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**The banking cost-efficiency strategies to face the Covid-19
crisis.**

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ABSTRACT

Purpose: Within the recent context created by Covid-19, and the pandemic related economic, financial and healthcare crisis, this paper aims at pointing out the efficiency factors that might work as propellers for the productive efficiency of Italian banks, enhancing the staff allocation in order to guarantee the achievement of the cost-reduction goals set for the medium-long term.

Methodology: The paper uses an explorative approach, starting from the scientific literature available, including reports and business records. As of today, the research material is still poor and limited. For this reason, it needs reworking and systematization in order to work as starting point for the empirical survey, that represents the final part of the paper. The case study is providing confirmations and further insights on the topic that has been described in the second part of the work, through the triangulation of data, interviews with the management and direct observation.

Results: Through the empirical analysis it has been possible to identify and verify on the single case study how individual operative strategies of internationalization-localization (offshoring and outsourcing), digitalization (process reengineering, automation and controlling 4.0) and strategic workforce planning contribute to the achievement of goals of technical-operative efficiency and of operative banking cost reduction.

Limits of the research: given the lack of information deriving from the topicality of the matter and from the exploratory character of the case study, the results of this dissertation are to be considered as a starting point for further studies, to be extended and empirically verified on a larger scale through additional case studies, further examining the effects of Covid-19 on the objectives of technical-operative efficiency in financial institutions on the basis of the various local realities, company dimensions and types of services provided.

Practical implications: The research offers a concise systematization and empirical confirmations to actions and industrial levers that can be carried out by the banking management in order to improve workforce efficiency and productivity in the credit institutes.

Originality in the research: Within the recent context of uncertainties and crisis, the paper represents a step-forward in the research, analyzing the productive efficiencies in the banking sector. It provides an important empirical confirmation that will help clarifying the industrial levers that can be implemented in the strategies of organic growth.

Keywords: Banks, Cost Efficiency, Covid-19, Digitalization, Internationalization.

INTRODUCTION AND RESEARCH GOALS

The healthcare and economic crisis deriving from Coronavirus is strongly challenging the Italian banking industry, leading to the freezing of the credit market and putting pressure on the financial sector. In the short term, the limitations of the financial conditions will lead to a decrease of commissions and profits deriving from trading activities for the institutes of credit. In the medium-long term, instead, it will bring higher losses on credits, with negative impacts on profitability. Within the recent crisis context, in addition, Italian banks will be facing in the next few years an increasing competition – both direct and indirect – that will bring to the urgency to eliminate every operational inefficiency in order not to lose competitive edge and not to risk to exit the market. More specifically, the so-called Digital Champions, such as Google, Apple, Facebook and Amazon (aka GAFAM), have been assaulting several financial products, as lending activities or paid services, aiming at the more profitable parts of the value chain. These organizations manage to offer customized services thanks to some innovative architectures, to a powerful front/back office accessing a young wide market, quite different from the traditional financial system, and to middle office functions that don't need to undergo the strict surveillance that characterizes the banking industry instead.

The recovery of efficiencies is a factor often neglected by the banking management. Nowadays, in the modern business management, it represents the *conditio-sine-qua-non* to achieve higher levels of profitability and, at the same time, to face the market deterioration. Therefore, efficiency constitutes the main topic in the economy of financial intermediaries, not only under the managerial point of view, affecting the sustainability of banks, but also under the regulatory point of view, conditioning the financial system as a whole.

In such a context of crisis and competitive pressure, the major challenges that the banks will be facing in the evolution of the Italian financial system will be all those actions that aim at restoring efficiencies and improving productivity, through containment and staffing rationalization. The latter appears as a clear need in the industrial plans, when it comes to

redundancy quantification and sector reorganization, notwithstanding the about 35.000 units that have already been exiting the sector since 2012 (mainly due to reduction of front desk operability and digitalization of banking services).

In a similar context it is fundamental to identify strategies and actions that the main Italian credit institutes will be able to implement while facing the current adverse economic situation, in order to improve efficiency and employees' productivity.

This paper aims at highlighting these strategies and industrial levers, in order to provide both academic basis and empirical examples to allow Italian banks to achieve the middle-long term strategic objectives in spite of the negative economic context worldwide.

In particular, the essay represents an important contribution to the branch of research that is analyzing the determining efficiency factors for banks, focusing on two aspects that, as of today, have been left aside:

- Internationalization strategies, i.e., off-shoring and re-shoring;
- Digitalization, meaning robotics, artificial intelligence and the implementation of monitoring systems of the productive processes (Controlling 4.0).

My personal interest on the themes of the research derives from on-field experiences: during the course of my PhD, I had the chance to carry out some international professional activities in several European countries, performing several roles and duties in the UniCredit Group. The paper has been inspired by these experiences, and it is built on them.

METHODOLOGY

Due to the lack of empirical research that may help providing forecasts on the productive efficiency in the Italian banking sector, this essay aims at analysing the main industrial efficiency actions that the banks need to implement in the current healthcare, economic and financial crisis in order to achieve the strategic goals of profitability enhancement.

The paper uses an explorative approach, starting from the scientific literature available, including reports and business records. As of today, the research material is still poor and limited. For this reason, it needs reworking and systematization in order to work as starting point for the empirical survey, that represents the final part of the paper. The case study I am focusing on is providing confirmations and further insights on the topic that has been described in the former part of the work, through the triangulation of data, interviews with the management and direct observation.

For reaching the fact-finding objectives, and as a consequence of the lack of previous studies on the topics discussed, it has been interesting to include some interviews in order to hear opinions and perspectives of the insiders on a phenomenon that has been barely explored so far.

The 8 interviewees are top and senior managers with a long experience in their working fields (from 12 to 29 years of working experience) and a deep knowledge of the Italian banking sector and of the relevant industrial efficiency systems, and are holding positions of responsibility in several corporate functions.

The selected interviewees, all personally contacted by the author, are experts belonging to the company that has been subject of the case study.

The interview protocol applied is the non-structured interview, that enabled a flexible and open-ended interaction between interviewer and interviewee. The talks have been conducted face to face (online on skype to comply with the covid-related social distancing regulations). They took place over the period January-April 2021 and lasted about 60 minutes each.

Part of the transcriptions have been included in the case study in chapter 5, with the goal of connecting specific concepts to relevant macro-thematic with a wide descriptive value on the phenomenon discussed.

In addition to the interview, and to internal reports provided by the company, data has been collected also from secondary sources in the public domain, sector financial reports and records of regulatory institutions (ABI, ECB, EBA, EBF) and scientific and professional documentation collected on the web.

The research is structured according to the below scheme:

- I. The first chapter introduces the theoretical background, through the description of the main theories that discuss the theme of efficiency in the banks. The chapter focuses on the meaning of 'efficiency', on its several implementations and measurements, bringing to the definition of some personal considerations that will lead the empirical analysis.
- II. The second chapter contextualize the management control in the evolution of banks examining the theme of the cost analysis from a strategic perspective. The chapter browses through the evolution of the control systems, traditional and management, describing how the organizational structure impacts on the cost structure, and analyzing the effective applications of the activity-based costing methodology to the measurement of the business costs.
- III. The third chapter analyse the structure and trend of operative costs in European and Italian banking industry. The chapter focuses on the trends of the performance in the banking sector, since 2007 financial crisis to the current pandemic crisis, examining the main items and efficiency KPIs in the sector, with special focus on the Cost to Income and the staff cost.
- IV. The fourth chapter examines the context of the analysis, meaning the financial competitive context and the endogenous efficiency factors to be implemented in order to attenuate the negative influence of the current healthcare and economic emergency. A specific focus will be on the levers that can be carried out by the management, such as digitalization and productive internationalization, bringing advantages on efficiency based on the choices in terms of usage and allocation of resources.

- V. The fifth chapter of the essay contains the empirical analysis, a case study that aims at providing a pragmatical example of what has been discussed in the first two chapters. The case study is carried out through the triangulation of data, non-structured interviews, and research on field. The latter is essential for the research and represents the main part of the paper as it consists of my personal experience and it is based on field interviews and direct observation of the professional activities in the financial sector and in the company object of the case study (including ideas, expectations, explorative purposes, that come both before and with the analysis, interpretation and explanation of the data collected). The case study is, therefore, aimed at analysing the endogenous efficiency factors in the bank case study, pioneer in the Italian financial sector for the definition of plans for the productive efficiency, needed to preserve and enhance the profitability of the company in the current Covid19-related economic crisis. The analysis of the case study leads to some important considerations both on the new operational plan that is being implemented in the Case Study, and on the possibility to apply this plan to the Italian banking sector as a whole.

CHAPTER 1

EFFICIENCY IN THE BANKING SECTOR

ABSTRACT

The present chapter will examine the different approaches that characterize the analysis of efficiency in the banking industry, such as terminological, conceptual and methodological aspects.

Starting from the definition of the term itself, the chapter will focus on the technical and operational efficiency. Then, the discussion will move on to the instruments of evaluation of efficiencies, through the analysis of the cost frontier and financial statement indicators.

1.1 INTRODUCTION

The difficult situation that the banking industry has been going through in the last few years, strongly worsened by the pandemic crisis, brought the attention of policy makers and bank management on the topic of efficiency. In such a complicated context, as other traditional sources of value creation (margin interest, diversification of revenues, M&A, territorial expansion, and equity optimization) are withering and becoming inadequate, the lever of operational efficiency becomes crucial in terms of achievement of higher level of profitability. Therefore, the achievement of better results in terms of efficiency is identified as the instrument for increasing the profitability of the bank. Regulatory institutions have been focusing on the enhancement of efficiency, that helps producing a double benefit: on the one hand, it fosters the decrease of financial intermediation costs; on the other hand, it increases the competitiveness of Italian banks in comparison with their foreign competitors.

Scientific literature has been widely discussing the possibility to define a generic strategy for the achievement of efficiency in the banking sector. This strategy would have to meet the needs of a globalized and highly competitive market such as the one that has developed since the end of the 20th century. Despite the efforts spent to reach this objective, and some good pragmatismal

examples implemented by some successful financial intermediaries, the definition of a strategy that can be profitable and universally applicable is a merely idealistic concept. Every area has developed, in fact, a specific context strongly characterized by a wide variety of banks (structures and visions) and by the economic dynamism and variability in the short term that is influencing the banking activity itself. In other words, these differences make it hardly possible to define a generic worldwide ‘efficiency strategy’. It is possible, though, to identify a set of specific interventions aiming at increasing efficiency and reducing the cost/income ratio, with a propensity to reducing operational costs rather than increasing revenues.

Despite the topic being discussed for over two decades, the matter in the banking industry turns out to be extremely actual and becomes one of the main topics of discussion in the sector and at institutional level.

The following section of the chapter contains a brief *excursus* on the meaning of the term ‘bank efficiency’ and on its measurement in every application before focusing, in the next chapter, on the empirical aspects of efficiency in the banking sector and the possible industrial interventions available for the management to achieve it.

1.2 BANKING EFFICIENCY IN THE MACRO-ECONOMIC THEORY

In a semantic point of view, the term ‘efficiency’ usually refers to the capability of a system to reach the appointed goals with the resources available and in the given conditions. To be inspired by a concept of ‘efficiency’ means, therefore, to direct one’s choices to maximize that capability. A wide literature has been developed over the years around the topic of ‘efficiency’ in the banking sector, identifying several meanings and typologies.

The concept of efficiency, in the banking sector, usually adopted in macroeconomics derives from neoclassical economics and specifically refers to ‘allocative efficiency’. The distribution of resources in the system has been given special attention by the theory of economics, ever since the origins of this branch of knowledge. In order to be efficient, the allocation of resources has to allow the highest level of satisfaction of human needs through the production of goods and services which are, then, produced and traded on the basis of shortage of resources and technology. Such a distribution of resources, both at the level of a single company and of the

market as a whole, is considered to be optimal or, precisely, efficient. Therefore, an efficient allocation represents the goal of wellness that the society aims at achieving.

As we know from the definition provided by Pareto (1906), a market can be identified to be in a situation of maximum efficiency if it is in a condition of balance, within the limits given by resources and technology. Any alteration of that condition would imply a decrease in terms of wellness for at least one of the agents operating on the market, regardless of the extent of the alteration. Following the concept of efficiency by Pareto, Kaldor-Hicks (Kaldor 1939; Hicks 1939) provide an important contribution forging the concept of allocative efficiency: exchanges represent the instrument to reach the condition of efficiency, and the market offers the best opportunities to let the exchanges happen. The Kaldor-Hicks's criterion admits some compensation possibilities: as long as the parties involved in the exchange are able to provide a compensation to those who suffer from a decrease of wellness, still preserving some profit, there is margin for improvement. As a consequence, differently from the definition given by Pareto, in this theory there is no condition of efficiency which, instead, will be reached only if the compensation will be higher than the profit obtained.

Moving on to credits intermediation, the economic literature focused, for the greatest part, on the capital accumulation, notwithstanding the importance of allocating credit on assets with different levels of productivity. In the neoclassical perspective, the main role of the banks was to identify the most skilled entrepreneurs, granting them the purchasing power needed to change the allocation of the means of production. On the contrary, the Hicks's assumption (Hicks, 1969) underlines the capital accumulation. According to his perspective, banks, other intermediaries, and financial markets allow the savings mobilization in order to support the investments needed to stimulate and boost the economic development, through the reduction of transaction costs and the diversification of risks. What happens in this pattern, is not a proper selection of the customers carried out by banks. Through the diversification of risks and the reduction of transaction costs, banks subsidize some entrepreneurial initiatives with high profits guaranteed that otherwise would never be supported without the intervention of an intermediary, due to their illiquidity or to the higher information costs related to them.

For what concerns the empirical aspect of the allocative efficiency, the studies that have been carried out so far appear to be still unable to adequately prove the reference function (Formula 1) in the current literature for resources allocation by banks:

$$g = f (Y_0, C_0, X_0) \quad \text{(Formula 1)}$$

where g is the growth rate of the variable that measures the level of development (GDP or value added per capita, storage of assets, productivity per capita etc.), Y_0 is the level of revenues in the initial period, C_0 is the amount of credit (inclusive of non-performing loans) supplied by the banks to the economy in that period, and X_0 is financial variable, such as human capital, infrastructures, legal system etc.

Despite the references to the financial perspective by Schumpeter (1934) of growth based on the capability of banks to allocate assets to the most skilled entrepreneurs, the indicators used as a proxy of financial development (g), coming always in variable quantities, are not consistent enough to measure the efficiency of banks in the process of allocation of resources.

There have not been any attempts to directly evaluate the efficiency of banks in the allocative process, making it complicated to determine to which extent the development of a market depends on the choices operated by banks, rather than on the quality of the local entrepreneurs.

1.3 BANKING EFFICIENCY IN THE MICRO-ECONOMIC THEORY

The existing literature on the topic has focused on schemes for measuring the efficiency in the microeconomic field, rather than exploring and measuring the allocative efficiency in the macroeconomic one. This choice derives from the complexity of definition of the relationship between banking system and economic growth, as well as the complexity of translating the criteria for selecting and monitoring the projects for investments into some quantifiable variables. The neoclassical perspective focuses on the economic system as a whole and its general balance rather than the single productive unit. For this reason, the decision-making of the latter is considered to be a secondary concern, a sort of black box whose content will remain unknown.

Farrell (1957) is considered to be the first one to have approached the concept of efficiency

and the consequent set of methodological instruments for its measurement. He highlighted the importance of identifying the relevant technology that can be used to define the appropriate measure for efficiency.

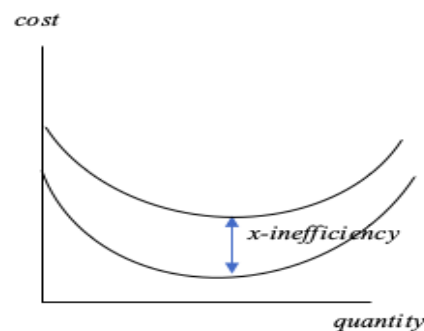
The x-efficiency theory formulated by Leibenstein (1966), instead, is considered to be the first proper attempt to build a theoretical model that could comprehend and explain the positive link between product competition and business efficiency, through the definition of some possible determinants.

Leibenstein defines the concept of x-efficiency as the capability of the bank, not the market, to allocate the resources in an efficient way. This behavior will make it possible to even out the marginal rate of substitution and the ratio between the prices of the factors, and to opt for technically efficient production programs. According to Leibenstein, economists concentrated their attention only on the allocation of resources among different applications, neglecting the degree of inefficiency that can derive from an inappropriate employment of the input.

In the author assumption, employees will not be working at their best, due to the incompleteness of labor contracts, and the costs that a company needs to bear in order to monitor the workflow of its employees. This sort of negligence or inaction would generate a degree of inefficiency in the organizational structure of the bank, which he defined x-inefficiency or internal inefficiency, constraining the company from minimizing its costs (Figure 1).

Leibenstein thought that the external pressure applied by competitors could reduce the degree of inefficiency inside the bank. Therefore, he affirmed that the more competitive was the market in which the company was operating, the higher was the efficiency of the company itself.

FIGURE 1: X Efficiency Curve



The theory of x-efficiency has been later resumed by Stigler (1976). He connected the concept of x-efficiency to the classical notion of allocative efficiency. Beyond all criticisms, the theory of x-efficiency had the merit of showing the existence of different rational behaviors of the bank-producer that lead to situations of technical inefficiency. Therefore, scholars approached for the first time the empiric and econometric analysis of non-efficient situations, whose importance was basically not taken into consideration by the neoclassical theory.

1.4 BANKING EFFICIENCY MEASUREMENT: INDUSTRIAL VIEW

The first step in evaluating the performance of a bank – be it the individual branches of a bank or the banking sector as a whole – is to distinguish the production units with good performances from the ones with poor performances. This repartition can be carried out comparing the production of the bank taken into consideration with an efficient productivity frontier, created based on a parametric or non-parametric approach. The efficient frontier plays the role of a benchmark for banks, as it sums up the best production possibilities, including all the possible combinations of input and output.

The distance between the productive unit from this reference frontier provides a measurement of its efficiency. In the analysis of more banks together, or more branches of the same bank, this measurement enables to compile a list where several credit institutes are ranked based on the efficiency level achieved.

The comparison with the production frontier delivers a set of information that can serve several purposes:

- Thanks to the identification of the activities with a higher level of efficiency, the management of the bank can promote the activity areas with better performances and give less priority to those activities bearing less results.
- In a transition period like the one that we are going through nowadays, regulatory organizations can determine the impact of a new structure on the market, such as the impact of efficiencies in the banking sector.

The analysis of efficiencies through the production frontier is not providing a qualitative contribution to the information that banks were already able to collect. It is rather providing a tool

of measurement, meaning that it is giving the opportunity to the banks to conduct a quantitative investigation on the qualitative results stored in their files. For this reason, such an analysis is considered to be essential both for the evaluation of the policies of financial institutions and of the concentration processes for regulatory organizations, and for the identification of two different kinds of productive inefficiencies in the banking sector:

- Allocative inefficiency: when the bank does not use the correct set of productive factors (input) for the specific service/product desired (output).
- Technical inefficiency: when the amount of input used, regardless of the correctness of the set used, does not manage to get the maximum amount of desired output.

In order to create the production frontier and estimate the x-efficiency of the companies belonging to the banking sector, it is possible to use the financial reports of the banks. Through these sources of data, it is possible to calculate three different kinds of production frontier: the cost frontier, the revenue frontier, and the profit frontier. Different objectives and interests of managers and owners of several organizations will lead to different goal functions, meaning that the selection of the kind of frontier to be used is strongly influenced by the needs of the company. Despite different measures describe different aspects of efficiency and might contribute on their own in identifying the most efficient banks, the cost frontier seems to be the most coherent measurement to reach the object of this research, i.e., the analysis of the industrial actions that can help in improving the operational efficiency and the productivity of the employees. This choice is therefore deriving from the fact that the capability of using the technology available in the correct way, reducing costs, is the essential condition for a correct allocation of resources, whereas for banks the capability of making profit/income might not coincide with the capability of financing growth.

The cost frontier represents the set of combinations of input and output allowing the bank to produce a certain amount of output minimizing costs. An optimization issue needs to be solved before building this frontier. The distance of a bank from this frontier provides a measure of its x-efficiency, i.e., the difference between the costs borne for a specific production and the ideal minimum cost. The cost frontier (Formula 2) can be represented as below:

$$C = f (q, p, x_0, e_0) \quad (\text{Formula 2})$$

where C represents costs, q is the vector for the quantity of output, p is the vector for the prices of the input, x_0 is a measure of cost-related inefficiency and e_0 is random error. A bank that manages to be more efficient in the minimization of costs will have a lower value in x_0 . After calculating the cost functions for each credit institution, it is possible to compile a list of banks ranked according to the index that compares the best bank to every other one in the system. The index (Formula 3) for the i -th bank will be represented as:

$$CE_i = C^{\min} / C \quad (\text{Formula 3})$$

that, for its structure, can be any value included in the range $(0,1]$, which represents a ranking from the less efficient bank to the most efficient one.

For the correct econometric processing of the function (4) in the estimation of the cost frontier, it is fundamental to solve a set of theoretical issues in the identification of inputs and outputs in the banking productive process. For what concerns the identification of the financial product, scholars have been applying three different approaches:

- the production approach (Benston 1965), that focuses on the monetary function of banks and considers them to be producing deposits and services related to the management of the payments' system,
- the intermediation approach (Sealey and Lindley, 1977), which considers the deposits as an intermediate input in the productive process of loans and other purposes,
- the mixed approach, at last, that interprets the financial product as a mixture of assets and liabilities.

The most common approach in the field for empirical analysis seems to be the intermediation approach (Ahn and Le, 2014). It is a shared opinion that the main purpose of credit institutes, and more specifically of commercial banks, is the creation of an output, i.e., loans and investments, through the input of liabilities (deposits included), workforce and capitals. Based on the goals of the research – and on available data – the approach selected for the present paper is the intermediation one. This approach is considered to be more appropriate in the analysis of technical efficiency for its focus on the cost minimization (back-office functions), as opposed to the production approach which is, on the other hand, more appropriate for the measurement of efficiency of the branches (front office functions).

1.5 BANKING EFFICIENCY MEASUREMENT: MANAGERIAL VIEW

The difficulties in the measurement of efficiency are not only connected to the selection of the correct approach. The choice of the most appropriate instrument for the purposes of the investigation is equally troublesome. The empirical esteem of efficiency might involve the application of several instruments, including those commonly used in industrial economics and microeconomics – discussed in the previous section – and those usually applied in the managerial field – that will be discussed below. The latter implies the analysis of processes and accounting documents, and belongs to business economics, and company organizational and strategical studies. It is a qualitative kind of approach, compared to the econometric analysis, based on the examination and classification of costs, and on the monitoring of the strategical levers that needs manipulation in order to improve the performance of the company. The main advantage deriving from this perspective is the fact that it is not necessary to specify the input-output combination used in the banking productive process but appears to be quite ineffective when it comes to carrying out intertemporal comparisons, when it is more appropriate to apply an econometric method instead.

Among the most used indicators it is possible to find the efficiency index. Operational efficiency indexes investigate the impact of operational costs and the capability of banks of facing the fixed costs with their own profitability. The cost/income is one of these indicators. It is calculated through the relation between operational costs (administrative costs, employees, and real estates) with the intermediation margin, and it refers to the weight of the operational structure compared to the profitability. One of the efficiency indicators is the productivity indicator. It is specifically used in the financial sector since the human component represents as one of the most strategic and elevated costs. Among the indicators measuring the productivity of employees, the most important is cost/revenue per employee, i.e., the connection between staff-related costs and the total revenues per employee.

The reduction of profitable margins and the higher competitiveness of the sector, increased the interest of managers towards the enhancement of business performances. In order to achieve this goal, the management has the possibility to take action either on revenues or on costs. It is usually more complicated to increase revenues, due to the level of competition and to the fact that financial products are easily replaceable and imitable. The only feasible path is to pursue the rationalization

of costs, measuring and constantly monitoring them.

In the last few years, a growing attention has been dedicated to the strategic management of banking costs, using increasingly elaborated instruments for the management monitoring. Among the most common methodologies, we can find direct costing, full costing, breakeven point analysis, and variances analysis. Among the most recent and innovative instruments, instead, we can find the Activity Based Costing (ABC), which is based on the identification and the analysis of the cost drivers for activities and processes. The ABC will be discussed in depth in the next chapter.

CHAPTER 2

THE COST MANAGEMENT IN THE BANKING SECTOR

ABSTRACT

This chapter is going to contextualize the management control in the evolution of banks, and to examine the theme of the cost analysis from a strategic perspective. The chapter, hence, will browse through the evolution of the control systems, traditional and management, will describe how the organizational structure impacts on the cost structure, and will analyze the effective applications of the activity-based costing methodology to the measurement of the business costs.

2.1 INTRODUCTION

The concept of “enterprise banking” derives from the evolution of banking models, in a context of increasing competition, globalization, aggregations and multifaceted risks. For this reason, it has become of great importance to distinguish the costs and performance measurement according to the result area, the productive unit (branches), the client and distribution channel.

Within this context, the implementation of efficient internal control systems (ICS) has become, in the past few years, an increasingly important theme in the banking field, due to a set of technical, organizational and normative reasons.

A system of strict internal monitoring can lead to the completion of business goals, to the achievement of revenues- objectives in the long term, and to the maintenance of reliable computer systems (Basel Committee 1998).

The performance objectives of the internal control are related to the efficacy and efficiency of the bank in the implementation of activities and resources, and in the prevention of losses. The process of internal monitoring aims at ensuring that, in the whole organization, the employees will achieve their goals with efficiency and integrity, avoiding excessive or unexpected costs, and not prioritizing interests that differ from the ones of the bank itself (e.g., of a single employee, or of a

specific supplier or client).

The Internal Control System (ICS) consists of a set of rules, procedures and organizational structures which aim to:

- ensure that corporate strategy is implemented
- achieve effective and efficient corporate processes
- safeguard the value of corporate assets
- ensure the reliability and integrity of accounting and management data
- ensure that operations comply with all existing rules and regulations.

2.2 THE COST CONCEPT

In the economic perspective, the cost represents the expected benefit deriving from the alternative that has been selected as the better opportunity, meaning the cost-opportunity of the resources that have been used for a certain action. In the operative practice, those who are responsible for the executive control have implemented this concept of cost in the measuring of the performance of every department, whose residual income represents a measurement of the economic result achieved after covering the assets cost. For this reason, the cost-opportunity represents the connotation of cost that better suits the decision-making purposes, and the most dynamic one as it is able to adapt to the new opportunities of implementation of resources as soon as they appear, and it requires personal evaluations regarding the possible future implications of every option available.

It is necessary, for a full understanding of the concept of cost, to clarify its composition. A cost cannot be defined as a single, limited, event. It represents, instead, a process including several moments:

- 1) cost planning: this is the wider phase of the planning activity, necessary to identify and describe the resources necessary to achieving the business objectives, and their priorities;
- 2) direction selection and formal implementation: at this level occurs the formalization in plans and operative procedures of the decisions that had been taken at the cost planning stage;
- 3) assumption of the economic obligation: this is the moment when a formal contract for the

acquisition of resources is formed between the company and a third-party supplier;

- 4) resources acquisition: from this moment on it is possible for the company to employ the resources in order to achieve the expected benefits;
- 5) usage of the resources: the company is deploying the acquired resources
- 6) cash outlay: the last phase concerns the actual impact of the monetary flow on the financial resources of the company.

2.3 BANKING MANAGEMENT CONTROL

The business-like characterization that the banks have been taking on in the last decades, and the need to constantly monitor and manage the performances of the company, pushed the banks towards the implementation of the so-called Management Control Systems (MCS).

The management control has spread in the banking industry since the '80s, later than in other productive sectors (specifically compared to the manufacturing one). In the period of time going from its introduction to nowadays, the management control has considerably evolved in terms of its role in the organization, its competencies, and the instruments at its disposal. As for its "traditional" assumption, the management control was focused on economic and financial results, and was only marginally considering some other aspects of the business management such as the measurement and the management of the determining factors in terms of competition, and the methodical monitoring of the external environment. In its modern version it acquires an increasingly strategic connotation, including in its activities the interpretation and the management of environmental changes in order to obtain benefits in the competition, to prevent risks for the organization, and to guide and coordinate the behaviors of the stakeholders according to the guidelines set in the strategy.

Nowadays, the management control, in its strategic perspective, can be defined as "a structured and integrated system of information and processes, supporting the management in activities of planning and control" (Traina, Cattaneo 2017). Among the several purposes that it is serving, its main goal is to help the top management in leading the company towards the strategic objectives by making the right choices for the creation of economic value. That's to clarify the highly strategic role that this instrument is playing in a wider and more complex system of internal

control implemented in the banks, going beyond the traditional assumption that was considering only its function of control.

Experience and new findings helped reshaping the traditional scheme, developing a new template of control ‘thought for the banks’, hence not adapted from the industrial model but based on the integration of managerial and banking methodologies. The main activities assigned to the management control include:

- risk management (deriving from performance and unsuccessful business goals);
- efficacy and efficiency monitoring of the business processes, through several indicators (time, quality, costs and productivity);
- supporting the management in the identification and quantification of short-term performance goals: this function is relevant as it contributes to the success or failure of the decisions taken by the management;
- checking the implementation of business strategies and policies through indicators of result and the analysis of deviations (comparing actual performance with standards or goals);
- managerial accounting (provision of reliable, relevant and timely decision-making information to managers).

The so obtained data provide a decision-making and operative instrument that allows the management to intervene on key parameters (e.g., the productivity of the bank) (Figure 1) and to measure in the effect of the decisions made. In particular, the survey on the productivity allows to:

- evaluate and quantify the workload for the employees;
- evaluate the efficiency in the workflow of the employees;
- evaluate the cost of the operation.

By comparing the available resources with the activity implemented it is possible, then, to carry the desired analysis on the workload and to assign a cost to the operations, based on the average workflow and on the cost of resources.

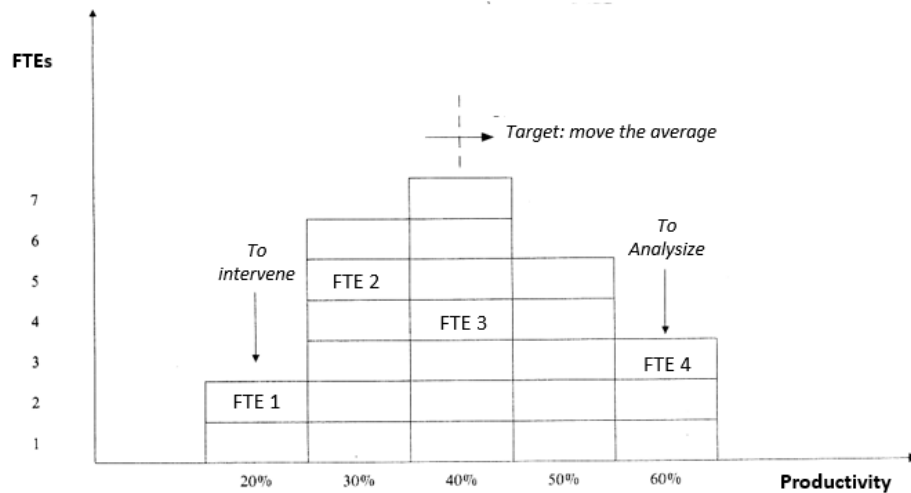
Among the advantages:

- a better distribution of resources on the basis of commonly accepted and homogeneous data;
- a better efficiency control that focuses on the improvement of the areas that show issues, through the analysis of more performing areas;

- implementation of procedures and instruments aimed at improving efficiency, measuring their actual impact.

Figure 1: Productivity

[Source: Own elaboration]



2.4 ORGANIZATIONAL MODEL

Business organizations are the first pillar supporting management control, as they represent the first level of report. In the last decades, after a long static phase, the organizational models in the banks went through some important changes due to several factors such as:

- development of technologies and evolution of electronic banking services;
- customer-oriented, rather than product-oriented commercial policies;
- increased importance assigned to management control and risk management by external regulations.

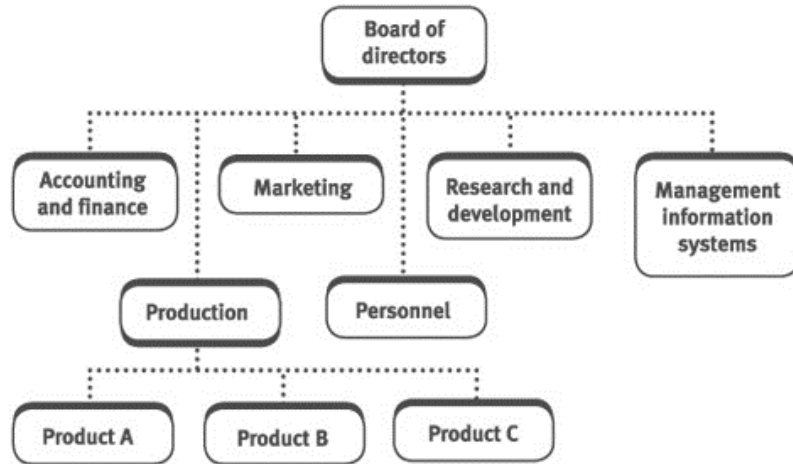
The organizational structures bring to a specific cost structure, that needs to be constantly reduced in time. It is possible to highlight two typologies of organizational models, adopted by the main banking groups:

- a functional model (Figure 2), where a holding company leads and controls the bank-subsi-
diaries, that cooperate in the group as individual legal entities. The infrastructural

functions are centralized into a dedicated service company while the bank-subidiaries are granted a high level of autonomy in the decision-making for what concerns marketing.

FIGURE 2: Bank functional model

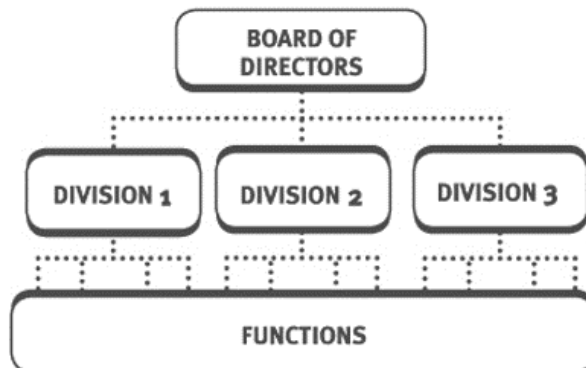
[Source: Own elaboration]



- a divisional model (Figure 3), where the holding company owns functions of control, strategic lead, marketing coordination, and operative ones. The infrastructural functions are centralized into a dedicated service company, similarly to the previous model, but the banks belonging to the group become distribution networks with a specific type of clients and with their own brand.

FIGURE 3: Bank divisional model

[Source: Own elaboration]



After the process of evolution, the most common organizational chart that the banks have been implementing can identify two entities:

- the organizational units referring to the core business perimeter, that receive the sales objectives (revenue center). Despite the cost accounting shows that these units are employing productive resources, their responsibility is transferred to other structures (the so-called costs responsibility center). This part of the organizational chart is client-oriented, meaning that it is structured in a way to focus on the client and classify the organizational units on the basis of their type of clients: retail, private banking, corporate banking and institutional.
- The units referring to the ‘corporate center’ perimeter that represent the so-called support activities (ICT, back-office, real estate, etc.).

The need to achieve cost synergy, to gather competencies, and to reduce internal complexities and differentiations, pushed the banking groups to centralize some processes, usually the infrastructural ones and the back-office, and to allocate them into specialized structures whose relationship with the main group is regulated by a client-supplier logic. These structures work as ‘firms in the firm’, as their clients are the business units of the group, to which they are providing a service (their product), regulated by an actual contract of service. The adoption of this model allows a management of the services centered on the clients’ need, resulting in successful solutions that are shared with the entire group. The deriving standardization and homogenization of the solutions also allows strong synergies in the ordinary management, resulting in economies of scale and cost efficacy. Keeping the processes in the company, even if in specialized structures with a certain level of autonomy, means that, in any case, the firm will be able to provide a prompt answer to any demand from the client, thanks to its close relationship with the client himself and its deep knowledge about the core business. It is necessary nevertheless to have enough critical mass to grant the development and the retention of competencies, and to obtain the economies of scale that allow the cost optimization.

Outsourcing, specifically in the Information Technology sector, is a solution that suggests an important alternative in this scenario, as it allows to allocate to a third party some of those processes with less value added, on the basis of contracts stipulated for granting the service. It is

possible, in this way, to have capabilities that otherwise would be hard to develop and maintain internally in the absence of critical mass, and to focus internal resources on core themes such as the administration of key decisions and services cycles, and on the relationship with the final client. The result is a more flexible model, that allows to optimize costs by modelling them on the basis of actual needs, notwithstanding a constant level of service provided. The flexibility, though, can be limited by the selection of the outsourcer and by the contract of service. Hence, the need to create new internal roles and skills, dedicated to the relationship with the suppliers. The two models bring distinctive features and consequences, and the choice of an internal set-up rather than an external one strongly depends on the business context and on the goals that the company wants to achieve. It is undeniable that outsourcing involves cost optimization in the short term, but it is also true that, in the medium term, it might generate a loss of know-how, with negative consequences on the level of service provided, and on the capability to evolve according to the needs of the client. The cost of the interventions that would be required to fix these losses would significantly reduce or nullify the savings achieved in the short term.

The choice of the best organizational set-up is fundamental for a better combination between costs structure, investments and revenues. It is an unstable balance, characterized by a high unpredictability, independently from the business ‘mission’. In Italy, the credit landscape is particularly dynamic. The increase of competition is aggravating the potential vulnerability of each financial institution, even more in facing unpredictable situations like a pandemic that, through a sort of natural selection process, sees banks focused on the research and implementation of efficient strategies in terms of survival. The concept of ‘sustainable growth’ is clearly connected to the definition of the best dimension. It is not quantitatively predeterminable, but responds to the need to achieve, in time, economies of scale and scope. In Italy, the phenomenon of consolidation is strongly shaping the reorganization of banking groups, as proved by the present post-pandemic acceleration in M&A operations, that will produce a clear reduction in the number of commercial banks on the market.

The organizational models will produce better results with the support of some requirements:

- cost accounting model for each service/product in order to analyze each revenue center on the basis of the productive resources that are assigned a value according to a fully transparent, objective and homogeneous logic;
- evaluation of the managers and allocation of responsibilities on the basis of the achievement of clearly defined and identified goals.

Following the evolution of organizational models, the management control systems are becoming more and more complex, focusing their attention on the revenue measurements and on commercial KPIs. The changes in the market push the interest of the banks towards the cost accounting at organizational unit level, constituting the so-called cost allocation models.

These models depend on the cost's classification in:

- direct costs: operative costs for resources allocated to the single units and accounted on themselves;
- indirect costs: can be related to the individual object only indirectly and non-distinctively, and their allocation process is performed thanks to specific drivers;
- costs for provided/received services: attributable to the use of services that other structures of the bank provide to each unit.

This model is usually applied starting from the data of general accounting that, through norms and allocation drivers, are transformed into a model of analytic accounting per organizational unit, aggregated to the level of business segment, geographic area and, eventually, group.

The evolution in time of the cost accounting system from a top-down process to a bottom-up analysis has introduced data from the general accounting, and several dimensions of analysis:

- commercial product
- geographic dimension
- business segment
- service provided to internal/external client.

2.5 ACTIVITY-BASED COSTING

An adequate knowledge on the costs borne to create and distribute the products/services to the client (production and selling costs), to acquire new clients (acquisition costs) and to develop and keep a client (development and retention costs), is needed for the banking company to make correct strategic deliberations.

Costs management systems, in general, respond to the need of evaluating efficacy and efficiency, pricing and decision-making. The so-called traditional systems based on the logic of cost centers, were first developed in the industrial field, and only in a second time were exported to commercial and services financial company. Accounting models for cost centers have shown, in time, some weaknesses, mainly due to the fact that they are based on drivers related to production volumes, not suitable to expressing the complexity of products and services. A system of costing should represent the bank as a whole, describing time, effort and competences needed for the creation and the selling of each product, in addition to identifying those activities that are not generating any value.

R. Cooper and R.S. Kaplan (1992) were describing the activity-based costing (ABC) as a methodology able to fill the flaws of the traditional accounting management, that finds its origins in the analysis of the value chain through which the bank can be split off in its strategic activities.

ABC starts on the premise that costs are determined by activities using up resources, and that products costs derive from the activities needed for their creation. The ABC was created to keep track of complexities, so that costs are more incisive on those products, services, clients and suppliers that are creating value.

The role of this instrument, hence, is more to stimulate a cost management, rather than a cost control. This implies the need to explore the cost-generating causes for a value creation for the client, through the evaluation of every cost/activity to be in line with the orientation and centrality of the client himself.

The Activity-based costing wants to be an instrument for cost management, to be used to understand the multifaceted and complex cost measurement in banking companies, focusing on the correct esteem of the costs of central structures that are vital for the functioning of the banking

company as a whole. These structures work for other operative units and require great quantities of resources. The correct evaluation of costs for each structure/object of cost is essential for the measurement of performances and for pricing policies.

While in the industrial context the ABC methodology has gained consensus in the last decades, in the banking sector the switch from traditional cost methodologies to the activity-based costing is still in progress. Many endemic factors, specific for the banking context, are complicating the creation of relevant cost information; these characteristics are deriving in the greatest part from the differences existing between the two contexts of banking services and manufacturing companies. Some important differences consist in the intangibility of banking products and services, or in the immediacy of banking operations: activities are carried out in just a few seconds, minutes or hours from the moment that the process is started. For this reason, resources in banks are used up in a relatively short period of time (Sapp et al, 2005). This implies that the cost evaluation in banks has to keep the pace and be comparatively 'rapid', a challenge that industrial companies have never had the need to face.

The present context is characterized by a strong automation, a growing competition also at international level, and a prominent technological development. This allowed banking companies to develop accounting systems that could provide prompt, suitable and relevant information concerning the costs of products and their profitability.

The goal of activity-based costing is to define the full cost of a product or a service, by calculating the costs for the activity. The main premise is that the product of the service delivery requires the completion of some specific activities which, on the base of a driver, use resources that carry costs. This set-up can be expressed in a few logic steps:

- 1) Identification of the cost object. The identification of the cost of a product and its profitability stands as the most significant goal. However, other costs objects such as individual clients, or homogeneous groups of clients, might appear to be interesting for the evaluation of the correct consumption of resources - deriving from the centrality of the client - in comparison with actual results. Once the cost object has been identified, it needs to be related to the corresponding costs, as in traditional methods.
- 2) Identification of activities and their costs. After the identification of the cost object, what follows is the identification of the business activities that contribute to its realization. An

efficient management of the activity mapping requires a high level of details in the representation of the business activities. One of the options is for the company to undergo a preliminary analysis for the identification of functional areas and those indirect cost generating activities that appear to be relevant and growing in time. The identification of the costs for each activity allows to understand the actual destination of resources and energies, information that works as a start-point for any intervention intended to improve the process. In practice, after the mapping identified the activities of a process, it is necessary to define how much does each of them cost. The implementation of the ABC helps in creating some activity matrices that will show the cost of the process split up in its components. The cost of the activity is then determined by the sum of the costs of all the resources absorbed by the activity throughout its completion. Next step is the cost calculation, that can be done in two ways, depending on the informative basis used:

- a. The first method is based on the accounting plan of the company and calculates the values of the costs of each activity on overhead parameters.
 - b. The second method starts from pre-existing systems of analytic accountability and uses pre-existing reports on costs, rearranging the data that have already been gathered.
- 3) Definition of a parameter that represents the usage intensity of the activity by the cost object (cost driver). The activity mapping, the resources distribution and the cost related data, are the premises for the next logic step connecting the activity with the cost object, which creates the foundation of the model: cost objects (product, client, channel, etc.) require activities with different intensities on the basis of their characteristics and complexities. For this reason, it is necessary to identify those factors that represent the usage degree of the activity by the cost object, i.e., the cost driver. Cost drivers represent the link between the activity and the object of costing, defining its usage intensity. The essence of the ABC is the attempt to overcome the traditional volume coefficients through the identification of markers expressing what makes some specific activities more complex than others, bringing to a higher consumption of resources and, as a consequence, to higher costs.
- 4) Attribution of activity costs to cost objects on the basis of the requirements.

The integration of the information gathered by the activity-based costing and the performance management systems in a company is fundamental, specifically for strategic control, and

comparison of internal and external results. ABC appears to be significantly important also for what concerns the analysis of variances, i.e., the comparison between budget data (expected by the company) and the final balance ones. The global variance so calculated supports the decision makers in taking corrective actions in order to achieve the goals set.

CHAPTER 3

THE BANKING COST STRUCTURE

ABSTRACT

This chapter will analyze structure and trend of operative costs in European and Italian banking industry. The first part will focus on the trend of the performance in the banking sector, since 2007 financial crisis to the current pandemic crisis. After that, the discussion will move to examining the main items and efficiency KPIs in the sector, with special focus on the Cost to Income and the staff cost.

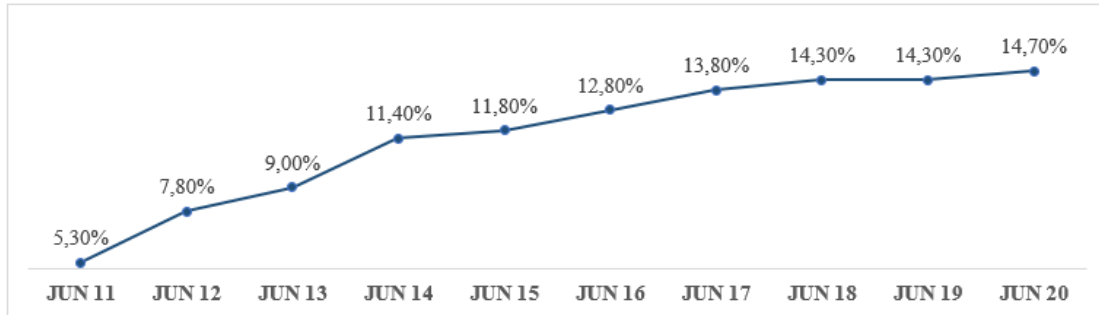
3.1 INTRODUCTION

The pandemic spread globally and occurred at different timings in different contexts. The result, for what concerns the economic scenarios involved, has been an exogenous and symmetric shock hitting both demand and supply. Differently from crisis that are determined by endogenous factors to the financial and economic system, in this case it is complicated to predict further development and intensity of the shock, due to the uncertainty of the pandemic-related factors. It is clear, instead, how the crisis was spread through mechanisms that have not been created by financial markets and the banking system, but whose effects have been greatly amplified by the influence of these two actors. It is also equally clear that range and intensity of the crisis will depend on the starting conditions and policy measures supporting the economic activity.

In the five years preceding the pandemic crisis, European banks had built a stable financial basis by strengthening their accounts. The capitalization effort endured by European banks after the 2008 financial crisis made the banking sector more resilient and solid. The Tier 1 Capital Ratio (Figure 1) of EU banks in 2020 has reached 14,7%, three times the levels of 2011, thanks to a continuous and constant improvement in the sector solvency.

FIGURE 1: Country Cost to Income Ratio Trend

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]



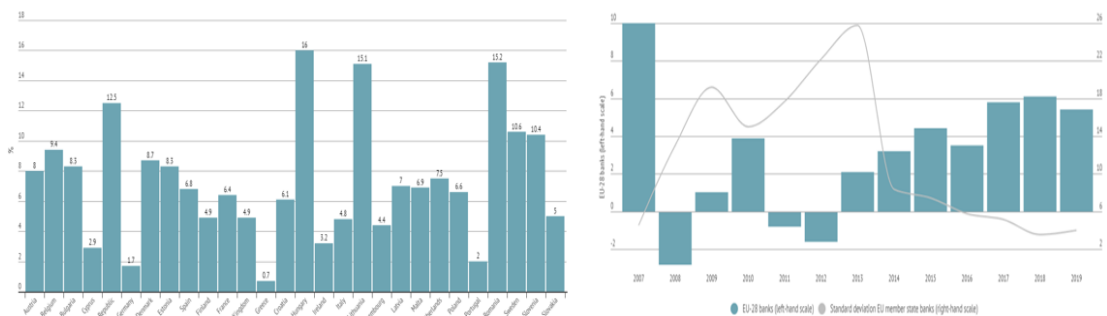
In 2020 the profitability of relevant institutions in the euro zone has considerably decreased after the COVID-19 pandemic: the return on equity (ROE) annualized has been lower, at aggregated level, than the cost of capital declared by the same institutions, and went down to 2,1.

This reflected into an additional reduction in the price-to-book ratio, whose median value in April 2020 reached a new low, at 0,3, resulting in complications for the relevant institutions to resort to the stock market without significant dilutions of the existing stocks.

In the pre-Covid period, profitability represented the key challenge for European banks, and the ECB was keeping a low interest rate in the last few years. European banks ROE (Figure 2) was 5,4% in 2019 for EU-28, a diminution compared to the 6,1% in 2018. In spite of the diminution, thanks to a minor growth in several other countries compared to 2018, it managed to keep at similar levels compared to previous years, although still far from the 10,6% that was registered at the beginning of the financial crisis.

FIGURE 2: Return on Equity of European Banks

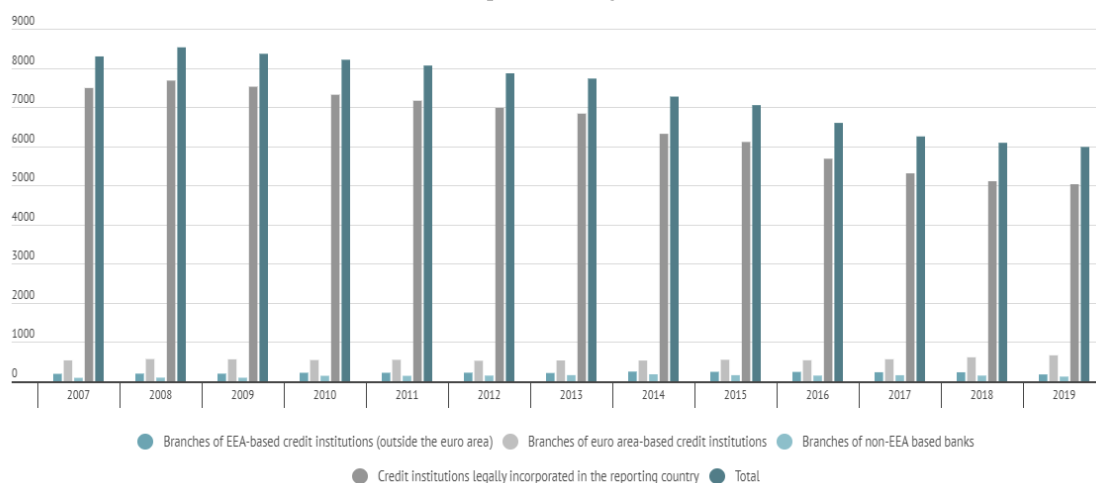
[Source: European Banking Federation]



The downtrend in the number of banks of EU-28, started in 2009, is still ongoing after 10 years, with figures dropping to 5.981 in 2019 (Figure 3). The decrease, though, has been the minimum (-107 units) since the beginning of the trend. This marked a diminution of 1,8% compared to the previous year, and a reduction of 2.544 (-30%) in total since the beginning of the decline. The stabilization in the banking sector keeps contributing in the reduction of capacity excesses, and in the improvement of profitability. According to ECB, the countries registering the most significant decline in 2019 have been Germany, in the lead for the second year in a row with -51 units, and Austria (-23), followed by Poland (-18) and Italy (-13).

FIGURE 3: Credit Institution in the EU

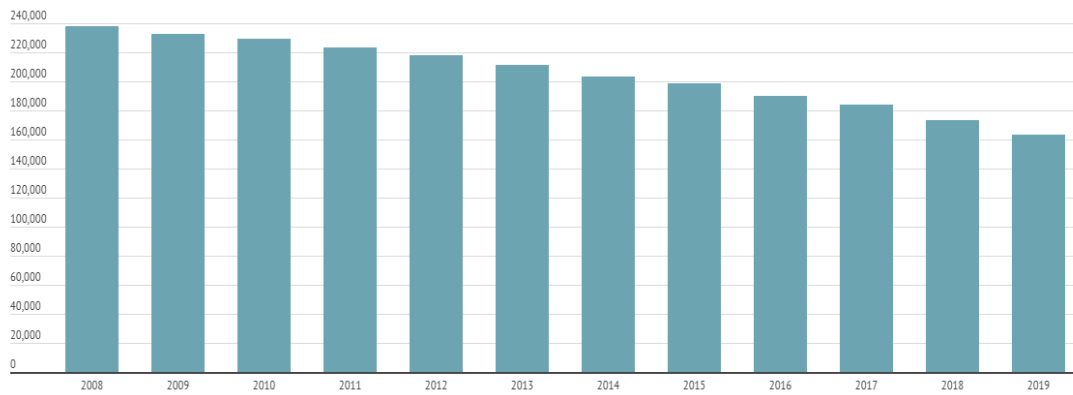
[Source: European Banking Federation EBF]



The current rationalization of the EU banking sector is involving also the banking branches (Figure 4) at national level as their number keeps diminishing, dropping to about 163.000 in the end of 2019. Compared to the previous year, the branches in EU-28 have decreased of 6%, i.e., about 10.000 locations, representing the most significant drop in the financial crisis. The number of branches has diminished of 31% since 2008, meaning approximately 75.000. This trend keeps reflecting the use of digital banking services by the users, as more than a half of EU citizens, i.e., 58%, has used internet banking in 2019, compared to the 54% of 2018 and the 25% of 2007.

FIGURE 4: Number of domestic bank branches

[Source: European Banking Federation EBF]



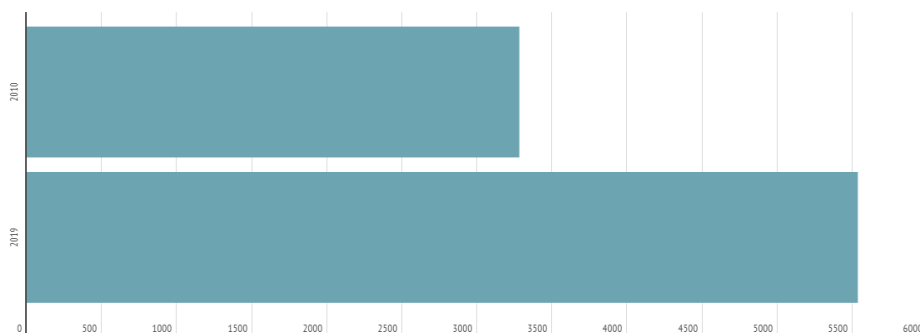
The number of employees is reporting a steady reduction as well, approximately 43.000 units less than 2018, reaching the lowest occupational level since 1997. The countries with the higher number of work vacancies in the sector are those with the bigger financial centers in Europe: Germany, France, United Kingdom, Italy and Spain. These five economic contexts in the EU are employing around the 68% of the total staff employed in the EU-28.

The average number of inhabitants per banking staff member in the EU member states has slightly increased from 192 in 2018 to 196 in 2019. The average number is increasing every year since 2008, when it was 153, growing of 28% in total.

As compared to 10 years ago, there has been a growth of 69% in the average number of inhabitants per banking branch, mainly due to the rationalization of the branches network in the EU-28, reaching an average of 5.536 in 2019 compared to 3.281 in 2010 (Figure 5).

FIGURE 5: Inhabitants per branch change

[Source: European Banking Federation EBF]



3.2 ITALIAN BANKING SECTOR PERFORMANCE

Italian banking industry in 2019 registered a trend consolidation as compared to 2016 (the peak of the crisis in the sector), in terms of productivity, credit quality, efficiency and capitalization. In the recent past, banks had to face important challenges such as the weakening of the macroeconomic context and the following impact of the credit quantities, the compression of the margin of interest deriving from the reduction of the reference rate, the increasing normative pressure exercised by security institutions, and the appearance on the market of new competitors.

Despite all these challenges are still important interesting subjects in the sector, the strong turnaround process that has been launched as an answer to the crisis, finally seems to be having its effects.

The structural interventions implemented by the banking groups in this turnaround process are mainly involving three elements. First, the institutes have been resolutely facing the ‘NPL crux’, that have doubled between 2010 and 2015, through some important deleveraging plans that, by 2019, have brought back the NPL ratio (ratio between gross non-performing loans and the total of gross loans) below the levels reported 10 years before. Secondly, banks have deeply reorganized their structures and their operative processes through interventions of optimization of distributive and efficiency models. At last, banks managed to complete the assets stabilization programs that allowed the sector to reach levels of Capital Ration that exceeded the regulator’s requests.

According to the KPMG 2020 report (“Bilanci dei gruppi bancari italiani: trend e prospettive”), the structures rationalization in Italian banks occurred mainly through the reduction of the number of branches and resources. In 2019 the number of branches was showing a reduction of 4,1% compared to the previous year. The decline involved all the dimensional clusters, specifically bigger and middle groups (respectively -6,6% and -4,7% less than in 2018). In comparison with the data from 2009, banking branches in the sector reduced by approximatively 40%, involving Italian and foreign branches. In detail, bigger groups have halved the number of branches in the last ten years, while big groups have reduced their network by -34%. On the contrary, middle groups have showed an actual stability, thanks to the combined effect of network rationalization and some important acquisitions implemented in the period of time under examination. For the same reason, smaller groups show an increment of the number of branches for 22% in the last ten years.

According to the same report, the average number of employees in the Italian banking sector reached 287.587 in 2019, approximatively 10.600 units less than 2018 (-3,5%). The reduction has involved all dimensional clusters, exception made for smaller groups (+0,4%).

In the two-year period 2020-2021 tensions on the rates, the theme of the quantity of credit, the efficiency efforts of the structures, and the requests of capitalization by the supervisory authority have been burdening Italian banking groups while they were preparing to face the middle term effects of COVID-19. After three years in a row that the cross-section banking groups were recording positive results, proving that the 2011-2016 crisis of the banking sector was well overcome, in 2020 a slight loss is reported, mainly due to the margins decrease and to the first prudential interventions for cleaning the financial statements in preparation for the future impacts of COVID-19 on the quantity of credit.

Italy, as well as the euro-zone, has been hit by a phase of economic slowdown; the listed non-financial companies were already reporting a deceleration in the revenue and profitability growth rate more significant than their European competitors, getting, at the same time, into higher debts.

Moreover, domestic stock exchange market indexes remained, in the majority of cases, on chronically inferior levels compared to those before the 2008 global crisis. In other contexts, instead, the starting conditions were not arousing any specific concern. Public finances were reporting a controlled deficit in the accounts, and steady conditions were reported on primary and secondary sovereign debt market; the domestic banking system enjoyed a higher level of stability thanks to the operations of capitalization, and to the improvement in the quality of credit reported in the last few years. Families, in spite of a growing preference for liquidity, managed to keep a low level of debt and a high stock of financial wealth in relation to the credit availability.

The pandemic will have long term effects on the organization of banks, as it appears in the last issue of Osservatorio Monetario (Catholic University and ASSBB), speeding up on some transformations that are already ongoing. New models of workflow organization are being developed, with high use of smart-working: in the period May-September 2020 the greatest majority of employees has been working totally from remote, almost the double compared to employees of non-financial sectors (58% compared to 31%). Even when social distancing measures will be dropped, the adoption of remote working models will help increasing the so-called bank desk ratio, i.e., the ratio between full time equivalent (FTE) and desks, going from today's 1,2 FTE per desk, to an approximative 1,6/1,8, freeing up between 25% and 40% of work

spaces.

The transformation in distribution models, with the migration towards remote channels and the consequent re-shaping of the branches network, needs to speed up in order to promptly supply the demanded products and digital services. Reducing the use of cash and checks, and migrating simple operations to digital channels, the network rationalization will go one step further. In Italy, 15-20% of the bank customers claims to be willing to continue using digital channels for accessing the banking services, even after the end of the pandemic crisis.

From the credit risk perspective, at the end of 2020 there was still a ‘pre-crisis’ situation, due to both the usually delayed effects of recessions on banking statements, and to governmental provisions (moratoria ex lege) and sector agreements, implemented in order to prevent temporary difficulties from turning into a wave of insolvencies. However, appraisals on the conditions of families and companies are predicting a clear diminution in their capability to respect their obligations in debts services. The deterioration in the credit quality will be particularly heavy on those sectors that were more severely hit by lockdowns: housing and food services, art and entertainment, real estate. For what concerns Italian companies as a whole, their insolvency probabilities have increased from 4,5% in February 2020 to 5,1% in December of the same year.

Eventually it will be essential for banks to implement a governance order that focuses on the definition of the risk appetite framework, on monitoring markers, on early warning thresholds, and on the relationship with customers facing difficult situations.

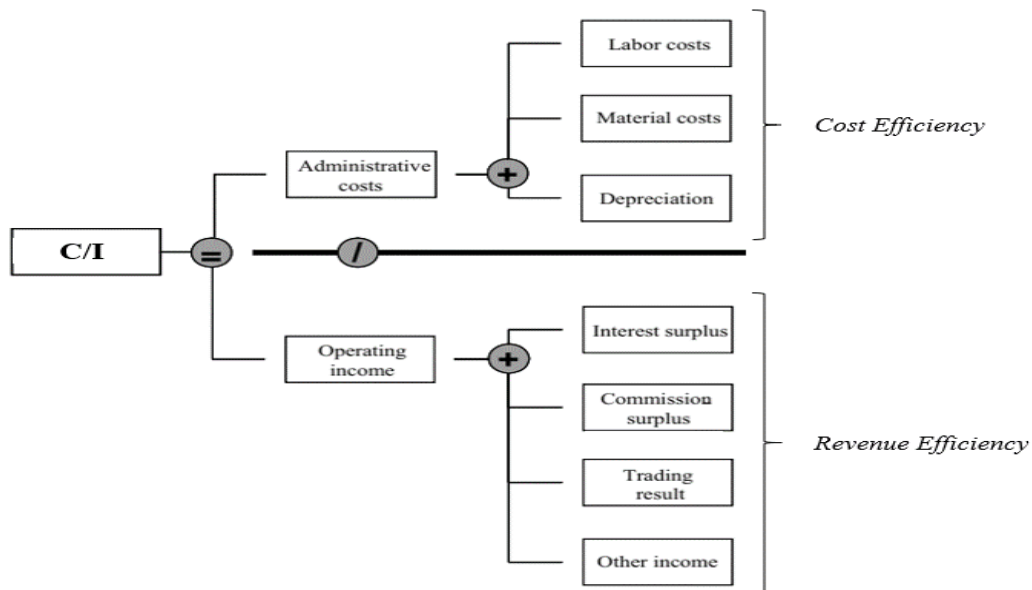
The market risk arouses less concerns than the credit one, but it is not be underestimated. Stock exchange market suffered from heavy losses (-40%) in the initial phase of the pandemic emergency (February-March 2020), but it managed to gradually recover in the following months.

The recovery has been only temporary interrupted by the second wave of contagion, at the end of October 2020. Bond market, both in the governmental division and in the corporate one, reported a similar trend: the decline observed at the beginning of the emergency has been gradually fixed by the end of 2020. Despite the significant policy initiatives implemented, the future remains uncertain and heavily depending on the outcomes of the vaccination plans, on financial support measures and on actions of monetary policy.

3.3 COST TO INCOME RATIO

Among the several efficiency KPIs used by banks, the most common one is the cost/income ratio, meaning the relationship between operative costs and operative revenues. The cost/income ratio, also thanks to surveillance organizations that kept pushing towards higher levels of efficiency, has been acknowledged as one of the fundamental strategic objectives for financial intermediaries, that are defining the value goal to be reached in the industrial plan. In order to enhance the value of the ratio it is possible to intervene on the two components that constitute the ratio itself: on cost efficiency, i.e., reducing the numerator, or on revenue efficiency, i.e., increasing the denominator (Figure 6). In the present context of financial and economic crisis, banks can only plan interventions of costs containment rather than revenues increase, due to the higher discretion and control on internal organizational dynamics rather than on market variables for what concerns the revenues for the company.

FIGURE 6: Scheme of Cost to Income Ratio composition



If, on the one hand, the optimization of resources and operative structures carries on, with a reduction of the number of branches and employees, and a consequent reduction in administrative expenses, on the other hand, in 2020 the cost/income ratio of European and Italian banking sector is reporting a heavy worsening, as an effect of serious difficulties on the profitability side. Effects of structure optimization policies on the economic accounts of the cross-section banking groups are more evident in the middle term: banking groups, in fact, are still recovering from the effects of the turnaround on business models, with the consequent extraordinary burdens in the short term, and from the heavy normative pressure and their impact in terms of adaptation of operative structures, skills and workforce, plus the effects of COVID-19 on the banks' financial statements.

The average cost/income in the European banking sector (Figure 7) at the beginning of the pandemic was reported 71,70% in March and 66,6% in June 2020 (EBA data on 135 European banks and 6 UK banks). The trend was clearly declining compared to the four-year period 2016-19, when the cost/income was improving from 65,26% to 64%, reporting the lowest value in 2018 at 63,14%.

Italian banks are struggling to keep the cost/income ratio in line with the European average. In June 2020 the cost/income reported 71,50%, a value definitely higher than the four-year pre-pandemic period, when the marker was going from 73,02% to 64,80%.

Among the 11 Italian banks analysed (ANNEX 1-2), only Mediobanca and Intesa Sanpaolo are below the European level: 58% cost/income for the first and 59,6% for the second one. Ubi bank is also coherent with the European average, being now part of the Intesa group. Monte dei Paschi and UniCredit are reporting, instead, the worse values in the Italian ranking: respectively 86,9% and 82,2%. Credem as well, one of the most profitable Italian banks, is suffering from the burden of costs over revenues, reporting a ratio of 75,3%, while Banco Bpm is at 74,4%. A better situation for Bper, instead, with a cost/income at 72,1%. On the cooperative credit side, the values are slightly better, with a lower ratio for Ccb from Trento (68%) compared to the roman Iccrea (72%).

FIGURE 7: Country Cost to Income Ratio Trend

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]

Country	DEC 16	DEC 17	DEC 18	DEC 19	MAR 20	JUN 20
Austria	66,15%	64,75%	61,41%	61,00%	68,80%	62,60%
Belgium	56,59%	58,94%	65,02%	66,80%	157,70%	81,30%
Bulgaria	42,22%	53,06%	46,47%	44,60%	63,40%	64,40%
Cyprus	51,26%	55,97%	61,59%	76,20%	68,00%	67,80%
Denmark	51,75%	49,97%	57,76%	64,20%	95,70%	72,00%
Estonia	57,29%	54,52%	46,60%	68,30%	49,80%	49,10%
Finland	43,63%	46,99%	53,13%	59,80%	64,90%	60,80%
France	69,17%	70,88%	73,06%	71,20%	83,50%	75,50%
Germany	82,99%	78,33%	82,45%	84,40%	91,60%	79,60%
Greece	51,69%	51,36%	53,41%	49,90%	36,60%	39,00%
Hungary	61,51%	61,60%	58,52%	59,00%	62,10%	59,80%
Iceland	N.A.	57,20%	60,78%	55,30%	69,70%	55,70%
Ireland	58,63%	61,24%	62,73%	67,70%	71,50%	65,60%
Italy	73,02%	63,90%	63,78%	64,80%	72,90%	71,50%
Latvia	45,24%	N.A.	N.A.	67,60%	69,30%	154,40%
Lithuania	N.A.	N.A.	32,53%	35,30%	38,30%	35,00%
Luxembourg	82,60%	86,74%	69,81%	88,20%	83,80%	82,70%
Malta	49,67%	54,10%	51,20%	66,50%	77,70%	81,60%
Netherlands	57,44%	56,85%	59,46%	58,00%	64,30%	60,80%
Norway	38,62%	41,34%	42,88%	42,60%	35,40%	37,90%
Other	75,19%	69,89%	71,43%	72,80%	72,20%	78,60%
Poland	54,20%	54,22%	52,37%	51,60%	60,40%	53,80%
Portugal	58,21%	47,10%	60,00%	60,80%	59,00%	66,50%
Romania	39,46%	44,84%	50,15%	46,70%	57,80%	49,40%
Slovenia	65,90%	64,15%	61,91%	58,20%	71,40%	66,60%
Spain	52,28%	51,97%	52,45%	52,70%	50,10%	52,10%
Sweden	47,89%	49,77%	44,38%	46,70%	59,80%	53,70%
United Kingdom	67,64%	65,24%	63,77%	61,40%	54,90%	58,20%
EU	65,26%	63,35%	63,14%	64,00%	71,70%	66,60%

The enhancement of the cost/income ratio reported in the pre-covid period 2016-19 for the Italian sample, and the reduction of the differential with the European division, are proving the great efforts in the management of the KPI as a result of the heavy normative pressure for the continuous improvement in terms of economic margins. Despite the Italian sample is reporting, in that period of time, a more significant drop in comparison with the European division, the outcome is not depending on the cost efficiency (Figure 8) as for the European competitors, but on an improvement of revenues (Figure 9) compared to 2016.

FIGURE 8: Operating Cost Trend

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]

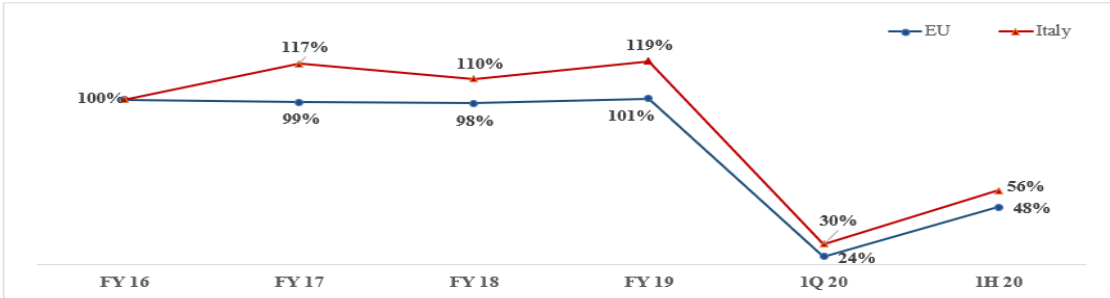
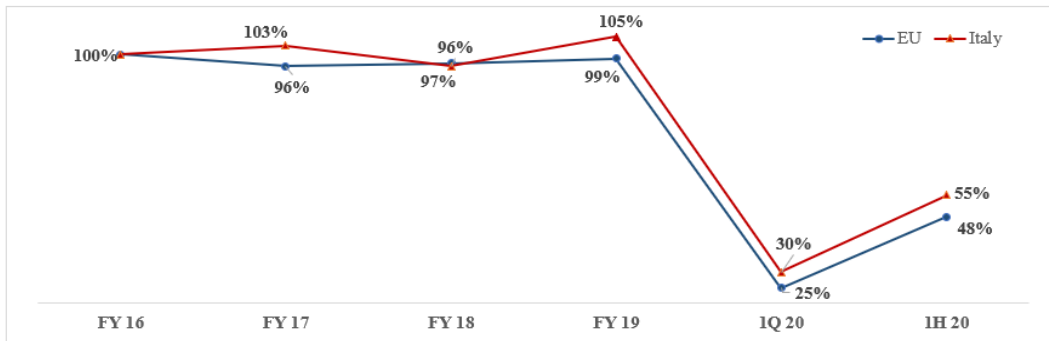


FIGURE 9: Operating Income Trend

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]



3.4 LABOR COST

The cost of labor in Europe appears to change greatly among countries. This inevitably implies a significant dispersion of the labor cost among European competitors. In comparison, Italy has a condition of competitive disadvantage as compared to main European players (Figure 10). For instance, focusing on labor cost in 2019, as a result of a general cost containment in Europe, Italian banks keep having a high ranking in comparison with other countries due to the elevated cost of the social burden.

In detail, considering the cost of Italian labor to be base-100 -using the OCSE Purchasing power parity-, 4 of the 13 entities analyzed are ranked at higher levels: Swiss (112), Germany (106), Denmark and Belgium (104).

The framework is not changing much if the attention is moved to the back-office operators: exception made for Denmark, Swiss, Germany and Belgium, Italian banks are ranked above all the rest markets taken into consideration.

The labor cost for the back-office operator is generally more elevated than the one borne for a front-office employee in every European country analyzed, exception made for France, Great Britain and Spain. In Italy, instead, the labor cost for a front-office operator is higher than a back-office employee, even if only slightly, due to the risk allowance paid.

Regarding managerial positions as well, values are highlighting that the average levels of costs for Italian banks are ranked among the first positions in comparison with the main foreign competitors.

FIGURE 10: Country Labor cost per Role

[Own elaboration on the official data that are coming from Rapporto ABI 2020 sul Mercato del Lavoro nell'Industria Finanziaria]

Front-office		Back-office		Manager		Executive	
Switzerland	112%	Danimark	140%	Austria	126%	France	115%
Germany	106%	Switzerland	136%	Belgium	119%	Sweden	113%
Belgium	104%	Germany	112%	Germany	103%	Italy	100%
Danimark	104%	Belgium	108%	Switzerland	102%	UK	95%
Italy	100%	Italy	100%	Italy	100%	Spain	93%
France	96%	France	96%	Sweden	100%	Switzerland	81%
Europe	90%	Europe	95%	France	97%	Europe	76%
Luxemburg	88%	Sweden	92%	Danimark	94%	Cypro	56%
Spain	85%	Austria	87%	Europe	93%	Portugal	50%
Austria	81%	Spain	85%	Cypro	88%	Danimark	48%
Sweden	72%	Portugal	75%	Spain	83%	Austria	48%
Greece	89%	Greece	74%	Luxemburg	81%	Greece	42%
UK	66%	UK	67%	Portugal	76%		
Portugal	66%	Cypro	60%	UK	75%		
				Greece	55%		

ANNEX 1 - Country/Bank Operative Cost Trend (Administrative and depreciation expenses and cash contribution to resolution funds and deposit guarantee scheme)

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]

Country	Bank	DEC 16	DEC 17	DEC 18	DEC 19	MAR 20	JUN 20
Austria	BAWAG Group AG		532	382	397	124	283
Austria	Erste Group Bank AG	4.010	4.142	3.091	3.114	1.097	2.108
Austria	Promontoria Sacher Holding N.V.	511					
Austria	Raiffeisen Bank International AG	0	3.062	2.271	2.280	822	1.568
Austria	Raiffeisenbankengruppe OÖ Verbund eGen	364	371	293	314	106	209
Austria	RAIFFEISEN-HOLDING	226					
Austria	Sberbank Europe AG	251	261	194	198	68	134
Austria	Volksbanken Verbund	616	580	428	398	143	260
Austria	VTB Bank (Austria) AG	136					
Belgium	AXA Bank Belgium SA	260	240	181	183	86	136
Belgium	Bank of New York Mellon	258					
Belgium	Belfius Banque SA	888	891	718	738	247	710
Belgium	Dexia NV	407	421	328	293	121	213
Belgium	Investar	329	351	301	327	158	240
Belgium	KBC Group NV	3.505	3.624	2.897	2.919	1.213	2.014
Belgium	The Bank of New York Mellon SA/NV		280	229	242	101	179
Bulgaria	First Investment Bank	98	105	79	85	27	60
Cyprus	Bank of Cyprus Holdings Public Limited Company	477	433	318	326	94	181
Cyprus	Co -operative Central Bank Ltd	181					
Cyprus	Hellenic Bank Public Company Ltd	136	189	120	176	54	121
Denmark	Danske Bank	3.204	3.357	2.696	2.771	1.000	2.032
Denmark	Jyske Bank	737	771	542	557	187	361
Denmark	Nykredit Realkredit	672	635	467	494	185	377
Denmark	Sydbank	347	354	276	285	98	194

Estonia	AS LHV Group	29	32	23	28	11	22
Estonia	Luminor Holding AS				200		
Finland	Kuntarahoitus Oyj	21	24	21	26	9	27
Finland	OP Financial group	1.125	1.256				
Finland	Nordea Bank Abp			3.422	3.659	1.207	2.290
Finland	OP Osuuskunta			962	974	368	752
Finland	Säästöpankkiliitto osk			121	135	48	104
France	BNP Paribas SA	28.377	29.030	22.642	22.178	7.491	14.240
France	Bpifrance (Banque Publique d'Investissement)	542	593	474		198	377
France	Crédit Mutuel Group	9.887	10.210				
France	Confédération Nationale du Crédit Mutuel			7.764	7.980	2.920	5.313
France	Groupe BPCE	15.908	16.611	12.354	12.516	4.580	8.299
France	Groupe Crédit Agricole	19.817	20.569	15.740	16.079	5.861	11.001
France	La Banque Postale	4.541	4.534	3.405	3.389	1.203	2.287
France	HSBC France					547	1.041
France	RCI banque (Renault Crédit International)	462	526	424	456	173	311
France	SFIL (Société de Financement Local)	107	113	84	83	36	60
France	Société Générale SA	19.433	17.032	14.033	13.050	4.654	8.472
Germany	Aareal Bank AG	338	308	234	225	84	162
Germany	Bayerische Landesbank	1.264	1.260	985	1.080	391	914
Germany	Commerzbank AG	7.088	7.077	5.414	5.100	1.801	3.419
Germany	DekaBank Deutsche Girozentrale	913	979	699	777	307	576
Germany	Deutsche Bank AG	27.046	23.936	17.396	16.769	5.495	10.523
Germany	Deutsche Pfandbriefbank AG	200	219	145	153	52	105
Germany	DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main	3.765	4.131	3.091	3.106	1.155	2.087
Germany	Erwerbsgesellschaft der S-Finanzgruppe mbH & Co. KG	834	833	700	718	236	501
Germany	HASPA Finanzholding AG	711	790	312	286	103	184
Germany	HSH Beteiligungs Management GmbH	544	487				
Germany	HASPA Finanzholding			567	572	185	366
Germany	Landesbank Baden-Württemberg	1.771	1.774	1.295	1.289	406	919
Germany	Landesbank Hessen-Thüringen Girozentrale	1.170	1.244	979	1.033	402	719

Germany	Landwirtschaftliche Rentenbank	67	70				
Germany	Norddeutsche Landesbank Girozentrale	1.149	1.264	896	837	247	487
Germany	NRW.Bank	215	219				
Germany	State Street Europe Holdings Germany S.a.r.l. & Co. KG	785	877	617	683	270	484
Germany	UBS Europe SE, Ffm					196	356
Germany	Volkswagen Bank Gesellschaft mit beschränkter Haftung		1.438	1.698	1.258	385	827
Greece	Alpha Bank AE	1.121	1.221	815	793	255	512
Greece	Eurobank Ergasias SA	992	894	653	672	220	434
Greece	National Bank of Greece SA	1.080	945	713	673	223	435
Greece	Piraeus Bank SA	1.323	1.165	896	750	227	452
Hungary	OTP Bank Nyrt.	1.473	1.610	1.261	1.375	535	1.014
Iceland	Arion banki hf		263	219	170	42	81
Iceland	Íslandsbanki hf.		242	183	179	40	76
Iceland	Landsbankinn		190	138	127	40	79
Ireland	Allied Irish Banks, Plc	1.556					
Ireland	AIB Group plc		1.810	1.284	1.359	439	826
Ireland	Bank of Ireland Group plc		1.932	1.417	1.409	504	877
Ireland	Citibank Holdings Ireland Limited	1.105	995	741	789	257	511
Ireland	DEPFA BANK Plc	71	62				
Ireland	Permanent TSB Group Holdings Plc	337					
Ireland	The Governor and Company of the Bank of Ireland	1.839					
Italy	Banca Carige SpA - Cassa di Risparmio di Genova e Imperia	641	659				
Italy	Banca Monte dei Paschi di Siena SpA	3.408	3.326	2.097	2.062	688	1.335
Italy	Banca Popolare di Sondrio	557	556	417	434	152	292
Italy	Banco BPM S.p.A.	0	3.269	2.414	2.301	787	1.492
Italy	BPER Banca S.p.A.	1.450	1.451	1.219	1.228	477	922
Italy	Cassa Centrale Banca - Credito Cooperativo Italiano SpA			(Vuoto)	1.138	381	757
Italy	Credito Emiliano Holding SpA	881	872	679	693	239	450
Italy	Iccrea Banca Spa Istituto Centrale del Credito Cooperativo	498	456	368	2.357	772	1.575
Italy	Intesa Sanpaolo SpA	10.224	11.709	7.902	7.826	2.611	5.143
Italy	Mediobanca - Banca di Credito Finanziario SpA	596	559	281	296	989	1.318

Italy	UniCredit SpA	16.957	13.445	9.701	8.957	4.504	7.220
Italy	Unione di Banche Italiane SCpA	2.747	2.765	2.065	2.017	645	1.265
Latvia	ABLV Bank	68					
Latvia	Akciju sabiedriba "Citadele banka"			(Vuoto)	60	19	42
Lithuania	Akcine bendrove Siauliu bankas			(Vuoto)	25	10	18
Luxembourg	Banque Internationale à Luxembourg			(Vuoto)	294	106	220
Luxembourg	Precision Capital S.A.	841	453	320	316	117	237
Luxembourg	RBC Investor Services Bank S.A.	361	365	293	291	102	202
Malta	Bank of Valletta Plc	30	151	81	104	38	75
Malta	HSBC Bank Malta p.l.c.					26	48
Malta	MDB Group Limited	31	38	25	30	14	29
Netherlands	ABN AMRO Group N.V.	5.557	5.343	3.722	3.706	1.303	2.468
Netherlands	BNG Bank N.V.			(Vuoto)	(Vuoto)	(Vuoto)	52
Netherlands	Coöperatieve Rabobank U.A.	7.300	6.958	(Vuoto)	(Vuoto)	(Vuoto)	3.416
Netherlands	de Volksholding B.V.	642	603	(Vuoto)	(Vuoto)	(Vuoto)	292
Netherlands	ING Groep N.V.	9.105	9.648	8.154	6.873	2.838	5.309
Netherlands	N.V. Bank Nederlandse Gemeenten	118	118				
Norway	DNB Bank ASA	1.933	1.912	1.576	1.618	445	974
Norway	SpareBank 1 SMN	211	233	195	211	63	137
Norway	SpareBank 1 SR-Bank ASA	191	191	156	164	47	99
Other	XX-All other banks	22.084	5.951	0	18.615	2.104	135
Poland	Bank Polska Kasa Opieki SA	0	971	759	791	280	499
Poland	Powszechna Kasa Oszczędności Bank Polski SA	1.416	1.575	1.175	1.230	456	832
Portugal	Banco Comercial Português SA	782	957	756	845	286	683
Portugal	Caixa Central de Crédito Agrícola Mútuo, CRL	323	320	238	252	86	174
Portugal	Caixa Económica Montepio Geral	284	268	200	190	64	138
Portugal	Caixa Geral de Depósitos SA	1.260	1.199	810	784	277	453
Portugal	Novo Banco	591	554				
Portugal	LSF Nani Investments S.à.r.l.			367	366	117	268
Romania	Banca Transilvania	268	299	317	320	118	218
Slovenia	Abanka d.d.	79	76	52			

Slovenia	Biser Topco S.a.r.l.	80	119	85		42	88
Slovenia	NOVA LJUBLJANSKA BANKA D.D., LJUBLJANA	290	284	209	214	73	156
Spain	ABANCA Holding Financiero	528	564	440	451	163	350
Spain	Banco Bilbao Vizcaya Argentaria, SA	12.569	12.281	8.579	8.700	2.883	5.838
Spain	Banco de Crédito Social Cooperativo SA'	630	614	421	430	143	310
Spain	Banco de Sabadell, SA	3.055	3.120	2.462	2.367	778	1.646
Spain	Banco Mare Nostrum	385					
Spain	Banco Santander SA	21.132	22.939	17.009	17.355	5.609	11.329
Spain	Bankinter SA	661	684	533	589	189	430
Spain	BFA Tenedora de Acciones, S.A.U.	1.550	2.028	1.384	1.369	462	950
Spain	CaixaBank, S.A.	4.029	4.431	3.379	4.485	1.153	2.389
Spain	Ibercaja Banco	647	718	511	440	140	296
Spain	Kutxabank	678	656	467	471	154	314
Spain	Liberbank	422	416	288	290	94	205
Spain	Unicaja Banco S.A.	641	625	455	444	146	300
Sweden	Kommuninvest - group	25	29	20	16	5	12
Sweden	Länsförsäkringar Bank AB - group	421	418	311	345	109	255
Sweden	Nordea Bank - group	4.591	4.885				
Sweden	SBAB Bank AB - group	93	94	71	77	27	64
Sweden	Skandinaviska Enskilda Banken - group	2.113	2.176	1.465	1.479	477	1.164
Sweden	Svenska Handelsbanken - group	1.888	1.882	1.459	1.473	485	1.124
Sweden	Swedbank - group	1.742	1.693	1.225	1.361	490	983
United Kingdom	Barclays Plc	16.098	15.700	11.261	11.158	3.537	7.042
United Kingdom	HSBC Holdings Plc	32.701	28.409	21.303	22.336	7.075	13.532
United Kingdom	Lloyds Banking Group Plc	11.014	10.607	8.040	8.025	2.527	4.924
United Kingdom	Nationwide Building Society	1.650	1.641	1.117	1.253	2.369	546
United Kingdom	Natwest Group plc					2.109	4.101
United Kingdom	Standard Chartered Plc	9.962	8.959	6.878	7.220	2.249	4.388
United Kingdom	The Royal Bank of Scotland Group Public Limited Company	10.258	9.454	6.905	6.320		

ANNEX 2 - Country/Bank Total Operating Income (net) Trend

[Own elaboration on the official data that are coming from files published by the EBA, which have been submitted and confirmed by the Competent Authorities]

Country	Bank	DEC 16	DEC 17	DEC 18	DEC 19	MAR 20	JUN 20
Austria	BAWAG Group AG		790	828	890	254	565
Austria	Erste Group Bank AG	6.304	6.502	4.872	5.088	1.540	3.380
Austria	Promontoria Sacher Holding N.V.	961					
Austria	Raiffeisen Bank International AG	0	4.937	3.879	3.696	1338	2.612
Austria	Raiffeisenbankengruppe OÖ Verbund eGen	505	537	445	375	43	217
Austria	RAIFFEISEN-HOLDING NIEDERÖSTERREICH-WIEN registrierte Genossenschaft mit beschränkter Haftung	224					
Austria	Sberbank Europe AG	361	364	262	269	72	160
Austria	Volksbanken Verbund	647	689	521	564	185	353
Austria	VTB Bank (Austria) AG	239					
Belgium	AXA Bank Belgium SA	362	302	244	229	94	169
Belgium	Bank of New York Mellon	576					
Belgium	Belfius Banque SA	1689	1746	1.313	1.442	184	982
Belgium	Dexia NV	498	-62	-185	-564	-712	-558
Belgium	Investar	595	534	418	409	152	308
Belgium	KBC Group NV	6.260	6.732	4.813	4.852	1.326	3.038
Belgium	The Bank of New York Mellon SA/NV		599	455	423	176	355
Bulgaria	First Investment Bank	233	197	147	172	43	94
Cyprus	Bank of Cyprus Holdings Public Limited Company	973	885	567	502	136	266
Cyprus	Co -operative Central Bank Ltd	338					
Cyprus	Hellenic Bank Public Company Ltd	237	225	164	272	83	179
Denmark	Danske Bank	6.142	6.375	4.432	4.165	1.247	2.774
Denmark	Jyske Bank	1298	1271	879	797	124	434
Denmark	Nykredit Realkredit	1533	1977	1.272	1.276	46	653
Denmark	Sydbank	614	617	427	387	118	255
Estonia	AS LHV Group	51	59	50	55	23	45

Estonia	Luminor Holding AS				277		
Finland	Kuntarahoytus Oyj	195	223	194	103	43	90
Finland	OP Financial group	2.430	2.503				
Finland	Nordea Bank Abp			6.302	6.013	1.897	3.929
Finland	OP Osuuskunta			1.457	1.455	545	1080
Finland	Säästöpankkiliitto osk			174	217	27	123
France	BNP Paribas SA	41.528	40.756	30.871	30.530	10.320	20.993
France	Bpifrance (Banque Publique d'Investissement)	1507	2080	1.010		162	422
France	Crédit Mutuel Group	15.031	15.248				
France	Confédération Nationale du Crédit Mutuel			11.722	12.109	3.481	7.472
France	Groupe BPCE	23.136	22.565	16.711	16.645	5.286	10.102
France	Groupe Crédit Agricole	28.306	29.268	23.428	23.732	8.080	15.979
France	La Banque Postale	5.323	5.418	4.001	3.915	-121	1.150
France	HSBC France					506	1.015
France	RCI banque (Renault Crédit International)	1377	1525	1.385	1.415	462	920
France	SFIL (Société de Financement Local)	139	184	153	113	-11	69
France	Société Générale SA	26.887	22.944	18.361	17.329	4.946	9.957
Germany	Aareal Bank AG	815	666	464	470	150	290
Germany	Bayerische Landesbank	2.032	1.898	1.532	1.499	309	1119
Germany	Commerzbank AG	9.012	8.841	6.690	6.414	1.830	4.186
Germany	DekaBank Deutsche Girozentrale	1427	1378	1099	1203	504	870
Germany	Deutsche Bank AG	27.677	25.894	19.111	17.185	6.192	12.339
Germany	Deutsche Pfandbriefbank AG	430	438	335	348	88	228
Germany	DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main	6.160	6.022	4.459	4.642	1.654	3.136
Germany	Erwerbgesellschaft der S-Finanzgruppe mbH & Co. KG	1609	1563	1.307	1.196	313	769
Germany	HASPA Finanzholding AG	952	1043	-115	254	102	340
Germany	HSH Beteiligungs Management GmbH	-149	1786				
Germany	HASPA Finanzholding			700	671	212	440
Germany	Landesbank Baden-Württemberg	2.267	2.291	1.772	1.862	465	1291
Germany	Landesbank Hessen-Thüringen Girozentrale	1.782	1.628	1.259	1.283	-247	562
Germany	Landwirtschaftliche Rentenbank	76	327				

Germany	Norddeutsche Landesbank Girozentrale	2.298	2.245	1068	1008	209	608
Germany	NRW.Bank	641	638				
Germany	State Street Europe Holdings Germany S.a.r.l. & Co. KG	641	816	571	640	268	564
Germany	UBS Europe SE, Ffm					173	422
Germany	Volkswagen Bank Gesellschaft mit beschränkter Haftung		2.405	2.661	1.841	565	1259
Greece	Alpha Bank AE	2.388	2.514	1.999	1.702	565	1165
Greece	Eurobank Ergasias SA	2063	1882	1.384	1.365	434	1154
Greece	National Bank of Greece SA	1.920	1616	1.036	1.339	1118	1460
Greece	Piraeus Bank SA	2.366	2.215	1.409	1.366	412	921
Hungary	OTP Bank Nyrt.	2.395	2.613	2.262	2.380	862	1.695
Iceland	Arion banki hf		446	320	269	59	150
Iceland	Íslandsbanki hf.		349	250	268	61	129
Iceland	Landsbankinn		420	303	306	55	145
Ireland	Allied Irish Banks, Plc	2.919					
Ireland	AIB Group plc		3.001	2.199	2.022	612	1180
Ireland	Bank of Ireland Group plc		2.883	2.012	1.961	613	1251
Ireland	Citibank Holdings Ireland Limited	1.947	1797	1.421	1.732	454	944
Ireland	DEPFA BANK Plc	121	154				
Ireland	Permanent TSB Group Holdings Plc	460					
Ireland	The Governor and Company of the Bank of Ireland	2.924					
Italy	Banca Carige SpA - Cassa di Risparmio di Genova e Imperia	723	539				
Italy	Banca Monte dei Paschi di Siena SpA	4.534	4.236	2.715	2.484	790	1.536
Italy	Banca Popolare di Sondrio	954	1028	669	731	148	354
Italy	Banco BPM S.p.A.	0	4.208	3.566	3.204	1187	2.006
Italy	BPER Banca S.p.A.	2.182	2.163	1.832	1.742	632	1280
Italy	Cassa Centrale Banca - Credito Cooperativo Italiano SpA			(Vuoto)	1.650	551	1112
Italy	Credito Emiliano Holding SpA	1152	1200	885	915	310	597
Italy	Iccrea Banca Spa Istituto Centrale del Credito Cooperativo	652	696	421	3.262	1125	2.189
Italy	Intesa Sanpaolo SpA	16.098	21.747	13.422	13.227	4.657	8.632
Italy	Mediobanca - Banca di Credito Finanziario SpA	1172	1116	546	554	1659	2.271
Italy	UniCredit SpA	20.837	20.202	16.079	14.902	4.974	8.785

Italy	Unione di Banche Italiane SCpA	3.326	3.767	2.824	2.835	957	1.902
Latvia	ABLV Bank	151					
Latvia	Akciju sabiedriba "Citadele banka"			(Vuoto)	89	28	27
Lithuania	Akcine bendrove Siauliu bankas			(Vuoto)	76	25	52
Luxembourg	Banque Internationale à Luxembourg			(Vuoto)	402	126	298
Luxembourg	Precision Capital S.A.	1003	479	683	328	136	252
Luxembourg	RBC Investor Services Bank S.A.	452	464	363	349	126	247
Malta	Bank of Valletta Plc	65	300	173	171	52	94
Malta	HSBC Bank Malta p.l.c.					33	67
Malta	MDB Group Limited	49	54	38	42	14	25
Netherlands	ABN AMRO Group N.V.	8.230	9.287	6.938	6.531	1.939	3.940
Netherlands	BNG Bank N.V.			(Vuoto)	(Vuoto)	(Vuoto)	225
Netherlands	Coöperatieve Rabobank U.A.	12.350	11.172	(Vuoto)	(Vuoto)	(Vuoto)	5.197
Netherlands	de Volksholding B.V.	1006	1028	(Vuoto)	(Vuoto)	(Vuoto)	480
Netherlands	ING Groep N.V.	17.425	17.744	13.612	13.124	4.499	9.148
Netherlands	N.V. Bank Nederlandse Gemeenten	549	641				
Norway	DNB Bank ASA	5.106	4.703	3.734	3.971	1362	2675
Norway	SpareBank 1 SMN	456	471	407	426	104	268
Norway	SpareBank 1 SR-Bank ASA	482	477	400	429	101	249
Other	XX-All other banks	29.371	8.515	0	28.734	2.913	172
Poland	Bank Polska Kasa Opieki SA	0	1752	1.333	1.395	457	925
Poland	Powszechna Kasa Oszczędności Bank Polski SA	2.612	2.943	2.275	2.504	760	1549
Portugal	Banco Comercial Português SA	1968	2043	1519	1670	588	1147
Portugal	Caixa Central de Crédito Agrícola Mútuo, CRL	473	534	349	367	158	272
Portugal	Caixa Económica Montepio Geral	379	509	297	329	108	181
Portugal	Caixa Geral de Depósitos SA	1.780	2.272	1568	1477	476	920
Portugal	Novo Banco	967	1645				
Portugal	LSF Nani Investments S.à.r.l.			537	388	77	63
Romania	Banca Transilvania	680	666	679	718	204	441
Slovenia	Abanka d.d.	129	120	94			
Slovenia	Biser Topco S.a.r.l.	77	138	118		39	106

Slovenia	NOVA LJUBLJANSKA BANKA D.D., LJUBLJANA	476	488	358	387	123	261
Spain	ABANCA Holding Financiero	586	707	766	640	339	607
Spain	Banco Bilbao Vizcaya Argentaria, SA	23.382	23.978	16.695	17.257	6.103	11.821
Spain	Banco de Crédito Social Cooperativo SA'	1004	933	603	874	218	604
Spain	Banco de Sabadell, SA	5.384	5.818	3.836	3.793	1369	2.532
Spain	Banco Mare Nostrum	720					
Spain	Banco Santander SA	43.637	47.885	35.600	36.540	11.739	23.020
Spain	Bankinter SA	1339	1436	1.139	1.218	430	886
Spain	BFA Tenedora de Acciones, S.A.U.	3.389	3.049	2.649	2.496	807	1636
Spain	CaixaBank, S.A.	6.304	6.747	5.266	5.612	1.750	3.724
Spain	Ibercaja Banco	902	997	667	644	220	466
Spain	Kutxabank	1155	1255	807	758	405	647
Spain	Liberbank	913	688	492	469	177	382
Spain	Unicaja Banco S.A.	1048	939	680	759	237	465
Sweden	Kommuninvest - group	66	141	67	51	-18	-6
Sweden	Länsförsäkringar Bank AB - group	565	574	446	473	156	423
Sweden	Nordea Bank - group	9.139	8.797				
Sweden	SBAB Bank AB - group	306	318	231	245	74	176
Sweden	Skandinaviska Enskilda Banken - group	4.364	4.460	3.463	3.217	868	2.215
Sweden	Svenska Handelsbanken - group	4.191	4.099	3.074	3.066	986	2.087
Sweden	Swedbank - group	4.073	4.067	3.158	3.175	600	1815
United Kingdom	Barclays Plc	24.510	23.503	18.057	18.366	7.050	12.703
United Kingdom	HSBC Holdings Plc	46.404	41.615	34.803	37.405	12.875	23.445
United Kingdom	Lloyds Banking Group Plc	18.490	19.232	14.680	14.870	4.578	8.708
United Kingdom	Nationwide Building Society	2.945	2.755	1.845	1.742	3.429	824
United Kingdom	Natwest Group plc					3.564	6.408
United Kingdom	Standard Chartered Plc	13.469	12.492	10.107	11.117	4.041	7.381
United Kingdom	The Royal Bank of Scotland Group Public Limited Company	14.780	14.938	11.744	11.472		

CHAPTER 4

INDUSTRIAL LEVERS TO INCREASE THE BANKING COST-EFFICIENCY

ABSTRACT

Covid-19 pandemic crisis is completely changing the operative structure in banks, by heavily reducing their profit margins. This situation requires the banking management to implement a series of actions for the sector's survival, through continuous retrieval operative efficiency.

There are two macro-categories of factors that can lead to the increase or reduction of the banks' technical-operative efficiency: exogenous factor and endogenous ones. This chapter, hence, aims at analysing main endogenous and exogenous cost determinants in the banking sector, and the cause-effect relationship with the technical-operative efficiency in the present historical context.

4.1 THE EXOGENOUS DETERMINANTS OF BANKING OPERATIVE EFFICIENCY

Exogenous factors include all those variables that are not directly controlled by the banking management, e.g., regulations, macroeconomic factors, variables of the market structure and elements of the political and institutional framework in which financial intermediaries are operating. Due to its centrality in the economic landscape, and to the sensitivity of the stakeholders implicated both on top of the production process (account holders) and at the bottom of it (families and companies), banks must abide to sector regulations and to the surveillance of the Supervisory Authority that has the duty making sure that the norms are observed to safeguard the stability of the market. It appears clear that the activity and the structure of the costs and profits of banks are conditioned not only by the structure of the market and the socio-economical context of the country in which the bank itself is operating, but also by regulatory reforms, the degree of inflexibility of the surveillance controls, and by the mechanisms for safeguarding the interests of the account holders.

The next paragraph will focus on banking consolidation that, more than other exogenous factors, seems to be influencing the technical and operative efficiency of the sector in the present economic context.

4.1.1 BANKING CONSOLIDATION

Consolidation represents the answer of banking industry to the changes that have occurred on the competitive landscape, and to the increase of competition itself. The number of banking intermediaries has decreased and, on the other side, the concentration of the market has increased. Nevertheless, competition has not decreased at all.

Since the beginning of the '90s, the European banking industry has been going through an unprecedented concentration process. Financial deregulation, technological progress, and growing markets integration are the main determinants in the banking companies' aggregation phase. In Europe, an important factor of change is represented by the process of integration of financial markets, that has contributed to increase the level of competition in heavily segmented markets. The introduction of the single currency has allowed the reduction of credit and transaction costs. The irreversible process of globalization, and the normative harmonization in the financial sector has reduced the profit margin of the oligopolistic European banking market, increasing competition.

The phenomenon of concentration of companies is considered to be a process typical of industrial commercial sector, that only in the last decades has started spreading in the financial and banking field as well: research and studies have mainly focused on the dynamics that belong to other fields, and, for this reason, the academic literature concerning the concentration of banks appears to be quite recent. Nevertheless, operations of integration are to be considered one of the elements that, in the last few years, have mostly influenced the evolution and the configuration of the bank and credit sector in all the economically advanced countries: the number of banks, in fact, has gradually decreased, and the operative dimension of the company has, consequently, increased.

Extraordinary operations, such as the acquisition of stock of shares, mergers, and splits, have led to the main transformations in the banking sector. Such transformations are mainly caused by the need of the reference market to adapt to progress. Due to the complexity of these processes, and to the difficulty in forecasting their consequences, they have not always brought advantages for the banks, quite often leading, instead, to a decrease of profit or power on the market.

The main reason for banks aggregation is represented by the expected efficiency earnings deriving from the reduction of costs. With mergers, banks mainly aim at increasing their operative efficiency, by reaching economies of scale and eliminating common central functions and back offices. Efficiency earnings can also derive from the rationalization of the branches network, wherever the aggregation leads to overlapping, typically in the so-called in-market operations. Cross-border M&A, instead, are not considered to be bringing significant synergies from the perspective of retail activities of the commercial banks. On the contrary, significant synergies are likely to be

reached from the wholesale activities' point of view, or of those activities that can be carried out on a global scale, e.g., investment banking or asset management.

Studies have been investigating causes and effects of the consolidation in the credit market and the dimensional growth of some operators, together with the liberalization of the banking activity. According to the x-efficiency theory (Leibenstein, 1966), the merger of companies characterized by different levels of efficiency would lead to important outcomes for both. According to this theory, efficient companies should aim at merging with relatively inefficient ones.

There are several possibilities for the merger and acquisition (M&A) operations to improve efficiency. In the first place, big banks deriving from a consolidation process can have access to technologies that, in spite of entailing a high initial investment, will lead to a reduction of costs thanks to the automations of some operations. These giants, in fact, manage to tear down fixed costs thanks to higher volumes. Efficiency earnings can also derive from the exploitation of economies of scope, facilitating the penetration in new markets (through cross-border operations) or in new customers segments and products cross-selling (Amel et al., 2004). Consolidation can, therefore, improve managerial efficiency, but empirical evidence is conflicting. Efficiency earnings deriving from dimensions, in fact, are not always balanced by the costs deriving from the management of a more differentiated and complex portfolio.

Studies on the European banking sector are considerable and highlight conflicting results for what concerns operative efficiency.

Vander Venet (1996), on a sample of 492 takeovers of European banks operating both within and outside EU, has reported only marginal improvements in terms of operative efficiency.

With reference to the Italian banking sector, Resti (1998) and Focarelli et al. (2002) report advantages deriving from quality improvement of loans only in case of partial mergers.

Other studies are even highlighting the lack of significant advantages in terms of cost efficiency (Huizinga et al., 2001), where difficulties in improving cost efficiency might also be connected to a strict work legislation that is limiting the interventions aimed at reducing the workforce in the banking sector (Amel et al. 2004).

Empirical evidence is showing that the consolidation of the market through merger operations does not allow to reach, in the short term, a rationalization of operative costs, also due to the initial difficulties in integrating different realities and different cultures. In some cases, this result is reachable only in a longer term. In the short term it is easier to see an increase of profit efficiency, deriving from the activities' differentiation and the increase of the market share, rather than reducing production costs (Resti, 1998, and Focarelli et al., 2002).

Beyond a specific dimensional threshold, there is evidence for the appearance of diseconomies

of scale, attributable to the complexity of management of big organizations. This result has to be considered only temporary; a transient phase connected to the time needed for the efficiency earnings, expected from the M&A operations, to be performed. Delays in this phase might bring difficulties in the definition of credit policies, in the rationalization of the branches network, in the integration of operative systems and data processing, in the staff training, and in the handling of cultural differences (Amel, Barnes, Panetta, Salleo 2004). Once these difficulties have been overcome, there is a high potential for improving growth and value creation, facing the competition in a more complex market from a new steady position.

With reference to geographic differentiation, several authors have highlighted that the existence of cultural, regulatory, and technological diversity in Europe represents a barrier that is jeopardising the advantages deriving from cross-border operations, in terms of intermediated volumes (Berger et al, 2001; Bos e Kolari, 2005;; Lozano-Vivas e Pastor, 2010). The market power hypothesis (Lanine e Vennet, 2007) highlights that cross-border mergers are often motivated by the goal of increasing the market share and the presence on the foreign market, rather than the improvement of efficiency.

In the present context, in some cases aggregations are going to be necessary for survival and for the improvement of the competitive positioning. Pandemics forced the banks to face their structural weaknesses that have been determining their low productivity, and, in this perspective, consolidation might help facing overcapacity and sector fragmentation. Banks must adequate their business models in order to guarantee their sustainability in a framework where profits are influenced by low interest rates, and losses on credits keep rising. The request of consolidation of the European banking sector launched by ECB has received the encouraging response of the first banking institutes proactively moving towards that goal: Intesa Sanpaolo and Ubi, CaixaBank and Bankia, Unicaja Bank and Liberbank.

4.2 THE COST ENDOGENOUS DETERMINANTS OF BANKING OPERATIVE EFFICIENCY

When talking of endogenous determinants, the reference is made to include all those variables that are maneuverable by the management, whose effects on efficiency of banks depend on the decisions about the resources use and allocation, and are generally connected to the strategic objectives set by the management in order to satisfy the several stakeholders. The next paragraphs will discuss the following industrial actions, in line with the research object, necessary for a

continuous retrieval of technical and operative efficiency in the sector:

- ✓ Process Reengineering: Focus on Paperless
- ✓ Strategic Workforce Planning
- ✓ Automation
- ✓ Controlling 4.0
- ✓ Internationalization and Outsourcing Strategies

4.2.1 PROCESS REENGINEERING: FOCUS ON PAPERLESS

Operative processes for the delivery of banking services represent one of the main sources of cost for the organization. Their configuration and their execution carry many variances and wastage, and a better planning of these two aspects might result in significant increases of efficiency. In order to enhance efficiency and productivity of the workforce, It is necessary to optimize the use of resources through the elimination of sector wastage: overproduction, transfers, movement, waiting time, provisions, pointlessly expensive processes, and flaws.

Credit institutes will need to express a consistent commitment in enhancing corporate processes. It will be necessary to analyze existing processes and services on the basis of similarities, redundancies and interdependencies, and to realize a new plan for removing inefficiencies, reducing variability, decreasing waiting times, limiting costs, and increasing productivity and the level of service provided.

The present healthcare, economic and financial crisis caused by coronavirus has highlighted the high level of competition of the Digital Champions and of those companies coming from the Fintech world, and has aggravated the need for a further reduction, if not a total elimination, of the physical contact between the bank and the final customer. The elevated costs deriving from the temporary closure of branches, from the disinfection of spaces, and the shortage of staff available, are inevitably pushing banks towards higher levels of digitalization, such as home banking and smart working.

The current situation requires new positioning strategies and new business models in order to move the entire production and selling chain on digital channels, through the implementation of paperless technologies able to redraw the present acquisition, management, storage and distribution systems, that are still requiring the use of paper. The dematerialization solution is not only resulting in a good impact on the revenues, but is also offering the opportunity to simplify both external networks costs (agents, retailers and dealers), opening direct and remote channels to the customer, and operative costs deriving from the elimination of the material resources used in the productive

process, and from the optimization of the workforce dedicated to the processing and storage of documents, calculated to be approximately 7% of the total employees.

Digital conservation is assuming high relevance in the financial sector: dematerialization initiatives are confirmed as the main priority of investment in the digitalization of the banking end-to-end processes. The banking system understands that the processing of paper documents for the entire customer cycle implies elevated costs. For instance, the quantity of data stored in digital form has increased by 21% per year in the last 5 years but, at the same time, the stored contracts have increased by the 23% per year in the same period, due to a higher impact of the compliance processes.

The creation of a paperless bank allows the scalability typical of digital systems, and to reduce (if not eliminate) warehousing, the wastage implied in it, and the risks of losses connected to the costs for operative losses. At the same time, this model speeds up the documents' transmission and access, and can provide guarantees of un-editability and efficacy of controls, through the implementation of fintech evolutions such as the blockchain.

In the future world of paperless banking, it will be necessary to redraw some processes. The reengineering of activities will be carried out for both horizontal processes (accounting, compliance, HR, etc.) and for banking-specific ones, employing the staff in more relevant projects and in activities and functions with a higher added value.

UniCredit, pioneer on the paperless revolution in the Italian banking sector, in the industrial plan 2020-2023 has forecasted the adoption of new working modes for the transformation and the maximization of the productivity, for the constant optimization of processes, for improving the customer experience and reaching higher levels of efficiency. In Italy, services for retail customers are totally paperless starting from the half of 2020, 2021 for Germany and Austria, with a reduction of costs by 12%. In the next research phase will be interesting to analyze to which extent the expenses for the documents' processing, today at 7-14% of the total cost, will be able to be reduced in the next years, highlighting the corporate areas and the banking services more suitable to turn paperless.

4.2.2 STRATEGIC WORKFORCE PLANNING

The Strategic Workforce Planning (SWP) is the analytics, forecasting and planning process that allows the connection and processing of the activities of the workforce in order to guarantee for the organization the achievement of the business strategy, making sure to have the right person, in the right place, at the right moment, and at the right cost (Young, 2009).

The Strategic Workforce Planning allows the analysis of the scenarios of change, and to identify

the intervention lines on the basis of the analysis of demand and supply of employees compared to the needs, defining the expected workforce able to execute the business strategy.

Cost optimization is one of the main advantages deriving from the realization of the Strategic Workforce Planning. The workforce planning in the long term provides a vision on the critical segments of working population and on relevant gaps.

The first step of the process must be the mapping of assets and competencies inside the organization in order to identify skills and talent gaps and to compare them with the needs of the company to rapidly overcome the business critical points deriving from the present economic context, from sector trends, and from the execution of corporate strategies. These gaps mainly depend on two structural factors, interconnected one another: on the one hand, the speed and depth of the technological and organizational change; on the other hand, the ageing of the working population. The issue must be treated also from a perspective of Age Management, defining the most appropriate policies of human resources management from the point of view of better valorising the contribution of senior workers.

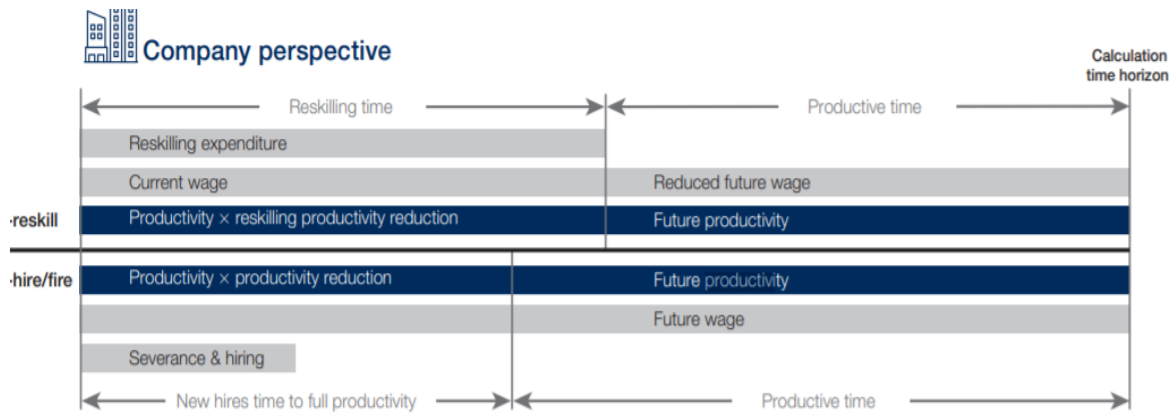
The factor that will be mostly influencing the business strategies of banks, bringing to a definitive reshaping of the sector structures, is the new technologies applied to the production processes. According to the report “Italian Banks On An Inclined Plane” by Oliver Wyman (2019), more than 45% of the presently employed workforce will need to acquire know-how in the next few years and create new competencies in order to be able to work in the new digital context. The impacted roles belong to the entire banking production chain, from the branches to the middle and back office, and will be increased the request for professionals in the new technologies, in the change management, and in data processing and analysis.

The technological change involving banking institutions will require extraordinary upskilling actions for better facing the digital transformation, supporting the acquisition of new competencies or technologies for maintaining the current role, or adding up more competences for career advancement. According to the research “Upskilling your workforce for the age of the machine” (Capgemini 2018), automation represents a powerful factor of productivity increase, but only an appropriate workforce upskilling program can allow the achievement of its full potential.

The cost for staff retraining represents a significant investment for the banking companies to deal with. Nevertheless, as highlighted by the research “Towards a Reskilling Revolution” by World Economic Forum in collaboration with Boston Consulting Group (2018), these expenses will be compensated by the cost reduction deriving from the elimination of the workforce dismissal and new staff employment processes, and by a higher productivity of retrained employees in comparison with the lower productivity of the new employees (Figure 1).

FIGURE 1: Employee productivity: reskill vs hiring

[Source: World Economic Forum]



In the current healthcare, economic and financial crisis for coronavirus, the retraining of employees is assuming an even higher relevance. Credit institutes are guaranteeing the needed banking services in spite of staff shortages deriving from the reduction of branches on the territory, and from the reallocation of the employees on leave in order to guarantee the compliance with minimal social distancing and the security norms on the workplace. Banks need to rapidly fill the gaps and business critical points, taking the opportunity to retrain the staff on new competences and software, such as videoconferencing programs and webinar or messenger systems, for better supporting the productivity of other corporate areas in a difficult situation.

4.2.3 AUTOMATION

Financial industry, and specifically the banking sector, differentiates from the manufacturing industry for the high informative intensity of its product, mainly intangible, and, consequently, for the strategic approach of the Information Technology on the banking process/product. In a context of economic and financial crisis, and of margins compression, the intense and widespread use of technologies is representing the main lever for the management to maintain the position achieved in time and, in some cases, to increase the competitiveness on the market, through efficiency of operative costs and increase of productivity. Proof of the indissoluble link between banking sector and technology is provided by the increase of ICT investments of the last few years, and by the necessity to direct heavy investments towards that sector in the next industrial plans. In spite of the

adverse market conditions, it is important to maintain a constantly elevated level of investments, checking that the expected advantages in terms of productivity and efficiency deriving from the implementation of technology are higher not only than direct purchase costs, but also than maintenance costs, staff training costs, and the costs deriving from the management of the technology itself.

The need to promptly respond to the business-critical points connected to the current context of crisis is already boosting the adoption of tools for automation, representing a fundamental asset for the banking management to reduce pressure on operative structures and be competitive in future scenarios. The spread of Covid-19 forced organizations to facing new challenges, mainly deriving from the need to change their business and operative models. In this context, the adoption of technologies of robotic process automation has supported organizations in mitigating and managing the impact of the pandemics on the standard way of working. Therefore, the healthcare emergency caused a further boost in the spread of robotics: robots do not suffer from the changes deriving from remote working and are able to also execute the operability that can only be carried on in the office.

Robotic Process Automation (RPA) made the remote working possible for several corporate sections and, in this way, automation allowed organizations to maintain a business continuity and mitigate the risk of potential operative arrest.

The applications for the new technologies are numerous: from machine learning solutions for credit scoring and the behavioral study of customers, to artificial intelligence supporting customer care, to automation of repetitive processes with low variability.

Robotic Process Automation (RPA), in particular, is raising great interest and expectations in the financial sector. It allows the interaction with existing applications emulating manual, repetitive and routine tasks of a human resource, allowing the allocation of the employees into more innovative activities with a higher added value. Advantages are multiple: automation allows the optimization of operative costs and the return on investments, the increase of productivity working nonstop 24/7, the reduction of human error margins and the improvement of customer satisfaction with services of higher quality.

According to Deloitte (Deloitte Insights, Novembre 2020. Automation with intelligence. Pursuing organisation-wide reimagination), organizations with solutions of automation managed to reach a cost reduction at 24% in 2020, growing from the 19% in 2019, and an increase of productivity thanks to the rise of 12% in the productive capacity of 2020.

Potentially, the RPA success will lie in the challenge represented by the lower cost of the robot software compared to the offshore workforce, leading to the actual economic advantage deriving from the labour arbitrage. In the last 20 years the strategic key of financial operators was the offshoring of

middle and back-office processes into countries with a cheaper labour cost, such as Eastern Europe, Asia, and Latin America. Today, the reduction of the differential between onshore and offshore labour cost, the difficulties related to the staff turnover, political instabilities and nationalisms are calling this model into question. The low costs for operating and maintaining robots, about 1/3 of an offshored resources and 1/9 of an onshore ones, will completely change the strategies of internationalization, localization, and innovation. According to the KPMG (2019) report “Rise of the Robots”, within the next 15 years a percentage between 45% and 75% of offshored mansions will be carried out by robots. Technological progress, hence, will play an important role in the composition of middle and back-office in the banking sector, leading to reshoring strategies, i.e., bring the previously delocalized activities back to the homeland. Following these processes, the main valued added activities, such as the ones concerning the processing and use of information, will be carried out in the headquarters.

The adoption of RPA was originally conceived as a tactical short-term solution for punctual business needs that could not find a solution in more extended transformation plans. In the last year, it has gained a higher, and longer term, strategic value within the organizations: the decision of adopting these solutions that have been on the market for several years now, is representing a fundamental requisite for enabling the entire technological chain, thanks to its functionality of managing operative processes, and, for this reason, is not to be considered obsolete in comparison with more sophisticated technologies.

Attributing a central role to Automation in the definition of business strategies represents, nowadays, an essential opportunity for organizations. In order to carry an Intelligent Automation end-to-end strategy, it is necessary to enhance the business processes through an efficient combination of tools and technologies allowing the maximization of advantages for the organization. The integration with other technologies available on the market (Optical Character Recognition, Natural Language Processing, Business Project Management) allows to further extend the perimeter of automation, transforming the traditional approach, exclusively based on RPA, into an approach based on Intelligent Automation.

4.2.4 CONTROLLING 4.0

Companies are nowadays operating in an increasingly competitive market, and they must take complex decisions on how to guarantee an adequate profitability for their own growth and, in some cases, for their own survival. For these reasons, it is essential for companies, whatever it is the sector

they are operating in, to be able to precisely measure the marginality of their several business units, through the elaboration of substantial information for the support of strategic and merely operative decisions. Hence, the fundamental need to gather live and up to date information on costs and on business margins, in order to be able to promptly intervene and correct potential variances.

Controlling 4.0 refers to the management control supported by the business intelligence (BI), needed to analyse some fundamental aspects of the controlling system of the company, i.e., the structured and integrated system of procedures that is supporting the management in its planning and controlling activities. This system can - and must - help the management in positioning the company within the competitive market, through the identification of the potential operative inefficiencies that might jeopardise economic, property and financial results. Exogenous and unexpected dynamics require companies to act proactively. For this reason, experience led to new methodologies that create more adequate solutions to the business needs, and that transform the management control system from a monitoring tool of the corporate processes with a responsive logic, into an instrument aimed at guiding and governing the company with the support of BI systems.

The Covid-19 emergency has, on the one hand, highlighted the importance of valorising data for prompt decision making and for guaranteeing business continuity in crisis moments, while, on the other, has forced many companies into rethinking their investment plans.

In the last few years, with the implementation of an increasingly higher number of technological devices in the banks, it has become essential to store high quantities of data in several corporate databases, creating the need for strict controls and investigations.

This volume of data, the so-called Big Data, is hard to analyse and use without the support of professional tools and software. The BI tools are aimed at processing this consistent volume of data and, for this goal, are using specific software that, through the acquisition and elaboration of these data, provide reports, statistics, and constantly updated and customizable indicators. In this way, the entire volume of data can be applied for practical use, meaning for fact-finding purposes for a correct decision-making.

BI is representing a recent and innovative informative tool supporting the management control, as it simplifies and boosts the production and the management of significant information for decision-making processes. The business management models allow the analysis of corporate data, planning and simulation – the so-called what-if simulation -, budgeting processes, to understand the information of data deriving from different informative systems, and to support in any moment an efficient and effective decision-making.

Business Intelligence takes care of collecting, analysing, and reporting these data in digital format. Anybody within the company can take advantage of the BI reports, from the operative staff

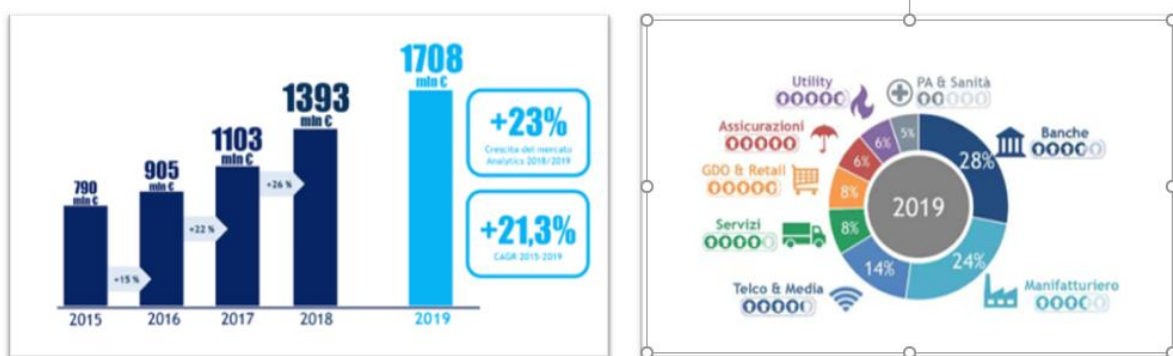
to the management. The purpose is to look at existing data from different perspectives to create additional knowledge. Corporate decisions are, hence, increasingly data driven. Several dashboards and presentations can be individually adapted in order to be suitable for different groups of users and maximise advantages increasing transparency within the company. Advantages deriving from the business intelligence are evident:

- Increase of productivity
- Process optimization
- Increase of transparency and better communication among the employees involved
- Evidence of the optimization potential

The banking sector is the one that is better using the great potential of the Big Data. According to the report “Strategic Data Science: time to grow up!” (Observatory for Big Data Analytics & Business Intelligence, 2019), banks are representing the greatest contribution to a sector – the Big Data and Analytics precisely – with a value of more than 1.7 billion in Italy, and a market share of 28% (Figure 2).

FIGURE 2: 2019 Analytics Market: Trend and sector contribution

[Source: Observatory for Big Data Analytics & Business Intelligence - Polytechnic University of Milan]



A culture based on data analysis is, nowadays, essential for those banks that want to feel at ease in the market and want to make profits in their own sector. For this reason, it is necessary to implement the use of platforms of business intelligence allowing the precise identification of trends and opportunities of revenue, the acceleration of decision-making processes, and the increase of efficiency and operativity applying measurable methodologies based on precise KPI.

The production analysis carried on through the business intelligence helps monitoring the productive activities of the bank, specifically the Operations functions. The model allows the

monitoring of the key indicators in the production lines, i.e., efficiency of the line and efficiency of the workforce, or, also, the comparison of the production hours of one year with the previous one.

Moreover, productivity is measurable in hours/items, showing, for each line, efficiency in percentage and the standard quantity of hours necessary to produce the requested volumes. The model can, in addition, highlight both the efficiency of the lines and the workforce of each line for every day of the selected period, and the efficiency of the lines and the workforce growing together with the quantity of items launched into production. It is possible, in this way, to control the days that have been effectively stated for reaching the forecasted production, and to compare them with theoretical days, analysing the single product/service in each phase and highlighting differences and motivations that led to an excess on the standard time.

4.2.5 INTERNATIONALIZATION AND OUTSOURCING STRATEGIES

The dynamism and the condition of uncertainty characterizing the competitive landscape where banks are currently operating led the top management of this sector to a frequent revision of their strategy. Banks must decide whether to internationalize or externalize certain activities more - or less - relevant to the bank itself.

One of the choices is the offshoring of the activity. The process of offshoring refers to the operation of moving all - or some – activities of the value chain of the bank beyond national borders, or, in other words, the process of “finding” abroad any activity useful for the business of the company, often addressing low-cost emerging economies (Manning et al., 2008). Originally, this process was involving essentially productive activities based on routine and on manual work easily codifiable and transferable. More recently, offshoring has started to involve also more complex activities such as middle office, governance, and IT.

In the last decade, the activities of banks have changed and evolved. The value chain has split in several parts, and each one of those must be evaluated to decide if it can be transferred or kept “home”.

The choice involves several factors, such as cost reduction, fiscal advantages, access to new and specific knowledge.

Offshoring has to be considered as the result of a decision-making process deriving from the will to relocate/review the company. The drivers at the base of this decision-making process can be identified into three main strategic intents: efficiency, meaning a reduction of costs maintaining the same level of performance on the market; the access to knowledge and qualified human resources; expansion towards new markets (Contractor, Kumar, Kundu e Pedersen, 2010).

More recently the concept has further evolved: offshoring is not only an industrial lever for cost reduction, thanks to the relocation of production, but also a strategic tool with different purposes.

The digital revolution allowed, on the one hand, more efficient and approachable telecommunication and infrastructural systems, easing the connection between companies located in different – and often far away – countries (Blinder, 2006;). On the other hand, the codification of knowledge has made possible to split even the more important activities of the value chain, with a high informative content, traditionally operated in-house. At last, the technological progress of developing countries made them more competitive and qualified in the eyes of more industrialized nations, highlighting them as convenient countries for delocalization. In other words, the spread of innovation and qualified workforce in developing countries have led to the delocalization of the so-called ‘core’ activities into economically less developed countries.

To sum up, advantages for banks from both the economic and industrial point of view are remarkable. The degree of cost reduction varies based on the destination market, sparing up to 50% in comparison to domestic operations. From an industrial point of view, offshoring is offering great opportunities for scalability, and access to wide talent pools, in particular if the destination country has many cultural and linguistic similarities with the home country, and a good level of education and infrastructures.

Dynamics of international trading have strengthened the interdependence connections intercurrent between the economies of different countries, and the emergence of global production chain are a clear evidence of this.

Covid-19 pandemics has highlighted the weak points of this order. In fact, the healthcare crisis has rapidly involved economics, and, in this scenario, the global supply chain has played a central role in the spreading of the economic crisis across the countries.

For this reason, the advantages deriving from the participation to global production chains have been rediscussed. They have proved to be risky, because when a shocking event, such as the spread of Covid-19, hits even only one of the links of the chain, the cascading involves the rest of the links as well. This is what has been happening with the current pandemics. Initially some governments had decided for the block or reduction of production as a measure to contain the spread of the virus.

Strategies were going back to the reshoring of activities, i.e., bringing back in the home country all – or part of – the productive activities that had previously been moved abroad (Fratocchi et al., 2014), as a response to the negative impact caused by the pandemics. This emerging strategy, re-localizing companies, might become a standard for the future.

The decision to - partially or totally - delocalize the activities of the value chain of the company should not be mistaken with the quite similar phenomenon of outsourcing. In fact, if offshoring is

concerning the decision to move abroad the activities that were originally operated in the home country, outsourcing, on the other hand, refers to the decision to purchase products or services that were initially produced internally to the company by third party suppliers, either in the same country or abroad. Hence, outsourcing is expressing the will of companies to ‘purchase’, giving up on internal production (Sako, 2006). For this reason, outsourcing is often implying a higher level of specialization: companies are purchasing productions and giving up on the internal development of certain activities, that are, then, being operated and implemented by subjects with a higher specialization is that specific phase.

In such a situation, banks are in the condition of choosing whether to internally produce or externalize certain activities with different relevance for the company. The proper evaluation of this aspect is fundamental for the realization of a competitive advantage and can be traced back to the typical make-or-buy dichotomy, strictly connected to the strategic definition of organizational lines. In the definition of their set up, banks must define their area of competence and what can be externally delegated, i.e., their core business and the accessory activities.

In the academic literature many theories have treating the topic of outsourcing: among these it is possible to include the resource-based theory (RBT), the transaction costs theory (TCT), the resource-dependence theory (RDT), the agent-cost theory (ACT), the model of power, and the exchange theory. Among the several theoretical contribution, the one that seems more coherent with the purposes of our work is represented by the transaction costs theory elaborated by Williamson (1975). This approach, in spite of presenting some limits deriving from the excessive neoclassical simplification, surely results as the most commonly accepted for the companies to face the make-or-buy issue, for vertical integration, and, more in general, for all those issues deriving from contractual obligations.

According to Williamson, the total costs of any economic activity are the result of the production costs, depending on the level of technology and the productive factors implemented, and the transaction costs, that are the control and management costs for the fore-mentioned transactions. From the calculation of the total costs connected to the options of hierarchy choice and market choice, managers are able to identify the most efficient solution: if the costs for internally producing the service/product (production costs) are higher than the prices on the market (transaction costs), then it is more convenient for the company to externalise the relevant activity; on the opposite scenario, it will be more convenient for the company to integrate that activity.

The decision to externalize some activities can determine the reduction of the fixed costs, as it does not require high investments on facilities, on the employment of staff, on maintenance and renovations. Externalizing the activity will allow the company to request to the third-party supplier a continuous technological improvement of the facilities, without the burden of bearing extra costs.

Delegating the realization of some phases of the production process and/or the operation of certain activities with a lower value added – or for which there is no availability for an adequate level of specialization – the bank will be able to focus its resources on the activities that are closer to its own core business. For this reason, the choice to implement outsourcing is to be included in the decision-making on efficiency in the allocation of available resources that - it is never to be forgotten - even if are quantitatively varying for each company, are still available in a limited measure.

CHAPTER 5

CASE STUDY:

UNICREDIT GROUP COST EFFICIENCY MODEL

ABSTRACT

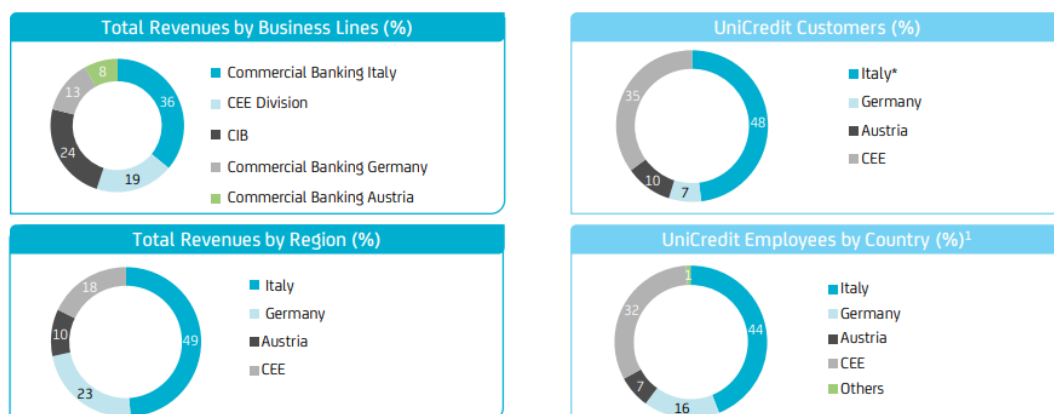
The chapter contains a case study that aims at providing a pragmatical example of what has been discussed in previous chapters. The case study is carried out through the triangulation of data, non-structured interviews, and research on field. The case study is, therefore, aimed at analyzing the endogenous efficiency factors in the UniCredit Group Operations function, pioneer in the Italian financial sector for the definition of plans for the operative efficiency, needed to preserve and enhance the profitability of the company in the current Covid19-related economic crisis.

5.1 UNICREDIT GROUP: COMPANY PROFILE

UniCredit is a pan European commercial bank with a unique network in Italy, Germany, Central and Eastern Europe, and a Corporate & Investment Banking in all the geographical areas of the Group. In the 2Q21, UniCredit produced 4.398 billion euro, providing its services to about 16 million clients thanks to its wide international network of offices and branches in 16 countries of the world, and to the efforts of 87.956 employees (Figure 1).

FIGURE 1: UniCredit 2Q21 main figures

[Source: UniCredit Company Profile]



UniCredit has a long history, beginning in 1870 with the foundation of the Bank of Genova, in a second moment denominated Credito Italiano. The history of the Group has seen, during the years, several events – from international expansionism to financial crisis that weakened the society and forced, on many occasions, the investors towards capital injections:

- 1998 Creation of the Group: The Group Unicredito Italiano is created through the integration of the groups Credito Italiano, Rolo Bank 1473, CariVerona, CRT Bank Cassamarca, Cassa di Risparmio di Trento e Rovereto e Cassa di Risparmio di Trieste.
- 1999 Process of integration of the banks in the Group: Introduction and development of the Federal Model, and segmentation in relation to the customers with the consolidation of ICT and back-office. The process of expansion in the CEE emerging markets has started with the acquirement of the Polish Bank Pekao.
- 2000: Acquisition of the American company of asset management, Pioneer Investments, and creation of the Global Investment Management Division. The expansion in the emerging market continues: acquisition of Bulbank (Bulgaria) and Unibanka (Slovakia).
- 2001 Reorganization of the market segments (“S3 Project”): Creation of a multi-specialized structure with 3 divisions – Retail, Corporate, Private Banking and Asset Management. Completion of the Federal Model within Italian banks.
- 2002 International expansion: Acquisition of Zagrebacka Banka (Croatia), Demirbank Romania (Romania) and Zivnostenska Banka (Czech Republic). Acquisition of Momentum – global leader in the Hedge fund – by Pioneer Investments.
- 2003 Completion of the “S3 Project”: The reorganization project denominated S3 is completed with the constitution, in Italy, of three banks dedicated to the individual segments of market: UniCredit Bank, UniCredit Corporate Banking, and UniCredit Private Banking.
- 2004 Creation of the Global Banking Services Division: The newly created division is responsible of the cost structures and internal processes optimization.
- 2005 Expansion in the emerging markets: Acquisition of Yapi Kredi (Turkey) and merging with the German group HVB, born in 1998 from the aggregation of two Bavarian banks (Bayerische Vereinsbank and Bayerische Hypotheken-und Wechsel-Bank), creating one large European bank.
- 2006 Creation of the Markets & Investment Banking Division: The activities of Investment Banking of HVB (HVB Corporates & Markets), Bank Austria (International Markets e CA IB) and UniCredit Banca Mobiliare are unified to create one global division based in Munich.
- 2007 Merger with Capitalia and expansion in emerging markets: UniCredit reinforces the positioning of Italian market thanks to the aggregation with the Capitalia group. The Group

consolidates its presence in central-eastern Europe through the expansion in Ukraine, and reaches central Asia with acquisitions in Kazakhstan, Tagikistan and Kirghizistan.

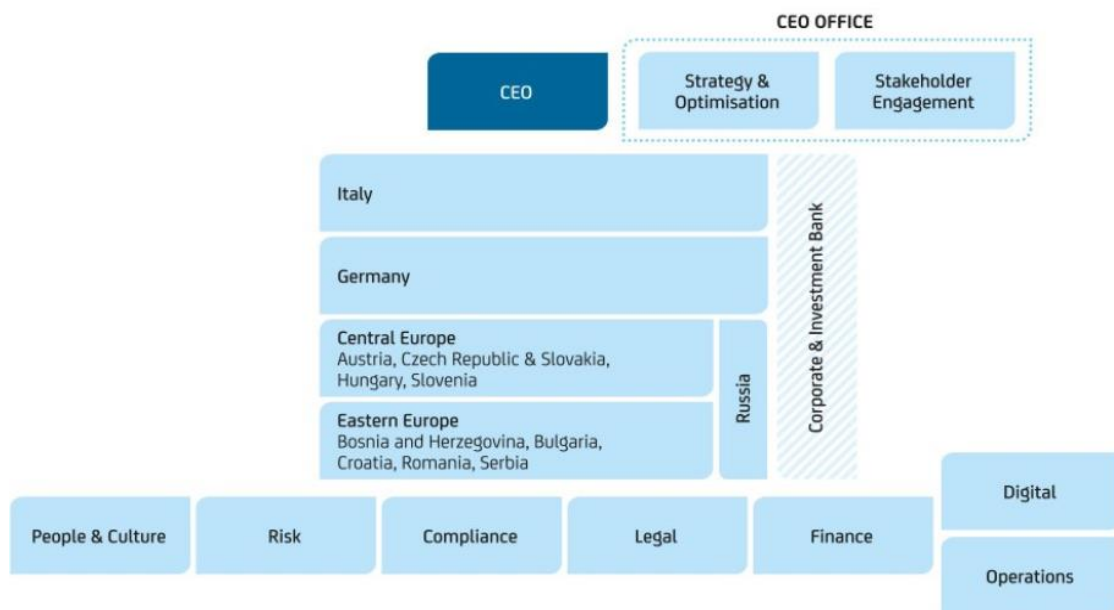
- 2008 crisis and first capital raising: the 2007-2008 financial crisis also hits UniCredit, and the value of its stocks drops in a short time (during the months of September 2008 UniCredit has lost 29%). The CEO, Alessandro Profumo, called an extraordinary meeting of the board of directors suggesting an asset increase for 3 billion euro in order to enhance the current assets of the company.
- 2009 second capital raising: in the meeting of the board of directors a new asset increase for 4 billion euro has been decided, decisively aligning UniCredit's equity coefficients to the best global standards, preventing the bank to use national aid.
- 2011 crisis and third capital raising: the summer crisis of the European sovereign debt leads to a drop of UniCredit's stocks that from February 16th to September 16th lost 63% of their value. By the end of the year the new industrial plan will be defined, with a new capital raising for 7.5 billion euro.
- 2012 birth of the UniCredit Global Company: UniCredit Services arises from the integration and the consolidation of 13 companies in the Group and is dedicated to the provisioning of services such as Information and Communication Technology (ICT), back-office, middle office, real estate, security and procurement.
- 2017 fourth capital raising: a new maxi increase has been decided for 13 billion euro.
- 2019 exit from Fineco and Mediobanca: in May 2019 UniCredit sold on the market 17% of the asset of FinecoBank, holding a minor share of 18% and bringing it out of the perimeter of the group. [23] Two months later, in July, UniCredit sold the latter part as well for 1.1 billion. On November 6th UniCredit announces the decision of the board of directors to sell on the market the entire shares held in Mediobanca (8,4%).
- 2021 negotiations with MPS: UniCredit opens the negotiations for the acquisition of Monte dei Paschi di Siena.

The organizational structure is reflecting the "One Bank" business model that, by granting autonomy to Countries and local Banks on specific activities for a closer proximity to the user and more efficient decision-making processes, maintains a divisional structure for what concerns the management of the business/products for Commercial Banking Western Europe, Commercial Banking Central Eastern Europe, and Corporate Investment Banking. In addition, it holds a global control over the functions of the COO Area, and Finance and Controls.

The simple organizational structure grants full responsibilities to every business and area of the bank, putting the customer first in every activity that the bank is performing, and further integrating technology and digitalization as key factors for success, with a clear definition of roles and responsibilities (Figure 2).

FIGURE 2: UniCredit Organizational structure

[Source: UniCredit Company website]

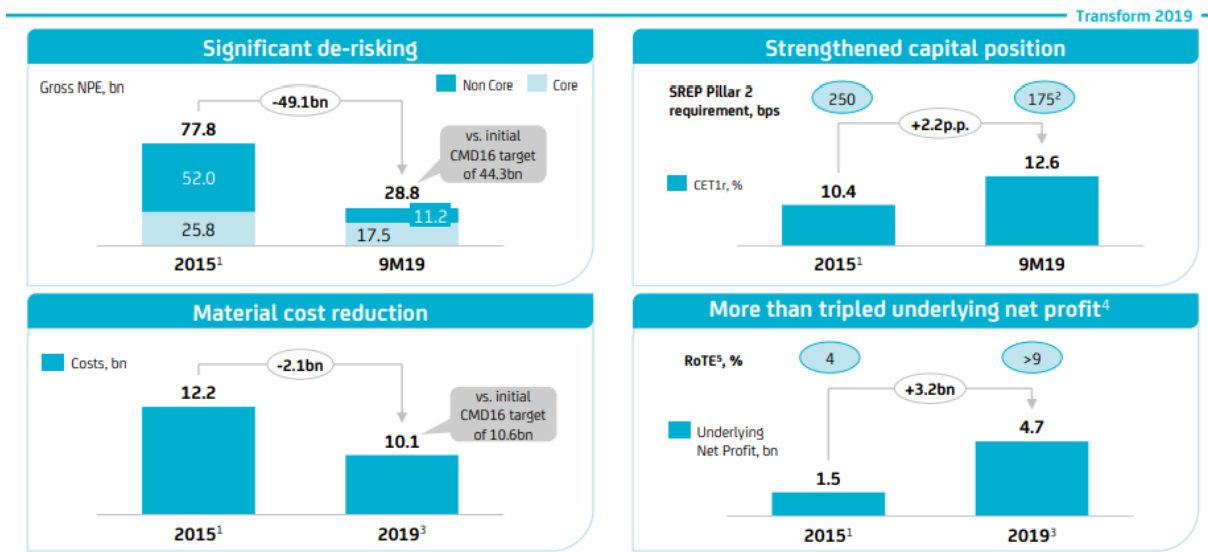


5.2 UNICREDIT STRATEGIC PLAN 2020-23

The successful completion of the 2016-2019 strategic plan ‘Transform 2019’ showed the strong efforts put by UniCredit in the accomplishment of its objectives, and the ability to implement a strategic plan despite the macro-economic context more complicated than the expectations. All the main target, such as the de-risking of the financial report, cost reduction and asset distribution, have been exceeded.

FIGURE 3: Strategic Plan Transform 2019 results

[Source: UniCredit Capital Markets Day 2019]



On the basis of the success of ‘Transform 2019’ (Figure 3), the strategic plan for 2020-2023 called ‘Team 23’ is centred on the maximization of the value creation for the stakeholders, including a renewed attention to the customer satisfaction thanks to simplified processes and new products. Transform 2019 achieved a strong enhancement of profitability, with the Group RoTE that has more than doubled from the 4% of the 2015 to the 9% of 2019. Team 23 (Figure 4) starts from this point with the commitment to obtain an underlying resilient profitability. Despite the relevant increase in the asset required by the Regulators, the new plan will achieve sustainable profits, with the RoTE attesting at or above 8% for the duration of the entire plan. The net underlying profit will be 4.3 billion euro in 2020, rising at 5 billion euro in 2023 based on the underlying tax rate between 18 and 20% during the entire plan.

Throughout the duration of the plan, UniCredit expects the creation of value for 16 billion euro for the investors thanks to a combination of share of profits, reacquisition of stocks, and increase of tangible equity, leaning on the competitive advantages acquired: the network in Western, Central, and Eastern Europe, the role of reference bank for the European PMI and for the wide and growing customers base, risk management, strictness in the execution, and cost control. The plan itself is based on four strategic pillars:

- Increase and strengthen client franchise.
- Transform and maximise productivity.
- Disciplined risk management & controls.
- Capital balance sheet management.

FIGURE 4: Strategic Plan Team 23 targets

[Source: UniCredit Capital Markets Day 2019]

	2018	2019	2020	2023
RoTE ¹ , %	8	>9	8	>8
Costs, bn	10.3	10.1	10.2	10.2
Gross NPE ratio, %	7.7	<5.5	5.0	<3.8
Tangible equity, EoP bn	47.7	51.6 ²	53	60
CET1 MDA buffer ³ , bps	between 200 and 250			
Underlying net profit ⁴ , bn	3.0	4.7	4.3	5
Capital distribution ⁵ , %	20	40	40	50

30% cash dividend
10% share buyback

Guidance

5.3 COST EFFICIENCY PLAN

Cost reduction has been an essential part of the success of the 2016-19 strategic plan, ‘Transform 2019’. Operative costs have been reduced from 12.2 billion in the 2015 to 10.1 billion in 2019, a result comparable to the initial target of 10.6 billion from the Capital Markets day in 2016.

The cost control, combined with the enhancement of the customer experience, stays one of the priorities of the ‘Team 23’ plan. Starting from the work done with ‘Transform 2019’, the bank is launching a permanent optimization of operative processes through six customer journeys: checking accounts, investment products, residential loans, consumer finance, cards, and banking for PMI. Teams composed of members from every function of the Group, such as business, operations, IT, and support, will be working together in the so-called ‘end-to-end’ rooms, to deliver new products and services to the customers, in a faster and more agile way.

Through continuous transformation and simplification of processes, the group is going to achieve three main objectives:

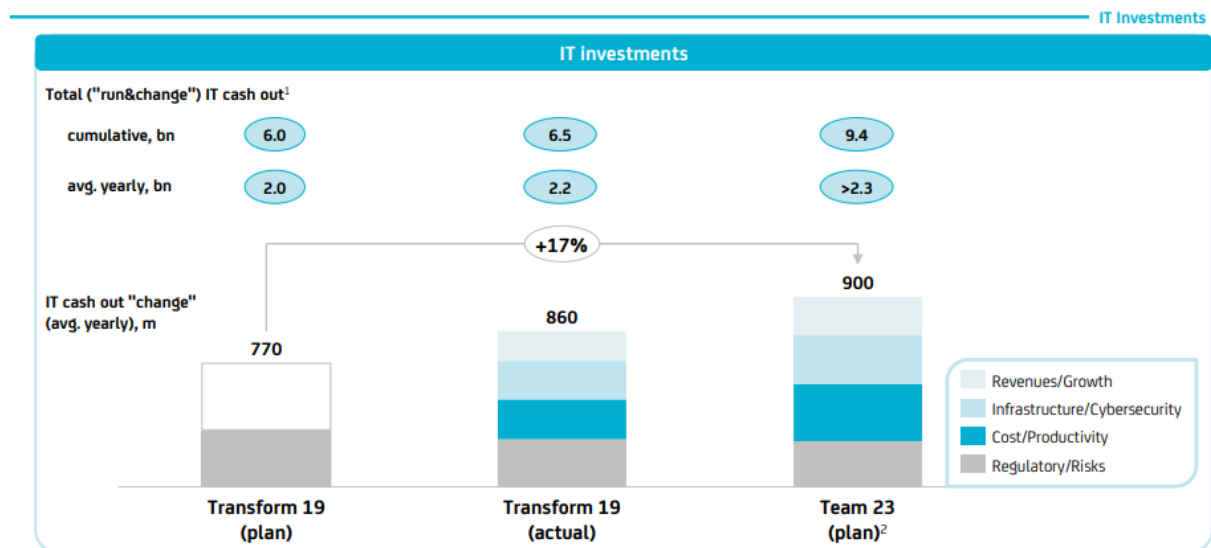
- Enhance the customer experience.
- Increase productivity in the entire value chain.
- Reduce operative risk.

More solid and secure ICT structures have been crucial for the efficacy of processes, and for the growth of UniCredit’s model of service. Investing (Figure 5) in these measures will result

fundamental for achieving the goals set by ‘Team 23’ plan, strongly focused on the migration towards direct and digital channels.

FIGURE 5: Team 23’s investments in process optimization

[Source: UniCredit Capital Markets Day 2019]



An example is the Paperless Bank program. The implementation of this program will ensure a better customer experience for UniCredit’s clients thanks to the convergence of traditional operations executed in the branches, and digital solutions and products, more simple and rapid. Processes in the branches will be strongly optimized as well, through the total dematerialisation of documents that will help with reducing operative risks and increasing efficiency.

UniCredit, pioneer of the paperless theme in the Italian banking sector, in its industrial plan 2020-2023 for the transformation and the maximization of the productivity, has scheduled the adoption of new working procedures for the constant optimization of processes, enhancing the customer experience and obtaining higher efficiency. In Italy, services for the retail customer will be totally paperless, starting from mid-2020 (2021 for Germany and Austria) with a cost reduction of 12%.

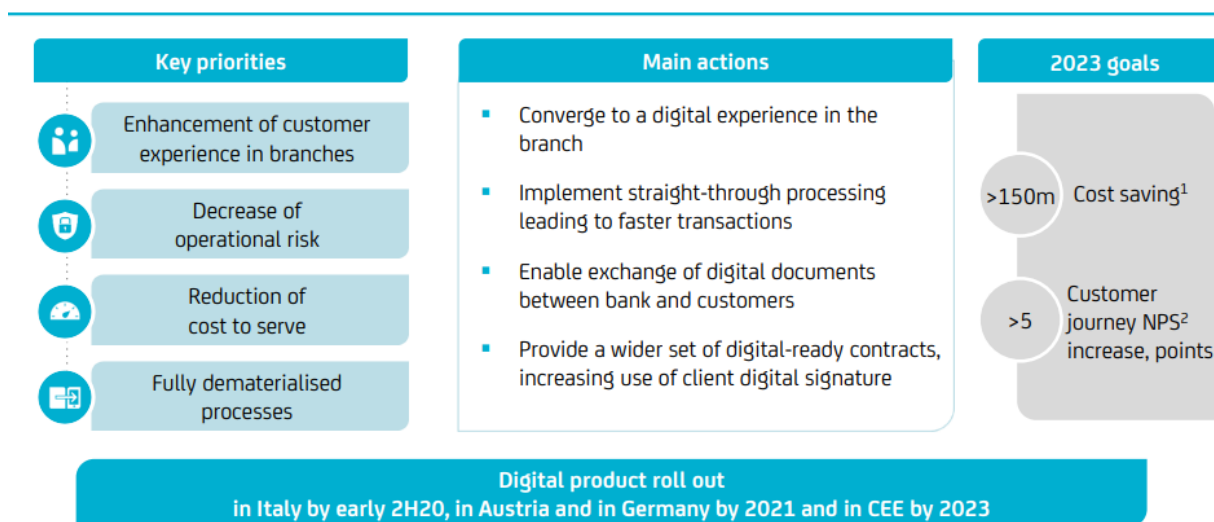
The dematerialization of processes necessary for the implementation of the paperless retail bank, will create savings for the Group amount to 150 million per year by 2023 (Figure 6). The elimination of paper documents will allow the implementation of straight-through processing (STP), that will speed up transactions, will allow the exchange of digital documents between the bank and the clients, and will offer a wider range of digital contracts, encouraging the use of digital signatures.

At the same time, UniCredit is committed to a constant simplification of processes and services thanks to the implementation of innovative tools for digitalization. With the support of the Lean Six Sigma methodology, and initiatives such as the Task Manager Project, UniCredit has been promoting

automation and processes simplification enhancing the back-office productivity in the Group Operations and boosting efficiency.

FIGURE 6: Paperless Bank Project plan

[Source: UniCredit Capital Markets Day 2019]



Having exceeded the initial target cost planned in the ‘Transform 19’ allowed the Group to increase investments in the IT. In the new plan, total investments in IT will grow by 17% compared to the previous year, with an average investment of 900 million euro per year on a cash-out basis. The mix of IT expenses will be also central in the new plan with an increased sum destined to investments for initiatives on costs and productivity. The total expenses in IT in the four years of the plan will amount to 9.4 billion euro, including IT and HR investments, maintenance costs, and costs for cybersecurity and consulting. According to the new plan, in 2023 total costs will amount to 10.2 billion euro with a CAGR of -0.2% from 2018 to 2023. The continuous optimization of processes, supported by increased investments in the IT, will allow the bank to achieve gross savings in Western Europe for 1 billion euro, equal to 12% of the 2018 cost basis. These savings will partially derive from a further reduction of about 8.000 FTEs throughout the duration of the plan, while the optimization of the branches network will lead to the closure of about 500 units at Group level between 2019 and 2023. Associated integration costs for Western Europe, that will be observed in the 2019 and 2020 fiscal year, will amount to 1.4 billion euro, net of taxes. Thanks to the implementation of initiatives on profits, and to the continuous optimization of costs, the bank expects to produce a positive operative lever of 5.2 p.p. between 2018 and 2023.

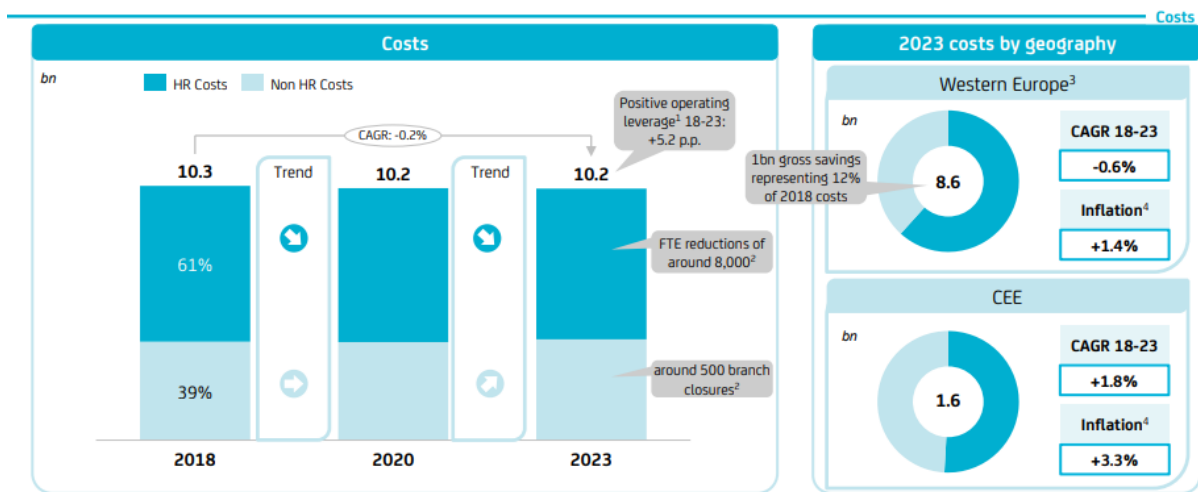
UniCredit’s ‘Team 2023’ plan accounts among its crucial points a strong reduction of employees and branches. UniCredit forecasts a reduction of about 8.000 FTEs (full time equivalent) throughout the duration of the plan, and the closure of 500 branches between 2019 and 2023 (X).

The 8.000 cuts on the employees will be mainly localized in Italy, Germany, and Austria, where the employees will be comprehensively reduced by 12%, and 17% of the branches will be closed.

The 8.000 excess positions (Figure 7) and the 500 branches in the new industrial plan will sum up to the 26.650 positions cut, and the 1.381 branches closed, since 2007. Italy is destined to undergo the more consistent part of reduction: in fact, of 1.4 billion euro of integration costs, estimated for the management of these reductions, 1.1 billion will concern Italy (equal to 78% of the total) and only 0.3 billion will refer to Austria and Germany. Terminations in Italy, voluntary and incentivized, will amount to 5.200, while there will be 2.600 new hiring. On the other hand, there will also be 800 professional reskilling. For those who will voluntarily access the solidarity fund, and will develop the requirements by 2028, an incentive equal to the salary of 2 or 3 months will be provided: the esteemed residence time is about 54 months, that may grow in some specific cases. The exit base will include the possibilities for early retirement as provided by Italian law – such as ‘quota 100’, women option, and ‘degree buy-back’.

FIGURE 7: Continuous cost optimization in Covid-19 contingency context

[Source: UniCredit 2Q21 & 1H21 Results]

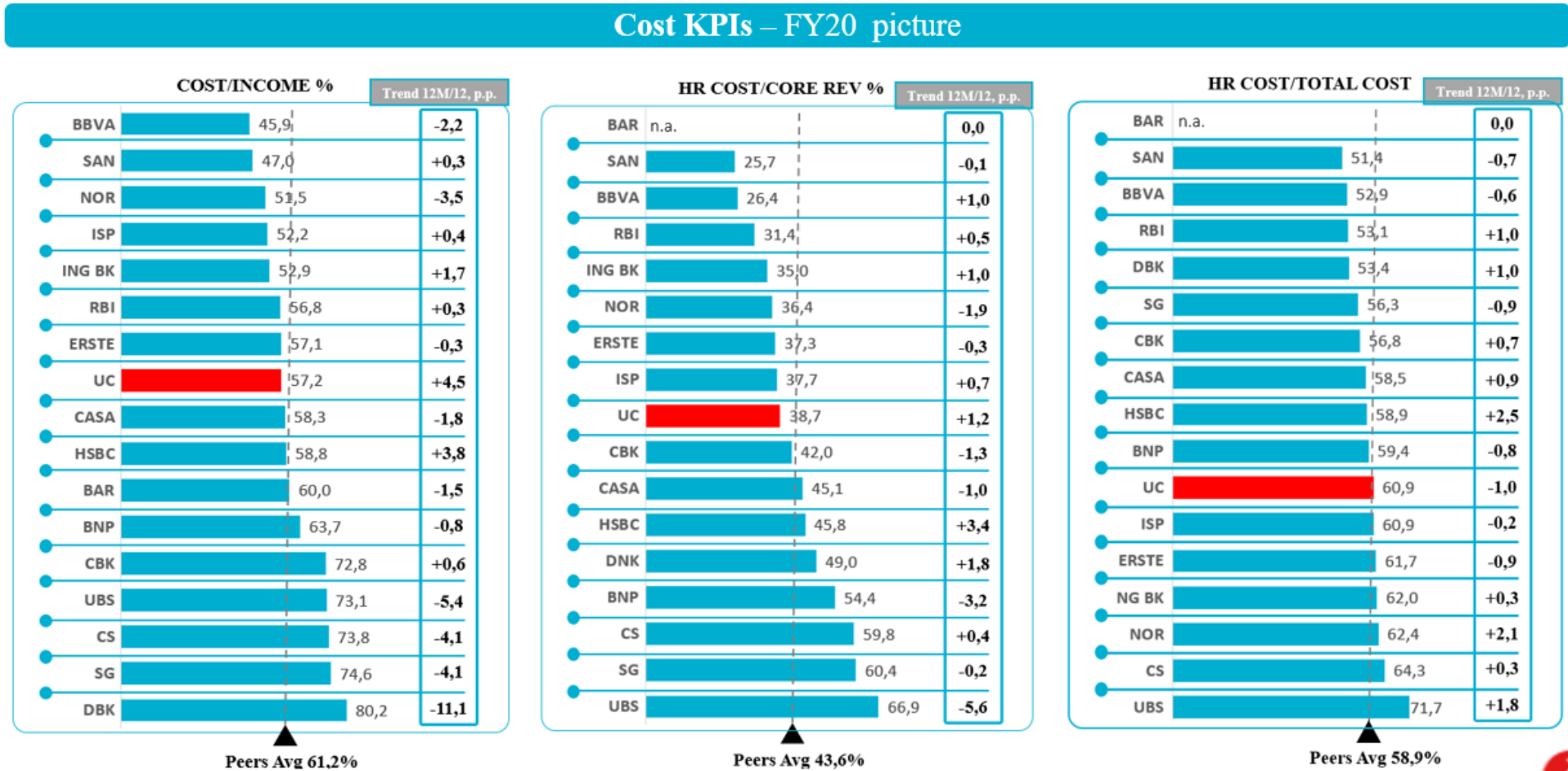


5.4 COST/INCOME MANAGEMENT

As compared to the relevant peers, in 2020 UniCredit shows a trend in the several Cost KPIs that is in line with its competitors, i.e., with a Cost/Income and HR Cost/ Core Revenue respectively at 57% and 38.7%, below the reference levels on the market, respectively 61.2% and 43.6% (Figure 8).

FIGURE 8: 2020 Cost European Banking Benchmarking

[Source: UniCredit internal report as of 31.03.2021 – FY20 Results and Covid Outbreak]



Despite the uncertain economic scenario, related to both difficulties in the sector and the impact of the pandemic emergency on the global economic context, the effort of the group in the cost containment is leading the bank towards the cost efficiency targets defined during the plan.

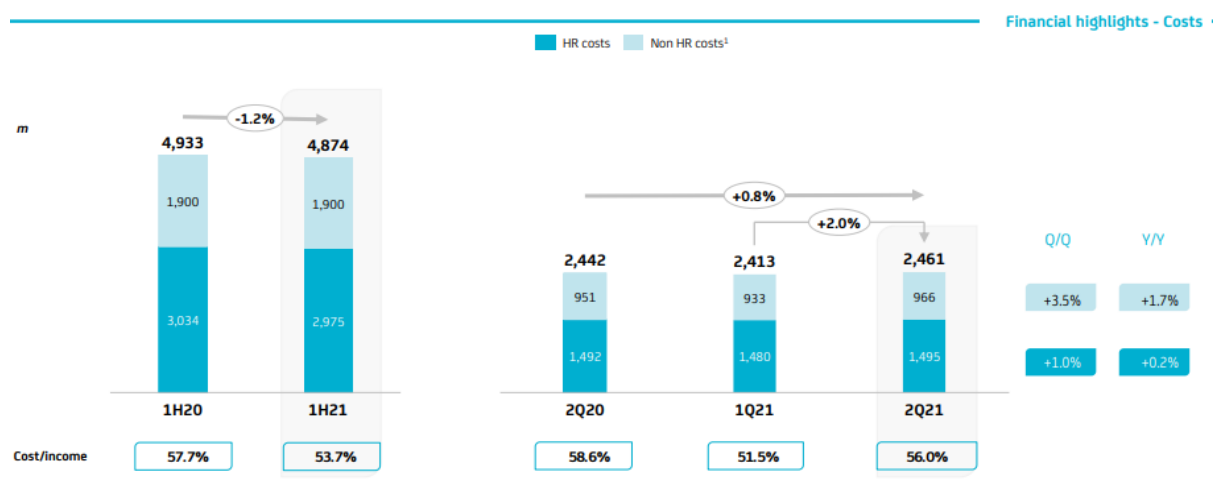
The second quarter of 2021 (Figure 9) has been characterized by the reduction of operative costs to 4.9 billion euro, dropping by 1.2% y/y, bringing to a cost/income ratio at 53.7%:

- In the 1sem21, the costs for the employees diminished by 1.9% y/y thanks to the FTEs reduction that exceeded expectations, of 3.4% y/y, mainly in the Commercial Banking Italy.
- In the 1sem21, the non-HR expenses (other administrative expenses, restoration of expense, and corrections on the value of tangible and intangible immobilization) remained constant y/y, with minor expenses for credit recovery, and for real estate that partially compensated for the IT costs increases and for amortizations.

Total costs in the 2Q21 amount to 2.5 billion euro, rising by 2% as compared to the previous quarter. Covid-19 has had a limited impact on the cost basis from the beginning of the year. In the first half-year 2021 the group had to bear 25 million euro of Covid-19 related costs, mainly for real estate and security, with a reduction of 45 million euro compared to 1H20. For the FY21, the cost guidance is confirmed stable in comparison to the FY19, amounting to 9.9 billion euro.

FIGURE 9: 2021 Cost tracking

[Source: UniCredit 2Q21 & 1H21 Results]



The group cost/income (57,2% FY20; 62.7% 1H21) appears to be continuously improving as compared to the previous five year (66.2% FY16), despite the impact of the pandemic and the constant contraction of the volumes in the sector. This result derives from the constant efforts of the

management for the operative costs reduction, with special attention to the costs deriving from the employees, that in the period 2016-2020 decreased of 4.149 million euro (-16.02% gCAGR). Through the analysis of the financial statements of the company from 2016 to nowadays (Figure 11), it is possible to highlight how the strongest contribution to the reduction of operative costs derives from several interconnected actions:

- Reduction of the total number of employees of ~17.000 units in the period 2016-2020 (-3.85% gCAGR).
- Reduction of the average cost per employee thanks to the implementation of termination plans for senior manager, manager, and group executive committee profiles (halved in the only 1H2021).
- Centralization of back/middle-office services (Figure 10) in the Commercial Banking Italy, Germany, and Austria divisions, towards Operations structures (COOs area).
- Nearshoring activities, transferring services in countries with a lower labor cost (CEE and COO divisions).

FIGURE 10: UniCredit Cost KPI Trends

[Source: Own Elaboration based on Official Financial reports]

	1H2021	2020	2019	2018	2017	2016
Operating Income	9.084	17.140	18.839	19.723	19.619	18.801
Operating costs	-4.874	-9.805	-9.929	-10.698	-11.350	-12.453
Payroll costs	-2.975	-5.968	-6.146	-6.423	-6.905	-7.124
Payroll costs YoY	-2%	-3%	-4%	-7%	-3%	-
FTEs	80.789	82.107	84.245	85.662	91.952	98.304
Branches	3.364	3.490	3.717	3.815	4.778	6.221
Payroll costs/Income ratio	32,8%	34,8%	32,6%	32,6%	35,2%	37,9%
Cost/Income ratio	53,7%	57,2%	52,7%	54,2%	57,9%	66,2%

A further lever supporting the management in the group cost/income reduction and, more specifically, in the Commercial Banking Italy division, is the M&A. The almost certain merger with MPS group would imply strategic and operative synergies with advantages both on the profit's and on the cost's sides, amounting to about 7.000 redundancies left out of the purchase perimeter, plus an increase of in-house redundancies.

FIGURE 11: UniCredit Division Cost KPI Breakdown

[Source: Own Elaboration based on Official Financial reports]

		1H 2021	FY 2020	FY 2019	FY 2018	FY 2017	FY 2016
Commercial Bank - Italy	Payroll Costs	-1.004	2.057	2.157	2.310	2.525	2.635
	Cost Income ratio	54,6%	57,8%	53,6%	56,9%	59,6%	61,5%
	FTEs	26.373	26.884	28.379	29.669	32.334	35.222
	FTEs Contribution	32,6%	32,1%	33,7%	34,3%	35,2%	35,8%
Commercial Bank - Germany	Payroll Costs	-480	958	944	967	1.035	1.045
	Cost Income ratio	70,5%	70,2%	67,6%	69,0%	67,2%	77,0%
	FTEs	8.573	9.002	9.096	9.208	10.105	10.910
	FTEs Contribution	10,6%	10,8%	10,8%	10,7%	11,0%	11,1%
Commercial Bank - Austria	Payroll Costs	-251	534	538	562	590	644
	Cost Income ratio	68,4%	72,7%	62,7%	65,3%	68,5%	75,4%
	FTEs	4.614	4.687	4.798	4.873	5.092	5.486
	FTEs Contribution	5,7%	5,6%	5,7%	5,6%	5,5%	5,6%
CIB	Payroll Costs	-318	-606	-630	595	635	649
	Cost Income ratio	34,4%	38,6%	38,9%	41,0%	39,5%	40,9%
	FTEs	3.428	3.443	3.494	3.289	3.298	3.480
	FTEs Contribution	4,2%	4,1%	4,1%	3,8%	3,6%	3,5%
GCC	Payroll Costs	-535	1.041	1.046	1.110	1.258	1.317
	Cost Income ratio	14,006	14,047	14,042	14,059	15,488	17,324
	FTEs	11.294	11.282	11.303	11.571	12.979	14.562
	FTEs Contribution	14,0%	13,5%	13,4%	13,4%	14,1%	14,8%
CEE Division	Payroll Costs	-378	748	798	756	741	713
	Cost Income ratio	42,8%	43,4%	38,4%	36,7%	36,9%	35,9%
	FTEs	23.697	23.829	24.142	24.218	24.089	24.302
	FTEs Contribution	29,3%	28,5%	28,7%	28,0%	26,2%	24,7%
UniCredit Group	FTEs Contribution	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

RESULTS AND FINAL CONSIDERATIONS

Within the recent context created by Covid-19, and the pandemic related economic, financial, and healthcare crisis, this paper aims at pointing out the efficiency factors that might work as propellers for the productive efficiency of Italian banks, enhancing the staff allocation in order to guarantee the achievement of the cost-reduction goals set for the medium-long term.

As per the subject matter of this dissertation, efficiency has been analyzed on both, a theoretical and empirical perspective. The analysis that has been carried out has covered several logical steps, identifiable in the partition in five chapters of the dissertation itself.

The goal of the first chapter has been to systematically analyze the concept of efficiency and the nuances that it can assume in the banking sector as the socio-economic and productive context progresses. Notwithstanding the relevant role that efficiency has gained in the monitoring processes of banks, the existing literature reports very little analysis and studies on this concept. Starting from the generic definitions of efficiency, the chapter has focused on giving particular attention to technical-operative efficiency and its several connotations as X-efficiency.

In the second chapter, the main subject has been to explore the evolution of the cost structure following the transformation of the concept and the control of efficiency in banking institutions. The chapter enabled the contextualization of management control strategies, and to examine the theme of the cost analysis from a strategic perspective. The results are supported by the description of the effective applications of the activity-based costing methodology, of the measurement of the business costs, and of how the organizational models impact on the cost structure.

In the third chapter it has been possible to highlight how the present pandemics increased the need for cost reduction for the banks in the Eurozone, and the necessity for them to identify the possible actions to be implemented for improving technical and operative efficiency. This chapter applied an analytical approach to analyze the structure of operative banking costs, focusing on the trend of the performance in European and Italian banking industry since 2007's financial crisis to the current pandemic crisis. The parameters it used are the main items and efficiency KPIs in the sector, with special focus on the Cost to Income and the staff cost.

Despite the many professional and academic studies about the determinants for the enhancement of technical and operative efficiency in banks, literature appears to be lacking empirical evidence on the results deriving from the use of one or more industrial levers – specifically in the current pandemic crisis – for leading the banking management towards the correct strategic choices.

It is in the light of these considerations on the technical and operative efficiency that the empirical investigation carried in chapter four allowed a mapping of the various industrial to support the management of the banking sector for the operative and, specifically, staff related cost reduction in this specific economic context. The three strategies identified during the chapter are:

- a) Internationalization-localization strategy (Nearshoring and Outsourcing)
- b) Digitalization strategy (Process Reengineering, Paperless. Automation, Controlling 4.0)
- c) Strategic Workforce Management

The first strategy implies a deep decision-making process on the relocation/review of the value chain, arbitrating between the labor cost (nearshoring) and abolishing the contractual fees to third parties (insourcing). Secondly, the digitalization of banking operations (process reengineering, automation, and controlling 4.0) represents a necessary step to review the operative business model, moving the workforce from low value-added activities to core banking services. It is equally important, at last, to implement a forecasting and planning process enabling the connection and processing of the activities for the realization of an effective business strategy (Strategic Workforce Management).

The case study analyzed in chapter number five, helped confirming the three clusters of suitable operative strategies that can support the management in the achievement of cost reduction goals during the Covid-19 pandemic contingency.

The case study focusing on the case study experience in the Covid-19 related crisis must be considered as an important and topical contribution to the academic research in the field of technical-operative efficiency in the financial sector. Starting from the evidence collected in this analysis, further examinations can be carried out, and additional case studies on broader applications can be discussed, to define whether the general assumptions hereby witnessed are to be applied to other banking institutions characterized by different local realities, company dimensions and types of services provided.

The case study appears to be fundamental for examining the phenomenon in depth, highlighting the cause-effect relationships among the strategic options available for the banking management to achieve technical-operative efficiency.

Evidence collected in this study opened the way to a few considerations. The strong negative impact of the Covid-19 related healthcare and financial-economic crisis pushed the banks towards medium-term actions of ‘scope re-shaping’ – namely, the decommissioning of non-core activities – and automation, to release people from low valued added activities and redirect them towards occupations that require discernment skills and the alleged ‘human touch’.

In the longer term, it will be necessary for the sector to evolve the supply of banking services, to also include completely digitalized solutions for each segment of customers. This will require a business model transformation, moving the operative burden of the activities from the employees to the customers that, from their side, will be progressively oriented towards a - fully - independent management of their own financial interests through digital channels and remote interaction with their provider of financial services. It will be necessary to start from the changing needs of the customers for the identification of the way to create value and the organizational factors needed for the construction of a business model, and for the generation of a ‘digital-core’, through a bottom-up approach, for the banks to provide their customers with solutions, not only products.

The key for the implementation of digital solutions will be represented by the ability to understand that digitalization is not a matter of technology rather than people and processes: in order to effectively become an ‘intelligent enterprise’ it is necessary to move the attention from the pure cost cutting to the optimization of investments, working for the acquisition and development of the competencies needed by the banks of the future, re-designing processes and organizational structures.

For what concerns data-management, moreover, the sector is still focusing on ‘fact-finding’ rather than on ‘forward-looking’. This means that greater attention is given to the employment of analytics to understand data and speed up managerial decision-making processes, rather than benefiting from a prescriptive or predictive use that might be leading the business policies.

In conclusion, keeping into consideration the results of this dissertation as a potential basis, future studies should continue the investigation of the concept of technical-operative efficiency, making a distinction based on the various local realities, corporate dimensions, bank classifications, and services provided, differentiating the set of suitable levers for supporting the management in the objective of reducing operative costs, specifically staff related costs.

This new research, based on qualitative and quantitative approaches, might investigate new relationships and combinations of industrial levers, to identify several models of analysis shaped on the various corporate realities for the selection of the most successful combinations of mechanisms of efficiency.

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