of the chart shows how the effects are channeled through the banks’ balance sheets, impairing both the traditional credit channel and the various stages of the interest rate channel, as indicated by the light reddish brown and dark reddish brown arrows.

*Source: ECB (2012).*

Despite the measures taken by Governments and Central Banks across the world to try to restore order, the success was far from happening, de Larosière Group (2009). Firstly, it were tried injections of liquidity into the system (The European Central Bank (ECB) issued € 95 billion on 9 August 2007 and the other € 300 billion in December 2007), and experimented with various forms of rescue, recapitalizing and "Bad Bank" solutions.

As of 2010, Liikanen (2012) wrote, the support of Europe as a whole to community banks had come to € 1.6 trillion (including guarantees that were) up to end 2010, more than 13% of EU GDP.

Hurley (2009) has identified at least five types of rescue operations put in place by U.S. agencies:

- Rescue and consolidation (JPMorgan Chase / Bear Stearns and Bank of America / Countrywide / Merrill);
- Rescue and downsizing (Citigroup);
- Rescue and disaggregation (AIG);
- Preservation (Fannie Mae / Freddie Mac);
- Liquidity (FDIC's Temporary Liquidity Guaranty Program).

It can be noted that the objective of these operations is not necessarily the rescue of the financial institutions themselves but the system itself (*too big to not be saved!*).

**Bo2.7: A timeline of interventions.**

Wanting to offer an overview of the interventions put in place by regulators without straying too far from the core of the thesis, in brief it’s reported a summary a re-capitulatory timeline of the interventions put in place, contained in Panetta et al. (2009), one of the best paper made in this regard. Events between September 2008 and 10 June 2009 can be divided into five distinct phases:
**Phase one (September 2008): standalone support actions for large institutions**

On 16 September it was accorded the first tranche of aid to AIG; in Europe, the Dutch and French governments took part in the re-capitalizations of Fortis and Dexia, respectively, in concerted actions with the governments of Belgium and Luxembourg.

**Phase two (1–16 October 2008): comprehensive support packages**

As more and more financial institutions became affected by the crisis, it became apparent that ad hoc interventions to support individual institutions would not be sufficient to restore confidence in the system as a whole. Many countries announced comprehensive rescue packages involving some combination of re-capitalizations, debt guarantees and asset purchases. The G7 meeting on 10 October established guidelines for assistance to systemically relevant institutions; as a follow-up, on 12 October euro area countries adopted an action plan which a few days later was extended to all EU countries and formed the basis for national plans.

**Phase three (November–December 2008): fewer programs, more standalone actions**

The rollout of new programs slowed down towards the end of the year, while implementation of existing ones gained pace: as private capital markets suffered heavily from the high uncertainty, government support for capital and debt issuance quickly became crucial to ensure bank financing. Swiss authorities announced their readiness to provide guarantees on new bank debt; the Italian government approved a scheme to inject capital into listed banks; further problems emerged for AIG and Citigroup, prompting further actions from the US authorities: both institutions received a combination of capital injection and asset purchase or guarantee.

**Phase four (January–April 2009): new packages with more emphasis on the assets side**

On 19 January 2009, the UK authorities announced new measures, which included an asset protection scheme, whereby the Treasury provided insurance against large credit losses in one or more defined asset portfolios. On 10 February, the new US administration outlined the Financial Stability Plan, an articulated framework including a compulsory stress test for the 19 biggest banks, a new capital injection program (*Capital Assistance Program* – CAP) and a legacy asset purchase program (*Public-Private Investment Program* – PPIP).

**Phase five (May–10 June 2009): exiting for some, just getting started for others**

On 7 May, the main US regulators released the results of the stress test, which required 10 institutions to raise a total of $74.6 billion in capital. On 9 June, 10 large banks were also allowed to repay funds previously received under the October scheme (*Capital Purchase Program* – CPP). However, the debt guarantee programs in several countries were extended and/or expanded and in Europe capital injections through existing programs or new standalone actions proceeded. In Germany, a “bad bank” draft law was passed in mid-May, creating the possibility for banks to swap their impaired assets for government guaranteed bonds.

*Source: Panetta et al. (2009).*
Since the collapse of Lehman, the big banks have become even more bigger, as a result of the rescues carried out by means of mergers. Who had responsibility in the disaster has not lost his job but, in some cases, the company has only changed its name. Bank of America buying Merrill Lynch and Countrywide had an increase in assets of +23.3% (52.3% in terms of size), JP Morgan Chase rose from 1.8 to 2.4 trillion $ buying Bear Stearns and Washington Mutual (+50.3%), BNP-Paribas +42.9% incorporating Fortis Bank Belgium, +32.9% Royal Bank of Scotland (by incorporating different branches of the dismembered ABN Ambro), Wells Fargo makes a quantum leap by incorporating the failed Wachovia (+136%), Banco Santander +33.2% (acquiring Banco Real, Alliance & Leicester and Bradford & Bingley), Commerzbank +38.8%.

For the first time in the history of the Federal Reserve System, discount window access was extended to investment banks during the financial crisis that started in the mid-2007 and the safety net extended beyond commercial banks to nonbanking institutions (entered under the umbrella of TBTF), for example, the regulator-assisted acquisitions of Merrill Lynch by Bank of America and Bear Stearns by JP Morgan Chase, Brewer and Jagtiani (2009).

31 The data are derived by Mottura (2011).
Figure 2.21: Total government capital injections to U.S. financial institutions: US$ 425.4 billion.

Original author's note: The “other 675” refers to all types of financial institutions that received financial assistance from the government. The period covered for capital injections is 2008–2009.

Source: Barth J. R. et al. (2012).

If there was a problem of TBTF before the crisis, it is definitely worse after the capital injections mainly to TBTFs.

Figure 2.21: Growth in U.S. banks (2008-2013).

The acquisitions also, as already said previously, have no helped the improvement of institutions as happened because it is necessary for the stability of the
system. Despite being a purely capitalist market, which is based on the principle that it is on the market who knows how to do business and the remainders are eliminated because inefficient, this inefficiency is not deleted from the regime but rather incorporated, bringing a patient with a sore throat become chronically ill.

After crisis, in Europe, the single market for banking is yet fragmenting, banks remained vulnerable and still perceived as too big to fail; rather, the crisis has put a halt on the integration process in the EU banking market. Although banks have so far largely maintained their cross-border presence, there are signs of declining cross-border provision of banking services, Liikanen (2012).
Section IV. TBTFs, SIBs, SIFIs, LCBGs and G-SIFIs

The doctors (read the regulators) have begun therefore to better monitor what they thought their top patients. Scholars and legislators have struggled to talk about big banks, without even really knowing who they were talking about. Before talking how, it was necessary understand who, Hurley (2009).

As already shown, not only have evolved large companies but also their regulators have increased\(^\text{32}\).

Figure 2.22: Official Safety Net players.

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Source: Singh and LaBrosse (2011).
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One of the first “manual for doctors” was made by the European Central Bank (ECB) in December 2006, a "Special Feature" in which it gave a first impression about who was dangerously to control. Here, the label used to identify these entities was “Large and complex banking groups – LCBGs”, ECB (2006). The indicators used here are mostly referring to traditional activities and data on the balance sheet (loans, mortgages, other earning assets, deposits and contingent liabilities) as well as interbank assets and liabilities and lead to identify a core group of 25 European LCBGs.

These indicators are then implemented the following year with new factors that take into account cross-border assets (see Table 2.5).

\(^{32}\)Already in 2000, with the Lamfalussy report, had been revived adoption of a common EU financial services law, but it did not deal with Prudential Strengthening Oversight, de Larosière Group (2009).
TBTF and the recent crisis

Table 2.5: Indicators used to identify large and complex banking groups.

<table>
<thead>
<tr>
<th>Indicators used in 2006 and 2007</th>
<th>Additional indicators used in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assets under custody</td>
<td>14. Cross-border assets</td>
</tr>
<tr>
<td>2. Contingent liabilities</td>
<td>15. Eonia overnight lending contributions</td>
</tr>
<tr>
<td>4. Deposits</td>
<td>17. Number of recorded subsidiaries</td>
</tr>
<tr>
<td>5. Interbank assets</td>
<td>18. Subordinated debt issuance</td>
</tr>
<tr>
<td>6. Interbank liabilities</td>
<td>19. Trading income</td>
</tr>
<tr>
<td>7. Mortgages</td>
<td></td>
</tr>
<tr>
<td>8. Net interest revenue</td>
<td></td>
</tr>
<tr>
<td>9. Net non-interest revenue</td>
<td></td>
</tr>
<tr>
<td>10. Other assets</td>
<td></td>
</tr>
<tr>
<td>11. Proceeds from bond issuance</td>
<td></td>
</tr>
<tr>
<td>12. Proceeds from equity issuance</td>
<td></td>
</tr>
<tr>
<td>13. Proceeds from syndicated loan issuance</td>
<td></td>
</tr>
<tr>
<td>14. Cross-border assets</td>
<td></td>
</tr>
<tr>
<td>15. Eonia overnight lending contributions</td>
<td></td>
</tr>
<tr>
<td>16. Market capitalisation</td>
<td></td>
</tr>
<tr>
<td>17. Number of recorded subsidiaries</td>
<td></td>
</tr>
<tr>
<td>18. Subordinated debt issuance</td>
<td></td>
</tr>
<tr>
<td>19. Trading income</td>
<td></td>
</tr>
</tbody>
</table>


Applying the 2007’ updated indicators to a 2006 sample of 415 euro area and non–euro area banks, ECB wound up with 36 banking groups that were large and complex. Twenty-one of those were headquartered in the euro area and 15 outside; the so-conducted analysis already gave a good idea of the problem but something was missing, Goldstein and Véron (2011).

After that, in 2009, the Financial Stability Board (former Financial Stability Forum) was convened by the Pittsburgh G-20 Summit in 2009 to propose possible measures to address TBTF problems associated with systemically important financial institutions - SIFIs, FSB (2013). The first step of this institution, created ten years ago with the aim of promoting financial stability in a global perspective, was the publication of “Reducing the moral hazard of systemically important financial institutions”; in this work they were defined as whom “because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity”, FSB (2010). Here was identified an initial timeline of actions (“recommendations”) to put in place, starting first of all with the elevation of their common equity capital by about U.S. $ 500 million, amounting to close to 3 per cent of their risk-weighted assets.

The following November, The Basel Committee (BCBS) published its assessment methodology to identify global systemically important banks (G- SIBs). At that time everyone wanted to say his opinion and invent a new term. Based on BCBS’ methodology, the FSB in 2011-2012 published a list that included 29 global banks, that are grouped into four buckets of increasing systemic importance, which correspond to
increasing levels of required additional loss absorbency, ranging from 1 to 2.5 per cent of risk-weighted assets, with an additional empty bucket of 3.5 per cent to discourage further increases in systemicity. At the same time, they also identified global systemically important insurers (G-SIIS).

Finally, new international standards have been authorized by G-20 (“Key Attributes of Effective Resolution Regimes for Financial Institutions”, FSB (2011b)).

Table 2.6: List of G-SIFIs (2011).

Note: This initial list is based on data as of end-2009. The list of G-SIFIs will be updated annually and published in November every year.

Source: FSB (2011b).

These institutions were asked for new solvency requirements and recovery and resolution planning, an additional requisitioned due to their status as "globally
systemically important” (rising from 1% to 3.5% of risk-weighted assets) and stronger and intensive supervision.

Figure 2.23: Evolution of regulatory indicators during crisis: Risk-weighted assets (a) and Tier-1 capital ratio (b).

Source: Ayadi et al. (2011).

The following year the list is updated from 29 to 30 firms. The list proposed by geographical area, allows shooting some concepts already proposed earlier. First, the vast majority of institutions is the European G-SIFIs (20 companies out of 30), and this confirms the idea exposed in the previous section of few large universal banks very concentrated in Europe, despite having a high percentage of assets abroad. Twelve largest banks in EU each have total assets of more than €1 trillion. From the American side, instead, in the list there are institutions that were originally specialized investment bank, and then become universal bank with the crisis, so as to enter the list of banks “protected” by the Fed. Additionally, the listing is no longer just for banks, but there are also six insurance companies, that would have never made the list before the AIG bailout, Claessens et al. (2012).
Table 2.7: List of G-SIFIs (2012) ranked by geographical area.

<table>
<thead>
<tr>
<th>SIFI</th>
<th>Total assets (billions of $, year end 2008)</th>
<th>% of foreign assets</th>
<th>% of foreign net income before taxes</th>
<th>% of foreign subsidiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JP Morgan Chase</td>
<td>2,175</td>
<td>25%</td>
<td>68%</td>
<td>49%</td>
</tr>
<tr>
<td>Citigroup</td>
<td>1,938</td>
<td>43%</td>
<td>74%</td>
<td>58%</td>
</tr>
<tr>
<td>Bank of America-Merrill Lynch</td>
<td>1,818</td>
<td>17%</td>
<td>19%</td>
<td>38%</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>885</td>
<td>33%</td>
<td>46%</td>
<td>60%</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>659</td>
<td>30%</td>
<td>46%</td>
<td>58%</td>
</tr>
<tr>
<td>Royal Bank of Canada</td>
<td>591</td>
<td>46%</td>
<td>41%</td>
<td>64%</td>
</tr>
<tr>
<td>Average Americas</td>
<td>1,344</td>
<td>32%</td>
<td>49%</td>
<td>55%</td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitsubishi UFJ</td>
<td>1,921</td>
<td>26%</td>
<td>28%</td>
<td>58%</td>
</tr>
<tr>
<td>Mizuho</td>
<td>1,509</td>
<td>23%</td>
<td>30%</td>
<td>45%</td>
</tr>
<tr>
<td>Sumitomo Mitsui</td>
<td>1,174</td>
<td>17%</td>
<td>21%</td>
<td>39%</td>
</tr>
<tr>
<td>Nomura</td>
<td>252</td>
<td>38%</td>
<td>14%</td>
<td>73%</td>
</tr>
<tr>
<td>Average Asia</td>
<td>1,214</td>
<td>26%</td>
<td>23%</td>
<td>54%</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Bank of Scotland</td>
<td>3,511</td>
<td>46%</td>
<td>42%</td>
<td>15%</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td>3,066</td>
<td>82%</td>
<td>75%</td>
<td>85%</td>
</tr>
<tr>
<td>Barclays</td>
<td>3,001</td>
<td>68%</td>
<td>56%</td>
<td>40%</td>
</tr>
<tr>
<td>BNP Paribas</td>
<td>2,889</td>
<td>41%</td>
<td>55%</td>
<td>67%</td>
</tr>
<tr>
<td>HSBC</td>
<td>2,527</td>
<td>64%</td>
<td>70%</td>
<td>74%</td>
</tr>
<tr>
<td>UBS</td>
<td>1,888</td>
<td>89%</td>
<td>47%</td>
<td>97%</td>
</tr>
<tr>
<td>ING</td>
<td>1,854</td>
<td>60%</td>
<td>72%</td>
<td>67%</td>
</tr>
<tr>
<td>Societe Generale</td>
<td>1,573</td>
<td>29%</td>
<td>57%</td>
<td>62%</td>
</tr>
<tr>
<td>Santander</td>
<td>1,461</td>
<td>64%</td>
<td>69%</td>
<td>80%</td>
</tr>
<tr>
<td>UniCredit</td>
<td>1,455</td>
<td>62%</td>
<td>51%</td>
<td>94%</td>
</tr>
<tr>
<td>Allianz</td>
<td>1,310</td>
<td>88%</td>
<td>79%</td>
<td>85%</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>1,097</td>
<td>85%</td>
<td>69%</td>
<td>92%</td>
</tr>
<tr>
<td>AXA</td>
<td>921</td>
<td>75%</td>
<td>72%</td>
<td>85%</td>
</tr>
<tr>
<td>Banca Intesa</td>
<td>885</td>
<td>15%</td>
<td>12%</td>
<td>62%</td>
</tr>
<tr>
<td>BBVA</td>
<td>755</td>
<td>30%</td>
<td>64%</td>
<td>74%</td>
</tr>
<tr>
<td>Axa</td>
<td>507</td>
<td>64%</td>
<td>61%</td>
<td>54%</td>
</tr>
<tr>
<td>Standard Chartered</td>
<td>435</td>
<td>71%</td>
<td>93%</td>
<td>77%</td>
</tr>
<tr>
<td>Aegon</td>
<td>393</td>
<td>78%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>Zurich</td>
<td>309</td>
<td>96%</td>
<td>84%</td>
<td>98%</td>
</tr>
<tr>
<td>Swiss Re</td>
<td>214</td>
<td>97%</td>
<td>97%</td>
<td>99%</td>
</tr>
<tr>
<td>Average Europe</td>
<td>1,503</td>
<td>65%</td>
<td>65%</td>
<td>74%</td>
</tr>
<tr>
<td>Grand average</td>
<td>1,432</td>
<td>53%</td>
<td>56%</td>
<td>68%</td>
</tr>
</tbody>
</table>

Source: Claessens et al. (2012).
Table 2.8: List of G-SIFIs (2012) ranked by size.

<table>
<thead>
<tr>
<th>SIFI</th>
<th>Total assets (billions of $, year end 2008)</th>
<th>Total subsidiaries</th>
<th>% of foreign subsidiaries</th>
<th>Number of countries</th>
<th>Subsidiaries in OFCs, number</th>
<th>Subsidiaries in OFCs, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Bank of Scotland</td>
<td>3,511</td>
<td>782</td>
<td>15%</td>
<td>15</td>
<td>50</td>
<td>6%</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td>3,066</td>
<td>1,992</td>
<td>85%</td>
<td>61</td>
<td>544</td>
<td>27%</td>
</tr>
<tr>
<td>Barclays</td>
<td>3,001</td>
<td>844</td>
<td>40%</td>
<td>57</td>
<td>133</td>
<td>16%</td>
</tr>
<tr>
<td>BNP Paribas</td>
<td>2,889</td>
<td>2,056</td>
<td>67%</td>
<td>67</td>
<td>176</td>
<td>9%</td>
</tr>
<tr>
<td>HSBC</td>
<td>2,527</td>
<td>1,765</td>
<td>74%</td>
<td>73</td>
<td>442</td>
<td>25%</td>
</tr>
<tr>
<td>JP Morgan Chase</td>
<td>2,175</td>
<td>839</td>
<td>49%</td>
<td>54</td>
<td>61</td>
<td>7%</td>
</tr>
<tr>
<td>Citigroup</td>
<td>1,938</td>
<td>2,631</td>
<td>58%</td>
<td>89</td>
<td>462</td>
<td>18%</td>
</tr>
<tr>
<td>Mitsubishi UFJ</td>
<td>1,921</td>
<td>146</td>
<td>58%</td>
<td>20</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>UBS</td>
<td>1,888</td>
<td>294</td>
<td>97%</td>
<td>48</td>
<td>31</td>
<td>11%</td>
</tr>
<tr>
<td>ING</td>
<td>1,854</td>
<td>1,694</td>
<td>67%</td>
<td>64</td>
<td>49</td>
<td>3%</td>
</tr>
<tr>
<td>Bank of America-Merrill Lynch</td>
<td>1,818</td>
<td>2,484</td>
<td>38%</td>
<td>53</td>
<td>236</td>
<td>10%</td>
</tr>
<tr>
<td>Societe Generale</td>
<td>1,573</td>
<td>1,074</td>
<td>62%</td>
<td>69</td>
<td>64</td>
<td>6%</td>
</tr>
<tr>
<td>Mizuho</td>
<td>1,509</td>
<td>139</td>
<td>45%</td>
<td>18</td>
<td>16</td>
<td>12%</td>
</tr>
<tr>
<td>Santander</td>
<td>1,461</td>
<td>898</td>
<td>80%</td>
<td>47</td>
<td>61</td>
<td>7%</td>
</tr>
<tr>
<td>UniCredit</td>
<td>1,455</td>
<td>1,286</td>
<td>94%</td>
<td>48</td>
<td>47</td>
<td>4%</td>
</tr>
<tr>
<td>Allianz</td>
<td>1,310</td>
<td>964</td>
<td>85%</td>
<td>66</td>
<td>41</td>
<td>4%</td>
</tr>
<tr>
<td>Sumitomo Mitsui</td>
<td>1,174</td>
<td>144</td>
<td>39%</td>
<td>14</td>
<td>26</td>
<td>18%</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>1,097</td>
<td>267</td>
<td>92%</td>
<td>39</td>
<td>44</td>
<td>16%</td>
</tr>
<tr>
<td>Axa</td>
<td>921</td>
<td>1,248</td>
<td>85%</td>
<td>50</td>
<td>82</td>
<td>7%</td>
</tr>
<tr>
<td>Banca Intesa</td>
<td>885</td>
<td>392</td>
<td>62%</td>
<td>34</td>
<td>87</td>
<td>22%</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>885</td>
<td>294</td>
<td>60%</td>
<td>24</td>
<td>38</td>
<td>13%</td>
</tr>
<tr>
<td>BBVA</td>
<td>755</td>
<td>495</td>
<td>74%</td>
<td>31</td>
<td>40</td>
<td>8%</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>659</td>
<td>1,809</td>
<td>58%</td>
<td>57</td>
<td>323</td>
<td>18%</td>
</tr>
<tr>
<td>Royal Bank of Canada</td>
<td>591</td>
<td>235</td>
<td>64%</td>
<td>26</td>
<td>39</td>
<td>17%</td>
</tr>
<tr>
<td>Aviva</td>
<td>507</td>
<td>454</td>
<td>54%</td>
<td>26</td>
<td>38</td>
<td>8%</td>
</tr>
<tr>
<td>Standard Chartered</td>
<td>435</td>
<td>298</td>
<td>77%</td>
<td>49</td>
<td>98</td>
<td>33%</td>
</tr>
<tr>
<td>Aegon</td>
<td>393</td>
<td>649</td>
<td>76%</td>
<td>30</td>
<td>20</td>
<td>3%</td>
</tr>
<tr>
<td>Zurich</td>
<td>309</td>
<td>444</td>
<td>98%</td>
<td>28</td>
<td>31</td>
<td>7%</td>
</tr>
<tr>
<td>Nomura</td>
<td>252</td>
<td>162</td>
<td>73%</td>
<td>29</td>
<td>27</td>
<td>17%</td>
</tr>
<tr>
<td>Swiss Re</td>
<td>214</td>
<td>206</td>
<td>99%</td>
<td>24</td>
<td>35</td>
<td>17%</td>
</tr>
</tbody>
</table>

Average: 1,432 | 900 | 68% | 44 | 112 | 12%

Source: Claessens et al. (2012).

Unfortunately, it is worth pointing out, by consulting different sources it can be possible find (considerable) discrepancies in in the data offered. For example, the Liikanen report showed that the previous year (2011) the % of foreign assets was about half. Try to taking for good data and not to fixate on the numbers.
In 2012, later to tightening of the capital buffer (Basel III), while all banks except two (DBK and ACA) have already achieved the undemanding potential future 3% leverage ratio, only 5 of the 22 banks have a ratio at or above 5. The overall picture is very uneven. Two of the US G-SIFIs are “well capitalized”. German French and Swiss banks are weakly capitalized in equity, despite very high Tier 1 ratios. The two periphery countries appear to have well capitalized banks, but face more pressure due to the sovereign debt crisis. The UK is similar to the USA, with one bank (HSBA) above the 5% equity ratio level, Blundell-Wignall and Atkinson (2012).

33 Small clarification: the ratios tend to increase in 2008 because mergers (made to save other institutions) lead to boost leverage, Hagendorff et al. (2012).
In 2013, after the agreement of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Financial Stability Oversight Council - FSOC (a new organization created for the occasion) will have regular 30 U.S. banks, which they have at least $ 50 billion in assets and, in addition, two non-banks (AIG and GE Capital) as "systemically important," and therefore subject to heightened prudential regulation.

However, the wise men at least come to talk *systemic interconnectedness* to identify systemic risk, that is the possibility of a contagious loss of value or confidence which may disrupt financial activity well beyond the location and have an impact on the real economy (as happened after the financial crisis of 2008).

In conclusion, some experts say that the definitions given by FSB / ECB / FED / BCBS / FSOC of TBTF / SIBs / LCBGs / SIFIs / G-SIFIs/ etc. aren’t sufficient and that the systemic risk subtly infiltrate into the system as dust mites.

We are sure of being able to measure the systematic nature of an institution only by its size? Perhaps did the case, included in many textbooks too, of the failure of Long Term Capital Management not teach anything?
Maybe an obese can cost more in medical expenses to the state, because more likely to disease, but that does not mean that they are the only ones who may need medical attention.

Trivially, according to some authors, only after the next failure will we know if we went to the systematic search in the right direction.
Chapter III. The intellectual debate - Why did they become TBTF?

In previous chapters, it has been tried to give a definition of TBTF, as those institutions whose failure could harm the stability of the financial system and therefore are expected to be saved. Then it has been made a long historical excursus on them.

In this part, the aim is to be able to answer the following questions: Why did they become TBTF? The size helps banks? And, if so, how much have they paid to become one? For those who produce value?

Starting from the idea, common in the economic sphere, that size should bring benefits, who gets them and at what cost to others? To try to give answers, were analyzed many works by academics, experts, regulators and bankers, thus creating an "intellectual debate" virtual.

To use an aphorism, “whoever drinks the water should not forget those who dug the well”.

Why did they become TBTF?
Section I. Does size help a bank?

First of all, it was asked if the size really helps a bank to be better than its competitors.

For - Who says that TBTF is not a problem

As explained in the previous section, before the crisis there were numerous academics who supported the idea that large and developed firms could bring benefits in terms of economies of scale and scope that reduced the production costs of the services and the costs of financing; these positive externalities are then transformed, for the community, to lower costs for financial services that customers needed. These fans have disappeared with the increase of the crisis like snow in the sun and a few were left to carry on their flag.

One prominent among those who have packed their bags is Frederic Mishkin, who was a member of the Board of Governors of FED but resigned in 2008 in order to revise his textbook. He had complained of other authors, such as Stern and Feldman, stating that the importance given to the TBTF problem was excessive, and that it wasn’t an influential factor in the banking crises of the last two decades. He believed that agency costs were limited to the threshold provided by the FDIC as insurance for depositors, and therefore institutions above the $ 100,000 insurance limit would have more incentive to monitor the bank’s activities; on the other hand, depositors would have pulled off their money if the bank had taken on too much risk, Mishkin (2005).

Among those who remained on this side, there’s William Dudley; he, after having been the chief economist at Goldman Sachs for 21 years (until 2007), seemed to have deserved the post of president of the Federal Reserve Bank of New York. In fact, he stated that “With respect to re-imposing Glass-Steagall-type activity restrictions, it is not obvious to me that the pairing of securities and banking businesses was an important causal element behind the crisis. More important is to address the well-known sources

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He was also a professor, and he had written a report called Financial Stability in Iceland, then famous for being blatantly denied.

of instability in wholesale funding markets and give careful consideration to whether there should be a more robust lender of last resort regime for securities activities. With respect to size limitations, it is important to recognize that a new and much reduced size threshold could sacrifice socially useful economies of scale and scope benefits”, Dudley (2012). Is it possible that it would harm the system so much? Or to do so it would be the bank’s earnings?

Against - Evidence on banks become too big

One of the main reasons for the existence of banks is that they are better at evaluating and managing risks than other institutions, Altunbas et al. (2011). Looking to adopt an empiricist method a là Descartes, it’ll be tried to refute this thesis.

It has already been introduced the concept of economies of scale and scope. Resuming them briefly, the existence of economies of scale is the decreasing of unit operating costs due to size (e.g. payment and clearing services require heavy fixed-cost investment in technologies but can be better spread over a greater number of users) whereas economies of scope could be for revenue (e.g. “one point shop”) and cost (e.g. centralized IT).

These benefits are not infinite but Liikanen (2012) stated that is not clear what are the limits on these cost savings; some authors have said around $10 billion asset: “However, there is no consensus on the optimal size of banks, and there is also no evidence to indicate that scale economies continue increasing after a bank approaches a very large size. For example, McAllister and McManus (1993) and Wheelock and Wilson (2001) found that banks face increasing returns to scale up to at least $500 million of total assets. Amel et al. (2004) report that commercial banks in the USA with assets in excess of $50 billion have higher operating costs than banks in smaller size classes. This would suggest that, even allowing for growth in the minimum efficient scale over time, today's largest banks may be well beyond the technologically optimal point”.

Management studies have brought to light how there can be in reality efficiency losses due to organizational diseconomies from offering a broad range of products. For instance, “it may be difficult to operate or monitor commercial banking, investment
banking, and insurance underwriting operations because senior managers may each have expertise in only one of these fields. It may be more efficient for managers to focus on core businesses and their core competencies, rather than trying to manage or monitor unfamiliar lines of business”, Berger (2003).

Focusing more attention on the institutions in question, specific externalities have been reported. Below, it will discuss researches and essays that have been presented in the last twenty years.

Granted that there seems to be forms of subsidy, implicit or explicit, to TBTF and given that there seems to be a moral hazard within the managerial choices of institutes and cost of agencies (will be taken later), the main TBTF’ distortions seem to be of three kinds:

A) Lower funding cost;
B) Implicit and explicit subsidies encourage to take more risks;
C) Who is without subsidies forces himself to lower their prices and to homologate the products.

A) Lower funding cost (the market’ side)

The first externality empirically observed is a lower funding cost for these institutions. Everybody knows that financial institutions need to find liquidity in the market at a good price to fund their activities. For example, when it was discussed the crisis, it has been quoted the interbank market, which allows institutions to exchange liquidity on the basis of the most pressing needs.

Of which costs is it being talked about? What happens in the world is that who have capital, lend to those haven't it. Why do they do it? To earn the difference (interest). Every business has its own risk level and the market reflects this risk. In what way? Asking for a risk premium.

Here is that investors, who expect that these banks will still be saved, do not ask for additional premiums for risk. In doing so, financial firms benefit from a lower production cost than competitors. “This gives such banks a competitive edge over other banks, providing an incentive to become inefficiently large”, Bijlsma and Mocking (2013).
Since it appears that this reduction in supply costs is systematic, the matter becomes more serious. Going back in time to the origins of the problem, namely the crisis of Continental Illinois, Morgan and Stiroh (2005) had already found at the time symptoms that:

- the market created a spread\(^{36}\) between banks named as TBTF in 1984 relative to other banks;
- the ratings\(^ {37}\) for the banks named as TBTF in 1984 improved by about a notch relative to other banks.

“Any deposit or uninsured borrowings beyond the normal FDIC coverage should factor in a premium accounting for the possibility of bankruptcy”, Joines (2010).

If investors believe the government will assist the bank, they discount the underlying risk of loss accordingly and the spread-rating relationship will be flatter for TBTF banks. In facts, in the early 1980s, bank bond yields did not reflect much risk because bondholders would not price in riskiness of the bank, Stern and Feldman (2004); so smaller banks paid higher spreads. “These are spreads and ratings on new bond issues, so the spreads reflect actual transaction prices and the ratings reflect raters’ real-time (not outdated) risk estimates”, Morgan and Stiroh (2005).

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\(^{36}\) Spread equals the yield on a given issue minus the yield on a Treasury bond of comparable maturity.

\(^{37}\) Calculated as the average of Moody’s and Standard and Poor’s rating.
The empirical evidence on higher risk appetite by large banks is ambiguous. Völz and Wedow (2009) found that the regulatory environment in U.S. before FDICIA encouraged large banks to take excessive risks. The same Mishkin admitted that in the early '90s the spread-rating relationship was flatter for large banks, suggesting that the market still thinks large banks are more likely to receive bailouts, Miskhin (2005). Nevertheless he saw in the new (in 1991) FIDC regulations a possible solution to the TBTF problem. With this law, only institutions with systemic risk would be fully protected while other banks there would be a closing procedure, making it more likely that creditors and uninsured depositors will suffer losses when a bank fails.

According to the essay by Morgan and Stiroh (2005), these banks may still enjoy the privileged position as TBTF; not enough, the request to have "systemic risk" would have pushed institutions, when possible, to grow (it will be better explained in the second part of the chapter). As usual, the gain of a few at the expense of many.

Figure 3.2: Spreads vs. Ratings for 1993-1998.


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38 “Nevertheless, the fact that bond yields now do reflect a bank’s riskiness suggests that the too-big-to-fail problem is not as bad as it once was”, Miskhin (2005).

39 To invoke the systemic risk exception is required a two-third’s majority of both the Board of Governors of the Federal Reserve System and the directors of the FDIC, and the authorization of the secretary of the Treasury.
Jagtiani et al. (1998) suggested that the perceived safety net remains an important issue for investors. Despite, *de jure*, in the U.S., the insurance of par value extends only to deposit accounts of $100,000 or less., because in the past the guarantee has at times been extended to uninsured depositors, other creditors, including bank bond holders (see Continental Illinois), there is uncertainty about the *de facto* coverage of the federal safety net in the future. The government’s bailout assurance artificially lowered the cost of funds to the bank and indirectly has supported moral hazard, Joines (2010).

Moreover, in the U.S. until the Gramm-Leach-Bliley Act of 1999, the bonds issued by commercial banks were considered less risky than securities issued by an investment bank; this because, instead of the different nature of business, there is a different degree of protection that could enjoy institutes of loans and deposits, Amel et al. (2002).

In Europe the trend was similar, especially after the Second Banking Directive, Ayadi et al. (2011); “the level of deposit protection was significantly increased in the EU from a minimum of €20 000 to a uniform level of €100 000 (with a maximum payout delay of 7 days)”, European Commission (2012a). The spread/rating relationship is statistically significant for European’ securities and similar to U.S., Sironi (2001), although implicit government guarantees in Europe seem gradually disappear during the last decade, Sironi (2000). Also in EU, securities underwritten by universal banks are riskier than those underwritten by specialized investment houses but Focarelli et al. (2011) said that it does not depend on conflicts of interest, it is two to an attempt to expand market share.

Although it appears relatively easy to measure efficiency in terms of cost at the national level, international comparisons are more difficult because best banks of each country operate with different technologies that aren’t directly comparable, Amel et al. (2002).

Nowadays it is believed that large institutions are not cost efficient because the size does have the (dis)economies of scale but grow for the top management of moral hazard, even protected in case of danger.

Both Sironi (2000), Sironi (2001) and Rime (2005) have compared the ratings of Moody’s (Moody’s Bank Financial Strength - MBFS) and Fitch (FitchIBCA Individual - IFI), noting bigger differences than other essays. The ratings issued by Moody’s in fact
take into account all the factors that may affect the ability of credit institutions, instead Fitch does not take into account whether or not they can receive external support but only its intrinsic capacity. “We find that our proxies of the TBTF status of a bank (size, market share) have a significant, positive impact on bank issuer ratings. The largest banks in the sample get a rating of bonus of several notches”, Rime (2005). “U.S. banks pay on average lower spreads for each rating grade than their European counterparts”, Sironi (2001); “bondholders may have considered themselves de facto insured”, Morgan and Stiroh (1999).

Figure 3.3: U.S. and European banks SND issues average spread per MBFS-FII Rating (1993-1998).


Furthermore, Morgan and Stiroh (1999) found that the relationship between bond spreads and ratings is virtually identical across banks and non-banks. This could be very important to identify the evolution of the financial system has led investors to consider very important (due to systemic risk, chance to be saved, etc.) not only banks but also other financial institutions traditionally excluded from the old definition of TBTF.
Figure 3.4: Average bond spread for banks and not-banks (1993-1998).

Original author’s note: Spread is measured as the basis point (bp) difference between the bond yield and a Treasury bond of comparable maturity. Average rating is the mean of the numeric ratings given by S&P and Moody’s.


Morgan and Stiroh (1999) pointed out that this difference in spreads (TBTF’s “uninsured bonds” vs. Not-TBTF) may help supervisors in monitoring bank risk and in allocating their examination resources more efficiently and it could provide ex ante discipline of banks. Despite these differences in terms market pricing (market settling), the market’s opinion about TBTF could influence firm values, as long as regulators do not have other ideas; it is likely that until 2009 had not been exuding official lists of TBTF institutions, so there wasn’t a definite certainty that all institutions were "untouchables". This was evident during the crisis when AIG and Bear Stearns received support while Lehman Brothers did not.

The general perception was that relatively larger institutions were more likely to be considered TBTF, although the specific TBTF’s threshold has never been officially defined, Brewer and Jagtiani (2009). It was also previous said that this choice of the U.S. government has led to a buzz in the financial market: “Had to save everyone, or not? Now will not save anyone?”. “If the government is to put a halt on bank bailouts in the future, it must first recognize how certain events change and shape perceptions of TBTF protection for financial institutions”, Joines (2010). “As a result of this recent history, TBTF is now virtually official policy”, Baker and McArthur (2009).
So far it has been spoken only of the agency costs (or conflicts) due to management. Do not forget that in heavily indebted companies, the shareholders also have an interest in exploiting the debt which they can draw, upon to undertake risky operations perspective: “If I lose, I lose less than I have invested; if I gain, I’ll gain well”.

Box 3.1: **Agency costs of equity.**

“Consider a bank that has $100 in assets, funded by $10 of capital and $90 of deposits, which are senior to capital (that is, they get paid first). Suppose that the bank has to decide whether to pursue a risky strategy with a 50% chance of reducing the value of the assets by $20 and a 50% chance of increasing it by X. If X is less than $20, the risky strategy will have a negative expected value. However, taking the risky strategy would be in the interest of the shareholders for some values of X below $20. The reason for this is that in the event the risky strategy would produce a loss of $20, the shareholders will not bear this loss fully. Rather, they will lose only $10: their capital invested in the bank, with the remaining $10 loss borne by depositors, the government as guarantor of depositors, or both. By contrast, in the event that the risky strategy is successful, the shareholders will capture the full benefit of the increase X in the value of the assets. As a result, taking the risky strategy will have a positive expected value for the shareholders as long as X is more than $10. Thus, there is a range of values that X might take—between $10 and $20—within which the risky strategy will have a negative expected value but will still be in the economic interest of the shareholders.

Another way of seeing the problem is by noting that, from the perspective of the shareholders’ economic interests, there is no difference between a decline in the value of assets of $10 and any larger decline that wipes out all or most of the value of the assets; in both cases, the shareholders will lose their capital. As a result, shareholders will have an incentive to discount large losses”.

*Source: Bebchuck and Spamann (2009).*

B) Implicit and explicit subsidies encourage to take more risks (the supervisor’ side)

Since the beginning of the development of the banking sector in the United States, Adam Smith reasoned that little government intervention was needed to maintain a stable banking system, Morgan and Stiroh (1999). Those who were to be of good intentions are then evolved in agency costs by banks, because “bank managers have short horizons and reputational concerns”, Acharya and Yorulmazer (2007).
Why did they become TBTF?

A common consideration in the world of finance is that one of the most valuable assets is trust and credibility. If customers don’t believe that the bank will face his interests, he’ll change bank, is the *feet law*[^40]. Similarly, as in the relationship between teacher and student, if people do not believe that regulators have the will and the strength to impose on the institutions that control, that's negative externalities spread like wildfire. “Financial stabilization policies, if misapplied, can effectively subsidize risk-taking by systemically important financial institutions. Such policies run the risk of increasing moral hazard and ultimately raise the risk of systemic instability rather than lowering it”, Plosser (2008).

In this regard, it will be proposed several considerations about regulators which affect themselves trust, leading to undermine confidence in a fair system and thus to encourage moral hazard.

First of all, among some academics, trying to give an explanation of the overall evolution of the global financial system over the past twenty years, it has been said the thought that such a large part of the regulators though that the failure of many small banks is as dangerous as the one a few singles, so it would be better to have a few large banks, more stable, secure and controllable, Acharya and Yorulmazer (2007). This seems to be a dog chasing its tail: many small banks appear to be weak, but a few large carriers seem to be gambling. It should therefore been chosen what is the lesser evil.

Secondly, banking institutions in the United States are monitored periodically by different agencies for fixed time period according to a predetermined rotation schedule, in order to facilitate an audit by different looks; with data in hand, however, the reader can realize that “under federal regulators, banks report higher nonperforming loans, more delinquent loans, higher regulatory capital ratios, and lower ROA. There is a higher frequency of bank failures and problem-bank rates in states with more lenient supervision relative to the federal benchmark”, Agarwal et al. (2012). Institutions seem to be able to negotiate with each other to get softer regulators, through mergers with other banks, supervisory evaluations, or changing chart or charging their position on the constitution[^41], Agarwal et al. (2012).

[^40]: If the consumer doesn’t like the product offered at a store, he may choose to change the shop.
[^41]: For instance, Small banks tend to prefer state charters, as applications are streamlined and supervisory fees are lower, Blair and Kushmeider (2006).
As the third case, some regulators state deliberately to provide support to lending institutions in order to maintain their national status. Rime (2005) quoted an interesting case in which the Swiss government replied to a parliamentary interpellation demanding that TBTF banks be subject to more stringent capital requirements: “In principle, no bank, whatever the dominance of its competitive position, is TBTF. Should public support be granted, the aim would not be the survival of the institution, but the maintaining of a sufficient credit supply and the protection of the reputation of the Swiss economy”.

The fact that entire ruling classes, especially in geographically small countries, have supported the growth of the financial sector to too high level, for reasons of prestige more than absolutely necessary, made them become victims of their own industries, dangerously at risk in case of failure (it will be discuss this issue again later speaking about Too big to be rescued).

Finally, as already mentioned, the safety net in the U.S. (Federal Safety Net) should only cover deposits of a certain level ($100,000 or less), and a certain type of

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**Box 3.2: Dual banking supervision in USA.**

Since 1863, commercial banks in the United States have been able to choose to organize as national banks with a charter issued by the Office of the Comptroller of the Currency (OCC) or as state banks with a charter issued by a state government.

The choice of charter determines which agency will supervise the bank. It also determines bank’s powers, capital requirements, and lending limits. The distinctions between the two systems greatly diminished and, with the Riegle Act in 1994, it was introduced the policy on alternating examinations and subsequent regulatory provisions with the goal of reducing administrative requirements for insured depository. The law assigns state chartered commercial banks to fixed 12-month or 18-month rotations between state and federal supervisors. In particular, the rotation involves state regulators and the FDIC for non-member banks (NMBs) and state regulators and the Federal Reserve (Fed) for state member banks of the Federal Reserve System (SMBs). The threshold has changed over time and since 2007 stands at $500 million for SMBs and NMBs. These entities combined cover a substantial portion of the US banking industry, about 30 percent in terms of total assets and 80 percent in terms of the number of commercial banks.

*Source: Blair and Kushmeider (2006) and Agarwal et al. (2012).*
banks (banks with potential systemic risk to the community). It has already been said that the banks seem to behave differently, Jagtiani, Kaurman and Lemieux (1998).

This is because bankers feel their shoulders are protected. Not fearing losses, they seek higher profits, which inevitably lead to greater risk. Risks are formally taken by the banks, but in the worst case are downloaded on taxpayers. Since the enactment of the Gramm-Leach-Bliley Act, Alan Greenspan, former chairman of the Board of Governors of the Federal Reserve System, warned policymakers to be very cautious about extending the scope and reach of the government’s financial safety net, because it could be allow TBTF institutions to operate with less capital and a lower funding cost relative to other institutions, Brewer and Jagtiani (2009).

A single mistake can be enough to ruin great projects well organized. Think of the rescue of Bear Stearns, which compromise the delicate attempt (started with the reform of the FIDC in 1991) to give more credibility that everyone is equal: “the bailout of Bear Stearns creates an unfair competitive environment in U.S. financial markets that is worse than the unfairness that led to FDICIA. Not only are large firms being favored over small firms, but investment banks are getting for free a better government bailout than commercial banks receive only after paying insurance premiums to the FDIC. The result will further weaken the U.S. banking industry and lead to a wave of mergers among investment banks seeking to become too-big-to-fail”, Macey (2008).

With the crisis of 2007-2008, the safety net has become a sieve, which had (or wanted) to stop all institutions at risk because change the system when it’s on the verge of collapse cannot be a good choice. All (or the most) after Lehman have been saved, only then it could be talked about reforming the system.

Chow and Surti (2011) analyzed a sample of 46 large and complex EU banking groups. “25 banks had trading income to total revenue ratios that exceeded the average ratio plus one standard deviation. 18 of those 25 vulnerable banks were effectively part of the sample of 23 banks that received official support in 2008/2009”.

Why did they become TBTF?
C) Whom is without subsidies forces himself to lower their prices and to homologate the products

Products become the same for all, increasing the homogeneity of the system. It is a simple fact: those who produce at a lower cost has a strategic advantage over the competitors. These, to recover, in the case of financial services very similar (think of a current account) usually compete trying to cut costs, in turn reducing margins or price (and thus profit). The struggle for the highest bid, or long-tailed distribution, leads to the homologation of the supply structure. In doing so, “the sea turns red” and the fish are all equal, Kim and Mauborgne (2005).

At the outbreak of the crisis, three ingredients were met simultaneously:

- the diversification it was possible to do multiple tasks increasing the risk (in theory, these strategies purge risk through diversification);
- the Originate to Distribute model has put into circulation the risks assumed (OTD transforms risk in a commodity);
- someone had advantages and drove the race to the bottom (they compete as if they were drugged, not feeling the difficulty of competitors).

Add a large use of derivatives (they have raised from USD 81 trillion in 1998, less than three times world GDP, to USD 605 trillion (around 10 times GDP) by 2010, Blundell-Wignall and Atkinson (2011)) and the dish is served. “Viewed across the system as a whole, it is clear now that these strategies generated the opposite result: the greater the number of eggs, the greater the fragility of the basket – and the greater the probability of bad eggs”, Haldane (2009a).

On the other side, those who had the power to stay small (such as retail deposits and small business loans of banks which made at a regional level) has not grown on risk taking. Studies have shown that there is strong link between regional economic conditions and bank risk, Liu et al. (2010)\textsuperscript{42}.

To paraphrase Darwin, the diversity among individuals is critical in a changing environment because it is more likely that there are individuals who are more suited to the new conditions; being all equal is an advantage in a stable environment (less

\textsuperscript{42} According to the authors, European banking markets have a long tradition of regional focus with mutual banks (savings and cooperative banks) competing in the same market with their commercial counterparts; this would make the European market more stable than the U.S..
competition, it is easier to reproduce), but as soon as the environment changes can become a handicap.

Making a comparison with epidemiology, Haldane (2009a) stated that “the impact of a disease depends crucially on such structural parameters as the mortality rate once infected and the transmission rate across agents. The first is largely fixed and biological. But the second is likely to be variable and sociological. In other words, agents’ responses to infection, or indeed the fear of infection, are often crucial in determining its rate of transmission”. Continuing in this direction, he asserted that, as risk materialized in 2007, banks rationally tried to protect themselves from infection from other banks by hoarding liquidity; this stopped inter-bank market.

The crisis, at that time, was contained to the banks alone are infected. Unfortunately, however, unable to borrow another way, some financial firms decided to salt assets to fund.

Being afraid to stick with a match in hand, everyone has started to sell, placing downward pressure on asset prices and thereby spreading the infection to other institutions. Others’ immunity to infection was simultaneously being lowered by widespread marking of assets to market. In escaping the plague, the sale of securities served to propagate it.

Although the market is free, the barriers to entry and stringent requirements, mergers occurred in the decades and the difficulty to continue to work (and recapitalize) for some institutions, have led some authors to define the financial market "oligopolistic (where few big firms dominated), but oligopoly has all of the disadvantages of monopoly and repercussions, "Moosa (2010). Nevertheless, the crisis has made these institutions even bigger.

Closing the circle

Therefore, these three terms stated above would be the main externalities that these institutions create in in the market, at the level of regulation and ecosystem.

The bankers act and cover the shoulders hindering the work of the regulators or taking them on their side (think that during the speculative bubble in Iceland, a third of the Icelandic agency controllers went to work for the banks) or having already their key
men in the control system. Policy interventions in financial markets run increasing the risks of moral hazard and inhibiting efficient price discovery, Plosser (2008). The crisis has also shown the weakness of a system based primarily on home regulators, which hadn’t the resources to monitor their foreign operations as regularly and thoroughly as their banks’ domestic operations, Buch and De Long (2008).

Who pays equity in the banks has an incentive to take more risk (as mentioned above, there are highly indebted firms, so shareholders are able to get significant gains with relatively small investments).

Secondly, the company's managers are forced to take on more risk themselves if in the short term (their time horizon) and they lead to an increase of value of common shares to which they are linked to their salary in stock options. In addition, “if banks’ creditors do not believe to be at risk of loss, they will have no incentive to monitor the bank’s true risk profile as reflected in its economic and financial conditions and price its uninsured liabilities accordingly, Sironi (2001). Morgan and Stiroh said that lawmakers and regulators recognized these distortions that created a TBTF mentality among investors and the 2007’s crisis has a little bit opened the eyes of the community on this system, but did not eliminate the distortions of bank executives' incentives, Bebchuck and Spamann (2009).

It is, as a result, to think that, while some argue that become great offers economic advantages (for cost synergies, economies of scale & scope), in reality other motives drive to big size, that is the protection. Have people realized that create large mega-banks creates a de facto oligopoly that destroys competitiveness? The inefficiencies in the financial sector would reach 20% of total banking industry costs, Berger and Mester (1997).

Who can agree that the deposit insurance, paid for by member bank has also been extended to those who bet (unprotected creditors) knowing they will not lose? And this is at the expense of taxpayers, using the label "systemically important" that allows government to bail them out, Joines (2010). Where is the business risk? How much is this game?
Section II. How much have banks paid to become TBTF?

If, therefore, there is an interest to become TBTF, for all the advantages reported above, how can they do to be? Is there an economic condition that facilitates access to the list of firms that deserve the best care? The answer is yes, and it comes with an added premium that is paid in mergers between companies.

A milestone in this field is the essay by Brewer and Jagtiani (2009): using data from the mergers of 1991-2004, not only they found that there is actually an added premium but also that this is estimated at least $14 billion for the eight merger deals that brought the organizations to over $100 billion in assets. These purchase premiums would be calculated as the difference between the offer price announced for a target organization and the market price of the target's common stock before the merger announcement.

Why do they pay more? Because someone believes in the benefits of diversification, economies of scale and scope or because someone else believes in the external protection. The growth of some institutions, often over their socially optimal size, would lean towards the second option, Völz and Wedow (2009).

It has already been stated that there were no official and specific legislative definitions of what they were TBTF but that the literature about it argued that there was a threshold for which a firm can be considered TBTF, and the prices agreed in mergers and acquisitions between companies reflect it; in this sense, a company that believes not already protected will ask an additional premium.

Wanting to make a distinction between mergers, Brewer and Jagtiani (2009) created four clusters (see Table 3.1).

Table 3.1: Mergers’ clusters.

<table>
<thead>
<tr>
<th>ACQUIRING</th>
<th>PRE TBTF NO</th>
<th>PRE TBTF YES</th>
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<tbody>
<tr>
<td>TARGET</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE TBTF NO</td>
<td>CL 1</td>
<td>PRE TBTF YES</td>
</tr>
<tr>
<td>PRE TBTF YES</td>
<td>CL 2</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>PRE TBTF YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CL 3</td>
</tr>
</tbody>
</table>

71
b) No TBTF after the merger.

<table>
<thead>
<tr>
<th>TARGET</th>
<th>PRE TBTF NO</th>
<th>CL 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACQUIRING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE TBTF NO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s elaboration from data by Brewer and Jagtiani (2009).

This chart summarizes that a firm buyer does not TBTF prior to the merger, knowing that with the transaction will not become TBTF, will not be encouraged to pay more (CL 4), while if with the transaction combining their assets, the threshold is reached, the acquiring organization would be willing to pay a higher premium purchase, because of the potential benefits to becoming TBTF (CL1). If the acquirer is already TBTF (CL2, CL3), it will pay lower premium less and less, having previously captured the benefits of being TBTF.

The authors also tested the banks on three different thresholds, indicated at the time by the academic studies:

- banks whose total assets’ book value ≥ 100 billion dollars;
- banks that are one of the 11 largest organizations in each year\(^{43}\);
- banks with market value of equity ≥ 20 billion dollars.

Both formulations of the size thresholds have led to similar results. The method has led to the identification of eight banking organizations who would have paid an added premium amounted to an estimated $14 billion to $17 billion extra to have more protection (crossing the $100 billion book value of total assets threshold).

Table 3.2: Cluster 1 - Become TBTF after the merger.

<table>
<thead>
<tr>
<th>Year</th>
<th>Acquirer</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Chemical Banking Corp.</td>
<td>Manufacturers Hanover Corp.</td>
</tr>
<tr>
<td>1995</td>
<td>First Union Corp., Charlotte, NC</td>
<td>First Fidelity Bancorporation</td>
</tr>
<tr>
<td>1995</td>
<td>NBD Bancorp, Detroit, MI</td>
<td>First Chicago Corp, Illinois</td>
</tr>
<tr>
<td>1995</td>
<td>Wells Fargo &amp; Co.</td>
<td>First Interstate Bancorp</td>
</tr>
<tr>
<td>1998</td>
<td>Norwest Corp</td>
<td>Wells Fargo</td>
</tr>
<tr>
<td>2000</td>
<td>Firstar Corp, Milwaukee</td>
<td>U.S. Bancorp, Minneapolis</td>
</tr>
</tbody>
</table>

Source: Brewer and Jagtiani (2009).

Moreover, banks that were recognized already TBTF were 30.

\(^{43}\) In 1984, the OCC had spoken of TBTF as the major eleven institutes of the era.
Why did they become TBTF?

Table 3.3: Cluster 2-3 - Already TBTF before the merger.

<table>
<thead>
<tr>
<th>Year</th>
<th>Acquirer</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Bank America Corp</td>
<td>Valley Capital Corp</td>
</tr>
<tr>
<td>1991</td>
<td>Bank America Corp</td>
<td>Security Pacific</td>
</tr>
<tr>
<td>1992</td>
<td>NationsBank Corp</td>
<td>MNC Financial</td>
</tr>
<tr>
<td>1994</td>
<td>Bank America Corp</td>
<td>Continental Bank Corp</td>
</tr>
<tr>
<td>1994</td>
<td>NationsBank Corp</td>
<td>RHNB Corp</td>
</tr>
<tr>
<td>1995</td>
<td>NationsBank Corp</td>
<td>Intercontinental Bank</td>
</tr>
<tr>
<td>1995</td>
<td>NationsBank Corp</td>
<td>Bank South Corp</td>
</tr>
<tr>
<td>1996</td>
<td>First Union Corp</td>
<td>Home Financial Corp</td>
</tr>
<tr>
<td>1996</td>
<td>NationsBank Corp</td>
<td>Charter Bancshares Inc</td>
</tr>
<tr>
<td>1996</td>
<td>First Union Corp</td>
<td>Center Financial Corp</td>
</tr>
<tr>
<td>1996</td>
<td>NationsBank Corp</td>
<td>Boatmen’s Bancshares Inc.</td>
</tr>
<tr>
<td>1997</td>
<td>First Union Corp</td>
<td>Signet Banking Corp</td>
</tr>
<tr>
<td>1997</td>
<td>First Union Corp</td>
<td>Covenant Bancorp</td>
</tr>
<tr>
<td>1997</td>
<td>NationsBank Corp</td>
<td>Barnett Banks</td>
</tr>
<tr>
<td>1997</td>
<td>Banc One Corp</td>
<td>First Commerce</td>
</tr>
<tr>
<td>1997</td>
<td>First Union Corp</td>
<td>CoreStates Financial Corp</td>
</tr>
<tr>
<td>1999</td>
<td>Fleet Financial Group</td>
<td>BankBoston</td>
</tr>
<tr>
<td>1998</td>
<td>Wells Fargo</td>
<td>National Bancorp AK</td>
</tr>
<tr>
<td>2000</td>
<td>Wells Fargo</td>
<td>First Security Corp</td>
</tr>
<tr>
<td>2000</td>
<td>Wells Fargo</td>
<td>First Commerce Bancshares</td>
</tr>
<tr>
<td>2000</td>
<td>Wells Fargo</td>
<td>Brenton Banks Inc</td>
</tr>
<tr>
<td>2000</td>
<td>Washington Mutual</td>
<td>Bank United Corp</td>
</tr>
<tr>
<td>2000</td>
<td>FleetBoston Financial Group</td>
<td>Summitt Bancorp Princeton</td>
</tr>
<tr>
<td>2001</td>
<td>First Union Corp</td>
<td>Wachovia Corp</td>
</tr>
<tr>
<td>2001</td>
<td>Washington Mutual Inc.</td>
<td>Dime Bancorp NY</td>
</tr>
<tr>
<td>2002</td>
<td>Citigroup</td>
<td>Golden State Bancorp</td>
</tr>
<tr>
<td>2003</td>
<td>Wells Fargo</td>
<td>Pacific Northwest Bancorp</td>
</tr>
<tr>
<td>2004</td>
<td>National City Corp</td>
<td>Provident Financial Group</td>
</tr>
<tr>
<td>2004</td>
<td>SunTrust Banks Inc.</td>
<td>National Commerce Financial Corp</td>
</tr>
<tr>
<td>2004</td>
<td>Wachovia Corp</td>
<td>SouthTrust Corp</td>
</tr>
</tbody>
</table>

Source: Brewer and Jagtiani (2009).

In Europe, in the years 1985-1998 academics didn’t find evidence similar to the U.S. situation, Amihud et al. (2002); the phenomenon of M&A activity has increased with the introduction of the Euro, and that would be caused by how the supervisory structures of parent countries would affect the overall risk of the conglomerate/bank, Buch and DeLong (2008). “Opportunities for regulatory arbitrage occur when, by changing the geographic footprint of their activities, financial institutions (and some of their counterparties) can shift poorly monitored risk exposures to taxpayers in one or another country on advantageous terms”, Carbo-Valverde et al. (2010).

However, while in the U.S.A. mergers happen in a relatively homogenous set of deposit and prudential insurance regulations, in the EU there are yet different regulatory and deposit insurance systems subject only to the minimum harmonization and cross border mergers banks have had greater benefits in several European countries, except for Spain and Germany, Carbo-Valverde et al. (2010). In addition, strict consolidating supervisors results in better and takeovers, in accordance with Beltratti and Paladino (2012), thanks to a careful due diligence that externally certifies the value of the target;
especially in 2008 and in 2009, it has been seen a wave of nationalizations and rescue transactions, PWC (2013).

Figure 3.5: M.&A. in banking sector (1985-2013).

Hagendorff et al. (2012) have found evidence that many of these operations are carried out with borrowed money; in so doing, mergers lead to increased indebtedness, and the higher costs of enterprises supported draining resources and can put into serious difficulties the institution, Völz and Wedow (2009). “Rather than solving a governance problem, heavy reliance on debt is a source of governance problems that distort banks’ decision making and harm the public”, Admati and Hellwig (2013), increasing a vicious cycle of higher debt → more revenue → minor qualms → higher risk.

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44 See the case of Banca Monte dei Paschi di Siena, which bought in 2007 Antonveneta from Santander paying much more than it should; http://www.ilfattoquotidiano.it/2013/08/24/mps-antonveneta-mussari-speses-nove-miliardi-soltanto-con-telefonata/689987/.
Section III. *Too big to fail or too big to be rescued?*

Save a bank, or a large financial institution, it is always safe or can destabilize even the savior? It is has often seen that mergers between banks in an attempt to save a sick bank, infecting the buyer healthy too. More in general, has the safety net limitations in its ability to use?

Surely the countries that are geographically smaller ones are those who have more difficulties to establish a network of salvation, e.g. the role of last resort lender: think of the Swiss banks or the Luxembourg banks that are much larger (in terms of liabilities) of the national GDP.

For institutions of this type, do not talk about *too big to fail* but *too big to be rescued* (TBTBR) because there is too much disparity between the potential cost of the bank bail-out and the financial capacity of Its home country, Rime (2005).

Figure 3.6: Relative importance of the 1–3 largest banks in industrialized countries.

Is it favorable to have such great firms? If the question will be put to the citizens Icelanders, the answer will not be certainly yes. The crisis of the three major local banks between 2007 and 2008, whose total assets exceeded between 9 and 11 times the Icelandic GDP (14.437 billion crowns), made it virtually impossible any national rescue attempt. Its salvation was perhaps derailed the banks, not paying back foreign creditors, Gesualdi (2013). “By the end of 2008, the liabilities of publicly-listed banks in
Switzerland and the United Kingdom had reached 6.3 and 5.5 times their GDP. Liabilities of banks in Belgium, Denmark, France, Ireland, and the Netherlands similarly exceeded two times their GDP”, Demirgüç-Kunt and Huizinga (2010).

The question therefore is: the benefits of having large banks (economies of scale, risk diversification, increased product range) are such as to justify institutions that could compromise the health of a nation?
Why did they become TBTF?

Perhaps the real difference is the way in which you handled the insolvency of an institution, but it would be naive to think that the failure controlled by an institution that creates wealth (because that's what makes a credit institution) can be treated as a business trade of equal value.

Also, it shouldn’t be considered only the assets and liabilities that a bank maintains the territories of origin but also on foreign branches: bank deposits since 1994 in the European Economic Area (including the European Union, Iceland, Liechtenstein, and Norway) are covered by the home country’s deposit insurances; In addition, since 2001, that is required domestic and foreign bank creditors are treated equally in bankruptcy proceedings, preventing selective bail-outs of only domestic bank liability holders, Demirgüc- Kunt and Huizinga (2010). This condition was not met in the case of failure of the Icelandic institutions, in which the state has guaranteed savers and Icelanders decided not to pay foreign creditors, Gesualdi (2013). Holland and England have resorted to the international court of the European Free Trade Association, but this declared that the respective governments ought to pay for their fellow citizens, thus casting doubts about Europe's ability to know how to beat the fists and how to be able to deal with systemic crisis, Economy2050 (2013).

How have the markets reacted to this episode and to what happened with the financial crisis? The financial crisis has turned into an economic crisis and then, in Europe, into a sovereign debt crisis. Here are omitted considerations regarding balance sheets of individual states, except to say that the health of the finances of a state is reflected in the banks directly and indirectly: directly, because the lenders in many countries are the first holders of securities of state, and indirectly because of the weakening of a state leads investors to see weakened its ability to save TBTF institutions and evaluates them worse than asking for a higher CDS spread.

So the funding cost (relative to size) no longer seems to be a line that takes advantage of decreasing the label TBTF, but a parabola with the sign TBTBR beginning of the climb: “At the same time, a bank's too-big-to-fail status may render its interest cost less sensitive to a proxy for bank riskiness: such as its capitalization rate, while a bank's too-big-to-save status can make its interest cost more sensitive to bank risk”, Demirgüc-Kunt and Huizinga (2011).
The simple evaluation in terms of assets of an institution, however, can be misleading in groped to calculate its risks for the company: “the institutions that ultimately failed were not mega-banks but relatively specialized and undiversified institutions such as Lehman Brothers, Bear Stearns, both non-deposit taking institutions, and Northern Rock\textsuperscript{45}, Avgouleas (2010). Again, the case of LTCM did not learn anything.

For their part, the British cousins already in 2009 had cataloged systemically important institutions in three orders, FSA (2009):

- \textit{systemic by size}. This can be a function of the firm’s absolute size or in relation to a specific financial market or product in which a firm is particularly dominant;

- \textit{systemic by inter-connectedness}. Links and inter-connections can include, inter alia, inter-bank lending, cross holdings of bank capital instruments, membership of payment systems, and being a significant counterparty in a crucial market;

- \textit{systemic as a herd}. The market can perceive a group of firms as part of a common group (for example, because they have a similar business model, such as building societies in the UK and the savings and loans banks in the US), or common exposures to the same sector or type of instrument.

\textsuperscript{45} It is recalled that the extensive use of derivatives leads to an increased risk of interconnection without creating real wealth (and equity) in the system, Blundell-Wignall and Atkinson (2011). Whereas Alan Greenspan (former Fed chairman) generally regarded derivatives with favor, Warren Buffett yet in 2002 wrote about derivatives as “time bombs, both for the parties that deal in them and the economic system”, Dudley and Hubbard (2004).
The single presence to one or more of these case studies would lead to an excessive level an enterprise to be TBTBR. Claessens et al. (2012) added that a SIFIs can be recognized by the number of regulatory agencies that would have to approve a resolution of the group (in function of the number of countries in which offices are located).

Based on the foregoing, Bart and Schnabel (2012) have argued that “bail-out probabilities depend on a bank’s systemic importance rather than its size, and that the two concepts do not necessarily coincide. […] Therefore, banks are not too big to fail (TBTF), but too systemic to fail (TSTF)”. The Icelandic case has shown that the domestic industry was very large (relative to GDP) but very concentrated so with little chance of externalities for the system (with the exception of English and Dutch creditors). The analysis of the market itself, who knows and no discounts (in terms of interest payable), leads experts to believe that it is precisely the systematic, long underestimated by academics and regulators, as subtle as a bacterium, to fuel expectations of rescue.

“Some experts have argued that it is impossible to define SIFIs because no one can provide an operational definition of systemic risk”, Claessens et al. (2012). In this sense, TBTF, TBTBR, TSTF are more faces of a big problem of moral hazard and interests.

Hence, why do people keep them? If, therefore, TBTF can be felt by the citizens as a distant problem, because maybe the moral hazard of their banker will not touch them, or the salary of the manager overpaid nervous them but they accept it, knowing that there are financial institutions- bomb capable of destroying the wealth not only of them but of a whole nation, they should (at least!) be scandalized. The next reform should be addressed to tackle the problem of too big institutions in general. It is hoped to provide answers to that effect in the next chapter.
Chapter IV. Practical solutions - How to prevent the next crisis?

Taking advantage of the leeway given by the existing legislation (OTD model, de-specialization, etc.), or by flaws in international laws (minimum harmonization in Europe without authority to monitor overall), it was possible to produce mega-banks *eco-monsters* (to use a term from the ecologist environment). The crisis opened the eyes to the dangers that weigh on the entire global financial system, but what were the measures taken, or are being taken, to hold back the problem?

After several years of specific works, the various national agencies and international institutions have written lists, made advice and given opinions, but what of all that has been assimilated by the regulators?

In this witch-hunt, experts were divided between those who argue that the risks are generated from being able to do everything (i.e. it’s a problem of business model) so they animate the theoretical current “must be limited what a bank can do” and ones who said: “is not the activity itself that is dangerous, but the level of indebtedness and liquidity”.

In a study conducted in 2013, the IMF said that the ring-fencing of the assets can be useful to discourage moral hazard, but that requires a rethinking of how the individual business models work; pursuant to their essay, “the impact of the financial crisis on US SIBs does not implicate any specific business model as being more vulnerable to cyclical shock or an increase in market volatility. Evidence from major bank failures from the crisis suggests that the proposed structural measures would not, on their own, have prevented their occurrence”, IMF (2013).

Despite taking note of these considerations, this paper does not aim to deal with the *risk* in itself, but the TBTF business model; taxpayers have to make an act of faith in believing that the reforms that are being carried out may help to reduce the complexity and interconnectedness between banks, making it easier their saving and the increasing of the financial stability.

In this section it will be tried to analyze the financial reforms implemented with glasses always focused on TBTF institutions (thus setting aside other sensitive issues, such as the derivatives market), taking views and opinions of academics and experts, as has already happened in the third chapter.
In particular, it will be distinguished capital requirement (as the set of rules and standards for financial market) from supervision (“oversee financial institutions in order to ensure that rules and standards are properly applied”, de Larosière Group (2009)). While the requirements of these institutions are loose over time (capital requirement) and there was problems of competence between supervisors in the management of cross-border institutions (in the U.S.), on the other hand there was also a significant problem (in Europe) of absence of a macro-prudential supervision able to coordinate quickly and forcefully the actions of individual states.

Next, it will be presented the complementary proposals of reform, dividing them into four broad categories, and telling what is then passed from words to deeds. Needless to say, but as long as talking and doing nothing, the problems wouldn’t be resolved.

Finally, it will make a very brief overview of the financial market today. “It is likely to require a financial sector reform effort every bit as radical as followed the Great Depression”, Haldane (2009b).
Section I. New Capital Requirements

Who threw the first stone against banking regulation, has done it starting from the ineffectiveness of Basel II. Basel II was the second version of an international agreement created by the Basel Committee on Banking Supervision (BCBS) about the capital requirement of banks. Wanting to strike in favor of Basel II, its rules came into force on 1st January 2008\(^{46}\) in the Eurozone and in the U.S. would have been only on 1st April 2010. In its intentions, “banks with more shock-absorbing capital have clearly resisted the crisis better and have been less likely to receive government support”, Ayadi et al. (2012); if for the European case academics could speak of poor results (the doctor had just been hired, and was just beginning to take contact with patients), and for the U.S. it would have been years later, the previous experience\(^{47}\) have made experts thought about the fact that the market was so complex and interconnected that the losses were quickly moved from one continent to another, and the idea of *perfectly liquid markets* was incorrect: “for example, had the capital treatment for liquidity lines given to special purpose vehicles been in application then they might have mitigated some of the difficulties”, de Larosière Group (2009). A major revision of Basel II was needed to address new unforeseen problems.

The regulatory written by BCBS, from a point of view closely sheet, was therefore corrected view of increase minimum capital requirements, to reduce the pro-cyclicality and cope with stress situations with a specific buffer capital.

Table 4.1: Impacts on profitability comparing Basel II with Basel III.

<table>
<thead>
<tr>
<th>Capital Structure</th>
<th>Basel II</th>
<th>Basel III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum requirement</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Tier 1 – in % RWA</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Tier 2 – in % RWA</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Ce in % RWA</td>
<td>2%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Ce for C0b</td>
<td>0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Ce for C0cb</td>
<td>0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Ce for G-Sib</td>
<td>0%</td>
<td>1.35%</td>
</tr>
</tbody>
</table>

*Source: Author’s elaboration.*

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\(^{46}\) Basel II was implemented in Europe in 2008 by Directives 2006/48/EC and 2006/49/EC (Capital Requirements Directive/CRD I package).

\(^{47}\) For example the failure of Long-Term Capital Management.
As reader can see from the Table 4.1, Basel III would increase the common equity (or Tier 1) to the detriment of supplementary capital (or Tier 2), used to absorb losses in the event of a crisis, Penza (2011). In addition to a *capital conservation buffer* (CCB)\(^{48}\), a *countercyclical capital buffer* (CCCB)\(^{49}\), the introduction of a *3% leverage ratio* based on Tier 1 capital from 2019, is expected by 2016 (but some authors speak of a possible postponement to 2019) an additional requirement dedicated to systemically relevant institutions, the *G-SIFI buffer*\(^{50}\): institutions large, interconnected and complex that could also think of being saved, namely TBTF!

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\(^{48}\) It provides additional resources to the minimum requirements to cope with situations of shock, BCBS (2010).

\(^{49}\) Macro-prudential measure triggered by national authorities; could consume trees in discussing the anti-pro-cyclicality of Basel (already criticized well before their formalization), but here we do not care.

\(^{50}\) Globally-Systemic Important Financial Institutions, reader already know them.
How to prevent the next crisis?

Section II. More Supervision

It is possible the integration of financial stability, financial integration and national financial policies? Schoenmaker (2010) and Claessens et al. (2012) have called this problem the Financial Trilemma, stating that it’s possible combining two of the three objectives but not all three; what does the reader choose between a smaller factory today, or any market for sale tomorrow? Policymakers should focus on cooperation to decide together a common set of things that can be done and things that cannot; the only limits here are the interests of each party.

The analysis makes clear that successful international cooperation depends on three steps:

1. Enhanced national regulation, supervision and resolution to minimize the pressure for international cooperation.
2. Harmonization or coordination of national approaches to reduce the scope for conflicts of interests.
3. Incentives for cooperation between national authorities to increase the scope for cooperative solutions.

It’s a long process but it’s necessary to put together the knowledge and skills to deal with these giants that loom over the system as Damocles’ Sword.

The G20 have pushed the FSB to improve financial stability through coordinating the international and national financial supervisors and promoting effective regulatory, PwC (2011b). FSB, on the one hand has led the Basel Committee to improve the prudential supervision of banking, and on the other hand it has also encouraged the creation (in Europe) and the rethinking (in the U.S.) of the existing system of controls. In fact, in Europe it wasn’t during the financial crisis a supranational structure that could regulate the initiatives taken by individual national supervisor; if it was existed, maybe it could lead to more effective policies and less expensive bailout of European banks: "the approved state aid measures in the form of recapitalisation and asset relief measures between October 2008 and December 2012 amount to €591.9 billion or 4.6% of EU 2012 GDP", European Commission (2014c).
Basel II inserted it in the Pillar II of prudential controls; clearly P2 wasn’t concerned so much about who should oversee but what it should do, that is, the supervisory authorities (national central banks or whoever) should monitor the risks taken by individual institutions, the criteria for management and board members, the respect for requirements, ensuring that institutions do not rest on the threshold but have a higher regulatory capital (called free capital) to prevent that capital is reduced below the threshold and that it is difficult to re-establish\(^{51}\), Biffis (2011).

The matter of who has to control is not a secondary issue, especially for geographically developed institutions that have put in serious troubles (in Europe) the model of Home Country control (HCC) and they seem to be neglected by the Basel structure\(^{52}\).

The de Larosière report published in 2009 wished for the ECB to take on a major role in a new European supervisory system, based on an European macro-prudential systemic risk council and a different boards for the main three financial areas (micro-prudential) with the aim of focus on the national supervisor.

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\(^{51}\) According to the logic: if the time needed to reconstruct the minimum requirement is too much, better to have more assets from the outset.

\(^{52}\) In the third pillar, Basel reaffirms the market's ability to reward or punish institutions (also according to the information that individual banks make available) but neglects the speeches made in the previous chapters that TBTFs are able to obtain concessions from the market.
Figure 4.2: The European framework for safeguarding financial stability proposed by de Larosière.

Source: de Larosière (2009).
Section III. *What more to deal with TBTFs?*

“The capital rule cannot possibly come close to making these banks safe without addressing the business model issues and TBTF”, Blundell-Wignall et al. (2013).

The BCBS said that “no country had a framework for adequately addressing the problems that arise in the resolution of a purely domestic SIFI, much less a cross-border SIFI”, Herring (2011). If impose only higher capital requirements is not enough, and even put multiple controllers around to suspects, what else can regulators do?

If TBTFs know that they will be always saved, the goal of regulators should be to break this belief, minimizing the cost of failure, both in purely accounting terms (taxpayers can’t always be the losers) and in economic terms in the broad sense (the fault of a few cannot affect all). To do this, policymakers must start from the systemic stability, lowering the possibility that individual banks fail and reducing (if they fail) their impact, Ayadi et al. (2012).

The main set of proposals can be classified into\(^{53}\):

A) Restricting the ability to exercise certain activities (e.g. ring-fencing);
B) Discouraging bigness through curbs and incentives (imposing higher costs for size);
C) Put a size cap and breakup bigger firms (not larger than that, the larger must be dismembered...);
D) Plan for their closure (e.g. living wills).

They aren’t necessarily mutually exclusive. Given that the literature often moves in the direction of the draft bills, making critical or considerations in favor, it will discuss the major legislative proposals that have been made (the U.S., UK and European) and alternative proposals, if consistent.

\(^{53}\) Among those who have bothered to classify the actions taken by regulators there are Ayadi et al. (2012), Baily and Elliott (2013).
A) Restricting the ability to exercise certain activities

It flourished within politicians, legislators and academics a wide range of proposals (each with its own pros and cons) to put constraints on what banks could do. The idea is: if it is dangerous that a bank takes money it had with loans, and gambling them on the stock market, because it is assumed risks (i.e. several zeros of $) and it may not be able to repay, let’s prevent it! A bank needs to handle a certain amount of securities or a certain type of derivatives to protect itself? Okay, leave it to do, as long as the banks support the world economy, not them, thundering the most reformers (Avgouleas (2010) spoke of “separation of utility from casino banking”); the remaining tasks will make them someone else. By how and who the legislators are divided: “You can speculate on financial markets. Or you can have a government safety net. But you can’t have both”, Irwin (2013).

Andrew Haldane, executive director of the Financial Stability (Bank of England) has always maintained that the benefits to restrict supply, through his division into compartments ("modularity") would make the system more robust and secure, after being deceived for years by Merton & Co. of the benefits of diversification: “In principle, size and scope increase the diversification benefits. [...] But if all banks are fully diversified and hold the market portfolio, that means they are all, in effect, holding the same portfolio. All are subject to the same systematic risk factors. In other words, the system is a whole lacks diversity”, Haldane (2010).54

It has been already discussed about the risk of a homogeneous system, as well as how many people are still determined to assert the contrary; they scream that it’s no possible to return to Glass-Steagall days, “times have changed and will not change back”, Baily and Elliott (2013). This mentality can be expressed by the following analogy; before, each had his shop: there were those who sold tools for gardening, those who sold something for bricolage, those who home decor. After it was allowed to open Euro-Brico, Leroy Merlin, Obi, etc.; the small shopkeepers have adapted (or have closed, going to work for large firms or have tried to become themselves in their turn) and now the system is dominated by giants. How could be now possible to think of knocking on the doors of these and say, «look, we think that tomorrow would be better

54 It should not be a case if the regulation adopted in UK seems to be the most rigorous and effective.
you re-become smaller, you should break up this venture and divide it into many tiny». The analogy should explain itself. The intentions are right, but putting them into practice is another thing. Having lost over the years the clear difference between a loan and a security, for the universal bank will be very difficult to go back, Baily and Elliott (2013).

As mentioned above, the who and the how are dividing lawmakers. U.S.A., U.K. and EU have each proposed a different set of rules, although united by the same principle. It will discuss the three sets of proposals with the names of the three major proponents; in the next section, to maintain the suspense, it will tell that it was.

The Narrow utility banking idea

In its simplest form, the literature proposes to take a few steps back in banking intermediation, distinguishing between activities which help real sector and (sustainable) economic growth, Chow and Surti (2011) and non-facilitate and more risky; the distinction is arbitrary, but it would give a strong signal to the people of a financial sector that goes back to being useful for the community, rather than for herself.

Figure 4.3: Transformation of Universal bank into Utility bank.

55 In Italy, there has recently been a government of professors (as defined by the press) which has had many difficulties to move from what they explain in the classrooms to how to put it into practice in real life.

56 Talk about riskless is perhaps too much given that it is always to provide money to a third party.
How to prevent the next crisis?

Original Author’s note:
1/ Besides the rescoping of business represented by balance-sheet adjustments, also entails prohibition on provision of a number of financial services (e.g., trading of securities on own account and investment banking services such as prime brokerage, market making, and underwriting, among others).
2/ Includes interbank exposures.
3/ Includes funding vehicles such as asset backed commercial paper, repo/securities lending, among others.
Source: Chow and Surti (2011).

We have already eaten so much, a diet will not hurt them. And if it meant that they have to shut them down, probably they did not know to do their job.

The Volcker Rule (U.S.A.)

In its first formulation (2010), the Dodd Frank Act contained many principles and a few certain laws, allowing these to be defined later, Ayadi et al. (2012).

The much vaunted Volcker rule, ordered by president Barack Obama in the Consumer Protection Act (Section 619), was a proposal originally made by former Fed Chairman Paul Volcker to restrict the operational areas of the United States banks.

Figure 4.4: Banking activities in U.S.A. during Glass-Steagall Act.

Source: Krahnen (2013).
Figure 4.5: Banking activities in U.S.A. according to Volcker’s proposal.

Source: Krahnen (2013).

Although many claim that it would be a return to the old Glass-Steagall (a return to the old law pure is not possible, given the scale and size of commercial banks' treasury operations and securitization activities, Avgouleas (2010)), the U.S. Volcker rule aims to prohibit to banks non-core activities which, although profitable, affect the stability of institutions, IMF (2013). It's therefore a ban on banks' proprietary trading (trading securities to earn the difference) and do financial assistance to hedge funds and private equity investments, Krahnen (2013).

There have been many criticisms during the creation process of this amendment. First, many exceptions are allowed (e.g. bank are allowed to invest up to 3 percent of their Tier1 capital in funds as long as they do not own more than 3 percent of each invested fund, Krahnen (2013); see the next part C)), is not clear what is hedging and prohibited activities pour in the shadow banking system, licking mustache given the lack of interest of the law for it.

Also, this rule is also applied to foreign banks with subsidiaries in the U.S. so they can do proprietary trading abroad meanwhile their branches or subsidiaries in the
How to prevent the next crisis?

U.S. do not, Blundell-Wignall and Atkinson (2012) and this rule allows banks gaining at least ten percent market share in loans or deposits\textsuperscript{57}, Macey and Holdcroft (2011).

The Vicker’s recommendations (U.K.)

The UK Independent Commission on Banking (ICB), chaired by Sir John Vickers, published on 12 September 2011 a report in which it is proposed a more stringent approach to separation, Baily and Elliott (2013).

The drive of this suggestion is to protect the traditional business lending and retail deposits, domestic (individuals and small-medium enterprises, Liikanen (2012)) from that global speculative. In this way the British economy is protected from possible internal crises and the operation took the name of “retail ring-fencing”. It is important to note that, unlike the former Colony, activities can be still be carried out within the same banking group\textsuperscript{58} but in strictly separate legal entity for guarantee retail operations; furthermore, retail banks will be allowed activities necessary for the efficient provision of mandated services, Krahnen (2013) and the investment banking activities will be outside UK ring-fenced deposit-taking banks, IMF (2013). Are excluded only relatively small institutions, for which the rule isn’t applied. The Governor of the Bank of England (BoE) Mervyn King has specifically argued that “separation of the deposit and lending business, so called utility banking, from capital markets activities, so-called casino banking, would be a good way to avert a future financial crisis, as it would curb mega-banks ability to free ride over the implicit government guarantee”, Avgouleas (2010).

Doing so, it would seem also solved the problem of a possible liquidity crisis in the interbank market, as happened in 2007-2008.

\textsuperscript{57} From this it follows that too big is to exceed the threshold of 10%.

\textsuperscript{58} It has already been talked about a higher prevalence of banking groups and conglomerates in Europe than in the USA.
The Liikanen Proposal (EU)

In the European Union, The EU Commission has ordered to a High-Level Expert Group chaired by the President of the Bank of Finland Erkki Liikanen (so Liikanen Report or just Liikanen\textsuperscript{59}) to deliver a proposal. Liikanen has recommended its own version of ring-fencing, Baily and Elliott (2013).

It is based on subsidiarization too (i.e. other entities within the perimeter of the conglomerate\textsuperscript{60} can do) of market making, prime brokerage, proprietary trading and investments in hedge funds and private equity only if more than a certain threshold. Do not forget that Europe, in his Second Banking Directive has based its harmonization on the model of universal bank as the sum of commercial and investment activities.

\textsuperscript{59} Instead, the previous report is usually cited as the de Larosière Group. These are choices.

\textsuperscript{60} Should be noted that in this work, for simplicity, are treated in the same way both banking groups both the financial conglomerates but in reality these definitions don’t coincide; rather, a conglomerate may have an internal banking group and other stuff and the opposite is not true.
How to prevent the next crisis?

Figure 4.7: Banking activities in EU according to Liikanen’s proposal.

My two cents...

Blundell-Wignall et al. (2013). think that the aim of separation should be make bank deposits safer and more secure so a liquidity crisis cannot hit them and central banks and government (taxpayers) do not need to support the bank each time, and the author is agree with them.

According to these proposals, the British and Europeans\textsuperscript{61} seem to have a more \textit{big-oriented} approach and, among these, the most stringent are sure the subjects of His Majesty. The U.S. proposal seems to hit more players, but has a long list of successful excluded. For all three cases it can’t speak of a complete rethink of existing one-size-fits-all regulatory paradigm, Ayadi et al. (2012) and before giving way to those who want to elect the best system, it should be noted that a bank with good lawyers could perhaps find more space in arbitrage of these rules (valid mostly for banks to that area and not for hosts), especially when cross-border and cross-continental banks.

\textsuperscript{61} But what is proposed may be different from what is then approved.
Many criticize the separations of businesses à la Glass-Steagall because it deal with bank which are subject to federal prudential regulation and other financial firms are not, Labonte (2013). “An important lesson from the crisis is that the proliferation of intra-group exposures can hinder resolution and magnify the real and fiscal impact of a crisis”, IMF (2013). Waiting to find a safe harbor where make team among global policymakers, TBTFs are preparing for the next collision.

Table 4.2: Comparing the structural reform proposals (1).

<table>
<thead>
<tr>
<th>Holding company with banking and trading subsidiaries</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permitted</td>
<td>Permitted</td>
<td>Not permitted</td>
</tr>
</tbody>
</table>

| Deposit taking institution dealing as principal in securities and derivatives 1/ | Not permitted (but other group companies may do so) | Not permitted (but other group companies may do so) | Not permitted |
| Deposit taking institution investing in hedge funds and private equity | Not permitted (but other group companies may do so) | Not permitted (but other group companies may do so) | Not permitted |
| Deposit taking institution providing market making services | Not permitted (but other group companies may do so) | Not permitted (but other group companies may do so) | Permitted |
| Deposit taking institution’s non-trading exposures to other financial intermediaries | Unrestricted | Restricted | Unrestricted |

Original Author’s note: 1/ U.S. federal government and agency securities, debt and securities issued by US state and municipal governments and government sponsored enterprises, and derivatives on these securities are exempt from proprietary trading restrictions of the Volcker rule. Source: IMF (2013).

Other proposals of ring-fencing

Professor John Kay had proposed in 2009 an alternative U.S. reform model62, a narrow bank where retail deposits are invested in risk-free government assets. This proposal, albeit with a worthy aim ("The purpose is to protect the non-financial sector as to as possible from the important consequences of failures and instability within the financial sector", Kay (2010) has not been very successful because it neglected the systemic risk activities and tended to not regulate the not-retail activities, when they are

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62 See Kay (2009).
How to prevent the next crisis?

nonetheless dangerous activities (e.g. mortgage bubble) and should be kept under control.

Another proposal, including those that are worth remembering, is that of the Organization for Economic Co-operation and Development (OECD) Secretariat, which, since 2008, has proposed a separation model. They proposed the separation of securities businesses from traditional banking as necessary for the future stability of the financial system, establishing a non-operating holding company (NOHC) structure, Blundell-Wignall and Atkinson (2012). “The OECD Secretariat believes that bank should be considered for separation if the gross market value (GMV) of its derivatives rises above 10% of TA (on an IFRS basis). The separate core deposits bank would be subject to the simple leverage ratio rule of at least 5% of total equity for the core (un-weighted) assets, "Blundell-Wignall et al. (2013).

Similarly to the UK Vickers Report, the bank could spin off some functions and keep them within the perimeter of the group. The market would know to price risk differently between different parts of the enterprise, so as to “avoid (inappropriate) cross-subsidization of risk taking away TBTF channels”, Blundell-Wignall and Atkinson (2012). Separate would allow to lend in times of crisis and it would create more risk-aversion between managers too, and so less chance of failure.

The professor and lawyer Emilios Avgouleas sees things in a different way: instead of proposing a Glass-Steagall model that would be very expensive to implement for the European financial firms, he has developed a three-tier model which would leave European banks ample field to restructure their different business lines and readjust their business models and sources of funding without having to shut down entire business units, Avgouleas (2010). His model is developed for Tier with different degrees of protection: Tier I are savings institutions, which have very limited capacity to participate in capital markets and should be able to do so only in order to hedge lending book risks and not to engage in proprietary trading or securities underwriting activities; for this they have complete deposit insurance. These limits are more relaxed for tier II institutions that accept short-term but not current account deposits (deposit insurance covers only 50%) and Tier III (non-deposit taking institutions) are not subject to any restrictions regarding their capital markets activities and use of securitization but they haven’t any insurance.
Pending defined common rules at Community level, some individual states have already taken steps to protect its financial systems. France\textsuperscript{63} and Germany\textsuperscript{64} proposed draft reform which would ring-fence that unsecured lending to hedge funds and proprietary trading while brokerage for third parties, underwriting and market-making would not be subject to structural separation, European Commission (2012a). The two proposals differ in the threshold for \textit{de minimis} exemptions. The Netherlands and the Belgian governments have set-up group to analyzing how realize domestic ring-fencing. Probably these reforms will then have to be adjusted when will be approved the Union one.

B) Discouraging bigness through curbs and incentives

A second way to address the problem is to make sure that it is not convenient for these financial institutions hold a size so big. Since this is not a strict alternative to the previous cluster, some of the major reforms presented above complement it. To discourage the size, the two main routes are capital and liquidity surcharges and size-related taxes or levies, Goldstein and Véron (2011).

Table 4.3: Comparing the structural reform proposals (2).

<table>
<thead>
<tr>
<th></th>
<th>Likanen group report</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher loss absorbability rule 2/</td>
<td>Yes, via leverage ratio for trading business that exceeds size threshold</td>
<td>Yes, as add-on to the conservation buffer for UK ring-fenced bank</td>
<td>For SIs with substantial US footprint</td>
</tr>
<tr>
<td>Size threshold for application</td>
<td>Yes, applies to all banks with trading books larger than €100 billion, or trading assets more than 15-25% of balance-sheet</td>
<td>Yes, applies to all banks and building societies with deposits greater than €25 billion</td>
<td>No</td>
</tr>
</tbody>
</table>

\textit{Original Author’s note: 2/ The Dodd-Frank Act subject US banks with assets in excess of $50 billion to more stringent prudential requirements. Similar requirements have been proposed, under the recent Intermediate Holding Company proposal, for non-US banks with more than $50 billion in global assets that have a systemically important presence in the US. Source: IMF (2013).}

In addition to what has already been proposed by Basel III, the three systems of reform mentioned above provide capital measures more restrictive to exercise trading business but there is a difference between the thresholds chosen for the application.


How to prevent the next crisis?

In the UK, the Vickers' proposal adds higher loss absorbency (HLA) capital rules on top of the Basel III capital conservation buffer. “The entire business (not just the ring-fenced element) will need primary loss absorbing capacity of at least 17% to 20% (including bail-in bonds and contingent convertible bonds, or CoCos)”, the UK Independent Commission on Banking (2011). The idea should be make it inconvenient to be bigger and push large banks to voluntarily shrink by imposing higher costs for size, Baily and Elliott (2013).

In the EU, instead, the procedure would consist on two stages: First of all, the identification of banks whose assets held for trading and available for sale exceed: a relative threshold of 15-25% of total assets or an absolute threshold of EUR 100bn, Liikanen (2012); then, supervisors decide case-by-case on the basis of the assets to which applies strengthened leverage limits, IMF (2013). It is therefore discretionary requirements to apply.

In the U.S. the proposal applies leverage and counterparty risk limits but tends to be discretionary rather than to have a size threshold. Furthermore, “the Financial Stability Oversight Council will monitor systemic risk and make recommendations to the Federal Reserve for increasingly strict rules for capital, leverage, liquidity, risk management and other requirements as companies grow in size and complexity, with significant requirements on companies that pose risks to the financial system”, U.S.A. Committee on banking, housing and urban affairs (2010).

A second approach would be to impose specific taxes, for example if shareholders had to pay a fee to deal with the systemic risk inherent in the enterprise (as proposed by Freixas and Rochet (2010)), there would be less risk-taking by management because it would be controlled by its shareholders; also if the costs become greater than the benefits of scale, management will be less inclined to carry out mergers and the growth in size if it leads to excessively increase their expenditure items. These taxes should ensure that the financial sector meets the direct fiscal cost of any future support, IMF (2010). Andrew Kuritzkes in 2010 has suggested a periodic tax (each five years) of $1 million for each subsidiary of a SIFI to incentivize firms to simplify their legal structures, Claessens et al. (2012). “Based on 2011 legal structures, the costs to international financial conglomerates would be significant, ranging from $134 million to $2.6 billion for the top thirty financial conglomerates”, Herring (2011).
“If properly calibrated and set high enough, such a surcharge could discourage SIFIs from engaging in activities that increase systemic risk and thus could reduce the probability of such institutions from becoming TITF”, IMF (2011).

IMF (2010) proposed also a broad levy called “Financial Stability Contribution” (FSC) and paid by all financial institutions to support the fiscal cost of any future government support to the sector reflecting individual institutions’ riskiness and contributions to systemic risk⁶⁵.

C) Put a size cap and breakup bigger firms

A different approach to the problem is to put a size limit: “If financial institutions raise systemic concerns because of their size, make them smaller”, Stern (2009). So far it has been taught that this business has to bring the best size X-Large and if someone decides to give a cut? In this way banks already below the threshold would be required to respect it and could not go further, while those who are already beyond the imposition should be broken into several smaller pieces. The transition details would be very complex, but the core idea is simple, Baily and Elliott (2013). Of course, this push to become smaller would not reach the undertakings concerned: “It is hard to imagine the CEO of any large bank advocating a strategy of becoming smaller, serving fewer clients, and not boldly moving forward, particularly when size of bank and size of CEO paycheck are strongly correlated”, Macey and Holdercroft (2011).

If one takes into account that, according to many economists, economies of scale are contained within a certain size, such a cap should not find a lot of animosity between the managers who work for the good of the company and not for moral hazard. “The benefits of reducing the size of firms are that, if successful, it could eliminate the moral hazard and the need for future bailouts stemming from TBTF”, Labonte (2013). There is, however, saying that the imposition of size limits has been justified in the past only to ensure fair competition, not for the stability of the system, Herring (2011).

Stand an absolute cap is inconvenient as it would be compared to any country in which would apply; it is therefore easier to propose a ratio %. Johnson and Kwak

⁶⁵ Sweden in 2009 introduced an act to charge a levy of 0.036% to domestically incorporated banks and their foreign branches for systemic significance.
(2010), to avoid having institutions too be rescued, proposed for US banks a size cap in rapport al GDP domestic: per le commercial banks 4% of GDP (about $570 billion as of 2010) and for investment banks 2%. Applied to the 2010 US financial industry structure, this would require the six largest institutions, namely JPMorgan Chase, Bank of America, Citigroup, Wells Fargo, Goldman Sachs, and Morgan Stanley to shrink or split into separate entities, Goldstein and Véron (2011).

Jonathan Macey and James Holdcroft have proposed a limit to the total liabilities of any institution to 5% of the targeted level of the FDIC’s Deposit Insurance Fund for the current year: “For 2010, the targeted level of the DIF is 1.15% of total deposits insured by the FDIC. Accordingly, under the test proposed here, the limit on total liabilities would be set at 0.0575% of total insured deposits. As of December 31, 2009, the most recent date for which detailed deposit information is available, total deposits equaled $9.23 trillion and estimated total insured deposits equaled $5.38 trillion. Thus, under our approach, maximum total liabilities for a financial institution in 2010 would be $3.096 billion” Macey and Holdcroft (2011). This approach would certainly be a shock to the financial sector.

In the U.S.A., towards this legislative approach, has been proposed in 2010 a law by Senators Brown and Kaufman that would have implemented more binding size caps (Brown-Vitter TBTF Act, section 798; $250 billion, $100 billion, $50 billion or some smaller amount) but their proposal was rejected by a comfortable margin in the US Senate, Goldstein (2011).

Nevertheless, Section 622 of the 2010's Dodd Frank Act has imposed a concentration limit on financial institutions: “These are prohibited from merging, consolidating with or acquiring another financial company if the total consolidated liabilities of the resulting financial company exceed 10% of the aggregate consolidated liabilities of all financial companies”, Liikanen (2012).66

In addition to being a system a bit cumbersome, because it does not limit some but only in relation to whole financial system, the problem is that this law does not solve is that it leaves untouched the existing businesses and possibly already TBTF.

On the other hand, Federal Reserve Board governor Daniel Tarullo, FDIC vice-chairman Thomas Hoenig, Federal Reserve Bank of Dallas president Richard Fisher 66The same Liikanen remembered that the national deposit concentration limits have been in place since the 1994 Riegle-Neal Act.
evoked cap to banks' non-deposit liabilities at a fixed percentage of the U.S. economy but the proposal has not been successful but it will be prohibited to banks to from engaging in proprietary trading beyond 3 percent of its Tier 1 capital.

In addition, Section 121 authorizes the Financial Stability Oversight Council to impose to complex companies to sell off some of its holdings “if it poses a grave threat to the financial stability of the United States”, U.S.A. Committee on banking, housing and urban affairs (2010) while Section 165(d) admits the FDIC and the Federal Reserve to break-up a SIFI that fails to cure a deficient resolution plan, Bovenzi et al. (2013).

On this set of proposals there are some criticisms to make. It was discussed above about how the motivations of economies of scope and scale seem to squeak in favor of the statement of Stern and Feldman (2004) that “large banks spend any diversification cost saving on greater risk taking”. Rather, the more doubts arise in the case of a possible international harmonization, especially for those who propose ratio of GDP; “this is because the size of the largest financial institutions relative to home-country GDP differs so much across countries, Goldstein (2011).

Standard cap policies still seem to be very misleading if one remembers that many supervisors resolve failing institutions through fusion between banks, “what would happen to a failing bank that was around the size limit set by the Federal Reserve?”67”, Baily and Elliott (2013). Bovenzi et al. (2013) reported as an example the case of Washington Mutual, bought in 2008 from JPMorgan Chase (JPMC). If, for example, had a cap on fixed size equal to $ 300 billion, JPMC couldn’t think of acquiring Washington Mutual, whose assets were valued in 2007 at $ 327.9 billion. The FDIC proudly announced securities at the time that the transaction resulted in no loss to the industry-funded Deposit Insurance Fund. How would the FDIC to save it otherwise?

Finally, while placing a cap may also have the salutary effect of keeping policymakers’ attention on the TBTF issue over time, Stern and Felman (2009c), interventions of this type, especially observing the Dodd-Frank Act, don’t seem they oppose to the existing TBTFs (which will not be broken up / reduced in size) and do not take into account issues relating to interconnection and complexity already listed in the previous chapter, Liikanen (2012). “Unless SIFIs are broken-up and capped, they will

67 Federal Reserve is the case posed by Baily and Elliott but in reality it could be written the Bank of Italy, Bank of England, etc...
continue to enjoy an implicit government subsidy of funding costs”, Bovenzi et al. (2013).

D) Plan for their closure

While the three previous sets of proposals can be defined as preventive, because they aim to correct and reduce the probability of failure on the part of firms, the latter group of proposals can be considered the problem *ex post*, i.e. once encountered a serious anomaly in the institution. As different, this kind of proposals has often been examined separately from the other, following own legislative procedures.

In fact, a systemically important firm - however well managed and however well regulated - may reach the point of failure and require the authorities to intervene, FSA (2009). Supervisors can therefore prepare in advance the moves to be taken in the event of insolvency of subsidiaries. More precisely, it could be distinguished between measures of recovery and measures of resolution. The difference between the two plans is the gravity of the situation in which the institution is located.

In the case of a recovery plan, the bank is in trouble but not yet definitely. At this stage, the institution deal with the loss of capital or liquidity; “in order to avert failure, management may need to undertake radical options”, FSA (2009): it could do it reducing the size of its balance sheet by withdrawing from capital-intensive business or selling businesses and asking liquidity to other banks or even central banks, Hart (2012).

In the case being declared insolvent, supervisors proceed to a resolution plan: each bank should prepare a plan for the resolution of any line of business, illustrating the strategies to be adopted, estimating the cost and time of application of the procedures and identifying key interconnections across affiliates, Goldstein and Véron (2011), Herring (2011); these plans should be released to the supervisory authority and then be regularly updated, annually and updated if the institution executes a substantial merger or a restructuring that introduces additional complexity, Herring (2012).

At the aggregate level, the recovery and resolution arrangements are commonly known as a living will. “Living wills dictate that a bank has in place a clear recovery

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68 Someone wonders if it will ever reach an international standard of insolvency, in order to coordinate authorities of several countries, *Herring* (2012).
plan by requiring it to outline in advance what is to be done in the event that it falls into extreme stress”, Ayadi et al. (2012).

In UK

In the territory of the Queen, the Financial Services Authority (FSA), after consulting the Treasury and the Bank of England (BoE), outlined to establish in 2012, the Prudential Regulation Authority (PRA), which will manage the UK’s Special Resolution Regime (SRR), BoE (2013b). On an experimental basis, English firms as early as 2011 are required to maintain and update recovery plans as a complete menu of credible actions to implement in the event of severe stress, BoE (2013b). Once a firm has produced these plans they will be subject to review by the FSA, in consultation with the Bank of England, FSA (2009).

Among the measures proposed resolution, is having great success among policymakers resolutions of large holding or parent company (SIFs) by a single resolution authority, called Single point of entry (SPE) or also by two or more resolution authorities to multiple parts of the group (ideally simultaneously), named Multiple point of entry (MPE).

With the SPE resolution strategy, “the assets and operations of particular subsidiaries are preserved on a going concern basis, avoiding the need to apply resolution at a lower level within the group”, (FSB 2012); it imposes all losses on the parent company’s shareholders and long-term unsecured debt holders, Bovenzi et al. (2013); if the holding company has enough capital to heal the losses and to meet short-term obligations, the operation ends quickly; otherwise, in a weekend or even overnight, supervisors proceed to the transfer of assets to a new established holding company called bridge holding company. This may revalue the assets, all the losses of the firm will be borne by the debt and equity holders (it will avoid to debt holders to run from the bank, Baily and Elliott (2013)), the old equity will write off and will apply to bail-in (conversion of debt into equity) until sufficient recapitalization (most junior first.) The subsidiaries are not in general placed into bankruptcy and can remain open for business

69 “A bridge bank is a temporary bank established and operated to acquire some or all of the assets and liabilities of an insolvent institution until final resolution can be accomplished”, Herring (2011).
How to prevent the next crisis?

(even though foreign ones) or they may be selling off, thus minimizing the impact on the financial system.

With an MPE approach, instead, the group could be split on a national or regional basis, along functional lines, or some combination of each, FSB (2012).

The Liikanen report

The Liikanen report contains such measures, pointing out that, once separated from the retail trading and made a strong cross-border harmonization of the supervisory evaluation, recovery and resolution plans (RRP) is to require all banks to with significant trading activity, Liikanen (2012).

In Europe, before the report of the Governor of Finland, it has been started to discuss, since 2010, to the introduction of a Single Resolution Mechanism that uniform measures of resolution in Europe. The European Commissioner Michel Barnier seems to prefer the single point of entry to resolution than MPE, both in order to avoid the difficulty of coordinating the resolution authority, both to avert any national governments that could put pressure on the national resolution authority to favor their parts, European Parliament (2013). It wishes for the establishment of national funds of financing and loan mutual between national central banks, De Cesare et al. (2012).

Despite the development of a living will might put a burden on time, resources, and costs, Deloitte (2013), the benefits of these living wills are to succeed in creating a beautiful exit for those institutions whose failure could have otherwise high costs for society. Imposing also the cost of failure to shareholders and unsecured creditors should reduce moral hazard of been always saved, Avgouleas (2010). Herring (2012) reported the Moody's reaction to the recovery and resolution plans proposed in the UK, which has begun to recognize companies that have begun to publicly present these plans.

The same companies (and their shareholders) should benefit from these plans in terms of lower costs involved if there was the urgent need to resort to these measures: “The administrators of the Lehman bankruptcy have estimated that at least $ 75 billion was wasted because of the lack of any preparation for bankruptcy, and legal and administrative expenses have consumed another $ 1 billion of the bankruptcy estate by the first quarter of 2009 with no end in sight”, Herring (2012).
For being incisive, “the success of both recovery and resolution is based on preparedness. It is vital that both the firm and the authorities have considered in advance the range of actions that they might undertake to deal with a crisis at the firm”, FSA (2009). These plans, however, are in need of a global standardization of measures, especially in Europe where laws are still fragmented and fixed to the domestic market, making the use of living wills highly ineffective, Avgouleas et al. (2010). In the absence of established forms of international fiscal sharing for bank rescues, governments will opt for a local approach requiring that foreign banks operating in their territory are incorporated as local subsidiaries separately capitalized and with the local subsidiary’s assets being ring-fenced, Avgouleas (2010).

The Dodd-Frank proposal

The Dodd-Frank Wall Street Reform and Consumer Protection Act makes it clear that it will be prohibited to bail out any financial firms indiscriminately. “Secretary of the Treasury must approve any lending program, and such programs must be broad based and not aid a failing financial company”, U.S.A. committee on banking, housing and urban affairs (2010). Always with the idea of countering TBTF, this act requires institutions supervised by the Financial Stability Oversight Council periodically submit resolution plans to the Federal Reserve and the Federal Deposit Insurance Corporation (FDIC), including both a public and confidential section.

The FIDC - according to Dodd- Frank Act- should become the agency of a resolution (called Orderly Liquidation Authority) able of dealing with SIFIs, Herring (2011). The Bankruptcy Code has designed the FDIC as a last-resort lender which would have the power to wipe out shareholders (except for residual value) and to allocate losses or protection from losses across and within creditor classes with the flexibility to maintain an orderly resolution, Bovenzi et al. (2013). The FIDC could

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70 Bank holding companies with total consolidated assets of $50 billion or more and nonbank financial companies designated.

71 This type of resolution has been introduced in the U.S. since 1987 among those that could predispose the FDIC.
provide short-term secured funding to ensure the continued operation of the subsidiaries through the Orderly Liquidation Fund\textsuperscript{72}, Baily and Elliott (2013).

\textsuperscript{72} “The Orderly Liquidation Fund is not really a fund. Instead, it is the statutory term for the FDIC’s authority to borrow money from the Treasury to provide temporary, fully secured liquidity to recapitalized bridge financial companies at above market interest rates”, Bovenzi, Guynn and Jackson (2013).
Section IV. What has been approved?

Since the financial crisis of 2007-2008, several measures have been undertaken and many reforms have been put in the yard at the national and international level to safeguard the financial system.

The three major regulators reported in the previous section have had plenty of time to discuss, sign and change the announced reforms. Some have been finally approved definitively, while others will require some time yet or will in any case in action within a few years of the date of writing (spring 2014). These Initiatives have focused mainly on improving on existing regulations to strengthen bank capital and liquidity buffers in order to help them better withstand shocks, IMF (2011).

Basel III

The changes of Basel II have turned into a rewrite of the rules of banking supervision, which took the name of Basel III, then rectified by the participating countries (in Europe has taken the name of CRD IV and it is the legislation underlying the policy of Single Rulebook undertaken by the European Union).

In addition, the problem of instability due to use of short-term liabilities (debt or deposits) to finance long-term assets (e.g. loans) is not only a characteristic of the banks but also other financial intermediaries and insurance, Labonte (2013); in this sense, in Europe was developed Solvency II (officially Directive 2009/138/EC) to improve insurance regulation.

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**Box 4.1: Basel III in a nutshell.**

Total Risk-Weighted Assets (RWA) is based on a complex system of risk weighting that applies to credit risk (CR), market risk (MR) and operational risk (OR), which are calculated separately and then added:

\[
RWA = 12.5(OR+MR) + \sum w_i A_i
\]

where \( w_i \) is the risk weight for asset \( i \); \( A_i \) is asset \( i = CR; OR \) and MR are directly measured and grossed up by 12.5 for 8% equivalence.

*Source: Blundell-Wignall and Atkinson (2011), Biffis (2011).*
The Basel Committee, starting with the work of the FSB\textsuperscript{73}, proposed in 2011 (updated in 2013) a very strict approach to determine the degree of systemic importance of G-SIFIs (introduced in B3) based on a set of multiple indicators. The indicators chosen reflect the size of the banks, their interconnectedness, lack of readily available substitutes or financial infrastructure for the services that banks provide, the international operations (in most jurisdictions) they perform and their complexity, BCBS (2011).

Table 4.4: Indicator-based measurement approach.

<table>
<thead>
<tr>
<th>Category (and weighting)</th>
<th>Individual indicator</th>
<th>Indicator weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-jurisdictional activity (20%)</td>
<td>Cross-jurisdictional claims</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Cross-jurisdictional liabilities</td>
<td>10%</td>
</tr>
<tr>
<td>Size (20%)</td>
<td>Total exposures as defined for use in the Basel III leverage ratio</td>
<td>20%</td>
</tr>
<tr>
<td>Interconnectedness (20%)</td>
<td>Intra-financial system assets</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Intra-financial system liabilities</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Securities outstanding</td>
<td>6.67%</td>
</tr>
<tr>
<td>Substitutability/financial institution infrastructure (20%)</td>
<td>Assets under custody</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Payments activity</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Underwritten transactions in debt and equity markets</td>
<td>6.67%</td>
</tr>
<tr>
<td>Complexity (20%)</td>
<td>Notional amount of over-the-counter (OTC) derivatives</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Level 3 assets</td>
<td>6.67%</td>
</tr>
<tr>
<td></td>
<td>Trading and available-for-sale securities</td>
<td>6.67%</td>
</tr>
</tbody>
</table>


The overall assessment must take into account all the quantitative and qualitative indicators based on reliable information and documented and does not take into account the quality of policies and systems of crisis resolution of a particular authority.

On the basis of the score obtained (like a scholastic mark) is awarded an additional level of capital to maintain, from a minimum of 1\% to a maximum of 3.5\% of RWA.

\textsuperscript{73} In particular, the IMF report, BIS and FSB presented to the G20 in October 2009.
Table 4.5: Bucket approach.

<table>
<thead>
<tr>
<th>Bucket</th>
<th>Score range*</th>
<th>Higher loss absorbency requirement (common equity as a percentage of risk-weighted assets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>D–E</td>
<td>3.5%</td>
</tr>
<tr>
<td>4</td>
<td>C–D</td>
<td>2.5%</td>
</tr>
<tr>
<td>3</td>
<td>B–C</td>
<td>2.0%</td>
</tr>
<tr>
<td>2</td>
<td>A–B</td>
<td>1.5%</td>
</tr>
<tr>
<td>1</td>
<td>Cutoff point–A</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

* All score ranges are equal in size. Scores equal to one of the boundaries are assigned to the higher bucket.


When this system was adopted, it was tested on a sample of 73 global banks (2009 data) and from this, 29 banks resulted G-SIB. The list won’t be fixed and additional loss absorbency requirements will be applied from 2016 to those banks identified in November 2014 as G-SIBs, PwC (2011a).

Figure 4.8: The 29 G-SIBs.

Source: PwC (2011a).

The fact is that with B3 is more difficult for a banker makes money with the same quantity of capital, so banks could make less loans to families and businesses; in turn, invest in bank securities will become less attractive, fueling a vicious cycle. The
How to prevent the next crisis?

The world of banks under Basel III seems to be a world with more capital required, less leverage and lower profits. It looks like a victory for those who wanted to give a crackdown moral hazard in finance. But is it really so? Experts and regulators were (and are yet) divided over the consequences, in terms of costs and economic impact of the Basel’s increasing capital and liquidity requirements (especially in time of crisis in which it could be better make more loan than less to help real economy).

Table 4.6: A comparison across Basel III impact studies.

<table>
<thead>
<tr>
<th>Source: PwC (2011a).</th>
</tr>
</thead>
</table>
| B3 turns out to be, on the one hand, very intricate and complex, on the over hand it lets to banks the opportunity to work with internal models (introduced with B2’s Pillar II), but the two most serious problems are the following: first, Basel III does not has solved the problem of balancing the risks of derivatives, which are then used by banks to simulate a lower exposure to risk; second, Basel III does not chest the TBTF institutions, underestimating de facto their risk and the interconnectedness that is associated with them.

“It is hazardous to believe there is a magic number for regulatory ratios sufficient to insure against tail risk in all states of the world. Because tail risk is created not endowed, calibrating a capital ratio for all seasons is likely to be, quite literally, pointless – whatever today’s optimal regulatory point, risk incentives mean that tomorrow’s is sure to be different”, Haldane (2010).
Adrian Blundell-Wignall and Paul Atkinson for years have written works in which they stated the limits of Basel III, notably in relation to the issue of TBTF and derivatives. Derivatives in fact allow the possibility of arbitrage risk, and it has been a great opportunity for large financial firms since the introduction of B2, Blundell-Wignall and Atkinson (2013a). Furthermore, the application of this system only to banks has enabled complex institutions, linked to other types of financial firms (insurance companies, pension funds, money funds, hedge funds, etc.) to exploit these flaws74.

“A simple example is illustrative: bank A lends to company XYZ (100% risk weighted) and then buys CDS insurance from a bank B counterparty which is only 20% risk weighted. By shifting the promise to pay from company XYZ to Bank B, the capital charge to bank A is all but removed. Bank B, in turn, then shifts the promise again by underwriting the CDS contract with a re-insurer outside of the banking system and possibly in another jurisdiction. The charge for this is very small. In this example, the banking system in question effectively avoids meaningful capital charges and leverage is expanded”, Blundell-Wignall and Atkinson (2011).

Figure 4.9: Some European Bank compared to leverage (a) and RWA/TA (b).

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74 It will be omitted the discussion of the zero-risk weighting of sovereign debt and the recent difficulties in terms of spread of Greece, Italy, Portugal and Spain; is a serious problem, but few related to ours.
How to prevent the next crisis?

Even without going into the enchanted world of derivatives markets, it seems obvious to say that large companies have known to get the better (for them) by existing legislation, which in fact has underestimated the risks.

The proposed enhancements of current standards for capital raising transactions involve requirements on CCPs and bilateral over-the-counter (OTC) derivative exposures. It will be presented later what results are giving the shares for derivatives (i.e. encouraging greater use of central counterparties (CCPs) by lowering the risk weights, Claessens et al. (2012)).

Remaining on capital requirements post-Basel III, Europe, although warned by Liikanen Report, follow very closely the provisions of Basel III. Maybe when single supervisory mechanism be fully operational (see the following section), the E-Union will make joint implementation choices of B3, rather than allowing the discretion of individual states.

Instead in UK, the English authority (The Prudential Regulatory Authority - PRA) is already working with individual UK banks to implement capital plans and banks have to meet, where needed, capital standards more exacting than Basel III.

The FDIC in the USA has long pointed to the problems with the Basel risk-weighting approach, which creates only the “illusion of capital adequacy”; in particular it criticized the limited requirements for systemically important non-bank financial companies, saying that not only the Basel III’s 3% leverage ratio would have been

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75 Basel III entered into force on 17 July 2013 in EU with Capital Requirements Directive IV; more than BCBS, it allowed national authorities to introduce a systemic risk buffer on top of the capital conservation buffer and countercyclical capital buffer by up to 3% with a notification (CRD IV Article 124a).
Too Big to Fail, The policy of the mega-banks – Chapter IV

insufficient to address the crisis passed, but that it would be served (at least for the major U.S. conglomerates) a level 5% leverage rule, and 6% for insured depository institutions inside several groups, so that they could be considered “well capitalized”, Blundell-Wignall and Atkinson (2013a). With this assumption, the Dodd-Frank Act\(^\text{76}\) in 2010 has allowed the Financial Stability Oversight Council (FSOC) to identify “systemically important” non-bank financial firms (SIFI) by a two-thirds vote (supported by the Treasury Secretary), Labonte (2013), and also allowed Fed to impose leverage requirements stricter than Basel III’s one, by up from 3% to 5% leverage ratio and has excluded some forms of hybrid equity instruments from Tier 1 capital that B3 left discretionary, Ayadi et al. (2012).

Table 4.7: Comparison of Dodd-Frank and Basel III requirements.

<table>
<thead>
<tr>
<th></th>
<th>Dodd-Frank</th>
<th>Basel III Minimum requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Well-capitalised</td>
<td>Adequately capitalised</td>
</tr>
<tr>
<td>Common equity Tier 1 (% of RWA)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Tier 1 ratio (% of RWA)</td>
<td>6.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Total capital ratio (% of RWA)</td>
<td>10.0%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Leverage ratio (% of total exposures)</td>
<td>5.0%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

Source: Ayadi et al. (2012).

The defenders of neo-liberalism have argued that this U.S. implementation forward-looking should be taken as a model by the Basel Council, Dudley (2012).

Nevertheless, the Dodd-Frank Act has still left space for excess leverage risks associated with GSIFIs, because deal with TBTF institutions increases RWA is how to hunt bears with baseball bats, given the ability of these institutions to transform the risks and reduce the ratio of RWA to TA; those who defend the model weighs the risks created by the Basel should be regarded the case of Dexia.

\(^{76}\) It’s the reform of the U.S. financial system commissioned by the Obama administration. Its full name is “Dodd-Frank Wall Street Reform and Consumer Protection Act”.

114
How to prevent the next crisis?

Europe has responded to the de Larosière report with the creation in July 2009 of four new institutions, the European Banking Authority (EBA) for the banking supervision\(^{77}\), the European Systemic Risk Board (ESRB) for a joint European monitoring of systemic risks in the financial sector, the ESMA and the EIOPA\(^{78}\).

The first is an independent institution, with the task of promoting greater integration of practices and banking laws at European level to move to the “one rule book”, Blundell-Wignall and Atkinson (2013a), and the adoption of decisions in an emergency, the mediation in order to resolve disputes between competent authorities in cross-border situations and the function of an independent advisory body of the European Parliament, the Council and the Commission, the EBA website (2015).

The second institution is son of the Central Bank (Mario Draghi actually is the president\(^{79}\)) and it is responsible for “macro-prudential oversight of the financial system within the Union in order to contribute to the prevention or mitigation of systemic risks to financial stability in that arise from developments within the financial system, taking

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\(^{77}\) In force since January 2011.

\(^{78}\) Besides EBA, EU established the European Securities and Markets Authority (ESMA), with the specificity of capital markets and credit rating and the European Insurance and Occupational Pensions Authority (EIOPA), which deals with insurance supervision. They represent all 28 national three-type supervisor institutions and “their role is to contribute to the development of a single rulebook for financial regulation in Europe, solve cross-border problems, prevent the build-up of risks, and help restore confidence”, European Commission (2014b).

\(^{79}\) January 2015.
into account macroeconomic developments, so as to avoid periods of widespread financial distress”, the ESRB website (2015), Claessens et al. (2012).

Only in a second moment there has been a push to let the European Central Bank assume the leadership of the unified banking supervision in Europe; this resulted by establishing in summer 2012 the Single Supervisory Mechanism (SSM) (in force from autumn 2014), European Commission (2012c). The ECB is now directly supervising around the most significant 130 credit institutions (almost 85% of total banking assets in the euro area) and all other 6000 credit institutions will continue to be supervised by the national competent authorities but ECB could assume in every moment their direct control. It can therefore be said that Europe has indeed a special focus on banks TBTFs, but to them it is not for a special treat, because "a two-tier system, where a subset of banks would be subject to ECB supervision while others would remain under full national responsibility would introduce significant asymmetries within the same country and is inherently unstable: depositors and banks could easily move to the segment that is perceived to be safer. This would increase volatility risks and make parts of the banking sector less, rather than more stable", European Commission (2012c). ECB's powers wouldn't cover EBA's ones, which will continue to drawing up a single rulebook.

The ECB therefore has a supervisory role with powers of intervention fixed by the Single Resolution Mechanism (SRM), so that it can manage the crisis of a bank and its (possibly) bankruptcy, European Commission (2014c).

Already in the second chapter, it has been presented the network of agencies operating in the United States who supervise credit institutions; it should be noted that before the crisis there were the Federal Deposit Insurance Corporation (FIDC), the Federal Reserve (Fed), which monitored bank holding companies or financial holding companies80, the Office of the Comptroller of the Currency (OCC) that had to regulate and supervise all national banks and federal savings associations (not holding companies) and, last but not the least, the Office of Thrift Supervision (OTS) who regulated savings banks and savings and loans associations.

80 “Regulation at the holding company level did not mean that all subsidiaries were regulated for safety and soundness by the Fed. Bank holding companies (BHCs) could operate non-banking subsidiaries, but banking regulators could only regulate banking subsidiaries for safety and soundness”, Labonte (2013).
During the crisis, many of the companies that failed (Fannie Mae and Freddie Mac, AIG, etc.) weren’t bank under Fed regulation but government sponsored enterprises, insurance companies, investment banks (or broker-dealers), and hedge funds. “Insurance subsidiaries were regulated for safety and soundness at the state level. Investment banks complied with the net capital rule of the U.S. Securities and Exchange Commission (SEC)\textsuperscript{81}. Some large financial firms, including AIG and Lehman Brothers, were thrift holding companies supervised by the Office of Thrift Supervision before the crisis. The Office of Thrift Supervision was mainly concerned with the health of AIG’s and Lehman Brothers’ thrift subsidiaries, although those were a minor part of their businesses”, Labonte (2013).

On July 21, 2010 U.S.A. government signed the Dodd-Frank Act\textsuperscript{82} after a long legislative process more than a year. In short, this law OTS merged with OCC, Ayadi et al. (2012), has placed the Basilean SIFIs under Fed and has created the Consumer Financial Protection Bureau (a Fed’s branch) and (more important) the Financial Stability Oversight Council. It is an expert group that will be charged with making recommendations to the Federal Reserve for increasingly strict rules for capital, leverage, liquidity, risk management and other requirements as companies grow in size and complexity, U.S.A. committee on banking, housing and urban affairs (2010); this council has also to identify and respond to emerging risks throughout the financial system and promote market discipline by eliminating expectations of government bailouts and making real the Volcker Rule\textsuperscript{83}, Morrison & Foerster (2010).

TBTF legislations in U.S.A.

The Dodd-Frank Act approved in 2012 contained (among other things) the wording of resolution plans, which must be prepared by each bank holding companies with total consolidated assets of $ 50 billion or more and non-bank financial companies designated, by dividing the institutions into three groups according to their size\textsuperscript{84}:

\textsuperscript{81} It focuses on federal securities laws and regulating the securities industry.
\textsuperscript{82} Barney Frank is member of the Democratic party and former chairman of the House Financial Services Committee while Chris Dodd is former Chairman in the Senate Banking Committee.
\textsuperscript{83} See the next section.
\textsuperscript{84} Source: FED website http://www.federalreserve.gov/bankinfo/reg/resolution-plans.htm.
The first group of companies, generally those with $250 billion or more in U.S. nonbank assets, was required to submit their initial plans on or before July 2, 2012, and their second plans by October 1, 2013.

The second group, generally those with $100 billion or more, but less than $250 billion, in total U.S. nonbank assets, was required to submit their initial plans on or before July 1, 2013.

The third group, generally those subject to the rule with less than $100 billion in total U.S. nonbank assets, was required to submit their initial plans on or before December 31, 2013.

The Volcker Rule has had a process still longer than the Dodd-Frank Act: it’s entered into effect on July 2012 but has been implemented by the Office of the Comptroller of the Currency (OCC), the Board of Governors of the Federal Reserve System (FRB), the Federal Deposit Insurance Corporation, the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission jointly and was adopted as law only on December 2013 and it should operate from 1th April 2014.

According to many, this process was also hampered by political pressure and lobbied, not uncommon in the U.S.85, and has suffered some simplifications, Tarullo (2013). This prohibits U.S. banks from undertaking proprietary trading and restricts private equity activity, Haldane (2012).

According to regulators, the regulatory approval is likely to be too complicated to be applied (for those who must supervise) and conform (to the institutions to which it is addressed), putting in competitive disadvantage smaller institutions than their largest counterparts. DallasFed (2012).

The bill of Brown-Vitter TBTF Act (Terminating Bailouts for Taxpayer Fairness Act), already presented above in the Section C Put a size cap and breakup bigger firms of this chapter, was re-presented86:

85 "It is only logical that if you are a bank that makes billions from trading, you will want the Volcker to go into effect as slowly, and with as many exemptions, as your lobbyists and lawyers can figure out", Irwin (2013); see more at http://www.washingtonpost.com/blogs/wonkblog/wp/2013/12/10/everything-you-need-to-know-about-the-volcker-rule/ (accessed 03/06/2014).

How to prevent the next crisis?

- Mid-sized and regional banks would be required to hold eight percent in capital to cover their assets;
- Megabanks – institutions with more than $500 billion in assets – would be required to meet a new 15 percent capital requirement;
- Community banks would remain unchanged by the legislation, as the market already requires them to maintain capital ratios approaching 10 percent of their assets.

But it was for the second time rejected.

In U.K.

In the UK, the Financial Services (Banking Reform) Act received Royal Assent on 18 December 2013. The UK government, after having rejected a similar proposal to the U.S. Volcker rule because it was too problematic to implement, has arrived at the final version of the reform, Mayer - Brown (2014). It provided powers to the UK Treasury and regulators similar to the recommendations of the Vickers Report, Morrison and Foerster (2014).

“The 2013 Act is primary legislation that, subject to certain exclusions, prohibits a so called “ring-fenced” body from carrying on dealing and trading activities and such a body must be effectively separated from other group entities that carry on such activities. A ring-fenced body is a bank that carries on the core activity of deposit-taking and that provides typical retail banking facilities. The UK legislation is likely to define a “ring-fenced” body as excluding banks that have eligible deposits of less than £25bn”, White and Case (2014). The companies below the threshold will not be separated.

The ring-fenced bank (RFB) will be in place by 2019 at the latest and it will be legally, economically and operationally separate, a “bank within a bank”, Liver and Prendergast (2011). The RFB will require equity capital of at least 10% risk-weighted assets (RWA).

The recovery and resolution plans (RRPs), having already been implemented on an experimental basis (presented in the previous section) did not change significantly in

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87 It may be possible secondary legislation contains exemptions.
the final version of October 2012. The supervisory statement emphasizes that firms should identify actions that should be taken to improve, BoE (2013a).

In Europe

Europe is perhaps the set of countries which more than others seized the crisis as an opportunity to change the system\textsuperscript{88}; In fact, in the Old Continent, the European Central Bank, the European Parliament and the European Commission and the newly-born EBA have worked hard to bring forward the European banking union, called Union Bank.

This is based on three pillars:

- A single rulebook: capital requirements, schemes of guaranteed deposits, bank recovery and resolution, etc…
- A single authority for supervision (Single Supervisory Mechanism, SSM)
- A single resolution plan (Single Resolution Mechanism, SRM)

Figure 4.10: The Bank Union scheme.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{bank_union.png}
\caption{The Bank Union scheme.}
\end{figure}

\textit{Source: European Commission (2014c).}

If the crisis in Europe has found fertile ground from misunderstandings between institutions and loopholes in the law, the European Commission (considerable efforts are to be attributed to the Commissioner Michel Barnier\textsuperscript{89}) has insisted that there was a

\textsuperscript{88} Actually these reform are part of the much larger program that the ECB and the European Parliament are carrying out in recent years taken to complete the single market since the Treaty of 1992.

\textsuperscript{89} Member of the European Commission in charge of Internal Market and Services, see European Commission (2014e).
single superintendent who will be able to apply the same rules for all banks which share the euro.\footnote{Not only! it is also open to all non-euro EU Member States who want to join, European Commission (2014b).}

While the Single Supervisory Mechanism (signed in September 2012) has already been presented above, less has been said of the other two pillars. A single rulebook is not only Basel III, but are also common and certain \textit{ex ante} rules to prevent a crisis and restore confidence in the banking system; the EU Commission has proposed nearly 30 new rules "to better regulate, supervise, and govern the financial sector so that in future taxpayers will not foot the bill when banks make mistakes", European Commission (2014c).

Among these measures is reminiscent of the Directive on Deposit Guarantee Scheme, which places a common rule that will ensure that all EU deposits up to €100 000 (per depositor/ per bank) are protected at all times and everywhere in the EU; in June 2012, the EU Commission presented its final proposal of the EU Bank Recovery and Resolution Directive (BRRD), came to fulfilment in December of the same year, European Commission (2012b). The SIFs are required to draw up recovery plans setting out arrangements and measures to enable institutions to take early action to restore long-term firmness; the competent authority has the power to take further measures in case those prepared were deemed insufficient, Cicero (2012). The new European Banking Authority (EBA) will coordinate any cross-borderers actions and the single European resolution fund; this will be powered by the ex-ante contributions from banks and investment firms in proportion to their liabilities and risk profile and authorities. The U.K. could align to the European model, but in the meantime, its firms should continue to follow the guidelines in the supervisory statement, BoE (2013a).

The following year (July 2013) was approved the Single Resolution Mechanism, which makes it compelling for all states of the Euro-zone the previous Bank Recovery and Resolution Directive: "it will allow bank resolution to be managed more effectively through a Single Resolution Board (SRB) and a Single Resolution Fund (SRF). If a bank fails, the SRM with clear decision-making rules for crossborder banks and highly experienced staff will be much more effective in carrying out resolutions than the existing patchwork of national resolution authorities", European Commission (2014b).
To avoid that it is still the states (and thus the taxpayers) to bail out banks, each bank is required to prepare resolution plans (and recovery plans) signed by the ECB in the event of disruption of them. The idea is to encourage bail-in rather than bail-out so that it could continue to provide essential services, using shareholders' money (following a pre-determined order) rather than public funds\(^91\), European Commission (2014d).

Bail-in would apply at least until 8\% of a bank's total assets have been eaten away, European Commission (2014b). After this threshold, the resolution authority might grant the bank use of the resolution fund, funded by the institutions themselves; peculiarities of the European Directive is the contribution according to the amount of their liabilities and pro rata of their risk profile\(^92\), with an eye for smaller institutions; "Institutions are considered to be small institutions if they meet a double threshold: a) institutions whose total liabilities (excluding own funds) less covered deposits are equal or less to EUR 300 million, and b) institutions whose total assets do not exceed EUR 1 billion (Member States can extend this threshold to up to EUR 3 billion).

Small institutions are classified in six categories according to their size. Depending on their size, their annual contributions range between EUR 1 000 (for institutions whose total liabilities, less own funds and covered deposits, are equal to or less than EUR 50 000 000, and whose total assets are less than EUR 1 000 000 000) and EUR 50 000 (for institutions whose total liabilities (excluding own funds) less covered deposits are above EUR 250 000 000 but equal to or less than EUR 300 000 000, and whose total assets are less than EUR 1 000 000 000)\(^92\), European Commission (2014f).

This fund, which is being set up, will come into operation on 1 January 2018 and until then will remain in force domestic founds. "The average increase in funding costs for banks is expected to be around 5-15 basis points. Subtracted from the expected benefit in terms of GDP of a lower probability of systemic crises, this translates into a net yearly benefit of 0.34-0.62% of EU GDP", European Commission (2012b).

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\(^91\) Even the FDIC in the USA has a similar power to set up a bridge bank, European Commission (2014d).

\(^92\) More in details there are four risk pillars indicators: 1. risk exposure; 2. stability and variety of sources of funding; 3. the importance of an institution to the stability of the financial system or economy; 4. additional risk indicators to be determined by the resolution authority, European Commission (2014f).
It therefore seems clear that the European Union has shifted attention not on the big banks to punish but to protect an ecosystem, with special care to ensure that the ECB is an aid for Europe's banking industry, and not a hindrance.

On 29 January 2014, the European Commission published\(^{93}\) a legislative proposal for a regulation on structural reforms to the EU banking sector.

Starting from Liikanen report published on 2nd October 2012, the legislative proposal departs from the report's Conclusions: “Although the proposal contains provisions which mirrors the Vickers 'ring-fencing' approach they are not, in direct contradiction to Liikanen's recommendation, mandatory”, Mayer - Brown (2014).

The proposal contains a ban on speculative activities and a requirement to separate certain trading activities, such as market making, from a deposit taking entity if the trading activities of the bank exceed settled thresholds, White and Case (2014).

The proposed regulation should cover all EU banks that are deemed to be a global systemically important institution (G-SIIs) under the CRD IV Directive (2013/36/EU) and also banks that for three consecutive years have total assets of at least 30 billion euro and trading assets\(^{94}\) of 70 billion euro or 10% of total assets, Morrison and Foerster (2014). While the U.S. approach is lengthier and detailed rules setting out exclusions and exemptions individually tailored to specific activities and situations, “the EU approach consists of about a page and a half of relevant rules”, Mayer - Brown (2014).

Despite the thresholds proposed are lower than in some of the EU member states’ already existing legislation, the European Commission has stated that over 65 per cent of the total banking assets in the EU, held by around 30% of the 6000 European banks, will be thus placed under control, Freshfields Bruckhaus Deringer (2014). Based on the thresholds chosen, the proposal does not seem to make it mandatory for all the ring-fencing mandatory, as is expected for the U.S. institutions, but the national regulators have to impose a ring-fence on that particular bank if it exceeds what was set.

The European Commission has outlined the following principal dates for the implementation of the key provisions of the Proposed Regulation:


\(^{94}\) Trading activities = (Trading Securities Assets + Trading Securities Liabilities + Derivative Assets + Derivative Liabilities); EBA will provide the methodology for calculating. Trading in EU sovereign debt is expressly permitted.
- 1 January 2016: European Commission adopts the required delegated acts for implementation of key provisions.
- 1 July 2016: publication of the list of covered and derogated banks and on a yearly basis thereafter.
- 1 January 2017: prohibition on proprietary trading comes into force.
- 1 July 2018: provisions in relation to the potential separation of trading activities become effective from this date.

The times are not certain and the outgoing committee, whose term of office expires in October, 2014, has just delivered a proposal\(^95\) that could be changed, following the European elections of 2014, by the new Eu Commission and Parliament.

The Proposed Regulation includes an option for a derogation if the bank is already subject to a national ring-fencing regime that meets similar standards (it covers the UK, France and Germany), Shearman & Sterling (2014).

The idea of implementing common policies and joint audits should bear fruit, giving to European firms common lines and struggling together to combat the selfish policies of companies still TBTF.

Chapter V. Conclusions

Section I. Costs and benefits

Going through what has been described so far the United States and Europe have focused on a banking business model that gives priority to large groups. This has led to relatively few large, interconnected and diversified banking groups with many interests. This meant an excessive use of short-term wholesale funding, excessive leverage, excessive trading/derivative market activity, poor lending decisions due to aggressive credit growth, or weak corporate governance, Liikanen (2012).

Think of the financial market as a body. What make this body are red blood cells, i.e. brokers, market makers and those who carry the oxygen in the bloodstream. What binds oxygen with respiration is hemoglobin while in finance this is called trust. Take off confidence in the system is equivalent to paralyze him, because the body itself will not work, the relationship between the parties will stop and the facility will stop working. This is what happened during the crisis.

Keeping on this metaphor, the system includes cells larger than others, which would carry more oxygen than they should, to make more money. They are TBTF. These have doped the body, by putting in circle more oxygen than necessary, also of poor quality, as long as part of the gains goes to them. People believed that the system needed them, that would improve our economy, our way of life, but they ran to get us back lower than when we started.

To save the system from a possible chain-reaction collapse, central banks and governments have had to subsidize private firms with taxpayers' money: “The (contingent) taxpayers’ support to date amounts to 40% of EU GDP (€5.1 trillion parliamentary committed aid measures) and has undermined the solidity of several Member States' public finances. In the case of some Member States it has contributed to turn a banking crisis into a sovereign crisis”, European Commission (2012a). These bailouts (as well as the Financial Crisis in itself) led to misallocation of public resources which would be used to support economic growth, Arcand et al. (2012).
Wehinger (2012) stated that “policymakers and regulators have failed to understand that financial consumer protection is only one part of the wider challenge of making markets work, along with efficiency and real competition, socially useful innovation, confidence and trust and so on”.

This led to rethink the financial structure as a whole, that did not seem sure of itself but only thanks to public safety nets. Reforms have been proposed that in some areas still need to be further refined and approved by policymakers.

A bank, if suffer the limitations of size/ expansion, will lose out in terms of profitability for the exploitation of the available resources operational costs of subsidiarisation, increased funding costs. According to the Independent Commission on Banking (ICB), the application of the reforms in U.K. “will absorb 1% of revenues, or £1bn-£1.5bn but the main U.K. banks suggested no more than £0.5bn per annum for the four largest UK banks in aggregate”, ICB (2011). However, as a result of the crisis, the cost to society in terms of lost GDP Also was extremely high

According to some academic research, the benefits of more banking activity may not always compensate financial stability risks and other disadvantages, Cecchetti and Kharroubi (2012). Otherwise, it would not meet these costs, but would remain at greater financial instability, European Commission (2012a).

Make an estimate of the potential costs is not easy. Beyond the numerical data, it could be said that, in a world devoid of TBTF firms, the individual citizen level will receive a (possible) direct higher costs (e.g. commissions) for banking and financial operations, as if there were TBTF would have a higher indirect cost, as taxpayers, because the state would have a greater chance to use his money to save the company.

Therefore remains to be determined which of the two interests should prevail (few concentrated in the hands of many, or many in the hands of a few), and to do so are the politicians.

Who has the ability to legislate, does it so for the good of the whole population or a part of it? It is true that if a company produces wealth, stakeholders can be many, but here the point is balancing private costs (higher funding costs and separation of subsidies are a cost for private banks) and costs for society as a whole. “Absent structural restrictions, a banking group will choose the size and scope which maximizes its private net value”, European Commission (2012a).
Conclusions

It is a choice. One would like to hope that the citizen is at the center of the interests of the political, but there have been many events in which the money prevails on *res publica*.

A more limited system (e.g. ring-fencing) could have consequences that affect among all the stakeholders: customers having higher loan pricing and fees, the manager having salaries (maybe) smaller or fewer funds to manage, the shareholders and investors, reducing the dividend contributions and changing their investment decisions in asset allocation. The entire economy would benefit from a more safe system (and a reduction in the availability of credit).
Section II. These reforms will be enough?

One last question to ask is: the reforms will be enough to stop them? Has it been chosen to take the side of individuals or of large institutions?

“One of the principal conclusions of modern economics is that finance is good for growth. The idea that an economy needs intermediation to match borrowers and lenders, channeling resources to their most efficient uses, is fundamental to our thinking”, Cecchetti, and Kharroubi (2012).

The financial sector should provide credit to feed the real economy, investment in commercial enterprises (both in normal phases of the production cycle both in difficulty), to individuals and to hold up the socio-economic development; it should provide liquidity to protect the need for any businesses and depositors; it should provide risk management services that enrich not only the market makers, but support the exposure of businesses and households, Baily and Elliott (2013). “A safe and sound banking sector is a pre-condition to fulfil these essential functions, serve the real economy, and allow for sustainable growth. Sustainable economic growth is what counts, not temporarily boosted artificial growth that results in booms and subsequent busts. As such, there is no conflict between stability and growth”, European Commission (2012a).

Andrew Haldane wrote that the risk of a natural disaster like earthquakes and floods is exogenous (“is determined by God”) whereas tail risk within financial systems is determined by man. This has important implications for regulatory control, Haldane (2010). Among regulators need skills and greater coordination between regulators, de Larosière Group (2009). Europe is now going in this direction, working together for the benefit and in the interests of a unified market.

To counteract TBTFs, the separation can be a very effective weapon. The separation makes it possible to reduce “the risk of cross-contamination”, Haldane (2012).

However, some of the measures taken to counter those who can firmly undermine the soundness of the system are to be considered ineffective. In the case of

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96 Making a monitoring committee and put people without expertise is equivalent to doing nothing.
the U.S., for example, put very stringent rules for newcomers and leave unchanged the size of one who is already quite large decreases the effectiveness of the reforms.\textsuperscript{97}

In addition, new regulations may lead to new problems; is the case of Over-the-Counter derivatives (OTC)\textsuperscript{98} which proved to be an important channel for the transmission of risk during the recent crisis, Yellen (2013). The reform of the OTC derivatives market, commissioned by the G-20 in 2011 and in part also included in the Dodd-Frank Act (title VII) led to the creation of a huge institutions (known as central counterparties) that must act as a buffer between the contracting parties. Regulate this type of activity, in reality, hasn’t done anything but create new types of TBTF as much dangerous. \textit{Plus ça change, plus c’est la même chose}.\textsuperscript{99}

As the reforms, in some points of view, they may appear weak or however difficult to establish; they are a signal of the need to think about different business models, less risky, more balanced.

Do not allow a bank becomes too big simply preventing it from getting bigger can be a first step in addressing the problem. It should not be overlooked interconnection between one institution and another; “reform of the international financial regulatory system should be linked with reform of the international monetary system because as this global crisis demonstrates so vividly, the root causes can come from both the financial and the monetary spheres and they can interact in a variety of ways”, Goldstein (2010).

If regulators fail to find effective measures to regulate these mega-banks, it must to at least believe that managers are forward-looking, and they aren’t attracting themselves to make easy money (but risky). Of course, a bank is not a charity, doesn’t give money, but should work for to bring benefits to the system. The market and supervisors need to monitor and punish, if necessary, those who think they can earn as much to the detriment of many.

\textsuperscript{97} “There is no reason banks should be utilities, with very limited competition and very difficult entry, which is essentially where policy is headed in Europe. While we respect European policymakers in many respects, we don’t think we should emulate that trend”, DallasFed (2012).

\textsuperscript{98} Without going into details, it could be said that, before the crisis, the majority of the forward underwritten and other derivatives were treated outside of the regulated platforms (stock exchange), because they cost less, as well as offering other benefits.

\textsuperscript{99} More it changes, more it remains the same.


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