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Instead of being « too big to fail », have big banks become « too big to succeed » ?

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Abstract

In the light of the different financial crisis, there has been much debate about the role of banks in our society, and whether these should be further regulated to limit their size and interconnectedness. This paper aims at exploring the limits of growth for banks, in order to understand if the value they create for the different stakeholders support and justify their size. Instead of being too big to fail, the objective is to understand whether large banks have become too big to succeed.

Our literature review presents the benefits of growth and the potential limits that could affect banks' performance, as well as their risk dimension nowadays. An important factor that could partly explain numerous studies showing lower performance by large banks concerns the agency theory in the banking industry. Thereupon, it seems that conflicts of interests push managers to seek growth for non-value maximizing motives such as personal financial incentives and empire building reasons.

Using the ten biggest banks by assets in Continental Europe, we analyze their financial performance compared to the European banking industry, as well as the impact of M&As on their own performance. Firstly, our analysis shows that there is no evidence suggesting that large banks perform better than their peers. Secondly, when analyzing the impact of M&As on banks' performance, results turn out to be quite mixed for the acquiring firms, and no evidence tend to prove that M&As result in improved performance. Therefore, it seems that size may not be in the interest of bank shareholders. These findings support numerous articles in the literature.

From a customer point of view, we have made some comparisons of standard banking products on the Belgian retail banking market: savings accounts, mortgage loans, consumer credit and current accounts. It turns out that large banks offer more advantageous conditions as well as a more diversified scope of products and services than smaller institutions.

Based on our research, it can be stated that despite the value they create for customers, large banks still represent an important threat for the society due to their systemic risk and do not seem to provide shareholders with constant and guaranteed financial returns. As a result, it can be suggested that further measures should be taken in order to limit their size, while still enabling them to grow enough to benefit from efficiency gains and other advantages that can be passed onto customers in the form of better conditions.

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Introduction

Growth has always been a primary aim for businesses. "*All growth is good, bigger is better, and all businesses must either grow or die"* (Hess, 2012, para. 1). This is what everybody has been taught for decades, and companies have been pursuing growth for years in every industry, including in the banking industry. Over the past few decades, the worldwide banking industry has undergone strong consolidation. As a result, the number of banks has fallen sharply while, at the same time, the size of the largest banks has increased substantially, both in absolute figures and relative to the size of smaller banks (Bikker, Spierdijk & Finnie, 2006; Pujals, 2013).

However, during the financial crisis of 2008-2009, the world realized how closely connected many of the largest institutions were through a web of financial instruments, such as short-term loans, credit guarantees and other financial contracts (Wheelock, 2012). These connections create a systemic risk that can potentially pose an important threat to our economy, in the sense that the failure of one large, complex financial institution could bring down others and threaten the broader financial system (Blundell-Wignall, Atkinson & Roulet, 2014; Wheelock, 2012). In that context, the term "too big to fail" (TBTF) has arisen to qualify a bank which failure may cause widespread damage to the financial system (Waller, 2016).In the light of the crisis, governments have decided to bail out some systemic banks in order to prevent our economy from collapsing, which triggered lots of reactions.

Thereupon, there has been much debate about the role of banks in our economy and whether these should be further regulated. Some economists are of the opinion that TBTF institutions are to be blamed for the bulk of the cost to taxpayers and may make another financial crisis more likely (Stiglitz, 2009). Furthermore, their large size has been questioned by numerous articles, highlighting the risks they create due to their size, their influence on the market and their interconnectedness. A growing number of people have consequently been questioning the necessity of having such large financial institutions and many believe that their activities would need to be reined in (Stiglitz, 2009). In addition, some studies have even shown that some large banks would earn higher returns by breaking up their activities (Williams-Grut, 2015; Titcomb, 2015). In the light of these debates, the term "too big to succeed" has appeared, in contradiction to "too big to fail". This context has led reporters, economists and regulators to ask the following question: instead of too big to fail, are big banks too big to succeed?

This report aims at exploring that question, by first understanding what growth can bring to businesses and more especially to banks, and how banks can leverage such a position on the market. The objective here is to understand if the size of large banks can be justified by the value they create, and consequently by their performance towards the different stakeholders (shareholders, customers, civil society, regulatory authorities). Then, providing numerous articles showing lower performance for large banks compared to the industry average and smaller banks, we want to understand what are the limits of growth that may negatively affect banks' performance. Finally, we want to find out how these elements correspond to reality in order to understand if large banks are beneficial for our society, or if large banks may have become "too big to succeed" and would require further attention and regulation in order to limit their size. By understanding the limits of growth, we will be able to determine to what extent the size of a bank affects its performance.

The structure of the thesis consists of two main parts. In order to acquire a deep understanding of the topic, the first part starts by focusing on the role of banks, and its evolution until today. Secondly, this part presents the main findings of our theoretical research regarding the key advantages of growth for banks as well as the limits it can present. The first part of the thesis contains then a literature review, based on various scientific articles and other sources such as scientific books, reports and companies' websites. Following this research, we were able to come up with different conclusions and hypotheses that we confront with reality in the next part, to the extent possible. As a result, the second part of our thesis is more practical, and looks into the results of our analysis. The empirical analysis focuses on ten banks among the biggest by assets in Continental Europe, and is based on financial data coming from Bloomberg as well as from annual reports, companies' website and scientific publications. We look into their financial performance as well as their offerings, in order to understand how large banks have been performing compared to the industry and to smaller institutions, and how our theoretical conclusions correspond to reality. Finally, we will end with general conclusions.

First Part: Research on benefits and limits of growth for banks

1. The role of banks

For centuries, banks have played a major role in our economic activity (Sidibe, 2016; Ayadi, 2007). Initially, their role was simple: making loans and issuing credit to people in need, while protecting depositors' money.

Since 2000, the banking sector has gone through a process of radical change, with new challenges to address such as the new regulations from Basel II and III, the evolution of customer relationship, the subprime crisis, the diversification of distribution channels, the impact of IAS/IFRS standards, just to name some of them (Sidibe, 2016). Based on that, banks have had to rethink and rebuild their business models in order to remain competitive on the market.

Today, we can state that traditional banks which historically provided deposits and loans do not exist anymore. Throughout the years, banks have diversified their activities (retail banking, private banking, investment banking, asset management) and expanded their organization geographically, which makes them much more complex than they used to be. These business activities require different business models, and therefore it is essential to consider banks as multi-line businesses (Ayadi, 2007). According to The Clearing House (TCH) (2011, p.8) "*banking activities fall into four product areas: retail banking, payments & clearing, commercial banking, and capital markets*". Retail banking deals both with consumers and small businesses and carries out the traditional tasks, i.e. holding deposits of savers and providing credit to borrowers – called financial intermediation. The second activity, payments and clearing functions, involves tasks such as moving cash, settling transactions, holding securities and can be used by every player on the financial market. Regarding commercial activity, it can be said that it involves operations such as lending, cash management and trade finance. Finally, banks have a key role in capital markets by, on the one hand, underwriting debt and equity offerings of corporations and governments and, on the other hand, enabling funds to be raised from these markets. Nowadays, it can be stated that large banks' offerings are highly valuable and crucial in two different tasks: in helping companies to operate internationally as well as to finance their diverse activities though the capital markets (TCH, 2011). As a conclusion, banks have significantly diversified their sources of income, entering new markets and combining different business activities.

However, this has not always been the case. After the Great Depression in 1929, U.S. authorities considered as too risky to have commercial and investment banking activities combined. Therefore, the Glass-Steagall Act was implemented in 1932 in order to ensure the stability of financial markets (Harney & Scialom, 2016). The main purpose of this act was the separation of commercial and investment banking activities, which lasted until 1999 when it was repealed by the Graham-Leach-Bliley Act. However, several proposals have been created worldwide in order to reinstitute some separations between commercial and investment banking: the Dodd-Frank Wall Street Reform and Consumer Protection Act signed in 2010 in the U.S., the Vickers rule in the UK and the Liikanen proposals in Europe, which have not been implemented so far (Blundell-Wignall et al., 2014).

The banking sector has consequently gone through many structural changes, mirroring the strong evolution that banks have witnessed over time. The role of banks nowadays is multifold. As a result, their performance can be defined differently according to the stakeholders we consider. Indeed, a bank has to fulfill the needs of different stakeholders, and we can then talk about different kinds of performance. First of all, a bank has a duty towards its shareholders, who committed themselves to financing the institution, expecting some financial remuneration in return. In that case, we can talk about banks' financial performance. Other stakeholders are the customers, i.e. the debtors and depositors which satisfaction must consist of a priority for the bank. To make it easy to schematize, banks can provide loans to customers thanks to deposits made by depositors or borrowed money from other financial institutions. Banks will earn money by charging a higher interest rate to lend money than what they pay to depositors or to other banks (Van den Spiegel, 2014). The spread between interests paid and received is then the net interest income of the bank. Consequently, banks need to take good care of their two-sided balance sheet in order for their business to survive. A third stakeholder is represented by the society. Indeed, a bank must do everything that is necessary to fulfill their societal obligations and duties towards the civil society. Finally, banks need to comply with regulation, and therefore respect the various regulatory authorities.

2. Benefits of growth for banks

In this section, we will analyze how growth can influence a financial institution positively, and consequently how the organization can benefit from it. In what follows, we have considered advantages resulting from both external and internal growth.

2.1. Economies of scale and scope

One of the main advantages often used by financial conglomerates to justify the size of their organization is the ability for larger banks to generate economies of scale as well as economies of scope. These consist of efficiency advantages that allow companies with sufficient critical mass to improve their operational performance and efficiency even further (Schwenker & Botzel, 2007). More precisely, economies of scale refer to "*potential reductions of average costs associated with higher levels of productivity"* while economies of scope refer to "*reduced costs that attend producing two goods or services together rather than separately*" (Celli, 2013, p.1; Blair & Sokol, 2014, p.232).

Despite the fact that Benston et al. (1982) and Peristiani (1997) have found that economies of scale in banking seem to disappear after a certain size - after the first $50 billion in assets (Ratnovski, Laeven & Tong, 2014), more recent studies acknowledge the presence of economies of scale and a higher "X-efficiency" factor - closely related to operational leverage for larger banks (Kovner, Vickery & Zhou, 2014; TCH, 2011). "X-efficiency" can be considered as the managerial ability to decide on input and output in order to minimize costs or to maximize revenues (Ayadi, 2007). In addition, according to a graphical analysis of economies of scale in European banking realized by Ratnovski et al. (2014), a widespread presence of economies of scale can be observed, even more important for bigger banks. Many different authors such as Hughes, Mester, & Moon (2001), Wheelock & Wilson (2012), Hughes & Mester (2013) and Kovner et al. (2014) have found evidence of this phenomenon in the banking industry (Ahmed, Anderson & Zarutskie, 2015). Benefits may also vary across activities, and seem to be more important in the areas of payments and capital markets (TCH, 2011).

By spreading their fixed costs over their large customer base, large banks can benefit from cost reductions per unit. This can consequently enable banks to offer products and services at lower prices or to invest in new technologies that will benefit different actors on the market (TCH, 2011). In addition to offering customers potential lower prices and improved quality of products and services, efficiency gains can also benefit the public authorities, with higher solvency (Ayadi, 2007). Therefore,

some authors consider that limiting the size of large banks could have negative implications for the society.

2.2. Cheaper borrowing costs

When reaching a certain size, it can be stated that a bank may benefit from cheaper borrowing costs. Indeed, according to a study (Tölö, Jokivuolle & Viren, 2015) that investigated how European banks' overnight borrowing costs depend on bank size, it turned out that bigger banks benefit from cheaper borrowing costs and that this premium increases progressively with the size of the bank. In addition, it seems that during episodes of financial stress, the size advantage becomes several times larger. In order to demonstrate that, they have used the Eurosystem's proprietary interbank daily loan data on euro-denominated transactions from 2008-2014. Another study conducted by the US Federal Reserve Board (Ahmed et al., 2015) acknowledges borrowing cost advantages for larger borrowers across industries.

A first factor that could explain these results are economies of scale, in the sense that these associated to bank size lead to lower bankruptcy risk, and potentially to lower borrowing costs (Ahmed et al., 2015). Other evidence presented by the same study suggests that size effect is partially driven by liquidity and recovery rates, since it seems that greater liquidity may lower the costs of borrowing.
Besides these factors, some authors suggest that subsidies could play a role in that matter, in that large banks potentially enjoy important implicit government guarantees, such as "too big to fail" subsidies that may influence the perception of risk of these institutions (Ratnovski et al., 2014). Indeed, according to a study conducted by the US Federal Reserve Board (Ahmed et al., 2015), size effect in borrowing costs of financial institutions may be explained by the fact that larger firms are expected by investors to be bailed out by governments in case of crisis or distress. According to the same report, this topic has led to a lot of study after the financial crisis of 2008-2009. Thereupon, the expectation that large banks will benefit from governments bailout in case of distress influences the cost of debt for large banks, making it lower and less risk-sensitive than for smaller banks (Bertay, Demirgüç-Kunt & Huizinga, 2013; Ratnovski et al., 2014). A study estimated that *"too-big-to-fail subsidies reduce the cost of debt for large banks' debt by about 25 basis points on average through the cycle, with larger gains for riskier banks*" (Lambert, Ueda, Deb, Gray & Grippa, 2014, p.108).

2.3. Market power

Theoretically, market power can be defined as "*the capacity to fix market prices as a result of a dominant position in a certain market*" (Ayadi, 2007, p.10). According to a study based on a large sample of more than 18,000 banks in 101 countries over a period of twenty years (Bikker et al., 2006), it can be assumed that market power varies with bank size. Indeed, it seems that size plays a major role in the market power banks can benefit from, which can offer several advantages.

First of all, these will be better positioned on the market to build relationships and collude with other actors, as well as to bargain with stakeholders. Indeed, according to Kovner et al. (2014), large banks may have greater bargaining power than smaller firms with suppliers or employees. In addition, thanks to a stronger position on the market, they may benefit from a good reputation (reputation is likely to be related to size) that may help them to influence pricing and margins (Bikker et al., 2006). This clear advantage on pricing can be considered as highly valuable, in the sense that the largest financial institutions typically influence different elements in the market, such as the interbank rate – the rate at which banks lend to one another. In addition to this rate, they influence the fees, layered fees, trailer fees on products such as Unit Trusts, Derivatives and Insurance (Bikker et al., 2006). They may consequently make use of these instruments in order to gain market share or to gain higher revenue. Finally, large banks are expected to benefit from costs efficiencies in product development, which will enable them to come up with a broader range of new banking products and services than other smaller actors. Yet, market power is also influenced by the scope of products and services as well as the geographic presence. Thereupon, large banks can exploit their monopolistic position, since "*the wholesale market is characterized by tailor-made products and services supplied by a limited number of large banks only*" (Bikker et al., 2006).

As a result, it can be concluded that large banks benefit from a more significant market power than smaller banks, which enables them to enjoy different advantages, among which influencing pricing in the market and reaching a stronger position towards other parties.

However, from a customer perspective, important market power may not be beneficial on every aspect. Market power can also be used in order to ensure the only objectives of keeping a monopolistic position in the market and increasing profit in favor of shareholders. By taking advantage of this power to serve their own interests, banks may abuse their dominant position in the market and consequently pose a threat for households and SMEs. Indeed, according to Ayadi (2007, p.21), the use of market power in order to create value may end up bringing profit to shareholders, "*but to the detriment of the customers, employees and public authorities, without a net gain in terms of collective welfare*."

2.4. Scope of products and services

Large banks have the ability to offer a broad range of products and services, which smaller banks sometimes cannot offer or not in the same manner. This is due to several factors (Bikker et al., 2006; TCH, 2011): their scope across multiple businesses, their geographic penetration and reach, their balance- sheet size and costs efficiencies in product development.

Furthermore, larger banks have the opportunity to increase the value of products and services for customers thanks to improved convenience, features or geographic portability. By innovating, large banks are able to better serve customers, improve transaction efficiency, increase product availability and price transparency, or aggregate and use data more efficiently. It is even stated that large banks contribute to spreading innovation across the industry. Indeed, by leveraging their large customer base, large banks help creating network effects, which support new technologies to achieve critical mass of adoption (TCH, 2011).

However, this diversification will depend on the product areas, i.e. retail banking, payments and clearing, commercial banking and capital markets (TCH, 2011). Indeed, while such benefits seem to be minimal in most areas of retail banking, these seem more significant in the three other areas.

When analyzing banks' offerings, another important element to mention regards the interest rates offered by banks. For years now, we have witnessed low interest rates, reflecting the willingness from the European Central Bank to reduce the cost of credit and encourage inflation (Les Echos, 2016). By combining ultra-low interest rates and very significant purchases of government bonds and other assets, central banks have aimed at helping banks by making funding more affordable and boosting economies (The Economist, 2017). However, by lowering the reference rate to 4.25% in 2008, to 1% in 2009 and to 0% in 2016, the ECB has put financial institutions in a tough position (Ragot, Thimann & Valla, 2016). Indeed, by being forced to lend to borrowers at low interest rates, banks have seen their revenues strongly decrease. Large diversified banks have been able to limit losses and risks, but deposit banks active in mortgage loans and financing SMEs are facing much more difficulties. In order to deal with the situation, banks must develop their commercial model, in order to change their sources of revenues by favoring commission revenues over interest income. Banks need to be creative in order to offer new services for their customers, and find other sources of revenues (Ragot et al., 2016; Blot & Hubert, 2016).

We can consequently consider that larger and more diversified banks have a clear advantage over smaller institutions to develop other sources of revenues and limit the risks presented by the current context. The situation may nonetheless become more favorable for banks in the mid-term. Indeed, the *New York Times* has recently revealed that the ECB would slow down its purchases of corporate and government bonds, and end the stimulus program known as quantitative easing by the end of 2018 (Ewing, 2018). Inflation has evolved towards the ECB's target of 2% and the first step before considering raising interest rates will be to stop with the bond buying (Ewing, 2018). An increase in interest rates may therefore be considered in a mid-term perspective.

2.5. Synergy gains

More specifically in the context of M&As, one of the main objectives for companies is to achieve synergies of scale and/or scope. According to Jensen & Ruback (1983) and Bradley, Desai & Kim (1988), synergy is achieved "*when the value of the combination of the two firms is greater than the sum of the two stand-alone values"* (Golubov, Petmezas & Travlos, 2012, p.6).

Synergies mainly consist of cost reductions and improvements in operational efficiency, revenue enhancements that can be due to different factors such as optimization of the distribution network and increase in market power, and various financial advantages (Golubov, et al., 2012).

According to Duplat (2017), value can be created through two main types of synergies: cost synergies and revenue synergies. The first one can be achieved with economies of scale and greater bargaining power towards clients and suppliers, while the latter can result from economies of scope and access to complementary resources.

Synergies can be further divided into operational and financial (Golubov et al., 2012; Duplat, 2017). Operational synergies can take the form of either revenue enhancement or cost reduction, while financial synergies refer to a potential lower cost of capital that could be achieved by combining one or more companies (Ayadi, 2007).

2.6. Top line and bottom line growth

All the factors presented in that section will enable banks to potentially improve their financial results. Indeed, as a consequence of the elements mentioned previously – i.e. by benefiting from costs reductions, efficiency gains and by reaching a strong position on the market, banks can enjoy top line as well as bottom line growth. By becoming larger, banks can naturally make their sales grow, as well

as their revenues, through reaching new customers and/or new markets, and by diversifying their sources of revenue. This financial advantage represents one of the main objectives banks are pursuing (Deloitte, 2015).

Of course, in order to enjoy sustainable growth, it must result not only in increased revenues, but also in increased profit (Deloitte, 2015). If costs are well managed and the company benefits from efficiency gains such as economies of scale/scope, banks will see their profits increase, and will therefore be able to provide more returns to shareholders and/or make their business grow even further by reinvesting internally.

3. Limits of growth

However, despite the general belief that business growth brings companies numerous benefits, it is essential to realize that growth may also have drawbacks and can therefore create internal and external challenges that could affect banks' performance. Thereupon, several studies point roughly in the same direction, stating that big companies - financial as well as non-financial, are not performing as well as smaller ones.

According to a research conducted by Arnott & Wu (2012, p.1), there is a "*significant tendency for top companies to underperform both the overall sector and the stock market as a whole over the next 1-10 years"***,** including in the financial sector. Their results are based on the analysis of US firms market capitalizations over a 59-year period, and also compare the results with countries worldwide. To complement this argument, further research on non-financial companies shows that large companies tend to grow more slowly and earn lower returns on capital (Milano, 2011).

It can be noted that financial institutions follow the same trends. According to Bertay et al. (2012), returns seem to decline with systemic size (size relative to the national economy**)**, which would imply that systemic bank size per se is not in the interest of bank shareholders. Besides, Kasman's study on banking institutions (2010) reinforces this statement in the sense that size seems to have a negative and significant effect on the net interest margin, which is used to measure the performance and efficiency of a bank. According to Barros, Ferreira & Williams (2007), smaller-sized banks are more likely to perform better whereas bigger and more diversified banks are less likely to perform well.

Other studies are questioning the benefits of large banks. According to Macquarie's analysts commenting on the situation of one of the biggest banks in Europe – HSBC, "*the costs of running such a vast and complex global network have begun to overshadow any potential financial benefits*" (Cruise & Slater, 2015, para. 11). According to these, breaking up their activities would enable the bank to create more value for shareholders in the long term, not only because of the high regulatory burden, but also because running such a big bank seems to them to be definitively unprofitable (Williams-Grut, 2015). Titcomb (2015) supports that view, in the sense that some banks could be worth significantly less than the sum of their parts.

This unexpected outcome leads us to wonder what has caused such results. In what follows, some reasons of lower performance by big banks will consequently be explored, in order to understand the limits business growth can present.

3.1. Diseconomies of scale and scope

Previously, we have highlighted the presence of economies of scale and scope for large banks, which would then benefit from efficiency gains and cost reductions. Nonetheless, according to Penrose (2013), there must be a certain size above which the services necessary for an efficient action cannot be offered by humans. Indeed, the complexity of the structure and the scope of activity are so important at one point that even small decisions to guarantee the required level of coordination are so difficult to make and numerous that the firm's efficiency will suffer. According to Gartner (2013), economies of scale may at one point be overwhelmed at big banks, by accelerating demand and complexity. Production costs will thus be higher in very big firms than in smaller ones and big companies will experience what we commonly called diseconomies of scale. At one point, there is indeed the risk that economies of scale get outweighed by diseconomies of scale. Schwenker & Botzel (2007) suggested that a main cause of these are the transaction costs, i.e. the costs for coordinating the business activities.

In addition, a study conducted by Rossi & Beccalli (2017), that investigates economies of scope for 740 banks located in the 28 EU countries over the period 2005-2015, acknowledges the presence of widespread cost economies of scope as well as revenue diseconomies of scope in the European banking industry.

3.2. Internal organizational challenges

Other challenges that banks will face in case of strong growth are related to internal organization. Any significant expansion will require changes in the organization, to which the company may have struggle to adapt (Penrose, 2013).

In terms of personnel, it can be assumed that strong growth will imply the acquisition of a new personnel as well as promotion and redistribution of the old one. More than that, it can be assumed that the company will face an increased staff turnover, due to extra work for instance (Sidibe, 2016). Indeed, employees' morale could drop, and therefore their productivity could decrease or they could leave the business. It is then crucial for companies to smoothly anticipate the transition so that their performance will not be affected by issues related to human resources.

More generally, strong growth will often imply a new subdivision of the managerial organization and in some cases a bigger decentralization of the managerial functions (Schwenker & Botzel, 2007). Nonetheless, some firms may not be able to conduct an appropriate administrative reorganization – for instance, existing leaders may not want to give up on their individual control. Those firms will not be able to scale up efficiently and may then face some difficulties. As a result, companies must develop appropriate organizational structures and policies in order to hire skilled people with enough experience to take high-level decisions and to deal with potential issues (Penrose, 2013).
With a bigger decentralization of the managerial functions generally comes a bigger organizational distance. Thereupon, when banks get bigger, the organizational distance between executives and the people in the business units may trigger different challenges. On the one hand, it could inhibit the use of objective information in strategic decision-making at the top and on the other hand, it may slow down the decision processes at the bottom (Canals, 2003). This may also lead to a loss of control; as a business grows, companies may need to delegate management duties or divide the workloads between different locations (Schwenker & Botzel, 2007).

As a conclusion, strong growth may create some internal organizational challenges, resulting in loss of talent and increasing organizational costs, which may affect negatively the performance of the company. It is essential for companies to manage their firm's growth and transformation, in order not to lose talent and be able to keep their human resources as productive as possible. According to Phil Clark (Heskett, 2012, para. 2), "*it is about people and relationships"*. Unfortunately, according to him, today's world is mainly focused on big businesses and profits.

3.3. Capital requirements

From a regulatory point of view**,** big banks need to face greater capital requirements and ensure bigger financial buffers. According to Goldman's Managing Director Richard Ramsden (2017), "*size is now a regulatory negative*" (Titcomb, 2015, para. 15) and at some point, the costs of running a big bank begin to outweigh the benefits.

In general, tougher banking regulation imposed since the 2008-2009 financial crisis has hurt large banks deeply. Indeed, banks need to bear an enormous cost in order to ensure compliance across various countries, and many banks have had to deal with fines for a series of compliance failures (Cruise & Slater, 2015).

With the introduction of Basel III in 2010, the capital need was estimated to reach 60 percent of all European and US Tier 1 capital outstanding at that time, and the liquidity gap was estimated to be equivalent to around 50 percent of all outstanding short-term liquidity. These capital requirements in Europe would consequently increase to about €1.2 trillion, short-term liquidity requirements to €1.7 trillion, and long-term funding needs to about €3.4 trillion (Harle et al., 2010). We can state that these measures have had a big impact on banks' performance and profitability. Indeed, according to Harle et al. (2010), complying with Basel III would result in a decrease in ROE for the average bank by about 4 percentages points in Europe.

Besides these measures affecting all banks, a leverage ratio surcharge has been implemented for banks considered as global systemically important financial institutions (SIFIs) (Mesnard, Margerit, Magnus & Katopodi, 2017). These are identified by the Basel Committee on Banking Supervision through quantitative indicators and qualitative elements and are defined as "*financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity*" (Financial Stability Board, 2011). Indeed, due to the systemic threat they pose to our financial system, these banks were decided to be submitted to a specific set of rules and enhanced supervision. In response to the greater risks that these banks present, it was then decided to require from SIFIs higher loss absorbency capacity and higher capital requirements, which surcharge amounts to 1 % up to 3.5 % common equity tier 1 over risk weighted assets (RWA) (Mesnard et al., 2017). Furthermore, their interconnectedness has been supervised. Therefore, we can state that large banks have to face a more important regulatory burden than smaller institutions, including higher capital requirements.

3.4. Challenge to differentiate and to offer engaging user experiences

When banks are so large, they are facing several difficulties from a customer point of view. First of all, they may struggle to differentiate themselves from rival banks beyond an appealing interest rate. Furthermore, when reaching such a big size, they are facing the risk of losing their connection with the consumer and may fail to meet the consumer's needs (Canals, 2003). Finally, large banks may face difficulties in remaining consistent in terms of strategic positioning, i.e. to ensure that their internal image towards employees is aligned externally with the market and the customers (Vojir, 2016).

According to Vojir (2016), banks have been far too complacent at providing efficient and engaging user experiences. However, the financial landscape has changed significantly for the last years, and the emergence of numerous fintechs present a significant threat for banks nowadays. Therefore, it can be assumed that banks struggle to adapt to this new environment, which may require them to reduce the personnel and take on strict measures in order to prevent from bankruptcy, triggering high costs.

Current context

What is essential to mention in order to understand the current status of the competitive environment is the revised Payment Services Directive (PSD2) that has been implemented in 2018 all over Europe. PSD2 is a directive from the European Commission, obligating banks to provide third parties with access to their customers' accounts through open APIs (i.e. Application Programming Interfaces). This enables bank customers to use third party providers to manage their personal finances and third parties to build financial services on top of banks' data and infrastructure (Evry, 2017). Consequently, banks will not only compete with other banks, but with any financial provider in the market.

Via PSD2, the European Commission aims to improve innovation, reinforce consumer protection and improve the security of internet payments and account access within the EU and EEA (Evry, 2017).

We will not go into more details in that topic, since this regulation would require a whole report by itself. However, based on the current context, we can assume that the financial market will evolve significantly and become more and more competitive, and that banks should strive for a new position in the market in order to stay competitive.

As a consequence, these different drawbacks of strong growth can lead to higher costs for banks, coming from diseconomies of scale and/or scope, high administrative costs and a high regulatory burden. Furthermore, the current status of the competitive market makes it challenging for banks to

retain and attract new customers, leading to a loss of revenues. All in all, it seems that reaching bigger size may lead to lower performance for banks.

4. Agency theory

Besides the limits of growth discussed in the previous section, it is essential to tackle another factor that may impact a bank's performance: the agency problem. This concept usually refers to a conflict of interest between a company's management and the company's stockholders.

The managers are supposed to make decisions and act as the agent for the shareholders (principals), with the main objective of maximizing the shareholder value before maximizing his own wealth (Bebchuk & Fried, 2003). However, according to Titcomb (2015), managers may have wrong incentives to keep their organizations big such as their executive pay and the prestige associated with running a major bank. In what follows, we will explain these different factors, and how it can affect a bank's growth and performance.

4.1. Factors

Despite the supposed role of managers to maximize the shareholder value, the agency problem is an issue that has arisen in many industries, including the banking industry. A main factor explaining this phenomenon relates to **executive compensation**, since research seems to show that executive pay is mainly determined by the size of the organization and its complexity (Wilmers, 2014; Hitt, Ireland & Hoskisson, 2016). Indeed, in many companies, pay plans reward chief executives for the size of the companies they run, rather than the returns they generate for shareholders (Noonan & McLannahan, 2016). In addition, managers' personal financial incentives are often determined by short-term growth targets, which push managers to prefer large acquisitions over organic growth in order to achieve results more easily.

Some suggest that in order to mitigate the issue linked to compensation, other metrics would be needed to measure bank's performance rather than just stock performance, such as return on assets and measures of efficiency. This mismatch between executive compensation and bank performance has also been highlighted in a European study conducted by Shiyyab, Girardone & Zakaria (2011, p.4) which suggests "*an absence of a contemporaneous relationship between executive pay and bank performance as measured by earning per share (EPS), return on assets (ROA) and annual share return (SRT)*". Indeed, it seems that executive are compensated regardless of financial performance, and mainly based on other factors such as bank size, managerial ownership, board size, total capital ratio and dividends status (Shiyyab et al., 2011). Therefore, since paying out cash the shareholders may

reduce firm size, managers may make decisions or undertake acquisitions that are against the interests of shareholders such as value destroying acquisitions (Golubov et al., 2012).

A second factor relates to the **prestige** that comes with running a major bank. In that context, can be observed what are called "empire-building" CEOs, who are looking for more power, authority and prestige over shareholder interests. Indeed, these CEOs aim at increasing the scope of their power and influence over all (Golubov et al., 2012). By proceeding with large acquisitions, managers can attract media attention and thus boost reputations (Duplat, 2017).

Therefore, following the agency motive, managers could make decisions that are against shareholders, from different ways. Amihud & Lev (1981) mentioned the case of managers engaging in M&As with the aim of diversifying the firm's activities in order to ensure earnings and secure their own jobs, while shareholders could do the same at a lower cost (Golubov et al., 2012). In addition, the theory of free cash flow developed by Jensen (1986) states that *"managers with access to surplus cash favor engaging in pet projects and unprofitable acquisitions instead of returning cash to shareholders*" (Golubov et al., 2012, p.9).

Consequently, managers may have wrong incentives to keep their organizations big, such as higher remuneration and the prestige associated with heading a large bank, which push them to make decisions under the agency motive. As a matter of conclusion, this tends to show that agency costs destroy shareholder value.

To support the previous statement, some studies show that large banks that engage in multiple financial activities such as lending and trading, are lower valued on the market than if these were broken into financial intermediaries specialized in individual activities (Laeven & Levine, 2007). The main reason for that turns out to be that these diversified complex banks seem to suffer from increased agency problems and poor corporate governance, which can enhance the systemic risk they create, a dimension that will be further tackled in the next section of our report (Laeven & Levine, 2007; Laeven, Ratnovski & Tong, 2016). Banks tend to take on excessive risks to grow the bank's size and secure managers' remuneration, which can lead to lower valuation on the market and therefore lower financial performance.

4.2. Last updates on executive compensation

However, it is to be mentioned that following the financial crisis in 2008, there has been much debate about executive compensation. Therefore, some legislation was implemented in Europe in order to limit the variable part of the compensation up to 200% of the fixed salary, providing the prior approval

from the shareholders (Lamberts, 2017). The regulation varies according to the country. In addition, some changes have also appeared in the U.S., where more and more U.S. banks have been shifting pay packages from stock option to incentive-based compensation (Peters, 2017). It is to be mentioned that executive pay in Europe represents much smaller amounts than in the U.K. or U.S., where for instance JPMorgan CEO Jamie Dimon and other American CEOs made around $29.5 million in 2017 (Appendix 1).

The sensitivity of this matter can be illustrated with the case of Ralph Hammers, CEO of the ING group. After considering awarding a 50 per cent pay rise to their CEO and reaching then an annual remuneration of over €3 million, the supervisory board finally abandoned their proposal following the controversy it triggered (Arnold, 2018). This happened after that the board complained the CEO was underpaid compared to his international peers. However, in a country that has one of the strictest limits on bankers' pay (capping their bonuses at 20 per cent of fixed pay), the company did not expect such a strong reaction from the public and politicians. They decided thus to reconsider their proposal, not willing to damage the group and its employees (Arnold, 2018).

In spite of these new regulations, it can be noted that this problematic remains sensitive matter, and that many organizations are still facing agency problems, i.e. having personal interests of managers conflicting with the interests of the organization. Therefore, this can be considered as a limit of growth, in the sense that this latter is not always pursued for good reasons and can end up affecting negatively a bank's performance. In this case, we can state that growth, when mainly driven by non-value maximizing motives (such as personal financial incentives and/or empire building), is not always beneficial for shareholders.

5. Risk dimension

A very important element that needs to be considered when tackling business growth for banks are the risks that large banks can generate. In what follows, we will consequently focus on the risks that growth can represent, and more especially on the systemic risk large banks can create. The risk dimension is inherent in every aspect of the bank business model, and can affect every stakeholder (Blundell-Wignall et al., 2014). However, we can consider that the risks a bank can present mostly affect the society in general, and the fulfilling of its societal duties due to its systemic size.

5.1. A bigger systemic risk for large banks

According to different sources (Blundell-Wignall et al., 2014; European Parliament, 2016), big banks are considered as too dangerous for the society, due to too much systemic risk and interconnectedness. As mentioned at the beginning of our report, the financial crisis made people realize how closely connected many of the world's largest financial institutions were through a web of short-term loans, credit guarantees and other financial contracts (Wheelock, 2012). As a result, economists and government became aware of the important threat systemic risk would pose to the society, in that the failure of one large, complex financial institution could bring down others and threaten the broader financial system. In that context, the term "too big to fail" arose to qualify a bank which failure may cause widespread damage to the financial system (Waller, 2016).

Furthermore, according to Laeven et al. (2016), systemic risk increases with bank size. Indeed, some study shows that large banks are riskier than smaller banks, and create more systemic risk, especially when they have insufficient capital or unstable funding (Ratnovski et al., 2014). According to Boyda & Heitz (2016), the cost to the macro-economy due to increased systemic risk is always much larger than the potential benefit due to scale economies.

Several other theories support the fact that systemic risk is more important for big banks. Firstly, different authors such as Kashyap et al. (2002), Shleifer & Vishny (2010), Gennaioli et al. (2013), Boot & Ratnovski (2012) suggest that large and complex banks tend to invest more in risky activities while being financed more with short-term debt (Laeven et al., 2016). This fact makes them more exposed to potential liquidity shocks and market.

Another reason may relate to the too-big-to-fail subsidies that large banks benefit from. When a bank considered as TBTF faces risks of failure, governments step in to prevent its collapse. It is then said that governments are bailing out equity and bond holders at taxpayer expense and that this situation creates moral hazard (Waller, 2016). Indeed, Farhi & Tirole (2012) suggested that since banks expect some form of government bailouts in case of distress, banks may consequently have incentives to take on more risks resulting in moral hazard behavior

(Laeven et al., 2016). According to Ratnovski et al. (2014), since large banks are able to engage in riskier activities and get higher returns while shifting the risk of default to the taxpayer, they are encouraged to use more leverage and unstable funding. A study conducted by the US Federal Reserve Board points in the same direction, stating that "*expectations of implicit government guarantees could*

further weaken financial stability by lowering the incentives of investors and other stakeholders to monitor firms with perceived implicit guarantees or by increasing risk-taking by financial firms" (Ahmed et al., 2015, p.1).

Thirdly, as mentioned previously (Laeven & Levine, 2007), large diversified banks seem to suffer from increased agency problems and thus poor corporate governance, which leads to an increase in the systemic risk they create. Indeed, according to Laeven et al. (2016), the natural tendency of banks to take risks in order to grow in size combined with the lack of regulation to prevent the resulting increase in systemic risk has resulted in large banks sharing important drivers of systemic risk, such as high leverage, activity diversity and interconnectedness.

All these different elements lead us to say that systemic risk increases with bank size, and that large banks consequently present an important threat for our economy and for taxpayers due to their size and the risk they create. Apparently, the risks of failure are even larger when income mainly comes from asset-based non-traditional activities. Furthermore, large banks have played a major role in spreading the financial crisis in 2008-2009 worldwide due to their interconnectedness and the important position they had reached in the financial system (Blundell-Wignall et al., 2014). Despite the emergence of numerous regulations in the light of the financial crisis, this leads us to wonder if enough has been done in order to limit the systemic risk and prevent another financial crisis from occurring.

5.2. Drivers of systemic risk

Numerous factors can be used in order to measure banks' systemic risk. Among these, several often come back in literature and scientific studies, such as banks' size, interconnectedness, activity diversity as well as financial leverage (Laeven et al., 2016; Ayadi, 2007). This view is also supported by Drehmann & Tarashev (2011), who have used three indicators of systemic importance, coming directly from banks' financial statements. The first they used is bank size, measured as a bank's liabilities to non-banks, while the other two relate to interconnectedness and consist of interbank lending and interbank borrowing. The first one provides information "*on the degree to which a bank is exposed to risks stemming from the interbank market, while the second one captures the extent to which a bank imposes credit risk on other banks and, thus, can propagate shocks through the system*" (Drehmann & Tarashev, 2011, pp.30-31).

According to Ayadi (2007), the capital ratio (equity to total assets) and the solvency ratio (loan-loss provision to net interest revenue) may also consist of relevant risk indicators. While the former illustrates the capital strength of a bank, the latter indicates the ability of a bank to cover credit losses thanks to its provisions.

In terms of interconnectedness, it seems that large banks are more interconnected than smaller institutions. As discussed, this driver can be measured through interbank borrowing and lending. According to Lamberts (2017), which study focuses on banking groups active on the Belgian retail banking market, it appears that the banking groups presenting a high percentage of interbank borrowing compared to their total liabilities all consist of large financial institutions. The higher the percentage, the most exposed is the bank to the risks of credit crunch – slowdown and freeze of interbank exchanges. Furthermore, Drehmaann & Tarashev (2011) seems to support this argument, stating that large banks have a higher portion of interbank lending and borrowing compared to small banks.

Another driver that may play a role in the risk created by banks is the activity diversity. Therefore, when mentioning the risk of a bank, it is important to also consider its business model. Indeed, according to Kohler (2015), the risk of banks also varies according to their business model. In his paper, he analyzed the impact of business models on bank stability in 15 EU countries between 2002 and 2011. The paper represents banks' business models by the share of non-interest income in total operating income and the share of non-deposit funding in total liabilities. It is shown that commercial banks and investment banks, more investment-oriented, will be more risky and less profitable if they increase their share of non-interest income. This view is supported by DeYoung and Torna (2013), who tested whether banks with a larger share of non-interest income were facing more risks to fail during the financial crisis (Kohler, 2015). According to the results, it seems that banks with a larger share of income from "*asset-based non-traditional activities, such as investment banking and asset securitization*" (Kohler, 2015, p.196) had faced a significant increase of the likelihood of distress and failure.

On a European level, the Basel Committee on Banking Supervision (BCBS) has identified global systemically important banks based on 12 indicators, which can be regrouped into 5 broad categories (Mesnard et al., 2017):

1. Size
2. Interconnectedness
3. Substitutability

4. Complexity

5. Cross-jurisdictional activity.

Among the 30 G-SIBS identified by the BCBS in 2017, eight are located in the European Union (excluding UK): BNP Paribas (FR), Deutsche Bank (DE), BPCE (FR), Crédit Agricole (FR), ING (NL), Santander (ES), Société Générale (FR), and Unicredit (IT). Yet, these banks are part of the ten biggest banks by assets in Continental Europe (S&P Global Market Intelligence, 2018). These different elements consequently support the theory that large banks create more systemic risk.

5.3. Regulatory measures and their limits

Since the financial crisis, numerous regulations have taken shape, aiming at reducing banks' risk and enhancing their resilience to adverse shocks through a strengthening of capital positions (Committee on the Global Financial System [CGFS], 2018). Basel III has therefore imposed higher capital requirements - such as the increase of minimum Common Equity Tier 1 capital and minimum Tier 1 capital, as well as new regulatory leverage and liquidity requirements, as already mentioned earlier in this report (cf. supra 3.3.) (Harle et al., 2010). In addition, as discussed previously, banks considered as systemic by the Basel Committee on Banking Supervision have been subject to higher capital requirements and a leverage ratio surcharge. Indeed, in response to the greater risks that these banks present, it was decided to require from SIFIs higher loss absorbency capacity and higher capital requirements, which surcharge amounts to 1 % up to 3.5 % common equity tier 1 over risk weighted assets (RWA) (Mesnard et al, 2017).

Thanks to such regulations following the financial crisis, some improvements have been witnessed by regulators. In terms of capital, it seems that globally systemically important banks have boosted their common equity by around €1 trillion between 2011 and 2016, mostly through retained earnings (The Economist, 2017). Another element is the fact that many large banks have decided to reposition themselves, aiming at reducing the risks in their balance sheet. They have consequently reduced their portion of complex and more risky assets as well as reduced the use of short-term wholesale funding to favor more stable funding sources (CGFS, 2018).

In addition, based on an analysis focusing on the different banking groups covering all retail banking activities in Belgium (Lamberts, 2017), it seems that banks have improved in terms of leverage ratio (tier 1 capital ratio). Indeed, when analyzing the leverage ratio (Appendix 2), it can be observed that except Deutsche Bank, the rest of the banks have a ratio that is superior to what is going to become the

legal minimum ratio of 3% (tier 1 capital to its total risk-weighted assets). This level of leverage is nonetheless still far from 10%, which is considered as the most adequate level.

Moreover, it seems that large banks have improved in terms of financial leverage. This concept can be defined as the following: financial leverage = total debt/total assets. As it can be seen in Appendix 3, we can observe that all banks of the sample have seen an improvement in their financial leverage, or at least constant results after the introduction of Basel III in 2010. This table is part of the analysis conducted on the performance of the ten biggest banks in Continental Europe, which will be developed in the second part of the thesis.

As a result, it was widely thought that such measures would contribute to decreasing measures of risk. However, some limits have been pointed out by economists. Many believe that the impact of regulation in higher capital requirements will be much less than expected, and many fear that this reform would limit the availability of credit and limit the economic activity (Allen, Chan, Milne & Thomas, 2012). According to Allen et al. (2012), the real difficulties will be to ensure the coordinated adaption to measures across the whole financial services industry.

Furthermore, according to Sarin & Summers (2016), which study focuses on measuring major banks' risky nature in the United States and around the world, it seems that "*financial market information provides little support for the view that major institutions are significantly safer than they were before the crisis and some support for the notion that risks have actually increased*" (Sarin & Summers, 2016, p.1). This study does not make all regulatory measures irrelevant, but it challenges the view of many officials who believe that larger financial institutions are much safer now that they were prior to the crisis.

Calluzzo & Dong (2015) support the statement that large institutions may have become less risky individually but that "*the financial market has become more vulnerable to systemic contagion"* (Calluzzo & Dong, 2015, p.233).

With the limits of regulations that have been highlighted hereabove, it can be stated that despite the numerous efforts taken by officials and governments in order to decrease the systemic risk created by large banks, it seems that these latter are still posing an important threat to our society. We can note that eight European major banks are considered as systemic banks by the BCBS. Despite the fact that they have been subject to tougher regulation and higher requirements in terms of capital as well as absorbency capacity, they still present important risks for the society and more especially for taxpayers.

6. Internal vs external growth

When considering business growth, it is necessary to differentiate internal growth from external growth, seeing the current context of bank consolidation. Internal growth relates to organic growth which involves the use of organizations' own resources and competences, while external growth relates to growth through M&A, joint-ventures or alliances and involves the use of resources and competences of other organizations (Duplat, 2017).

6.1. Banking consolidation in Europe

Since the 90s, the European banking industry has experienced major changes due to an unprecedent wave of M&As, illustrating a trend that has happened worldwide (Pujals, 2013). This process of banking consolidation has appeared as a reaction to various factors: the deregulation of banking activities, an integrated European financial market, the imperative of value creation, divestments of non-strategic assets, financial globalization and the race for size (Pujals, 2013; Ayadi, 2008). In an environment in constant evolution, big banking groups have been required to rethink their strategy in order to remain competitive.

This trend has led to deep changes structure-wise and actor-wise. On the one hand, this process has resulted in an important decrease in the number of credit institutions between 1990 and 2010. Indeed, compared to more than 12 500 in 1990 in Europe, only 6175 were identified in 2010 (Pujals, 2013). On the other hand, the banking consolidation has also resulted in a very significant increase in the average size of European banks, supporting the market concentration.

Numerous reasons can justify the choice of proceeding with M&As, which were explained earlier in this report (cf. supra 2.1.-2.6.). More practically, M&As can enable companies to extract value from three different ways: by acquiring under-valued organizations, by « better » managing acquired organizations and by benefiting from fiscal advantage – for instance by using corporate inversion, a process used to move overseas to reduce the tax burden (Duplat, 2017).

Nonetheless, it is to be mentioned that following the financial crisis of 2008, this process of consolidation has seen an important slowdown. This was accompanied by increasing divestments of non-strategic assets (Pujals, 2013). However, according to Duchesne & Keller from BNP Paribas (2018), the context has now become more favorable for external growth. In the current cycle of growth which started in 2009 and in which the level of confidence is high, they believe that companies will favor external growth through M&As again (BNP Paribas, 2018).

6.2. Impact of M&As on performance

It is important to analyze the different sources of growth since, according to many authors, it may influence banks' performance in some way. Studies have showed mixed results on that topic, triggering much debate among economists. On the one hand, our intuitive statement would be that providing the importance of the process of consolidation that has transformed the whole banking industry, banks will tend to show better performance following an acquisition. This view has been supported by numerous authors among which Healy et al. (1992), Ramaswamy & Salatka (1996), Heron & Lie (2002), Altunbas and Ibanez (2004) and Yen & André (2010) who report gains and improved operating performance following the operation (Sharma & Ho, 2002; Beccalli & Frantz, 2009; Hicham, 2017).

However, on the other hand, more and more studies tend to show that M&As do not lead to improved performance, especially for the acquiring firm. Indeed, a reason supported by Tom Dolembo (Heskett, 2012) to explain that banks may be too big to succeed is the lack of sufficient organic growth as opposed to the growth by mergers and acquisitions. According to him, "*toobigs are enormously complex, with massive, self-defeating strategies at war within, producing a lower return*" (Heskett, 2012, para. 2).

Several other studies and reports tend to support this argument. Indeed, research tend to show that most M&As have ended up bringing less results than expected, financially-wise at least (Winters, 2013). In addition to numerous U.S. studies pointing in that direction, the handful of European studies on impact of M&As seem to conclude that M&As seldom lead to performance improvements (Beccalli & Frantz, 2009). More specifically, studies tend to suggest that "*in acquisitions of listed targets, acquiring firms realize negative to zero abnormal returns at the acquisition announcement*" (Andrade, Mitchell & Stafford, 2001, p.117). A way to assess the performance is typically to compare share prices before and after a deal is announced, using short-term investor reactions to indicate how much value it would be likely to create (Winters, 2013). From a market capitalization perspective, stock market event studies tend to show that M&A announcements typically lead to a decrease in the equity value of the acquiring firm and even present no significant increase in the combined value of the two firms (Ayadi, 2007). These results may suggest that the market believes two things: firstly that there will not be substantial gains from bank mergers, and secondly that acquiring firms may have overpaid "*for acquisitions in anticipation of merger benefits that are not likely to be realized*" (Ayadi, 2007, p.15). When analyzing the post-announcement share price performance of acquiring banks by deal

size, it appears that most mergers fail to deliver their promised results but more than that, it appears that large deals tend to underperform smaller deals (Ayadi, 2007).

Other studies analyzed the impact of M&As on performance using profitability ratios such as ROE and ROA (Berger & Humphrey, 1992; Pilloff, 1996; Knapp et al., 2006; DeLong & DeYoung, 2007). According to Beccalli & Frantz (2009), none of these studies have shown clear positive effects on M&As operations on the performance of US banks. On a European level, according to Beccalli & Frantz (2009), which paper analyses a sample of 714 deals involving EU acquirers and targets worldwide over the period 1995-2005, M&A deals tend to trigger a deterioration in the bank's performance, in terms of return on equity, cash flow return and profit efficiency and an improvement in cost efficiency (in a period of 6 years after the deal). However, the latter appears to be transferred to bank clients rather than to bank shareholders.

To summarize, different studies and reports tend to show that M&As may end up bringing negative results, or at least not as good as expected, especially for acquiring firms. As discussed, these results are supported by multiple studies pointing in the same direction. These unexpected outcomes lead us to wonder whether the justifications and reasons behind operations of external growth are right, valid and in the interest of the organizations, or if these operations are conducted for wrong incentives such as personal financial incentives or empire building reasons.

7. Conclusions and hypotheses

As a matter of conclusion, literature suggests that large and complex banks enjoy numerous advantages resulting from strong growth, which can translate into better performance and benefit different stakeholders including the society in general. First of all, as discussed, large banks may be in a better position to earn higher returns and profits, which would directly benefit banks' shareholders. Furthermore, banks are able to develop a larger range of offerings of improved quality and at potentially lower prices. According to Beccalli et al. (2015, p.233), "*limiting the size of big banks could result in a net social loss if the restrictions inhibit bank's ability to realize potential scale economies that can be passed onto bank customers in the form of more efficient intermediation and therefore lower prices*". Finally, these advantages also benefit the public authorities, since banks can enjoy higher solvency (Ayadi, 2007). Therefore, many studies tend to support the statement that large banks create numerous benefits for the society and that limiting their size could have economic costs.

However, different studies also demonstrate that size can negatively affect the performance in different ways, such as inefficiencies due to diseconomies of scale and scope. Further factors such as internal organizational challenges and capital requirements may generate higher costs and affect banks' performance. Furthermore, conflicts of interests push managers to seek growth for non-value maximizing motives, which does not make growth in the interest of shareholders. Finally, large banks present an important systemic risk for the society, due to their size and their interconnectedness. Thereupon, many researchers tend to say that drawbacks triggered by growth may outweigh the benefits.

Based on the literature review conducted in the first part, different statements arising from our research can be presented.

- Size does not seem to support financial performance. Indeed, based on different studies showing no improvement and even lower financial performance from big banks, it can be assumed that despite the numerous benefits it triggers, size does not always support growth and good performance, and may even create obstacles.
    - Large banks do not perform as well as smaller banks / the industry average.
    - M&As do not always lead to improvement in profitability and efficiency, and may even lead to a deterioration in the bank's performance (especially for acquirers).
- Absolute and systemic bank size per se may not be in the interest of bank shareholders.
- Size is not always pursued for value-maximizing motives. Indeed, personal interests seem to conflict with interests of the organization as several studies show that the agency theory remains problematic within the banking industry.
- Size can be considered in the interest of bank customers (debtors and depositors). Indeed, thanks to cost efficiencies and a strong position in the market, banks are able to offer lower prices as well as a bigger range of products and services. However, banks are facing difficulties to differentiate themselves beyond an appealing interest rate because of increasing competition (appearance of actors such as fintechs). Moreover, market power could still pose a threat to customers.
- Large banks present a bigger systemic risk than smaller institutions. It has been shown by several studies that systemic risk increases with bank size, which puts large banks in a challenging position towards society.

- Banks considered as systemic are subject to a heavier regulatory burden, translating into a leverage ratio surcharge and higher capital requirements.

Second Part: Analysis of European banks' performance

In the second part of the thesis, the objective is to assess how the statements presented at the end of our literature review correspond to reality. We will therefore use these hypotheses in order to confront them with reality to the extent possible. The following ones are those that we will be able to confront with reality to a certain extent, providing the availability of the information:

H1: Large banks do not perform as well as smaller banks / the industry average.
H2: M&As do not always lead to improvement in profitability and efficiency, and may even lead to a deterioration in the bank's performance (especially for acquirers).
H3: Size can be considered in the interest of customers (debtors and depositors), providing the fact that large banks are able to offer a bigger range of products and services, as well as better conditions such as lower prices.

1. Methodology

In order to proceed with the financial analysis, we will examine a sample of European banks over the 1990–2015 period. We have chosen to limit our analysis to the ten biggest banks by assets in continental Europe (from France, Germany, Spain, Netherlands, Italy and Switzerland), providing the numerous differences with the Anglo-Saxon banking system. Financial information on individual banks was taken from Bloomberg and from annual reports, and this sample is restricted to publicly-listed banks in order to ensure relatively high data quality.

The first section of the second part will present the sample of selected banks in order to understand their evolution and their sources of growth, how they have become some of the biggest European financial institutions. The objective is to acquire a good understanding of their strategies in terms of organic and external growth, as well as their geographical presence and business activities.
The second section will present our financial analysis of the European banks' performance. This analysis will be divided into three subparts. First of all, will be explained the different performance indicators used in our report. Secondly, banks' performance over the period 2002-2015 will be compared to the European industry average, in order to gain some insights into large banks' profitability compared to smaller institutions'. Finally, we will compare banks' performance pre- and post-acquisition, based on a sample of M&As in which large banks have played the role of acquirers.

This financial analysis will enable us to understand how the two first hypotheses (H1 and H2) correspond to reality, as well as whether size can be considered in the interest of shareholders.
The next section will analyze banks' offerings in order to understand if the third hypothesis (H3) proves to be correct. In order to do so, we will analyze standard products offered by large and small banks on the Belgian market: savings accounts, mortgage loans, consumer credit and current accounts. We will focus on comparing conditions, interest rates and costs between a sample of banks active on the Belgian retail banking market.

2. Selected banks and sources of growth

The following list presents the 10 biggest banks by assets in Continental Europe (S&P Global Market Intelligence, 2018), which will be analyzed in the context of our financial analysis in the next section. However, in order to diversify our sample, we have selected UBS (€782.45 billion of assets) as tenth bank instead of Credit Mutuel Group (€793.52 billion of assets), since France is already significantly represented in our analysis.

Table 1: Selection of biggest banks in Continental Europe:

Name of European bank	Country	# assets (in billion)
1. BNP Paribas	France	€1,963.34
2. Crédit Agricole	France	€1,763.17
3. Deutsche Bank	Germany	€1,470.38
4. Banco Santander	Spain	€1,446.15
5. Société Générale	France	€1,275.13
6. Groupe BPCE	France	€1,259.42
7. ING Groep	Netherlands	€846.22
8. UniCredit	Italy	€836.79
9. Intesa Sanpaolo SpA	Italy	€801.01
10. UBS	Switzerland	€782.45

2.1. Sources of growth of selected banks

In what follows, we will develop the sources of growth of the selected banks, i.e. understand if they developed internally and/or externally, as well as how this evolution may have affected the types of

products and activities. The major operations of each bank will be presented to acquire a good understanding of the selected sample.

We will consider the period 1990 – 2015, since the process of strong banking consolidation started in the 90s. Based on the availability of data and information, the period of analysis may slightly vary from one bank to another.

BNP Paribas (France)

BNP Paribas was formed in 2000 and has become a strong European leader, after the integration of multiple banks throughout the years (BNP Paribas, 2014). In 1999, BNP acquired Paribas, France for $13,2 billion. Founded in 1872, Paribas was one of the main French merchant banks helping big industries to develop around the world. In the early 2000s, BNP Paribas strengthened its position in the U.S. by acquiring BancWest and Commercial Federal Corporation and United California Bank. The company kept on expanding worldwide with the creation of a subsidiary in Algeria and acquisitions in Morocco. On a European level, the main acquisitions were those of BNL, Banca Nazionale del Lavoro in 2006 and Fortis' operations in Belgium and Luxembourg in 2009. Thanks to this acquisition, the bank became one of the most important deposit banks in the Eurozone with more than €550 billion. Furthermore, the bank is now significantly active in four of the main European retail markets (Belgium, France, Italy, Luxembourg) (BNP Paribas, 2014).

Since 1999, we can state that BNP Paribas has strongly diversified its activities as well as expanded its geographical presence around the globe. Therefore, the bank has managed to become a European leader with a worldwide presence.

Crédit Agricole (France)

Originally aiming at providing loans for small rural tradesmen, Crédit Agricole has strongly expanded its activities since 1970 by first providing credit for SMEs and then entering the insurance market. In addition, the bank developed further through different acquisitions into corporate and investment banking and into consumer credit throughout the years (Crédit Agricole, 2018). With the acquisition of Crédit Lyonnais in 2002, the bank developed into retail banking with the LCL brand. In addition, they created in the 2000s Crédit Agricole Corporate and Investment Bank (CA CIB) and Amundi, an asset management subsidiary to further diversify their activities. Between 2004 and 2005, Crédit Agricole

gained a greater presence in major cities of France, while at the same time increasing the Group's international reach. Businesses were established in Egypt, Ukraine, Serbia, Greece, Italy and Portugal. Finally, in the light of the financial crisis, Crédit Agricole proceeded with a €5 billion programme of non-strategic asset disposals, after having reported negative financial results in 2008 (Crédit Agricole, 2018).

Throughout the years, Crédit Agricole has consequently diversified its activities, and is now active in many business lines: banking, consumer credit, corporate and investment banking, asset management, insurance and private banking. Starting in France, the group has expanded its geographical presence worldwide and is mainly active in Europe, Asia and Maghreb.

Deutsche Bank (Germany)

In 1970, Deutsche Bank ventured into general retail banking and has seen its number of clients increase very significantly. At the same period, internationalization has developed and the bank started to take shape as a global group with the acquisition of major banks in Italy, Spain, the U.K. and in the U.S. (Deutsche Bank, 2018b). Since 1989, Deutsche Bank has further expanded its presence through numerous acquisitions in the U.S., in different parts of Europe and in Russia. They have also proceeded with operations of organic growth and the establishment of subsidiaries abroad, developing into Private Wealth Management (Deutsche Bank, 2018b).

It seems that Deutsche Bank has managed to become a leading universal bank, operating in every part of the world and offering a wide range of products and services in investment, corporate and retail banking as well as in asset and wealth management. In order to reach this objective, Deutsche Bank has proceeded with numerous operations of external growth, as well as internal growth.

Banco Santander (Spain)

The following information comes from Banco Santander (2008; 2017a; 2017b) and Crunchbase (2018). By the 80s, Banco Santander had already established subsidiaries as well as made some acquisitions in Spain and Latin America. This trend went on until the early 2000s. In 1985, in addition to retail banking activities, Banco Santander diversified its businesses by developing investment banking and wholesale market activities.

Since 2000, Banco Santander has strengthened its position in the Americas, in the U.K. through the acquisition of Abbey National and Alliance & Leicester and in the U.S. retail banking market through the acquisition of Sovereign Bancorp in 2010. In addition, the bank has proceeded with numerous operations in Europe, among which acquisitions of Totta in Portugal (2000), ABN Amro in a consortium (2007), BZ WBK in Poland (2011), Banco Banif (2015) as well as Banco Popular in Spain (2017). This latter pushed the company up two spots in the ranking to No. 5 (Banco Santander, 2017a).

Banco Santander can be considered as a very relevant example of a bank achieving scale through M&A. Indeed, it used a transaction-based approach to achieve its current position as one of the world's largest banks. In terms of geographical reach, the Santander Group is mainly active in Europe (Spain, Germany, Poland, Portugal), in the United Kingdom, in the Americas (Brazil, Mexico, Chile, Argentina) and in the U.S.. As for its activities, the group operates in commercial banking, corporate and investment banking, asset management and private banking.

Société Générale (France)

In the '90s and 2000s, the group has grown around three areas of activities: retail banking, asset management and corporate and investment banking (Société Générale, 2018). This development has occurred through operations of internal and external growth.

In terms of acquisitions, the group acquired 80% of Crédit du Nord (1997), Banque Roumaine pour le Développement in Roumania (1999), Expres Bank in Bulgaria (1999), Komerční banka in Czech Republic and SKB in Slovenia (2001), and DeltaCredit, the largest mortgage bank in Russia (2005). As for internal growth, Société Générale created in 1998 the international retail bank in order to develop subsidiaries in Africa and Middle East. The same year, Société Générale developed its Asset Management and Private Banking activities with its subsidiary, Société Générale Asset Management. During 2002-2003, the group developed its activities in Africa (Société Générale, 2018).

However, it seems that since 2010, the group has disposed of many non-strategic assets and various subsidiaries due to financial difficulties following the crisis and scandals. They have proceeded with 45 disposals across business lines since 2014.

Société Générale's activities focus on three areas: retail banking and financial services in France and internationally, corporate and investment banking and asset management. Through different operations,

the bank has developed its activities worldwide before having to divest non-strategic assets since the financial crisis.

Groupe BPCE (France)

Groupe BPCE was created in 2009 through the merger of the Banques Populaires and the Caisses d'Epargne, giving birth to the second largest French banking group (Groupe BCPE, n.d.).
The group provides banking, financial, and real estate financing services to individuals, professionals, small and medium enterprises, large enterprises, and institutions mainly in France and in some parts of Africa.

ING Groep (Netherlands)

ING was founded in 1991 by a merger between Nationale-Nederlanden and NMB Postbank Group (ING, n.d.). Since then, ING has developed from a Dutch company with some international business to a multinational. This was achieved through a mixture of organic growth, such as the creation of ING Direct from scratch, as well as various large acquisitions.
Its first large acquisition happened in 1995, when ING acquired Baring Banks, after its collapse for the nominal sum of £1. In 1997, ING strengthened its presence in the United States, where its activities doubled as a result of organic growth and the acquisitions of Equitable of Iowa, ReliaStar, Aetna Financial Services and the merchant bank Furman Selz (ING, n.d.).
In terms of European presence, the firm proceeded with several acquisitions among which the Belgian Bank Brussels Lambert for $4,68 billion in 1998 and the acquisition of a majority interest in the Polish Bank Śląski in 2001. In addition, the group entered the Indian life insurance market through ING Vysya Life Insurance.
ING operates in Europe, Asia and in the Americas, and its primary activities are retail banking, direct banking, commercial banking, investment banking, asset management, and insurance services (ING, n.d.).

UniCredit (Italy)

The UniCredito Italiano Group was created in 1998 in a merger of Credito Italiano and Rolo Banca 1473 with the UniCredito Group. As of 1999, the group started its expansion outside Italy with the acquisition of Bank Pekao SA, the second-largest commercial bank in Poland (UniCredit, 2017). Furthermore, the group acquired in the early 2000s controlling interests in different banks in Eastern Europe, making UniCredito Italiano the third-largest western banking group in Central and Eastern Europe. In the same period, in order to diversify its activities, the Group acquired Boston-based Pioneer Group, Inc., further bolstering its asset management operations in Milan and Dublin and creating the Pioneer Global Asset Management S.p.A. group of companies. In 2005, UniCredit merges with HVB Group, Germany's second-largest bank, to create the fourth-biggest bank in Continental Europe. Following this, UniCredit decided to purchase in 2007 the Capitalia for $31 billion, becoming Europe's second-biggest bank. Furthermore, the Group takes over Ukrsotsbank, in Ukraine, reinforcing its presence in Central and Eastern Europe (Unicredit, 2017).

Nowadays, the group operates in commercial banking, corporate and investment banking, asset management and asset gathering. We can observe that UniCredit mainly proceeded with operations of external growth to support its expansion worldwide, but focusing mainly on Europe.

Intesa Sanpaolo SpA (Italy)

The following information was obtained on Intesa Sanpaolo's website (2017). In 1999, Banca Intesa, through a public offer, purchased 70% of Banca Commerciale Italiana capital for €14,6 billion and a subsequent fusion happened in May 2001 to create IntesaBci. In 2007, Intesa Sanpaolo is created through the merger of two leading Italian banking groups, Banca Intesa and Sanpaolo IMI for $39,1 billion. In 2017, the bank proceeded with several operations to expand its European presence, first taking over the italian banks Banca Popolare di Vicenza and Veneto Banca, and then acquiring the Swiss group Morval Vonwiller.

Nowadays, the group is active in different businesses: commercial banking, corporate and investment banking, private banking, asset management and insurance mainly in Italy, Europe and North Africa.

UBS (Switzerland)

The following information comes from UBS's website (2016).

UBS AG Zurich & Basel was created in 1997 through the merger of the Union Bank of Switzerland and the Swiss Bank Corporation (operation valued at $25 billion), becoming the world's premier private bank and ranking 4th among global institutional asset managers. The group has expanded geographically through multiple operations such as the acquisitions of Bank of America's Private Banking activities in Europe and Asia (1999) and PaineWebber in the U.S. to position itself as the world's top wealth and asset management firm (2000). Other external operations consisted of the acquisitions of Fondvest AG in Zurich, an asset management firm, Lloyds Bank S.A., the French wealth management business of British bank Lloyds TSB (2003), Laing & Cruickshank in the U.K. and the Brazilian investment bank Banco Pactual S.A. in a deal worth $2,5 billion (2006).

In the 2000s, the group has also developed itself internally and expanded its operations in many regions including in China, Russia, Dubai and Mexico.

During the financial crisis of 2008, the group had to close the alternative investment management business created in 2006 as well as de-risk and reduce the bank's balance sheet. Therefore, UBS benefited from a capital injection from the SNB (Swiss National Bank), who acquired $60 billion of securities held by the group to relieve its balance sheet. In addition, the group witnessed in 2009 a massive restructuring operation, during which UBS disposed of some non-strategic businesses in order to minimize its risk profile by enhancing core capital.

UBS has consequently diversified its activities over the years, from initially private banking to global asset and wealth management as well as investment banking. They have expanded their activities worldwide through a combination of internal and external growth, before facing financial difficulties following the crisis and being bailed out by the Swiss National Bank.

2.2. Discussions

As a matter of conclusion, we can note that all these banks have proceeded with operations of external growth, starting in the 90s until today. Perceived as an alternative to organic growth in order to benefit from faster and stronger development, the banking market has seen in the last decades the emergence of more and more M&As worldwide. These operations were motivated by numerous potential benefits, which were developed in the first part (cf. supra 2.1.-2.6.). It can be seen that the growth strategy pursued by banks such as BNP Paribas, Deutsche Bank, Banco Santander, UniCredit and UBS was mainly driven by M&As, while for the rest it consisted more of a mix between organic and external growth.

Another element that can be observed is how these banks have diversified their activities throughout the years. Thereupon, these have expanded externally and internally in order to diversify themselves in terms of business lines as well as geographic presence. Their situation differs from having a presence mainly limited to Europe for banks such as Crédit Agricole and UniCredit, to having a more international presence for banks such as BNP Paribas, Deutsche Bank, Société Générale and UBS. Regarding Groupe BPCE and Intesa Sanpaolo, we can say that their presence remains mainly domestic - in France and in Italy, besides some activities in Europe and Africa. Furthermore, all banks have diversified their business lines and many of these large banks have been active in areas such as corporate and investment banking, asset management, private banking and insurance in addition to retail banking.

However, in the light of the financial crisis in the years 2008-2009 and 2010-2011, large banks were forced to dispose of some activities, for regulatory purpose as well as for strategic purpose (Blundell-Wignall et al., 2014). Indeed, "*in adapting to their new operating landscape, banks have been re-assessing and adjusting their business strategies and models, including their balance sheet structure, cost base, scope of activities and geographic presence*" (CGFS, 2018, p.1). Therefore, large banks have repositioned their businesses to avoid trading and more complex activities, and have favored less capital-intensive activities, including commercial banking and wealth management in some cases. Furthermore, from a geographical standpoint, large banks have re-focused themselves on home market business or core foreign markets (CGFS, 2018). These elements enable them to optimize their portfolio of activities and their capital allocation.

According to DeYoung & Roland (2001), risks increase with income diversification (Lee, Yang & Chang, 2014). Indeed, from their point of view, income from lending activities may be more stable over time than income from non-interest income activities, due to the fact that switching and information costs for the former are much more important. In addition, there is no capital requirement imposed on non-interest income activities, "*which may increase earnings volatility due to a higher degree of financial leverage*" (Lee et al., 2014, p.3). Therefore, in order to illustrate the post-crisis trends, it can be seen (Appendix 4) that large banks have increased their portion of net income revenue following the crisis. Indeed, when comparing the portion of net income revenue during the period 2002-2008 to the one in 2008-2015, an increase by at least 10-15% has been shown for all banks, decreasing the risks generated by non-interest income activities.

3. Analysis of financial performance

After having given a clear overview of how these banks have grown and evolved, we will try to assess how the hypotheses (H1 and H2) presented in our research correspond to reality. For reminder, we have presented in the first part of the report different studies stating that large banks do not especially perform better than smaller ones, and may even underperform the average of the sector. Furthermore, different authors have showed that M&As do not always lead to improvement in profitability and efficiency, and may even lead to a deterioration in the bank's performance (especially for acquirers). Based on this, we could say that size does not seem to support financial performance, and that absolute size per se is not in the interest of bank shareholders.

In what follows, we will analyze the financial performance of the banks selected previously, to understand if we can observe similar trends and conclusions. In order to do that, we will first analyze the profitability of the firms compared to the average of the European banking industry, to understand if being a dominant player actually consists of a beneficial position on the market. By doing so, we will be able to compare large banks' performance with smaller firms'. Moreover, according to our research, a main factor to bear in mind that influences banks' performance is

the source of growth, i.e. external or internal. As a result, we will thereafter analyze the profitability before and after some acquisitions in which these banks played the role of acquirers. As mentioned previously, the chosen period for analysis is 1990-2015, due to the importance of the banking consolidation process in the 90s. However, the analysis period might slightly differ, depending on the availability of data for each bank.

3.1. Profitability ratios

In order to assess banks' profitability compared to the European industry average as well as resulting from their external growth, profitability indicators were chosen which would ensure an analysis as complete as possible as well as relevant outcomes.

Among empirical studies using the approach of comparing the evolution of performance before and after an M&A, a majority uses return on equity, return on assets and operating cash flow as indicators. Moreover, in the context of increasing banking consolidation in Europe, one of the main motives to proceed with M&As have been synergies (Beccalli & Frantz, 2009). Therefore, in order to investigate whether these operations have created some synergistic gains, we have selected financial ratios

reflecting to some extent operating efficiency manifestations and returns to shareholders such as ROE and cash flow returns. Performance indicators used in our analysis are presented below.

3.1.1. Return on equity (ROE)

This performance indicator is one the main ratios used to assess a company's performance. The formula is ROE = (net income / shareholders' equity), which measures the return generated with shareholders' investment. It represents how efficiently the banks has used its shareholders' money, and it is therefore a profitability indicator that equity investors care a lot about (The Economic Times, 2016). Return on equity is also important since it shows how quickly a firm is able to grow internally, by reinvesting earnings. With the money earned, the bank needs to define a trade-off between dividends and future growth, that will define the firm's dividend payout policies (Krantz & Johnson, 2014).

3.1.2. Return on assets (ROA)

ROA is calculated with the formula ROA = (net income / total assets), and is an indicator of how profitable a company is relative to its total assets. ROA gives managers and analysts an overview as to how efficient a company's management is at using its assets to generate earnings (Investopedia, 2018c).

3.1.3. Cost-to-income ratio (CIR)

The cost-to-income ratio, also called efficiency ratio, is used to assess the profitability of a bank and is a key financial measure, particularly important in valuing banks. This ratio reflects the ability of the bank to generate revenue from its expenditures (Ayadi, 2007).

The ratio is obtained by dividing the operating costs by operating income. This enables to give investors a clear view of how efficiently the firm is being run. The lower it is, the more profitable the bank will be (Krantz & Johnson, 2014). When the CIR improves, it means that banks have reduced total costs in their total assets or that there has been a more than proportionate increase of the income (as compared to the cost reduction) that could be due to an increase of the activity volume or a change in the pricing resulting from the M&A. On the contrary, if the CIR worsens, it may be due to costs rising at a higher rate than income, which could highlight some potential internal issues such as difficulties to attract business (Ayadi, 2007; Krantz & Johnson, 2014).

3.1.4. Profit Margin

The profit margin is calculated according to the following formula : PM = (net income / revenues). In this case, we use the net income (after taxes and interest expenses have been paid), calculating thus the net profit margin. This will represent how much profit each euro of sales generates. This indicator is highly valuable to indicate a business's financial health and to understand if current practices are working or not based on the evolution of this ratio (Investopedia, 2018b).

3.1.5. Earnings Per Share (EPS)

Earnings per share (EPS) are used to assess a business's profitability and will be calculated according to the following formula: EPS = (Net Income - Dividends on Preferred Stock) / Average Outstanding Shares. It represents the portion of a company's profit allocated to each outstanding share of common stock (Investopedia, 2018a).

3.2. Analysis of performance compared to the industry

For the purpose of comparing the banks' performance with the European industry average, we have used the STOXX Europe 600 Banks Index, available on Bloomberg, as benchmark. Also called STOXX 600 Banks (SX7P), this stock index has a fixed number of 600 components representing large, mid and small capitalization banks in Europe, not limited to the Eurozone. The countries that make up the index are the United Kingdom (comprising around 30,6% of the index), Spain (14,8%), France (11,4%), Switzerland (9,8%) Italy (8,5%), as well as Sweden, the Netherlands, Denmark, Germany and Belgium (STOXX, 2018). Due to limited availability of data, we will proceed with the analysis over the period 2002 – 2015. In addition, analysis for Groupe BPCE will only concern the period after the group was created, i.e. after 2009 due to the unavailability of data concerning the prior period.

3.2.1. Results

In terms of ROE (Appendix 5), results are quite mixed. Six out of the ten large banks tend to have a higher ROE than the industry average over the ten-year period: BNP Paribas, Banco Santander, Société Générale, ING, Groupe BPCE and UBS. Indeed, since 2002, these banks have overperformed the industry over more than 7 years and some even over more than 11 years (BNP Paribas). The rest of the firms have underperformed the industry during the majority of that period, by at least 20% (Deutsche Bank, UniCredit, Intesa Sanpaolo). Crédit Agricole seems to have faced difficulties to stay profitable until 2008, since when the firm has showed much higher returns on equity.

When analyzing returns on assets (Appendix 6), Deutsche Bank and UBS have both underperformed the market over at least seven years by minimum 15%. On the contrary, Crédit Agricole, Groupe BCPE and Banco Santander have showed very positive returns on assets during the whole period analyzed. The rest of the banks show more mixed results. Therefore, with two banks underperforming the average and three overperforming while the rest presents much more mixed results, we cannot show any clear evidence of significant improvement in return on assets due to an acquisition.

Regarding the CIR (Appendix 7), it seems that except Crédit Agricole and Banco Santander which results tend to be more performant than the average, the other banks have shown ratios above the industry average. Indeed, Crédit Agricole and Banco Santander have witnessed positive results that go down to 30% below average (in 2010), while the rest of the banks have either showed results slightly above the average or much above the average, depending on the year. These observations suggest that in terms of cost income ratio, large banks tend to be less profitable than the rest of the European banking industry. A higher efficiency ratio may indicate a higher percentage of costs compared to revenues, or a lower percentage of revenues compared to costs. As discussed, the lower the ratio, the better. A ratio of 50% is generally regarded as the maximum optimal ratio (Ayadi, 2007), and we can note that Banco Santander and Crédit Agricole have achieved pretty strong results in the last ten years, sometimes getting close to 50%.

The next indicator to analyze is the profit margin (Appendix 8). On the one hand, BNP Paribas, Crédit Agricole and Banco Santander all present higher profit margins than the industry average over almost the whole period of analysis. On the other hand, Deutsche Bank and UBS present very negative results, both underperforming the industry over ten years by at least 25%. The rest of the banks have underperformed the industry over at least five years, showing quite mixed results for half of our sample.

3.2.2. Discussions

As we can observe, the results of our analysis of European banks' performance compared to the industry average vary according to the ratio used. Regarding the ROE, ROA and profit margin, we can note that results tend to be mixed in the sense that ratios may vary strongly among banks, showing a pretty diverse overall picture. However, in terms of cost-to-income ratio, we can observe a trend to underperform the industry average. Indeed, it can be seen that except two banks of our sample, the rest of the institutions have shown negative results compared to the industry average. This result shows that large banks may be less efficient than their peers to generate revenues from their expenditures.

As discussed, results may strongly vary according to the ratios used, but also among banks. When considering the overall performance of each bank (i.e. assessing the different indicators as a whole), Crédit Agricole and Banco Santander have shown impressive results since 2002, being the only banks with a CIR that generally overperforms the industry. Indeed, all their performance indicators have been positive compared to their European peers (except Crédit Agricole's ROE until 2008). Besides their CIR, BNP Paribas, Groupe BPCE and ING have also shown quite strong results in terms of overall performance compared to their industry peers. The rest of the banks, i.e. the other half of the sample, have presented mixed results with a trend to underperform the industry over the majority of the period. Finally, Deutsche Bank has shown the most negative results and overall performance among the analyzed sample of banks.

These outcomes lead us to wonder if being a dominant bank actually turns out to be more profitable than being a smaller player, and consequently to question the general standpoint supported by many articles that firms need to seek growth to perform better. However, it is difficult to prove that large banks significantly underperform their smaller peers, since results are quite mixed. Nonetheless, we can still state that providing our analysis, there is no evidence that large banks are more profitable and more efficient than their peers. In addition, it can be shown that large banks tend to underperform their peers when it comes to the ability of generating revenues from their expenditures, as it can be illustrated with the cost-to-income ratio analysis.

Several reasons could explain the good performance of Crédit Agricole and Banco Santander compared to other large banks, such as their internal strategies and policies, business activities or sources of income. When considering the latter, it can be seen in Appendix 4 that these two banks tend to have a higher percentage of net interest income in their total revenues compared to the rest of the banks, over the whole period. This statement does not support Kohler's study (2015), which shows that banks may be significantly "*more stable and profitable if they increase their share of non-interest income, indicating that substantial benefits are to be gained from income diversification*" (Kohler, 2015, p.195). However, it may support DeYoung & Roland (2001), stating that income from lending activities may be more stable and less risky over time than income from non-interest income activities (Lee, Yang & Chang, 2014).

Nonetheless, further analysis would need to be conducted in order to acquire a better understanding of the reasons why Crédit Agricole and Banco Santander have better performed since 2002.

3.3. Analysis of banks' performance before and after acquisitions

3.3.1. Methodology

According to Andrade et al. (2001), Dutta & Jog (2009) and Healy et al. (1992), assessing the performance of M&As can be done in different ways : analyzing the market performance at the announcement of the operation and/or long-term-wise, and analyzing the accounting and operating long-term performance (Sharma & Ho, 2002). The first method consists of assessing the performance based on the impact of the operation on the evolution of the market price of the acquirer and target firm's shares. This methodology was often used in studies focusing on the impact on abnormal profitability due to the announcement of an M&A. By contrast, its relevance to study the long-term effect of M&As on stock performance has been much more questioned. The second method favors direct measurement based on accounting and financial data. This technique consists of comparing the evolution of some performance indicators before and after an M&A, and/or with similar firms' performance which did not proceed with M&As during the analyzed period (Sharma & Ho, 2002; Winters, 2013; Hicham, 2017).

In the context of our report, we will proceed with the second method and we will compare some performance indicators three years before and after important acquisitions.

The choice of the performance indicators has been justified in a previous section (cf. supra 3.1). In addition, the indicators are analyzed on a three-year period before and after the operation, to get an understanding of the relative performance of the acquirer prior to the merger or acquisition and understand how this affected the performance afterwards. For the sake of feasibility, we will use the mean of the results on a three-year period before and after the deal. The three-year period can be justified by the facts that it would allow sufficient time for potential economic gains to appear and that all gains would be realized within this timeframe (Sharma & Ho, 2002; Ayadi, 2007). Furthermore, restricting this analysis to three years will allow us to minimize "*potential spurious effects of endogenous variables that would escalate as the event window increases*" (Sharma & Ho, 2002, p.170). Finally, we did not consider the year of the operation itself, since this transition period can be subject to numerous changes due to accounting practices regarding M&As (Beccalli & Frantz, 2009).

3.3.2. M&A sample

In order to understand how an acquisition may affect a bank's performance, a sample of operations will be analyzed in which these banks played the role of acquirers over the period 1990-2015. Furthermore,

for the purpose of limiting the scope of our research, we have selected operations for which the acquisition price would represent at least 10% of the acquiring firm's shareholders' equity at the time of the operation. This will allow us to assess the impact on performance coming from major operations of external growth. Consequently, we have listed 17 different acquisitions fulfilling these conditions in the following table.

Table 2: Sample of acquisitions during 1990-2015:

Acquiring bank	Year	Target bank	Acquisition price (in billion)
BNP Paribas	1999	Paribas	$13,20
BNP Paribas	2001	BancWest	$2,45
BNP Paribas	2006	Banca Nazionale del Lavoro	€9,00
BNP Paribas	2009	Fortis BE and LUX	€14,50
Crédit Agricole	1996	Bank Indosuez	€11,90
Crédit Agricole	1999	Sofinco	€1,40
Crédit Agricole	2002	Crédit Lyonnais	€19,50
Crédit Agricole	2003	Finaref	€2,50
Deutsche Bank	1999	Bankers Trust	$9,10
Banco Santander	2004	Abbey National	$15,04
Banco Santander	2007	ABN Amro (in a consortium)	Total value of $112,20
ING Groep	1997	Equitable of Iowa Companies	$2,60
ING Groep	1998	Bank Brussels Lambert	$4,68
UniCredit	2000	Pioneer Group	$1,20
UniCredit	2007	Capitalia	$31,00
Intesa Sanpaolo	1999	Banca Commerciale Italiana	€14,60
UBS	2000	PaineWebber	$12,20

3.3.3. Results

When comparing the ROE of acquiring banks prior and after the deals (Appendix 9), it can be observed that, in the majority of cases, the ROE deteriorated. Indeed, out of the seventeen deals analyzed, ten are presenting lower returns on equity after the operation. This decrease goes generally from 10% to 30% and even close to 60% in more extreme cases. In the seven other deals, three banks have witnessed a slight increase in their performance (by less than 5%), which we can qualify as very slight

improvements. Consequently, while ten operations have presented negative returns on equity after the deal, three have showed very slight changes and four have improved. In the context of our analysis, it can be stated that external growth does not seem to generate improved returns to shareholders, in terms of return to equity. It can even be said that large banks tend to generate similar or lower returns following an acquisition.

However, regarding the returns on assets (Appendix 10), our analysis seems to show a different trend, in the sense that banks tend to witness some improvement in post-acquisition performance. Among the seventeen operations, a majority (eleven acquisitions) show a positive difference when comparing performance before and after the deal. Eight acquisitions even lead to an increase by more than 30%. Concerning the rest of the acquisitions, five of these have resulted in a decrease in returns on assets by at least 10%, while one operation has not generated any change in the bank's ROA. We can therefore state that acquisitions have led to a general improvement in return on assets of acquiring banks. However, it is to be mentioned that these results concern two thirds of our sample, and that these conclusions are then not completely accurate.

Another performance measure seems to show the same trend, i.e. banks performing better after the deal, with more significant results. Indeed, the impact of these operations on earnings per share (Appendix 11) turns out to be positive, in that 80% of the acquisitions have led to improved earnings. These generally present an increase by at least 20% above the pre-acquisition results.

Our analysis of cost-to-income ratios and profit margins seems to present much more mixed results (Appendices 12, 13). Indeed, half of our observations have resulted in improvements in CIR (from 5% to 30%) while the other banks have presented negative results following the deal (increase of CIR by between 2 and 10%). BNP Paribas, Crédit Agricole, Banco Santander and UniCredit have seen their CIR evolved positively for several operations, meaning they have managed to reduce costs in their total assets or that income has increased more than proportionate (as compared to the cost reduction), which can result from different factors. In these cases, external growth has improved banks' efficiency and made the banks more profitable in terms of CIR. Concerning the rest of acquisitions, banks have seen their ratio rise, which may imply that costs have been rising at a higher rate than income.

The profit margins analyzed prior and after the deals tend to show the same results, with half of the operations resulting in improved profitability while the other half show a decrease in their margin. Some banks have managed to increase their returns by more than 30% (BNP Paribas, Crédit Agricole, Banco

Santander, UniCredit) and by 5% (ING), while the rest of the banks have seen a decrease by at least 10%, except UBS (2%).

3.3.4. Discussions

As it can be noted, our analysis has shown very diverse results according to the performance indicator used. Indeed, while it seems that returns on equity have generally decreased following the acquisitions, banks have witnessed positive returns on assets and earnings per share. Regarding the cost-to-income ratios and profit margins, results turn out to be very mixed according to the bank.

Even though it seems that external growth may be beneficial for banks regarding returns on assets and earnings per share, our analysis leads us to say that there is no evidence of significant performance improvement coming from external growth. Indeed, results obtained in terms of CIR and profit margin have showed very mixed performance among banks, and this variety of outcomes makes us wonder if external growth is actually beneficial for banks. Furthermore, as discussed, results tend to show that banks engaging in acquisitions may experience a decrease in their return on equity. Therefore, providing the diversity of our results, there is no evidence to show that M&As lead to significant improvement in performance for the acquiring firms.

These results may point to the same direction as Beccalli & Frantz (2009), which study shows that there is not much evidence that firms engaging in M&A witness a better post-merger performance than their peers. They also show evidence suggesting that firms engaging in mergers and acquisitions experience a decrease in their performance post-merger in terms of return on equity. In addition, further studies conducted by Neely & Rochester (1993) and Herman & Lowenstein (1994) analyzing accounting measures have found mixed results regarding post-merger performance (Sharma & Ho, 2002).

This also supports Ghosh's study (2001), which analyses performance through measures such as operating cash flow, profit margin, earning per share, ROA and ROE, and which does not show any significant improvement in post-merger operating performance (Hicham, 2017).

3.3.5. Limitations

Nevertheless, it is to be mentioned that our analysis may suffer from some limitations that need to be mentioned. First of all, this study only refers to the overall change in performance by comparing in a dynamic analysis the post-M&A performance with the pre-M&A performance (Beccalli & Frantz, 2009). However, some of this difference could be due to a continuation of firm-specific performance

before the merger or to economywide and industry factors, as stated by Healy et al. (1992) (Beccalli & Frantz, 2009). It is consequently to be noted that any observed changes in the combined firm may be due to the merger or acquisition but may also simply reflect changes in the economic environment. In the context of our analysis, it has to be taken into account that returns have been affected by factors such as the different financial crisis (2008-2009 and 2010-2011). Therefore, such results need to be taken carefully. In addition, by considering a few years period after the M&As, we may not take into account potential value gains that would emerge only after some years, such as some efficiency gains of consolidation (Ayadi, 2007).

4. Analysis of large banks' products and services compared to smaller institutions'

In this section, our goal is to understand if the third hypothesis presented at the end of the previous part proves to be correct. For reminder, the hypothesis H3 is the following: size can be considered in the interest of customers (debtors and depositors), providing the fact that large banks are able to offer a bigger range of products and services, as well as better conditions such as lower prices. According to Bikker et al. (2006) and The Clearing House (2011), this is due to several factors: their scope across multiple businesses, their geographic penetration and reach, their balance- sheet size and costs efficiencies in product development.

We will therefore highlight the differences in products and services between large and smaller financial institutions, by focusing our analysis on two main components: the pricing as well as the range of products and services. For the sake of feasibility and relevance, this analysis will be conducted on the Belgian banking market, providing the numerous cross-border differences in terms of conditions and policies. Moreover, the financial institutions that will be considered conduct commercial banking activities, or what we can call traditional banking activities such as providing loans to individuals and SMEs as well as taking deposits.

Therefore, we have selected large and small institutions operating on the Belgian retail banking market. According to The Clearing House (2011), bank size can be quantified in three main ways: total balance-sheet size, assets as a fraction of GDP, and assets as a fraction of a country's banking assets. In order to define our sample of banks, we have compared banks' assets to Eurozone's GDP as well as to Belgium's GDP.

When comparing banks' total assets as a fraction of Eurozone's GDP, the largest banks active on the Belgian retail banking market turn out to be the following: BNP Paribas, Deutsche Bank, ING Group, Crédit Mutuel and Rabobank (Appendix 14). On the contrary, the smaller institutions are the following: Banque CPH, Banque Nagelmackers, Groep Crelan, VDK Spaarbank and Triodos. In addition, comparing total assets to Belgium's GDP (Appendix 15), each large banking group's assets represent at least 157% of Belgium's GDP while smaller institutions' assets represent less than 5%. Our analysis will consequently be conducted based on this sample of banks to acquire a good understanding of differences between large and small banks, depending on the amount of data available.

Furthermore, our analysis will focus on the current situation, meaning based on information of products and services in 2018. We have selected quite standard products to analyze, which are the following: savings accounts for individuals, mortgage loans, consumer credit (instalment loans) and current accounts. The analysis will focus on products offered by the banks' branches in Belgium: BNP Paribas Fortis and Bpost banque for BNP Paribas, and Beobank and Keytrade Bank for Groupe Crédit Mutuel. In addition, EuropaBank and Crelan will be analyzed for the Crelan Group.

4.1. Savings accounts for individuals

When analyzing savings accounts for individuals between different banks, it is important to analyze the base rate as well as the loyalty bonus a depositor can benefit from. In this case, the loyalty bonus represents a bonus interest rewarding the customer for keeping up with regular saving. The sum of the two interest rates makes the total return (BNP Paribas Fortis, 2016). Our analysis is based on data coming from the banks' websites, Test Achats (2018) and Guide Epargne (2018).

Overall, it can be showed that savings accounts have very diverse conditions according to the bank we consider. In the table of Appendix 16, we have analyzed the different savings accounts offered to individuals by our sample of selected banks. Firstly, it can be noted that most banks offer the possibility to open savings accounts that pay the minimum interest rates, i.e. 0,01% of base rate and 0,10% of loyalty bonus, calculated on the amount that has been saved for at least one year. Besides those, banks offer savings accounts interest rates that may differ strongly from one bank to another. Indeed, when looking into the sample of large banks, total return varies from 0,15% (Beobank) to 1,20% (Deutsche bank). In the case of these banks, the average total return, calculated on interest rates besides the minimum ones, reaches 0,49%. Results turn out to be different for smaller institutions. Firstly, total

return varies from 0,12% (Banque Nagelmackers) to 0,45% (CPH). In addition, the average total return offered by smaller banks amounts to 0,22%. Based on our analysis, we can therefore note a significant difference between the savings accounts interest rates offered by large and smaller banks.

However, as discussed, other conditions may strongly differ from one bank to another and may regard the age of the saver, the amount of money that can be saved per month or per year, the frequency of deposits, the availability of the money saved etc. Some savings accounts are consequently targeting a certain segment of customers. However, the majority of conditions we can observe concern the amount of the deposit and the duration, and not especially the age of the saver. Another element regards the scope of products and services. Based on the table in Appendix 16, it seems that large banks may offer a broader spectrum of choices, with on average at least three different savings accounts, compared to two for smaller banks.

As a result, it can be stated that based on our analysis, large banks tend to offer similar and higher interest rates, both in terms of base rate and loyalty bonus, than smaller banks. Furthermore, large banks seem to have a slightly more diversified scope of savings accounts to offer than smaller financial institutions.

4.2. Mortgage loans

In this subsection, will be analyzed mortgage loans conditions offered by large and small banks. For reminder, a mortgage loan is "*intended to finance the purchase, construction or major renovation of the property, primarily for private use*" (Nagelmackers, 2017, p.6). For the sake of feasibility and simplicity, we have chosen to compare the conditions between different banks for a mortgage loan of €150.000, at a fixed interest rate with a repayment term of 20 years (equal monthly instalments).

In order to do so, we have used the Test Achats website, which enables consumers to enter their request and compare the offers between numerous companies, including all banks selected in our sample (Test Achats, 2018). Consequently, the different conditions of the mortgage loan specified hereabove have been entered. The results were pretty diverse, as you can note in Appendix 17, which lists the different loans offered by some banks of our sample. First of all, it can be noted that among the different offers, ten were suggested from large banks while only five were suggested from smaller institutions of our sample. Secondly, the best option was a mortgage loan offered by Keytrade Bank (Crédit Mutuel), with

a monthly instalment of €736 and an interest rate of 1,69%. Total costs for this loan would amount to €28.931, compared to €43.403 for smaller institutions' best offer. In terms of interest rates, we can observe than Keytrade Bank has the most advantageous rates, followed closely by BNP Paribas Fortis and Bpost Banque. In addition, when calculating the average interest rate offered by large banks, we have found a rate of 2,57% while it amounts to 3,19% for smaller institutions. Of course, other conditions such as home insurance, outstanding balance insurance, current account or domiciliation of income may play a role in these differences. However, it can be noted that relatively similar conditions characterize the different loans offered by large and small institutions. We can consequently not deduct that these represent the reasons of differences in interest rates.

Therefore, it seems that large banks tend to offer more advantageous interest rates for mortgage loans, with similar conditions than smaller institutions. This statement supports the hypothesis that size may be in the interest of customers (debtors and depositors), thanks to conditions large banks offer in terms of scope of products and pricing.

4.3. Consumer credit

The third element we want to analyze is the consumer credit, and more especially instalment loans among banks. These consist of "*consumer loans (such as for a vacation, a project or equipment) in which the principal and interest are repaid in equal installments at fixed intervals*" (Billingsley, Gitman & Joehnk, 2017, p.282). In order to compare the different offers, we have defined the following conditions: loan of €10.000, fixed interest rate, constant monthly instalments and repayment term of 24 months.

Based on this, we have made use of Test Achats, which compares instalment loans conditions between banks. As it can be observed in Appendix 18, the best interest rate is offered by Crelan, with 4,90%. The monthly instalment amounts to €437,79, which is lower than the loans offered by other banks of the sample. When analyzing the different offers, it turns out that the average interest rate offered by large banks is around 8,48% while it reaches 7,96% for smaller banks. Of course, interest rates depend on other factors, such as the debtor's creditworthiness, but in our case we have no further information available.

As a result, this analysis shows another trend than what has been seen previously. Indeed, it seems that in the case of consumer credit, smaller institutions may offer better interest rates than larger institutions, which does not support the hypothesis presented at the beginning of the section (H3).

4.4. Current accounts

Current accounts consist of widely spread products, since it allows users to proceed with numerous day-to-day operations such as receiving money, withdrawing money without notice, paying bills and setting up standing order to make regular payments (Billingsley, Gitman & Joehnk, 2017). Therefore, we have considered relevant to focus on these products to further differentiate offers between banks of our sample.

This analysis has also been conducted based on Test Achats comparisons (Appendix 19). In this case, we have made some research in order to find out the best offer to open a current bank account as well as benefiting from a credit and a debit card, for a customer considered as an active electronic user - i.e. someone using exclusively internet banking, very familiar with electronic banking operations and who needs regular debit and credit cards.
Based on this information and these characteristics, the search engine came up with different suggestions, among which the best one was an offer made by Keytrade Bank (Crédit Mutuel), a bank mainly active on the internet. The total costs of the operation actually turn out to be negative, since the bank rewards customers with reimbursements on some operations (example: deduction of €0,05 from total costs each time money is withdrawn at the agency counter). In that case, the customer may thus even earn money by using this bank account. Besides that offer, several banks provide a current account as well as credit and debit cards for free, without any charge. This is the case of Deutsche Bank, Beobank (Crédit Mutuel) and EuropaBank (Crelan). The rest of the offers include some annual costs, such as transaction fees, credit or debit card fees etc. When analyzing the differences between large and smaller banks, it can be noted that every large bank offers at least one account which annual costs represent less than €20 (except for BNP Paribas Fortis with €21) while it is only the case for EuropaBank among smaller institutions. In addition, large banks have multiple offers fulfilling the customer's requests, while some smaller institutions only have one.

Based on this analysis, we can state that large banks tend to have more advantageous offers in terms of packages providing a current account as well as credit and debit cards. This has been illustrated

hereabove with the case of an active electronic user as customer. Furthermore, the choice of products turns out to be more diversified among large banks.

4.5. Discussions

As a matter of conclusion, it seems that our analysis points in the same direction as the hypothesis presented at the beginning of the section. Indeed, based on our research, size may be considered in the interest of customers (debtors as well as depositors), since large banks generally offer a bigger scope of products as well as better prices and interest rates. To support this argument, we have analyzed savings accounts, mortgage loans, customer credit and current accounts for a certain sample of banks. Firstly, it turns out that large banks offer higher interest rates (rate base and loyalty bonus) on savings accounts, lower interest rates on mortgage loans and better conditions for the opening of current accounts than smaller banks. In addition, large banks seem to have a slightly more diversified scope of products and services to offer than smaller financial institutions. However, it appears that these latter offer better interest rates for consumer credit, more especially for instalment loans.

As a result, based on these outcomes, it can be assumed that large banks take advantage of several factors such as the scope of their activities and cost efficiencies in order to benefit their customers and the society. In that sense, it can be said that size is beneficial for some stakeholders, and that the value large banks create for their customers may justify and support their size.

General conclusions

The goal of the thesis is to understand if becoming larger mainly brings benefits for banks and its stakeholders, or if these may be outweighed by the drawbacks, despite the general belief that businesses need to seek growth in order to perform better. We started by developing a literature review presenting the benefits of growth and the potential limits that could affect banks' performance. Following this, we proceeded with an analysis of some of the largest European banks' financial performance, to understand their position compared to the rest of the industry as well as the impact of their external growth operations on their own performance. Finally, we analyzed from a customer point of view how large and small financial institutions differentiate themselves in terms of products and services on the Belgian retail banking market.

Before presenting our conclusions, some **limitations** need to be taken into account. First of all, as discussed earlier in the report, the results following the analysis of the impact of M&As on large banks' performance need to be taken carefully. Indeed, any observed changes may be due to operations of external growth but these could also be due to changes in the economic environment. In the context of this thesis, returns have also been affected by other factors, among which the financial crisis. In addition, our study focused on the scope and conditions of banking products and services only on the Belgian retail banking market. It can consequently not be generalized to the whole banking market, but we consider nonetheless this study as a relevant and indicative example to illustrate a trend on the European banking market.

Financially speaking, it can be noted that large banks present mixed results compared to the rest of the European banking industry. Thereupon, large banks present very diverse results in terms of profitability measures such as return on equity, return on assets and profit margin, and it even seems that large banks tend to underperform their peers when it comes to the ability of generating revenues from their expenditures. Another analysis performed in order to understand the impact of M&As on banks' performance turns out to show very mixed results as well. Indeed, despite positive post-acquisition returns on assets and earnings per share, large banks have witnessed mixed results in terms of cost-to-income ratio and profit margin, and even decreasing returns on equity. Based on these financial analysis, we can say that there is no evidence showing that large banks perform better than smaller financial

institutions, despite the fact that they may benefit from efficiency gains and a stronger position on the market. These results imply that financially-wise, smaller banks may be as well positioned as large ones. Various reasons may explain these outcomes. Indeed, different factors such as diseconomies of scale, higher costs due to internal organizational challenges as well as tougher regulatory requirements may impact large banks' performance. Furthermore, internal conflicts of interests may impact banks' proper functioning, due to potential managers seeking growth for non-value maximizing motives. Therefore, this makes us wonder if being a dominant bank actually turns out to be beneficial for the company. Based on these elements, it can be stated that absolute size may not be in the interest of shareholders.

From a **customer** point of view, our analysis tend to show that size is in the interest of customers, i.e. debtors and depositors. Indeed, it seems that large banks may offer better conditions in terms of prices and interest rates for products such as savings accounts, mortgage loans and current accounts. Smaller banks showed nonetheless better interest rates regarding consumer credit. Furthermore, large banks' offerings seem to be more diversified than smaller institutions'. Therefore, we can say that the former seem to take advantage of different factors such as efficiency gains, cost advantages, a strong position on the market and a bigger geographical reach to develop more advantageous offerings for their customers.

In terms of **systemic risk**, it can be stated that large banks create more systemic risk than their peers. This statement is supported by numerous studies and the threat that these systemic banks pose to our financial system and economic activity was illustrated with the financial crisis of 2008. In the light of these events, governments and financial authorities have taken significant measures aiming at reducing banks' risk and preventing such an economic disaster from occurring again. However, despite some improvements in risk measures witnessed by the authorities, many authors and economists have pointed out some limits of these regulations. According to many, these measures represent a step in the right direction but more need to follow.

Indeed, despite the Volcker rule in the U.S., the Vickers rule in the U.K. and the Liikanen proposals in Europe aiming at splitting some activities between commercial and investment banks, these measures are much softer than the Glass-Steagall Act used to be. Yet, numerous scandals worldwide have illustrated the limited power officials have towards institutions considered as too big to fail. Some large financial institutions have acquired such a powerful position that it makes them indispensable for today's world's economy, and consequently untouchable. As one of many examples, we can cite the HSBC scandal in 2010, when officials found out that the bank had authorized money laundering of

millions of dollars from drug cartels for years. They got out of this huge scandal with a fine amounting to around $1,9 billion, representing only five weeks of the bank's profits at the time. Due to the systemic risk the bank presented, regulators and governments were too scared of the effects it would generate on the word's financial system, and nobody took real action. Our interrogations are consequently the following: how can such powerful banks remain unpunished for some actions that affected thousands of people? If regulators and officials are not able to, who is going to protect the civil society and taxpayers?

The risks large banks still present for our economy combined with the fact that these do not seem to perform better than their peers financially speaking, lead us to say that further measures should be taken in order to limit their size and their interconnectedness. Indeed, it seems to us that value large banks create for customers may be outweighed by the risks they present for the society and the mixed financial results they bring to their shareholders. Nonetheless, with the aim of maintaining advantageous conditions for customers, banks should still be able to grow in order to benefit from efficiency gains and other advantages that can be passed onto customers in the form of lower prices for example.

However, attempts to toughen regulation or break up large banks have faced strong opposition. Some reasons given by many articles would concern executives willing to maintain their compensation and bonuses, linked to the size and complexity of the organization. Therefore, we wonder how managers and executives' interests have taken precedence over the welfare of the overall society, and how a group of financial top executives have been able to influence decisions affecting the world's economic and financial system at the highest levels.

References

Ahmed, J.I., Anderson, C., & Zarutskie, R.E. (2015). Are the Borrowing Costs of Large Financial Firms Unusual? *Finance and Economics Discussion Serie, 24*. Washington: Board of Governors of the Federal Reserve System. Online http://dx.doi.org/10.17016/FEDS.2015.024.

Allen, B., Chan, K.K., Milne, A., & Thomas, S. (2012). Basel III: Is the cure worse than the disease? *International Review of Financial Analysis, 25*, 159-166. Online https://doi.org/10.1016/j.irfa.2012.08.004

Andrade, G., Mitchell, M., & Stafford, E. (2001). New evidence and perspectives on mergers. *Journal of Economic Perspectives, 15*(2), 103-120. Online https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.15.2.103

Arnold, M. (2018). *ING drops 50% pay rise for CEO after political uproar*. Online on the website of Financial Times https://www.ft.com/content/14bb9a6e-26b7-11e8-b27e-cc62a39d57a0

Arnott, R.D., & Wu, L.J. (2012). The Winners Curse: Too Big to Succeed? *Journal of Indexes.* Online https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2088515

Ayadi, R. (2007). Assessing the Performance of Banking M&As in Europe. *Center for European Policy Studies Reports in Finance and Banking*. Online http://library.coleurop.be/pdf/CEPS/RR%20on%20Banking%20M&As%20e-version.pdf

Ayadi, R. (2008). Banking Mergers and Acquisitions' Performance in Europe. *Frontiers of Banks in a global economy,* 8-58. Online https://link.springer.com/chapter/10.1057/9780230590663_2

Banco Santander. (2008). *The Case of Banco Santander*. Online https://www.ecb.europa.eu/paym/groups/pdf/OMG_santander_080520.pdf?6dd2e580e5b5c816c907830f272faf0d

Banco Santander. (2017a). *Over a Century of History.* Online https://www.santander.com/csgs/Satellite/CFWCSancomQP01/en_GB/Corporate/About-The-Group/Over-a-Century-of-History-/1856-1930.html, accessed 10 June 2018

Banco Santander. (2017b). *Santander acquires Popular, becoming the leading bank in Spain*. Online https://www.santander.com/csgs/Satellite/CFWCSancomQP01/en_GB/Corporate/Press-room/Santander-News/2017/06/07/Santander-acquires-Popular--becoming-the-leading-bank-in-Spain.html

Banque Triodos. (2018). *Epargne*. Online https://www.triodos.be/fr/particuliers/epargne-durable/, accessed 12 July 2018

Barros, C., Ferreira, C., & Williams, J. (2007). Analysing the determinants of performance of best and worst European banks: A mixed logit approach. *Journal of Banking & Finance 31*, 2189–2203. Online https://doi.org/10.1016/j.jbankfin.2006.11.010

Bebchuk, L.A., & Fried, J.M. (2003). Executive Compensation as an Agency Problem. *The Journal of Economic Perspectives, 17*(3), 71-92. Online http://www.jstor.org/stable/3216823

Beccalli, E., Anolli, M., & Borello, G. (2015). Are European Banks too big? Evidence on economies of scale. *Journal of Banking and Finance, 58,* 232-246. Online https://doi.org/10.1016/j.jbankfin.2015.04.014

Beccalli, E., & Frantz, P. (2009). M&A Operations and Performance in Banking. *Journal of Financial Services Research, 36*(2). Online https://www.researchgate.net/publication/46547713_MA_Operations_and_Performance_in_Banking

Benston, G.J., Hanweck, G.A., & Humphrey, D.B. (1982). Scale economies in banking: A restructuring and

reassessment. *Journal of Money, Credit and Banking*, *14*(4): 435–456. doi:10.2307/1991654

Beobank. (2018). *Comptes d'épargne de Beobank*. Online https://www.beobank.be/fr/particulier/epargner-investir/epargne, accessed 14 July 2018

Bertay, A.C., Demirgüç-Kunt, A., & Huizinga, H. (2013). Do we need big banks? Evidence on performance, strategy and market discipline. *Journal of Financial Intermediation, 22*(4), 532-558. Online https://www.sciencedirect.com/science/article/pii/S1042957313000053

Bikker, J.A., Spierdijk, L., & Finnie, P. (2006). The Impact of Bank Size on Market Power. *De Nederlandsche Bank* (*DNB) Working Papers, 120*. Online https://www.dnb.nl/binaries/Working%20Paper%20120-2006_tcm46-146777.pdf

Billingsley, R.S., Gitman, L.J., & Joehnk, M.D. (2017). *Personal Financial Planning*. Boston: Cengage Learning. Online https://books.google.be/books?isbn=1305636619

Blair, R.D., & Sokol, D.D. (2014). *The Oxford Handbook of International Antitrust Economics, Volume 2.* Oxford: Oxford University Press. Online https://books.google.be/books/about/The_Oxford_Handbook_of_International_Ant.html?id=nmzDBAAAQBAJ&redir_esc=y

Bloomberg. (2018). *Bloomberg Professional*. [Online]. Available at: Bloomberg Subscription Service (Accessed: June 2018)

Blot, C., & Hubert, P. (2016). Causes et conséquences des taux d'intérêt négatifs. *Revue de l'OFCE, 148*. Online https://www.ofce.sciences-po.fr/pdf/documents/prev/prev1016/es1.pdf

Blundell-Wignall, A., & Atkinson, P. (2010). Thinking beyond Basel III: necessary solutions for capital and liquidity. *OECD Journal: Financial Market Trends, 2010*(1), 1-23. Online http://www.oecd.org/finance/financial-markets/45314422.pdf

Blundell- Wignall, A., Atkinson, P., & Roulet, C. (2014). Bank business models and the Basel system: Complexity and interconnectedness. *OECD Journal: Financial Markets, 2013*(2), 1-26. Online https://www.oecd.org/finance/Bank-Business-Models-Basel-2013.pdf

BNP Paribas. (2014). *Histoire du groupe*. Online http://bnpparibas.be/fr/bnp-paribas/le-groupe-bnp-paribas/histoire-du-groupe/, accessed 10 June 2018

BNP Paribas Fortis. (2016). *Les comptes d'épargne*. Online https://www.bnpparibasfortis.be/fr/La-banque-au-quotidien/Decouvrez/Produits/Comptes-depargne?axes4=priv, accessed 14 July 2018

Boyda, J.H., & Heitz, A. (2016). The social costs and benefits of too-big-to-fail banks: A "bounding" exercise. J*ournal of Banking & Finance, 68*, 251-265. Online https://doi.org/10.1016/j.jbankfin.2016.03.006

Bpost banque. (2018). *Comptes et cartes*. Online https://www.bpostbanque.be/bpb/comptes-et-cartes#/compteepargne, accessed 12 July 2018

Bradley, M., Desai, A., & Kim, E.H. (1988). Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. *Journal of Financial Economics, 21*, 3–40. Online https://doi.org/10.1016/0304-405X(88)90030-X

Broughton, K. (2016). *Are CEOs Paid to Keep Their Banks Too Big?* Online on the website of American Banker https://www.americanbanker.com/news/are-ceos-paid-to-keep-their-banks-too-big

Calluzzo, P., & Dong, G.N. (2015). Has the financial system become safer after the crisis? The changing nature of

financial institution risk. *Journal of Banking & Finance, 53*, 233-248. Online https://doi.org/10.1016/j.jbankfin.2014.10.009

Canals, J. (2003). *Managing Corporate Growth*. Oxford: Oxford University Press. Online https://books.google.pt/books?id=uAWeq0t_T8kC&printsec=frontcover&hl=fr#v=onepage&q&f=false

Celli, M. (2013). Determinants of Economies of Scale in Large Businesses—A Survey on UE Listed Firms. *American Journal of Industrial and Business Management, 3*(3). doi:10.4236/ajibm.2013.33031

CPH Banque. (2018). *Comptes d'épargne*. Online https://www.cph.be/epargne/comptes-d-epargne.html, accessed 30 June 2018

Committee on the Global Financial System (CGFS). (2018). Structural changes in banking after the crisis. *CGFS Papers, 60*. Online https://www.bis.org/publ/cgfs60.pdf

Crédit Agricole. (2018). *Histoire du Groupe Crédit Agricole*. Online https://www.credit-agricole.com/le-groupe/histoire-du-groupe-credit-agricole, accessed 8 June 2018

Crelan. (2018). *Le Compte d'épargne*. Online https://www.crelan.be/fr/particuliers/produit/le-compte-depargne, accessed 6 July 2018

Cruise, S., & Slater, S. (2015). *Too big to succeed? Investors want 'radical surgery' at HSBC*. Online on the website of Reuters https://www.reuters.com/article/uk-hsbc-strategy-idUKKBN0OI1VW20150602

Crunchbase. (2018). *Banco Santander Acquisitions*. Online https://www.crunchbase.com/organization/banco-santander/acquisitions/acquisitions_list#section-acquisitions, accessed 9 June 2018

De Guevara, J., Maudos, J., & Perez, F. (2005). Market Power in European Banking Sectors. *Journal of Financial Services Research, 27*(2), 109-137. Online http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1028.2619&rep=rep1&type=pdf

De Jonghe, O. (2010). Back to the basics in banking? A micro-analysis of banking system stability. *Journal of Financial Intermediation, 19*, 387–417. Online https://doi.org/10.1016/j.jfi.2009.04.001

Deloitte. (2015). *Growth in Banking – unlocking the full potential*. Online https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/financial-services/ch-en-fs-growth-in-banking.pdf

Deutsche Bank. (2018a). *Epargne et pension*. Online https://www.deutschebank.be/fr/solutions/epargne-et-pension.html, accessed 12 July 2018

Deutsche Bank. (2018b). *History, Chronicle*. Online https://www.db.com/company/en/chronicle.htm, accessed 10 June 2018

Drehmann, M., & Tarashev, N. (2011). Systemic importance: some simple indicators. *BIS Quarterly Review, March*. Online https://www.bis.org/publ/qtrpdf/r_qt1103e.htm

Duchesne, G., & Keller, R. (2018). *Plus de croissance externe pour les entreprises: fusions, acquisitions, rachats d'actions*. Online on the website of BNP Paribas Wealth Management https://wealthmanagement.bnpparibas/fr/expert-voices/the-time-is-ripe-for-an-acceleration-in-external-growth.html

Duplat, V. (2017). *Internal Growth and MA LSM*. Unpublished document, Université Catholique de Louvain, Louvain-la-Neuve.

Europabank. (2018). *Livret d'épargne*. Online https://www.europabank.be/fr/epargner-et-placer/livret-de-epargne, accessed 15 July 2018

Evry. (2017). *PSD2 - Strategic opportunities beyond compliance*. Online on the website of Evry https://www.evry.com/globalassets/bransjer/financial-services/bank2020/wp_psd2/psd2_whitepaper.pdf

Ewing, J. (2018*). Era of Easy Money for Eurozone Nears Its End*. Online on the website of The New York Times https://www.nytimes.com/2018/06/14/business/european-central-bank-stimulus.html?emc=edit_mbe_20180615&nl=morning-briefing-europe&nlid=841813812018061 5&te=1

Federal Reserve Bank of St. Louis. (2012). *In-Depth: The Big Banks: Too Complex To Manage?* Online https://www.stlouisfed.org/publications/central-banker/winter-2012/the-big-banks-too-complex-to-manage

Financial Stability Board. (2011). *Policy Measures to Address Systemically Important Financial Institutions.* Online http://www.fsb.org/2011/11/r_111104bb/

Finextra. (2016). *Groupe BPCE agrees to buy Fidor*. Online https://www.finextra.com/newsarticle/29238/groupe-bpce-agrees-to-buy-fidor

Foer, A., & Resnikoff, D.A. (2014). Competition policy and "too big" banks in the European Union and the United States. *The Antitrust Bulletin, 59*(1), 9-30. Online https://search-proquest-com.proxy.bib.ucl.ac.be:2443/docview/1543471720/fulltextPDF/99CAFB4AF3434375PQ/1?accountid=12156

Gartner. (2013). *Gartner Says That Banks That Are 'Too Big to Fail' May Also Be Too Big to Succeed*. Online http://www.gartner.com/newsroom/id/2421115

Golubov, A., Petmezas, D., & Travlos, N. (2012). Empirical mergers and acquisitions research: A review of methods, evidence and managerial implications. In A.R. Bell, C. Brooks & M. Prokopczuk, *Handbook of Research Methods and Applications in Empirical Finance* (pp.287-313). Cheltenham, UK: Edward Elgar Publishing.

Groupe BPCE. (n.d.). *History*. Online https://www.groupebpce.fr/en/The-Group/Our-roots/History, accessed 10 June 2018

Guide Epargne. (2018). *Comparez les comptes d'épargne (Belgique).* Online https://www.guide-epargne.be/epargner/tarifs-epargne.html?order_by=bank_rek_naam&order_dir=asc#product_list, accessed 15 July 2018

Harle, P., Luders, E., Pepanides, T., Pfetsch, S., Poppensieker, T., & Stegemann, U. (2010). Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation. *McKinsey Working Papers on Risk, 26,* McKinsey&Company. Online https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/basel%20iii%20now%20the%20hard%20part%20for%20european%20banks/26_basel_iii_and_european_banking.ashx

Harney, S., & Scialom, L. (2016). The influence of the economic approaches to regulation on banking regulations: a short history of banking regulations. *Cambridge Journal of Economics, 40*(2), 401–426. Online https://doi.org/10.1093/cje/bev023

Heineman, B.W. Jr. (2013). *Too Big to Manage: JP Morgan and the Mega Banks*. Online on the website of Harvard Business Review https://hbr.org/2013/10/too-big-to-manage-jp-morgan-and-the-mega-banks

Heskett, J. (2012). *Should CEOs Worry About 'Too Big to Succeed?'*. Online on the website of Harvard Business School http://hbswk.hbs.edu/item/should-ceos-worry-about-too-big-to-succeed

Hess, E.D. (2012). *The "Grow or Die" Lie.* Online on the website of American Management Association https://www.amanet.org/training/articles/the-grow-or-die-lie.aspx

Hicham, S. (2017). La performance opérationnelle à long terme des fusions et acquisitions: un état de lieux. *Revue Economie, Gestion et Société, 13*. Online

https://revues.imist.ma/index.php?journal=REGS&page=article&op=view&path%5B%5D=10721&path%5B%5D=6103

Hitt, M.A., Ireland, R.D., & Hoskisson, R.E. (2016). *Strategic Management: Concepts and Cases: Competitiveness and Globalization* (12 ed.). Boston, MA: Cengage Learning. Online https://books.google.pt/books?id=1XpTCwAAQBAJ&pg=PP2&lpg=PP1&focus=viewport&hl=fr#v=onepage&q&f=false

ING. (n.d.). *ING at a glance*. Online https://www.ing.com/About-us/Profile/ING-at-a-glance.htm, accessed 15 June 2018

ING. (n.d.). The history of ING. Online https://www.ing.com/About-us/Profile/History.htm, accessed 15 July 2018

Lambert, F.J., Ueda, K., Deb, P., Gray, D.F. & Grippa, P. (2014). How Big Is the Implicit Subsidy for Banks Considered Too Important to Fail? *Global Financial Stability Report (GFSR),* 101-132.

Intesa Sanpaolo. (2017). *History*. Online http://www.group.intesasanpaolo.com/scriptIsir0/si09/chi_siamo/eng_storia.jsp#/chi_siamo/eng_storia.jsp, accessed 20 June 2018

Investopedia. (2018a). *Earnings Per Share - EPS*. Online https://www.investopedia.com/terms/e/eps.asp

Investopedia. (2018b). *Profitability Indicator Ratios: Profit Margin Analysis*. Online https://www.investopedia.com/university/ratios/profitability-indicator/ratio1.asp

Investopedia. (2018c). *Profitability Indicator Ratios: Return On Assets.* Online https://www.investopedia.com/university/ratios/profitability-indicator/ratio3.asp

Jenkins, P., & Bott, I. (2017). *What happened to the 'too big to fail' banks?* Online on the website of Financial Times https://www.ft.com/content/0bd8f4d4-76de-11e7-a3e8-60495fe6ca71

Kasman, A. (2010). Consolidation and Commercial bank net interest margins: evidence from the old and new European union members and candidate countries. *Economic Modeling, 27*, 648–655. Online https://doi.org/10.1016/j.econmod.2010.01.004

Keytrade Bank. (2018). *Comptes performants à taux avantageux*. Online https://www.keytradebank.be/fr/banque/epargne/, accessed 15 July 2018

Kohler, M. (2015). Which banks are more risky? The impact of business models on bank stability. *Journal of Financial Stability, 16,* 195-212. Online https://doi.org/10.1016/j.jfs.2014.02.005

Kovner, A., Vickery, J., & Zhou, L. (2014). Do big banks have lower operating costs? *Economic Policy Review - Federal Reserve Bank of New York, 20*(2), 1-27. Online https://www.newyorkfed.org/research/epr/2014/1412kovn.html

Krantz, M., & Johnson, R.R. (2014). *Investment Banking for dummies*. New Jersey: John Wiley & Sons, Inc. Online https://books.google.be/books?isbn=1118615778

Laeven, L., & Levine, R. (2007). Is there a diversification discount in financial conglomerates? *Journal of Financial Economics, 85*, 331-367. Online http://www.nber.org/papers/w11499

Laeven, L., Ratnovski, L., & Tong, H. (2016). Bank Size, Capital Requirements, and Systemic Risk: Some International Evidence. *Journal of Banking & Finance, 69*(1), 25-34. Online https://doi.org/10.1016/j.jbankfin.2015.06.022

Lamberts, P. (2017). *Les péchés capitaux des banques*. Online on the website of Phillipe Lamberts https://pechesbancaires.eu/pdf/pechesbancaires-2018.pdf

Lee, C.-C., Yang, S.-J. & Chang, C.-H. (2014). Non-interest income, profitability, and risk in banking industry: A cross-country analysis. *The North American Journal of Economics and Finance, 27*, 48-67. Online https://doi.org/10.1016/j.najef.2013.11.002

Les Echos. (2016). *10 questions pour tout comprendre de l'impact des taux négatifs sur la santé des établissements de crédit*. Online https://www.lesechos.fr/09/05/2016/LesEchos/22187-111-ECH_10-questions-pour-tout-comprendre-de-l-impact-des-taux-negatifs-sur-la-sante-des-etablissements-de-credit.htm

Magnus, M., Margerit, A., & Mesnard, B. (2016). *Upgrading the Basel standards: from Basel III to Basel IV?* Directorate-General for Internal Policies, European Parliament. Online http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/587361/IPOL_BRI(2016)587361_EN.pdf

Mehmood, J., & Garrido, F. (2018). *Europe's 50 largest banks by assets*. Online on the website of S&P Global Market Intelligence https://platform.mi.spglobal.com/web/client?auth=inherit#news/article?id=44033607&cdid=A-44033607-14380

Mergaerts, F., & Vander Vennet, R. (2016). Business models and bank performance: A long-term perspective. *Journal of Financial Stability, 22*, 57-75. Online https://doi.org/10.1016/j.jfs.2015.12.002

Mesnard, B., Margerit, A., Magnus, M., & Katopodi, C. (2017). *Global Systemically Important Banks in Europe*. Directorate-General for Internal Policies, European Parliament. Online http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/574406/IPOL_BRI%282016%29574406_EN.pdf

Milano, G.V. (2011). *Too Big to Succeed?* Online on the website of CFO http://ww2.cfo.com/strategy/2011/04/too-big-to-succeed/

Nagelmackers. (2017). *Mortgage Loans Prospectus*. Online https://www.nagelmackers.be/src/Frontend/Files/userfiles/files/Prospectus-Mortgage-Loans.pdf, accessed 21 July 2018

Nagelmackers. (2018). *Epargner*. Online https://www.nagelmackers.be/fr/services/epargner#, accessed 17 July 2018

Noonan, L,. & McLannahan, B. (2016). *Investors alert to surge in chief executive pay*. Online on the website of Financial Times https://www.ft.com/content/ab42dbe2-4201-11e6-b22f-79eb4891c97d

Penrose, E. (2013). Limites à la croissance et à la taille des entreprises. *The American Economic Review, 45*(2), 531-543.

Peters, A. (2017). *Performance before big pay, banks tell executives.* Online on the website of American Banker https://www.americanbanker.com/news/performance-before-big-pay-banks-tell-executives

Pujals, G. (2013). *Ving-cinq ans de fusions-acquisitions bancaires en Europe*. Online on the website of Association d'économie financière https://www.aef.asso.fr/publications/revue-d-economie-financiere/110-varia/155-vingt-cinq-ans-de-fusions-acquisitions-bancaires-en-europe

Rabobank.be. (2018). *L'épargne pour les particuliers*. Online https://www.rabobank.be/fr/epargner-particulier#acceptCookies, accessed 16 July 2018

Ragot, X., Thimann, C., & Valla, N. (2016). Taux d'intérêt très bas : symptôme et opportunité. *Conseil d'analyse économique, 36,* 1–12. doi:10.3917/ncae.036.0001

Ratnovski, L., Laeven, L., & Tong, H. (2014). *Are Banks too large?* Online on the website of Vox EU https://voxeu.org/article/are-banks-too-large

Rossi, L., & Beccalli, E. (2017). *Economies or Diseconomies of Scope in the EU Banking Industry*? Online on the website of European Financial Management Association

http://www.efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2017-Athens/papers/EFMA2017_0159_fullpaper.pdf

Sarin, N., & Summers, L.H. (2016). Have big banks gotten safer? *Brookings Papers on Economic Activity.* Online https://www.brookings.edu/wp-content/uploads/2016/09/2_sarinsummers.pdf

Schwenker, B., & Botzel, S. (2007). *Making Growth Work: How Companies Can Expand And Become More Efficient*. New York: Springer. Online https://books.google.be/books?isbn=3540464905

Sharma, D.S., & Ho, J. (2002). The Impact of Acquisitions on Operating Performance: Some Australian Evidence. *Journal of Business Finance & Accounting*, *29*(1-2), 155-200. Online https://doi.org/10.1111/1468-5957.00428

Shiyyab, F., Girardone, C., & Zakaria, I. (2011). *Pay for no performance? Executive pay and performance in EU banks.* Colchester: Essex Business School. Online https://pdfs.semanticscholar.org/ff65/8961138549c3810a20c0be5a7cf6262a5114.pdf

Sidibe, T. (2016). *L'essentiel du management d'une banque commerciale.* Paris: L'Harmattan. Online https://books.google.be/books/about/L_essentiel_du_management_d_une_banque_c.html?id=08JlDQAAQBAJ&redir_esc=y

Société Générale. (2018). *Our History*. Online https://www.societegenerale.com/en/about-us/our-identity/history, accessed 6 June 2018

Statista. (2018). *Leading banks in Europe as of June 2017, by total assets (in billion U.S. dollars)* . Online https://www.statista.com/statistics/383406/leading-europe-banks-by-total-assets/

Stiglitz, J. (2009). *Too big to succeed.* Online on the website of The Guardian https://www.theguardian.com/commentisfree/2009/dec/13/mervyn-king-banks-curbed

Stiroh, K.J., & Rumble, A. (2006). The dark side of diversification: The case of US financial holding companies. *Journal of Banking and Finance, 30*, 2131–2161. Online https://pdfs.semanticscholar.org/1fbb/16bb7947ada3a308b584bac1d3e5e7f4cf0d.pdf

STOXX. (2018). *STOXX Europe 600 Banks Index*. Online https://www.stoxx.com/document/Bookmarks/CurrentFactsheets/SX7GR.pdf

Test Achats. (2018). *Comptes d'épargne: comparer et choisir.* Online https://www.test-achats.be/argent/comptes-epargne/calculateur/compte-d-epargne-n732313/?landingpage

The Clearing House (TCH). (2011). *Understanding the Economics of Large Banks*. Online https://www.theclearinghouse.org/~/media/files/banking%20briefs/final%20value%20of%20large%20banks%20study.pdf?la=en

The Economic Times. (2016). *What is the importance of RoE for investors.* Online https://economictimes.indiatimes.com/markets/stocks/news/what-is-the-importance-of-roe-for-investors/articleshow/51640483.cms

The Economist. (2017). *A decade after the crisis, how are the world's banks doing?* Online https://www.economist.com/special-report/2017/05/06/a-decade-after-the-crisis-how-are-the-worlds-banks-doing

Titcomb, J. (2015). *Is the era of the mega-bank ready to come to a close?* Online on the website of The Telegraph http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11351862/Is-the-era-of-the-mega-bank-ready-to-come-to-a-close.html

Tolo, E., Jokivuolle, E., & Viren, M. (2015). Are too-big-to-fail banks history in Europe? Evidence from overnight

interbank loans. *Bank of Finland Research Discussion Papers, 29*. Online https://helda.helsinki.fi/bof/bitstream/handle/123456789/13971/BoF_DP_1529.pdf?sequence=1

UBS. (2016). *UBS in the world*. Online https://www.ubs.com/global/en/about_ubs/about_us/history/ubs-and-the-world.html, accessed 14 June 2018

UniCredit. (2017). *Our history*. Online https://www.unicreditgroup.eu/en/unicredit-at-a-glance/our-identity/our-history.html, accessed 14 June 2018

Vahit Ferhan, B. (2015). Basel's forgotten pillar: the myth of market discipline on the forefront of Basel III. *Financial Internet Quarterly „e-Finanse", 11*(3), 70-91. doi:10.14636/1734-039X_11_3_006

Van den Spiegel, F. (2014). *Role of Banks in the Economy*. EBF-FBF Tax Conference, Paris. Online https://www.ebf.eu/wp-content/uploads/2017/01/1_The-Role-of-Banks-in-the-Economy_Freddy-van-den-Spiegel.pdf

Vdk Bank. (2017). *Overzicht gereglementeerde spaarrekeningen*. Online https://www.vdk.be/particulieren/sparen/spaarrekeningen, accessed 14 July 2018

Vojir, R. (2016). *Too big to succeed. The unique reason banks termed "too big to fail" could do just that.* Online https://www.linkedin.com/pulse/too-big-succeed-unique-reason-banks-termed-fail-could-ryan-vojir/

Waller, C.J. (2016). Who Exactly Benefits from Too Big To Fail? *Economic Synopses, 13*. Online https://doi.org/10.20955/es.2016.13

Wheelock, D.C. (2012). *Too Big To Fail: The Pros and Cons of Breaking Up Big Banks*. Online on the website of Federal Reserve Bank of St. Louis https://www.stlouisfed.org/publications/regional-economist/october-2012/too-big-to-fail-the-pros-and-cons-of-breaking-up-big-banks

Williams-Grut, O. (2015). *HSBC is 'sleepwalking towards a breakup'*. Online on the website of Business Insider http://uk.businessinsider.com/macquarie-note-its-time-to-break-up-hsbc-2015-5?IR=T

Wilmers, R. (2014). *Why Excessive CEO Pay Is Bad for the Economy*. Online on the website of American Banker https://www.americanbanker.com/opinion/why-excessive-ceo-pay-is-bad-for-the-economy

Winters, H. (2013). *Why Most Bank M&A Deals Are Duds.* Online on the website of American Banker https://www.americanbanker.com/opinion/why-most-bank-m-amp-a-deals-are-duds