Department of Business and Management Chair Risk Management

THE UNITED STATES OF AMERICA BANKING SYSTEM REGULATION AND SUPERVISION: THE WELLS FARGO CASE.

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Table of contents

Introduction

In this thesis it will be examined the regulatory and supervisory processes concerning the American banking industry, taking into account the recent Wells Fargo's scandal to practically illustrate how this financial institution was involved in these processes in addition to the risk management practices it initiated to comply with regulations and to solve the internal issues.

In the first part of this paper, it will be analyzed the role of the banks in the U.S. financial system and how the process of regulation and supervision works from Congress approval to Federal Reserve examination. In doing that, the macro-prudential and micro-prudential approaches to monitor risk across the American financial system will be discussed: specifically, four components of financial system vulnerability will be taken into account while contagion risk, model risk and cyber attacks will be introduced as three emerging non-financial risk types in the U.S. economy. Then, the OCC, the FDIC, the Federal Reserve System, the NCUA, and the FSOC will be presented as supervisors, in conjunction with the entities they supervise, showing their role in the aftermath of 2008 financial crisis; moreover, the main provisions of the Dodd-Frank Act, the Basel Accords and the minimum capital requirements for the U.S. regulated financial institutions will be examined.

The second part of the thesis is focused on the analysis of the Wells Fargo's scandal. At first it will be presented the history, the vision and the values of Wells Fargo, as well as its strategy and operations. Afterward, the recent scandal that struck

the American bank during last fall will be exposed taking into account both the supervisors and Wells Fargo point of views. Lastly, Wells Fargo's risk management practices adopted to solve the issue and to set a new long-term strategy will be analyzed; besides it will be argued Wells Fargo's compliance to capital requirements and the implication of the scandal on its operational risk-weighted assets.

Chapter 1: Banks

Role of the banks in the U.S. financial system

As a general definition, banks are intermediaries between borrowers and lenders: the first category takes money from the second one, should it uses them to buy a house, to start a business or to let its children to attend a college. It is true that the borrowers could receive funds directly from the lenders, but both parties should spend some of their time and efforts at finding someone with the willingness to enter the transaction. Furthermore, sometimes there could also exist the information asymmetry issue, with a party more educated and informed about the transaction's risks and returns than the counterpart.

This is why banks exist: they ease the task of those who want to consume more than what they currently have and those who want to save now and consume later, making each part better off.

So the lenders go to the bank, deposit their savings and receive an interest paid by the bank on their account; on the other hand, the borrowers go to the bank and ask if the institution can lend them some of its funds with the promise to return the money received and to pay an interest on the loan.

This is an exemplification of the business model adopted by many commercial banks but it is how the process works in any country of the world. According to the Federal Financial Institutions Examination Council there were 5141 commercial banks in the United States of America in the Q3 of 2016 (Ycharts).

Relying on such intermediaries offer some benefits either to borrowers and lenders, as well as to the bank carrying the operations between the parties. First of all, savers enter with the bank in an agency relationship by paying the bank to act on their behalf. Secondly, the bank given its expertise can identify credit-worthy borrowers, administering the loan and enforcing it if the borrower defaults. Finally, it exists a benefit also for the bank itself called maturity transformation: the bank can borrow at the short-term in order to offer long-term loans, earning a profit on the difference between the long-term interest rate and the short-term interest rate (Murphy, 2015).

However, these benefits bear a risk: the bank itself could suffer from an interest rate volatility period and could fail if the depositors withdraw their funds at the same time in a panic. Also, the agency problem persists, with the bank managers sometimes acting not in the best interest of their depositors (Murphy, 2015).

The problems mentioned above can be solved by regulations for the individual banks such as restrictions on conflict of interest of bank managers, how the deposits can be used by the same managers and the amount and ability of depositors to withdraw their funds from the banking account. Also, there exist rules on the loan application process as well as laws that prevent lending discrimination.

All these laws refer to the subcategory of regulation which has been created in order to solve banks' individual problems.

Still individual problems do not pose a menace to the economic environment as the systemic problems. Systemic risk is the possibility that an event at the company

level (in the specific case, a bank) could trigger severe instability or collapse an entire industry or economy (Investopedia, Systemic risk). Broadly, is the risk of a sudden, unanticipated event that would damage the the financial system to such an extent that economic activity in the wider economy would suffer (Franklin Allen, 2001). It is what happened in the 2008, with the effects of the U.S. subprime mortgage crisis spreading to the rest of the world.

For instance, a source of profit for the banks is to take excessive risk: in comparison to other financial institutions, a single bank can keep fewer resources available for the depositors' withdrawals in order to invest more of its funds or offer more loans in the heightened-risk categories which usually provide higher returns. Though an individual bank following this strategy might be able to borrow from other banks, should the depositors decide to withdraw more than expected or should the bank itself suffer losses due to the excessive risk taken, the strategy could not be feasible whether lots of banks should decide to enact this plan at the same time. The straight consequences would be the absence of new credit altogether or the spike of the interest rates. In turn, the banking system may temporarily cease to be a source of credit for the wider economy (Murphy, 2015).

Fortunately, there are several possible policy responses to these systemic concerns in banking: in detail, there are four particularly important elements of U.S. bank regulation. These elements will be discussed later in this chapter.

It can be clearly stated that avoiding the systemic risk is the primary objective of banking regulation. Even if this type of regulation has as direct objective the

individual banks, its effects indirectly involve the whole system without being restricted to the single institution.

Until now it has been referred exclusively about commercial banks but it is worth noting that exist another category of banks called investment banks. This type of banks differ from the commercial banks since they specialize in large and complex financial transactions such as underwriting, facilitating merger and acquisitions and acting as a broker or financial adviser for institutional clients (Investopedia, Investment Bank - IB). The script will focus on the commercial bank category so few details may be reported about the investment bank category.

The actual U.S. banking environment and its regulation is the result of several economical cycles that succeed one another in the last century.

As it is possible to recall, in the XIX century the attention of central banks shifted towards financial stability and their role came to be to eliminate financial crisis (Franklin Allen, 2001).

Although the U.S. had an average of one crisis every ten years, the States did not have a central bank from 1836 until 1914. In 1913 the Federal Reserve System was created and it started its operations on 1914.

However, this innovation in the U.S. banking system was not able to prevent further financial crisis such as the one of 1929, called “The Great Crash”, and the following banking panic in 1933 which led to the failure of 5000 banks (Franklin Allen, 2001).

The presence of this financial crisis led to the signing of the Glass-Steagall Act in the 1933: this regulation introduced two significant news to the American banking system.

First of all, the Act sponsored by Senator Carter Glass and Rep. Henry Steagall created the FDIC, the Federal Deposit Insurance Corporation, with the aim to guarantee banks' deposits up to a specific limit. Secondly, it required the separation of commercial and investment banking operations: the rationale behind this separation was to eliminate the conflict of interest of those banks involved both in commercial and investment operations and to prevent commercial banks to take part in excessively speculative activities.

The general aim of the Glass-Steagall Act was to stop the unprecedented run on banks and to restore the public confidence in the U.S. banking system (Investopedia, Glass-Steagall Act). The Act lasted until 1999 when it was partially abolished and replaced by the Gramm-Leach-Bliley Act signed into law by President Bill Clinton. It tried to modernize the financial industry by letting the financial institutions to offer a wider range of financial services; as a result, the FDIC was maintained while the distinction between commercial and investment banks was abolished. A major innovation introduced by the 1999 regulation was the permit it gave to bank holding companies (banks controlled by another company) to become financial holding companies. The second entities could own broker and dealers engaged in securities underwriting and dealing, and furthermore, business entities engaged in merchant banking as well as insurance underwriting and agency activities (Federal Reserve).

That said, some researchers have linked the 2008 financial crisis to the abolition of the Glass-Steagall Act, with the second one being among the causes that lead to the crisis. In the aftermath of the latest financial crisis, the Obama administration decided to enforce again the regulation of the U.S. banking system with the Dodd-Frank Act. The Act created the FSOC, acronym of Financial Stability Oversight Council, authorizing a permanent staff to monitor systemic risk and consolidating consumer protection rulemaking (Murphy, 2015). It seems that the life of the 2010 dated Act will last for few months since the Trump administration is determined to abolish it.

Four prominent elements of U.S. bank regulation

As stated above, there are four elements of banking regulation that each primary prudential regulator supervises for its chartered firms: safety and soundness, capital requirements, asset management, and consumer compliance (Murphy, 2015). In this section of the chapter each of them will be presented and discussed.

I. Safety and Soundness.

The first element refers to a large number of issues related to the health of a bank. It includes risk management, capital requirements, the diversification of a bank's

portfolio, provisions for liquidity, allowances for loan and lease losses, concentration of transactions with a single counterparty or in a single region, exposure to potentially expensive liquidation, adequate training and expertise of management and staff, adequate procedures for internal controls and many other issues (Murphy, 2015). Since banks can be examined before any indication of excessive risk is signaled, the safety and soundness regulation can be pursued prospectively.

Taking into account the credit risk, the risk that the borrower will not be able to fully repay the principal of the loan, the risk itself can be estimated at the time the loan is issued by the bank. This is only one of the risks that the banks take on in conducting their operations. Should the regulators foresee that a given bank is taking on excessive risks, engaging in unsafe and unsound practices, they have an array of tools they can use to prevent future damages. For instance, they can require banks to reduce some types of lending or operations, to dispose of certain assets, and to improve their balance sheets (Murphy, 2015).

The primary aim of this kind of examination conducted by the regulators is to evaluate a bank's assets and liabilities, its adherence to regulations and standards as well as its observance of the various laws. The examiners use the CAMELS system (Capital Adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity to systemic risk) in evaluating a financial institution's safety and soundness. Each of the six parts of the system is analyzed and receive a score ranging from one (the strongest) to five (the weakest). Then, an overall score is assigned to the financial institution and if this general score is comprised between

four and five the bank is placed on a watch list for further scrutiny (Investopedia, Bank Examination).

Furthermore, safety and soundness is one of the five general functions performed by the Federal Reserve System to promote the health of the U.S. economy (Federal Reserve System).

II. Capital Requirements.

The definition of capital is the amount by which the assets of business exceed the liabilities. It is the equity portion of a business. As it is easy to imagine, the more capital a business have the easier is for the business itself to absorb potential losses. Firms that use more of their equity to fund their projects have a lower leverage ratio than those that use more debt. Usually, firms tend to use a greater part of debt than equity in funding their operations since it increases the returns they obtain should the project be successful.

Higher capital requirements make the banks more resilient during economic downturn but on the other hand this regulatory provision could not make the whole banking system safer since higher capital requirements imply a higher cost of capital and in turn some financial activities could migrate to securities markets or shadow banking (Murphy, 2015).

Another implication of higher capital requirements is the reduction of the potential lending that the financial institutions can offer to the broader economy, even if this

effect is difficult to determine because the reaction of the securities markets and shadow banking should be observed.

The minimum levels of capital requirements set by the financial regulator vary according to different criteria that will be analyzed in Chapter 6.

However, as a general rule, the greater the riskiness of a given bank's business model, the higher the level of capital requirements asked by the regulators.

For example, if a bank is engaged in risky lending the institution will have higher capital requirements than a safer competitor.

That said, should the capital requirements be set above the threshold the company would have chosen on its own, they will represent a cost to the bank since they will limit the amount of investments the institution would engage with.

The financial regulators continually change the capital requirements to prevent excessive risk-taking or to promote the availability of credit to the wider economy but the general approach is based on the Basel Accords which guiding principle state that capital requirements should be risk-based (Murphy, 2015).

In other words, the riskier an asset, the greater the capital amount the bank has to hold to face a possible loss.

Within this environment each country participating to the Basel Accords set its own capital requirements and then use the Basel framework to establish best practices and harmonize banking regulation (Murphy, 2015).

A drawback of the capital standards' risk based approach is that it follows the economic cycles, lowering the capital requirements during economic booms and increasing the lending activities while increasing the capital requirements during the economic busts and contracting credit.

It is essentially what happened in the wake of the 2008 financial crisis with the so called credit crunch.

Finally, there is a behavioral effect to take into account. In fact, an over-confidence about an asset failure likelihood can lead to lower than optimal capital requirements while an over-pessimism can imply the opposite.

III. Asset Management

The third of the four prominent elements of U.S. banking regulation refers to the provision of financial products or services to a third party in exchange of a fee or commission. There is a relation between the regulation of asset management activities and policy issues: for example, the custodian role taken by some banks in providing support to complex financial transactions.

During periods of financial turmoil if the custodian banks mismanage the assets they work with then the disruptions in the interbank lending can be magnified (Murphy, 2015). These disruptions in turn may amplify other banks' fears of uncertainty.

The regulators do not provide rules for the asset management companies, rather they supervise the work of the institutions operating in this environment and proceed with examinations to ensure that these banks follow principles of sound asset management.

IV. Consumer Protection Compliance

Lenders have to observe several regulations when offering their financial services to consumers. After 2008, the Dodd-Frank Act gathered the authorities overseeing the consumers' financial protection in the CFPB, the Consumer Financial Protection Bureau, since before the crisis these authorities were spread in the country.

CFPB's task is to protect and educate consumers about the various types of financial products and services that are available (Investopedia, CFPB).

Through its activities the customers have access to transparent financial prices as well as risk and become aware of deceptive and abusive financial practices (Investopedia, CFPB).

The above mentioned CFPB's task can be broken down to four strategic goals.

The first goal is to prevent financial damage to customers while sponsoring good financial practices. The second one is to allow customers to live better economic lives. The third goal is to inform the public and the policy makers with insights on data retrieved. Finally, the last one is to improve the impact of the Bureau by increasing resource productivity.

The importance of consumer protection compliance is given by the fact that poor customer relationships can pose a thereat to the safety and soundness of the financial institutions. The agency supervises banks' compliance with consumer laws and help in solving the complaints.

The rulemaking activity is shared between the CFPB and the bank regulators.

Chapter 2: Regulation and Supervision. How the process works.

The process from Congress approval of legislation to Federal Reserve examination of regulated institutions.

Regulation and supervision are two distinct and complementary activities. Regulation is the activity by which the rules that the financial institutions have to observe are created. It involves the issuing of specific guidelines and regulations administering the financial institutions' formation, operations, activities, and acquisitions (Federal Reserve).

On the other hand, supervision has the task to ensure that an institution complies with the rules formerly created by the regulation function and that the same institution operates in a safe and sound manner (Federal Reserve); it is a function that is carried out only once that the rules have been created and provided and involves monitoring, inspecting and examining the financial institutions.

The general aim of the Federal Reserve is to provide the U.S.A. with a stable, flexible and safe financial system. In achieving this task, the Federal Reserve performs the two functions mentioned above through a micro-prudential approach to each financial institution and with a macro-prudential approach that goes beyond the safety and soundness of the single banks and looks at the wider American economy.

The process starts with the Congress voting about a legislation that will impact the financial industry. If the legislation is approved by the Congress, then the President of the U.S.A. signs the legislation into law.

In the next step the Federal Reserve drafts and proposes regulations that determine how the law will be implemented and invites the American public, composed of individuals and institutions, to review these regulations and to express some comments. The laws passed by Congress are often vague with respect to actual business practices, necessitating regulatory interpretation and rulemaking (Mason, 2015). This imply that regulations derived by the legislative process taking part into the Congress can be very different from the laws voted and signed by the President of the U.S.A.

Once that Federal Reserve has taken into account the suggestions proposed by the public, it finalizes the regulations' drafts and spreads the documentation publicly including rationale for action. Prior to Dodd-Frank Act there existed no formal coordination mechanism among the steps in the regulation process; a major innovation proposed by the Dodd-Frank Act was the FSCO (Financial Stability Oversight Council) whose aim is to coordinate rulemaking among the regulatory authorities. With this last stage the regulatory process ends.

Next, the supervision process starts, with the Federal Reserve connecting the two functions together. In fact, the Federal Reserve at first issues and then disseminates the procedures that the Reserve Bank examiners will use to evaluate institutions' compliance with laws and regulations (Federal Reserve). These examiners are trained by the Federal Reserve Banks to evaluate the above cited

institutions' compliance and conduct on-site and off-site inspections to determine whether the regulated institutions observe the regulations.

As for the regulated institutions, they implement internal practices to ensure that the regulation they have to comply with is respected. This is the last stage of the supervision process.

By the way, the rules cannot cover every possible way that regulated institutions can pose risks to the public (Mason, 2015). This is to say that supervision stretches from mere on-site and off-site examinations to areas where the rules have not been written yet as well as to comprehend whether the rules are followed to the intent rather than to the letter.

In addition, it is worth to remember that rules differ from laws and when a regulatory rule is violated no law has been broken. This to say that a potential violation is weighed in an extra-juridical system of due process and the typical remedies for these violations include sanctions against individual and financial companies (Mason, 2015). Usually individual sanctions are delivered through monetary fines and with the exclusion of the individual from further employments in banking or financial firms. Conversely, sanctions against the companies include informal warnings, orders to cease and desist as well as institutional constraints or legal actions.

Supervisory violations, on the other side, are not as easy to enforce as the regulatory violations; this because there are not clear rules to point out but the merely supervisory judgment. In this contest, the supervisors are most of the time

reluctant to impose sanctions on companies for being involved in supervisory violations.

As stated at the beginning of this chapter, the two functions are complementary and this lead, sometimes, to an overlapping between the figures of regulator and supervisor: usually, the supervisors are also regulators (but not the other way around) (Mason, 2015).

Thus, it is crucial to identify the key features of U.S. financial supervision and regulation in order to clearly differentiate the two functions.

First of all, not all regulatory agencies have supervisory powers while as previously stated the supervisors generally have regulatory authority. Next, laws and regulations are made public and spread by the regulators while the supervisors' work is highly confidential (i.e. risk assessment are reported in confidential examination reports). Finally, regulators' work is based on a strict correlation with the lawmaking process of the Congress while supervisors' work is less restricted to well-defined risks and tries to go beyond the current regulations in order to discover latent risks and threats to the American financial system.

This last point is central since regulations are relatively well-defined and codified, whereas supervision covers less well-defined risks and emerging and/or idiosyncratic susceptibilities (Mason, 2015).

These are the main differences between the tasks carried out by regulators and supervisors and should help in stressing the difference between the two functions.

Entities observed by the Federal Reserve

After having described how the regulation and supervision work is carried out, in the second part of this chapter the entities that the Federal Reserve oversees are briefly discussed.

BHCs, acronym of Bank Holding Companies, constitutes the largest segment of institutions supervised by the Federal Reserve, in addition to state member banks, savings and loan holding companies, foreign banks operating in the U.S., and other entities (Federal Reserve). Thanks to the Bank Holding Company Act of 1956, U.S. banks were allowed to operate in special corporate holding companies called Bank Holding Companies. According to the same Act they fall under the Federal Reserve Board's regulatory authority. In 2005 the Board introduced a rating system for holding companies as the one it uses for banks.

In detail, in 2015 the Federal Reserve oversaw 4922 BHCs: these as already stated in the previous chapter are banks controlled by another company and it is the legal form chosen by most of the banks in the United States of America. A bank holding company may also own another bank holding company, which in turn owns a bank; the company at the top of the ownership chain is called the top holder (National Information Center). The major benefit of a holding company is that it is protected from the losses; in fact, if one of the companies owned by the holder goes bankrupt, the holding company experiences a capital loss and a decline in net worth, but the bankrupt company's debtors and creditors cannot pursue the holding company for remuneration (Investopedia). Thus, each subsidiary and the holding company

itself has limited financial and legal liability. The subsidiaries of the bank holding companies most of the time are depository institutions; there exist three different types of legal entities for these institutions: commercial banks, thrifts, and credit unions.

The first type takes deposits (balances that may be cashed upon request) and then make loans, as already described in the beginning of the fist chapter. In the U.S. only commercial banks can undertake those two activities (Mason, 2015). Commercial banks deal with general public providing loans both to individuals and businesses. The chartering process is the procedure to establish the legal entity of the commercial bank and commercial banks can be chartered (authorized to do business) by state or Federal authorities, on the discretionary decision taken by its managers. If the institution opts for a state charter, then it will be regulated by state authorities, either FRS or FDIC depending on a following decision about the bank's regulation and supervision taken by the same managers. On the other hand, if the bank opts for a national charter, then it becomes a national bank and consequently it will be regulated and supervised by the OCC.

Thrifts on their side seem similar to banks but differ in one particular aspect. In fact, they have to own 65% of their assets in mortgages. The scrutiny of this threshold percentage is called thrift lender test. Before the 2008 crisis, these institutions were supervised by the Office of Thrift Supervision. In the aftermath of the financial crisis the Dodd-Frank Act did away the OTS and replaced it with the OCC.

Lastly, credit unions are again outwardly similar to banks but they are organized as financial cooperatives, controlled by their owners. The aim of the credit unions is to provide credit, thrifts and financial services to their members. The share draft is the deposit each member invests in the credit union she/he adheres to and represents legally an ownership share in the credit union. The primary Federal supervisor of the credit unions is the NCUA, National Credit Union Administration. The NCUA also offers deposit guarantees as the FDIC does for commercial banks and thrifts.

Since a lot of regulatory and supervisory institutions are involved in their tasks within the bank holding company environment, the FFIEC, acronym of Federal Financial Institutions Examination Council, was established in 1979 in order to promote uniformity in the supervision of financial institutions (Mason, 2015). It coordinates the Board, FDIC, NCUA, and OCC standardizing examination practices and reporting.

United States domestically operating banks are called state member banks; these banks are financial institutions that have decided to join the Federal Reserve System. They are primarily supervised by the Federal Reserve. In turn the Federal Reserve shares the supervisory and regulatory authority for domestic banks with the OCC and the FDIC at the federal level (Federal Reserve). State nonmember banks are supervised by the FDIC while the OCC oversees national banks that choose to charter at the federal level, as already stated above (Federal Reserve). The banks entering in this second category are called national banks.

To summarize, the primary supervisor of state-chartered member banks is the Federal Reserve, the supervisor of state-chartered nonmember banks is the FDIC while the OCC acts as supervisor of the national banks.

The role and the duties of each supervisor will be discussed in detail in the fourth chapter.

Savings and loan holding companies directly or indirectly control either a savings association or other savings and loan holding companies (Federal Reserve). Savings associations with a federal charter are supervised by the OCC while the associations with a state charter are monitored by the FDIC. By the way, the Federal Reserve supervises all the savings and loan associations regardless the charter chosen by the institution. The associations meeting certain capital and management requirements can choose to be treated as financial holding companies: if they opt for this decision then can operate as a broker/dealer engaged in securities underwriting and dealing, engage in merchant banking, and lastly, operate as an insurance company. In 2015 there were 470 savings and loan holding companies in the United States of America.

These are the main financial institutions operating in the U.S. but there exist more such as the foreign banks. For the purpose of this work BHCs will receive particular attention in the next chapters.

Chapter 3: Monitoring risk across the financial system

Micro-prudential versus Macro-prudential approach

The 2008 crisis made it clear that the micro-prudential approach to prevent risk among the financial institutions was not sufficient. Micro-prudential regulation and supervision refers to a focus on the safety and soundness of individual financial firms. It has been the traditional approach used by the Federal Reserve System until the outbreak of the latest financial crisis. The Dodd-Frank Act required for a scanning of potential risks across and between markets and institutions that threatened to set off a cascade of failures that could have undermined the entire financial system (Federal Reserve). Thus, the macro-prudential approach was born.

As defined in a speech by Chairman Ben. S. Bernanke, this new methodology supplements traditional supervision and regulation of individual firms or markets with explicit consideration of threats to the stability of the financial system as a whole (Bernanke, 2011). The goal of this approach is to minimize the risk of financial disruption that are sufficiently severe to cause damage to the entire economy (Bernanke, 2011). The macro-prudential approach has to deal with heavier informational requirements and more complex analytic frameworks; a crucial point is the understanding of the linkages among the institutions and the markets and how instability can run throughout the system exploiting these linkages.

That said the micro-prudential approach has not to be replaced by the macro-prudential one, since the first serves as the base for the second. In fact, the knowledge base used by the macro-prudential approach is built upon the information gathered through the micro-prudential approach. Furthermore, the oversight of individual institutions performs many purposes such as the protection of the deposit insurance fund, the detection of money laundering and the prevention of abusive lending practices. Without a well performing micro-prudential approach, the macro-prudential one will be ineffective.

Macro-prudential regulators have to be aware about two types of risks, common exposure and pro-cyclicality: both risks are comprised in the systemic risk category. The first type is related to features of the financial system that pose risks to the financial stability, while the second typology comprises those risks that vary with financial or economic circumstances.

When institutions have a common exposure to a given risk, then the system is defenseless to even a small shock. It is what happened on our planet with mass extinctions, with more than an animal or plant species being subject to the same factor causing their disappearance. In finance common exposures can arise directly or indirectly (Cecchetti); financial intermediaries can be directly exposed to a frail institution, for example through a financial contract, or can be indirectly exposed through a counterpart which in turn is directly exposed (Cecchetti).

Pro-cyclicality works in a different way. As known, financial and economic activities are strictly related, leading to booms and busts. When the economy is in a boom period, then investors are less worried about their investments, thus

reducing the risk premium they are rewarded with. Spending increases and so do the profits, generating a financial euphoria. The assets' prices increase, in turn raising the value of a collateral: as an effect the banks and the financial intermediaries supply more credit to the borrowers and they feel more comfortable at leveraging their capital. When a bust happens, the opposite is true. It means that if the assets' values rapidly decrease, as happened with the house bubble in the U.S. in 2006, then the collaterals' values decrease as a direct effect, thus affecting the willingness of banks and financial intermediaries to invest their capital in businesses and personal projects, crunching the credit they are able to supply. Investors' complacency is lessened and the economy enters in a period of recession.

Some of the macro-prudential tools adopted to face systemic risks are the countercyclical capital buffer, the capital conservation buffer, and stress test scenarios. The first tool allows regulators to increase risk-based capital requirements when credit growth is judged to be excessive and leading to rising systemic risk (Mester, 2014). The second one ensures that banks raise capital above regulatory minimums in good times so that they are able both to cover losses in bad times and to maintain their capital ratio above the regulatory threshold (Mester, 2014). Finally, the stress tests have been implemented by adding further scenarios that become more severe during robust economic expansions.

In order to promote and implement the new approach to regulation and supervision of the financial and economic system the Financial Stability Oversight Council was created. The FSOC coordinates the efforts of the U.S. government to

identify and to face the systemic risks. In addition, the council facilitates information sharing among the agencies that take part to it.

Four standard components of financial system vulnerability

In detail there is a standard set of four vulnerabilities that is regularly and systematically assessed as part of the Federal Reserve System macro-prudential financial stability review (Federal Reserve). These four vulnerabilities are: asset valuation and risk appetite, leverage in the financial system, liquidity risk and maturity transformation by the financial system, and lastly, borrowing by the non-financial sector. Each of those will be discussed in this part of the chapter.

I. Asset valuations and risk appetites

It is really difficult to comprehend if an asset is overvalued. Thinking about the stock market, every share is an asset per se and the traders who daily interface themselves with the market have to judge, through technical analysis as well as fundamental analysis, if the share they are observing is worth to buy or to sell. Overvalued assets bear a great risk since the unwinding of high prices can destabilize the whole economy. The effect is augmented in presence of assets widely held and if their values are supported by excessive leverage, maturity transformation or risk opacity (Federal Reserve). As shown by the Case-Shriller indexes, a group of indexes showing the changes in home prices in the U.S., in the

mid-2000s the economy was affected by a housing bubble which peaked in 2006. Houses are a typical example of a widely held asset and the subsequent unwind of their prices in the U.S., parallel to the subprime mortgage crisis, contributed to the birth of the latest crisis.

II. Leverage in the financial system

Highly leveraged intermediaries can amplify the effect of negative shocks in the financial system and broad economy (Federal Reserve). The Federal Reserve monitors the leverage of the banking system through some metrics such as the leverage ratio (the ratio of tier 1 capital to total assets) and the common equity tier 1 ratio. Tier 1 capital is referred as core capital including a financial institution equity capital and disclosed reserves (Investopedia, Tier 1 Capital). In contrast, common equity tier 1 capital is given by the difference between tier 1 capital and additional tier 1 capital (instruments that are not equity but can be included in this tier) (Investopedia, Common Equity Tier 1). That said, a bank's core capital and its common shares, stock surpluses resulting from the issue of common shares, retained earnings, common shares issued by subsidiaries and held by third parties , and accumulated other comprehensive income compose the category named as CET1, common equity tier 1 (Investopedia, Common Equity Tier 1). To give as a result the respective ratio, the common equity tier 1 is divided by the risk-weighted assets.

Highly leveraged financial intermediaries are those that have more debt than equity and this balance sheet composition can cause harm to the institution itself and to the whole economy in presence of a downturn; for example, large losses could lead a bank to quickly sell its asset at a low price, a process called fire sales, and in turn should the liabilities owned by the institution have a short maturity then the run on bank would be highly probable. The negative effects produced by a leveraged institution collapsing on itself are amplified in presence of a Global Systematically Important Financial Institution, since in this particular case the institution is intertwined with lots of other financial intermediaries.

Monitoring leverage outside the banking sector is even more difficult but the task addressed by the Federal Reserve in the banking sector proves to be hard enough in case of off-balance sheet exposures or rapidly changing trading exposures (Federal Reserve).

III. Maturity transformation by the financial system

In the first chapter has been reported about the importance of maturity transformation for deposit institutions. It is a productive process since it allows investment projects to be funded with long-term financing but it bears still some risks. The major vulnerability is represented by the case of many lenders asking for liquidity at the same time: should it occur then the banking system could be in trouble. This is the main reason why deposit insurance exists. Thus, the Federal

Reserve oversees both the maturity transformation and the liquidity risk on order to prevent negative economic effects caused by these two factors.

IV. Borrowing by the non-financial sector

Negative shocks to households' incomes or assets' devaluation in non-financial sector businesses can generate undesirable effects on the broader economy if they are highly indebted. In fact, households and businesses in a such situation could be forced to limit their spending. Furthermore, losses among these categories could lead to additional losses in the financial institutions creating an adverse feedback loop (Federal Reserve). According to the definition of adverse feedback loop, the deterioration of profits and assets' value can create losses on banks' loans. The increase in loan losses imply that the banking sector itself could face difficulties in obtaining funds (Davis, 2010). The disruption in the financial sector has its effects also in the real sector since it leads to a further decline in the assets' prices and output. Throughout simulation models has been tested that the adverse feedback loop operating through the balance sheets of financial intermediaries can lead to as much as 20% increase in business cycle volatility (Davis, 2010). That is why the adverse feedback loop is feared by the Federal Reserve System and it is always supervised.

The Federal Reserve is so forced to look at indicators and data outside the non-financial sector to prevent the spreading of negative consequences to the financial one, but as stated above the truth is also on the other way around; this supervision

task is reached through a greater degree of transparency, obtained thanks to data collection and enhanced disclosures, in both sectors.

Three emerging non-financial risk types

Non-financial risk types are going to be more considered by the financial institutions and by their supervisors and regulators. According to a research conducted by Ernst & Young, 75% of banks are making changes to their culture with the attention shifting to new key areas such as conduct risk, focus on new products, business-line accountability, and focus on new customers (Ernst & Young). More interestingly, 89% of the 2015 respondents to the same research reported an increase in the focus on the non-financial risk category.

Although most of the banks have the tools to manage the non-financial risk category, and some of them are developing new ones, one of the greatest challenge they have to face is to integrate this particular kind of risk category in their risk appetite. This challenge is for most of them a long-term effort, with only 43% saying that risk appetite has been successfully integrated in their businesses. Effectively cascading the risk appetite through the operational levels of the company represent the most challenging task to implement risk appetite (Ernst & Young).

That said more and more banks are taking care with a growing attention to conduct risk. This attentiveness has been required by the heightened regulatory attention to misconducts in the industry (Ernst & Young). The conduct risk sub-category

can be further discomposed in several issues; just to cite some of them, product mis-selling, money laundering, market abuse, unauthorized trading, financial and tax advice are components of the above mentioned conduct risk. All these factors are worth to be analyzed in detail by the CROs in the financial institutions since their effects can lead to a range of adverse effects with considerable financial and reputational costs. The negative effects are amplified if in presence of G-SIFIs, Global Systematically Important Financial Institutions. The major initiatives undertaken by the financial institutions to monitor and measure conduct risk range from introducing new risk-and-control self-assessment by business to improving forward risk-assessment (Ernst & Young).

Apart from conduct risk, a subcategory of non-financial risk on which the banks have been working on during the last years, there are three other non-financial risks that financial institutions have to take care of. Contagion risk, model risk, and cyber attacks are three of the latest non-financial risk to be worried about.

I. Contagion risk

Contagion risk is the first of the three emerging non-financial risks. In the globalized actual world connectedness makes economies and firms more vulnerable to financial contagion. The more closely the markets are, the more quickly the contagion spreads. Negative market developments can spread from one department of the same financial institution to another, or the contagion can involve other banks in the same country as well as it can involve financial

intermediaries across borders. Central banks are the regulators and supervisors that take care of the contagion risk, but the individual banks have to understand how it can be generated and the path it can run to reach other institutions. A bank's exposure to contagion risk is one of the main factors that classifies the bank as G-SIFI and by reducing it the bank itself can gain firstly on the capital requirements imposed on it and secondly on the bank's total risk amount.

II. Model risk

Worldwide banks are more dependent on models; the use of models has been increasing due to the availability of a greater amount of data and to the progress made in the recent years in the computing environment. This situation requires that managers have to fully understand and manage model risk. In fact, errors generated by the use of suboptimal models can lead to poor decision making which in turn increase the amount of risk assumed by the bank (McKinsey&Company, 2015). For example, value-at-risk model represents a clear case of how a model can generate disruption in a financial institution. The value-at-risk model was a model developed by J.P. Morgan and given for free to its competitors in order to downsize overall risk in the American financial and banking system since the U.S. banks were, and still are, intertwined each other. It attempts to quantify what is the most a portfolio can lose in a day with a 95% level of confidence, assuming a normal market and a normal distribution. The fatal flaw of this model, but the same could be said for other financial models, is that it is a simplified version of the reality

being based on assumptions and probabilities but managers could start believing that the model mirrors the reality, thus leading to a false sense of confidence. In fact, VaR as well as other models do not take into account the so called "black swans", events or occurrences that deviate beyond what is normally expected of a situation and is extremely difficult to predict (Investopedia).

Generally speaking, model errors stem from issues with data quality, conceptual solidity, technical or implementation errors, correlation or time inconsistencies, and uncertainties about volatility (McKinsey&Company, 2015). These issues can be faced with multiple approaches spreading from more rigorous and sophisticated model development to better execution, from constant monitoring to improvement of the existing models.

III. Cyber attacks

This non-financial emerging risk is partially related to the risk just discussed above. In fact, banks are relying on software, systems, IT infrastructures and models to carry out their daily duties. The use of digital tools surely increases the efficiency and the speed of the work required at different organizational levels within a financial institution, but on the other hand it poses some risks. A hacker by attacking a bank's IT infrastructure can steal some confidential data about that bank's customers as well as manipulate the bank's operations. It is a really harmful threat that have to be considered by any CRO working within a financial

intermediary. In addition, this threat is so feared since a cyber-attack brought against a financial service firm can cause damages to the financial stability.

Given the rapid and constant evolution of the technology, cybersecurity will become an even more important issue with more resources and attention to dedicate to it; companies' efforts to improve cybersecurity will include making networks more secure, reducing vulnerabilities and increasing costs to hackers. That said, companies should spend some of their resources and capabilities also on the worst-case scenarios in order to include events that are highly improbable but costly, rather than merely focusing on routine incidents. For example, destructive malware attacks are a unique menace since they are at the same time infrequent and catastrophic. Where a risk is listed as infrequent most of the time it could be overlook given its low probability to come to existence: but the perils dwell right below this overlooking since should it come to existence then the effects could be either of scarce significance or with a high impact. In the specific case of a destructive malware the effects are catalogued as catastrophic should the malware be in function, that is why it should not be overlooked. Therefore, financial institutions, working along with government agencies, should comprehend the entity of this risk and make efforts to improve cybersecurity, engage in information sharing, and be able to face such a major incident as well as to recover from its devastating effects.

Moreover, it should be noted that cybersecurity is an issue affecting both U.S. government and companies. Thus information sharing between government and industry is an essential factor to prevent and limit cyber attacks. Information

sharing between public and private sector will advance government's ability to analyze and face these cyber attacks that could have negative consequences in the private sector. The willingness to improve the information sharing between the government and the American private companies has been codified with the Cybersecurity Act of 2015.

Information that should be shared include technical details of malicious activities; by sharing information and knowledge both parties will be better off in presence of a known menace. The FSOC recommended that Treasury, the U.S. Department of Homeland Security, Justice, and Defense, as well as financial regulators should support efforts to implement this legislation (FSOC, 2016). Also, the Council stated that financial supervisors should adopt a common risk-based approach at evaluating firms' cybersecurity and resilience to malicious IT activities; in doing so the supervisor could refer to the National Institute of Standards and Technology Framework for Improving Infrastructure Cybersecurity in order to incorporate this framework in their daily assessments' duties (FSOC, 2016).

Chapter 4: Federal financial regulators and who they supervise

After having described the most prominent financial and non-financial risk types, in this chapter will be analyzed the main American regulators and their roles within the Federal Reserve System. A brief remainder of the financial institutions they supervise is provided although these entities have been described in the second chapter, so the focus in the next paragraphs will be on their regulators and supervisors. In detail the agencies covered by this chapter are the following: OCC, FDIC, Federal Reserve, NCUA, and FSOC.

Office of the Comptroller of the Currency

The OCC supervises national banks, federal savings associations and federal branches and about 50 agencies of the foreign banking organizations operating in the U.S. It has been estimated that the national banks and federal savings associations supervised by the Office total up to 1400. The Office was created in 1863 and its head is also a member of the board of the FDIC and a voting member of the FSOC (Murphy, 2015). It was the OCC that delivered the concept of a banking system supervision able to integrate the aspects of licensing, regulation, and examination. The Office is headquartered in Washington and has four additional district offices and also an office located in London in order to oversees the international activities carried out by national banks. The OCC has

examination powers which allows the Office to enforce the responsibilities of the entities supervised in order to deliver the safety and soundness provision. It also has enforcement powers which include orders to cease and desist. Furthermore, the OCC can revoke the charter of the covered entities.

This is true if the individual firms supervised by the OCC are taken into account, but the duty of the Office is not constrained to an institution-level examination. In fact, the OCC oversees systemic risk among nationally chartered banks and thrifts (Murphy, 2015). For example, the OCC conducts a regular survey of credit underwriting practices. Through this regular survey the OCC is able to identify if the credit risk of a national bank is rising or falling. Another task that is worth underlining after the events of 2008 is the writing of regular reports studying the derivatives activities of American commercial banks.

The OCC tries to tackle three strategic goals. The first goal is the maintenance of a vibrant and diverse system of national banks and federal savings associations that supports a robust U.S. economy (Office of the Comptroller of the Currency). The second one is an organizational focus on the issues of collaboration, process efficiency, innovation, and coordination. Lastly, the Office is firmly oriented to operate independently and effectively into the future (Office of the Comptroller of the Currency). In addition to the three strategic goals, the OCC has listed its five strategic priorities. They include: refine, update and align its supervisory approach, enhance its value to the federal banking system, operate more effectively, match its workforce with its needs, and finally, be a thought leader within the regulatory community (Office of the Comptroller of the Currency).

Federal Deposit Insurance Corporation

The FDIC oversees state-chartered nonmember banks in addition to state-chartered savings associations. It was created in 1933 with the intention to provide assurance to small depositors: they would not lose their money if the bank they invested in their deposits failed (Murphy, 2015). The powers of the FDIC are similar to those of the OCC but in addition to examination and enforcement powers used under the prudential bank regulator arrangement it administers a deposit insurance fund and resolves failing depositories and oversees some systemic non-banks (Murphy, 2015).

According to the task performed by the OCC, the Federal Deposit Insurance Corporation supervises the individual institutions of its competence in order to monitor and enforce the essential element of safety and soundness.

The deposit insurance task is of relevant importance since it helps to stabilize a source of bank funding during times of financial instability and thus is strictly related to economic policy issues. As already stated, one of the major threats for a financial institution is the depositors run on the bank in periods of financial turmoil. Should this happen, then the bank would be in trouble and the condition could rapidly spread to other banks with which the financial intermediary has commercial and investment relationships. To avoid such a situation federal deposit insurance assures depositors that the full-faith and credit of the federal government guarantees their deposits up to a given level (Murphy, 2015). In

exchange for this type of insurance, banks pay a premium to FDIC. The sum of the premium composes the Deposit Insurance Fund.

Prior to 2008 crisis the assured level was established at $100.000 but with the worsening of the financial and economic environment the threshold was temporarily increased up to $250.000. Later the Dodd-Frank Act established that the $250.000 assurance level would be permanent. The cover is extended to any accrued interest through the date of a bank's closing, in addition to the depositor's principal. The coverage is automatic and does not require any action by the depositors since as a general condition for its application there is the mere status of FDIC-insured bank.

The financial products covered by the DIF are checking and saving accounts, negotiable order of withdrawal accounts, money market deposit accounts, time deposits such as certificate of deposit, cashier's checks, money orders, and other official items issued by a bank (Federal Deposit Insurance Corporation). Instead, the FDIC does not cover stock and bond investments, mutual funds, life insurance policies, annuities, municipal securities, U.S. treasury bills, bonds or notes, and safe deposit boxes (Federal Deposit Insurance Corporation).

In the wake of the financial crisis the FDIC made a determination of systemic risk and temporarily guaranteed newly issued senior unsecured debt of banks and thrifts and non-interest bearing deposit transaction accounts (Murphy, 2015). Even if the financial emergency seems to be ceased, the FDIC has still the authority to develop and implement programs should future crisis happen.

When a bank fails the Federal Deposit Insurance Corporation disposes the assets and liabilities. In managing the Deposit Insurance Fund, the FDIC can choose for various purposes even if the DIF is primarily used for resolving failing institutions or failed ones. Taking into account the historical trends, it can be observed that thereafter the latest financial crisis, the failed institutions in 2009 were 140 and this amount increased by 157 in 2010; these numbers rapidly decreased until to account for 5 failed institutions during last year. As a direct effect, the losses accounted in the DIF sharply fell from $26.395 billion in 2009 to $ 47 million in 2016.

It is worth to note that the FDIC provides deposit insurance to all federally insured banks and thrifts but the provision is not extended to credit unions.

Another task which the FDIC is entitled of is the liquidation of troubled financial firms. The Federal Reserve, in concurrence with two-thirds of the FSOC, may determine that a company represents a "severe threat" to U.S. financial stability and may order to the FDIC to close it; this resolution process carried out by the FDIC is valid for nonbanks firms as well as banking companies.

The supervision task is performed by the FDIC in order to ensure that all the institutions supervised by the Corporation appropriately manage risk. For all state non-member banks and state-chartered savings institutions the FDIC performs risk management trust which assures safe and soundness of the oversaw institutions, anti-money laundering and IT examinations. These examinations are conducted to asses an institution's overall financial condition, management practices and policies, compliance with laws and regulations (Federal Deposit

Insurance Corporation); the risks identified during these examinations are discussed with the management. Should the examinations conduct by the FDIC reveal that there are some weaknesses in the operations performed by the financial institution, then the FDIC has the power to issue enforcement actions that will be valid until some corrective actions will be taken to reduce and eliminate these weaknesses. In case of severe problems, the FDIC can also instruct the institution to seek new capital, merge or liquidate.

In addition to on-site examinations, the FDIC conducts off-site monitoring of financial institutions with more than $10 billion assets. As already reported in the previous chapter, cybersecurity is a key risk area that will receive particular attention during the next years (Federal Deposit Insurance Corporation). It means that the resources and the workforce of the FDIC will be particularly dedicated at solving IT issues.

Furthermore, another risk that requires a growing carefulness is the interest rate risk. The interest rate risk is the risk that an investment's value will change due to a change in the absolute level of interest rates or in any interest rate relationship (Investopedia). Since it seems to be on the hedge of a historically low interest rate period, uncertainty about the timing of changes in market interest rates poses a great risk to the overall banking system. That is why the FDIC is working closely with the institutions that have a significant exposure to rising interest rates in order to mitigate this risk.

The Federal Reserve System

The Federal Reserve System was created in 1913 and it has three components: the Federal Reserve Board, the regional Federal Reserve Banks, and the Open Market Committee. It supervises to the stability of the banks and trusts in the American territory. Specifically, it oversees nonbanking subsidiaries of bank holding companies, state-chartered member banks, nonbanking subsidiaries of savings and loan companies, foreign banking organizations operating in the U.S., certain systematically important financial market utilities and nonbank financial institutions, and Edge Act and agreement corporations. Edge Act corporation is a corporate structure for American banks operating overseas: by setting up in Edge Act corporations, United States banks can gain portfolio exposure to financial investing operations that are not available under standard banking laws (Investopedia, Edge Act Corporation).

It is the primary prudential regulator and it has similar authority as the OCC, but it has powers that range from conducting the monetary policy to acting as a fiscal agent in the U.S., from regulating the payment system to monitoring the financial system.

It was the Dodd-Frank Act that made the Federal Reserve the main regulator for systematically important FMUs, Financial Market Utilities. FMUs are multilateral systems that provide the infrastructure for transferring, clearing, and settling payments, securities, and other financial transactions among financial institutions or between financial institutions and the system (Federal Reserve).

In addition, was the same Dodd-Frank Act that designated the Federal Reserve as the primary regulator of all financial firms (either banks or nonbanks) that are labeled as systematically significant by the FSOC.

The five key functions addressed by the Federal Reserve are: conducting the nation's monetary policy, helping maintain the stability of the financial system, supervising and regulating financial institutions, fostering payments and settlement system safety and efficiency, and promoting consumer protection and community development (Federal Reserve).

As already stated above, there are three key entities that compose the Federal Reserve System.

The Board of Governors is the first entity to be analyzed. It is composed of seven governors and it is headquartered in Washington, DC. The President of the U.S.A. appoints each governor and the Senate confirms its decision. The chairman of the Board of Governors is chosen among the seven governors and serves for a renewable period of four years; she/he informs the President of the U.S.A. on economic policy. The governors participate to the Board for a fourteen-years term: this term, in contradiction to the one of the chairman is not renewable. Furthermore, the governors have to come from different Federal Reserve districts in order to prevent that the interests of one States' region is overrepresented in comparison to the others.

The main task in which the Board of Governors is involved is the conduct of the monetary policy. In addition, the Board of Governors sets reserve requirements and controls the discount rate. Moreover, there are several regulatory functions

performed by the Board such as to approve bank merger and application for new activities, to specify the permissible activities of BHCs, and to supervise the activities of foreign banks in the U.S. (Mishkin). Within the Federal Reserve System, the Board of Governors oversights the Reserve Banks' services to depository institutions and to the United States Treasury and approves the budget of the Reserve Banks. Outside the American borders, the governors may represent the U.S. in negotiations with other countries.

The territory of the U.S. is divided in twelve districts and each district is governed by a Federal Reserve Bank. The twelve Federal Reserve Banks are the second Federal Reserve System's entity. Interestingly, the Federal Reserve Banks of Chicago, San Francisco and New York hold almost 50% of the assets of the Federal Reserve System (Mishkin). The most important Federal Reserve Bank is the one of New York, having 25% of the assets of the Federal Reserve System. The Federal Reserve Banks are quasi-public banks since they are owned both by the privates and the government. In fact, the private commercial banks can purchase stocks of their district's Federal Reserve Banks. This is the condition for private institutions to obtain membership in the Federal Reserve Bank of each district.

Checks clearing, issue of new currency, withdrawal of damaged currency from circulation, examination of BHCs and state-chartered member banks, and data collection on local business conditions are the main tasks performed by the Federal Reserve Banks (Mishkin).

Furthermore, the Federal Reserve Banks are involved in the monetary policy in different ways. For example, the directors of each Federal Reserve Bank propose

the discount rate to be applied in the districts to the Board of Governors which reviews and approve or deny the proposal. Also they decide which bank in the district can obtain discount loans from the Federal Reserve Bank itself. In addition, five of the twelve bank presidents participate to the Federal Open Market Committee which direct open market operations (Mishkin). As already said, the bank of New York is the most important one since its president always participate to the FOMC, with four of the remaining eleven presidents rotating their participation to the FOMC.

The third and last entity of the Federal Reserve System is the FOMC. The FOMC meets every six weeks in order to make decisions about the money supply and interest rates, the so called open market operations. FOMC's composition is given by the Board of Governors, the president of the Federal Reserve Bank of New York and the presidents of four other Federal Reserve Banks (Mishkin). The other seven presidents of the Federal Reserve Banks participate to the meetings and can influence the decisions even if they do not have voting power. However, the voting power is provided to four of the eleven presidents of the Federal Reserve Banks on a rotating basis which lasts for one year.

National Credit Union Administration

NCUA supervises the federal credit unions. These are nonbank institutions which perform tasks similar to banks, offering more limited services. Thus, they

are not considered part of the banking industry. The Central Liquidity Facility is the credit union lender of last resort and it is administered by the NCUA. Moreover, the NCUA manages the National Credit Union Share Insurance Fund which insures credit union deposits (Murphy, 2015). As happened for the FDIC's coverage threshold, the Dodd-Frank Act increased in 2010 the maximum share insurance amount at $250.000.

A credit union is a member-owned financial co-operative (Investopedia, Credit Union). Since they are co-operatives they are not subjected to corporate income taxes. Credit unions have a not-for-profit status since their goal is to better the community and not to make a profit. As of January 2017, in the U.S.A. there were 5,986 credit unions.

NCUA is governed by a Board composed of three members appointed by the President of the United States of America and confirmed by the Senate. The three Board's members manage the NCUA for a six-year term.

Financial Stability Oversight Council

After having analyzed the main Federal financial regulators and supervisors it is time to shift the attention on a formal interagency body established by the Dodd-Frank Act in 2010 (Federal Reserve System).

The FSOC has three stated purposes to meet: it draws on the expertise of the Federal Reserve and other regulators to identify risks to financial stability, promote market discipline, and respond to emerging threats (Federal Reserve

System). It is worth to note that the Dodd-Frank Act did not provide the FSOC the authority to eliminate the emerging threats; instead, the Council can only provide recommendations on how to mitigate or remove those threats.

In detail, FSOC's duties are several and comprise collecting information on financial firms, proposing regulatory changes to Congress to promote stability, competitiveness, and efficiency, facilitating information sharing and coordination among financial regulators as well as making recommendations to these regulators, identifying gaps in regulation that could pose systemic risk, reviewing and commenting on new or existing accounting standards, and lastly, providing a forum for the resolution of jurisdictional disputes among council members (Murphy, 2015).

Also the FSOC determines which firms within the U.S. territories have to be regarded as systematically important. For those firms the Council adopts a special supervision regime, since more attention is required should their financial situation worsen. Furthermore, under the Federal Reserve request of approval, the FSOC have to vote (with the majority of two-thirds of its voting members) whether to shut down systematically important financial companies which pose a threat to the U.S. financial stability.

The Secretary of the Treasury is the head of the FSOC. In addition, the Council is composed of voting members and non-voting members. The heads of the Federal Reserve, FDIC, OCC, NCUA, SEC, CFTC, FHFA, and CFPB are among the voting members. Instead, the director of the Office of Financial Research, the head of the Federal Insurance Office, a state banking supervisor, a state insurance

commissioner, and a state securities commissioner are the non-voting members. Non-voting members have an advisory role within the Council (Murphy, 2015).

Every year the FSOC prepares a report discussing about potential emerging threats and vulnerabilities, providing recommendations, and analyzing U.S. financial developments. The Council meets every quarter or at the call of the head or the majority of the voting members.

Chapter 5: U.S. banking system capital requirements

Provisions in Dodd-Frank Act

In the wake of the 2008 financial crisis, American government adopted several provisions and established new regulators and supervisor institutions to prevent that another financial crisis could strike the country. These provisions were collected in the Dodd-Frank Wall Street Reform and Consumer Protection Act signed into law by President Obama on July 21st, 2010.

The stated aim of the Act is to promote the financial stability of the United States by improving accountability and transparency in the financial system, to end "too big to fail", to protect the American taxpayers by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes (One Hundred Eleventh Congress of the United States of America , 2010).

The provisions comprised in the Act sought to strengthen capital requirements of banks and to extend capital regulatory approaches to non-bank financial firms and markets (Murphy, 2015). The common trait below most of these provisions is the extra capital required to be hold for SIFIs and SIBs, derivatives trading platforms, and other FMUs operating in the territories of the United States of America. The capital requirements cannot be lower than what was established before Act's enactment date: this means that the regulators were not allowed to lower capital requirements for depository institutions and financial services firms.

The rationale behind the holding of extra capital is that these companies and institutions have to compensate for the risk that their failure might pose to the overall system. As already stated in the previous chapters the systemic risk was and is one of the most feared in the American financial system, given its effects after the 2008 events.

The first title of the Dodd-Frank Act, being called Financial Stability, is representative for the whole document. It was the Title I of the Act to create the FSOC and the Office of Financial Research; the common task between the two federal agencies is that of monitoring systemic risk and to closely analyze the economic situation of BHCs and SIFIs. Furthermore, it is still the same Title to impose to banking regulators minimum risk-based capital requirements and leverage requirements for SIFIs and depository firms (Murphy, 2015).

The sections of the Title I on which the attention should be drawn are: section 115(c), section 165 (d), and section 165 (j).

According to section 115 (c), the FSOC was asked to study a plan to implement a contingent capital requirement for SIFIs. Contingent capital is debt that can be converted by the issuing firm into equity if certain circumstances occur (Murphy, 2015). Whether the FSOC should recommend the contingent capital requirement, then the Federal Reserve will have the authority to impose the conversion of debt into equity to the SIFI under observation.

Section 165 (d), on the other hand, proposes that certain institution have to prepare resolution plans. The resolutions plans have to be prepared by BHCs with consolidated assets of $50 billion or more. The resolution plans are more commonly

known as “living wills”, and tell the FDIC how the company should be managed in the event of a failure (Investopedia, A New Plan to Prevent Future Bailouts). Each resolution plan is evaluated by regulators in order to assess whether a bank’s liquidation plan is sufficient to prevent aftershocks to the U.S. overall economy in the event that the bank fails (CNBC). The general idea behind this resolution plan provision is to have a liquidation plan and instructions ready to use in case of a financial institution’s failure, eliminating the need to proceed through a bailout. A depository institution has two attempts to propose an adequate resolution plan: should a bank be not able to propose an adequate resolution plan after the second attempt it will face potential sanctions. This process is also a way to reduce the phenomenon of shadow banking perpetrated by some banking institutions.

Instead section 165 (j) requires the Federal Reserve to impose leverage limits on BHCs with assets greater than $50 billion and on the systematically important non-bank financial companies that it will supervise, with a debt-to-equity ratio less than 15-to-1 (Murphy, 2015).

In Title IV is contained a key component of the Act: the Volcker rule. This rule restricts the ways banks can invest by limiting speculative trading and eliminating proprietary trading (Investopedia, Dodd-Frank Wall Street Reform and Consumer Protection Act). Proprietary trading occurs when a firm or bank invest for its own direct gain instead of earning commission dollars by trading on behalf of its clients (Investopedia, Proprietary Trading). Financial firms and banks have an incentive to do proprietary trading since it is easier for these institutions to gain a profit from the market rather than relying on the thin-margin commissions they collect

after having processed a trade for their clients. Moreover, it exists a second reason why financial institution could do proprietary trading: they are able to stockpile securities to be offered to their clients or to sell them in periods of market illiquidity. Thus, throughout proprietary trading these companies are able to become market makers.

Most of the financial institutions that were engaged with proprietary trading, before the Dodd-Frank Act was signed into law, were investment banks and brokerage firms. It is believed that this recurrent behavior was one of the causes that gave birth to the financial crisis, therefore it was banned with the Volcker rule.

In addition, banks are not allowed to engage activities with hedge funds or private equity firms, being these businesses too risky. For instance, banks are not permitted to invest more than 3% of their capitals in derivatives and participations in hedge funds.

The Federal Reserve and other federal regulatory authorities communicated their willingness to translate the Act's provisions into workable rules, regulations, and guidelines in order to enact the reform of the financial system and to promote its stability and sustainability (Federal Reserve System).

Most of the agencies were maintained with the Act, but the majority underwent a process of reform which brought changes; also the FSOC, the Office of Financial Research, and the Bureau of Consumer Financial Protection were created. The last entity was created in order for consumers to fully understand the terms of a mortgage before finalizing the paperwork and to prevent predatory mortgage

lending, since the subprime mortgage market was the foundation for the subsequent financial crisis (Investopedia, Dodd-Frank Wall Street Reform and Consumer Protection Act).

All the agencies were compelled to report to Congress either on an annual or semiannual basis in order to present the results of their plans and to discuss future goals.

Capital standards for federally regulated depository institutions

The capital requirement imposed by the OCC is an 8% risk-based capital ratio, which measures bank capital against assets, with asset values risk-weighted. The most highly rated banks, those having well-diversified risks, no interest rate risk exposure, excellent control systems, good earnings, high asset quality, high liquidity, and well managed on-and-off balance sheet activities must maintain Tier 1 capital in an amount equal to at least 3% of adjusted total assets (Murphy, 2015). Other banks not being comprised in this category have to maintain the minimum Tier 1 capital leverage ratio at 4%.

The depository institutions that are allowed to maintain a leverage equal at least to 3% are those that have received a rating equal to I under CAMELS rating system. FDIC requires the institutions it supervise to maintain the same minimum capital ratio as for the OCC.

CAMELS is the acronym of Capital adequacy, Asset quality, Management capability, Earnings quantity and quality, Liquidity, and Sensitivity to market risk. The overall rating given to a certain financial institution can range from I (the best) to V (the worst).

The rating system has been elaborated by the Federal Financial Institutions Examination Council in 1996. Previously, the FFIEC used as a rating system the Uniform Financial Institution Rating System which was introduced in 1979.

FFIEC's task is to coordinate the rating systems used by bank examiners so that the examinations conducted are consistent.

Capital adequacy evaluates the level of capital held by a bank relative to the risks it takes. The factors that affect capital adequacy are several and comprises changes in credit risk, market risk, and the institution being observed financial condition. Whether the assets' problems increase then an increase in capital would be required. Furthermore, capital adequacy takes into account the potential risks concerning off balance sheet items.

Asset quality refers to existing and potential credit risk associated with a bank's portfolio (Murphy, 2015). This measure reports changes in loan default rates, investment performance, exposure to counterparty risk, as well as all the other risks that could affect the value or marketability of an institution's assets (Murphy, 2015). As for capital adequacy the measure considers the potential risks affecting items that are not reported on a financial institution's balance sheet.

Management capability is the third element which composes the CAMELS. It tries to establish the governance quality and level of the bank. The rating is affected by

elements such as legal compliance and responsiveness to auditor recommendations.

The rating about quality and quantity of a bank's earnings involves not only the actual earnings but also the sustainability of future ones. The rating on earnings can be reduced by tax effects and nonrecurring events as well as inadequate controls for expenses. Moreover, problems in earnings' forecasts and risk management can be a further reason to reduce the above mentioned rating on this issue.

Given an institution's size and complexity, the factor concerning liquidity assesses the ability of the company to timely meet its financial obligations without incurring in excessive losses such as in the case of a "fire sale" (Murphy, 2015). Banks' examiners in rating this factor take also into account the trend and stability of deposits and the capability to securitize and sell a portfolio of assets.

Movements in interest and foreign exchange rates, commodity and stock prices are issues that determine sudden changes in assets' prices. This kind of change is abridged under the name of market risk. In order to deliver a correct rating to this factor, banks' examiners have to consider management's ability to recognize and manage the risks that can result from the trading activities the bank engages with the financial market and, in addition, any interest rate risk from non-trading positions. Sensitivity to market risk is also affected by the other five factors composing the CAMELS rating system.

State banks that are members of the Federal Reserve System have to meet an 8% risk-weighted capital standard, of which at least 4% must be Tier I capital

(Murphy, 2015). This 4% threshold is reduced to 3% if the financial institution is rated as I under the CAMELS rating system. Furthermore, the Federal Reserve System establish the amount of reserves that financial institutions have to maintain as part of monetary policies. As known, bank lending can be affected either by changes in reserve requirements or by changes in capital requirements. The above mentioned reserves include currency and deposits at the nearest Federal Reserve branch, checking, savings, and time deposits. The outstanding amount of deposits that depository institutions are allowed to have are influenced also by these reserves; moreover, the size of these reserves ties deposit liabilities to the amount of loans these firms can acquire (Murphy, 2015).

Lastly, according to what has been established by the NCUA, credit unions have to respect a risk-based net worth constrained to 7%. This is the minimum threshold for credit unions to be considered well capitalized.

Comprehensive Capital Analysis and Review

Comprehensive Capital Analysis and Review evaluates the capital planning processes and capital adequacy of the largest U.S. based BHCs (Federal Reserve). CCAR includes an analysis of a BHC's planned capital actions: these actions include dividend payments as well as shares buybacks and issuances.

Since 2011, this regular supervisory review about the capital plans of 30 of the largest BHCs has been first developed and then implemented by the Federal Reserve System. Generally speaking, the capital plans submitted by these

institutions have to contain detailed information about the capital actions above mentioned. All the banking companies with at least $50 billion of consolidated assets have to submit to the Federal Reserve their capital plans; these plans have to be submitted to the Federal Reserve every year with the previous approval of the BHC's Board of Directors.

The aim of CCAR is to ensure that the firms' capital processes are sufficiently comprehensive and forward looking (Federal Reserve).

The content of each capital plan prepared by the BHCs is the following: a detailed description of the BHC's internal process for assessing capital adequacy, the Board of Directors' approved policies governing capital actions, and the BHC's planned capital actions over a nine-quarter planning horizon (Federal Reserve System).

Specifically, the capital plan rule indicates four compulsory elements that have to be reported in any capital plan.

First of all, BHCs have to prepare an assessment of the expected uses and sources of capital which reflects the BHC's size, complexity, risk profile, and scope of operations. This assessment about uses and sources of capital have to be prepared assuming both expected and stressful conditions. The assessment has to include estimates of projected revenues, losses, reserves, and pro forma capital levels. The pro forma capital levels comprise any minimum regulatory capital ratios and any additional capital measures deemed relevant by the BHC (Federal Reserve System). Furthermore, in the assessment the BHCs have to report how they will maintain the minimum regulatory capital ratios under the required threshold given the expected conditions and stress test scenarios. The required minimum capital ratios

for LISCC firms and large and complex financial firms in CCAR 2017 are a 4.5% common equity Tier 1 capital ratio, a 6% Tier 1 risk-based capital ratio, an 8% total risk-based capital ratio, and a 4% Tier 1 leverage ratio. Large Institution Supervision Coordinating Committee is a council composed of senior officers representing various functions at the Board and Reserve Banks, bringing an interdisciplinary and cross-firm perspective to the supervision of SIFIs (Federal Reserve). The approach promoted by the LISCC is direct at evaluating the systemic risks posed by the companies comprised in the LISCC portfolio throughout the valuation of financial and macroeconomic risks. Currently the LISCC portfolio includes the major American BHCs such as J.P. Morgan Chase & Co., Citigroup Inc., Morgan Stanley, Wells Fargo & Company, and Bank of America Corporation. Moreover, BHCs have to discuss in their assessments the results of the stress tests and how the capital plan will take into account these results. Then, the last element of the assessment is an overview of all the capital actions that are planned over the nine-quarter period.

The second component required by the Federal Reserve in the capital plan is the description of which processes the BHCs underwent to assess the capital adequacy.

BHCs' capital policy and comment of any expected changes to their business plan that could impact the firms' capital adequacy and liquidity are the third and fourth capital plan's requirements, respectively.

As already pointed out CCAR make use of stress tests: they verify whether the financial institution will be able to hold enough capital in order to remain a viable financial intermediary in presence of stressful economic conditions that could lead

to increased losses and reduced earnings (Federal Reserve). This means that in presence of an economic downturn or negative event affecting a financial institution, it will be able to continue to lend to households and businesses, to maintain its ordinary operations, to keep a ready access to funding and, finally, to meet its obligations with the creditors.

There are five different scenarios to use in a stress test. Three of these scenarios are provided by the supervisor and, in order, are baseline scenario, adverse scenario, and severely adverse scenario. The remaining two scenarios are developed by the BHC and comprise the BHC baseline scenario and the stress scenario: these reflect the BHC's unique activities and risk exposure. Sometimes it can happen that the baseline scenario used by the BHC is the same as the one provided by the supervisor, if the financial institution believe that the assumptions made by the supervisor are valid.

In 2017 the severely adverse scenario is based on a severe global recession with U.S. unemployment rate rising by 5.25% to reach 10%. Furthermore, in the same scenario the supervisors added a period of heightened stress in corporate loan markets and commercial real estate markets (Federal Reserve, 2017). For what it may concern the adverse scenario, instead, the supervisors took into account a moderate recession striking in the U.S. as well as in the rest of the world.

The Federal Reserve can decide to constrain a BHC's capital actions if the company does not meet the stress test's criteria. This is only part of the stress test procedure that a financial institution has to comply with; in fact, BHCs with consolidated

assets over $50 billion and all other Federal Reserve regulated firms having at least $10 billion in assets, have to proceed with their internal stress tests.

In fact, a BHC has to report to the Federal Reserve the results of stress tests conducted by the BHC under supervisory scenarios that have been previously provided by the Federal Reserve and under baseline and stress scenario designed by the BHC (Federal Reserve System).

In 2017, thirteen of the largest BHCs will be subject both to a qualitative and quantitative assessment of their capital plans by the Federal Reserve.

Governance, risk management, internal controls, capital policies, stressful conditions and events incorporation, and estimation about the impact on capital positions are the six areas of capital planning on which the Federal Reserve focus its attention in conducting the qualitative assessment for CCAR (Federal Reserve System). The supervisors assign a grade to each of the six elements reported above. The aim of the ratings is to highlight whether a BHC's capital planning practices meet the standard expected by the supervisors.

CCAR qualitative assessment is helpful in underlining the key weaknesses of the internal processes carried out in a BHC: these key weaknesses could require an additional supervisory scrutiny throughout the year.

On the other hand, CCAR quantitative assessment of a BHC's capital plan is strictly based on the stress tests run by the companies and the supervisors.

It includes a supervisory valuation of the BHC's ability to maintain capital levels above each minimum regulatory capital ratio, after making all capital actions

included in its capital plan, under baseline and stressful conditions throughout the nine-quarter planning horizon (Federal Reserve).

The Basel capital Accords

The Basel Accords are three sets of banking regulations set by the Basel Committee on Bank Supervision, which provides recommendations on banking regulations in regard to capital risks, market risk, and operational risk (Investopedia, Basel Accords). The U.S.A. serves as a participating member in the BCBS, which was founded in 1974.

The members of the BCBS meet to create broad supervisory principles and guidelines with the expectation that the single states adhering to the Basel Accords will take steps to implement them in their national jurisdictions. It means that the Federal Reserve has to consider what has been discussed and approved in the Basel Accords, in addition to any U.S. based regulation.

The aim of the accords is to guarantee that the financial institutions have enough capital on account to meet obligations and absorb unexpected losses (Investopedia, Basel Accords). Thus, the worldwide banking system, under the Basel Accords, received a further strengthening of its practices as well as regulation and supervision tasks leading to an enhancement of global financial stability.

Since 1988 there have been three iterations of the Basel Accords.

The first Basel Accord was issued in 1988 and it is known as Basel I. It established risk-based capital adequacy standards for banks operating in signatory countries (Black). The capital adequacy risk is the risk that a financial institution will be hurt by an unexpected loss and categorizes the assets of financial institutions into five risk categories (0%, 10%, 20%, 50%, and 100%) (Investopedia, Basel Accords). CAR, acronym of Capital Adequacy Ratio, is given by the ratio between the sum of Tier I and II Capital and the risk weighted assets owned by a financial institution; banks operating worldwide are required to maintain CAR below an 8% threshold.

In addition, Basel I reduced international competitive inequities and increased comparability of institutions' capital positions.

Basel II Accords, signed in 2004, served as an implementation of the original Accords. If the first Accord was exclusively based on the control of financial risk, Basel II evolved including operational risk besides financial one. It created a three-pillar framework to assess banks' capital adequacy. The first pillar concerned the minimum capital requirements required to align banking organizations' capital requirements with their underlying risks, including operational risk (Federal Reserve). The second pillar is known as supervisory oversight and it encompassed the evaluation of banking organizations' capital adequacy. It also encouraged better risk-management techniques.

Lastly, the third pillar is about market discipline and it called for enhanced public disclosure of banking organizations' risk exposures (Federal Reserve).

After the 2008 financial crisis the BCBS decided to strengthen and update the Basel II Accords. Thus, in 2010 the Basel III Accords were born. They focused on common equity and comprised measures to improve the quality of regulatory capital to include instruments that were totally able to absorb unexpected losses (Federal Reserve). In addition, they increased the minimum quantity of capital that depository institutions were required to hold as a percentage of their risk-weighted assets and offered benefits to those organizations conserving capital. Given the importance of systemic risk, discovered with the latest financial crisis, Basel III asked systematically important banks to conserve extra capital.

Chapter 6: Wells Fargo & Company Overview

In the second part of this document, it will be presented and discussed the Wells Fargo case. First of all, the company will be introduced in this chapter. Next, the scandal and its effects on the company itself will be discussed and, finally, in the last chapter it will be analyzed whether the provisions reported in the first five chapters have worked or not in preventing the scandal and in the aftermath of the event.

Wells Fargo & Company history

Wells Fargo & Company is a diversified financial services company providing banking, insurance, investments, mortgage, leasing, credit cards, and consumer finance (Bloomberg). The company operates through physical stores, the internet and other distribution channels across North America and elsewhere internationally (Bloomberg).

Wells Fargo is a BHC. The company has three business segments: Community Banking, Wholesale Banking, and Wealth and Investment Management.

Community Banking segment serves consumers and small businesses and it is by far Wells Fargo's largest segment. On the other hand, financial institutions and businesses with at least $5 million of annual sales are the clients of the Wholesale Banking; operations in this segment include investment banking and capital

markets, securities investment, commercial real estate, and capital finance (Bloomberg). Instead, Wealth and Investment Management segment provides financial advisory services to customers, including wealthy families and individuals (Bloomberg).

Other two segments run by the Wells Fargo's BHC are Wells Fargo Home Mortgage and Wells Fargo Insurance Services.

In 2016 Wells Fargo's market share in North America accounted for 9.90%, being the largest market share followed by Bank of America Corporation which had 9.22%. Berkshire Hathaway Inc. (whose owner is the billionaire Warren Buffett), Vanguard Group, Blackrock, and State Street Corp. are the major Wells Fargo shareholders, holding 10.08%, 6.01%, 5.46%, and 4.23% of Wells Fargo's shares, respectively. The top ownership type is held by investment advisory companies having 84.19% of shares. As it is easy to imagine, 84.25% of these shares are held in the United States of America, with Britain coming next and having a 4.25%.

Wells Fargo's brand is associated with a red stagecoach riding across the American West. The brand tries to evoke the values of honest pioneers and a simpler time; it has been so powerful to be ranked at the thirteen position in the Global 500 2017 list of the brands created by Fortune.

Wells Fargo was created in 1852 to serve the American West. The company offered services such as buying gold and selling paper bank drafts for the same value as gold or fast delivery of any valuable good.

Being a reliable gold and money security deliverer, the company easily earned a reputation of trust by its customers. The first bank to be opened was the one in

San Francisco due to the proximity to the port and given the importance of this structure in the gold rush. Once the transcontinental railroad was built, Wells Fargo expanded across the East to reach New York; it adopted the "Ocean-to-Ocean" motto to describe its linkages through 2,500 communities in 25 states. In addition, wherever there was mining Wells Fargo guarded the gold (Wells Fargo & Company).

The company helped in starting the Overland Mail Company, a company carrying U.S. Mail through the American territory connecting St. Louis and San Francisco. It was 1858 and two years later the Overland Mail Company was taken over due to the debt owned to Wells Fargo. It was with such decisions that Wells Fargo imposed itself in the minds of the western Americans and increased its recognition and credibility throughout the U.S. inhabitants.

In the first half of the XX century a good management allowed the bank to struggle the Great Depression and served the nation during World War II (Wells Fargo & Company). This was a crucial point in Wells Fargo way of doing business: in prosperity, depression and war, even greater post-war prosperity, social changes and ever faster communications technologies, Wells Fargo's attention to customer business has seen it through these great events and brought success (Wells Fargo & Company). The virtuous conduct led the institution to became the seventh largest bank in the U.S.A. in the 1980s.

At the beginning of the XX century, Wells Fargo bought banks in Alaska, California, Michigan, Nebraska, and Utah; meanwhile, it acquired Servus

Financial, a student loan writer, Ragen McKenzie, a securities brokerage firm, and Charter Financial, a leasing company (Bloomberg).

By acquiring Houston's First Community Bank in 2005 and California-based banks Placer Sierra Bancshares and Greater Bay Bancorp in 2007, Wells Fargo augmented its presence in the fast-growing states of Arizona, California, Colorado, and Texas (Bloomberg). The company further expanded the presence in these territories when it bought five banks in Wyoming and Idaho, and Century Bancshares.

In the aftermath of the financial crisis, as a plan to provide new stimulus to the U.S. credit markets, the U.S. government decided to buy $25 billion worth of Wells Fargo preferred shares.

In 2008 Wells Fargo decided to expand itself in a bigger way by acquiring Wachovia, a diversified financial services company headquartered in Charlotte and the fourth-largest BHC in U.S., for $12.5 billion.

In the beginning Wachovia had agreed to sell its banking business to Citigroup for $2 billion, but Wells Fargo countered Citigroup's offer with a $12.5 billion deal which included all of Wachovia's operations (Bloomberg). The fit between Wells Fargo and Wachovia was good, but the transaction brought some trouble. In fact, in 2011 Wells Fargo agreed to pay more than $11 million in penalties to SEC to settle charges that Wachovia sold fraudulent mortgage-backed securities between 2006 and 2007 (Bloomberg). In connection to these mortgage-backed securities, Wells Fargo paid $125 million to pension funds to settle claims over losses tied to

those instruments. Furthermore, Wells Fargo paid more than $148 million in 2011 to regulators due to other fines tied to Wachovia (Bloomberg).

Except for these fines, the acquisition was successful with Wells Fargo diversifying its business model thanks to Wachovia Securities; this deal augmented Wells Fargo's presence in the Southwest and allowed to grow its presence in the Southeast. Moreover, Wells Fargo's balance sheet was strengthened thanks to a boost in liquidity and capital.

In 2011 Wells Fargo acquired EverKey Global Partners, an investment banking boutique, and decided to go global; a year later, in 2012, the company purchased Burdale Financial, an UK asset-based lender. Then, in 2013, Wells Fargo acquired Commerzbank's Hypothekenbank Frankfurt, an UK commercial real estate portfolio (Bloomberg).

Nowadays, Wells Fargo is headquartered in the historic venue of San Francisco. The company does business with seventy million customers and one in three American households. At the end of the 2016 it ranked third in assets among U.S. banks according to SNL Financial and third in total deposits according to FDIC (Wells Fargo). As of December 31 2016, Wells Fargo had $1.9 trillion of assets, approximately 269,000 team members, 8,600 domestic and global locations, and its market value of stock totaled up to $276 billion. Community Reinvestment Act government data reports that Wells Fargo was ranked first in 2016 as small business lender while, in the same year, Bloomberg cites the Company as the first preferred stock underwriter.

Wells Fargo & Company vision and values

"We want to satisfy our customers' financial needs and help them succeed financially."

After 20 years this is still the vision adopted at Wells Fargo. The basic premise on which this vision is based is the one that affirms that customers coming from different business segments can save their time and money if they bring their financial services to a trusted provider that can offer guidance, knowing its customers well, and several solutions to their needs (Wells Fargo , 2017). Financial success can be different for every customer, from being disciplined about spending to start a business, and Wells Fargo with its vision tries to answer all the distinctive needs of its customers to deliver success to everyone.

In addition, Wells Fargo has five values that are based on its vision and guide everything the company does. First of all, Wells Fargo consider people as a competitive advantage. That is why the company refers to its employees as team members, striving to attract, develop, retain, and motivate the most talented ones (Wells Fargo , 2017). Everyone is important and by recognizing this the company hope that the members will act as a consequence in order to satisfy the customers at the best of their possibilities. Thus, the working environment is important in Wells Fargo and the feedback of its team members is considered essential for the company: the bank wants its members to be in the meantime its customers and loyalty to the company is awarded.

Then, Wells Fargo strives for the highest ethical standards for all the people who have a relationship with the firm, from the team members to the customers and from its community to the shareholders. As the company recalls, it is not just important to do things but also to do them in the right way. Honesty, trust and integrity have to be constructed with the everyday relationships happening inside and outside the firm.

As third value, Wells Fargo values what is right for its costumers in everything it does (Wells Fargo , 2017). The company admits that it is pivotal for its success and its customers' success to make feel them as part of the group. This implies that confidential data and information have to be preserved and that the customers' expectations have to be constantly met.

Diversity is another value that have to be safeguarded in Wells Fargo; a diverse and inclusive culture for the team members is always sustained inside the company. Team members have to feel comfortable, valued, and respected to build their career in the firm and to help it in succeeding. The respect of the diversity of its employees is a commitment to serve in an equal inclusive way the different communities the bank assists. This pledge is is going to be really fulfilled with Wells Fargo announcement to spend by 2020 at least 15% of its annual controllable budget with certified disadvantaged-, minority-, and women-owned businesses as well as small businesses (Wells Fargo , 2017).

Lastly, the fifth value secured in Wells Fargo is leadership. Team members have to be leaders in establishing, sharing and communicating the firm's vision (Wells Fargo , 2016). All the team members have to be able to lead themselves, lead the

team, and lead the business (Wells Fargo , 2017). Being a leader in Wells Fargo does not mean to rely on the power of authority but to inspire the other team members to have confidence in themselves and to provide an answer to every customer's need.

The culture of Wells Fargo is thus based on deeply understanding its vision and values.

Wells Fargo & Company strategy and operations

Even if vision and values are well defined at Wells Fargo, they are not enough. In fact, the company need a reasoned strategy to achieve its vision and a good business model to deal with every economic cycle. The foundation of Wells Fargo's strategy is focus on its customers. The company attempts to build a long lasting relationship with its customers by addressing their needs and delivering the best services that satisfy the demand. It is essential to understand what the customers need and not what the company want to sell them. Success at Wells Fargo is intertwined with its customers' financial success.

Therefore, at Wells Fargo time spent with a client is vital to build a good relationship with her/him; in order to efficiently reach the customers, the company focus on its technological resources. However, technology on its own cannot deliver a competitive advantage if it is not sustained by speed and creativity. That is to say that Wells Fargo's customers have to be reached anywhere at any time. For example, in 2015, after noting that three in four Latinos owned smartphones,

Wells Fargo updated its mobile banking phone app to show options in Spanish as a way to retain and grow that clientele's business (Bloomberg).

The major growth strategy at Wells Fargo is to increase the number of products their customers use, becoming a one-stop-financial-shop for all customer needs; that is why in 2002 its retail banking headquarters moved from San Francisco to Los Angeles with the aim to target the local growing Hispanic and Asian communities (Bloomberg).

Another Wells Fargo's strategy driver is a sound risk management able to build a relationship based on trust between the bank and its clients. Risk management is really a competitive advantage at Wells Fargo since by working hard to ensure that appropriate controls are in place to reduce risks and maintain and increase the firm's competitive market position, both the company and the customers benefit from this practice (Wells Fargo , 2017). In fact, customers' trust in the company gets dramatically increased while Wells Fargo's long-term safety, soundness and reputation are protected (Wells Fargo , 2017).

Chapter 7: Wells Fargo & Company scandal

What stated in the previous chapter has not always been true and has been put in discussion during fall 2016 when a scandal involving Wells Fargo emerged.

The company was accused to have opened more than 2 million unauthorized accounts, an illegal marketing operation encompassing cross-selling (Laura J. Keller J. W., Wells Fargo's CEO to Face Senate Panel in Cross-Selling Scandal , 2016). Cross-selling is the practice of selling or suggesting related or complementary products to a prospect or customer; if done effectively it means significant profits for stockbrokers, insurance agents and financial planners (Investopedia, Cross-sell).

These unauthorized bank and credit card accounts were created between May 2011 and July 2015; according to the allegations the employees at Wells Fargo operated in a such way to meet aggressive sales quotas.

In the previous chapter, it has been reported that one of the strategies pursued at Wells Fargo is to increase the number of products its customers use, in order to become a one-stop financial-shop for all the customers' needs. The strategy was misinterpreted and led to this unethical behavior.

The reasoning starts from a research conducted by A.T. Kearny which found that American customers hold, on average, 2.71 products in their main bank. In fact, the American consumers prefer to spread out their money over more than one bank, in order to reduce risk. While almost all customers have a checking account

and 67% have a savings account, fewer than 50% have credit cards at their banks, and only 11% took out mortgage there (Ensign). The above mentioned products' average has been obtained taking into account different banks' sizes; customers at the three largest banks in U.S. hold 2.83 products and the average increases up to 3.06 in the case of credit unions. On the other hand, people banking at small and medium sized banks have only 2.2 products on average.

Thus, in Wells Fargo case, its customers should hold 2.83 products on average.

But as reported by Senator Elizabeth Warren on September 20 2016, resigned Wells Fargo CEO John Stumpf set the average number of products sold to the bank's customers at eight. This sales quota was not set after being aware of customers' needs or having studied the bank's average, but because as stated by Stumpf in the 2010 annual report, "eight rhymes with great" (Wells Fargo).

Stumpf encouraged investors in Wells Fargo by admitting that the company was successful at cross-selling. Besides, analysts at Walls Street stimulated investors to buy Wells Fargo's stock due to the strong cross-sell numbers.

In April 2012, the average number of products per household sold at Wells Fargo was at his highest ratio, 5.89. A year later, the company achieved another record, with retail banking cross-sell ratio equal to 6.1. The average products sold per household kept rising to 6.17 in April 2014.

While this procedure at Wells Fargo lasted, Stumpf held an average of 6.75 million shares; the share price during this time period went up by $40, implying that Stumpf had more than $200 million in gains at Wells Fargo.

The board committee became aware of the fraud in 2011, as Stumpf testified, but the executives and the board of directors were slow to address this unethical process and when they proceed it was not done effectively. Stumpf became aware of the fraud in 2013, when media started to report about illicit behavior, and the board became very active in tackling the issue only in 2015.

Retail banking employees reported a culture of fear and daily intimidation by those managers who pushed them to meet sales goals. Some of them said that branch managers monitored employees' sales goals every day and the sales numbers were in turn reported to higher-ranking managers up to seven times per day (Glazer). Employees working in Lincoln, Nebraska, said they had a daily goal to open two new checking accounts and make eight other product sales (Glazer). Another example is the sales target put in an office in New Milford, New Jersey: there the employees had to sell 15 new products a day and those products they did not manage to sell in a day were added to the sales target of the next day. Thus, both tension and intimidations began to span between lower level employees and higher-ranking managers.

The employees and the managers who refused or were not able to meet the sales goals decided to quit Wells Fargo while others were fired. For example, those who tried to call the ethics hotline were fired shortly after.

Another issue was related to the filing of Form U5, a form filed for any broker leaving a bank. The form has to be filed with the Financial Industry Regulatory Authority and every negative mark put on it can have devastating consequences for a broker's career. Some of the employees who worked at Wells Fargo stated that

the company threatened them with a negative mark to be put on any Form U5 in case someone leaving the firm had reported the ethical issue, previously.

Behind this unethical behavior carried out by some employees to reach their sales target there was Wells Fargo's bonus compensation program.

The bonus compensation program at Wells Fargo was structured in order to increase the compensation of lower level employees. In fact, these bonuses made a big difference in the salaries of branch employees whose base salaries often were about $30,000 a year (Glazer). Bankers in branches who hit sales targets could earn bonuses of $500 to $2,000 per quarter, while district managers could get $10,000 to $20,000 a year (Glazer). Thanks to this program, employees and managers could increase their quarterly income from 10% up to 30%.

What was studied as a way to increase customer base, revenue and employee compensation at the bank, became a mechanism that encouraged accomplishment at any cost.

As admitted by Wells Fargo CFO John Shrewsberry, "These bad practices were not a revenue-generating activity, but it was at the lower end of the performance scale where people apparently were making bad choices to hang on to their job." (Laura J. Keller J. S., 2016).

Moody's spoke of pervasive inappropriate practices encouraged by Wells Fargo and of managers who did not provide oversight of employees. Furthermore, the credit rating company expected that bank's risk management and sales oversight would be strengthened even if Wells Fargo had a good reputation among customers for a sound risk management and strong customer satisfaction scores (Laura J. Keller

J. W., Wells Fargo's CEO to Face Senate Panel in Cross-Selling Scandal , 2016). However, Moody's maintained its rating unchanged.

Conversely, results of examinations carried out by the CFPB and the OCC had a negative credit outcome.

On the first week of September 2016, Wells Fargo agreed to pay $185 million to resolve claims that employees opened more than 2 million accounts without customers' approvals (Dexheimer, Warren Questions Whether Wells Fargo Heads Should Keep Jobs , 2016). This settlement included a $100 million fine to the CFPB, a $35 million fine to the OCC, and $50 million to the Los Angeles city attorney in civil penalties (Laura J. Keller P. M., Wells Fargo Falls for Fifth Day as Scandal Draws DOJ Probe , 2016).

The Senate Banking Committee planned to hold a hearing on September 20, 2016 when John Stumpf was asked to appear and report about the unauthorized opening of more than 2 million accounts by Wells Fargo' employees.

On the eve of the Senate hearing, the former Wells Fargo Chief Risk Officer for retail banks, Claudia Russ Anderson, made its decision to leave the company in June effective. Anderson was Wells Fargo & Co.'s top risk manager in the division where bank employees falsified the accounts (Dakin Campbell, Wells Fargo's Chief Risk Officer for Retail Bank Takes Leave, 2016).

Anderson was the second senior Wells Fargo executive to depart the Community Banking division since July, when Carrie Tolstedt, the head of the San Francisco-based bank unit and Anderson's boss, retired (Dakin Campbell, Wells Fargo Risk Officer Takes Leave on Eve of Senate Hearing , 2016).

On July 2016, Stumpf described Tolstedt as a "dear friend" who served as "a standard-bearer of our culture, a champion for our customers and a role model for responsible, principled and inclusive leadership" (Keller, 2016). This was part of the speech of the former Wells Fargo CEO on the announcement of Tolstedt's retirement on July, even if he did not mention its responsibility in the fraud and the subsequent $185 million fine the company was obliged to pay to the regulatory authorities. Tolstedt was the head of the Community Banking division and believed that sales model was the engine behind the Community Bank's historical success (Company, 2017). Being reluctant to make changes and obsessed by her control on the Community Banking division, it was Tolstedt herself that spread the high-pressure sales culture among lower-level managers and team members. Furthermore, Tolstedt was reluctant to accept critics to her division's management and surrounded herself of a staff that adulated her and reinforced her view.

In a September 19 letter to the senators, Wells Fargo announced that the firm could recoup as much as $19 million in unvested shares from Tolstedt (Dexheimer, Wells Fargo CEO Forfeits $41 Million as Board Orders Review , 2016).

On September 20, Stumpf made its appearance in front of the Senate Banking Committee answering some questions posed by the senators about the Wells Fargo's cross-selling scandal. Stumpf reported the already taken decision by Wells Fargo to eliminate product sales goals for its consumer bankers and that $5 million were set aside for customer remediation. In addition, 5,300 workers were fired over five years for having opened the accounts without the previous customers' approval, with 10% of them managers.

Being pressed by lawmakers and senators, John Stumpf resigned on September 22 from the Federal Reserve's Federal Advisory Council and on October 11 from his CEO position at Wells Fargo. The claw back on Stumpf's stocks and salary totaled up to $41 million, that added to the $19 million forfeited by Carrie Tolstedt made a $60 million recoup by Wells Fargo. These money would be used by the company to pay the $185 million fine to the regulatory authorities and to reimburse less than $50 million to customers whose credit scores were harmed, according to Goldman Sachs analysts (Regan, Wells Fargo's Stumpf May See Other Claws Being Sharpened, 2016).

However, as Warren Buffet said, the problem at Wells Fargo was bigger than fines (Katherine Chiglinsky, 2016). In fact, as a Moody's analyst stated, an immediate damage to Wells Fargo's strong reputation is expected (Laura J. Keller J. W., Wells Fargo's CEO to Face Senate Panel in Cross-Selling Scandal, 2016). Some of the company previous reputation was built on the fact that it was Buffett's favored bank and that Berkshire Hathaway, owned by Warren Buffett, had the largest equity stake in Wells Fargo (Regan, Warren Buffett's Silence on Wells Fargo Speaks Volume , 2016).

Though, the damage to Wells Fargo was also financial. On September 13, the firm lost its title as the world's most valuable bank to JPMorgan Chase & Co. (Laura J. Keller K. C., 2016); Wells Fargo's market share value was reduced to $236.94 billion while JPMorgan had a market value equal to $240.3 billion. At Wall Street opening on September 15 Wells Fargo shares were down 8.3% from the close on September 7 , the day before the bank settled allegations about the fraud when

Wells Fargo's market capitalization was equal to $251.12 billion (Laura J. Keller P. M., Wells Fargo Falls for Fifth Day as Scandal Draws DOJ Probe , 2016). On that morning a Wells Fargo's share was valued at $45.67, but it would continue to lose value until the closing on October 4, when it was marketed at $43.75, the lowest price during last year which implied a market capitalization equal to $219.8 billion (see Figure 1 and Figure 2 in Appendix).

To better assess the responsibilities in the fraud within Wells Fargo, the company hired Shearman & Sterling in an independent investigative process that lead to 100 interviews and inspection of more than 35 million documents. The report of the findings was published on the company website on April 10.

The findings during this investigation were several and lead to major changes in the group. On February 21, the Board announced the termination of four officers within the Community Bank due to the issues related to the fraud resulted in their division: the Group Risk Officer, the Head of Strategic Planning and Finance, and two senior regional banking leaders who encouraged and deployed improper and excessive sales practices were fired (Company, 2017).

On February 28, the heads of Corporate Risk, the Law Department, Human Resources and Audit saw their compensations reduced due to their accountability in operational and reputational risk (Company, 2017).

On April 7, it was confirmed that the cause leading to Tolstedt's termination was appropriate and in addition to the $19 million in unvested shares, $47.3 million were subject to a claw back from her outstanding stock options awards. On the same date the Board determined that John Stumpf's incentive compensation paid

in March 2016 of $28 million, under an equity grant made in 2013, was eligible for a claw back.

This Board determination let Wells Fargo to recoup $75.3 million from Tolstedt and Stumpf, which added to the previously $60 million clawed back, make a sound $135.3 million amount.

Timothy Sloan, former president and COO at Wells Fargo, succeeded Stumpf as CEO. As Sloan stated in the Wells Fargo 2016 annual report, one of the main objective the company should pursue is to rebuild trust relationship between Wells Fargo and its customers. This process will have a long-term horizon since to rebuild trust after the last fall scandal will not be an easy task: the keywords able to summarize the efforts that Wells Fargo will have to sustain in this new path are commitment, perseverance, and patience.

The first steps crossed by Wells Fargo, by the end of 2016, were those that lead to refund $3.2 million in charges and fees to the 130,000 accounts that were not opened under customers' request and to examine how the credit scores of the bank's clients were impacted by the fraud; 40 million retail customers and 3 million small business clients have been reached through email, letter or online communication by Wells Fargo.

On the other hand, within the company Mary Mack assumed the leadership of the Community Banking division: one of her first decisions was the elimination of product sales goals. In January 2017, the compensation plan which was one of the mechanisms leading to the fraud was eliminated and replaced by a new compensation program. The new compensation program has metrics heavily

weighted towards team goals, with individual goals being underweighted (Wells Fargo); it also has a periodic review and checkpoint designed to observe potential unintended outcomes and behavior. The allocation of incentives under this new compensation program will be mainly based on direct customer feedback and product usage (Wells Fargo). Answering to some critics about the previous low wage bases, Wells Fargo increased to $13.50 - $17 per hour the minimum wage base for entry level employees.

Moreover, team members' feedbacks were incentivized, regularly surveying what they think about Wells Fargo and their role within the company. Wells Fargo's willingness to restore trust not only with the customers but also within the company among its employees led to creation of the Office of Ethics, Oversight and Integrity. This office has been created at the beginning of 2017 within the Corporate Risk organization at Wells Fargo to ensure that all the employees work according to the firm's vision and values and that both the customers and the team members are protected and listened in case the integrity of the bank's operations should be violated. In addition, the Office of Ethics, Oversight and Integrity will provide extra training to the managers so that they will be able to fully comprehend and tackle problems issued by the team members.

Corporate Risk organization at Wells Fargo has been put at the center of the restructuring project that was intended to realign and centralize Finance, Marketing, Communications, Human Resources, and Compliance staff groups within the company. The aim is to provide a greater degree of clarity, coordination, oversight, and consistency among the divisions in order to increase the efficiency

level of risk management. For example, many risk team members have been moved from the single business lines to the Corporate Risk organization. In 2016, 4,100 employees were realigned from the business units to the central risk organization, and 1,100 more will follow in 2017 (Company, 2017). New Wells Fargo appointed CRO Michael J. Loughlin will have authority in the Office of Ethics, Oversight and Integrity with the office's members reporting directly to him.

It was established that the Risk and Human Resources functions were decentralized at Wells Fargo, and this allowed the internal fraud to spread. This decentralized management model was brought by Stumpf after the merger with Norwest, where he previously worked; in fact, he believed that through decentralization, risk could be better managed since a decentralized decision-making process was closer to the customers. Once the scandal started to emerge, he became confidant that a centralized enterprise risk management could work better than the other model. A clear example of how the decentralized model brought damage to Wells Fargo was the reluctance shown by the Community Banking division to share documents and information with the other divisions, under Tolstedt's guide.

From the technological commitment point of view, Wells Fargo made major improvements to better face the fraud consequences. A new webpage, wellsfargo.com/commitment, was launched with the purpose of keeping customers updated on the latest developments (Wells Fargo) while an automated email confirmation program has been developed to let the customers know when a new checking or savings account is opened (Wells Fargo).

Even the oversight process was deeply restructured in the aftermath of the scandal. Wells Fargo decided to spend $50 million per year to oversight its retail bank monitoring activities: this investment include a mystery shopper program concerning almost 20,000 visits and 600 conduct risk reviews per year in Wells Fargo's branches across the U.S. (Wells Fargo & Company). In addition, to have an independent review of its sales practices, Wells Fargo hired a third-party consultant and additional risk professionals (Wells Fargo & Company).

Besides, the company determined to hold a culture survey in May 2017 where every employee will be involved; the survey's results will be used to define a set of actions that will help the firm in adjusting and promoting an ethical, inclusive, and customer-based culture (Wells Fargo & Company).

Quoting Timothy Sloan on his companywide video message "We never want the pressures and practices that harmed our customers to occur again. So our work will continue – to make things right, address problems, and build a better Wells Fargo" (Wells Fargo & Company).

The path to rebuild trust between the customers and company is though but the first steps covered by Wells Fargo seem to proceed in the right direction.

Chapter 8: Wells Fargo & Company Basel III ratio analysis

Wells Fargo & Company risk management practices

Being involved in three business segments, Wells Fargo has to deal with several risks that can detach stakeholders' expectations from what it happens as a result of the company's operations. The risk framework approved by the Board at Wells Fargo has three lines of defense which allows the company to oversight risk at a company-wide level. The first line of this framework covers the lines of business and other corporate functions (Wells Fargo & Company, 2016), the second line is composed of Corporate Risk function, with the CRO reporting to the Board's Risk Committee (Wells Fargo & Company, 2016), and lastly the third one is named Wells Fargo Audit Services representing the internal audit function performed at Wells Fargo. Through the Corporate Risk organization, the CRO establishes the strategic direction and drives the execution of Wells Fargo's risk management activities (Wells Fargo & Company, 2016).

The primary risks Wells Fargo & Company has to deal with are conduct risk, operational risk, credit risk, and asset/liability management related risks that as a macro-category includes interest rate risk, liquidity risk, funding related risk, and market risk.

In the last years Wells Fargo has developed three main risk management objectives that allows the company to exploit its resources in the risk management function both efficiently and effectively: supporting the Board in carrying out its risk oversight responsibilities is the first of these objectives, followed by helping the senior management in achieving the company's strategic objectives while maintaining and implementing the firm's risk framework, and promoting a strong risk culture. As it can be observed these primary risk management objectives are addressed to every Wells Fargo's employee, starting from the Board of Directors, passing through the senior management, and ending with the team members' involvement: it is a clear signal that everyone within the company has to be accountable for an appropriate risk management conduct. For example, the risk appetite is defined and communicated across the company through an enterprise-wide statement so that every employee is aware of the guidelines she/he has to follow in managing risk on a daily basis (Wells Fargo & Company, 2016). In fact, the common feature behind these three risk management objectives is to provide an aligned risk framework that facilitates an active and timely management of actual and emerging risks within the company (Wells Fargo & Company, 2016).

That said, the Board of Directors is responsible for the oversight of the risk management structure. Wells Fargo's risk management structure is composed of several committees each having primary risk oversight responsibilities: Audit & Examination Committee supervises to financial crimes risk, information security risk and technology risk, operational risk, and regulatory compliance risk, Corporate Responsibility Committee oversights reputation risk, Finance

Committee has to deal with interest rate risk and market risk while the Credit Committee is involved with the credit risk. Risk Committee is maybe the pivotal committee since it supervises all the enterprise-wide risks then specializing, in comparison to other committees, in the management of liquidity risk, model risk, and strategic risk. Lastly, Human Resources Committee has to oversight conduct risk while Governance & Nominating Committee is involved in Board-level governance matters. In February 2017, due to the sales practices, the Human Resources Committee eliminated its 2016 annual incentive award payments with a total value of approximately $6 million (Wells Fargo & Company, 2017); the same committee saw a $26 million reduction to 2014 performance shares that vested following 2016 (Wells Fargo & Company, 2017).

As it can be seen from the structure described above, every risk is supervised at the Board-level through the involvement of a committee which is directly responsible for its management. Each of the seven committees has to report to the Board of Directors to inform its members about the company's key risk exposures. In connection to what stated in the previous paragraph, it is the Risk Committee that is responsible in approving and delivering the enterprise-wide risk management framework.

Additionally, Wells Fargo has established a management-level Enterprise Risk Management Committee that is chaired by the CRO; the aim is to oversee all the risk types across the firm involving the managers who are at a lower level than the Board of Directors. The Enterprise Risk Management Committee has to report to the Board's Risk Committee and it is a focal point for all the committees operating

at the management-level that manage the single risks. Thus, risk types are held below scrutiny throughout all the company's levels from the top to the bottom, involving as already said everyone within the firm.

Given the recent scandal, at Wells Fargo conduct risk has become a priority with the company having as a goal the one of aligning team members' conduct to Wells Fargo's vision and values. The responsibility about enterprise-wide conduct risk is taken by the Board's Risk Committee with other Board-level committees supervising specific components of conduct risk (Wells Fargo & Company, 2016). Moreover, as stated in the previous chapter, the Office of Ethics, Oversight and Integrity as been created and it has to directly report to the CRO about the exposure of the company to conduct risk: thanks to the creation of this additional office Wells Fargo tries to foster the adoption of an enterprise-wide prudent conduct regarding risk management issues. This conduct has to be prudent both internally, for what it may concern internal practices and operations linking the company to its customers, as well as externally in the full acceptance and compliance to rules and regulations.

To summarize, given the implications of the internal sales practice issue at Wells Fargo, the company decided to face the conduct risk management through the following actions.

First of all, the Risk Committee's oversight responsibilities were expanded to include the enterprise-wide conduct risk, Office of Ethics, Oversight, and Integrity as well as risk culture along with overseeing the enterprise risk management framework, Corporate Risk function, and the key risk types found by the firm

(Wells Fargo & Company, 2017). Next, the Human Resources Committee was deeply touched by the reform enlarging its duties to human capital management, culture, and implementation of company's ethics, business conduct, and conflicts of interest through newly designed programs and following what is stated in Wells Fargo's Code of Ethics and Business Conduct: the committee will be still responsible for the management of the firm's incentive compensation risk management program (Wells Fargo & Company, 2017). The Audit and Examination Committee saw its involvement in the responsibility for legal and regulatory compliance including Wells Fargo's compliance culture, but the committee will continue to oversee the operational risk types and the related program. Since Wells Fargo's top priority is to rebuild trust within the company and especially with its customers, the Corporate Responsibility Committee will have a pivotal role in the issue, receiving enhanced reporting from management on complaints and allegations from all the sources; the committee will maintain its oversight on Wells Fargo's reputation and customers' complaints policy, allegations and processes (Wells Fargo & Company, 2017). In stressing this point, eleven out of fifteen Board's members have qualifications and experience in human capital, management succession planning, and corporate governance issues; two new directors have been added to the Board at the beginning of 2017 and fourteen out of fifteen are independent, being only CEO Timothy Sloan an internal director taking part to the Board meetings.

Wells Fargo & Company risk-weighted assets

At December 31, 2016 Wells Fargo's total risk weighted assets totaled up to $1,274,589 million according to the advanced approach. Risk-weighted assets are used to determine the minimum amount of capital that can be held by banks and other institutions to reduce the risk of insolvency (Invetsopedia). According to what has been established by the capital adequacy framework with Basel III Accords, banks can use two approaches in calculating their required capital; both these approaches encourage market discipline. The first and easiest to apply is the standardized approach which applies assigned risk weights to broad risk categories; the second, called advanced approach, calculates risk-weighted assets using a sensitive methodology which relies upon the use of internal credit models, and include operational risk components (Wells Fargo & Company, 2016). Usually large BHCs use both approaches in calculating their risk-weighted assets and consequent capital ratios and Basel III regulation requires banks to report and highlight the lower of their Common Equity Tier 1 ratio, Tier 1 capital ratio and total capital ratio.

In fact, BHCs with consolidated assets greater than $250 billion or balance sheet foreign exposures greater than $10 billion have to use the advanced approach, implying that all the other institutions have to follow the standardized approach. However, as in the case of Wells Fargo, banks subject to advanced approach have to observe and apply the standardized approach as well, being this one aimed to all banking organizations to which Basel III Final Rule applies.

Under the standardized approach risk-weighted assets are calculated by the sum of credit risk RWA and market risk RWA with general risk weights prescribed for each type of exposure. On the other hand, with the advanced approach total RWA are given by the sum of credit risk RWA, market risk RWA, and operational RWA.

According to what Wells Fargo reported at December 31, 2016 the company had $936,664 million credit risk RWA, $44,100 million market risk RWA, and $293,825 million operational RWA (see Figure 3 in Appendix).

As it can be observed, the category in which Wells Fargo have the largest portion of RWA is the credit risk one; credit risk is the risk of loss associated with a borrower or counterparty default (Wells Fargo & Company, 2016). Wells Fargo's loan portfolio is the main asset on the bank's balance sheet bearing the credit risk, but other assets such as debt security holdings and some derivatives share the same risk type. At December 31, 2016 Wells Fargo had total commercial loan equal to $506,536 million and total consumer loans equal to $461,068 million, for a total loan amount of $967,604 million.

A well-controlled underwriting process is the key at Wells Fargo in managing this risk type, with loans being approved only if the company believes the borrowers will be able to fully repay their obligations. Advanced Internal Ratings Based system along with risk parameters including Probability of Default, Loss Given Default, and Exposure at Default are some of the tools used at Wells Fargo to oversight credit risk: the credit process is well defined, foreseeing comprehensive credit policies, disciplined credit underwriting, extensive credit training programs,

risk measurement and modeling, and independent loan review and audit process (Wells Fargo & Company, 2016).

Probability Default is the probability that an obligor will default over a one-year horizon, Exposure at Default is the amount that would be owed to the bank if the obligor were to default being given by the sum of balance sheet asset amount and undrawn commitments, and Loss Given Default is a portion of the EAD that would be lost in a stressed environment with high default rates (Wells Fargo & Company, 2016).

Credit risk exposure is further divided into wholesale credit exposure, retail credit exposure, counterparty credit exposure, and other minor exposures among which can be found securitization credit and equity investment exposures.

In Wells Fargo disclosure, wholesale credit risk exposure is equal to $441,831 million and includes all individually risk-rated loans and commitments with the exception of some commercial loans under $1 million, deposits with and money due from banks, debt securities with the exception of ABS, trading assets not qualifying as covered positions, accounts receivable that do not fit in other categories, reverse repurchase transactions not having a securitization exposure, and non-derivative financial guarantees that force the bank to make payments if another party fails to perform (Wells Fargo & Company, 2016). Risk ratings are essential through the life of a wholesale loan to monitor the credit quality, not only in approving the credit itself: these are assessed quarterly by credit officers at Wells Fargo.

Wholesale credit RWA equal to $441,831 millions have been calculated at December 31, 2016 by putting into the A-IRB formula the above mentioned PD, LGD, and EAD risk parameters and taking into account the wholesale credits' maturity.

The categories composing Wells Fargo's wholesale credit exposure are corporate credit exposure, bank credit exposure, sovereign credit exposure, income producing real estate credit exposure, and high volatility commercial real estate credit exposure.

Retail credit risk is the second category composing the credit risk type and concerns credit provided by the bank to consumers' segment. Wells Fargo's total retail risk exposure amount is equal to $279,119 million with residential mortgages that constitute more than half of the exposure. Basel accords have established five categories of retail credit risk exposure named residential mortgage-first lien, residential mortgage-junior lien, residential mortgage-revolving, qualifying revolving exposures, and other retail. In this credit risk subcategory PD and LGD are calculated for each retail segment, while EAD is calculated for each retail exposure (Wells Fargo & Company, 2016). Again, as in the case of wholesale credit, the quality of retail credit is indicated thorough loan rating. Out of the $279,119 million retail credit RWAs, total residential mortgage-first lien is the subcategory having the largest RWA amount with a total of $94,900 million followed by total other retail having $83,443 advanced approach RWA. In the case of consumers' loans, total PD has been estimated at 6.22% that is way higher than 1.09% calculated for safer commercial loans. The riskiness of retail

credit at Wells Fargo, in comparison to wholesale credit, can be also seen by the comparison between the total risk weights in these categories. For wholesale credit, total risk weight stands at 37.48% being the advanced approach RWAs equal to $441,831 million and EAD equal to $1,178,951 million. On the other hand, for retail credit total risk weight stands at 47.47%, 10% higher than the percentage reported above for wholesale credit, being the advanced approach RWAs equal to $279,119 million and EAD to $588,023 million.

Counterparty credit risk is the possibility that a customer or trading counterparty will fail to fulfill contractual obligations, and such a failure may result in the termination or replacement of the transaction at a loss to Wells Fargo (Wells Fargo & Company, 2016). OTC derivatives, repo-style transactions, margin loans, transactions cleared through a central counterparty or exchange, and unsettle trades are some of the tools that may generate this kind of exposure; collaterals help in mitigate this exposure. At Wells Fargo, counterparty credit risk exposure is limited through a decentralized strategy that relies on the expertise of those team members closest to the customers. Conversely, aggregate counterparty risk is managed on a centralized basis, so that risk standards and risk appetite are fully consistent and respected (Wells Fargo & Company, 2016). Counterparty's financial condition, liquidity, quality of management, and financial performance are some of the features that constitute the internal rating system about this type of credit risk. Within Wells Fargo, Current Exposure Method is used in calculating the EAD, which in turn is given by the sum of current credit exposure and the potential future exposure; CCE is the sum of net positive fair values and the PFE

is an estimate of the maximum amount of the exposure that could be occur over a one-year horizon. At December 31, 2016 total counterparty RWAs were $37,967 million, and given an estimated EAD of $ 94,577 million the resulting total risk weight was 40,14%. In this case, the total PD was 0,67%. Out of the counterparty $37,967 million RWAs, $21,120 million RWAs were made by OTC derivatives, followed by margin loans and repo style transactions having $15,460 million, OTC derivatives are those traded between two parties directly without the use of an exchange (Wells Fargo & Company, 2016). For Wells Fargo this represent a small portion of credit risk, being the commercial and consumers' provision of products and services the bank's core business.

Securitization is the process through which an issuer creates a financial instrument by combining other financial assets and then marketing different tiers of the repackaged instruments to investors (Investopedia, Securitization); MBS are a clear example of securitization. At December 31, 2016 Wells Fargo's securitization exposures totaled $76,046 million, again highlighting as these are secondary operations taking into account Wells Fargo's core business.

It is worth to mention how most of the exposure comes from the corporate credit category, with an EAD equal to $56,976 million and $13,058 million in advanced approach RWAs, which highlights how this securitization related credit is to consider relatively safe in comparison to the riskier residential mortgage category having an EAD of $16,036 million and advanced approach RWAs equal to $25,998 million implying a total risk-weight of 1.62%.

The purposes of Wells Fargo in relation to securitization transaction are those of earning fees by providing credit facilities to clients through securitization related activities, from structuring securitizations for internally and third-party originated assets, by acting as a servicer/trustee for asset securitization, and, lastly, by managing in a proactive and prudent manner its balance sheet and the company's sources of funding (Wells Fargo & Company, 2016). In connection with this, Wells Fargo expects to securitize $525 million commercial mortgage loans having a risk-weighted wholesale exposure.

Securitization exposure arise also from synthetic securitization, which transfers the credit risk to the investor through the use of credit derivatives or guarantees, and re-securitization transaction, that is a securitization having more than one underlying exposure and in which at least one of the underlying exposures is a securitization exposure, in addition to the traditional securitization (Wells Fargo & Company, 2016). Special Purpose Entities play a key role in a traditional securitization transaction, since they receive funds to purchase loans or debt securities from the originator by issuing debt or equity securities to investors. Offsetting positions and portfolio diversification are two methodologies used within the company to reduce the risk associated to securitization transactions. Usually initial reviews comprehend collateral quality analysis, credit subordination levels analysis, and studies about the structure of the securitization transaction; however, securitization transactions are observed through regular performance reviews and checks. Supervisory Formula Approach and Simplified

Supervisory Formula Approach are used by Wells Fargo in assessing the bank's regulatory capital requirements for securitization exposure.

Credit Valuation Adjustments, Equity Investment Exposures, and Other Exposures complete and represent a minor part of the total credit RWAs. CVAs are required fair value adjustments under U.S. GAAP to reflect counterparty credit risk in the valuation of an OTC derivative contract while Equity Investment Exposures, concerning other short-term investments, trading assets, and available-for-sale investment securities, are excluded from market risk regulatory capital treatment and are subject to credit risk capital rules (Wells Fargo & Company, 2016). Lastly, Other Exposures complete Wells Fargo's credit RWAs including exposures to other assets and transition items.

Market risk is the second type of Wells Fargo's RWAs: it is the risk of possible economic loss from adverse changes in market factors (Wells Fargo & Company, 2016). Interest rates, foreign exchange rates, credit spreads, equity, mortgage rates, commodity prices, and market liquidity are some of the features affecting market risk (Wells Fargo & Company, 2016). At December 31, 2016 Wells Fargo's reported advanced approach based market risk RWA was equal to $44,100 million slightly higher than $36,910 million reported in the same quarter during the previous year; this amount represents just 3.46% of Wells Fargo's RWAs.

Market risk is intrinsic to Wells Fargo's sales and trading, market making, investing, and risk management activities; the company uses Value-at-Risk metric in addition to sensitivity analysis and stress testing in measuring and monitoring market risk (Wells Fargo & Company, 2016). Line of business, product, and legal

entity are some of the market risk exposure's features monitored by the company. Market Risk Committee, at management-level, directly reports to the Board's Finance Committee and is responsible for governance and oversight of market risk-taking activities within the company and for setting the market risk appetite and related limits.

Operational risk is defined as the risk of loss resulting from inadequate or failed internal controls and processes, people and systems, or resulting from external events. i) Internal fraud, ii) external fraud, iii) employment practices and workplace safety, iv) clients, products and business practices, v) damage to physical assets, vi) business disruption and systems failures, vii) execution, delivery and process management are the seven types of operational risk projected by Basel II. In Wells Fargo's scandal, about the unauthorized opening of clients' accounts, the iv) point reported above is the operational risk type that came to existence in such case; in fact, the iv) clients, products and business practices operational risk type concerns losses arising from an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or from the nature or design of a product (Fimarkets). The aggressive sale strategy perpetrated by Wells Fargo is listed among the examples of operational risk fitting into this risk type subcategory, which include among the others also account churning, improper trade and market practices, unlicensed activity, money laundering, and market manipulation.

Point iii) should not be confused in Wells Fargo's scandal. Workers' compensation and termination issues are listed among the causes of losses arising from acts

inconsistent with employment, health or safety laws or agreements, from payment of personal injury claims, or from diversity and/or discrimination events (Fimarkets). Instead, it was an inadequate workers' compensation scheme at Wells Fargo, in conjunction with improper termination issues, that led to an aggressive and illegal sale practice.

At December 31, 2016 Wells Fargo's operational risk RWA was $293,825 million and it is equal to 23% of Wells Fargo's total advanced approach RWAs, the second largest amount after advanced approach credit risk RWA. The unauthorized opening of accounts led to an increase of the operational risk exposure, thus rising the amount of Wells Fargo's operational risk RWAs. At March 31, 2016 the amount was equal to $267,200 million, the next quarter it was equal to $286,275 million, increasing in the third quarter to $296,988 million.

Wells Fargo uses Advanced Measurement Approach in estimating the regulatory capital charge for its operational risk exposures; in fact, it is based on a Loss Distribution Approach which estimates the frequency and severity of operational losses that could happen in order to determine, each quarter, the level of operational risk capital that is required to meet the regulatory provisions (Wells Fargo & Company, 2016). In doing so, the model quantifies the aggregate operational risk exposure with a 99.9% confidence level over a one-year time horizon (Wells Fargo & Company, 2016). Internal Loss Data, External Loss Data, Scenario Analysis Estimates, and Business Environment and Internal Control Factors are some of the elements that are incorporated by Wells Fargo in its AMA model. ILD comprises operational loss events captured across all business lines,

product types, and geographic locations that happened within Wells Fargo; on the other hand, ELD comprises loss events of other financial institutions that supplement ILD in their capital models (Wells Fargo & Company, 2016). Both ILD and ELD share the feature of historical and quantitative data. Precisely, ELD data are obtained by Wells Fargo through the subscription to the Operational Riskdata eXchange Association, a consortium gathering information on operational risk loss events of €20,000 or more. SAE is a scenario analysis process conduct by Wells Fargo every year which tries to identify future operational loss events (Wells Fargo & Company, 2016). BEICF takes into account the sate of internal controls and the actual business environment to estimate the potential operational risk loss exposures (Wells Fargo & Company, 2016). If ILD and ELD use data acquired in the past, SAE and BEICF try to predict what could happen in the future.

At the Board's level, the Audit & Examination Committee is responsible for the operational risk, and together with the Risk Committee review and approves the operational risk management framework in addition to operational risk policies and programs while at the lower management-level the Operational Risk Management Committee reports directly to the Enterprise Risk Management Committee (Wells Fargo & Company, 2016).

One of the operational risks most feared at Wells Fargo is information security; as already stated in Chapter 3, the risk of data's loss due to a cyber attack is an emerging threat for large financial institutions such as Wells Fargo. As a consequence, the bank is involved in industry cybersecurity efforts with the aim of enhancing the resiliency to this menace.

Wells Fargo & Company regulatory ratios analysis

In the previous paragraph it has been described the classification of Wells Fargo's $1,274,589 million RWAs as of December 31, 2016 in the aftermath of the scandal that involved the bank during the fall 2016. In this paragraph, starting from the RWAs amount stated above the Basel III ratios for Wells Fargo & Company, as well as the U.S. regulatory capital ratios, will be discussed.

Since the United States of America embraced the Basel Accords, as reported in Wells Fargo's 2016 fourth quarter Basel III Pillar 3 Regulatory Capital Disclosures, the company is subjected to the following Basel III ratios' requirements:

- A minimum Common Equity Tier 1 ratio of 9%;
- A minimum Tier 1 Capital ratio of 10.5%;
- A minimum Total Capital ratio of 12.5%;
- A minimum Leverage ratio of 4%;
- A minimum Supplementary Leverage Ratio of 5%.

In addition to these ratios, Wells Fargo has to take into account a potential countercyclical buffer of up to 2.5% to be added to these minimum capital ratios, that could be imposed by the regulators in a period of excessive credit growth leading to the raise of the systemic risk (Wells Fargo & Company, 2016). Moreover, being classified as a G-SIB, Wells Fargo & Company has to maintain an additional capital surcharge of between 1% - 4.5% and it has been estimated by the company that this surcharge was equal to 2% during 2016.

In the Basel III Pillar 3 Regulatory Capital Disclosures document, the company stated that the lower ratio between the Advanced and Standardized Approach has been used in assessing Wells Fargo's capital adequacy.

The first three ratio have in common the RWAs at denominator. Common Equity Tier 1 ratio is calculated as Common Equity Tier 1 capital over RWAs. Common Equity Tier 1 capital has been obtained, through the Advanced Approach, by adding Wells Fargo's common stock and related surplus (net of treasury stock), retained earnings, accumulated other comprehensive income and by deducting goodwill (net of associated deferred taxes) and net gain/losses on cash flow hedges; at December 31, 2016 this amount was equal to $148,785 million which divided by $1,274,589 million RWAs gave an Advanced Approach Common Equity Tier 1 ratio of 11.67%. However, the ratio reported by Wells Fargo under the Standardized Approach was slightly lower, being equal to 11.13%, so the latter was taken into account for capital adequacy.

Next, by calculating the additional Tier 1 capital, obtained by the difference between additional Tier 1 capital instruments (plus related surplus) and total additional Tier 1 capital deductions, and by adding this additional Tier 1 Capital to $148,785 million Common Equity Tier 1 capital, $171,364 million Tier 1 Capital has been calculated. The ratio between Tier 1 Capital and RWAs is equal to 13.44%, but again, as in the previous case, the Tier 1 Capital ratio under the Standardized Approach is lower, and thus 12.82% as been taken into account in assessing 2016 fourth quarter capital adequacy.

Total Capital is obtained by the sum of Tier 1 and Tier 2 Capital. At December 31, 2016 Wells Fargo's Tier 2 Capital was $33,061 million, which added to $171,364 million Tier 1 Capital provides a Total Capital of $204,425 million. Following the Advanced Approach, by dividing this Total Capital amount by the RWAs, a 16.04% Total Capital ratio is obtained.

The Tier 1 Leverage ratio measures a bank's core capital against its total assets (Investopedia, Tier 1 Leverage Ratio). It is obtained by dividing Tier 1 Capital by Wells Fargo's Total Consolidated Assets; at December 31, 2016 Wells Fargo's Total Consolidated Assets were $1,914,802 million that put in relation to the previously calculated $171,364 million Tier 1 Capital gives a Tier 1 Leverage ratio of 8.95%. This ratio is relevant since it highlights the amount of capital that a bank must have on hand in relation to the loans it makes (Investopedia, Tier 1 Leverage Ratio).

The Supplementary Leverage Ratio rule will become effective January 1, 2018 and will require eight U.S. BHCs identified as G-SIBs, with Wells Fargo & Company being listed among these eight BHCs, to maintain a minimum SLR ratio of 5%. SLR ratio is calculated by dividing Tier 1 Capital by Total Leverage Exposure. Total Leverage exposure is obtained by the sum of total adjusted average assets and derivative exposures, repo-style transaction exposures and other off-balance sheet exposures. At December 31, 2016 Wells Fargo's Total Leverage Exposure was equal to $2,245,386 million and the resultant SLR ratio was equal to 7.63%. If a financial institution does not comply with the SLR requirement, then it will meet restrictions on capital distribution and discretionary bonus payments.

As it can be observed, the ratios are in line with the regulatory provisions, even if they had a change between the third and fourth quarter of 2016 when the scandal about the opening of the unauthorized accounts emerged.

In fact, every ratio had a positive change between the two quarters. CET1 ratio passed from 10.93% to 11.13%, Tier 1 Capital ratio slightly increased from 12.60% to 12.82%, and Total Capital Ratio had the most significant change passing from 15.40% to 16.04%. These positive changes can be justified by the reduction of the RWAs between the third and fourth quarter of 2016, when they passed from $1,313,080 million to $1,274,589 million. Looking at the credit risk, market risk, and operational risk categories the most significant change has been registered in the credit risk RWAs that passed from $971,038 million at September 30, 2016 to $936,664 million at December 31, 2016. On the other hand, market risk and operational risk RWAs remained quite stable under the Advanced Approach calculations.

Taking into account the Advanced Approach, it is interesting to observe how the capital ratios change due to the increase of the operational risk RWAs as a consequence of the scandal. On December 31, 2015 the operational risk RWAs were equal to $256,300 million while on December 31, 2016 they were equal to $293,800 million; the $37,500 million difference can be ascribed to the effects of the Wells Fargo's scandal that emerged during the last months of 2016. Thus, it has been considered a case, called for the sake of simplicity "Scenario I", where the total RWAs on December 31, 2016 were equal to the sum of credit risk RWAs and market risk RWAs, as reported by Wells Fargo at the end of the same year, and

operational risk RWAs equal to $256,300 million as if the scandal had never happened; the new total RWAs amount calculated in such a way is equal to $1,237,064 million. Next, bearing in mind the common equity tier 1, tier 1 capital and total capital amounts, as reported by Wells Fargo on December 31, 2016, it has been possible to calculate the capital ratios under the "Scenario I" assumptions.

The table below summarizes the findings:

Capital Ratio	Q4 2016	Scenario I
Common Equity Tier 1 Ratio	11,67%	12,03%
Tier 1 Capital Ratio	13,44%	13,85%
Total Capital Ratio	16,04%	16,53%

As it can be observed, the capital ratios calculated under the "Scenario I" assumptions are higher than the ratios Wells Fargo reported on December 31, 2016; this means that the scandal had a negative outcome on the operational risk RWAs which in turn decreased the capital ratios the American bank had to observe. In order to make the comparison possible, for the last quarter of 2016 were considered the ratios as calculated with the Advanced Approach.

Conclusion

The foregoing discussion has attempted to illustrate both the regulatory and supervisory tasks performed by the U.S. governmental institutions in the American banking industry, from the regulator point of view, placing a special emphasis on the risk management issues related to these duties, from Wells Fargo point of view. The recent Wells Fargo scandal has been chosen in order to practically illustrate how the process works and what are the risk management implications when a large bank is involved in a case of national relevance.

Luckily, the scandal has had its effects within the company without leading to an increase of the systemic risk; the macro-prudential approach that has been implemented after the 2008 financial crisis has provided tools able to tackle the arise of this risk type, such as the provision of the countercyclical buffer of up to 2.5% that could be added to the minimum capital ratios. However, as has been evidenced by the Wells Fargo case, the micro-prudential approach still has its importance, since by the oversight of the individual financial institutions the threats that could lead to systemic risk consequences are circumscribed at the company's level.

The OCC had a relevant role in the examinations leading to the allegations of Wells Fargo's involvement in illegal cross-selling practices; it is worth to highlight the importance of the Office, as in Wells Fargo's case, since it is the supervisor of the U.S. national banks, being involved in micro-prudential tasks such as the scrutiny of the individual institutions, but at the same time it is responsible for the systemic

risk in the American financial and economical environment, therefore carrying out also the macro-prudential tasks.

The Wells Fargo's case has evidenced the importance of the CFPB; the Bureau is essential in protecting the customers' interests and in enhancing the transparency of the transactions between the customers and the financial institutions. Of the $185 million fine Wells Fargo had to pay, $100 million were exacted by the CFPB and $35 million by the OCC. However, such a fine does not represent a menacing issue for a large bank that had a net income of $21.9 billion in 2016. That said, the American regulatory institutions could increase the amounts concerning these sanctions in order to discourage unethical behaviors.

Nowadays, rumors about President Trump willingness to dismantle and reform the Dodd-Frank Act pose uncertainty about the future of the American banking industry's regulation and supervision; it passed just eight years from one of the most scaring financial crisis the world had to face and its memory is still vivid in the U.S.A. while its effects keep generating economic instability and financial volatility in Europe. The economical and financial interconnectedness due to the globalization process means that it is required to the global regulators and supervisors to adopt processes and frameworks able to prevent systemic risk rise. New policies should be discussed at global level, with feedbacks coming from more than one party; furthermore, these policies should be aligned each other and implemented following a common strategy plan.

In this sense, the importance of the Basel Accords is clear. The requirements enforced by the Basel Accords are essential in preventing an excessive leveraging

of the banking industry and in aligning the capital requirement practices worldwide throughout a common framework.

For what it may concern Wells Fargo case, the company seems to be on the right path to recover the trustworthiness and the reliability that made its brand well-know and appreciated since 1852. The vision of a simpler time, when the bank served honest pioneers in the American West territories, has been the foundation of Wells Fargo and continues to maintain its importance among the customers. Wells Fargo has a history to be proud of, and the latest facts have put in discussion what the company tried to affirm since its establishment.

On September 20, 2016 at the Senate Hearing former CEO Stumpf should have recognize the mismanagement of the cross-selling issue and, since Wells Fargo had already agreed to pay the $185 million fine, he should have present a strategy to tackle the problem at its root. It seems that his involvement with the former Wells Fargo CRO for retail banks, Claudia Russ Anderson, may have prevented that from happening, as shown by his speech on Anderson's retirement in July 2016. Moreover, his belief that through decentralization, risk could be better managed since a decentralized decision-making process was closer to the customers, lead to wrong decisions and permitted Anderson to manage the Community Banking division with an excessive degree of freedom while moving away from the values and vision shared with the other business lines.

Thus, it seems right the decision made by Wells Fargo to appoint Timothy Sloan as new CEO and to renew the Board of Directors in order to provide a new starting point for the decisions that will be; it is important, in this case, that fourteen out

of fifteen members of the Board of Directors are independent in order to limit the bond between the directors and the lower management-level team members. Again it is worth to stress that eleven out of fifteen Board's members have qualifications and experience in human capital, management succession planning, and corporate governance issues.

As Warren Buffet said, the problem at Wells Fargo was bigger than fines, and this point of view was reinforced by Sloan who admitted that to rebuild trust after the scandal will not be an easy task process and will have a long-term horizon.

The elimination of product sales goals by Mary Mack, new head of the Community Banking division, a new compensation program with metrics heavily weighted towards team goals, the creation of the Office of Ethics, Oversight and Integrity in order to ensure that all the employees work according to the firm's vision and values and that both the customers and the team members are protected and listened in case the integrity of the bank's operations should be violated, the new wellsfargo.com/commitment webpage to keep customers updated on the latest developments about the scandal, the renovation of the oversight program which include a mystery shopper program concerning almost 20,000 visits and 600 conduct risk reviews per year in Wells Fargo's branches across the U.S., the hiring of a third-party consultant and additional risk professionals, are the first steps leading to this long-term effort to rebuild trust between Wells Fargo and its team members and between Wells Fargo and its customers.

Warren Buffet's Berkshire Hathaway decision to cut Wells Fargo's stake to less than 10%, to get below Federal Reserve's limit, demonstrates that the major

changes in Wells Fargo's strategy reported above have been judged positively by Warren Buffet and its company. As Berkshire Hathaway announced in an April 2017 statement, the Wells Fargo's shares sale was not made due to investment or valuation considerations but it was solely motivated by the willingness to reduce the percentage ownership below the 10% notification threshold. Therefore, Berkshire Hathaway still remains the major holder of Wells Fargo & Company U.S. Equity.

Lastly, it is interesting to note how the operational risk RWAs exposure changed before and after the scandal was made public in the first week of September 2016. On June 30, 2016 the operational risk RWAs were $286,275 million increasing at September 30, 2016 to $296,988 million and then decreasing to $293,825 million on December 31,2016. This means that the fourth of the seven operational risk types, namely clients, products and business practices, was able to correctly identify the aggressive sales practice as the cause generating Wells Fargo's scandal and the Advanced Approach used by the company to determine the operational risk RWAs amount took into account the exposure to this risk type in a proper way.

Appendix

Figure 1: Wells Fargo (ticker: WFC) stock price from March 3, 2016 to March 3, 2017 in comparison with SPX Index.

Figure 2: Wells Fargo (ticker: WFC) stock price from August 15, 2016 to December 31, 2016.

(in millions)		
Credit		
Wholesale exposures:		
Corporate	$	315,204
Bank		14,460
Sovereign		3,098
Income Producing Real Estate		78,340
High Volatility Commercial Real Estate		30,729
Total Wholesale exposures		**441,831**
Retail exposures:		
Residential mortgage - first lien		94,900
Residential mortgage - junior lien		5,634
Residential mortgage - revolving		52,054
Qualifying revolving (1)		43,088
Other retail		83,443
Total Retail exposures		**279,119**
Counterparty exposures:		
OTC Derivatives		21,120
Margin loans and repo style transactions		15,460
Cleared transactions (2)		1,328
Unsettled Trades		59
Total Counterparty exposures		**37,967**
Credit Valuation Adjustments (CVA)		**22,523**
Securitization exposures		**76,046**
Equity investment exposures		**35,281**
Other exposures (3)		**43,897**
Total Credit Risk-Weighted Assets		**936,664**
Market risk		**44,100**
Operational risk		**293,825**
Total Risk-Weighted Assets (Advanced Approach)	**$**	**1,274,589**

(1) Qualifying revolving exposures are unsecured revolving exposures where the undrawn portion of the exposure is unconditionally cancellable by the bank.

(2) Includes Derivative and Repo exposures to Central Counterparties with RWAs of $526 million and $31 million, respectively. Default fund contribution to counterparties resulted in RWAs of $771 million, which is also included.

(3) Other exposures include other assets and transition items (non-deducted Intangibles and Mortgage Servicing Rights).

Figure 3: Wells Fargo Risk-Weighted Assets by Risk Type at December 31, 2016 - Advanced Approach

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