ISCTE Business School
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TRANSFORMING BANKING RELATIONSHIP MANAGEMENT

An in-depth analysis of the determining factors for balanced bank-firm negotiations

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ABSTRACT

In a context of increasing complexity of bank-firm relationships, the relevance of optimizing banking relationships management has been growing.

This study aims to explore the topic of Banking Relationship Management, incorporating the impact of ongoing structural changes in the financial system. Following a comprehensive literature review covering the interactions between banks, fintechs, companies and regulators, an in-depth comparative analysis between the decision-making process of a bank and the banking relationship management methods used by a CFO was conducted. Based on insights obtained from an interview with a Senior Director of a Portuguese bank and the CFO of a Portuguese large company, complemented with an analysis of fintech-based Banking Relationship Management solutions available in the market, it was possible to conclude that not all CFOs are aware of the bargaining power of their companies against banks as they are not able to assess their positioning in terms of the key metrics considered by banks.

Although the research strategy poses limitations for generalization, if it is assumed that the subject bank case is possible to generalize to any Basel III compliant bank and that the subject company is above average in terms of sophistication, the findings make several contributions. From a managerial perspective the research indicates that CFOs have limited awareness about their companies' bargaining power against banks, which can be improved with fintech. From an academic perspective it offers an alternative to the traditional research about bank-firm relationships and provides a conceptual framework upon which future research about the topic can be based.

Keywords:

Financial services, Fintech, Innovation, Basel Accords

JEL Classification:

G28; O00,

RESUMO

Num contexto de crescente complexidade em torno das relações entre bancos e empresas, a otimização da gestão de relações bancárias tem vindo a ganhar relevância.

O objetivo do presente estudo é explorar o tópico de *Banking Relationship Management*, incorporando o impacto das mudanças estruturais em curso no Sistema Financeiro. No seguimento de uma revisão de literatura que abrangeu as interações entre bancos, empresas, reguladores e *fintech*, foi efetuada uma análise profunda ao processo de decisão de um banco e à realidade de uma empresa para efeitos comparativos. Com base em entrevistas com um Diretor Sénior de um grande banco Português e com o CFO de uma grande empresa Portuguesa, complementada pela discussão de soluções fintech existentes no mercado, foi possível concluir que nem todos os CFOs têm uma clara noção do seu poder negocial perante os bancos, o qual será definido pelo posicionamento da empresa em termos de métricas chave utilizadas no processo de decisão dos bancos.

Apesar de a estratégia de pesquisa utilizada apresentar algumas limitações em termos de generalização, se for assumido que (i) o caso do banco considerado para o estudo é generalizável para qualquer banco que cumpra as normas de Basileia III, e que (ii) a empresa considerada se encontra acima da média em termos de sofisticação, o estudo tem algumas contribuições. De uma perspetiva de gestão, a pesquisa sugere que os CFOs têm uma noção limitada do seu poder negocial perante os bancos, mas que esta pode ser melhorada com recurso a fintech. De uma perspetiva académica o estudo apresenta uma alternativa à literatura tradicional sobre relações entre bancos e empresas, bem como um modelo conceptual que pode servir de base a futuras pesquisas.

Palavras-chave:

Serviços financeiros, Fintech, Inovação, Acordos de Basileia

Classificação JEL:

G28; O00,

This study is dedicated to my parents, who always supported me and rooted for my success.

I love you and hope I make you proud.

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I also want to thank everyone I ever worked with at Novo Banco. Everything I learned during the 9 years I spent in the organization helped me realize the importance of banking relationship management for companies and, also, the technical knowledge essential to understand its dynamics.

There are two people who deserve a special place in these lines: Marta Gomes and Tomás Vasconcelos. We spent entire days and nights working together for our thesis projects, always supporting and challenging each other. It was our companionship and friendship that kept me awake when I was tired, focused when I was lost and confident when I was afraid.

To Marta: I hope you reach your destination too.

To Tomás: Thank you for being the live definition of friend and always be there when it matters.

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Finally, I want to express my gratitude to my girlfriend, Joana, for her patience and support. Thank you for being the light at the end of the tunnel.

Hell of a Ride!

GLOSSARY

- **BCBS** - Basel Committee of Banking Supervision
- **BIS** - Bank of International Settlements
- **BRM**- Banking Relationship Management
- **ECB** - European Central Bank
- **EU**- European Union
- **ICAAP**- Internal Capital Adequacy Assessment Process
- **IMF** - International Monetary Fund
- **IRB** - Internal Ratings-Based
- **RAROC** - Risk-Adjusted Return on Capital
- **USA** - United States of America

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1. INTRODUCTION

Over the last decade, the financial system underwent several structural changes which revolutionized the decision-making process of banks and created new complex challenges for companies and banks alike. The 2008 crisis exposed the fragilities of the banks and regulators responded by developing a set of norms, known as the Basel Accords. Under the new framework, minimum capital requirements and guidelines to improve the risk management, governance and reporting practices of financial institutions were established. These developments disrupted the dynamics of bank-firm relationships and the complexity of bank decision-making process of banks increased drastically. Banks now support their decisions in sophisticated analytical models based on risk indicators and complex risk-based price modelling. Furthermore, technological development enabled the emergence of fintech companies that are driving further change in the financial sector, both as competitors or partners that complement each other. The impact of those fintech companies is fueled by regulatory efforts to increase transparency and competition in the financial system, creating a space for such companies to operate.

Bank relationships are a key dimension of the life of companies, and managers must keep up with ongoing changes to keep control of this crucial function. In this context, the optimization of banking relationship management has become a priority for CFOs, who must incorporate and account for the new key decision drivers of banks to get the most of their banking relationships. For this reason, banking relationship management emerged as a priority for management teams and understanding the major impacts of ongoing changes in the financial sector and the new dynamics of decision-making is a critical success factor for successful transformation through optimized banking relationship management.

The main objective of this study is to explore the topic of Banking Relationship Management, in the context of ongoing changes in the financial system. The study will aim to address the following research questions:

RQ1: How did regulatory reforms of the Financial System influence the dynamics of bank-firm relationships?

RQ2: When managing banking relationships, do Portuguese companies fully understand and incorporate the key inputs of banks' decision-making processes?

RQ3: How can Fintech help optimize Bank Relationship Management?

The research will be conducted by exploring the level of awareness of CFOs about their company's bargaining power against banks, considering the metrics used in the loan-approval process. The analysis will focus on the real cases of a Portuguese bank and a Portuguese company, complemented by the analysis of the value propositions of two select companies offering fintech based banking relationship management solutions. The analysis section will include an hypothesis test about the level of awareness of CFOs about their bargaining powers against banks and a discussion of the research's limitations and potential for generalization.

2. LITERATURE REVIEW

The development of the literature review aims to provide a theoretical framework of the relevant topics for this study that were already explored by other authors.

The optimization of Banking Relationship Management (BRM) is a relatively new trend, so the available literature about this specific topic is very limited. Taking that into consideration, the literature review will focus on providing an understanding of this ecosystem and the interactions between the main participants: Banks, Companies, Fintechs and Regulators. As such, the literature review is divided into 4 subsections:

- Regulatory Framework
- The dynamics of Bank-Firm relationships;
- Banks' income structure, profitability and risk
- The impact of Fintechs in the Financial Sector

As this study is focused on the Portuguese market, the analysis will consider mainly literature and data about the Eurozone and, when possible, Portugal.

2.1. Regulatory Framework and the Impact of the 2008 Financial Crisis

Banking Relationship Management solutions deal with banks, which in turn operate in a highly regulated sector, so it is important to understand the current regulatory framework.

The negative economic cycle that started in 2008 with the fall of Lehman Bros. in the United States and was followed by the sovereign debt crisis in the Eurozone exposed an excessively leveraged financial system to unprecedented risks and contagious effects. In Europe, systemic

banks once regarded as "too big to fail" collapsed and were subject to government bailouts, such as Lloyds Bank in the United Kingdom or, in the Portuguese case, Banco Espírito Santo, costing billions of euros to taxpayers. To prevent such events from happening again and strengthen the financial system several directives were issued by European regulatory entities.

The most relevant directives were issued under the Basel Accords. The Basel Accords refer to the banking supervision Accords issued by the Basel Committee on Banking Supervision (BCBS). The accords are mostly known as Basel I, Basel II and Basel III. They are called the Basel Accords as the BCBS is located at the Bank for International Settlements (from now on referred to as BIS) in Basel, Switzerland. The Basel Accords are essentially a set of recommendations for regulations in the banking industry around which regulatory framework currently in place in the most relevant markets was developed. The Basel I framework was issued in 1988 and is mainly focused on capital requirements from a credit risk perspective. Basel II builds on the original Basel I framework and since the goal of this section is to understand the impact of the accords in the context of recent developments about Banking Relationship Management this analysis will mainly focus on Basel II and III.

However, a borderline should be established: this review will only address the principles behind the directives, as well as their impacts on the ecosystem. Technical aspects and fundamentals will not be discussed as they are not the scope of this study. For further detail, adequate references will be provided when necessary.

2.1.1. Basel II

The Basel II Framework was initially published in June 2004 and fully implemented in 2009 in most major economies such as the European Union (hereinafter EU) and the United States of America (hereinafter USA or US). The main goal of the regulations under Basel II was to ensure that banks held enough capital to safeguard their solvency[1]. The rationale was that for riskier exposures, the greater the amount of capital was required. To pursue this goal, Basel II established risk and capital management requirements to ensure that a bank had adequate capital for the risk it exposes itself to through its lending, investment and trading activities. The directives were also

[1] Solvency is the ability of a company to meet its long-term financial obligations (Investopedia)

designed to maintain consistency of regulations, limiting the possibility of gains obtained from arbitrage between banks operating in several geographies.

The Basel II framework is based on 3 pillars (Basel Committee on Banking Supervision, 2006):

1. Minimum capital requirements
2. Supervisory review
3. Market discipline.

A brief explanation of each pillar will be provided.

- **Pillar 1 - Minimum Capital Requirements**

This pillar deals with risk and sets the rules for calculating the necessary capital that banks should hold related to the risks they are exposed to. Under Basel II, the capital ratio is calculated by dividing Total Capital by the Risk-Weighted Assets and the total capital ratio must be no lower than 8%. Furthermore, the core capital[2] ratio must be no lower than 4%. For a detailed explanation of the technical aspects of the calculation of capital requirements under Basel II see for example the work of Antão and Lacerda (2008), sponsored by the Bank of Portugal.

The concept and calculation of Risk Weighted Assets evolved under Basel II as the concept of risk now encompasses 3 components. Credit Risk, Operational Risk and Market Risk (Basel I only considered credit risk):

- **Credit Risk**: The Basel Committee on Banking Supervision (2000) defined credit risk as "*the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms*".[3]

The Basel II framework reflected the regulators' belief that "the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties" (Basel Committee on Banking Supervision, 2000). On this note, more attention will be given to

[2] Regulatory or Tier 1 Capital "*is essentially the most perfect form of a bank's capital — the money the bank has stored to keep it functioning through all the risky transactions it performs, such as trading/investing and lending.*" (Investopedia)
[3] A more detailed view on Credit Risk Management is available here: www.bis.org/publ/bcbs75.htm

this component. Banks can estimate the credit risk component of Risk-Weighted Assets by choosing between two approaches:

i. **Standardized Approach**: Under this approach, banks use ratings calculated by external rating agencies to estimate the required capital for credit risk. Standard & Poor's, Moody's, Fitch or DBRS are examples of external rating agencies.

ii. **Internal Ratings-Based Approach**: The internal ratings-based approach (further abbreviated as IRB) allows banks to use internally developed models for calculating risk-weighted assets from credit exposures to retail, corporate, financial institution and sovereign borrowers. There are two variations to IRB: Foundation IRB and Advanced IRB, the latter being the more sophisticated. For further detail about this issue see the respective consultative document issued by the Basel Committee on Banking Supervision (2001).

- **Operational Risk**: According to the definition used by the Basel Committee on Banking Supervision (2003) it relates to "*the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events*".[4] Banks can also choose from three approaches: the Basic Indicator Approach, the Standardized Approach and the Advanced Measurement Approach. The latter is subject to regulatory approval, as banks must meet certain criteria to use this approach.

- **Market Risk**: It relates to "*the risk of losses in on and off-balance sheet positions arising from adverse movements in market prices*" (European Banking Authority)[5], such as changes in interest rate or volatility in the Foreign Exchange Market. To evaluate the Market risk component, banks can use two approaches: Standardized Measurement Approach and the Internal Models Approach. As with Credit Risk and Operational Risk, the use of the Internal Models Approach is subject to regulatory approval.

[4] A more detailed view on Operational Risk is available here: www.bis.org/publ/bcbs195.htm
[5] A more detailed view on Market Risk is available here: https://www.bis.org/bcbs/publ/d436.htm

- **Pillar 2 – Regulatory Supervision**

The 2nd pillar is basically the empowerment of national regulatory authorities with the tools to evaluate the management practices of banks. It provides a framework for regulators to assess compliance with the requirements established under the 1st pillar, but also with other risks not considered in the calculation of Risk-Weighted Assets under the denomination of residual risk, such as reputational, legal, strategic, concentration, liquidity or systemic risks (IBM Knowledge Center - Basel II summary). Under the Regulatory Supervision pillar, banks were also required to run stress tests on capital ratios to assess their capital adequacy. This procedure is known as ICAAP (Internal Capital Adequacy Assessment Process).

- **Pillar 3 – Market Discipline**

The 3rd pillar is the logical complement to pillars 1 and 2 and deals with reporting requirements demanded by regulators, clients and other agents in the market. Basel II established a series of standards for information disclosure that banks must meet to provide stakeholders with information regarding capital adequacy, risk policy, strategy and assessment processes. The main goal is to empower the market with information to assess the banks' strength and adjust accordingly. Also, by setting a uniform framework for informational disclosure it ensures comparability between institutions across different geographies and increases transparency in the system. Ultimately, it should provide incentives to good corporate governance.

Several Banking Relationship Management solutions such as those developed by Vallstein or Redbridge (see sub-section 4.2.) incorporate Regulatory Capital Requirements in their models. So, it is concluded that the Basel II framework played a crucial role in enabling the emergence of such solutions, as banks are required to disclose this information under the 3rd Pillar.

2.1.2. Basel III

When the 2008 crisis erupted, the Basel II framework was yet to be fully implemented in most major markets. Even though it was designed to strengthen the financial system, it did not prevent the financial system from collapsing. The framework's design and implementation have been subject to criticism in the academic community, which has addressed failures and/or

weaknesses such the illusion of safety, procyclicality of bank behaviour[6] or failure to prevent regulatory arbitrage[7]. Furthermore, underlining the need of strengthening regulations under Pillar 3 (Market Discipline), the 2008 crisis is also attributed to *poor practices relating to lack of disclosure, transparency and fair competition among the major global banks"* (Fosu, Danso, Agyei-Boapeah, Ntim, & Murinde, 2018). For further detail see the work of Atik (2011) for an overview of the main sources of criticism of Basel II. So, to further strengthen the financial system against future shocks, prevent the effects of another economic crisis and correct flaws attributed to the previous accord, the Basel III framework was developed. It was announced in 2010 and under the recent reforms is to be fully implemented until 2027[8].

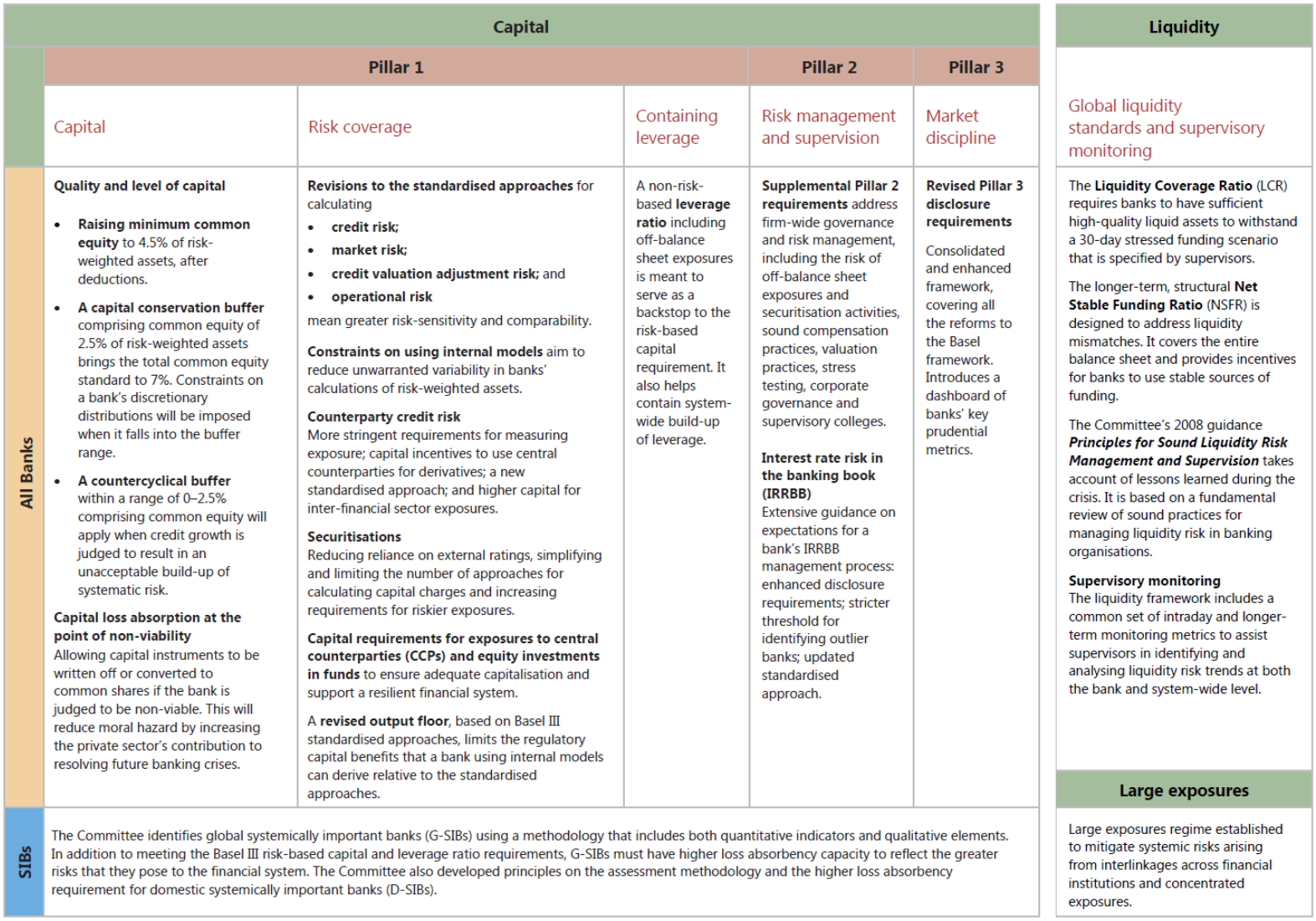
Basel III basically enhanced the previous Basel II Framework, introducing new capital and liquidity standards to strengthen the regulation, supervision and risk management of the financial system. Under the new framework, banks are now required to hold more and better-quality capital. Also, the new leverage ratio introduces a non-risk-based measure to complement the risk-based minimum capital requirements. The new liquidity ratios aim to ensure adequate levels of funding to endure adverse events, such as economic downturns and bank runs. Also, reforms address the fact that some banks, given their size and global scale of operations, exhibit systemic importance. So, additional buffers are required for these banks.

The current Basel III framework is summarized in Figure 1.

[6] Several researchers addressed the issue of procyclicality, such as Moosa, 2010; Andersen, 2011; Athanasoglou, Daniilidis and Delis, 2014). In this strand of literature, it is argued that during the economic downturn banks reduced loan supply to ensure compliance with Basel II, amplifying the effects of the crisis.

[7] Failure to reduce gains from regulatory arbitrage is another source of criticism, as Banks had incentives to manipulate risk weights and internal ratings to improve their capital ratio, as suggested by researchers such as Behn, Haselmann and Vig (2014); Mariathasan and Merrouche (2014) or Begley, Purnanandam and Zheng (2017).

[8] A high-level summary of the Basel III reforms and other complementary documents are available here: www.bis.org/bcbs/publ/d424_hlsummary.htm



	Capital					Liquidity
	Pillar 1			Pillar 2	Pillar 3	
	Capital	Risk coverage	Containing leverage	Risk management and supervision	Market discipline	Global liquidity standards and supervisory monitoring
All Banks	**Quality and level of capital** • **Raising minimum common equity** to 4.5% of risk-weighted assets, after deductions. • **A capital conservation buffer** comprising common equity of 2.5% of risk-weighted assets brings the total common equity standard to 7%. Constraints on a bank's discretionary distributions will be imposed when it falls into the buffer range. • **A countercyclical buffer** within a range of 0–2.5% comprising common equity will apply when credit growth is judged to result in an unacceptable build-up of systematic risk. **Capital loss absorption at the point of non-viability** Allowing capital instruments to be written off or converted to common shares if the bank is judged to be non-viable. This will reduce moral hazard by increasing the private sector's contribution to resolving future banking crises.	**Revisions to the standardised approaches** for calculating • **credit risk;** • **market risk;** • **credit valuation adjustment risk;** and • **operational risk** mean greater risk-sensitivity and comparability. **Constraints on using internal models** aim to reduce unwarranted variability in banks' calculations of risk-weighted assets. **Counterparty credit risk** More stringent requirements for measuring exposure; capital incentives to use central counterparties for derivatives; a new standardised approach; and higher capital for inter-financial sector exposures. **Securitisations** Reducing reliance on external ratings, simplifying and limiting the number of approaches for calculating capital charges and increasing requirements for riskier exposures. **Capital requirements for exposures to central counterparties (CCPs) and equity investments in funds** to ensure adequate capitalisation and support a resilient financial system. A **revised output floor**, based on Basel III standardised approaches, limits the regulatory capital benefits that a bank using internal models can derive relative to the standardised approaches.	A non-risk-based **leverage ratio** including off-balance sheet exposures is meant to serve as a backstop to the risk-based capital requirement. It also helps contain system-wide build-up of leverage.	**Supplemental Pillar 2 requirements** address firm-wide governance and risk management, including the risk of off-balance sheet exposures and securitisation activities, sound compensation practices, valuation practices, stress testing, corporate governance and supervisory colleges. **Interest rate risk in the banking book (IRRBB)** Extensive guidance on expectations for a bank's IRRBB management process: enhanced disclosure requirements; stricter threshold for identifying outlier banks; updated standardised approach.	**Revised Pillar 3 disclosure requirements** Consolidated and enhanced framework, covering all the reforms to the Basel framework. Introduces a dashboard of banks' key prudential metrics.	The **Liquidity Coverage Ratio** (LCR) requires banks to have sufficient high-quality liquid assets to withstand a 30-day stressed funding scenario that is specified by supervisors. The longer-term, structural **Net Stable Funding Ratio** (NSFR) is designed to address liquidity mismatches. It covers the entire balance sheet and provides incentives for banks to use stable sources of funding. The Committee's 2008 guidance ***Principles for Sound Liquidity Risk Management and Supervision*** takes account of lessons learned during the crisis. It is based on a fundamental review of sound practices for managing liquidity risk in banking organisations. **Supervisory monitoring** The liquidity framework includes a common set of intraday and longer-term monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system-wide level.
SIBs	The Committee identifies global systemically important banks (G-SIBs) using a methodology that includes both quantitative indicators and qualitative elements. In addition to meeting the Basel III risk-based capital and leverage ratio requirements, G-SIBs must have higher loss absorbency capacity to reflect the greater risks that they pose to the financial system. The Committee also developed principles on the assessment methodology and the higher loss absorbency requirement for domestic systemically important banks (D-SIBs).					**Large exposures** Large exposures regime established to mitigate systemic risks arising from interlinkages across financial institutions and concentrated exposures.

Figure 1: Summary Table of Basel III Reforms. Reprinted from Basel Committee on Banking Supervision reforms - Basel III, by BIS (2018). Retrieved from https://www.bis.org/bcbs/basel3/b3summarytable.pdf

2.1.3. Impact of regulatory reforms on the financial system

As the implementation of Basel III is still underway, several researchers have studied the impact of new regulations on the financial system. A very relevant issue that has been widely studied is the potential negative effect of tighter regulations in credit supply. As outlined by Roulet (2017), under adverse economic conditions and liquidity shortfalls stricter capital requirements have a negative impact on bank lending. Furthermore, adjustments in the Equity to Assets ratio to meet the Basel III requirements should lead to a decrease in credit loans. However, this impact varies across countries, being stronger in countries that did not experience a crisis (Gavalas, 2015). Also, the tightening of credit assessment standards has negative effects on lending growth, as suggested by van der Veer and Hoeberichts (2016). Concerning pricing, tighter capital requirements also have a negative impact on the cost of funding. As it is more expensive to fund assets with capital lending interest rates should, in theory, increase (Gavalas, 2015). However, in Europe, this is not the case in the context of expanding monetary policy conducted by the European Central Bank (hereinafter referred to as ECB) in 2015 which decreased interest rates to historically low levels. As the deployment of the Quantitative Easing Program is very recent there is limited academic research studying the impact of Basel III regulations entangled with the impact of the monetary policy currently conducted by the ECB. Because the Program impacts lending conditions in ways that are, in general, contrary to the Basel III reforms[9], this is a very relevant topic that should be addressed in more detail in the future as more data is made available.

2.1.4. Monetary Policy

After reducing policy interest rates to negative values since June 2014, and following the strategy used by other central banks such as the US Federal Reserve and the Central Bank of Japan, the ECB launched its Quantitative Easing Program (hereinafter QEP) on March 2015. It is an unconventional monetary policy in which a Central Bank massively purchases government bonds from the market, mostly from banks in the case of Europe. Such measures intend to alleviate the balance sheets of banks by driving up bond prices, decrease borrowing costs and increase liquidity in the market, creating incentives for consumption and investment. Ultimately it should enhance economic growth and job creation and create a virtuous cycle towards economic recovery, while driving the inflation rate to the targeted 2% (European Central Bank, 2015).

[9] The topic of Monetary Policy will be addressed in sub-section 2.1.4

The implementation of the QEP had several effects on the financial market and on banks' profitability. First, by reducing interest rates, lending-deposits spreads will decrease, resulting on lower net interest revenues for banks. On the opposite direction, lower interest rates create incentives for consumption and investment, which should increase demand of loans thus creating new business for banks. At the same time, if borrowers are paying less interest, their risk profiles are improved, which also has a positive impact on banks' profitability. Moreover, by driving up bond prices, the balance sheets of banks holding those bonds would be strengthened, lowering the necessary efforts to comply with regulatory capital requirements (Demertzis & Wolff, 2016).

This sub-section will focus on the impact of the QEP on corporate lending conditions, which are the most relevant for this study. As shown in figure 2, the interest rates of new loans to non-financial companies have been steadily decreasing both in Portugal and Europe, as well as the amount of new loans.

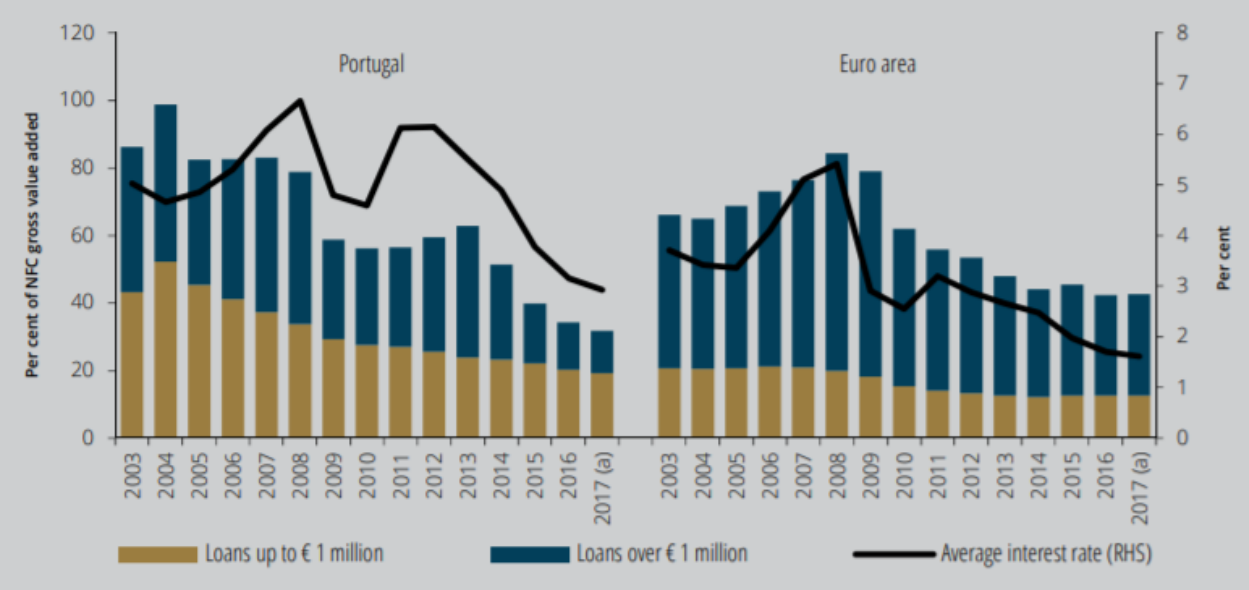


Figure 2 – Amounts and interest rates on new bank loans to non-financial companies. Reprinted from Financial Stability Report - December 2017, by Bank of Portugal (2017).

Although the decreasing trend is prior to the implementation of the QEP, its behaviour is in line with the previously mentioned effects of the QEP on lending conditions. The decrease in the amount of loans, however, should be explained by stricter regulatory capital requirements (as mentioned in the previous sub-section) and a shift towards less risky and better capitalized firms,

according to the Financial Stability Report 2017 issued by the Bank of Portugal (2017). The Report also provides a comprehensive overview of the Portuguese financial sector, should the reader require a more technically detailed perspective. According to the same report, "…*the ECB expects that these rates remain at the current levels for an extended period and beyond the horizon of the net asset purchases, no longer making reference to the possibility of lower interest rates in this horizon."*

2.1.5. Financial Integration and harmonization of standards

Regulatory efforts and initiatives towards financial integration are also driving change in the banking landscape and, particularly, in the corporate banking ecosystem. In this sub-section a brief explanation of the Payment Services Directive (hereinafter PSD) and the TWIST initiative will be presented.

- **Payment Services Directive (PSD)**

The PSD is a set of rules issued in 2007 by the EU to regulate the payment services sector in the European Economic Area, improving competition throughout the continent. It was amended in 2015 by the PSD2. The directive seeks to improve the EU rules for electronic payments, aiming to further the integration process of payments in the EU. It allowed the entrance non-bank institutions in the payments industry and set the framework for the creation of the Single Euro Payments Area (SEPA)[10] project. The SEPA is a project that aims to harmonize euro payments inside Europe, making them "*as fast, safe and efficient as national payments are today. SEPA enables customers to make cashless euro payments to anyone located anywhere in Europe, for example by credit transfer, direct debit or debit card."*(European Central Bank, n.d.).The implementation of the SEPA standards[11] was deemed mandatory by the ECB and was concluded on October 2016. Under the SEPA framework, payment standards were uniformized across all member countries and differences in charges between national payments and international

[10] The SEPA Zone comprises 33 countries: (i) the current 27 EU member states of Austria, Belgium, Britain, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Republic of Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain and Sweden; (ii) the 3 EEA countries of Norway, Liechtenstein, Iceland and (iii) Switzerland and Monaco. (Danske Bank, n.d.)

[11] See "SEPA in a nutshell", by The Euro System (2013) for more detail. Available here: https://www.ecb.europa.eu/paym/retpaym/shared/pdf/SEPA_in_a_nutshell.pdf

payments inside the SEPA were abolished. Moreover, terms, conditions, transparency and information requirements were harmonized. This harmonization materialized in the creation of the ISO20022 standards. Additionally, the framework also recognizes payment institutions as a new category of financial service providers. (European Central Bank, 2013).

The author found no research studying the impact of the PSD and SEPA project on banks' revenues and profitability, nonetheless three immediate effects should be considered. First, commission fee revenues on payment services should decrease on an individual transaction basis. Second, the harmonization of the payments' framework inside the SEPA should create incentives for an increase in the utilization of payment services by both customers and companies, which should have a positive effect on revenues. Third, increasing competition from non-bank payment institutions should erode market share from traditional banks. Deeper research on this topic is needed to draw further conclusions, however it must be assumed that the SEPA project shall have a negative impact on the profitability of banks. This topic is relevant for this study because commission fees on payment services are a relevant part of the financial cost structure of companies.

- **TWIST**

The Transaction Workflow Innovation Standards Team (TWIST) is a non-profit organization formed by representatives of the major sectors of the economy, namely Corporates, Public Administrations, Financial Services Providers and Solutions Providers. It was created with the goal of increasing the efficiency of the physical and financial supply chain by lowering the workload associated with paper-based processes. To achieve this, TWIST rationalises financial industry standards by "*creating user-driven, non-proprietary and internally consistent XML-based standards for the financial supply chain*", compliant with the mentioned ISO20022 standards (TWIST, n.d.). Organizations such as TWIST increase the efficiency of the financial supply chain and facilitate the standardization of financial services on an international level, thus driving financial integration.

2.2. Dynamics of Bank-Firm relationships

This topic has been addressed by a large number of authors from several angles and different perspectives. This sub-section aims to provide a review on existing literature about the most important issues.

2.2.1. Segmentation of the banking business

As shown in table 1, the Banking Industry can be divided in four main business areas: Corporate Banking, Retail Banking, Investment Banking and Private Banking.

Business Area	Description	Traditional Products and Services
Retail Banking	Dealing with retail customers such as individuals and small businesses, retail banking is the most visible face of banking to the public, with bank branches providing wide coverage in most major cities.	• Checking and savings accounts; • Certificates of deposit and guaranteed investment certificates; • Mortgage loans; • Automobile and consumer credit; • Debit and credit cards; • Foreign currency and remittance services;
Private Banking	A more tailored approach, targeting high net-worth individuals. Essentially focused on wealth management and personal investment and tax advisory, it offers more sophisticated financial products and services than those offered to the average retail individual client in addition to the traditional retail banking products.	Retail banking services plus • Personalized investment advisory; • Hedge funds, Real Estate Funds and other investment funds;
Corporate Banking	Typically serves a broad range of clients, from Small and Medium Enterprises (SMEs) to large multinational corporations. It is a key segment for both banks and countries, due to the importance of corporate financing to economic growth and provision of credit and liquidity supply.	• Loans and other credit products; • Treasury and cash management services; • Equipment lending; • Commercial and Industrial Real Estate; • Trade Finance; • Payroll, pension funds and other employer services;
Investment Banking	Related with capital creation for companies, governments and other institutions. Focused on project financing, M&A support, debt securities issuance and other structured operations. Investment banking activities are usually complementary to Corporate Banking operations. Banks normally operate in this segment through specialized subsidiaries.	• Project and Leverage Finance; • Mezzanine Finance; • M&A Finance and Advisory; • Debt Securities issuance and management; • IPO finance and support; • Trade Finance.

Table 1: Summary table of different banking business areas. Source: Own author's compilation from Investopedia (no date d, no date b, no date c).

- **Relationship Lending**

A large strand of academic literature approach bank-firm relationships by discussing the trade-off between relationship and arm's length lending. Relationship lenders have access to inside information about companies (Rajan, 1992; Boot, 2000) while arm's length lending is essentially based on public information and has a more transactional nature (Rajan, 1992). The additional private information allows lenders to better evaluate credit risk, anticipate defaults and proactively change lending terms (Agarwal & Hauswald, 2010; Bolton, Freixas, Gambacorta, & Mistrulli, 2016). The advantages and disadvantages of relationship lending still divide the academic community. Several researchers argue that lenders extract rents from lock-in effects, as borrowers become dependent on banks (Sharpe, 1990; Rajan, 1992; Ioannidou and Ongena, 2010). However, they also play a role in supporting the continuation of lending during economic downturns, smoothing the impact of liquidity shortfalls during economic crisis as suggested by several researchers (Beck, Degryse, De Haas, & van Horen, 2018; Berger & Udell, 1992; Berlin & Mester, 1999). The potential higher cost of relationship lending can be softened by the addition of more relationship lenders to the company's portfolio of debt sources. The borrowing costs should decrease with the addition of new lenders as suggested by some researchers (Bonfim, Dai, & Franco, 2017; Ferri & Messori, 2000). Bonfim, Dai and Franco (2018) discuss this behaviour arguing that it is justified mainly by 3 factors:

i. Adding a new lender should increase the bargaining power of borrowers (Sharpe, 1990; Rajan, 1992);
ii. Multiple bank relationships should decrease banks' monitoring costs (Carletti, Cerasi, & Daltung, 2007)
iii. Information asymmetries are higher for the bank granting the first loan.

According to the same authors, (ii) and (iii) hold for smaller companies displaying more opaqueness and thus intensifying the information asymmetry problem, while larger companies usually present more detailed and transparent information to the public (sometimes as required by law, in the case of listed companies). In the same line of thought, (Hale & Santos, 2009) argue that banks extract higher interest from firms before their first bond IPO (which constitutes an additional source of funding). Moreover, their results show that firms benefit from lower interest rates after obtaining their credit rating (issued by external rating agencies) for the first time and conclude that

banks charge a premium for their informational monopoly, i.e., for accessing private information unavailable to the rest of the market. Ironically, several researchers actually argue that banks are usually more opaque than non-bank firms (Blau, Brough, & Griffith, 2017; Flannery, Kwan, & Nimalendran, 2013). This is very relevant for this study, as Banking Relationship Management solutions aim to close the transparency gap between banks and companies. The mentioned conclusions are all consistent with the work of Hernández-Cánovas and Martínez-Solano (2010), who found that "*SMEs with longer bank relationships have enhanced access to loans, but at the same time they bear a higher cost for their debt. (…) firms maintaining two bank relationships get the cheapest debt, which establishes a limit for the degree of concentration of bank relationships. (…) the existence of trust between firm and bank improves access to financing and reduces the borrowing costs, whereas it increases the likelihood that guarantees will have to be provided. As a consequence, (…) a relationship based on trust is a better strategy to improve SMEs' access to finance than the establishment of longer or more concentrated relationships.*".

2.2.2. The Banks' perspective on relationship lending

The side of lenders, however, has been given less attention by the academic community. Nonetheless, Bharath *et al.* (2007) studied the issue from this perspective and identified several benefits of relationship lending for banks. Basically, it is argued that the continuous interaction with a borrower decreases the cost of risk evaluation and thus "*allows for more efficient information production and processing in offering future loans and other information-sensitive products*", ensuring a sustainable business pipeline with the borrower. This conclusion is consistent with the previously mentioned research as the costs arising from high information asymmetry are reduced over time.

Banks also leverage on relationship lending to develop cross-selling opportunities, broadening the scope of the relationship and increasing switching costs. Cross-selling occurs when a bank offers products and services that are complementary to the "core service" (Investopedia, n.d.-a). For example, upon negotiation of a loan deal the bank may offer cash management, payroll and other services. The package may include insurance, pension funds and other products and services offered by the bank's subsidiaries and/or partner companies. This issue has been studied by several researchers in the scope of relationship lending, such as Rajan (1992); Bharath *et al.* (2007) or Santikian (2014), underlining the importance of cross-selling to the added value of bank-

firm relationship. This practice allows banks to increase revenues, but also to capture the operational cash-flows of the company, which increases the amount of deposits without necessarily paying interest. Moreover, cross-selling can be a way to obtain additional information about the company and mitigate the impact of the information asymmetry problem. Also, it works as a risk mitigation strategy, as current accounts will more likely have enough liquidity to comply with the debt service if the operational cash-flows are domiciled in that bank. Depending on the added value of the cross-sold services, the bank may even lower the interest rate charged on the loan.

Complementary to this topic, it is worth to mention the concept of cross-segment selling. Through this practice, banks basically leverage on relationships with existing clients to acquire and develop business in other segments. For example, if a bank has a relationship with a company, it can have facilitated access to the employees of that company and acquire them as new clients, thus developing business in the retail segment. Depending on the added value of such initiatives, the bank may lower the price charged on the several products and services purchased by the company. Although this strategy is followed by most banks in the market the author found no literature available about this issue, so it would be an interesting topic to develop in future researches[12].

2.2.3. Effects of Concentration, Market Power and Consolidation on lending

As expected, increasing banking market concentration should result in higher borrowing costs for borrowers (Bonini, Dell'Acqua, Fungo, & Kysucky, 2016) and more credit supply constraints (Han, Zhang, & Greene, 2017; Ryan, O'Toole, & McCann, 2014), particularly in economies where firms are more dependent of bank financing such as the Eurozone (Ryan et al., 2014). However, recent developments on the European banking market landscape must be considered. Under the Single Resolution Mechanism framework issued by the European Commission[13], the failure of several banks following the crisis resulted in the sale and/or liquidation of distressed banks, reducing the number of active institutions and increasing the market power of larger banks. As shown in figure 3, the number of credit institutions in the euro area declined 25% between 2008 to 2016, from 6,768 to 5,073 (European Central Bank, 2017b). This behaviour is in line with the hypothesis, defended by several researchers (see, for example, the

[12] The presented insights were obtained during from interviewing a senior director of a Portuguese major bank.
[13] The single resolution mechanism (SRM) applies to banks covered by the single supervisory mechanism. It is the second pillar of the banking union. For more information check https://ec.europa.eu/info/business-economy-euro/banking-and-finance/banking-union/single-resolution-mechanism_en

work of Beck, Demirgüç-Kunt and Levine (2006)), that a higher degree of concentration increases the system's stability.

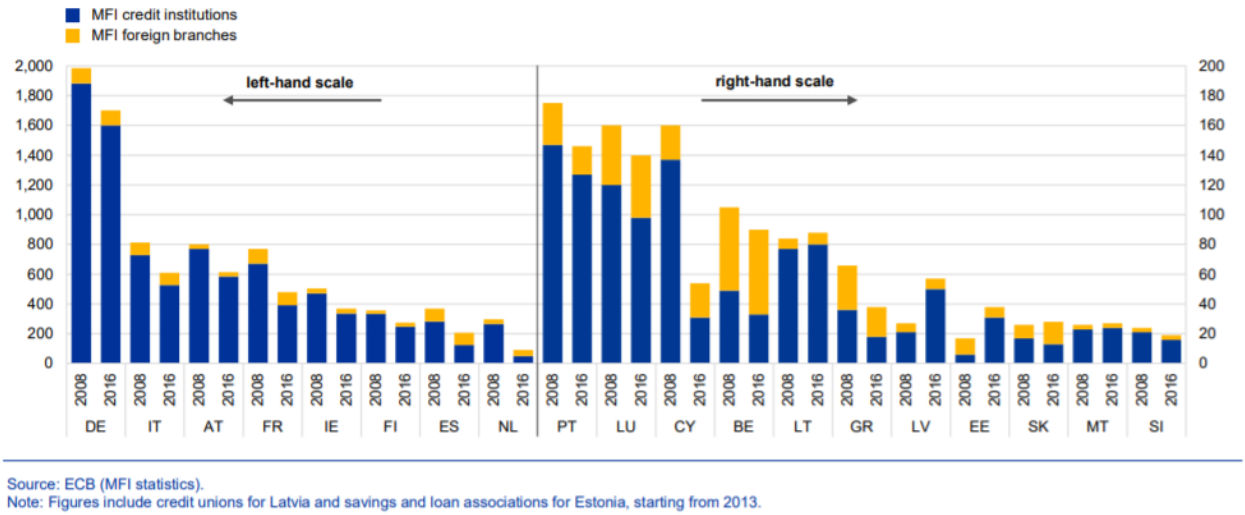


Figure 3: Number of MFI[14] credit institutions and foreign branches in the Eurozone between 2008 and 2016. Reprinted from Report on Financial Structures, October 2017, by (European Central Bank, 2017b). Retrieved from www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201710.en.pdf

This line of thought is also supported by many banking executives, stressing the need for consolidation in the European banking market to ensure scale and efficiency to compete with US banks and increase profitability (Financial Times, 2018). Several ECB experts also share this view, suggesting that the emergence of continental banks through cross-border M&A could enable economies of scale (European Central Bank, 2017a). In fact, and consistently with the previously described theory (concentration increases stability), the European banking market, including Portugal, displays an increasing level of concentration since the 2008 crisis. This is illustrated by the evolution of the Lerner Index[15], as shown in figure 4. An opposite force comes, however, from regulatory directives, as Basel III introduced a leverage ratio rule and additional capital requirements for Systemically Important Banks. However, it remains unclear whether increasing competition leads to a more stable system, as other researchers found that more competition has a positive effect on profitability and asset quality of banks (Anginer, Demirgüç-Kunt, & Zhu, 2012;

[14] Monetary Financial Institutions
[15] The Lerner index measures the degree of concentration in a market. It expresses the difference between price and marginal cost as percentage of price. Its value ranges from 0 (perfect competition) to 1 (monopoly). It has been widely used for academic purposes, see for example Cruz-García, de Guevara and Maudos (2017) for more detail.

Goetz, 2018). Leroy and Lucotte (2017) provide a mixed perspective, defending that more competition increases banks' fragility but on the other hand decreases systemic risk.

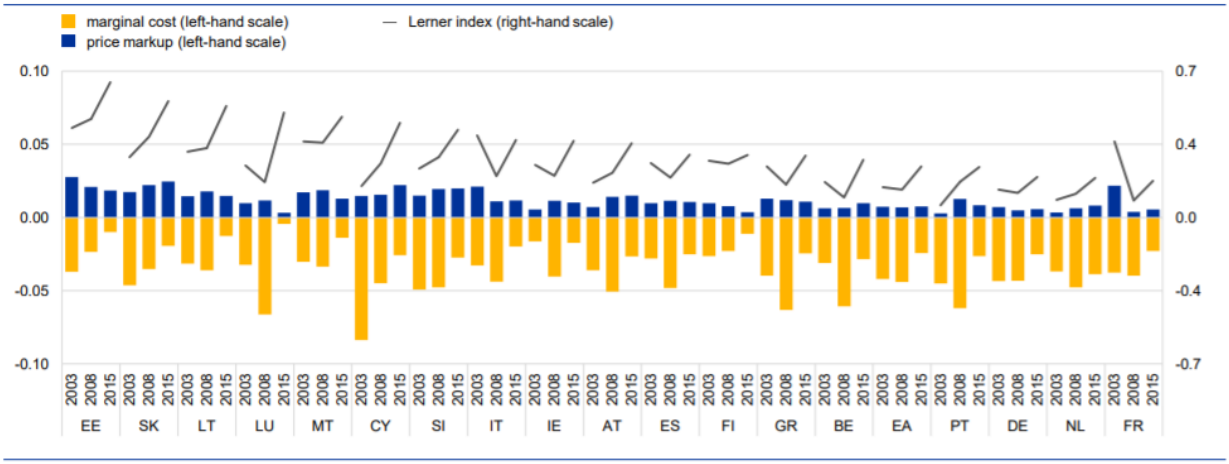


Figure 4: Lerner Index and its components in the Eurozone – A comparison between 2003, 2008 and 2015. Reprinted from Financial integration in Europe, May 2017 by (European Central Bank, 2017a). Retrieved from https://www.ecb.europa.eu/pub/pdf/fie/ecb.financialintegrationineurope201705.en.pdf?a334429f9addfeff5cf9be4aeba36c8a

Despite contradicting the previously mentioned theories about concentration (more concentration leads to higher borrowing costs and shorter supply of credit), increasing market power of banks could actually have a positive effect on lending if the concentration-stability holds, as banks will be more prepared to provide a stable source of funding to the economy. However, the banking ecosystem is still going through major changes so there is limited data about their impacts. Thus, it is hard to draw a conclusion based on available literature about the effects of consolidation in the European banking market and lending conditions.

2.2.4. Relationship Lending and Large Corporations

One limitation of this review was the lack of available literature exploring the dynamics of relationship lending in the case of large corporations. However, considering that the information asymmetry problem does not seem to apply to large corporations at such an extent as in the case of SMEs, it will be assumed that lending relationships between banks and large companies are generally of a more transactional nature. Nonetheless, further research on this topic is needed for stronger conclusions.

2.3. Banks' income structure and profitability

An important dimension of Banking Relationship Management optimization is the efficiency of a company's financial costs structure, which is mainly comprised of bank revenues, namely interest costs, commissions & fees, foreign exchange trade *premia* and other less relevant components. For this reason, it is important to understand the income structure of banks, and the factors determining their profitability and risk.

However, as mentioned earlier regulatory reforms and monetary policy measures such as Basel III or the implementation of the QEP are recent, so most of the available literature about the banks' profitability and income structure does not take them into account. Considering their disruptive effect on the banking business and that their impact is still being felt in the system, conclusions obtained from earlier studies about banks income structure and profitability may not reflect recent developments.

2.3.1. The diversification of banking business and sources of income

Concerning the diversification of the income structure of banks, several researchers have studied the effect of banking business diversification over the years. First, it should be noted that according in most literature banks' income is divided into interest and non-interest revenues (fees and commissions, dividends, trading income, capital gains, etc.) and that a more diversified income structure will exhibit a higher share of non-interest income (see for example, the work of Maudos (2017)). Traditionally, risk and profitability were the main variables considered. This issue has divided the academic community. According to studies, the diversification of income sources increases risk (Demirgüç-Kunt & Huizinga, 2010; DeYoung & Roland, 2001; Lepetit, Nys, Rous, & Tarazi, 2008; Maudos, 2017; Stiroh, 2004; Stiroh & Rumble, 2006), mostly due to increased volatility of revenues and higher fixed costs. Others, such as those of Gallo, Apilado and Kolari (1996), Rogers and Sinkey (1999) and Ashraf, Ramady and Albinali (2016), found the opposite. It should be noted, however, that the first two studies were conducted in the nineties and the latter focused on the Gulf Region, making it unclear if their conclusions apply in this case. Also, in the case of profitability, it is unclear whether diversification has a positive or negative effect. Gallo, Apilado and Kolari (1996), Stiroh and Rumble (2006); Chiorazzo, Milani and Salvini (2008), Lepetit *et al.* (2008), Demirgüç-Kunt and Huizinga (2010) and Elsas, Hackethal and Holzhäuser (2010) defended a positive impact of diversification on profitability, while others (Baele, De

Jonghe, & Vander Vennet, 2007; Berger, Hasan, & Zhou, 2010; DeYoung & Rice, 2004; DeYoung & Roland, 2001; Fiordelisi, Marques-Ibanez, & Molyneux, 2011; Maudos, 2017; Stiroh, 2004) found a negative effect.

2.3.2. The impact of the 2008 crisis on banks' profitability and risk

The work of Maudos (2017) about the impact of the crisis on banks' profitability and risk, taking income diversification into account, provides useful insights. By studying European banks between 2002 and 2012 he was able to compare the banks' behaviour over a period of growth (2002 to 2007) with a period of recession (2008 to 2012). The following passage of his article "Income structure, profitability and risk in the European banking sector: The impact of the crisis" comprehensively describes this issue:

"*…banks with a more diversified income structure are less profitable, although the effect is only significant during the crisis years. Additionally, larger, better-capitalized banks enjoying market power tend to be more profitable although the scale of the effect has also been affected by the crisis. This negative effect of the income structure is maintained in the case of both of banks with a more traditional income structure (with a large share of interest income) and banks with a larger share of non-interest income. In terms of profitability, the income structure is irrelevant during periods of expansion, but becomes important during recession, when the more traditional financial intermediation business makes it possible to soften the impact of the crisis on profitability. This result may be due to the negative impact the crisis has had on the activity of financial markets, and consequently in banking income associated with these activities (fees and commissions, dividends, trading income, capital gains, etc.). In the case of risk, banks with a more diversified income structure are higher risk and have a higher probability of insolvency. And this effect was bigger during the years of expansion. The higher capitalized banks with a larger share of lending on their balance sheets are riskier. In the case of banks with a greater share of traditional interest income, greater income diversification has no effect on the probability of insolvency, although it does increase the risk (in terms of volatility of profitability) but only during the expansion period, as it decreased it in the crisis. In the case of banks with a more diversified business, the effect of an increase in non-traditional income varied such that during the crisis banks with more diversified income have seen their probability of insolvency diminish. (…) The results for European banks show market power to have beneficial effects in terms of financial stability, as it has a negative*

effect on risk and the probability of insolvency. This effect was bigger during the expansion than the crisis. Nevertheless, for banks with a highly diversified income structure, market power does not affect risk, in contrast to what happens in the case of banks with a large share of interest income.", Maudos' results, particularly those obtained after 2008, seem to be in line with the trend observed in recent regulatory directives under the Basel II and III accords, namely higher capital requirements and more conservative risk policies, as well as with increasing market concentration through bank consolidation.

2.3.3. Risk-based pricing and profitability analysis

As already described in the sub-section about Regulatory Framework, risk plays a decisive role in the banking activity, particularly on profitability, capital allocation and the management of relationship with customers. So, banks use a risk-based approach to evaluate profitability of operations and make educated decisions. This analysis is performed using ratio that can be compared and tested, the most common being the Risk-Adjusted Return on Capital (RAROC). According to Klaassen and van Eeghen (2015), banks derive RAROC from the following formula:

$$RAROC = \frac{Revenues - Operating\ Costs - Expected\ Loss}{Risk\ Based\ Required\ Capital}$$

The formula shows that risk impacts return in two ways. First, through the value of expected loss (numerator) associated with lending, which is calculated accounting the probability of default, among other factors. Considering that credit risk is the main source of risk associated with the banking activity, the credit rating is a key input to calculate the RAROC. Second, through the Risk-Based Required Capital (denominator), which is directly derived from regulatory capital requirements under Basel II and III, already addressed in this literature review. The RAROC formula also takes the cost of funding and other operating costs into account, which are bank specific. For this reason, for an identical client, two independent banks may obtain different RAROCs.

The RAROC ratio can be used to evaluate the entire loan portfolio, or even the individual return of the relationship with a single client or a new deal. It can also help the bank decide, when given several options for capital allocation, which one will generate more returns. As outlined by the Basel Committee on Banking Supervision (2008), "*decisions on deals will be based on ex ante considerations with regard to expected RAROC in a pricetaking environment (leading to rejection*

of deals whose RAROC is below a given threshold) and on the proposal of a certain price (interest rate) to the customer in a price-setting environment. In both cases, decisions are driven by a floor (the minimum RAROC or minimum interest rate) computed according to the amount of economic capital allocated to the deal."

The RAROC indicator allows banks to assess whether the risks they are exposed to are appropriately compensated by the returns and enables comparisons between business units concerning their contribution for the organization. Furthermore, the indicator can also be used to analyse a loan deal, though testing the impact of a new loan on the RAROC of the bank.

2.4. Innovation in the financial sector

Exponential technology development, amplified by globalization and increasing intensifying international competition, as well as higher expectations from clients, have been creating additional challenges for financial service providers (Jaw, Lo, & Lin, 2010). This subsection aims to provide an overview about technological innovation in financial services and its impact in the financial system, as well as definitions of the most relevant terms, contextualizing the emergence and rise of fintech and, particularly, innovative Banking Relationship Management solutions.

First, it is important to define innovation. As highlighted by Gault (2018), the most used definition of innovation for academic purposes is the one provided by the OECD stating that the concept of innovation refers to *the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organization or external relations"*. Technological development has been one of the main drivers of innovation the financial system, giving birth to the new term "Fintech". Fintech is the conjunction of the words "Financial" and "Technology" and while originally used to describe technology used by established financial and consumer institutions, the term was expanded and now includes any technological innovation in the financial sector (Investopedia, n.d.-b). The emergence and rapid rise of fintech was enabled by several factors, such as technology development, imperfections and insufficiencies of the products and services offered by traditional banks. In a context where typical financial institutions shifted priorities to towards balance sheet cleansing and compliance with regulations while struggling with profitability issues, fintech companies tapped into the potential of underserved segments and offered solutions designed to

fulfil customers' needs (Anagnostopoulos, 2018; Jagtiani & Lemieux, 2018; Lee & Shin, 2018). Regulation was also a driving force for the development of fintech. The PSD framework opened the door of the payments sector, traditionally dominated by traditional banks, to non-banking institutions. Furthermore, increasingly complex and tight requirements under Basel III and Money Laundering Prevention created additional challenges for both companies and banks. The evolution of investment in fintech companies underlines the impact of fintech innovation. As highlighted by Accenture (2018), global investment in fintech ventures reached a record amount of 27,4 billion USD in 2017 (+18% YtD). Total investment between 2010 and 2017 amounted to approximately 100 billion USD. According to CB Insights (2018), venture capital investments in fintech companies continues to grow in 2018 and, illustrating the growing importance and dimension of the fintech phenomenon, there are 29 fintech unicorns[16] (as of June 2018).

2.4.1. Fintech Business Models

Innovative financial services change the way individuals and institutions handle their finance in many different forms, from mobile real-time payment services to sophisticated fraud detection systems. Building on the work of Lee and Shin (2018) and Anagnostopoulos (2018) complemented with the insights about Regtechs and Treasury Management provided by Deloitte (2017, 2018), 8 main models of fintech were identified: Payment services, Wealth Management, Crowdfunding, Lending, Capital Markets, Insurance Services, Regtech and Treasury Management. See table 2 for a brief description of each model. It should be noted, however, that classifying fintech models into rigid categories may be inaccurate as fintech solutions sometimes integrate features from other models. For example, Vallstein is a treasury management company fintech focused on Banking Relationship Optimization that incorporates regulatory requirements and risk evaluation methods into its solution. In other words, it offers a treasury management solution featuring regtech elements. Also, the development of the blockchain technology and cryptocurrencies such as Bitcoin also impact several models such as payment services (through payments validated by Blockchain and/or conducted in cryptocurrencies) or Capital Markets (through cryptocurrency trading).

[16] When used in the context of business the term "unicorn" describes a company with a valuation of at least 1 billion USD.

Model	Description	Example companies
Payment Services	Payment fintechs include mobile wallets, peer-to-peer (P2P), mobile payments, foreign exchange and remittances, real-time payments, and digital currency management solutions. These solutions compete with traditional banks by delivering a faster, cheaper and more user-friendly experience, enabling multi-channel management of payments.	MBWay, Paypal, Venmo, Google Wallet.
Wealth Management	Using algorithms and data analytics to profile investors and robo-advisors for interacting with customers, these services provide financial advice at a considerably lower cost compared to traditional institutions. This light cost-structure allows for attractive returns to users. Also, these solutions offer a user-friendly experience, accessible from multiple platforms, charging low management fees and requiring low investment minimums.	Betterment, Wealthfront, Motif, Folio.
Crowdfunding	Crowdfunding fintechs facilitate the interaction between people or entities in need of funds and other parties willing to support them. The fintech company is usually remunerated by charging fees on contributions. There are two types of crowdfunding: donation-based and equity-based. Donation-based crowdfunding specializes in non-profit causes, with the donor being rewarded with some kind of non-economic compensation (recognition, for example). Equity based crowdfunding rewards contributors with a share of the supported venture and is a valid alternative source of capital to small businesses, in a context of high capital requirements on traditional loans.	GoFundMe, GiveForward, Kickstarter, CrowdFunder.
Lending	Lending fintechs allow individuals and companies to lend and borrow from each other. Similarly, to the crowdfunding model, the company operates as an intermediary between lenders and companies and borrowers, charging a fee on loans. These services compete with traditional lending but face no regulatory capital requirements, because as intermediaries they do not assume any risk. Lending fintechs apply sophisticated risk assessment models and algorithms to automatically evaluate creditworthiness of borrowers, providing a straightforward and much faster experience comparing to traditional lenders. Also, because of a lower cost structure, fintech lenders can offer competitive pricing. However, they rely on external funding (the investors' money) to lend, so they must offer attractive returns.	Lending club, Prosper, SoFi, Zopa, RateSetter, Raize.
Capital Markets	Fintech companies focused on the capital markets field operate in areas such as investment, trading, foreign exchange, risk management and research. Capital Market fintechs are capturing market share in areas traditionally dominated by banks, such as trading (stocks, commodities and other) and foreign exchange. Fintechs operating in these areas offering real time data, user-friendly interfaces that integrate with multiple platforms, while allowing for knowledge sharing between investors and traders. They feature several payment methods for both individuals and companies and have lower costs due to a lighter structure compared to traditional financial institutions.	Robinhood, eToro, Magna, Estimize, Xoom.

Insurance Services	Also referred to as "insurtech", insurance fintech solutions streamline the relationship between insurers and customers. Using data analytics and risk assessment tools, they provide efficient profiling of clients, both on a market segmenting and risk evaluation perspective. They also enable dematerialized, user-friendly management of bills and documentation.	Censio, CoverFox, The Zebra, Sureify Labs, The Ladder.
Regtechs	Increasingly complex regulatory challenges such as minimum capital requirements, money laundering and fraud prevention or the processing of previously ignored sources of risk, were a factor of disruption in the financial sector and created a niche for Regtech companies to operate. These companies provide solutions to assist both banks and regulators in regulatory reporting, risk management, identity management & control, compliance and transaction monitoring. Using complex evaluation models and big data analytics, banks and regulators are able to fulfil their tasks in a much more efficient, safer and reliable way.	Feedzai, Signzy, Encompass, Regis-tr, Ayasdi, IdentityMind,
Treasury Management	Treasury management fintech solutions offer technology driven tools that integrate with accounting and banking systems to make treasury management tasks more efficient, and reliable, reducing costs and mitigating operational and fraud risks. To be discussed in more detail further in this subsection.	Cashforce, Redbridge, Vallstein, Oracle Treasury, Finastra.

Table 2: Description of the different fintech business models. Own author's compilation from Deloitte (2017, 2018); Anagnostopoulos (2018); Lee and Shin (2018)

2.4.2. Innovation in Treasury Management

Innovation in treasury management practices is a driver of change in bank-firm relationships, in a context of increasingly challenging business environments and risks, amplified by globalization and technological developments. Growth and internationalization increase the complexity of the treasury function, as organizations must deal with more bank relationships, currencies, and new risks associated with new geographies. Also, competition drives demand for efficiency and management functions cannot afford to be cost centres only. In such context, the treasury function is becoming more strategically important and required to add value beyond risk management and plain vanilla administrative tasks. In survey conducted by Deloitte (2017), treasury departments are being demanded to improve efficiency in the organization and provide business support. This trend is illustrated by the results obtained in the mentioned survey and shown in Figure 5.

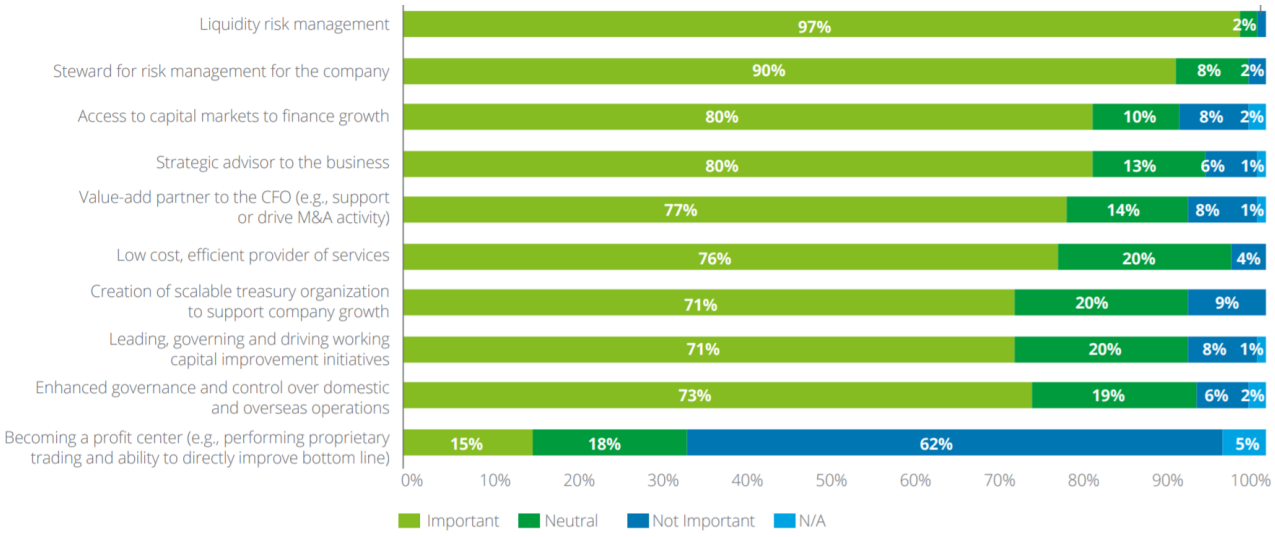


Figure 5: CFO mandates and their strategic importance for the organization. Reprinted from Global Corporate Treasury Survey 2017, by Deloitte (2017).

In a recent report about treasury management systems, Ernst & Young (2018) identified four main factors influencing technological innovation of treasury management: (i) Changing regulatory, tax and accounting frameworks; (ii) Organizational development; (iii) demand for efficiency and (iv) technology development and requirements. See figure 6 for an overview of the main identified forces.

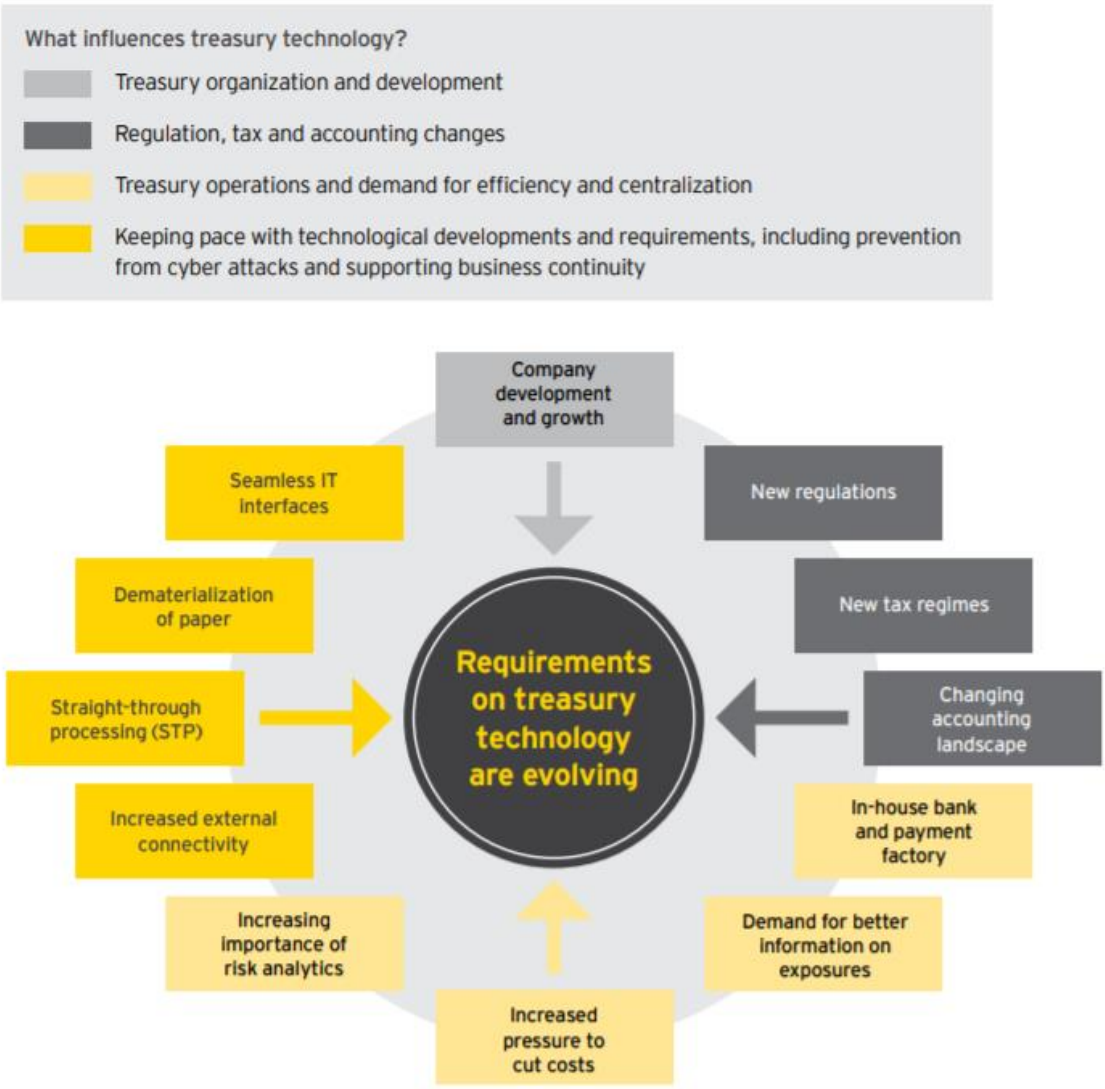


Figure 6: Factors influencing the technological development of Treasury Management. Reprinted from Treasury Management Systems Overview, by Ernst & Young (2018).

Treasury management fintech allows for the processing massive of amounts of information from multiple sources, such as a rising number of banking transactions and relationships, more sophisticated payment services, currency and interest rate market fluctuations, evolution of counterparty risk or changes in working capital needs. To factor in all these inputs, seamless integration with banking, payment, risk management and other platforms is needed. This interconnection between systems creates demand for the technological innovation and development of all agents. For example, if retail customers use new fintech payment services, the retailer treasury management system must evolve to accept those payments. Furthermore, as treasury services process banking transactions data, corporate banking platforms must also improve

technologically to enable integration with treasury systems and report data in the specified formats[17] (Ernst & Young, 2018).

2.4.3. Cooperation between banks and fintech companies

The use of fintech by counterparties and competition from fintech start-up companies offering services in sectors traditionally dominated by banks, such as payments and lending, created pressure for traditional banks to adapt and improve their technological capabilities as well. The remarkable growth of fintech companies and the disruptive nature of their value propositions, amplified by a context of fragility in the banking sector, led the market to expect a very negative impact in growth and profitability of traditional banking business. In fact, in a survey conducted by PwC (2016), most (83%) of responding financial institutions executives expected losing market share to fintech start-ups, with forecasted losses amounting to 20% of business. This threat forced a response from banks, and instead of the destruction of traditional banking business models, the market has witnessed the establishment of cooperating partnerships between banks and fintech companies, banks supporting the development of fintech and the acquisition of fintech companies by large banks (CB Insights, 2018a; Ernst & Young, 2017). Drasch, Schweizer and Urbach (2018) identified six models of cooperation between banks and fintech companies:

- Invest in fintechs to form an alliance and access the fintech ecosystem;
- Acquire and integrate channel solutions and interaction platform innovation;
- Innovate lending core banking systems to optimize bank-to-customer processes;
- Access investment markets by providing banking services to fintechs;
- Cross-product services to innovate bank-to-customer processes in bank ecosystems;
- Early-stage cooperation to access technology

The identified models suggest that, by cooperating with fintech companies, banks seek technical capabilities, organizational competences, network connections and access to customers that are exclusive to fintech companies. This behaviour is in line with the findings of a survey conducted by The Economist Intelligence Unit (2015) suggesting that banks and fintech start-ups actually complement each other, as one's strengths matches the other's weaknesses and vice-versa. In this line of thought, the large and inflexible structure, outdated legacy systems and lack of digital competencies exhibited by large banks prevents them from competing with fintech start-ups user-

[17] See sub-section 2.1.5 about standard harmonization initiatives such as PSD2 and TWIST.

friendly, flexible and fast approach. On the other hand, banks have the scale, regulatory compliance, reputation and clients' base that fintech start-ups do not yet possess. As such, although competing in the same environment, cooperation between banks and fintech companies is a logical strategy as both sides have something to gain. Figure 7 and 8 illustrate this trend by showing the largest fintech portfolios owned by banks in Europe (7) and USA (8)

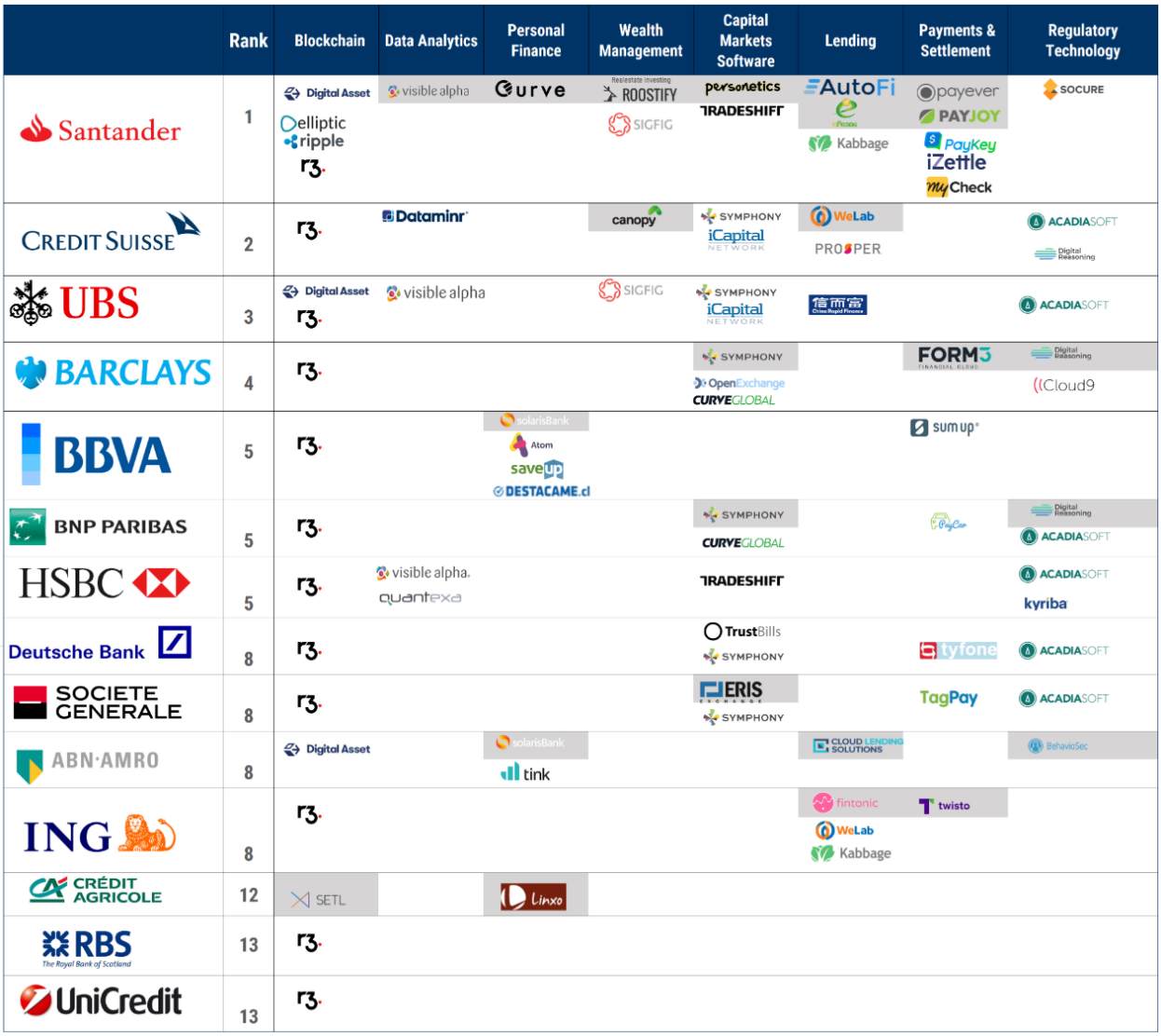


Figure 7: Top 14 European banks fintech portfolios ranked by assets. Reprinted from (CB Insights, 2018b). Retrieved from https://www.cbinsights.com/research/europe-bank-fintech-startup-investments/

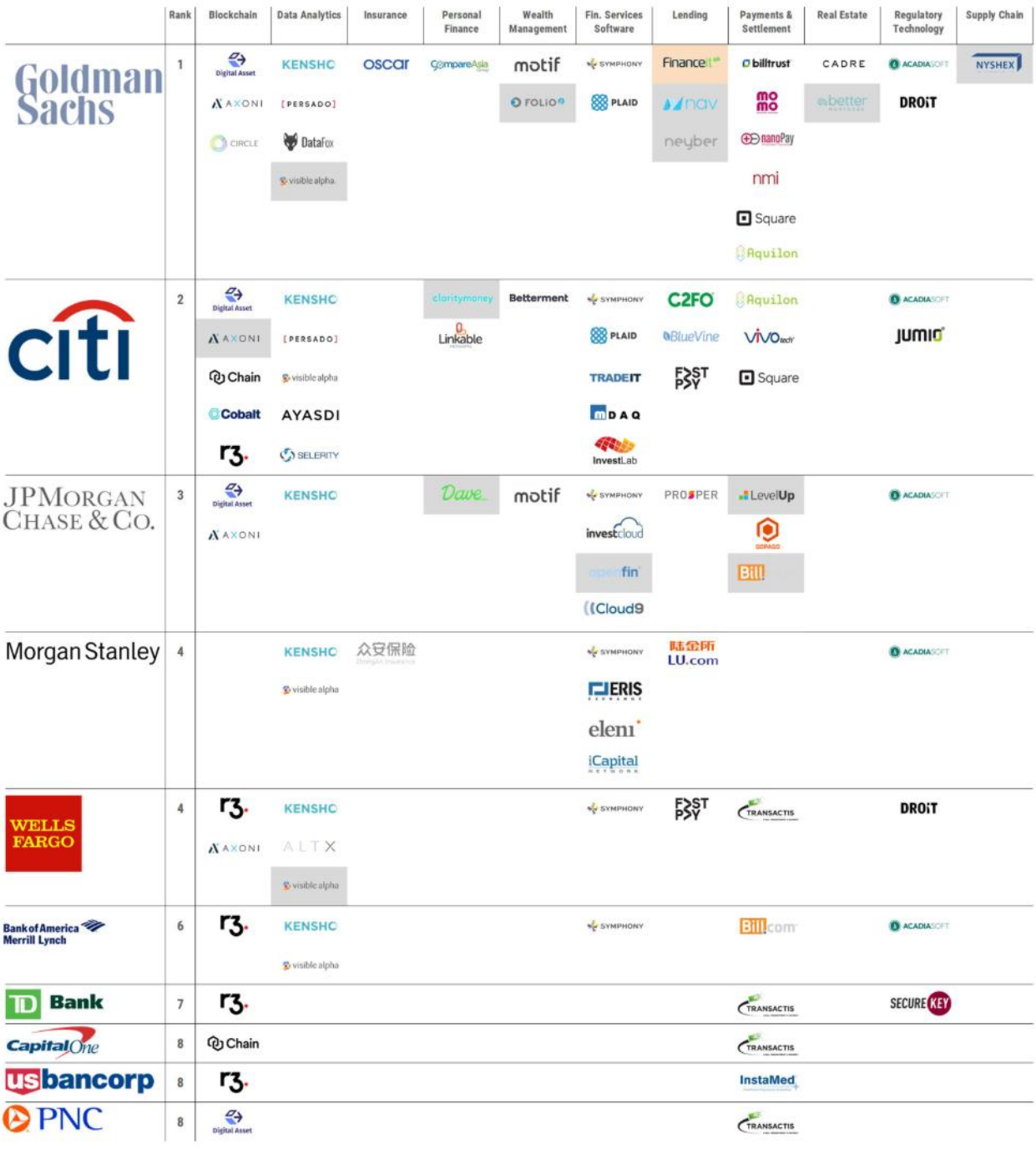


Figure 8: Top 10 US banks fintech portfolios ranked by assets. Reprinted from (CB Insights, 2018c). Retrieved from https://www.cbinsights.com/research/fintech-investments-top-us-banks/

2.5. Hypothesis statement

The literature review provided many important insights about the factors shaping the financial system, particularly in what concerns bank-firm relationships. Several factors driving changes in those dynamics were identified: Regulatory reforms, increasing complexity of decision-making from banks and technological development. Taking those factors into account, and considering:

i. The increasing complexity of the banking activity due to stricter regulatory capital requirements, with the connection between risk and profitability assuming a very important role in the decision-making process of banks concerning credit exposures and price;
ii. The increasingly high levels of disclosure of internal information required from banks, under the Market Discipline Pillar of the Basel Accords;
iii. The significant level of effort employed by national and supra-national authorities towards financial integration and harmonization of standards across the financial system;
iv. The technological development leading to the emergence of fintech solutions that incorporate changes in regulatory reforms and big data analytics, contributing to empower CFOs with information,

The following hypothesis is hereby stated:

Hypothesis H1: CFOs have an accurate view of their company's bargaining power against banks.

3. AN OVERVIEW OF THE PORTUGUESE MARKET

As mentioned in the literature review, to study the dynamics of Banking Relationship Management it is necessary to understand the interactions between the different agents of the ecosystem. The review was structured based on 4 different types of agents: Regulators, Companies, Banks, and Fintechs. As it will be outlined in the Methodology Section, it was decided to focus the analysis on the interaction between a Portuguese bank and a Portuguese company. This section aims to provide an overview of the Portuguese market and offer descriptive background information about the studied environment. The objective is to understand the positioning of the chosen subjects in the context of the market and their relevance to the study. This section is structured as follows: First, a summary about the performance and outlook of the Portuguese economy. Second, a description of the corporate landscape in Portugal, featuring the distribution of companies by size, industry and geographical location, as well as the evolution of aggregated Key Performance Indicators (KPIs). Third, an overview of the Portuguese banking sector, featuring

a brief outline of recent relevant events, a market share analysis and the evolution of aggregated KPIs of the sector.

3.1. The Portuguese Economy – Performance and Outlook

Portugal is the World's 46th largest economy and ranks 14th among the European Union countries (European Commission, 2018; World Bank, 2018). Estimated Total Gross Domestic Product (GDP) for 2017 amounts to 194.614 million euros, and estimated GDP per capita to 18.900 euros. Both figures are presented in terms of current prices. According to the Economic Bulletin of June 2018, by Bank of Portugal (2018), growth is estimated to reach 2,3% in 2018, finally recovering to the level exhibited before the 2008 crisis. According to the same source the Portuguese economy should benefit from a favourable economic and financial context. External demand for Portuguese goods and services is expected to reach 4%; the accommodative monetary policy in place in the Eurozone, although being progressively smoothed, should ensure favourable monetary and financial conditions; and financing conditions of economic agents should remain stable.

Reflecting this favourable environment, Moody's (2018) upgraded the Portuguese rating to Baa3 from Ba1, meaning it has finally reached an investment-grade level, with a stable outlook. According to the rating update announcement, "*the drivers of the change in the rating to Baa3 are:*

1. Portugal's elevated general government debt has moved to a sustainable, albeit gradual, downward trend, with limited risks of reversal; and

2. The broadening of Portugal's growth drivers and a structurally improved external position has increased economic resilience.

The stable outlook on Portugal's Baa3 rating reflects a balance of risks at the higher rating level. While a continuation of the favourable external conditions could support growth in excess of Moody's forecasts, the eventual moderation in growth prospects reflects ongoing structural constraints in the economy. Furthermore, the achievement of significantly higher primary budget surpluses which support an accelerated decline in the debt burden will face headwinds from ongoing pressure to increase public wages and recover the significant cuts in capital expenditure."

See figure 9 for additional data on the Portuguese economy.

	Weights 2017	EB June 2018				Projection March 2018			
		2017	2018 (p)	2019 (p)	2020 (p)	2017	2018 (p)	2019 (p)	2020 (p)
Gross domestic product	100.0	2.7	2.3	1.9	1.7	2.7	2.3	1.9	1.7
Private consumption	65.1	2.3	2.2	1.9	1.7	2.2	2.1	1.9	1.7
Public consumption	17.6	-0.2	0.8	0.1	0.2	0.1	0.5	0.4	0.5
Gross fixed capital formation	16.2	9.1	5.8	5.5	5.4	9.0	6.5	5.6	5.4
Domestic demand	99.0	2.8	2.5	2.2	2.1	2.8	2.7	2.3	2.2
Exports	43.1	7.8	5.5	4.6	4.3	7.9	7.2	4.8	4.2
Imports	42.1	7.9	5.7	5.0	5.0	7.9	7.7	5.4	5.0
Contribution to GDP growth, net of imports (in p.p.) (a)									
Domestic demand		1.2	1.1	1.0	0.9	1.2	1.1	1.1	1.0
Exports		1.5	1.2	0.9	0.8	1.5	1.2	0.8	0.7
Employment (b)		3.3	2.6	1.2	0.9	3.3	1.9	1.3	0.9
Unemployment rate		8.9	7.2	6.2	5.6	8.9	7.3	6.3	5.6
Current plus capital account (% of GDP)		1.4	1.8	1.8	1.8	1.4	2.1	2.1	1.9
Trade balance (% of GDP)		1.8	0.9	1.0	0.9	1.8	1.5	1.6	1.3
Harmonized index of consumer prices		1.6	1.4	1.5	1.4	1.6	1.2	1.4	1.5

Sources: Statistics Portugal and Banco de Portugal.Notes: (p) – projected, (p.p.) – percentage points. For each aggregate, this table shows the projection corresponding to the most likely value, conditional on the set of assumptions considered. (a) The demand aggregates net of imports are obtained by subtracting an estimate of the imports needed to meet each component. For more information, see the Box entitled "The role of domestic demand and exports in economic activity developments in Portugal", in the June 2014 issue of the *Economic Bulletin*. (b) Total employment, in number of persons according to the national accounts concept.

Figure 9: GDP projections over the period 2018-2020, expressed in percentual annual rate of change. Reprinted from Economic Bulletin June 2018, by Bank of Portugal (2018).

3.2. The Portuguese Corporate Landscape

According to Statistics Portugal (2018), in 2016 the Portuguese non-financial corporate sector (NFCS) concentrated:

- 98,5% of total number of companies;
- 93,1% of total turnover;
- 97,5% of total Staff Headcount
- 89,4% of total Gross Value Added (GVA);

Table 3 shows the contribution of the both Financial and Non-Financial sectors in the Portuguese Economy:

Category	Number of companies		Turnover		Staff Headcount		Gross Value Added	
	#	%	*million euros*	%	#	%	*million euros*	%
Non-Financial	1,196,102	98.5%	340,480	93.1%	3,704,740	97.5%	85,410	89.4%
Financial	18,104	1.5%	25,326	6.9%	95,370	2.5%	10,087	10.6%
Total	1,214,206	100.0%	365,806	100.0%	3,800,110	100.0%	95,497	100.0%

Table 3: Number, Turnover, Staff Headcount and Gross Value Added of Portuguese Financial and Non-Financial Companies in 2016. Source: Author's own computation of data presented in "Empresas em Portugal 2016", by Statistics Portugal (2018a).

This subsection aims to provide a snapshot of the Portuguese non-financial corporate sector by showing the distribution of (i) number of companies; (ii) turnover; (iii) staff headcount; and (iv) gross value added (GVA), divided by (a) size category; (b) activity sector; and (c) NUTS 2 region[18].

3.2.1. Distribution by Size Category

According to the European Commission (no date), Small and medium-sized enterprises (SMEs) are defined according to the following criteria:

1. Number of employees
2. Turnover or Total Assets

Table 4 summarizes the defined thresholds:

Category	**# employees**	**Turnover** (million euros)	or **Total Assets** (million euros)
Medium	< 250	≤ 50	≤ € 43
Small	< 50	≤ 10	≤ € 10
Micro	< 10	≤ 2	≤ € 2

Table 4: Criteria for the definition of Micro, Small and Medium Enterprises. Source: European Commission (no date)

Furthermore, the European Commission added 2 additional layers for companies that do not meet the criteria for the definition of SME but have less than 3.000 employees:

- **Mid-Cap Enterprise**: Non-SME with less than 3.000 employees;
- **Small Mid-Cap Enterprise**: Non-SME with less than 500 employees.

Large enterprises are all those that do not fall under the mentioned criteria. Banks usually segment corporate clients according to the same criteria and divide them into three main business units:

- **Large enterprises**: Corporate banking units;

[18] The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU for (i) statistical purposes and (ii) socio-economic analysis. NUTS 2 divides the territory into basic regions for the application of regional policies. The territory can be further divided into NUTS 3 smaller regions (European Commission, n.d.-a)

- **Small and Medium**: SMEs units
- **Micro:** Retail units

Large Enterprises are often subject to additional segmentation according to their activity sector and further divided into different cluster sub-units, inside the Corporate Banking Unit. Small Mid-Caps and Mid-Caps with turnover higher than the limit defined by the concept of SME are usually integrated in Corporate Banking Units[19].

As shown in Figure 10, in 2016 SMEs accounted for 99,9% of the number of companies in the Portuguese NFCS, with the Micro category capturing the largest share with 96,2%. The turnover generated by Large Enterprises represented 39,3% of the total turnover of the Portuguese NFCS. Among the SMEs, the contribution of each size category is similar, between 19,3% and 21,6%.

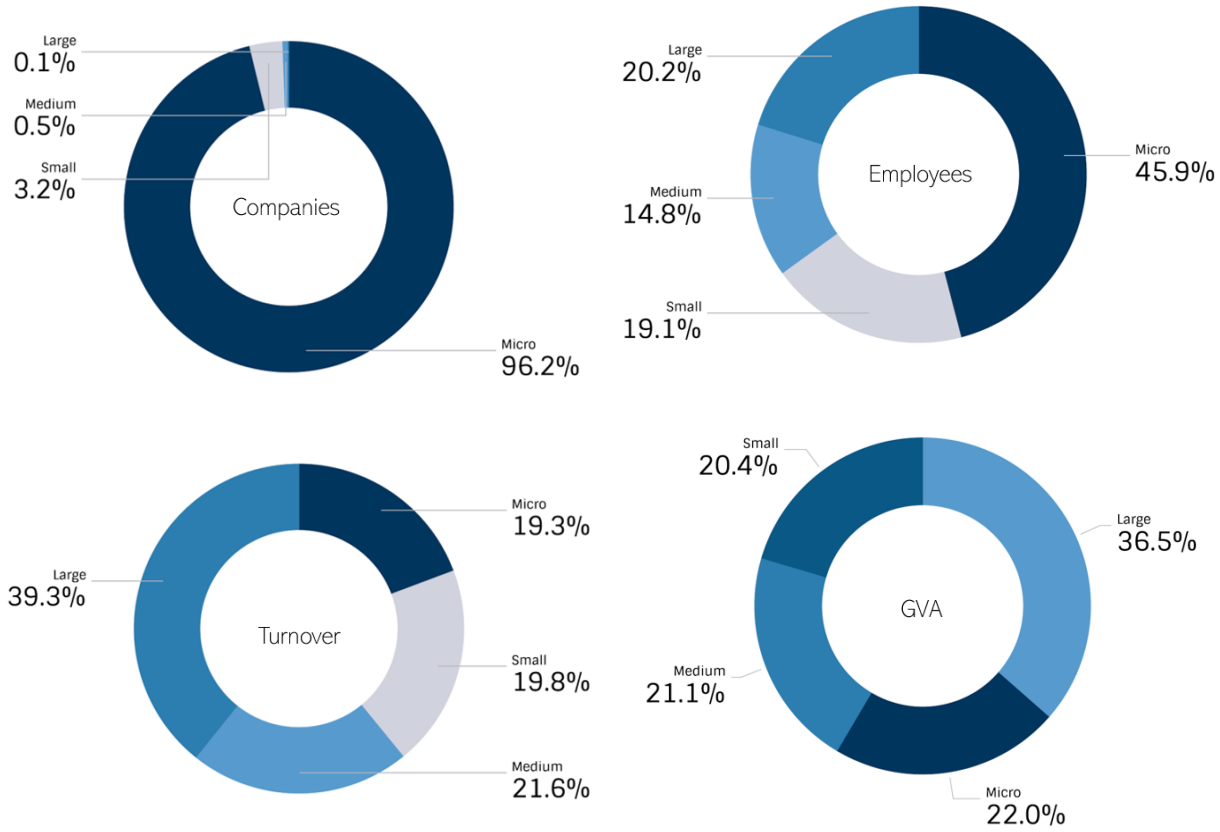


Figure 10: The Portuguese Non-Financial Percentual distribution of Number of Companies, Turnover, Staff Headcount and Gross Value-Added of the Portuguese Non-Financial Corporate Sector, by Size Category. Source: Computed from the data shown in Appendix A

[19] Insights obtained during an interview with a senior director of a Portuguese bank.

Concerning Staff Headcount, the Micro category concentrates nearly half of the employment with 45,9% and Small enterprises account for 19,1%. It should be noted that both Large and Medium enterprises exhibit shares in total employment in the Portuguese NFCS that are lower than their share of Turnover (20,2% vs 39,3% and 14,8% vs 21,6%, respectively), indicating a higher turnover/employee ratio in Larger and Medium Companies. The opposite pattern is observed in the Micro category (45,9% vs 19,3%). Concerning GVA, Large Enterprises concentrate 36,5% and the rest is split in similar shares between remaining categories. Similarly, Large and Medium enterprises exhibit clearly higher contributions to Total GVA than their share of Total Employment (36,5% vs 20,2% and 20,4% vs 14,8%), while the Micro category shows the opposite behaviour (22,0% vs 45,9%).

3.2.2. Distribution by Sector of Activity

The following analysis considerers the activity sectors defined by Statistics Portugal as the CAE rev.3 standards[20], which were inspired in the NACE Rev.2 system developed by the European Commission[21]. The available data is presented at section level. However, the sections are very broad, meaning that a large number of very different industries can be included in a single section. For example, section *G - Wholesale and retail trade; repair of motor vehicles and motorcycles* includes both car repair services and grocery stores. A deeper analysis of the regions is required for a more detailed discussion. The sections are identified in table 5.

As shown in Figure 11, in 2016 the section "Wholesale and retail trade; Repair of motor vehicles" is the most representative in terms of number of companies with 18,4% of the total Portuguese NFCS. The mentioned section, along with "Administrative Activities and Support Services", "Agriculture, Livestock, Hunting, Forestry and Fishing" and "Consulting, Scientific and Technical Activities and Similar" account for 53,3% of the total number of companies.

[20] The complete CAE (rev. 3) framework is available here: www.ine.pt/ine_novidades/semin/cae/CAE_REV_3.pdf
[21] The complete NACE (rev. 2) framework is available here: www.ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

Section	Activity sector
A	Agriculture, Livestock, Hunting, Foresty and Fishing
B	Extractive Industries
C	Manufacturing
D	Electricity, Gas, Steam, Hot or Chilled Water, Air Conditioning Supply
E	Water Supply; Sewerage, Waste Management and Remediation Activities
F	Construction
G	Wholesale and retail trade; Repair of motor vehicles
H	Transports and Storage
I	Accommodation, Restaurants and similar
J	Information and Communication Activities
L	Real Estate Activities
M	Consulting, Scientific and Technical Activities and Similar
N	Administrative Activities and Support Services
P	Education and Training
Q	Human Health and Social Work Activities
R	Artistic, Cultural, Sport and Other Recreative Activities
S	Other Service Activities

Table 5: Sections of the CAE rev. 3 System. Translated from Classificação Portuguesa das Actividades Económicas Rev.3, by Statistics Portugal (2007).

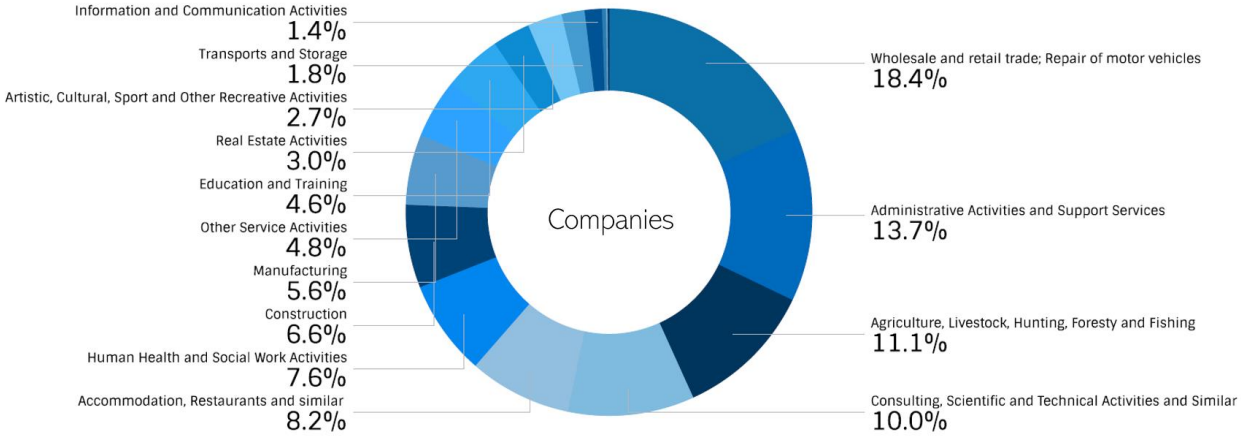


Figure 11: Percentual distribution of Number of Companies of the Portuguese Non-Financial Corporate Sector, by Sector of Activity. Source: Computed from the data shown in Appendix A

As shown in Figure 12, in 2016 the section "Wholesale and retail trade; Repair of motor vehicles" was again the most representative in terms of Employment with 20,2% of the total Portuguese NFCS. The mentioned section, along with "Manufacturing" and "Administrative Activities and Support Services" account for 50,8% of the total Staff Headcount.

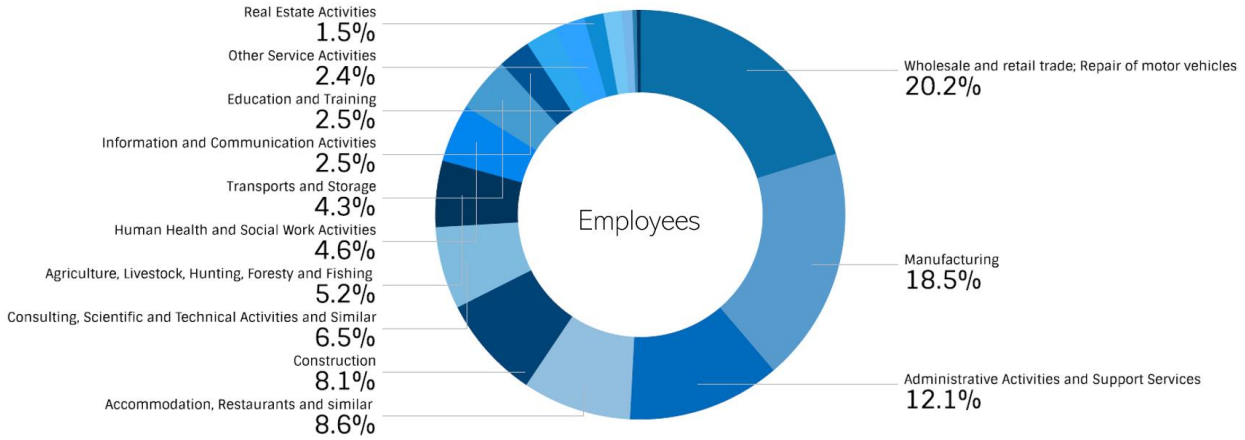


Figure 12: Percentual distribution of Staff Headcount of the Portuguese Non-Financial Corporate Sector, by Sector of Activity. Source: Computed from the data shown in Appendix A

The distribution of Turnover exhibits a higher concentration. In 2016, 61,7% of the turnover generated in the Portuguese NFCS was concentrated in sections "Wholesale and retail trade; Repair of motor vehicles" (37,6%) and "Manufacturing" (24,1%). See figure 13 for a breakdown of the distribution. The remaining section hold much lower shares, with section "Electricity, Gas, Steam, Hot or Chilled Water, Air Conditioning Supply" ranking 3rd with 6,0%.

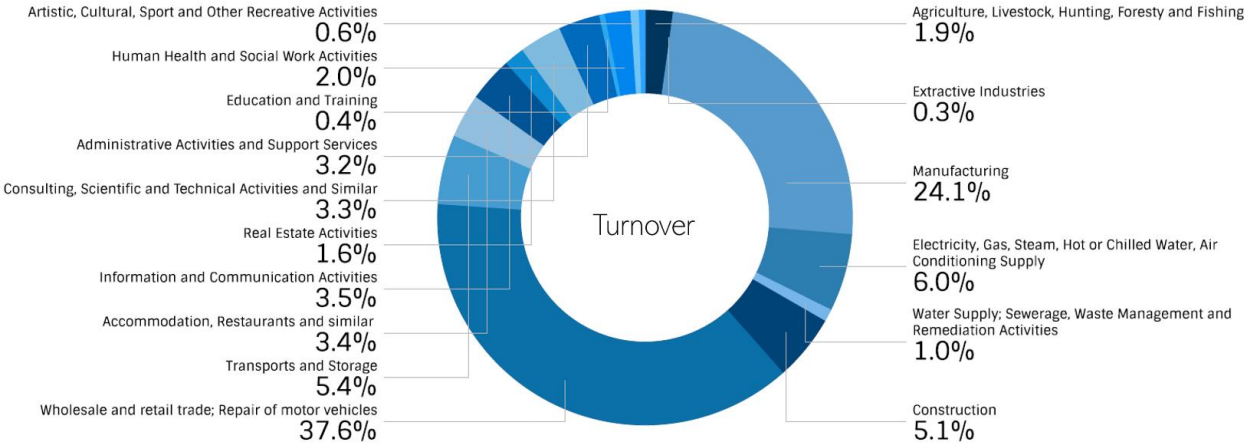


Figure 13: Percentual distribution of Turnover of the Portuguese Non-Financial Corporate Sector, by Sector of Activity. Source: Computed from the data shown in Appendix A

Similarly, 43,0% of the GVA generated in the Portuguese NFCS was also concentrated in sections "Manufacturing" (23,6%) and "Wholesale and retail trade; Repair of motor vehicles" (19,4%), with the remaining sections holding much lower shares. "Transports and storage" ranks 3rd with 7,8%. See figure14 for a breakdown of the distribution.

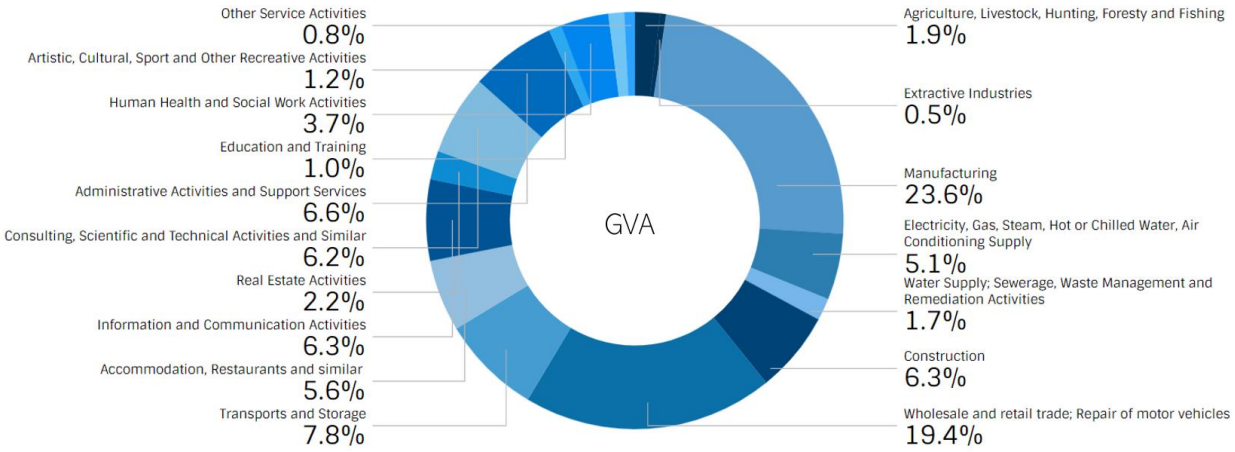


Figure 14: Percentual distribution of Turnover of the Portuguese Non-Financial Corporate Sector, by Sector of Activity. Source: Computed from the data shown in Appendix A

3.2.3. By NUTS 2 Region

Under the NUTS 2 classification system the Portuguese territory is divided into 7 regions: North, Centre, Lisbon Metropolitan Area (further in this subsection referred to as "Lisbon", for simplicity), Alentejo, Algarve, Madeira and Azores (European Commission, n.d.-a).

The North (33,9%), Centre (28,1%) and Lisbon (21,3%) regions together account for 83,3% of total number of companies. The same regions account for 87.0% of total employment, however Lisbon (34,5%) has the largest share, which is higher than its share of total population[22] (27,4%). The Centre region concentrates the largest share of turnover (44,9%), with the North region ranking 2nd with 28,8%. The distribution of GVA follows a very similar pattern. The observed results (large concentration of turnover and GVA around the Centre region) may be explained for the type of companies there, such as Manufacturing. Similarly, the specialization of other regions in industries such as Tourism or Agriculture may help explain the results, however a deeper analysis is needed to draw further conclusions. See figure15 for a breakdown of the distribution.

[22] See Statistics Portugal (2018c)

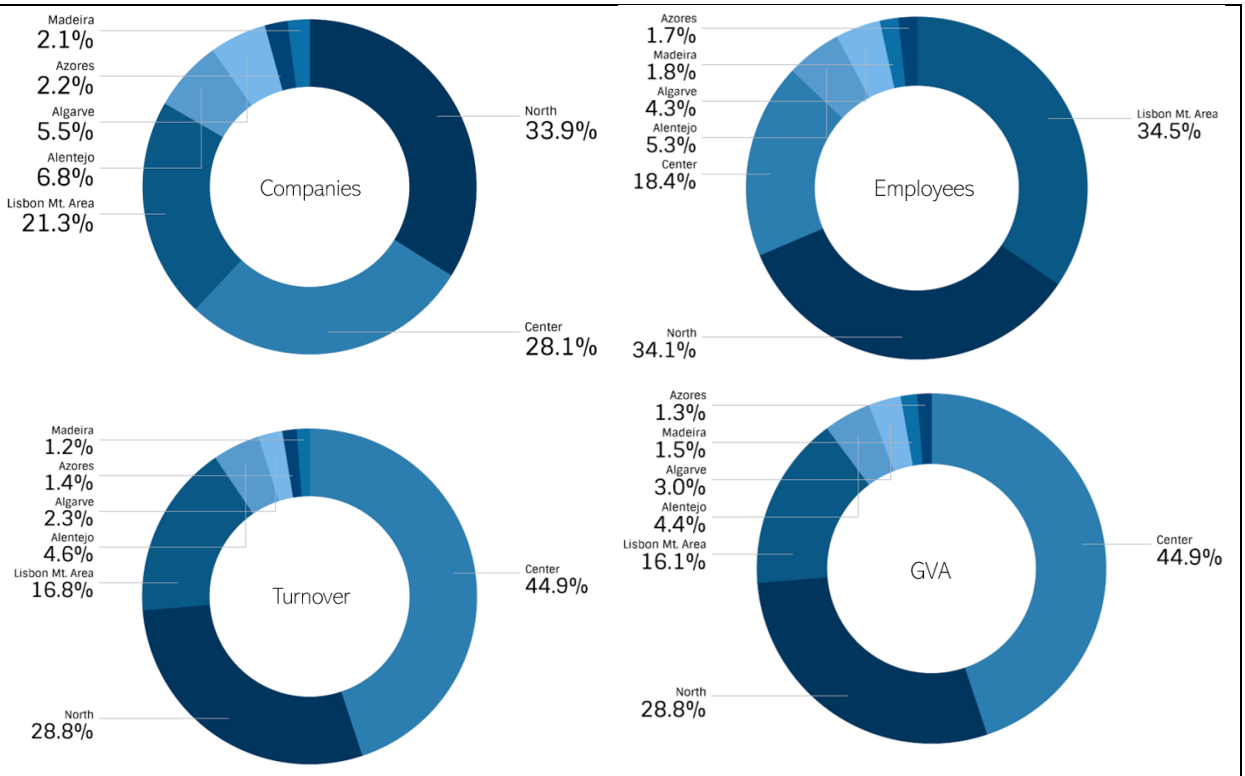


Figure 15: Percentual distribution of Turnover of the Portuguese Non-Financial Corporate Sector, by NUTS 2 Region. Source: Computed from the data shown in Appendix A

3.3. An overview of the Portuguese financial sector

3.3.1. Recent Events

The last global financial crisis had a huge impact in the financial systems worldwide. Since the failure of Lehman Brothers, the landscape of the banking sector changed drastically with the failure of several banks and amid a large number of Mergers and Acquisitions between remaining banks, in line with the trend towards concentration described in the literature review. In the particular case of the Portuguese financial system, especially after the start of the Financial Assistance Programme in 2011[23], the Portuguese banking sector faced a series of recapitalizations, resolutions and acquisitions. The most impactful, given the amount of public money injected by the Government and the mediatic notoriety of the entire process was the resolution of Banco

[23] Following serious macroeconomic imbalances and severe financial distress of national accounts, the Portuguese Government requested international financial assistance in 2011. A task force formed by member of the International Monetary Fund, the European Commission and the European Central Bank was formed to negotiate and implement the necessary structural reforms, which included corrective budgetary measures known as "austerity measures". For more information see, for example, Bank of Portugal (no date).

Espírito Santo in 2014. This event is worth to mention because this bank, despite not being the largest in the market, has a business model focused in Corporate Banking, particularly the SMEs segment. Figure 16 summarizes the most relevant events since the beginning of 2012.

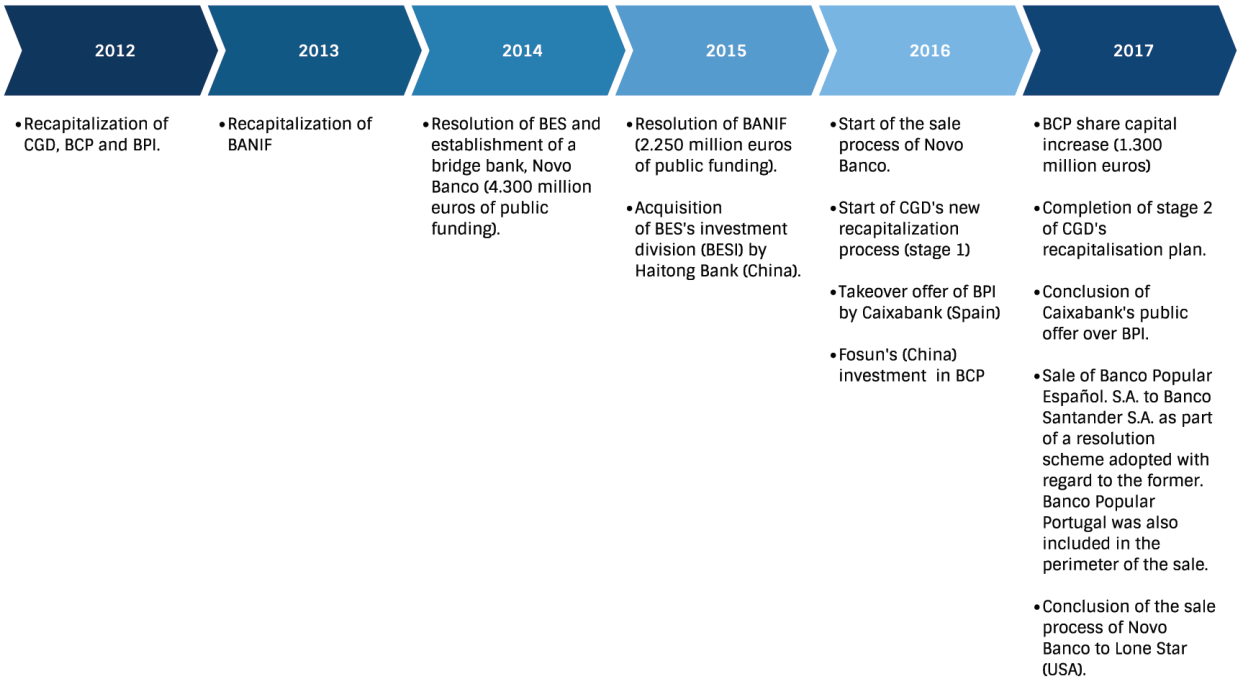


Figure 16: The Portuguese Financial System – Landmarks and relevant events between 2012 and 2017. Adapted from "Overview of the Portuguese Banking Sector", by Associação Portuguesa de Bancos (2017).

3.3.2. Market Share Analysis

In 2017, the 6 larger banks concentrated 90,3% of the market in terms of Total Assets and 92,6% in terms of Loans to Clients. The level of concentration has been increasing since 2013, when the same banks held market shares of 86,0% in Total Assets and 88,3% in terms of Loans to Clients. Caixa Geral de Depósitos (CGD), the State Bank, remains the largest Portuguese bank with market shares of 26,3% (Total Assets) and 25,2% (Loans to Clients). BES / Novo Banco lost significant share (from 18,1% to 14,7% in Total Assets; from 17,0% to 11,8% in Loans to Clients), which illustrates the impact of its resolution process in 2014. Santander Totta, on the other hand, significantly increased its market share (from 9,3% to 15,0% in Total Assets; from 9,6% to 18,1% in Loans to Clients). This increase reflects the absorption of Banif after the latter's resolution in 2015, and Banco Popular in 2017. This analysis was based on data retrieved from Associação Portuguesa de Bancos, which maintains a database with the consolidated accounts of its members. However, the database is limited because it does not include branches of international banks such

as Banco Popular (absorbed by Santander in 2017) or Deutsche Bank, for example. Moreover, the data does not divide Loans to Clients by segment. For the purpose of this paper it would have been relevant to analyse the evolution of market shares by segment, particularly in the corporate banking segment. Figure 17 provides a comparative perspective of the market shares in the Portuguese banking system between 2013 and 2017.

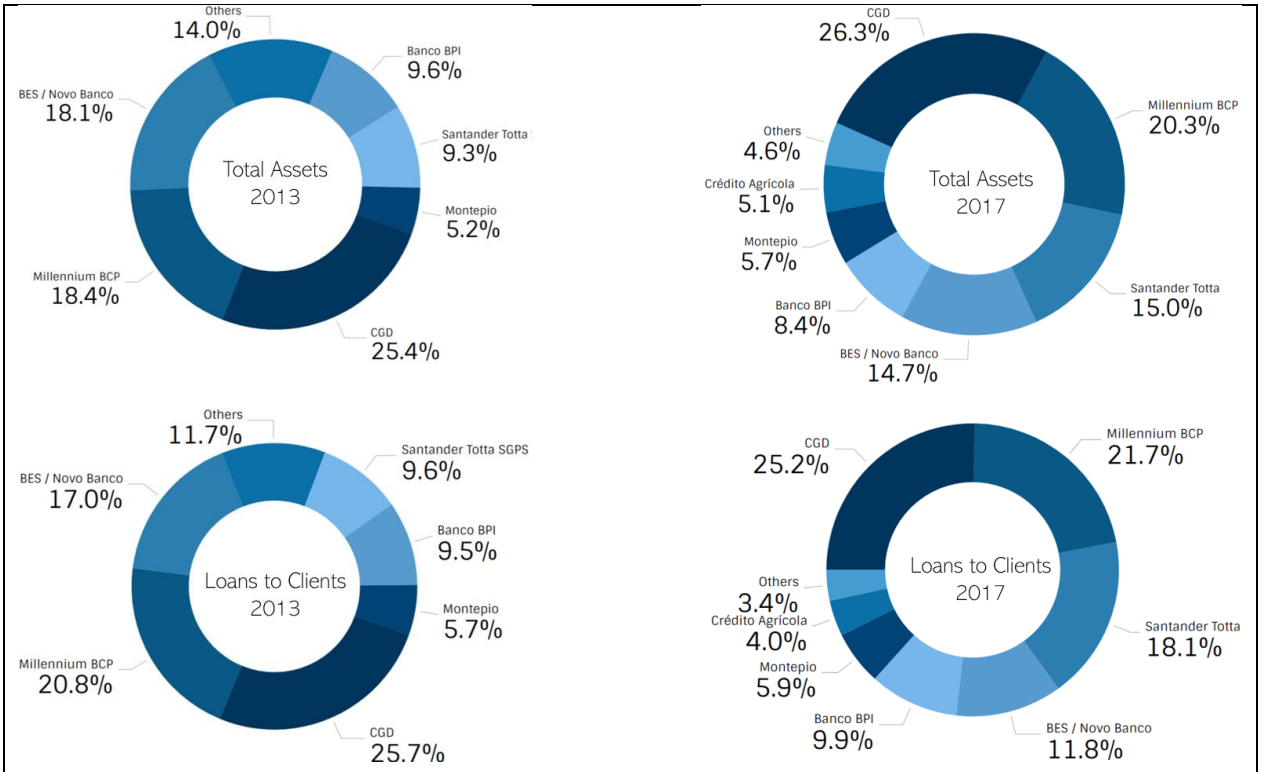


Figure 17: The Portuguese Banking System – Comparison of market shares between 2013 and 2017 in terms of Total Assets and Loans to Clients. Source: Computed from the data shown in Appendix B

3.3.3. Main Performance Indicators

According to the information presented by Associação Portuguesa de Bancos (2017), Total Assets decreased 1.1% in 2017 to 381.273 million euros, nonetheless a much lower decrease than that observed in previous years. This behaviour can be largely explained by a decrease in Loans to Customers and other assets, which was partially offset by an increase in the total amount of of debt securities and cash and deposits in central banks. The NPL ratio kept decreasing, a pattern observed in most segments but particularly among Non-Financial Companies. The Non-Performing Loans (NPL) ratio decreased 3.9 percentual to 13.3% in 2017 compared to the previous year. Despite this

decrease, the ration is still higher than the Euro Area average. However, the NPL coverage ratio reached 49.3%, and is now higher than the Euro Area average. Deposits increased 1,8% compared to the previous year, consolidating their position as the main source of funding of Portuguese Banks. The loan-to-deposit ratio decreased to 92.6%, reflecting a remarkable downward trend considering the 158.8% high in June 2010. Profitability improved in 2017 and benefited mainly from an increase in gross income and a substantial decrease in impairments, and operating costs remained stable. The Common Equity Tier 1 ratio and the Total Solvency ratio improved to 13.9% and 15.2%, , and the leverage ratio also increased to 7.8%, reflecting the progress towards compliance with Basel III requirements. Figure xx provides a set of indicators of the Portuguese Financial System over the period 2007 and 2017[24].

[24] For a more detailed analysis of the performance of the Portuguese financial system see, for example, the Financial Stability Report – December 2017, by Bank of Portugal, (2018b). Available in https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/ref_12_2017_en_0.pdf

	2007	2011[2]	2014[3]	2015	2016	2017
	End of period	End of period	End of period	End of period	End of period	End of period
Balance sheet data (consolidated. EUR M)						
Total assets	**443,458**	**510,316**	**425,697**	**407,589**	**385,662**	**381,273**
Change %		*15.1%*	*-16.6%*	*-4.3%*	*-5.4%*	*-1.1%*
Total loans	**313,190**	**330,346**	**257,332**	**244,472**	**233,890**	**231,298**
Change %		*5.5%*	*-22.1%*	*-5.0%*	*-4.3%*	*-1.1%*
Loans to non-financial corporations[4]	101,610	113,808	86,483	82,215	77,224	73,107
Change %		*12.0%*	*-24.0%*	*-4.9%*	*-6.0%*	*-5.3%*
Loans to households[4]	127,278	139,605	123,122	118,544	115,808	114,689
Change %		*9.7%*	*-11.8%*	*-3.7%*	*-2.3%*	*-1.0%*
Liabilities	**415,185**	**484,429**	**394,961**	**374,618**	**355,838**	**345,144**
Change %		*16.7%*	*-18.5%*	*-5.2%*	*-5.0%*	*-3.0%*
Deposits	**195,604**	**244,431**	**252,129**	**254,421**	**245,442**	**249,692**
Change %		*25.0%*	*3.1%*	*0.9%*	*-3.5%*	*1.7%*
Resources from Central Banks	**5,731**	**50,723**	**33,717**	**28,545**	**24,655**	**23,883**
Change %		*785.1%*	*-33.5%*	*-15.3%*	*-13.6%*	*-3.1%*
Equity	**28,273**	**25,687**	**30,736**	**32,971**	**29,824**	**36,130**
Change %		*-9.1%*	*19.7%*	*7.3%*	*-9.5%*	*21.1%*
Credit quality data (consolidated. % & EUR M)						
NPLs (gross)[5]				**49,818**	**46,361**	**37,034**
NPLs (net)				**29,492**	**25,359**	**18,776**
NPL ratio				**17.5%**	**17.2%**	**13.3%**
NPL coverage ratio				**40.8%**	**45.3%**	**49.3%**
Main funding & liquidity risk indicators (consolidated. % & EUR M)						
Loan to deposit ratio	**160.1%**	**135.1%**	**102.1%**	**96.1%**	**95.3%**	**92.6%**
Funding gap	**117,586**	**85,915**	**5,202**	**-9,948**	**-11,552**	**-18,394**
Liquidity coverage ratio (LCR)	-	-	-	-	**150.8%**	**174.4%**

	2007	2011[2]	2014[3]	2015	2016	2017
	End of period	End of period	End of period	End of period	End of period	End of period
Income statement data (consolidated. % & EUR M. flows)						
Net income before taxes	**4,801**	**-1,975**	**-5,961**	**685**	**-2,346**	**1,226**
YoY change %		*-141.1%*	*-201.8%*	*111.5%*	*-442.6%*	*152.2%*
Net interest income	**8,164**	**7,933**	**5,594**	**5,948**	**5,881**	**5,997**
YoY change %		*-2.8%*	*-29.5%*	*6.3%*	*-1.1%*	*2.0%*
Gross income	**13,778**	**12,871**	**10,192**	**10,728**	**9,469**	**10,681**
YoY change %		*-6.6%*	*-20.8%*	*5.3%*	*-11.7%*	*12.8%*
Net interest income (as a % of gross income)	**59.3%**	**61.6%**	**54.9%**	**55.4%**	**62.1%**	**56.1%**
Cost-to-income ratio	**55.6%**	**61.7%**	**65.8%**	**60.8%**	**59.4%**	**52.9%**
Impairments (as a % of gross income)	**12.5%**	**51.6%**	**79.8%**	**37.5%**	**67.1%**	**31.0%**
Profitability ratios (%)						
ROE[6]	**17.7%**	**-6.6%**	**-19.4%**	**2.2%**	**-7.4%**	**3.5%**
ROA[6]	**1.1%**	**-0.4%**	**-1.3%**	**0.2%**	**-0.6%**	**0.3%**
Leverage & solvency indicators (consolidated. % & EUR M)						
Core Tier 1 ratio	**n.a.**	**8.7%**	-	-	-	-
Common equity Tier 1 ratio (CET1)	-	-	**11.3%**	**12.4%**	**11.4%**	**13.9%**
Total solvency ratio	**10.4%**	**9.8%**	**12.3%**	**13.3%**	**12.3%**	**15.2%**
RWAs	**296,741**	**302,776**	**240,563**	**233,238**	**215,400**	**n.a.**
RWAs (as a % of total assets)	**66.9%**	**59.3%**	**56.5%**	**57.2%**	**55.9%**	**n.a.**
Leverage ratio	-	-	-	-	**6.6%**	**7.8%**

Figure 18: Main performance indicators of the Portuguese Financial System between 2007 and the 2011-2017 period. Reprinted from "Overview of the Portuguese Banking Sector", by Associação Portuguesa de Bancos (2017). Available in http://www.apb.pt/content/files/Dez2017_Overview_do_Sistema_Bancrio_Portugus_Snapshot_EN.PDF

4. METHODOLOGY

In this section methodology in this study will be presented. It is divided in three sub-sections:

- **Conceptual Framework**: An explanation of the rationale
- **Research Strategy and Data Collection Methods**: A formal description of the research process and methods
- **Preparation**: An overview of the preliminary research and data gathering for preparing the main research.

4.1. Conceptual Framework

Under the Research Topic of Relationship Management, the following research questions were defined:

RQ1: How do regulatory reforms of the Financial System influence the dynamics of bank-firm relationships?

RQ2: When managing banking relationships, do Portuguese companies fully understand and incorporate the key inputs of banks' decision-making processes?

RQ3: How can Fintech help optimize Bank Relationship Management?

As mentioned in the Literature Review, there is limited updated research about Banking Relationship Management. This limitation arises from the fact that only recently the topic emerged as a priority for companies. Also, the banking system is going through structural changes, some of which happened very recently. To overcome these limitations, the literature review focused on the interactions between the agents involved - Banks, Companies, Regulators and Fintech - to understand the dynamics and main drivers of change of the ecosystem and identify the enabling factors for the optimization of Bank Relationship Management.

The insights obtained from the literature review supported the statement of the following hypothesis:

H1: CFOs have an accurate view of their company's bargaining power against banks.

The research process to perform the hypothesis test followed 3 steps:

- **Step 1**: To identify the key metrics that are the base of the decision-making process of a bank, a Senior Director of a Portuguese Bank was interviewed. The objective was to understand the dynamics of the most important decision-making process of bank activity: the loan approval process. The insights obtained from that interview allowed the identification of those metrics. Furthermore, it was concluded that the bargaining power of companies against banks could be defined by the companies' positioning in terms of those metrics.
- **Step 2**: Through online research two companies provided bank relationship management services were profiled. The objective was to understand their value propositions and methods and assess whether it is possible to optimize banking relationships by improving the bargaining power of companies using fintech.
- **Step 3**: To complete the basis for the hypothesis test the CFO of a Company was interviewed. The interview was designed to incorporate the conclusions drawn from steps 1 and 2 and enabled the evaluation of the level of knowledge of the CFO in terms of those metrics, his assessment methods and his receptiveness to use fintech to improve his level of awareness. Based on the assumption that the level of awareness of bargaining power would be defined by the level of awareness in terms of the identified metrics, the researcher would then infer the level of awareness of bargaining power of the CFO and test the hypothesis.

The regulatory framework currently in place was considered in all steps. See Figure 19 for a visual outline of the research process:

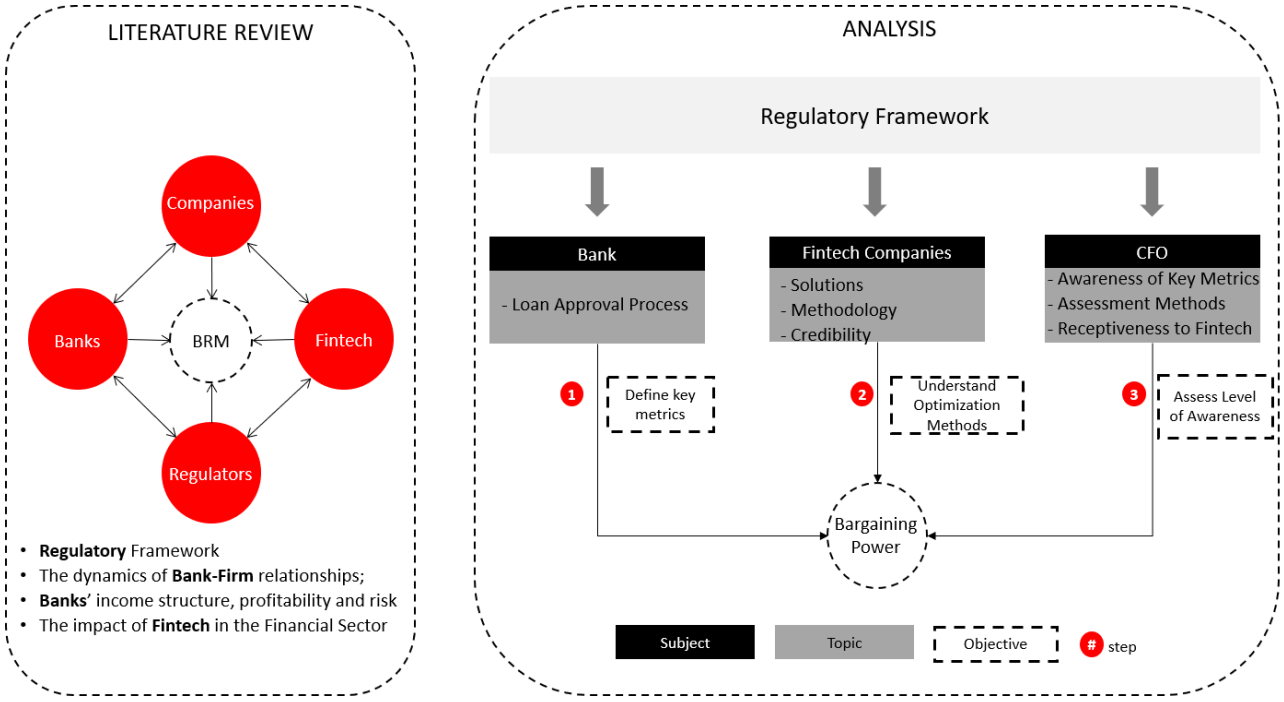


Figure 19: Research Conceptual Framework

4.2. Research Strategy and Data Collection Methods

The complex nature of the research topic, the significant subjective dimension of the analysis and the level of detail necessary to draw the supporting assumptions for the test required an in-depth analysis of the studied realities.

Since it focus on a problem that has not been deeply studied, aims to improve existing knowledge and develop a framework for future studies, the research is, by definition, exploratory (Walliman, 2011). Furthermore, considering the complex, subjective and non-quantifiable nature of several dimensions of the studied reality, the research was based on qualitative data subject to narrative analysis. Finally, the data is primary because it was collected by the researcher.

As outlined by Walliman (2011), narrative analysis involves "*extracting themes, structures, interactions and performances from stories or accounts that people use to explain their past, their present situation or their interpretations of events. The data (...) is collected by semi- or*

unstructured interviews, participant observation or other undirected methods". In line with his work, the following data collection methods were used:

- Interviews;

- Internet Research

This strategy has several advantages and disadvantages. The advantage is that it provides the researcher with an in-depth, detailed perspective of all the dimensions of the studied subject, which enable a richer discussion and analysis (Collis & Hussey, 2003). The disadvantages are associated with the representativity of the sample and the potential for generalization of the conclusions obtained from the test. If the subjects are not representative of their universes, different results may be obtained if different subjects are considered (Bell, 2005). This is evident in cases where the sample is small. If the results are not reliable, their potential for generalization is harmed. In this case, the potential for generalization also depends on the result of the test. If the test indicates that the hypothesis is true, a result based on the analysis of two individual subjects (in this case, one bank and one CFO) may pose limited potential for generalization. On the contrary, a false test will be easier to generalize because the opposite hypothesis – "Not all CFOs have an accurate view of their company's bargaining power against banks" - will be true and hold according to the Critical Rationalism philosophy developed by Karl Popper (Gadenne, 2015).

4.2.1. Interviews

To support Steps 1 and 3 of the analysis, two interviews were conducted.

- **Interview with the Senior Director of Luso Bank**

The interviewee is the Senior Director of the South Division of the SMEs Unit of Luso Bank. Luso Bank is one of the Top 5 Portuguese Banks in terms of Total Assets (see sub-section 2.3.2.). The SMEs unit is divided into 2 divisions: North and South. His main responsibility is to coordinate the 11 corporate centres of the South division, each managing portfolios of clients from the SMEs segment located in their respective jurisdictions. Figure 20 shows the hierarchical organization of the Corporate Banking department of Luso Bank and highlights the position of the interviewee in the organization.

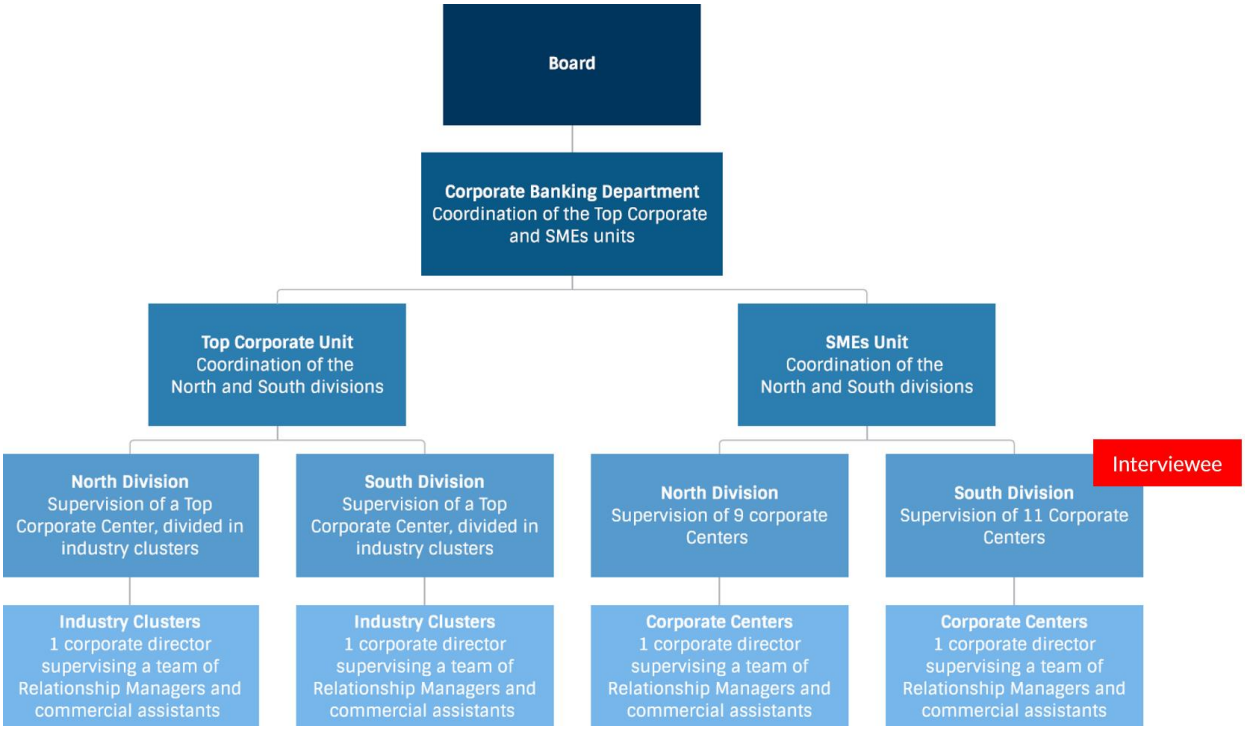


Figure 20: Organizational Chart of the Corporate Banking Department of Luso Bank

As a Senior Director, the interviewee has a holistic vision of the organization and plays a role at a high hierarchical tree of the decision-making process of Luso Bank. Although his position has a more supervising nature, he is close enough to the commercial teams, so he was able to provide insights about the bank's operations and comprehensively describe the decision-making process of the bank, including the main steps, teams involved, and key indicators considered.

The interview was part of Step 1 of the analysis and was focused on a specific topic, the loan approval process of Luso Bank. It took place on October 4th, 2018 and did not follow a predefined guideline, as it was structured as a conversation featuring both closed, semi-open and open questions that were formulated depending on the interviewee's interventions. A full breakdown of the interview is presented in sub-section 4.1.

- **CFO of Consumer & Co**

The interviewee is CFO of Consumer & Co. Consumer & Co is a Portuguese company that manufactures and sells consumer goods worldwide. With a turnover of approximately 150 million euros, it is considered a Large Enterprise (see sub-section 3.2.1.). As CFO, one of his responsibilities is to manage the relationships with banks. This involves selecting the banks that

the company works with, represent the company in loan deal negotiations, present proposals to the Board and choosing the most appropriate portfolio of financial products to ensure availability of liquidity for the company's operations, working capital management and investments. For this reason, the interviewee was qualified to participate in an in-depth discussion about the Bank Relationships of Consumer & Co.

Given the complexity of the topic it would not be feasible to interview a large number of CFOs and reproduce the results with the required depth for this study. For this reason, only one CFO was interviewed. To overcome the fact that just one company is not representative of the whole universe of Portuguese companies, it was considered that to enable generalization of results it would be necessary to use a company that is above average in terms of sophistication of its financial department. The assumption was that the CFO a large enterprise that engages in international trade and is financially healthy should display a higher level of knowledge about the key metrics used by banks and about existing BRM fintech solutions when compared to the CFO of an average Portuguese company. Consumer & Co is present in more than 60 countries and its financial ratios indicate a low level of credit risk[25]. For this reason, it was assumed that the conclusions drawn from this interview would be solid enough to perform the hypothesis test, despite the mentioned limitations in terms of statistical significance. This assumption was also supported by the researcher's own personal experience in corporate banking, which provided a preliminary overview of the level of sophistication of the average Portuguese CFO.

Chronologically, it occurred after the interview with the Senior Director of Luso Bank, and incorporated the insights obtained then. To design the interview, the researcher defined 4 topics, which were addressed in the following order:

1. Choice of banks and evaluation of bank relationships;
2. The process of requesting a loan and evaluating proposals;
3. Bargaining power and the positioning of the company in terms of selected key metrics;
4. The use of fintech solutions to optimize positioning in terms of selected key metrics.

[25] For confidentiality reasons it was not possible to disclose the financial ratios of Consumer & Co.

The interview took place on October 18th, 2018. The discussion of each topic featured was structured as a conversation and featured both open, semi-open and closed questions. A full breakdown of the interview is presented in sub-section 5.3.1..

4.2.2. Internet-based research

This method was used in step 2 of the analysis basically consisted in gathering information from the websites of the selected fintech companies. The objective was only to identify one or two companies offering fintech-based banking relationship management solutions, analyse their solutions and methods and discuss their added value incorporating the insights from the first interview. No interactions happened with representatives of the selected companies.

4.3. Preparation

To prepare for the interviews and support the analysis, two sources of information were considered:

- **Professional Experience**

The researcher had previously worked in Corporate Banking for one of the Top-6 Portuguese banks for a period of 8 years, most of which in the position of Relationship Manager. His main responsibility was to manage a portfolio of more than 50 SMEs clients, worth approximately 50 million euros in assets[26]. This experience provided preliminary knowledge of the banking activity. Moreover, as it involved interacting with the companies' CFOs on a daily basis, it gave access to a sample of almost 50 CFOs, which provided an overview of their profiles in terms of sophistication and technical skills.

The entire research incorporated the insights obtained from this professional experience.

- **Preliminary Surveys**

Before the interviews, two preliminary surveys were designed to collect insights about the perspectives of both corporate banking relationship managers and CFOs. The objective was to understand the most important factors influencing banking relationships and identify eventual gaps between what CFOs and Relationship Managers think about the relationship. For this, the respective questionnaires were designed as a mirror of each other.

[26] The term "assets" in corporate banking includes loans and deposits.

The surveys were answered by 45 CFOs of companies and 62 relationship managers, both working for companies and banks operating in Portugal[27]. They were created with the QuestionPro software and shared with respondents via email and LinkedIn during August 2018.

The most important conclusion from the surveys is that CFOs appear to consider themselves very familiarized with the decision-making process of banks, and that Relationship Managers actually expect them to be that familiarized. Nonetheless, it should be noted that the surveys were only used for supporting the design of the interviews and did not have any impact in the hypothesis test. The results are shown in Appendixes C and D.

5. ANALYSIS AND DISCUSSION

As outlined in section 3, this study provides a comparative analysis between the decision-making process of a Portuguese bank and the perspective of the CFO of a Portuguese Large Enterprise, complemented by the analysis of the fintech-based banking relationship management solutions that target the identified metrics. The objective is to identify the key metrics that determine the bargaining power of a company when negotiating a loan with a bank. evaluate the level of awareness of the company about its positioning in terms of those metrics and find whether there is an information gap. This exercise will allow to test the hypothesis stated during the literature review.

5.1. The Loan Approval Process of a Portuguese Bank

The insights obtained from the interview with the Senior Director of Luso Bank enabled the development of a generic framework of the approval process of a bank loan. Considering the high level of regulation of the financial sector, with supervising authorities issuing, at a supra-national level, guidelines for the definition of internal functions, hierarchy levels and processes that all banks must comply with, it is therefore assumed that the developed framework can be generalized to describe the loan approval process used by virtually every bank of the system.

[27] Only respondents from companies and banks operating in Portugal were considered. However, if the respondent's IP was in other country (e. g. Spain), the software would interpret that the respondent was Spanish.

5.1.1. Process Breakdown

Before proceeding to the breakdown of the process, it is important to mention that to improve efficiency, banks may predetermine general guidelines and delegate power in lower hierarchical levels to accelerate the decision. In simple terms, if the components of a loan proposal comply with predefined standards, several steps of the risk analysis can be eliminated from the workflow. Those standards may include the definition of maximum limits for amounts and maturities, rating classes (Very Low Risk, Low Risk, Moderate Risk, Non-Investment Grade and Deleverage, for example) and minimum collateral levels. The framework describes the approval process of a loan that is complex enough to go through all the stages of the process. The main stages of the process are (i) Origination; (ii) Risk Analysis; and (iii) Decision.

- **Origination**

The Origination stage includes two steps. In Step 1, the relationship manager structures the loan proposal by defining the terms of the loan. Generic loan terms include Credit Exposure (or proposed amount), Maturity, Collaterals, Financial Covenants, Other Technical Terms (more related with the objective and practical applications of the loan) and Price. To submit the request for approval, the relationship manager must prepare a dossier that includes financial information, company's presentation, business plans, a description of the loan's objective and a structured report containing his opinion about the request. To prepare this dossier, he must interact with the client and with other departments to gather the necessary information. If he considers it worthy, he then submits the dossier via an electronic workflow platform to his corporate director for revision and approval, who intervenes at Step 2. After reviewing, the director submits the dossier, along with his opinion, for Risk Analysis. The loan request may be rejected at both Step 1 or Step 2, although formal rejection must be at least sanctioned by the corporate director.

- **Risk Analysis**

At this stage, the dossier will be subject to risk analysis at several dimensions simultaneously, namely credit risk, legal risk, product-related risk and compliance risk. The Credit Risk Department evaluates the impact of the loan from a credit risk perspective. To do so, the designated risk analyst calculates the credit rating of the company (Luso Bank uses the IRB approach described in sub-section 1.1.1.) based on the financial and qualitative information included in the dossier submitted in Step 1. Luso Bank applies the IRB approach and uses two

different rating scales, according to the segment. The rating scores applied to the SMEs segment range from "7" (best) to "25" (worse). The scale used in the Large Enterprises segment was inspired in the Standard & Poor's scale and ranges from "aaa" (best) to "lower than ccc" (worse). Figure 21 shows the described scales.

After calculating the rating, the analyst tests the company's capacity the repay the loan, as well as the impact of the new debt on the credit rating of the company. Based on the results, he formulates a favourable or unfavourable opinion about the loan. In some cases, the opinion may be favourable conditioned to changes in the loan terms, such as amount, maturity or level of collaterals, for example. The whole credit risk analysis is based on the credit rating of the company, making this input crucial for the formulation of the opinion. The credit rating and opinion are then materialized into a report, which is reviewed by the team supervisor and sanctioned in a meeting that includes as participants the analyst, the supervisor and the Department's directors that are needed to sanction the binding opinion, depending on its complexity. The discussion and conclusions are recorded in a book of Minutes for future consultation and auditing.

Small-Medium Enterprises	
Rating Score	Risk Profile
7	Very Low
8	
9	
10	Low
11	
12	
13	
14	Moderate
15	
16	
17	
18	Deleverage
19	
20	
21	
22	
23	
24	
25	

Large Enterprises	
Rating Score	Risk Profile
aaa	Very Low
aa+	
aa	
aa-	
a+	
a	
a-	
bbb+	Low
bbb	
bbb-	
bb+	
bb	Moderate
bb-	
b+	
b	Deleverage
b-	
ccc+	
ccc	
lower than ccc	

Figure 21: Rating Scales used by Luso Bank, by corporate banking segment. Source: Authors' own computation with the assistance of the interviewee.

According to the guidelines established by the Board, the bank may engage in new loan deals with companies that fit in the Very Low, Low and Moderate brackets. Concerning companies that fit in the "Deleverage" bracket, the orientation is to reduce exposure. It should be noted that the bank periodically issues a report under the Market Discipline pillar of the Basel III Framework that describes the risk profile of the loan portfolio of the bank according to the structure defined by the Basel Committee. Although it is made available to the public, the information could not be reproduced in this analysis or the confidentiality would be compromised. As such, the nomenclature used to designate the rating brackets is not official but accurately describes the bank's orientation in negotiations with corporate clients. The impact of this limitation is not materially relevant for this study.

The Legal Department evaluates legal risk. The legal analyst identifies legal risks associated with the loan, and if those risks exist and are materially relevant he formulates an opinion along with risk mitigation strategies, if possible. His analysis also materializes into a report. However, the analysis is more of a qualitative nature, meaning that there is no such thing as a legal risk rating.

The term "product specialist" describes the Department responsible for a specific product family that present additional technical complexities such as Leasing, Trade Finance or Real Estate Finance, for example. The role of the product specialist is to review the loan terms, identify misconceptions and suggest changes for mitigating risks associated with those misconceptions. The analysis, conducted by a product manager, is materialized into a report sanctioned by the respective product director. Despite being a very objective assessment, it is not possible to identify any common metric used as input in that assessment. Moreover, the intervention of the product specialist is not required in every loan assessment, as only selected typologies of loans are subject to this evaluation.

Finally, the Compliance Department evaluates counterparty risks. These risks are associated with the nature of the company itself, such as the industry it operates in, its shareholders and the origin and destination of funds. The analysis follows the guidelines defined by regulators concerning prevention of Money Laundering and Terrorism Financing, designated as Know-Your-Client (KYC) practices. The analysis is qualitative, results in a "compliant" or "non-compliant" opinion and does not use any metric as input.

In some cases, one department may need the input of another department before formulating their opinion. For example, the Credit Risk Department may request the evaluation report of a real estate project, which is produced by the Product Specialist. Also, the different analysts involved may conclude that the information provided is not enough and request additional information to the relationship manager. If this happens, the process gets into an "on hold" status or may even return to the origination stage. It is important to mention that this is not the same as rejecting the loan. Indeed, at the Risk Analysis stage, the loan proposal is neither approved nor rejected. Rather, the involved departments are required to formulate favourable or unfavourable opinions about the loan that will be taken into consideration in the final decision. Nonetheless, a loan is almost never approved if unfavourable opinions have been formulated. Particularly, approving a loan when unfavourable opinions have been formulated by the Legal and Compliance Departments may expose the banks to risks that might have serious repercussions beyond not being reimbursed, such as penalties, law suits and reputational losses. The whole Risk Analysis stage corresponds to Step 3, as the decision can only be made with the final risk analysis reports. The reports must be attached into the process that is running on the electronic workflow platform.

- **Decision**

Luso Bank employs a split decision model. In this model, the loan terms are approved/rejected separately by different departments. In this case, Price is separated from the other components.

All terms excluding Price are approved or rejected by the Credit Department, according to the guidelines defined by the Board in accordance with the bank's objectives, risk policies and available capital. The decision is based on the reports produced during Step 3, and the credit officer has the responsibility to "wrap up" the opinions concerning the different dimensions. Depending on the proposed terms, the Credit Officer may be empowered to deliver the final approval (of all terms excluding price). If not, he must submit the loan for the Board to make the final decision, along with his favourable position.

The price component is decided by the Commercial Department. As Senior Director of the South division of the SMEs unit, the interviewee is required to intervene in this procedure, if the loan proposal was submitted by a corporate centre within his jurisdiction. In this case, the Commercial Department corresponds to the SMEs Unit. To support the price decision, a

profitability analysis of the loan is performed. This analysis is entirely based on the RAROC indicator (see sub-section 1.3). The RAROC test incorporates the credit rating and all the proposed terms, because different maturities and collaterals encompass different funding costs and regulatory capital requirements. The analysis may result in (a) the approval of the proposed price, or in (b) the establishment of a minimum price (higher than the proposed) to ensure profitability of the loan that must be proposed to the client. Depending on the result of the RAROC test, it may be necessary that the final decision about price is made by the Board. Also, there are guidelines for "suggested" prices according to the credit rating of the company. This means that a company in the "Very Low" risk bracket will have access to a lower price than a company in the "Low" risk bracket.

The split decision by the Credit and Commercial departments correspond to Step 4. Step 5 relates to the intervention of the Board, when necessary. The described process applies both new loans, renewals of existing lines of credit and changes to loan terms in ongoing operations. Sometimes, the Corporate Centre do not agree with the final decision. In other cases, the client may not be willing to accept changes in the loan terms, which might lead to a deal break or compromise the relationship in the future. In these cases, the Corporate Centre may request a review of the decision and the whole process restarts from Step 1.

The interventions and decisions of every intervenient in the process are registered and introduced in the electronic workflow platform and are an integral part of the loan dossier. Proper filling and registration according to established guidelines are mandatory, and without it the process cannot advance for implementation. The framework shown in Figure 22 provides a graphic description of the loan approval process. It was developed by the author with the assistance of the interviewee, and identifies the stages, steps and involved teams. Also, the main key indicators required are highlighted.

5.1.2. Findings

As mentioned earlier, the banking sector is subject to tight regulation. As such, a core process such as loan approval must strictly comply with the guidelines defined by the Board in accordance with regulators. For this reason, the approval process must follow a predetermined set of stages that cannot be avoided, as all interventions and decisions are registered into the electronic workflow platform for future consultation and auditing. The credit approval process became much

more complex, and while some years ago a loan could be negotiated and approved in a single meeting, nowadays it must go through an extensive due diligence. Decision-making is now centralized in headquarters and, consequently, commercial representatives lost significant bargaining power with clients. This reflects the increasing complexity and implications of credit decisions under the new regulatory framework described in the literature review, as the marginal impact of a loan must be evaluated from several dimensions, using sophisticated analytical models and metrics. It is expected that the loan-approval process used by Luso Bank will not be materially different from that used by other banks in the system.

The risk analysis includes both qualitative and quantitative evaluations of the impact of the loan, based on information that was previously provided by the relationship manager in the credit dossier. The quality of the dossier is crucial for a successful and efficient approval process. The results support opinions that are materialized into reports, which will be the basis of the final decision. The credit risk analysis is based on a specific, identifiable and quantifiable input - the credit rating – that is used by all banks in the system. However, the credit risk perception about the company may slight differ across banks.

Also, the company rating may not be exactly the same across banks, and in some cases a company that fits in the “Very Low” risk bracket in Luso Bank may be regarded as a “Low” risk in another bank. These variations may thus lead to different price proposals from different banks, as well as different orientations concerning concession of credit.

Compliance and legal analysis, on the other hand, follow norms, guidelines and laws that are transversal to the whole system. This means that the outcome of the compliance and legal evaluations of a given loan proposal, for the same company and loan, should, in theory, be the same regardless of the bank that conducted them. So, these dimensions may be ignored when analysing the bargaining power of a company when negotiating with the bank. A similar assumption can be made concerning the product-specific dimension, if we consider the trend towards harmonization of financial services mentioned in the literature review.

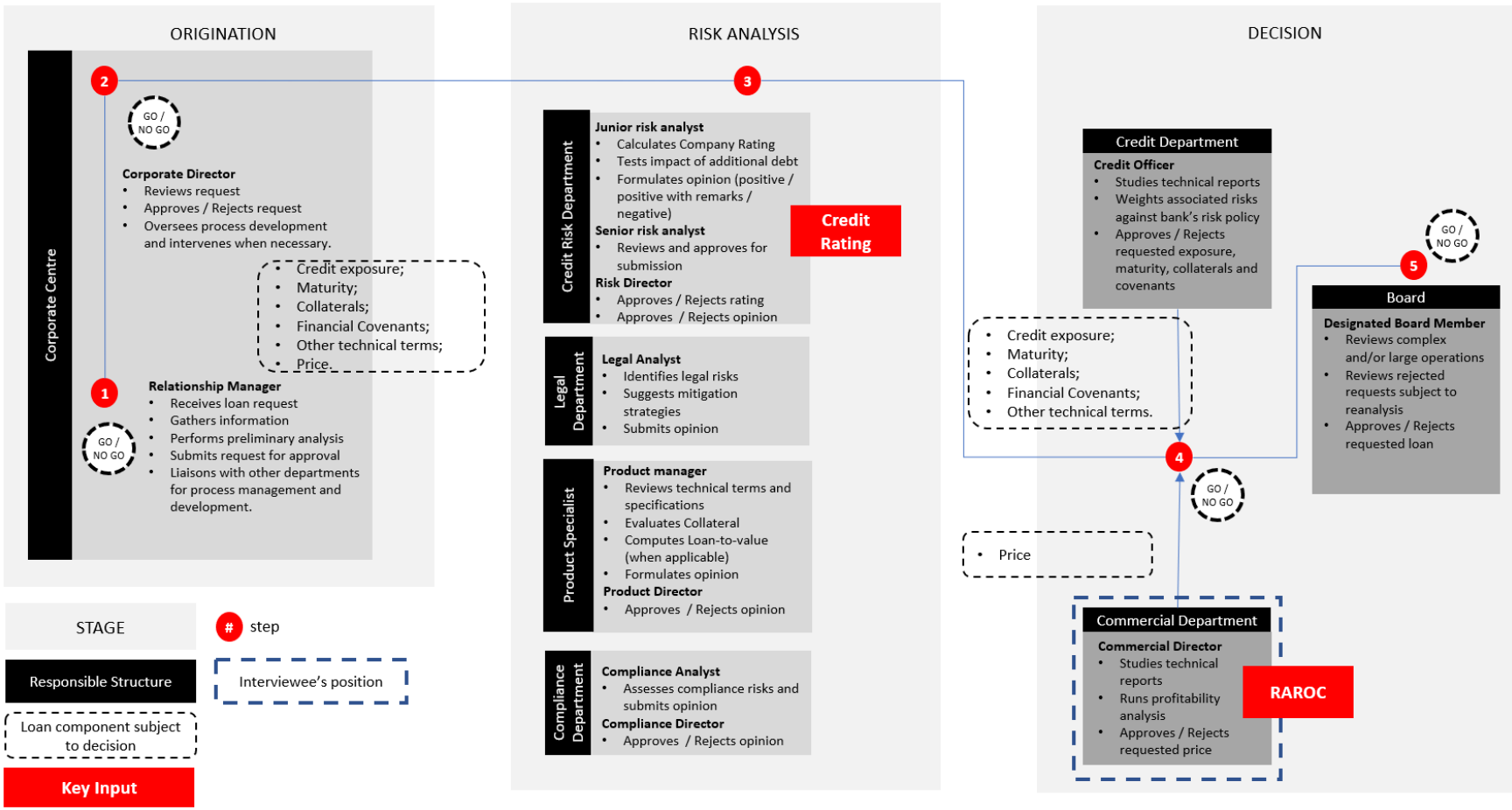


Figure 22: Loan Approval Process Framework. Source: Own author's computation with the assistance of the interviewee.

The price decision is based on a profitability analysis that evaluates the impact of the loan on the RAROC indicator. This test incorporates the loan terms, as well as the credit rating which was computed during the risk analysis stage. Moreover, the Risk Analysis and Decision stages involve people that, in theory, never interact with the client. For this reason, it is concluded that the bargaining power of a company during the negotiation of a loan will be determined by the company's position in terms of those metrics.

5.2. Optimization of Banking Relationship Management with Fintech

In this sub-section, the potential contribution of fintech to optimize banking relationships will be discussed. To enable an analysis of their potential in connection with the conclusions obtained from the case of Luso Bank, the goal of the research was to identify available fintech solutions that consider the mentioned key metrics and incorporate current regulatory requirements in their methodology. From the research it was possible to identify several companies providing solutions supported on fintech designed to optimize banking relationships, and a brief description of each solution will be presented. It should be noted, however, that the analysis was based on the information provided by the company's websites and did not include any practical test of their services to quantify their impact on clients. Furthermore, the technical fundamentals will not be discussed in detail due to lack of information available and also because it is not the scope of this study.

5.2.1. Vallstein

Vallstein is a Dutch fintech company founded in 2000 that develops solutions designed to optimize corporate banking relationships. The management team of the company includes former banking executives and directors, software developers and data scientists, both Dutch and Portuguese. The company is headquartered in Amsterdam (Netherlands) and has offices in Freiburg (Germany) and Sintra (Portugal).

The company positions itself as a software services provider, delivering its solutions as software-on-demand. Business development is leveraged through partnerships with consulting firms such as Bellin and KPMG, among others, which offer Vallstein's solutions as a component of their advisory services to companies. A partnership with Bureau van Dijk (owned by Moody's) was also established for the implementation of a solution targeting banks (Bureau van Dijk, n.d.).

The company's flagship product is the "WalletSizing" solution. According to information available in the website, it is based on sophisticated analytical model that process full data of all banking products and services used by companies, while incorporating the company's risk profile and capital requirements under the Basel regulatory framework. It provides an integrated view of the complete portfolio of financial products of the customer, enabling optimal allocation of transactions across the pool of banks, fee auditing and price benchmarking using an extensive database of companies and banks. The model supports several billing standards such as TWIST (see sub-section 1.1.5.).

The solution has two main components: Interest Margin Optimization and Bank Fee Management. The true differentiating factor about Vallstein is the methodology used for the optimization of the interest margin. It is based on a ratio called Return on Solvency, which evaluates the return of the bank weighted by regulatory capital requirements. The model calculates, for each company and bank, the current Return on Solvency of the relationship for the bank and estimates the potential for improvement in financing conditions to reach a 10% Return on Solvency for banks, which is the ratio threshold considered by the company.

As mentioned earlier, the methodology was not tested in this study. However, the WalletSizing solution has earned multiple awards over the years (Corporate Finance Institute, n.d.-a, n.d.-b; Fintech Innovation Awards, n.d.), attesting its reliability and accuracy.

- Corporate Finance Institute - Best Bank Relationship Management Solutions Global 2018
- Corporate Finance Institute - Best Bank Relationship Management Solutions Global 2017
- Fintech Innovation Awards 2016 - Innovation in Treasury Management

The formula for calculating the Return on Solvency ratio is not disclosed in the website (Vallstein, n.d.). However, its components and rationale suggest that the methodology used for interest margin optimization is essentially based on the estimation of an indicator similar to RAROC for further benchmarking with data about companies and banks provided by Vallstein's database, which will certainly be strengthened by the partnership with Bureau van Dijk.

5.2.2. Redbridge Debt & Treasury Advisory

Redbridge Debt & Treasury Advisory (Redbridge) provides treasury and financial advisory to corporations. The company was incorporated in 2015 and is headquartered in Houston (USA). It also has offices in New York (USA), Paris (France), Geneva (Switzerland) and London (UK).

Redbridge offers advisory in the several dimensions of financial and treasury management. Table 6 provides an outline of the services provided by the company:

Unit	Services
Debt Advisory	- Debt structure advisory - Rating advisory - Debt arrangement
Treasury Services & Fees Optimization	- Bank services optimization - Merchant cards processing - Liquidity & cash concentration
Treasury & Systems	- Target operational model - Treasury management systems - Risk management
Banking Relationships	- RAROC - Bank Counterparty Risk
Analytics	- HawkeyeBSB

Table 6: Outline of the Services offered by Redbridge. Source: Redbridge (no date)

Redbridge does not position itself as a pure fintech company like Vallstein. However, it offers solutions that are based in fintech and are relevant for this study. Particularly, its credit rating advisory service relies on knowledge about the banking sector as well as on a deep understanding of the rating calculation models used by rating agencies, which rely on fintech (see sub-section 1.4.1.). Moreover, the company the offers Bank Fee Optimization services and advisory in Banking Relationship Management.

Redbridge's flagship product, HawkeyeBSB, is a software focused on monitorization of bank fees similar to the Bank Fee Management component of Vallstein's WalletSizing. Like Vallstein, Redbridge's methodology for fee optimization is based on RAROC estimation and

benchmarking. According to the company's website, its Bank Fee Optimization solutions enable average of 30% in costs savings (Redbridge, n.d.-a). Their portfolio of clients includes companies and organizations from several sectors such as:

- Fortune 1000 companies
- Governmental organizations
- Publicly & Privately held companies
- Utilities
- Industrial groups
- Large retailers
- Commodity Trading Firms

The disclosed list of clients includes well known companies such as Universal Pictures, Air Liquide or Europcar (Redbridge, n.d.-b).

5.2.3. Conclusion

The research allowed the identification of two companies offering bank relationship optimization solutions – Vallstein and Redbridge. It was found that the two companies apply similar methodologies, which rely on the collection of massive data about banking transactions and the estimation of the profitability of banks with the relationship using indicators that are similar in nature to RAROC. Redbrige goes further and offers rating advisory services based on the same methodologies used by rating agencies. These are the key metrics identified in the analysis of the Luso Bank case. Although it was not possible to test the reliability of the identified solutions nor to quantify their results, the awards won by Vallstein and the portfolio of high-profile clients of Redbridge suggest that their solutions are effective. Moreover, Redbridge claims that its Bank Fee Optimization solution enables average cost savings of 30%.

The fact that both companies base their methods on the estimation and benchmarking of banks' level profitability with the relationship supports the earlier conclusion that the bargaining power of companies against banks is determined by the companies' positioning in terms of credit rating and RAROC. Furthermore, considering the apparent effectiveness of their methods, it is concluded that optimization of banking relationships using fintech solutions is possible and could increase the bargaining power of companies against banks.

5.3. The perspective of a Portuguese Large Enterprise

To understand the perspective of a Portuguese Large Enterprise, an interview with the CFO of Consumer & Co was conducted. The interview featured semi-open questions and covered the following topics, in this order:

- Choice of banks and evaluation of bank relationships;
- The process of requesting a loan and evaluating proposals;
- Bargaining power and the positioning of the company in terms of selected key metrics;
- The use of fintech solutions to optimize positioning in terms of selected key metrics.

In this sub-section a breakdown of the interview will be presented. The insights obtained from the interview will feed the discussion about the company's awareness of its bargaining power against banks and set the tone for the analysis of possible improvements through fintech.

5.3.1. Interview breakdown

The first topic to be addressed was the choice of banks and evaluation of banking relationships. Questions were designed to enable a fluid conversation and a comprehensive description of every important issue. Considered that it was not possible to identify formal processes and frameworks, this analysis will present the topics obtained from the interview in a narrative way, following the order by which the main topics were addressed.

- **Choice of banks and evaluation of bank relationships**

Consumer & Co works with several banks, but only 2 are regarded as core suppliers of financial products. So, the discussion focused on the relationship with those two banks. The banks are part of the Top 6 group of institutions mentioned in section 3, and Luso Bank is not one of the them. The selection of the current pool of banks was made before the interviewee joined the company, so he did not participate in the selection process. However, during the interview the key factors determining the choice were discussed. Those factors were:

- **High number of branches**: At the time of selection, branch coverage of the territory was a very important factor for banks to acquire clients. Cash, cheques, bank bills and other hard paper instruments were the main payment methods used at the time, so it was important that the bank's branch network covered the whole territory for collecting payments of clients spread in the country.

- **Presence in Spain**: The company had Spanish clients and for that reason it was important to work with at least one bank that operated in Spain.
- **Accepted used payment methods**: The company had many clients, especially from Spain, that used a payment method similar to bank bills called *"pagaré"*. In Portugal, only one bank accepted that payment method at the time.
- **Personal relationship of shareholders with bank staff**: Close personal relationships with Relationship Managers, who at the time had more decision-making power, were strategically important to enable access to credit;

- **Evaluation of banking relationships:** During the interview it was possible to identify mandatory requirements that banks must meet to work with Consumer & Co. Because of technological development and evolution of financial services over the years, geographical reach of operations and coverage of the branch network are now much less important, if not irrelevant. Also, with the improvement of electronic payments and the trend towards harmonization of financial services at an international level, it is expected that all common payment methods are accepted by almost every bank in the system.

  The identified requirements are:

- **Conservative positioning and risk policy:** The shareholders of Consumer & Co are conservative in terms of debt leverage of projects and the risk associated with financial products at a personal savings level. They expect that the financial partners of their company follow the same principles;
- **Financial strength:** As highlighted in the literature review, financially fragile banks are more exposed to the economic cycle, being more likely to decrease credit supply during economic downturns, which poses a liquidity risk for the company. To mitigate this risk, the company only accepts working with banks with a lower risk profile. The banks' Rating is usually the metric used to assess this dimension, however, no borderline was established.
- **Fast decisions:** Time is a resource and the interviewee expects banks to be agile in their decisions to avoid bottlenecks in the company's operations. This factor is also associated with the mitigation of liquidity risk.
- **Polite and diligent staff:** Although personal relationships in the Corporate Banking have become less relevant with technological development and the automation of financial

services, it is important that interactions with the bank's representatives are conducted in a cordial way. Also, the CFO expects the relationship manager to be diligent and display problem-solving skills to fulfil the company's needs and requests;

- **Reliable and functional service:** It is expected that the bank's services are reliable, billing is accurate, and platforms are user friendly. Low bureaucracy is also valued. The main focus is in avoiding bottlenecks and mitigate operational risk.
- **Trust and transparency:** Related with the behaviour of the bank's representatives during negotiations. If an agreement is reached, even if not yet formalized by a binding contract, it is expected that material changes in agreed terms do not occur.
- **Competitive price:** Banks must be price competitive to work with Consumer & Co. Nonetheless, a trade-off between quality of service and low prices is expected and accepted.

The company does not use a formal evaluation model, nor does it conduct periodic assessments of current banking relationships. Instead, they are evaluated through continuous experience. Most of the identified factors are qualitative in nature. Financial strength and price are the only ones that can easily be subject to quantitative analysis. The credit rating of banks calculated by external rating agencies is an acceptable proxy for financial strength, however the interviewee did not define a threshold for that indicator. Concerning price, the analysis consists in a comparison of prices charged by banks that belong in the pool of banks, and occasionally an external bank is considered. Also, the interviewee occasionally consults his personal network for price benchmarking, but without controlling for companies' characteristics due to lack of available data. In fact, he is not aware of that possibility, so he merely regards the peer comparison exercise with curiosity. Furthermore, the process is not systematic, nor does it follow a predefined schedule.

The identified requirements work as "hygiene factors", meaning that if a bank fails to meet one of them the relationship will be severely harmed. Ultimately, the failing bank may even be removed from the pool of banks. However, this has never happened in the past, at least with core banks.

- **The process of requesting a loan and evaluating proposals;**

During the interview the process of requesting a bank loan, performing price benchmarking and adjudicating the deal was discussed. The discussion also contemplated the interviewee's awareness about the decision-making process of the bank.

When in need of a new loan, the set of required terms is communicated to the pool of banks. Occasionally, an external bank is included in the request to ensure a more competitive process. The inclusion of an external bank may happen from the beginning or further in the process, if there are doubts about the competitiveness of the offers.

Concerning the level of awareness of the decision-making process of banks, it is important to mention that the interviewee had previously worked in the banking sector but joined the company in the early 90's during the implementation of Basel I, meaning that he was briefly exposed to the new capital requirements under Basel I during his journey in the banking sector. Applying the terms and framework described in sub-section 4.1.1., the interviewee is familiar with the Origination stage of the loan approval process. Concerning the Risk Analysis stage, he is aware of the use of credit ratings and assumes that the credit risk analysis will be mainly based on the financial indicators of the company. However, he never mentioned compliance, legal and product specific analysis. So, it is concluded that he is either not aware of these procedures or does not regard them as priorities. Moreover, he did not seem to be aware of the use of the split decision model (price is decided separately from the other loan components).

After receiving the offers from the pool of banks, price is the main decision criterium. The interviewee is normally not willing to accept material changes in required loan terms, for example in terms of maturity or proposed collaterals, unless it is a structural loan with a higher level of complexity. The loan is almost never adjudicated to outside banks, as they were only included to increase competition and obtain a better price, if they were included at all in the first place. Furthermore, a very uncompetitive price offered by a core bank is unusual and regarded as a sign of alert for eventual problems in the bank.

As mentioned earlier, the company does not use a systematic process for price benchmarking. The only comparison analysis performed simply incorporates competing banks, and occasionally the interviewee performs an informal consultation within his personal network of contacts. Comparison with peer companies is not considered due to lack of data.

- **Bargaining power and positioning in terms of selected key metrics;**

The discussion advanced to address the knowledge of the CFO about the key metrics that define banks' decisions and the level of awareness of the company's positioning in terms of the

key metrics - credit ratings and RAROC - that were identified during the interview with the Senior Director of Luso Bank.

Concerning credit ratings, the interviewee understands their importance as an input of the loan approval process. Moreover, he is also aware of the fact that the credit rating assessment process incorporates both financial indicators derived from the company's financial statements and qualitative information, gathered by the risk analyst, about the capacity of the company's management team and the evolution of the company's business, which incorporates factors such as size, geographical and operational diversity, positioning, market share, quality of operational assets or sophistication of internal processes, for example. However, he was not familiar with the technical aspects of the rating models and did not know the weights of each dimension in the calculation of the credit rating. Furthermore, he did not know the company's rating. The banks never disclosed this information to him and, indeed, the consultation of the guidelines of the Market Discipline pillar of Basel III proved inconclusive about whether banks are obligated to inform clients of their credit rating calculated using the IRB approach.

Concerning RAROC, the interviewee did not know the term but understands the basic principles of risk-based pricing under the Basel framework: clients with worse credit rating should pay higher interest for the same loan. The term and translated to Portuguese to exclude the possibility of language limitations, and it was verified that he is unfamiliar with the models used to calculate the RAROC indicator and could not identify the inputs used, except that the credit rating will be incorporated in the calculation process.

Given the low level of awareness of the key metrics, the interviewee bases his evaluation of the company's bargaining power against banks on two dimensions: (i) his own assessment of the company's financial strength and credibility; and (ii) the behaviour of banks. As a proxy for financial strength he considers his own evaluation of the company's financial indicators. The credibility is based on subjective aspects such as the company's notoriety and the reputation of the management team. In other words, he performs an informal assessment incorporating the same dimensions of credit ratings, without translating that analysis into a quantifiable metric. Behavioural aspects of banks include the proactivity of banks in offering loans to the company, suggesting the it is a worthy debtor and fits within the "very low" or "low" credit risk brackets. Moreover, he bases his perception of the company's profitability for banks in the fact that interest

rates are almost never raised when short term lines of credit are renewed, concluding that banks are comfortable with their current profitability level. However, he never performed a quantitative analysis of that dimension.

- **Value added of bank relationship optimization with fintech**

The discussion of the previous topics enabled the identification of several limitations of the interviewee's knowledge and awareness about selected key metrics (credit rating and RAROC) and the company's positioning in terms of those metrics. The discussion of the last topic was designed to incorporate the identified limitations and evaluate the interviewee's perception of the value added by the optimization and benchmarking of those metrics using fintech. This structure assumes the optimization of those metrics, along with the optimization of the product mix, has a positive effect on the quality of the relationship.

Concerning the optimization of the credit rating, the interviewee does consider it a priority. This opinion is based on two factors. First, the company is satisfied with its level of access to credit. This view is reinforced by the fact that the company does not rely on other sources of funding than banks, such as stock or bond markets. So, he concludes that the current rating is not a source of inefficiency. Second, it is assumed by the interviewee that credit rating optimization will require an audit exercise to financial statements, which will consume excessive resources for the (perceived) low potential returns of the procedure. Furthermore, he would be interested in the possibility to benchmark credit ratings with peer companies, but also does not consider it a priority.

The interviewee also perceives optimization and benchmarking of the RAROC indicator as a low value adding exercise. He is not aware of existing technology that enables RAROC benchmarking, so this perception might be partly justified by lack of information. Also, he is satisfied with current pricing conditions and trusts the informal benchmarking techniques mentioned earlier, as well as the dynamics of market competition, and assumes that the company is enjoying competitive pricing conditions. He is also willing to accept a trade-off between higher costs of financial services and a higher service quality, which is a subjective concept. Consequently, a trimming exercise of financial costs is not a priority. Moreover, the interviewee never considered the possibility of incorrect billing from banks and showed little interest in auditing the billing process.

Other dimension that was addressed was the possibility of optimizing the portfolio of financial products and services. For clarification this dimension includes, for example, evaluating the cost of underutilized accounts and lines of credit that are being charged for by banks and modelling the optimal number of lines of credit, amounts and identifying the most cost-efficient products across the current portfolio. The interviewee is satisfied with the current portfolio of financial products and services from a functional a point of view, as well as with its current pricing conditions. Furthermore, despite the size of the company and the fact that it is engaged in international trade with several markets, he does not consider the management of the company's portfolio of financial services a very complex exercise. So, he sees little room for improvement of the current portfolio and for this reason regards its optimization as a low value adding exercise.

Figure 23 provides a graphic visualization of the discussion. As mentioned at the beginning of this sub-section, it was not possible to identify a formal process so instead the graph outlines the course of the discussion from narrative perspective, highlighting the structure of the interview according to the definition of main topics and a design to ensure the fluidness of the discussion.

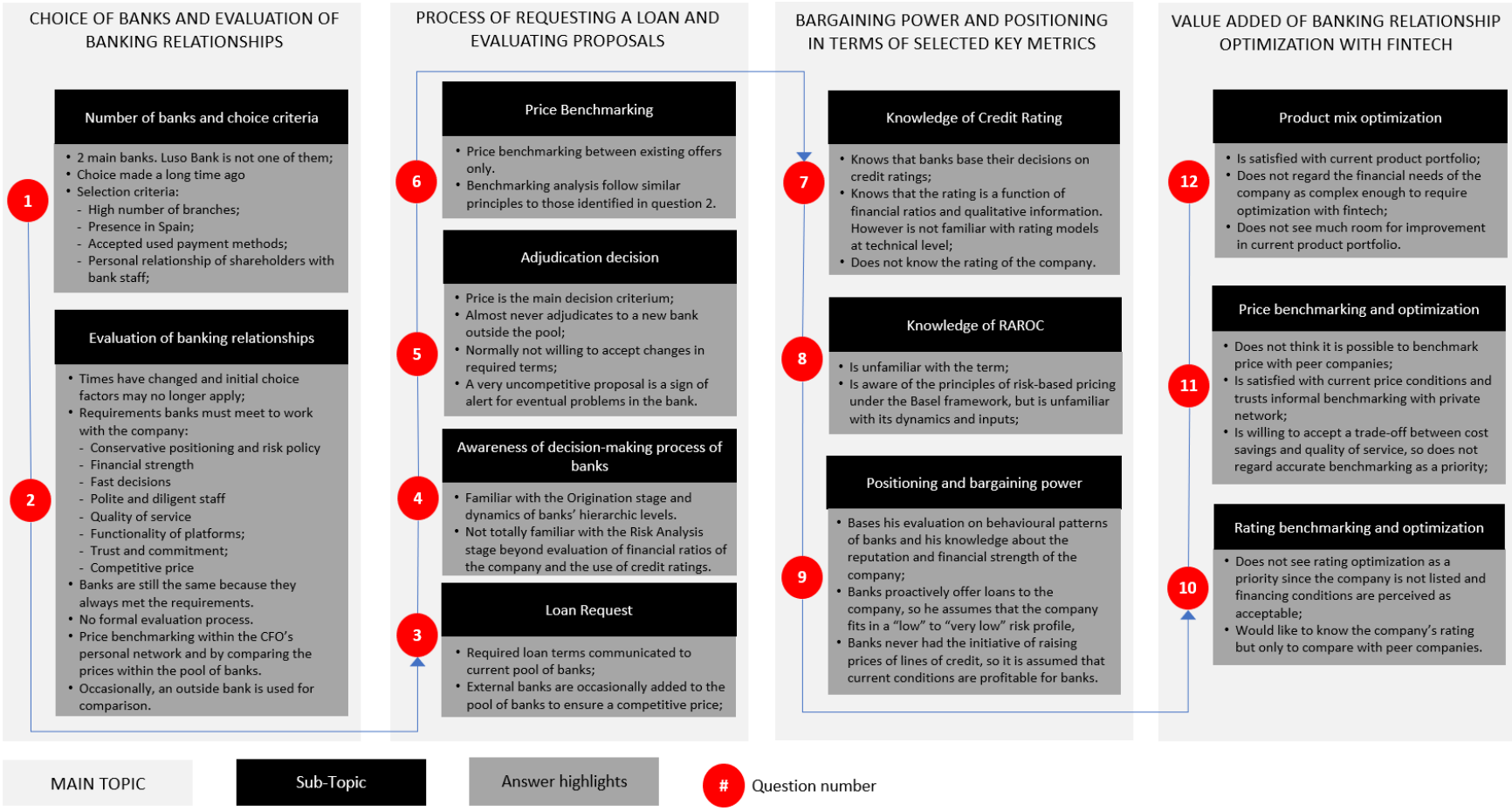


Figure 23: Structure and summary of the interview with the CFO of Consumer & Co.

5.3.2. Findings

The interview with the CFO of Consumer & Co followed four main topics and was structured in open questions to enable a fluid conversation and provide an in-depth perspective of the selected main topics. The main topics were:

- Choice of banks and evaluation of bank relationships;
- The process of requesting a loan and evaluating proposals;
- Bargaining power and the positioning of the company in terms of selected key metrics;
- The use of fintech solutions to optimize positioning in terms of selected key metrics.

Consumer & Co works with a pool of several banks but only two are considered core banks. Although some of the factors that determined the initial selection of those banks do not apply nowadays, it was possible to identify several key mandatory requirements that banks must meet to work with the company. Table 7 shows the identified factors:

Initial selection factors	Current Mandatory Requirements
- High number of branches; - Presence in Spain; - Accepted used payment methods; - Personal relationship of shareholders with bank staff	- Conservative positioning and risk policy - Financial strength - Fast decisions - Polite and diligent staff - Quality of service - Functionality of platforms; - Trust and commitment; - Competitive price

Table 7: Initial selection factors of the core banks and current mandatory requirements for integrating the pool of banks of Consumer & Co.

Compliance with mandatory requirements is not subject to a formal evaluation procedure. Furthermore, assessment of the financial strength of the bank is not strictly determined by the banks' rating. Moreover, price benchmarking only includes other banks or is performed by informal consultation within the personal network of the CFO, not controlling for peer characteristics.

New loan requests are submitted to the pool of banks, along with the set of required terms, for appreciation. The interviewee understands the importance of credit ratings in the final decision but showed limited awareness of the technical aspects of the risk analysis stage beyond analysis of financial indicators, not mentioning the analysis of the compliance, legal and product specific dimensions. In the end, price is the main criterium for adjudicating the new loan. Although external banks are occasionally included in the request to increase competition, the loan is almost always adjudicated to one of the core banks. Again, price benchmarking is informal and limited to the pool of banks and the personal network of the interviewee.

Although understanding the principles of the calculation process of credit ratings, he is not familiar with the models and, very importantly, does not know the rating of the company. He assumes that the company fits in the "low" or "very low" brackets, but his assessment is mostly based on his own informal evaluation of the financial indicators and reputation of the company, as well as on the behaviour of banks, namely their proactive offers of loans. Also, no comparison with peer companies is performed. For this reason, the first main conclusion of this analysis is:

- **The interviewee has a superficial understanding of the company's positioning in terms of credit rating;**

Furthermore, the interviewee did not know the term RAROC. Despite understanding the principles of risk-based pricing under the Basel III framework, he was not familiar with the models used to calculate RAROC and could not identify its inputs except credit rating. Again, his perception about the company's profitability for banks is based on behavioural aspects: interest rates were not raised in the last renewals of short-term lines of credit, suggesting that banks are comfortable with the relationship's profitability. The lack of knowledge and subjective rational of the interviewee's assessment supports the second main conclusion of this analysis:

- **The interviewee shows limited awareness of the company's positioning in terms of profitability for its current pool of banks.**

Concerning the possibility of optimizing the company's banking relationships with fintech, the interviewee expressed little interest in that possibility. For this interview it was assumed that banking relationships can be optimized through three main pillars:

- Rating benchmarking and optimization;

- Price benchmarking and optimization;
- Product mix optimization

Concerning rating, from a risk of credit point of view interviewee was satisfied with the company's current level of access to funding, which is mainly provided by banks, so he does not see it as priority. Rating benchmarking would be an interesting possibility for the interviewee, but only from a competition evaluation point of view.

RAROC optimization and benchmarking was also regarded as a low value adding exercise, mostly due to a high level of satisfaction with price conditions, which is reinforced by his trust in informal benchmarking and the conviction that the dynamics of market competition will ensure optimal pricing for the company. Furthermore, he is not interested in a trimming exercise of financial costs because he accepts exchanging maximum cost efficiency for personalization and quality of service, concepts that are subjective in nature.

Additionally, the optimization of the mix of financial products was also regarded as a non-priority. The interviewee bases his opinion on the low level of complexity of the current portfolio of financial products and services, not requiring the use of sophisticate technology, and for this reason does not see much room for improvement in this field.

Two of the dimensions considered for banking relationship management optimization are based on indicators about which the interviewee showed limited knowledge. That limitation, along with the superficial awareness of the company's positioning in terms of those indicators, as well as the lack of knowledge about available technology solutions, suggests a possible biased view on the potential of fintech in the optimization of banking relationships.

5.4. Hypothesis Test

At the end of sub-section 1.5. the following hypothesis was stated:

H1: Portuguese CFOs have an accurate view of their company's bargaining power against banks.

5.4.1. Rationale

In sub-section 4.1 the decision-making process of bank loans was discussed. Based on the insights obtained from the interview with a Senior Director of that bank, it was possible to develop

a framework of the whole process and identify the key metrics determining bank decisions. The identified metrics are:

- Credit rating;
- RAROC

It was also concluded that the bargaining power of a company against banks is determined by the company's positioning in terms of those metrics. Moreover, considering the high level of regulation of the financial sector and the trend towards financial integration, meaning that banks in the system are subject to similar guidelines to define internal processes, it is assumed that the developed framework and conclusions about the identified key metrics can be generalized to most banks. This assumption is also supported by the existence of an extensive literature addressing the use of credit ratings and the RAROC indicator in banking.

In sub-section 4.2. the findings of a research about fintech companies offering banking relationship optimization services was discussed. From that research, it was possible to identify two companies that support their methodologies in the optimization and benchmarking of the key metrics identified in sub-section 4.1., credit ratings and RAROC, by incorporating big data and the most up-to-date regulatory requirements. An overview of their value propositions was presented, and it was concluded that it is possible to optimize and benchmark the identified the key metrics with fintech, which would in theory increase the level of awareness in terms of those key metrics. Ultimately, it would have positive effects in the bargaining power of companies against banks.

In sub-section 4.3, the case of a Portuguese Large Enterprise was discussed. The interview with the CFO of that company provided a comprehensive perspective of the banking relationship management process of that company. Based on the insights obtained from the interview, it was possible to evaluate the level of knowledge about the mentioned key metrics and the level of awareness of the company's positioning in terms of those metrics. Moreover, it was possible to assess the interviewee's opinion about the value added by fintech solutions in the optimization of banking relationships. The analysis provided three very important conclusions for testing the stated hypothesis:

1) The interviewee has a superficial understanding of the company's positioning in terms of credit rating;

2) The interviewee shows limited awareness of the company's positioning in terms of profitability for its current pool of banks;
3) The interviewee is not receptive to use fintech to optimize the company's banking relationships.

5.4.2. Logical Test

If a company's bargaining power against banks is a function of the company's positioning in terms of credit rating and RAROC, and considering that (i) the CFO of a Portuguese Large Enterprise has limited awareness about the company's positioning in terms of those metrics and (ii) is not receptive to use fintech tools specifically designed to optimize that level of awareness, it can be concluded that the accuracy of his view of the company's bargaining power against banks is not maximized. Quantifying that level of accuracy was not the objective of this study and would require an entirely different methodology and resources, but the fact that the CFO bases his assumptions about quantifiable variables on several subjective factors suggests the existence of potential for improvement.

For the reasons mentioned above, it is concluded that the CFO of Consumer & Co does not have an accurate view of the company's bargaining power against banks. As such, the stated hypothesis is false.

5.4.3. Limitations and potential for generalization

The test was conducted through a comparative exercise based on deep qualitative information obtained the study of the specific, individual realities. As outlined in section 4, conclusions drawn from the qualitative analysis of specific, individual realities pose limitations in terms of potential for generalization. To evaluate that potential, it is necessary to breakdown the limitations of each components of the analysis.

- **The case of Luso Bank**

The banking system is highly regulated at a supra-national level. Those regulations include the definition of guidelines for the design of core internal processes, including loan approval decision-making. Also, the wide use of credit ratings and RAROC by banks has been extensively studied and acknowledged by the academic community. Their use is also addressed in the Basel III

framework. As such, it is expected that the conclusions drawn from the study of Luso Bank would not be materially different if any other bank compliant with Basel III was considered.

- **The value propositions of selected fintech companies.**

The research only intended to assess the availability of fintech solutions that target the information gap identified in the case of Consumer & Co. Their services were not tested, and the real value added of their solutions could not be quantified. However, their very existence proves that Banking Relationship Management optimization is a niche to be explored by fintech companies. Furthermore, the awards won by Vallstein and the high profile of the Redbridge's clients indicate the reliability of their solutions. For these reasons, the conclusion that it is possible to optimize banking relationships with fintech is strong. Nonetheless, it would be interesting to evaluate the impact of the use of such solutions from a quantitative perspective by studying their results with a sample of clients.

- **The case of Consumer & Co**

Consumer & Co is not, by any means, representative of the universe of Portuguese companies, both in terms of size, sector of activity and risk profile. Furthermore, the conclusions drawn from the case analysis strongly depend on the CFO's own personal views. However, considering that Consumer & Co is a large enterprise and fits in a "low" to "very low" risk bracket, it is expected that the level of sophistication of its financial management is above average. So, it will be assumed that most Portuguese CFOs would display lower or similar levels of awareness about the identified key metrics. For this reason, it is expected that the hypothesis test would have the same result (false) if another CFO was interviewed. If this holds, the conclusions could be generalized to any market that are similar to Portugal in terms of (i) compliance with Basel III; (ii) economic development and (iii) sophistication of the financial system.

However, this assumption has obvious limitations and a deeper analysis of more companies is required to drawn stronger conclusions. Moreover, this rationale would probably only apply to companies that have access to banking credit, which excludes companies exhibiting high levels of financial distress. Such companies have very limited bargaining power and their relationships with banks follow different dynamics that were not the subject of this study.

- **Global assessment**

Considering all the mentioned strengths and limitations, it is concluded that the results of this analysis are reliable enough to offer valuable insights about the level of awareness of CFOs about their companies' bargaining power against banks and provide a framework for future studies. Nonetheless, to drawn stronger conclusions a more diversified sample of companies is needed, as well as a quantitative analysis of the impact of the use of fintech to optimize banking relationships.

6. CONCLUSION

This study focuses on the topic of Banking Relationship Management. The increasing complexity of the banking activity driven by structural regulatory reforms as a response to the 2008 crisis disrupted the dynamics of bank-firm relationships. Banks had to adapt to a new regulatory framework that established minimum capital requirements and guidelines towards a more transparent and sustainable governance, while enduring adverse economic conditions and facing new competition from fintech companies which created additional pressure on the profitability of banks. This created a challenging environment for companies, and as such optimizing banking relationships must become a priority. Managers must keep up with these changes by developing a deep understanding of the key drivers of bank decisions and leverage all the information and tools at their disposal to improve their bargaining power against banks.

Underlining the importance of banking relationship management, the research aimed to understand how bank-firm relationships were impacted by regulatory changes, whether CFOs are aware of the key drivers of banks' decisions and, in this context, how could fintech help optimize bank relationships.

Given the limitations of the available research about this specific topic, the literature review focused on the interactions between the agents that form the ecosystem of banking relationship management: banks, companies, regulators and fintechs. Given the close relationship between risk and profitability of banks under the Capital Requirements pillar, and considering the high amount of information banks are required to disclose under the Market Discipline Pillar, the increasing harmonization of financial services and the emergence of fintech that combines big data with knowledge about changes in regulatory reforms, it was hypothesized that in this context CFOs have an accurate view of their company's bargaining power against banks.

To test this hypothesis, a comparative analysis between the decision-making process of banks and the level of awareness of CFOs about that process was conducted. The process followed 3 steps. The objective of step 1 was to identify the key metrics used by banks in their loan-approval process to determine what defines the bargaining power of companies against banks. To achieve this objective, an in-depth analysis based on insights obtained from the interview with the Senior Director of a relevant Portuguese bank was performed. The analysis enabled the detailed mapping of the loan approval process of that bank and identify (i) credit ratings and (ii) the RAROC indicator as the key metrics that determine the banks' decisions. Assuming that most banks would use similar loan-approval processes, it was concluded that the bargaining power of a company against banks would be determined by the company's positioning in terms of those metrics. In step 2, by analyzing fintech-based banking relationship management solutions offered by Vallstein and Redbridge, it was found that their methodologies incorporate regulatory capital requirements and are based on the estimation and benchmarking of credit ratings and risk-adjusted profitability indicators similar to RAROC. These findings supported the conclusion that fintech solutions can add value in optimizing banking relationships, as they targeted the key metrics that were identified as determinants of the bargaining power of companies against banks. Finally, in step 3 the CFO of a Portuguese large enterprise was interviewed. The interview focused on how the CFO managed his company's banking relationships and it was found that he exhibited limited awareness about the company's positioning in terms of credit rating and the RAROC indicator. This finding was supported by the fact that the CFO based his assessment on superficial knowledge about the calculation of the identified metrics and relied on basic informal benchmarking and assumptions drawn from the behavior of banks. Also, he was not receptive to use fintech solutions to improve his level of information, mostly based on his assumption that such solutions would add little value, supporting the conclusion that the CFO had a superficial level of awareness of the bargaining power of his company against banks. This conclusion proved the hypothesis to be false, meaning that not all Portuguese CFOs have an accurate view of the bargaining power of their companies against banks. The potential for generalization of the obtained result was assessed based on the limitations of each components of the research. It is expected that the conclusions drawn from the study of Luso Bank would not be materially different if any other bank compliant with Basel III was considered, however it is clear that the CFO of Consumer & Co is not representative of the universe of CFOs. However, due to the company's size category (large) and risk profile ("very low" or

"low"), it was assumed that the conclusions from the case of Consumer & Co could be generalized to any market that are similar to Portugal in terms of (i) compliance with Basel III; (ii) economic development and (iii) sophistication of the financial system. This assumption is also in line with the researcher's own professional experience in dealing with CFOs as a corporate banking relationship manager. Concerning the cases of Vallstein and Redbridge, the main limitations were associated with the fact that their methods were not tested, nor their results quantified. Nonetheless, based on Vallstein's awards and Redbridge's client base, it was assumed that their solutions are effective.

This research has two main contributions. From a management point of view, it provides an understanding of the main drivers of change in bank-firm relationships, based both on a comprehensive literature review and on in-depth comparative analysis of two real cases. The results obtained suggests an information gap between banks and companies about bargaining power and highlights the potential for improvement in this area, which is a core function of management and has great impact on companies. Complementing the analysis with a discussion about fintech-based banking relationship management solutions it indicates a possible way for managers to address this issue and optimize their banking relationships. From an academic point of view, this research explores a topic that has not been extensively explored by academia yet as the several trends and factors disrupting the financial system have only recently emerged. Furthermore, it addresses the information asymmetry problem from an alternative perspective, as most researchers explore this topic from the point of view of banks evaluating the credit risk profile of companies. Finally, the conceptual framework developed for this study can be complemented by future research. Expanding the sample of subject CFOs to increase it representativity in terms of size category and sector of activity will certainly improve the robustness of the result. Furthermore, it would be interesting to evaluate the effectiveness of fintech-based BRM solutions by performing a quantitative analysis of their results with clients.

7. REFERENCES

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8. APPENDIXES

- **Appendix A: Number, Turnover, Staff Headcount and Gross Value Added of Portuguese Non-Financial Companies - Distribution by:**

A1: Size category

Size	Number of companies		Turnover		Number of Employees		Gross Value Added	
	#	%	million euros	%	#	%	million euros	%
Micro	1,150,336	96.2%	65,688	19.3%	1,701,757	45.9%	18,824	22.0%
Small	38,600	3.2%	67,477	19.8%	708,143	19.1%	17,426	20.4%
Medium	6,128	0.5%	73,652	21.6%	547,409	14.8%	18,015	21.1%
Large	1,038	0.1%	133,663	39.3%	747,431	20.2%	31,145	36.5%
Total	1,196,102	100.0%	340,480	100.0%	3,704,740	100.0%	85,410	100.0%

***Source**: Author's own computation of data extracted from the dataset "Empresas em Portugal 2016", by Statistics Portugal (2018b), available in https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=318224733&PUBLICACOESmodo=2*

A2: Sector of activity

Activity sector	Number of companies		Turnover		Number of Employees		Gross Value Added	
	#	%	million euros	%	#	%	million euros	%
Agriculture, Livestock, Hunting, Foresty and Fishing	132,844	11.1%	6,543	1.9%	194,121	5.2%	1,655	1.9%
Extractive Industries	1,045	0.1%	918	0.3%	9,133	0.2%	403	0.5%
Manufacturing	66,953	5.6%	82,104	24.1%	686,651	18.5%	20,159	23.6%
Electricity, Gas, Steam, Hot or Chilled Water, Air Conditioning Supply	3,977	0.3%	20,572	6.0%	12,343	0.3%	4,387	5.1%
Water Supply; Sewerage, Waste Management and Remediation Activities	1,229	0.1%	3,279	1.0%	31,782	0.9%	1,478	1.7%
Construction	78,866	6.6%	17,491	5.1%	301,862	8.1%	5,366	6.3%
Wholesale and retail trade; Repair of motor vehicles	220,359	18.4%	128,088	37.6%	749,170	20.2%	16,582	19.4%
Transports and Storage	21,799	1.8%	18,425	5.4%	159,888	4.3%	6,629	7.8%
Accommodation, Restaurants and similar	97,562	8.2%	11,615	3.4%	317,808	8.6%	4,750	5.6%
Information and Communication Activities	16,453	1.4%	11,898	3.5%	94,132	2.5%	5,374	6.3%
Real Estate Activities	35,787	3.0%	5,423	1.6%	56,778	1.5%	1,897	2.2%
Consulting, Scientific and Technical Activities and Similar	120,198	10.0%	11,186	3.3%	240,536	6.5%	5,306	6.2%
Administrative Activities and Support Services	163,936	13.7%	10,952	3.2%	447,481	12.1%	5,672	6.6%
Education and Training	54,647	4.6%	1,471	0.4%	92,490	2.5%	849	1.0%
Human Health and Social Work Activities	90,728	7.6%	6,788	2.0%	170,461	4.6%	3,165	3.7%
Artistic, Cultural, Sport and Other Recreative Activities	32,815	2.7%	2,198	0.6%	52,529	1.4%	1,050	1.2%
Other Service Activities	56,904	4.8%	1,531	0.4%	87,575	2.4%	688	0.8%
Total	1,196,102	100.0%	340,480	100.0%	3,704,740	100.0%	85,410	100.0%

***Source**: Author's own computation of data extracted from the dataset "Empresas em Portugal 2016", by Statistics Portugal (2018b), available in https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=318224733&PUBLICACOESmodo=2*

A3: NUTS 2 region.

Region	Number of companies		Turnover		Number of Employees		Gross Value Added	
	#	%	million euros	%	#	%	million euros	%
North	405,518	33.9%	97,992	28.8%	1,262,799	34.1%	24,639	28.8%
Center	254,927	21.3%	57,241	16.8%	682,153	18.4%	13,752	16.1%
Lisbon	336,230	28.1%	152,947	44.9%	1,278,935	34.5%	38,323	44.9%
Alentejo	81,853	6.8%	15,536	4.6%	195,452	5.3%	3,743	4.4%
Algarve	66,106	5.5%	7,966	2.3%	157,492	4.3%	2,556	3.0%
Azores	26,360	2.2%	4,708	1.4%	63,028	1.7%	1,101	1.3%
Madeira	25,108	2.1%	4,089	1.2%	64,881	1.8%	1,296	1.5%
Total	1,196,102	100.0%	340,480	100.0%	3,704,740	100.0%	85,410	100.0%

***Source**: Author's own computation of data extracted from the dataset "Empresas em Portugal 2016", by Statistics Portugal (2018b), available in https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=318224733&PUBLICACOESmodo=2*

- **Appendix B – The Portuguese Banking System: Total Assets and Total Loans to Clients in 2013, 2015 and 2017, by bank. Expressed in total amounts (euro millions) and percentual market share.**

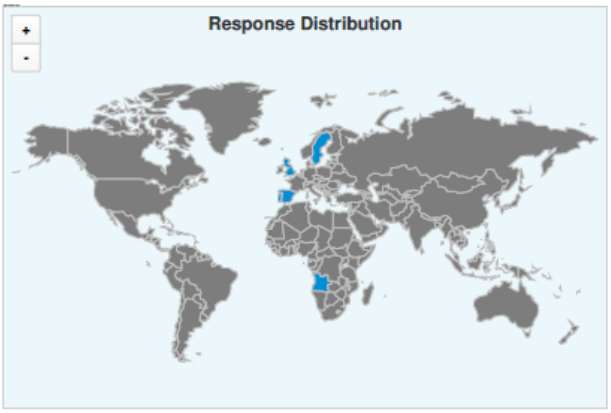
Institution	Total Assets						Total Loans to Clients					
	2013		2015		2017		2013		2015		2017	
	Amount (euro millions)	Market Share	*Amount (euro millions)*	Market Share	*Amount (euro millions)*	Market Share	*Amount (euro millions)*	Market Share	*Amount (euro millions)*	Market Share	*Amount (euro millions)*	Market Share
CGD	112,963	25.4%	100,901	26.2%	93,248	26.3%	70,074	25.7%	65,759	27.9%	55,255	25.2%
Millennium BCP	82,007	18.4%	74,885	19.5%	71,939	20.3%	56,802	20.8%	51,970	22.1%	47,633	21.7%
Santander Totta SGPS	41,551	9.3%	49,086	12.8%	53,169	15.0%	26,096	9.6%	31,783	13.5%	39,646	18.1%
BES / Novo Banco	80,608	18.1%	57,529	14.9%	52,055	14.7%	46,335	17.0%	31,584	13.4%	25,791	11.8%
Banco BPI	42,700	9.6%	40,673	10.6%	29,640	8.4%	25,965	9.5%	24,282	10.3%	21,659	9.9%
Montepio	23,039	5.2%	21,145	5.5%	20,200	5.7%	15,555	5.7%	14,662	6.2%	13,029	5.9%
Crédito Agrícola	*14,621*	3.3%	*14,936*	3.9%	17,988	5.1%	*7,472*	2.7%	*7,555*	3.2%	8,721	4.0%
BBVA	*5,361*	1.2%	*4,767*	1.2%	*4,017*	*1.1%*	*5,009*	1.8%	*3,394*	1.4%	*2,956*	*1.3%*
Barclays	*15,289*	3.4%	*9,620*	2.5%	*0*	*0.0%*	*7,156*	2.6%	*955*	0.4%	*0*	*0.0%*
Besi / Haitong Bank	*5,962*	1.3%	*4,173*	1.1%	*3,276*	*0.9%*	*1,947*	0.7%	*1,041*	0.4%	*630*	*0.3%*
Finantia	*2,266*	0.5%	*1,774*	0.5%	*1,988*	*0.6%*	*640*	0.2%	*353*	0.1%	*230*	*0.1%*
BIG	*1,214*	0.3%	*1,542*	0.4%	*1,851*	*0.5%*	*197*	0.1%	*377*	0.2%	*309*	*0.1%*
CBI	*2,009*	0.5%	*1,799*	0.5%	*1,642*	*0.5%*	*587*	0.2%	*358*	0.2%	*240*	*0.1%*
Banif Grupo Financeiro	*13,603*	3.1%	*0*	0.0%	*0*	*0.0%*	*7,969*	2.9%	*0*	0.0%	*0*	*0.0%*
Banco Carregosa	*228*	0.1%	*228*	0.1%	*0*	*0.0%*	*39*	0.0%	*76*	0.0%	*0*	*0.0%*
Banco Credibom	*0*	0.0%	*0*	0.0%	*1,566*	*0.4%*	*0*	0.0%	*0*	0.0%	*1,432*	*0.7%*
Sant Consumer	*945*	0.2%	*1,281*	0.3%	*1,367*	*0.4%*	*843*	0.3%	*1,215*	0.5%	*1,309*	*0.6%*
Invest	*595*	0.1%	*603*	0.2%	*619*	*0.2%*	*175*	0.1%	*247*	0.1%	*329*	*0.2%*
Total	**444 962**	**100.0%**	**384 942**	**100.0%**	**354,567**	**100.0%**	**272 862**	**100.0%**	**235 610**	**100.0%**	**219,170**	**100.0%**

***Source**: Author's own computation of data extracted from the datasets "Consolidated Balance Sheet 2013", "Consolidated Balance Sheet 2015", "Consolidated Balance Sheet 2017", "Consolidated Income Statements 2013", "Consolidated Income Statements 2015" and "Consolidated Income Statements 2017" by Associação Portuguesa de Bancos (no date), available in http://www.apb.pt/studies_and_publications/statistics/.*

- **Appendix C – Survey submitted to Portuguese CFOs**

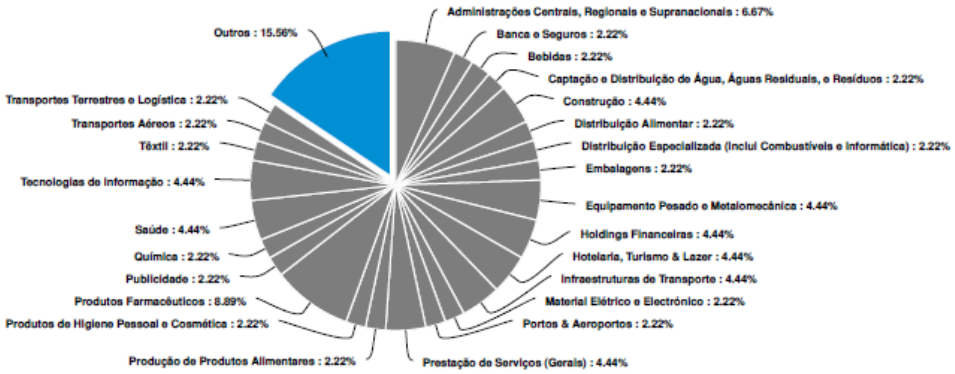
BRM - PT - CFOs - Dashboard

VIEWED	STARTED	COMPLETED	COMPLETION RATE	DROP OUTS	TIME TO COMPLETE
98	45	45	100%	0	6 mins



Countries	Responses
PT	91.11%
SE	2.22%
GB	2.22%
ES	2.22%
AO	2.22%
Total	100.00%

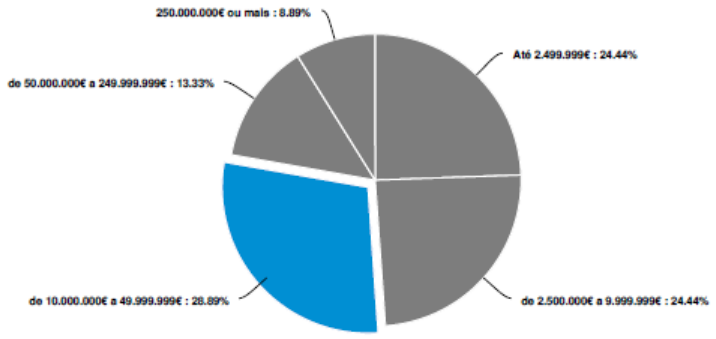
Por favor indique o setor de atividade da empresa.



Answer	Count	Percent	20% 40% 60% 80% 100%
Administrações Centrais, Regionais e Supranacionais	3	6.67%	
Agricultura, Produção Animal e Pescas	0	0%	
Banca e Seguros	1	2.22%	
Bebidas	1	2.22%	
Bens de Consumo (Gerais)	0	0%	
Calçado	0	0%	
Captação e Distribuição de Água, Águas Residuais, e Resíduos	1	2.22%	
Cerâmica e Vidro	0	0%	
Comércio Automóvel	0	0%	
Construção	2	4.44%	
Construção e Reparação Naval	0	0%	
Distribuição Alimentar	1	2.22%	

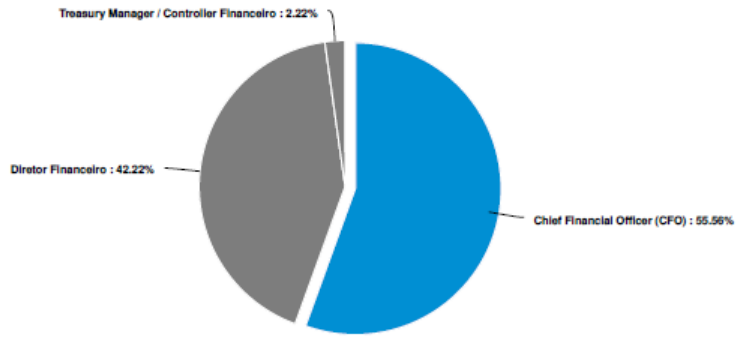
Distribuição Especializada (Inclui Combustíveis e Informática)	1	2.22%	
Embalagens	1	2.22%	
Equipamento Pesado e Metalomecânica	2	4.44%	
Extracção e Refinação de Petróleo e Derivados	0	0%	
Fabricantes e Equipamento Automóvel	0	0%	
Ferramentas e Outros Produtos Metálicos	0	0%	
Holdings Financeiras	2	4.44%	
Hotelaria, Turismo & Lazer	2	4.44%	
Impressão e Artes Gráficas	0	0%	
Infraestruturas de Transporte	2	4.44%	
Instituições Desportivas e Recreativas	0	0%	
Madeiras e Produtos Florestais	0	0%	
Materiais de Construção	0	0%	
Material Elétrico e Electrónico	1	2.22%	
Media	0	0%	
Minas & Siderurgia & Distribuição Siderúrgica	0	0%	
Pasta e Papel	0	0%	
Portos & Aeroportos	1	2.22%	
Prestação de Serviços (Gerais)	2	4.44%	
Produção de Mobiliário	0	0%	
Produção de Produtos Alimentares	1	2.22%	
Produção, Distribuição e Transmissão de Electricidade	0	0%	
Produção, Distribuição e Transmissão de Gás	0	0%	
Produtos de Higiene Pessoal e Cosmética	1	2.22%	
Produtos Farmacêuticos	4	8.89%	
Publicidade	1	2.22%	
Química	1	2.22%	
Restauração	0	0%	
Saúde	2	4.44%	
Tecnologias de Informação	2	4.44%	
Telecomunicações	0	0%	
Têxtil	1	2.22%	
Transportes Aéreos	1	2.22%	
Transportes Marítimos	0	0%	
Transportes Terrestres e Logística	1	2.22%	
Outros	7	15.56%	
Total	45	100 %	

Por favor indique a dimensão da sua empresa em termos de faturação.



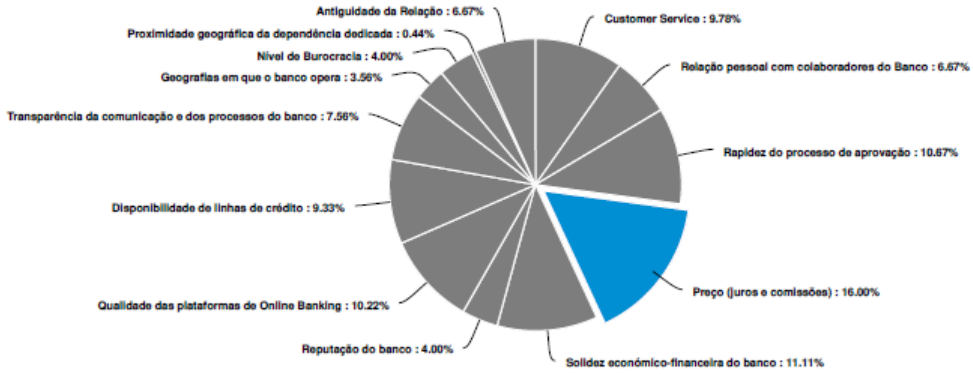
Answer	Count	Percent	20% 40% 60% 80% 100%
Até 2.499.999€	11	24.44%	
de 2.500.000€ a 9.999.999€	11	24.44%	
de 10.000.000€ a 49.999.999€	13	28.89%	
de 50.000.000€ a 249.999.999€	6	13.33%	
250.000.000€ ou mais	4	8.89%	
Total	45	100 %	

Por favor indique a sua posição na empresa.



Answer	Count	Percent	20% 40% 60% 80% 100%
Chief Financial Officer (CFO)	25	55.56%	
Diretor Financeiro	19	42.22%	
Treasury Manager / Controller Financeiro	1	2.22%	
Total	45	100 %	

Por favor selecione os 5 fatores mais importantes que determinam a escolha dos bancos com que a sua empresa trabalha.

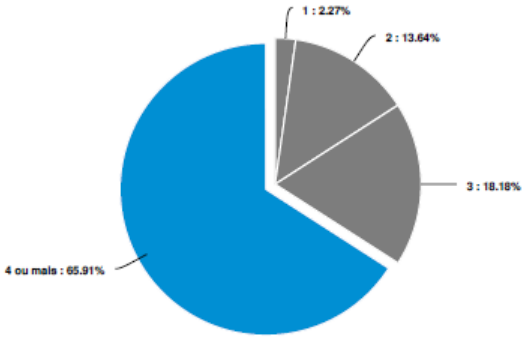


Answer	Count	Percent	20% 40% 60% 80% 100%
Customer Service	22	9.78%	
Relação pessoal com colaboradores do Banco	15	6.67%	
Rapidez do processo de aprovação	24	10.67%	
Preço (juros e comissões)	36	16%	
Solidez económico-financeira do banco	25	11.11%	
Reputação do banco	9	4%	
Qualidade das plataformas de Online Banking	23	10.22%	
Disponibilidade de linhas de crédito	21	9.33%	
Transparência da comunicação e dos processos do banco	17	7.56%	
Geografias em que o banco opera	8	3.56%	
Nível de Burocracia	9	4%	
Proximidade geográfica da dependência dedicada	1	0.44%	
Antiguidade da Relação	15	6.67%	
Outra	0	0%	
Total	225	100 %	

Por favor selecione os 5 fatores mais importantes que determinam a escolha dos bancos com que a sua empresa trabalha. - Text Data for Outra

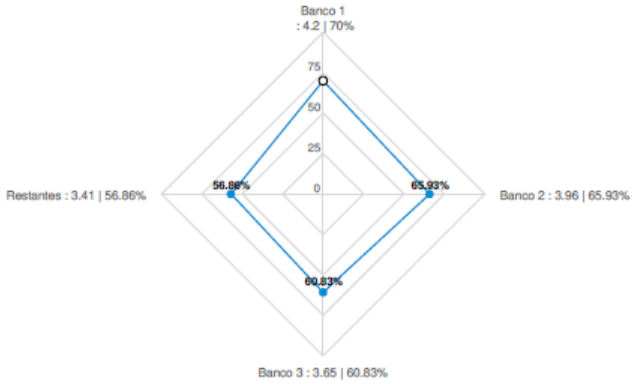
No Data To Display

Por favor indique o número de bancos com que a sua empresa trabalha.



Answer	Count	Percent	20% 40% 60% 80% 100%
1	1	2.27%	
2	6	13.64%	
3	8	18.18%	
4 ou mais	29	65.91%	
Total	44	100 %	

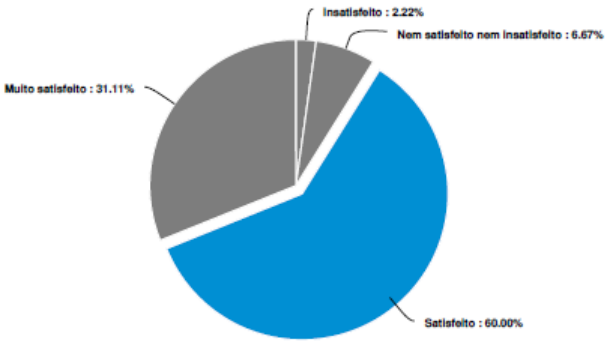
Por favor indique o seu nível de satisfação com as relações bancárias da sua empresa. Tenha em atenção o número de bancos mencionados anteriormente de forma a assegurar a coerência das respostas.



Powered by AI

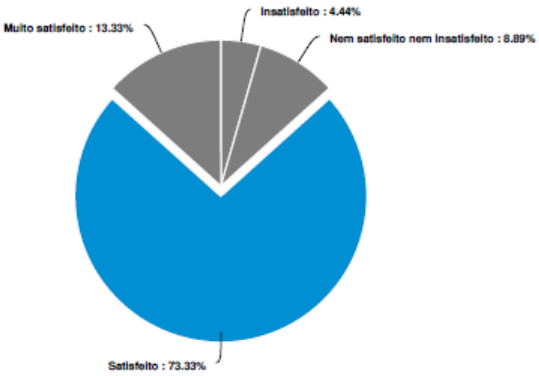
Question	Count	Score	Muito insatisfeito	Insatisfeito	Nem satisfeito nem insatisfeito	Satisfeito	Muito satisfeito	N/A
Banco 1	45	4.2						
Banco 2	45	3.96						
Banco 3	45	3.65						
Restantes	45	3.41						
	Average	3.81						

Banco 1



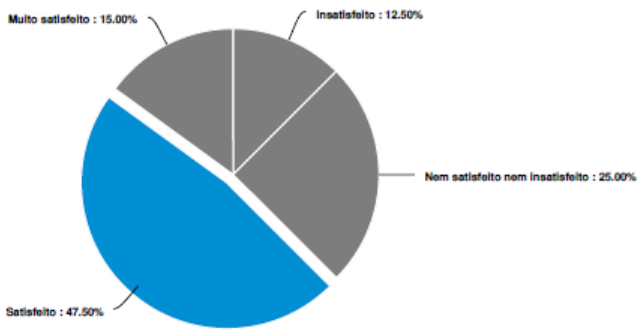
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito insatisfeito	0	0%	
Insatisfeito	1	2.22%	
Nem satisfeito nem insatisfeito	3	6.67%	
Satisfeito	27	60%	
Muito satisfeito	14	31.11%	
Total	45	100 %	

Banco 2



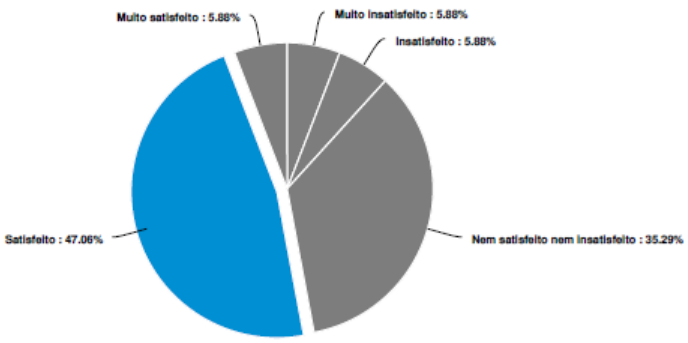
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito insatisfeito	0	0%	
Insatisfeito	2	4.44%	
Nem satisfeito nem insatisfeito	4	8.89%	
Satisfeito	33	73.33%	
Muito satisfeito	6	13.33%	
Total	45	100 %	

Banco 3



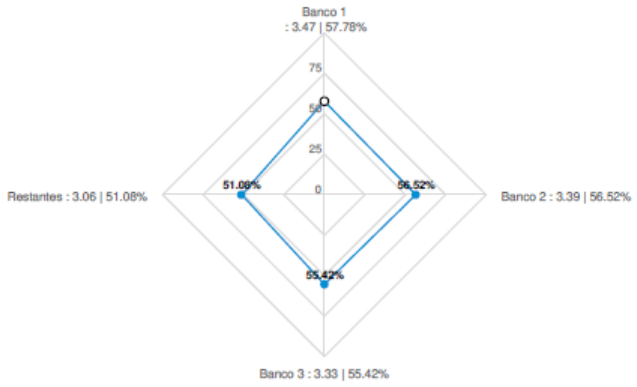
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito insatisfeito	0	0%	
Insatisfeito	5	12.5%	
Nem satisfeito nem insatisfeito	10	25%	
Satisfeito	19	47.5%	
Muito satisfeito	6	15%	
Total	40	100 %	

Restantes



Answer	Count	Percent	20% 40% 60% 80% 100%
Muito insatisfeito	2	5.88%	
Insatisfeito	2	5.88%	
Nem satisfeito nem insatisfeito	12	35.29%	
Satisfeito	16	47.06%	
Muito satisfeito	2	5.88%	
Total	34	100 %	

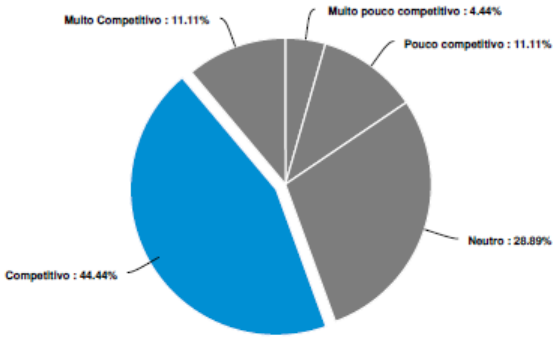
Como avalia o posicionamento dos principais bancos com que a sua empresa trabalha relativamente ao preço (juros, comissões e outros encargos) dos seus produtos e serviços? Tenha em atenção o número de bancos mencionados anteriormente de forma a assegurar a coerência das respostas.



Powered by AI

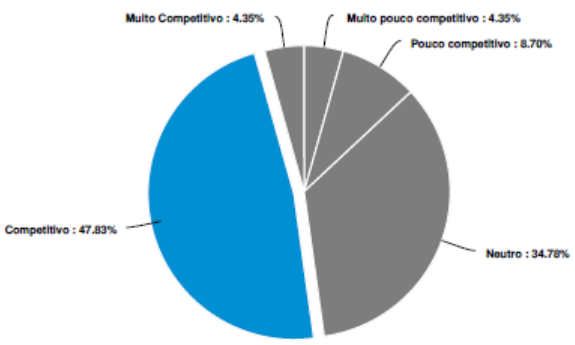
Question	Count	Score	Muito pouco competitivo	Pouco competitivo	Neutro	Competitivo	Muito Competitivo	N/A
Banco 1	45	3.47						
Banco 2	46	3.39						
Banco 3	46	3.33						
Restantes	45	3.06						
	Average	3.31						

Banco 1



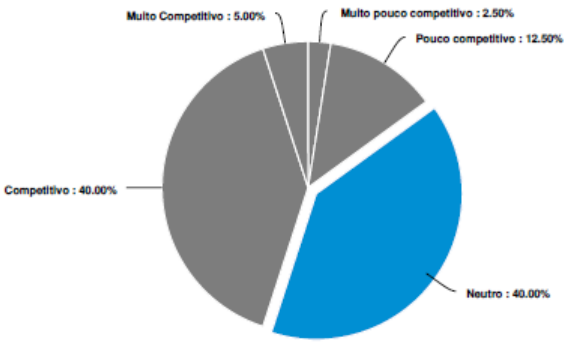
Answer	Count	Percent	20%	40%	60%	80%	100%
Muito pouco competitivo	2	4.44%					
Pouco competitivo	5	11.11%					
Neutro	13	28.89%					
Competitivo	20	44.44%					
Muito Competitivo	5	11.11%					
Total	45	100 %					

Banco 2



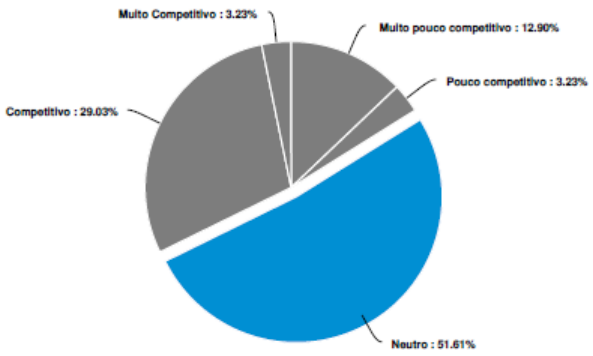
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito pouco competitivo	2	4.35%	
Pouco competitivo	4	8.7%	
Neutro	16	34.78%	
Competitivo	22	47.83%	
Muito Competitivo	2	4.35%	
Total	46	100 %	

Banco 3



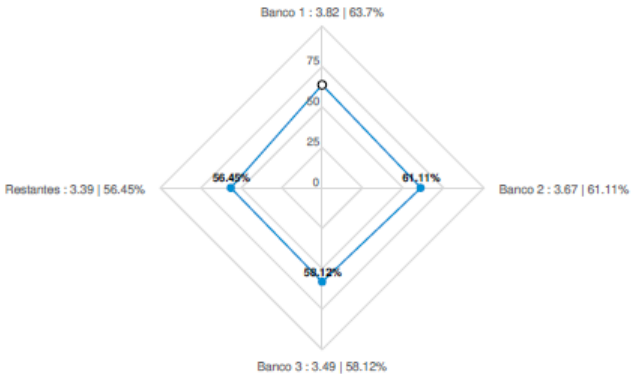
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito pouco competitivo	1	2.5%	
Pouco competitivo	5	12.5%	
Neutro	16	40%	
Competitivo	16	40%	
Muito Competitivo	2	5%	
Total	40	100 %	

Restantes



Answer	Count	Percent	20% 40% 60% 80% 100%
Muito pouco competitivo	4	12.9%	
Pouco competitivo	1	3.23%	
Neutro	16	51.61%	
Competitivo	9	29.03%	
Muito Competitivo	1	3.23%	
Total	31	100 %	

Como avalia o nível de transparência do processo de comunicação, cálculo e cobrança dos custos bancários (juros, comissões e outros encargos) por parte dos principais bancos com que a sua empresa trabalha? Tenha em atenção o número de bancos mencionados anteriormente de forma a assegurar a coerência das respostas.



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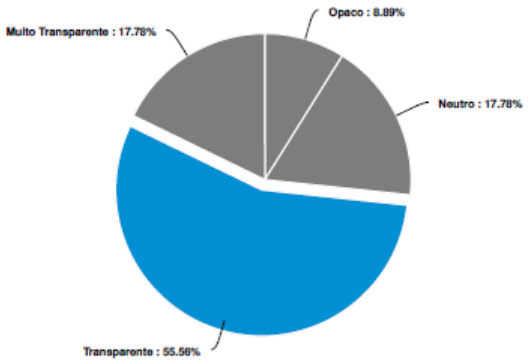
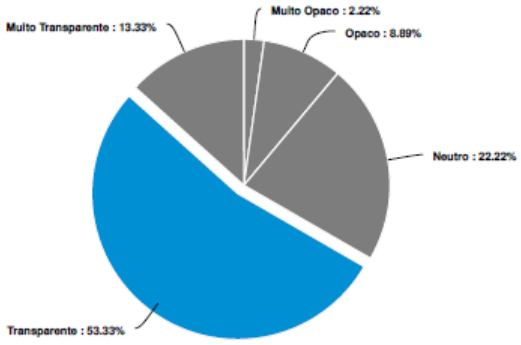
Question	Count	Score	Muito Opaco Opaco Neutro Transparente Muito Transparente N/A
Banco 1	45	3.82	
Banco 2	45	3.67	
Banco 3	45	3.49	
Restantes	45	3.39	
	Average	3.59	

Banco 1



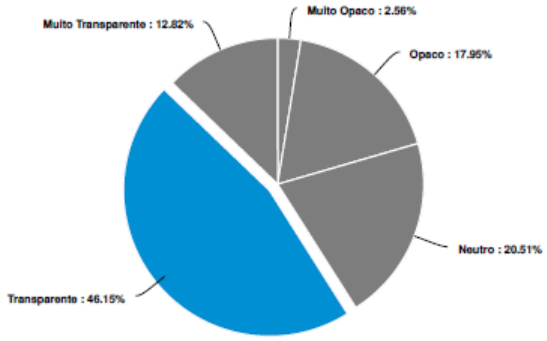
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito Opaco	0	0%	
Opaco	4	8.89%	
Neutro	8	17.78%	
Transparente	25	55.56%	
Muito Transparente	8	17.78%	
Total	45	100 %	

Banco 2



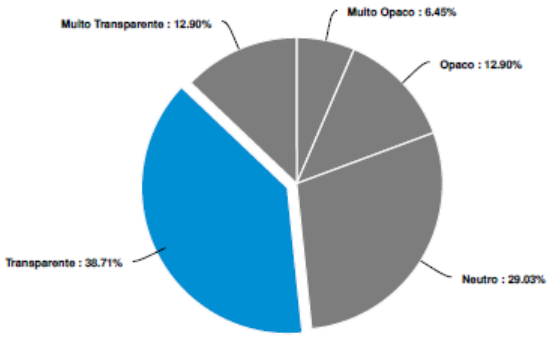
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito Opaco	1	2.22%	
Opaco	4	8.89%	
Neutro	10	22.22%	
Transparente	24	53.33%	
Muito Transparente	6	13.33%	
Total	45	100 %	

Banco 3



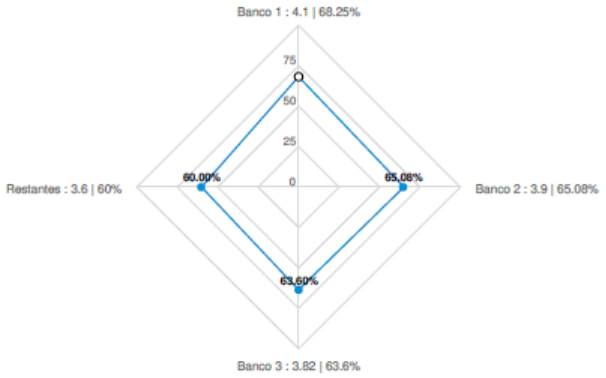
Answer	Count	Percent	20% 40% 60% 80% 100%
Muito Opaco	1	2.56%	
Opaco	7	17.95%	
Neutro	8	20.51%	
Transparente	18	46.15%	
Muito Transparente	5	12.82%	
Total	39	100 %	

Restantes



Answer	Count	Percent	20% 40% 60% 80% 100%
Muito Opaco	2	6.45%	
Opaco	4	12.9%	
Neutro	9	29.03%	
Transparente	12	38.71%	
Muito Transparente	4	12.9%	
Total	31	100 %	

No que respeita à definição do preço e disponibilização de linhas de crédito por parte dos principais bancos com que a sua empresa trabalha, qual o seu nível de conhecimento em relação ao processo de decisão e seus fatores determinantes? Tenha em atenção o número de bancos mencionados anteriormente de forma a assegurar a coerência das respostas.



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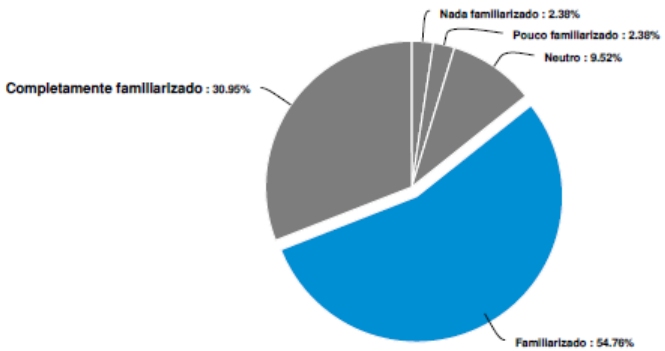
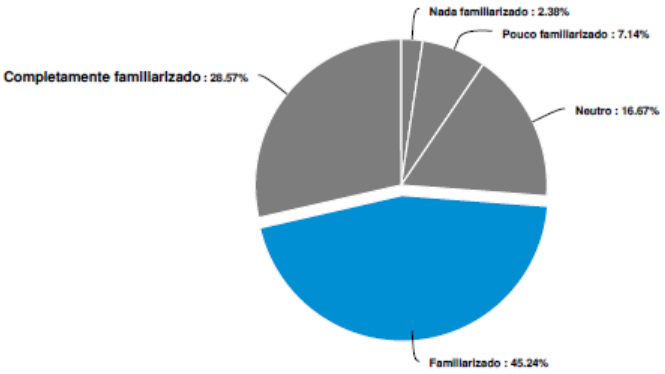
Question	Count	Score	Nada familiarizado	Pouco familiarizado	Neutro	Familiarizado	Completamente familiarizado	N/A
Banco 1	45	4.1						
Banco 2	45	3.9						
Banco 3	45	3.82						
Restantes	45	3.6						
	Average	3.85						

Banco 1



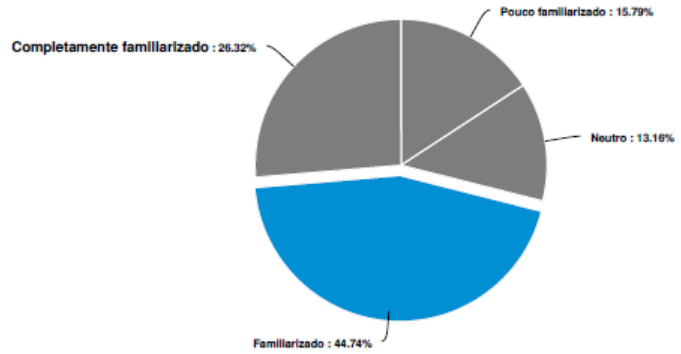
Answer	Count	Percent	20%	40%	60%	80%	100%
Nada familiarizado	1	2.38%					
Pouco familiarizado	1	2.38%					
Neutro	4	9.52%					
Familiarizado	23	54.76%					
Completamente familiarizado	13	30.95%					
Total	42	100 %					

Banco 2



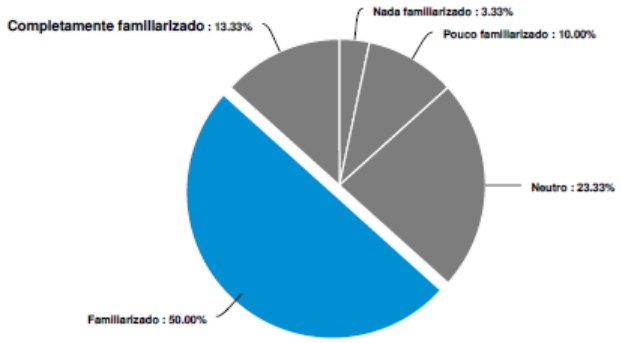
Answer	Count	Percent	20% 40% 60% 80% 100%
Nada familiarizado	1	2.38%	
Pouco familiarizado	3	7.14%	
Neutro	7	16.67%	
Familiarizado	19	45.24%	
Completamente familiarizado	12	28.57%	
Total	42	100 %	

Banco 3



Answer	Count	Percent	20% 40% 60% 80% 100%
Nada familiarizado	0	0%	
Pouco familiarizado	6	15.79%	
Neutro	5	13.16%	
Familiarizado	17	44.74%	
Completamente familiarizado	10	26.32%	
Total	38	100 %	

Restantes



Answer	Count	Percent	20% 40% 60% 80% 100%
Nada familiarizado	1	3.33%	
Pouco familiarizado	3	10%	
Neutro	7	23.33%	
Familiarizado	15	50%	
Completamente familiarizado	4	13.33%	
Total	30	100 %	

Qual o nível de importância que atribui à qualidade e solidez das relações bancárias para o desenvolvimento da atividade da sua empresa?

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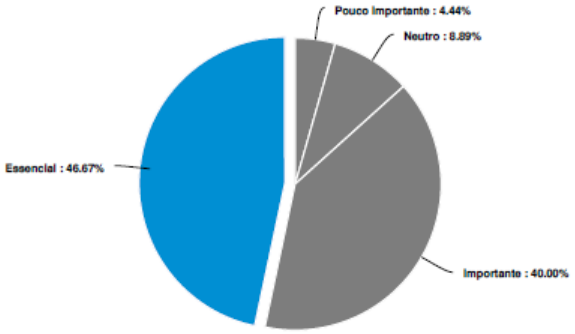
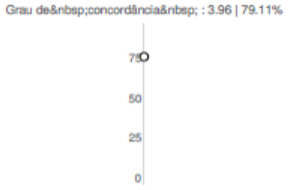
Question	Count	Score	Irrelevante	Pouco Importante	Neutro	Importante	Essencial
Nível de importância	45	4.29					
	Average	4.29					

Nível de importância



Answer	Count	Percent	20% 40% 60% 80% 100%
Irrelevante	0	0%	
Pouco Importante	2	4.44%	
Neutro	4	8.89%	
Importante	18	40%	
Essencial	21	46.67%	
Total	45	100 %	

Qual o seu grau de concordância com a seguinte frase? "A minha empresa avalia, periódica e sistematizadamente, os custos e benefícios das diversas relações bancárias que mantém."



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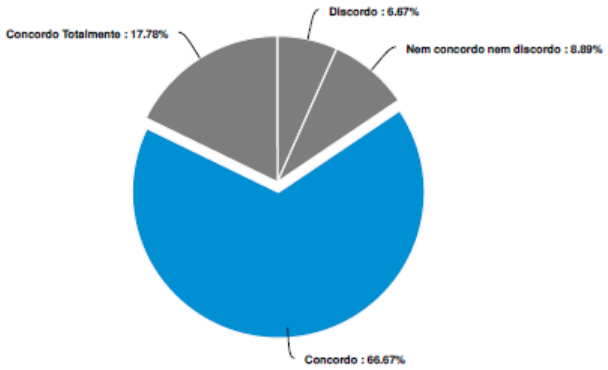
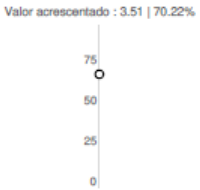
Question	Count	Score	Discordo Totalmente	Discordo	Nem concordo nem discordo	Concordo	Concordo Totalmente
Grau de concordância	45	3.96					
	Average	3.96					

Grau de concordância



Answer	Count	Percent	20% 40% 60% 80% 100%
Discordo Totalmente	0	0%	
Discordo	3	6.67%	
Nem concordo nem discordo	4	8.89%	
Concordo	30	66.67%	
Concordo Totalmente	8	17.78%	
Total	45	100 %	

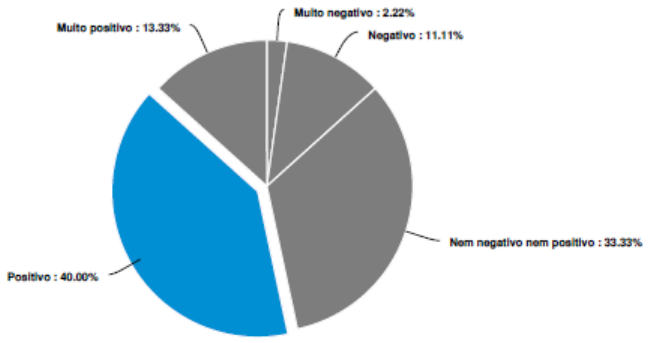
Na sua opinião, qual o valor acrescentado da utilização de serviços externos para periodicamente avaliar e otimizar as relações bancárias da empresa, nomeadamente ao nível dos custos bancários (juros, comissões e outros encargos)?



Powered by AI

Question	Count	Score	Muito negativo	Negativo	Nem negativo nem positivo	Positivo	Muito positivo
Valor acrescentado	45	3.51					
	Average	3.51					

Valor acrescentado



Answer	Count	Percent	20% 40% 60% 80% 100%
Muito negativo	1	2.22%	
Negativo	5	11.11%	
Nem negativo nem positivo	15	33.33%	
Positivo	18	40%	
Muito positivo	6	13.33%	
Total	45	100 %	

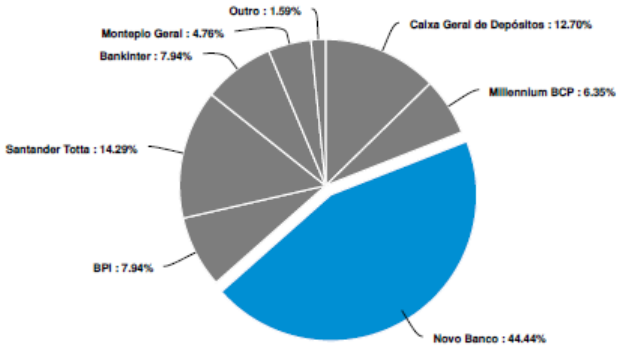
- **Appendix D – Survey submitted to Corporate Banking Relationship Managers**

BRM - PT - RMs - Dashboard

VIEWED	STARTED	COMPLETED	COMPLETION RATE	DROP OUTS	TIME TO COMPLETE
89	62	62	100%	0	9 mins

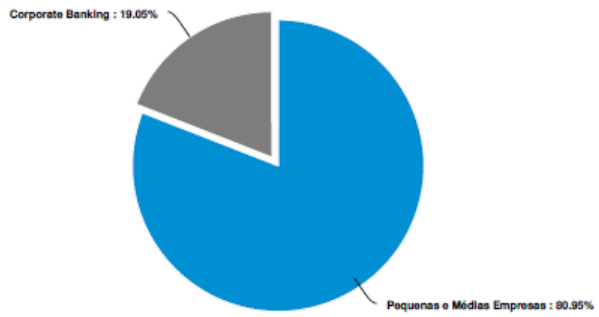
Countries	Responses
PT	95.16%
ES	4.84%
Total	100.00%

Por favor indique o banco em que trabalha.



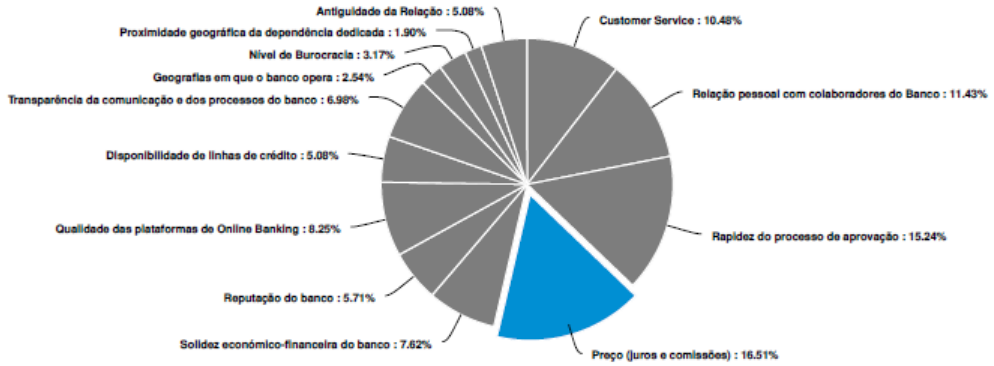
Answer	Count	Percent	20% 40% 60% 80% 100%
Caixa Geral de Depósitos	8	12.7%	
Millennium BCP	4	6.35%	
Novo Banco	28	44.44%	
BPI	5	7.94%	
Santander Totta	9	14.29%	
Bankinter	5	7.94%	
BBVA	0	0%	
BNP Paribas	0	0%	
Montepio Geral	3	4.76%	
Outro	1	1.59%	
Total	63	100 %	

Por favor indique o segmento em que trabalha.



Answer	Count	Percent	20% 40% 60% 80% 100%
Pequenas e Médias Empresas	51	80.95%	
Corporate Banking	12	19.05%	
Total	63	100 %	

Por favor selecione os 5 fatores que na sua opinião serão mais relevantes para a escolha, por parte dos seus clientes, dos bancos com que trabalham.



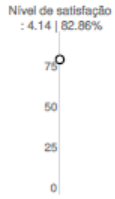
Answer	Count	Percent	20% 40% 60% 80% 100%
Customer Service	33	10.48%	
Relação pessoal com colaboradores do Banco	36	11.43%	
Rapidez do processo de aprovação	48	15.24%	
Preço (juros e comissões)	52	16.51%	
Solidez económico-financeira do banco	24	7.62%	
Reputação do banco	18	5.71%	
Qualidade das plataformas de Online Banking	26	8.25%	
Disponibilidade de linhas de crédito	16	5.08%	
Transparência da comunicação e dos processos do banco	22	6.98%	
Geografias em que o banco opera	8	2.54%	
Nível de Burocracia	10	3.17%	
Proximidade geográfica da dependência dedicada	6	1.9%	
Antiguidade da Relação	16	5.08%	

Outra	0	0%	
Total	315	100 %	

Por favor selecione os 5 fatores que na sua opinião serão mais relevantes para a escolha, por parte dos seus clientes, dos bancos com que trabalham. - Text Data for Outra

No Data To Display

Do seu ponto de vista qual é o nível médio de satisfação dos seus clientes em relação ao seu banco?



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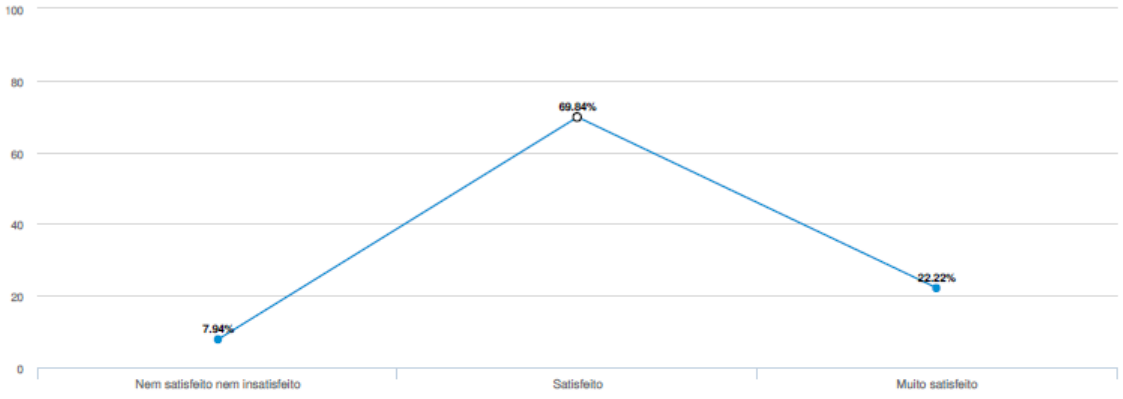
Question	Count	Score	Muito insatisfeito	Insatisfeito	Nem satisfeito nem insatisfeito	Satisfeito	Muito satisfeito
Nível de satisfação	63	4.14					
	Average	4.14					

Nível de satisfação



Answer	Count	Percent	20%	40%	60%	80%	100%
Muito insatisfeito	0	0%					
Insatisfeito	0	0%					
Nem satisfeito nem insatisfeito	5	7.94%					
Satisfeito	44	69.84%					
Muito satisfeito	14	22.22%					
Total	63	100 %					

Como avalia o posicionamento do seu banco relativamente ao preço (juros, comissões e outros encargos) dos produtos e serviços disponibilizados?

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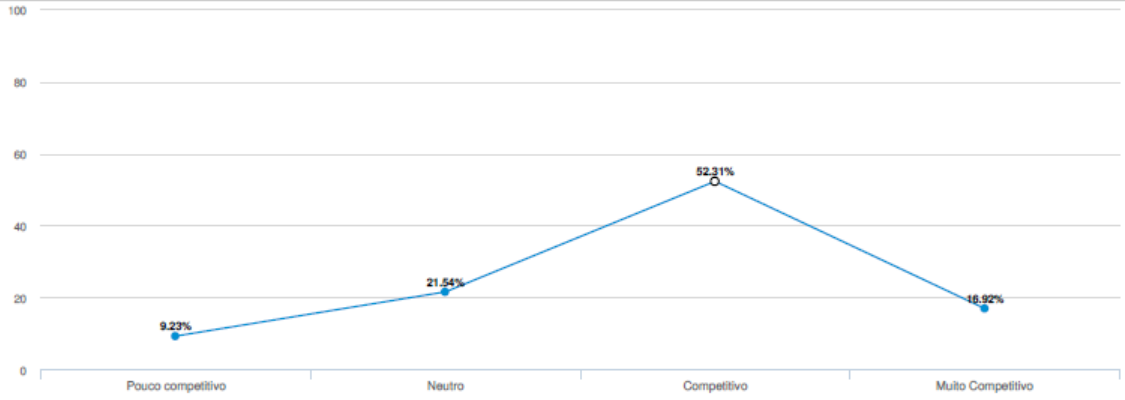
Question	Count	Score	Muito pouco competitivo	Pouco competitivo	Neutro	Competitivo	Muito Competitivo
Posicionamento	65	3.77					
	Average	3.77					

Posicionamento



Answer	Count	Percent	20%	40%	60%	80%	100%
Muito pouco competitivo	0	0%					
Pouco competitivo	6	9.23%					
Neutro	14	21.54%					
Competitivo	34	52.31%					
Muito Competitivo	11	16.92%					
Total	65	100 %					

Como avalia o nível de transparência do processo de comunicação, cálculo e cobrança dos custos bancários (juros, comissões e outros encargos) por parte do seu banco?

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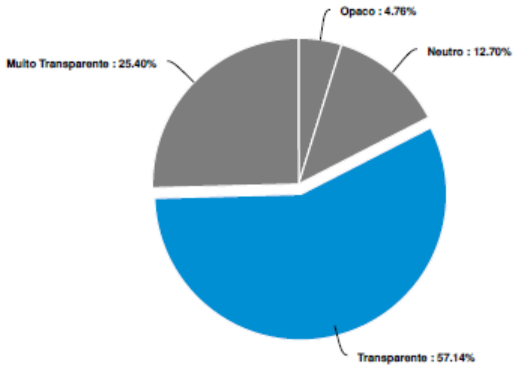
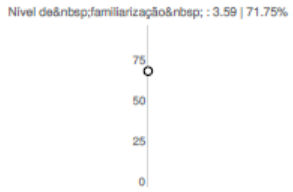
Question	Count	Score	Muito Opaco	Opaco	Neutro	Transparente	Muito Transparente
Nível de Transparência	63	4.03					
	Average	4.03					

Nível de Transparência



Answer	Count	Percent	20%	40%	60%	80%	100%
Muito Opaco	0	0%					
Opaco	3	4.76%					
Neutro	8	12.7%					
Transparente	36	57.14%					
Muito Transparente	16	25.4%					
Total	63	100 %					

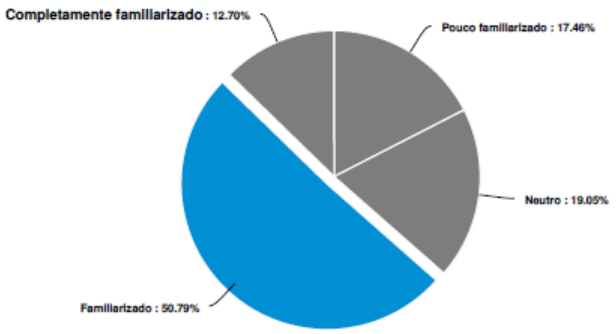
Na sua perspetiva, e no que respeita à definição do preço e disponibilização de linhas de crédito por parte do seu banco, como avalia o nível médio de familiarização dos seus clientes em relação ao processo de decisão e seus fatores determinantes?



Powered by AI

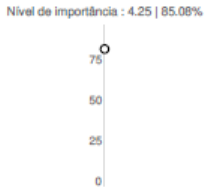
Question	Count	Score	Nada familiarizado	Pouco familiarizado	Neutro	Familiarizado	Completamente familiarizado
Nível de familiarização	63	3.59					
	Average	3.59					

Nível de familiarização



Answer	Count	Percent	20%	40%	60%	80%	100%
Nada familiarizado	0	0%					
Pouco familiarizado	11	17.46%					
Neutro	12	19.05%					
Familiarizado	32	50.79%					
Completamente familiarizado	8	12.7%					
Total	63	100 %					

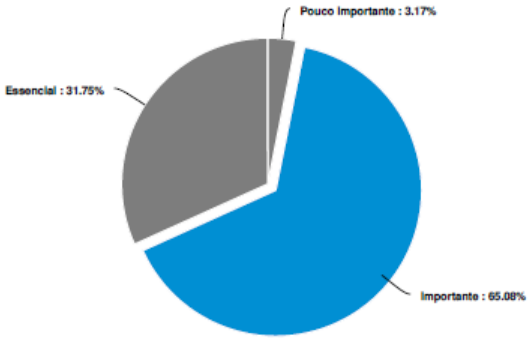
Na sua perspetiva qual é o nível de importância que os seus clientes atribuem, em média, à qualidade e solidez das relações bancárias para o desenvolvimento da sua atividade?



Powered by AI

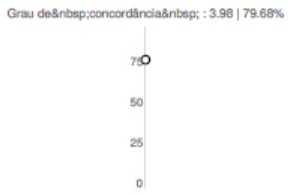
Question	Count	Score	Irrelevante	Pouco Importante	Neutro	Importante	Essencial
Nível de importância	63	4.25					
	Average	4.25					

Nível de importância



Answer	Count	Percent	20%	40%	60%	80%	100%
Irrelevante	0	0%					
Pouco Importante	2	3.17%					
Neutro	0	0%					
Importante	41	65.08%					
Essencial	20	31.75%					
Total	63	100 %					

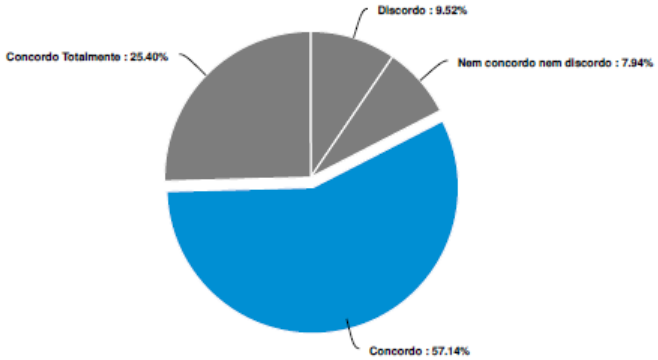
No que diz respeito à disponibilização de linhas de crédito e definição de preço (juros, comissões e outros encargos) por parte do seu banco, por favor indique o seu grau de concordância com a seguinte frase: "O aumento do nível de informação dos meus clientes, em relação aos processos de decisão do banco e seus fatores determinantes, traz valor acrescentado ao banco"



Powered by AI

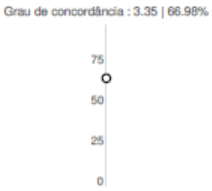
Question	Count	Score	Discordo Totalmente	Discordo	Nem concordo nem discordo	Concordo	Concordo Totalmente
Grau de concordância	63	3.98					
	Average	3.98					

Grau de concordância



Answer	Count	Percent	20%	40%	60%	80%	100%
Discordo Totalmente	0	0%					
Discordo	6	9.52%					
Nem concordo nem discordo	5	7.94%					
Concordo	36	57.14%					
Concordo Totalmente	16	25.4%					
Total	63	100 %					

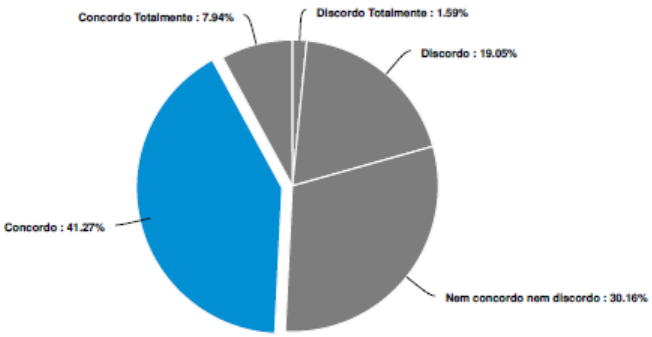
Por favor indique o seu grau de concordância com a seguinte frase: "A utilização, por parte dos meus clientes, de serviços externos para periodicamente avaliar e otimizar as relações bancárias da empresa, nomeadamente ao nível dos custos bancários (juros, comissões e outros encargos), traz valor acrescentado ao banco"



Powered by AI

Question	Count	Score	Discordo Totalmente	Discordo	Nem concordo nem discordo	Concordo	Concordo Totalmente
Grau de concordância	63	3.35					
	Average	3.35					

Grau de concordância



Answer	Count	Percent	20%	40%	60%	80%	100%
Discordo Totalmente	1	1.59%					
Discordo	12	19.05%					
Nem concordo nem discordo	19	30.16%					
Concordo	26	41.27%					
Concordo Totalmente	5	7.94%					
Total	63	100 %					