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The "Challenger Bank" model and its potential application in the Greek banking system

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Abstract

Digital transformation became the centre of attention in the banking industry after the global financial crisis in 2008-2009. Banking and financial industries have, over time, integrated technological advancements and changes in the market in order to meet consumer demands, regulation, market expectation and competition in order to remain in the landscape, grow their business and enhance their performance. Within the same period, competition in the market has intensified significantly, leading to changes in banking operations, corporate culture, market structure and consumer opinions and values. Small vibrant financial institutions, widely referred to as challenger banks, are some of the products of the changing banking environment sprouting across big markets globally. Recently, the growth of challenger banks has been extended to Greece, where there is less attention paid to digital business transformation and, more specifically, to digital transformation of financial services.

This research deals with the rise of challenger banks in Europe, with United Kingdom being one of the most important economies in European banking. In Europe, the first Fintech start-ups began popping up in the United Kingdom. The most important part of this document refers to a SWOT analysis that leads to the development of a model case for a challenge bank to be introduced in Greece. In this context, the research is pointing at some of the financial products and services and to a customer experience approach that are not provided by existing banks and that customers would go for in the Greek market. Some of the products that would be offered by the challenger banks in Greece include the so-called Fintech products, which are also referred to as “digital products” in the banking industry. The findings indicate that Greece will absorb more comfortably the omni-channel service model, that allows consumers to seamlessly use physical and digital channels. The need for challenger banks is evident in Greece, taking into consideration the country’s ranking on ease of doing business.

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1. Introduction

Since the Great Depression, the world economy never faced a fierce financial crisis like the on in 2007-2008. The contagion commenced in the US when the sky-high prices of properties suddenly went downward and quickly covered the US financial sectors, subsequently affecting the entire world and especially the European financial sector. The causal links involve many factors across the globe, including investment banks, commercial banks, insurance companies, mortgage lenders and other large financial institutions, particularly in major markets such as the US, Europe, China, Japan, Korea, and Australia. (Prager, 2013); (de Haas & van Lelyveld, 2014)

The banking industry is the backbone of business and industrial sectors in any industrialised nation, extending across the global financial spectrum. De Jonghe argued that banks are the key vehicle in economic activity acting as the 'lifeblood' of economy. They play a significant role in planning and implementing financial policies, they act as intermediaries between surplus and required funding (savers and borrowers) and they facilitate business transactions and growth of the economy while they also contribute in the creation of new jobs. In a broader sense, the banking sector enhances innovation in the national economy while making it more efficient. Capital formation, growth, business performance and expansion, internal and international trade and agricultural and industrial sectors in any economy are very much dependent on the banking sector. (De Jonghe, 2010)

In contemporary society, the key challenge faced by the developed countries as well as the developing ones, is determining the efficiency of the banking sector and the policies and other significant drivers that influence their performance, in an effort to control mismanagement and mitigate toxic financial products. During the last three decades, European banks made significant changes regarding ownership structure and competition enhancement, which were designed to address and curb risks, while keeping up with changes and new developments in the market (Elliott, 2011). Nevertheless, the effectiveness of these policies and structures is limited, mostly due to interconnectedness of the global financial sector, cross-border interdependences, and complex spill-over transmission channels (Moghadam & Vinals, 2010); (Claessens, Dell'Ariccia, Igan, & Laeven, 2010). For instance, in the global financial crisis of 2007-2008, most of the European banks were hurt by the severe global financial crisis due to their exposure to toxic financial assets issued by the United States (US) financial institutions or banks.

Those external shocks created a volatile and unstable financial situation in Europe and have negatively affected European banks' efficiency, market capitalisation and stability (Claessens, Dell'Ariccia, Igan, & Laeven, 2010). The financial crisis had a severe impact on big economies across Europe such as those of Italy, Germany, Poland, Greece, and Czech Republic, adversely affecting the banking sector and overall economic activity (Alzoubi, 2018).

In this financial crisis, the leading insurance companies of the USA and Europe made numerous risky investments and irresponsible lending. Those actions created huge deficits and huge amounts of public money have been used for their rescue. Corporate collapse subsequently led to state insolvency, particularly for the European Union countries mentioned above which adopted various policies for their rescue. However, because of the common currency, they had to adopt common policies for managing public debt and an institutional mechanism to deal with the macroeconomic financial deficit. The financial crisis heavily and negatively impacted the financial institutions in Europe and especially the Greek banking sector.

Between 2008 and 2018, a huge sovereign debt amount was borrowed from the EU by Greek governments, and this makes the Greek debt crisis the most dangerous among all. Since 2015, EU and private investors have lent Greece more than €290 billion, making it the largest financial rescue of any bankrupt nation ever, and this help to avoid the potential viability risk faced by Greece and Eurozone itself. The Greek financial crisis is in fact another episode in the series of debt crises that began with the 2007-08 global financial depression. In 2009, Greece registered a more than 15% deficit of its GDP (gross domestic product) on its budget. In 2010, it issued a warning, stating it might default on its debt that triggered a fear response from investors and lenders, resulting to further widening 10-year sovereign bond yield spreads (Amadeo, 2019). Ultimately, its bond market collapsed shutting down the country's ability of financing debt repayment plan.

Primarily, the financial crisis in Greece was caused by the economic mismanagement by its government, including lack of public accountability and widespread fraud. On top of these, its membership in the Eurozone inevitably resulted in imposing policies that were misaligned with its financial and political goals. According to Gibson et al. and Arghyrou and Tsoukalas, policies set by the Greek government are to blame, as it allowed external factors to ultimately infect the whole Greek economy. Gibson et al. claims that the biggest problem emanated from excessive liquidity and financial deregulation by both public and privately-owned banks pre-2008. Weak credit underwriting combined with high credit

growth that outpaced the country's economy, resulted in a significant drop of more than 30% for the shares of the four biggest Greek banks (Piraeus Bank, Eurobank, Alpha Bank, and National Bank) in 2008 and forced them to experience significant losses (Gibson, Hall, & Tavlas, 2012); (Arghyrou & Tsoukalas, 2011).

The bailouts exercised by the EU aimed to strengthen the country's financial structures but were coupled with draconian austerity measures that plunged it into recession that lasted until late 2017 (Amadeo, 2019); (Gibson, Hall, & Tavlas, 2012). Because of the Eurozone austerity measures combined with low interest rates that remained at low levels for an extended period even in inflation, the Greek government could not exercise its powers on monetary policy, which exerted even more pressure on the economy. Responding to the financial crisis, Greek banks restructured their mechanisms and policies towards mergers and acquisitions of banking institutions. This course of action targeted to the formation of bigger and stronger financial institutions in order to address and mitigate the crisis (Amadeo, 2019); (The Stratfor, 2018). As pointed by Gibson et al., the repercussions of the financial crisis heavily infected the financial institutions, not only in Greece but also throughout Europe. Despite the huge bailout and low interest rates, Greek banks went through another crisis. After the rescue package granted to Greece, the European Central Bank has practically frozen funding to the Greek banks (Gibson, Hall, & Tavlas, 2012).

The results of this long-lasting crisis are still suffered today, despite the bailout and the Greek government enacting capital controls trying to slowly improve the economy and the efficiency of the banking sector. However, there is a feeling that after the conclusion of the third bailout programme, capital control policies will be reviewed and slowly lifted. The role played particularly by the private banks in Greece, as well as Bank of Greece, in the outburst of the crisis has been caught in the spotlight of attention due to violations and speculative capital flows where huge amounts of money had been lent to both the public and private sector in a much higher level than the country's economic growth could possibly support (Louzis, Vouldis, & Metaxas, 2012); (Vogiazas & Nikolaidou, 2011). This over-lending banking has artificially increased the money index, giving an unreal and deceptive sense of achievement, thus indicating a higher Greek GDP growth rate than EU's average. Recently, leading banking institutions, including Bank of Greece (BoG), Piraeus Bank and Eurobank have adopted a particularly cautious approach to new lending.

Both global and Greek financial crises greatly hindered the performance and growth of financial institutions in the country. Following the crisis, the banking sector has shrunk from more than forty banks to just nine currently (Ziotis, 2018). Of these, just four are considered as systemically important (the, so called, “systemic banks”) that have been bailed-out through capitalization with state funding, one is state-owned and the rest three are tiny financial institutions with banking licenses. Apart from that, only HSBC has maintained a retail presence in Greece with a very small network of ten branches.

The rise of challenger banking is an awakening call to the banking industry where large and more established banks witness competition from relatively small banks. Challenger banks are small retail banks that have recently grown across Europe and especially in UK. They are believed to have staged serious competition against the established banks. Some of the banks were created after the era of divestment from other banking groups. Most of the challenger banks are almost exclusively digital and are operating as online-only businesses (Worthington, 'Challenger banks’: are they for real?, 2015, pp. 30-42); (Blakstad & Allen, 2018). This modern technological milestone aims at cost reduction and a user experience much better than the one provided by traditional banking. This is accompanied by the irreversible technological changes adopted by most of the financial institutions and most importantly, the change of customer behavior towards digital transactions.

In this light, this research starts with a thorough understanding of the lasting consequences of the financial crisis on European banks, it investigates and discusses the consequences of this crisis for UK financial institutions and it presents the emergence of challenger banks and their marketing propositions. This analysis, combined with a comprehensive assessment of economy in Greece and a systematic presentation of the Greek banking system, is used to formulate a model regarding the introduction of challenger banks in Greek banking. For this model to be derived and justified, this study takes under consideration the UK challenger banking model on one hand and a scrutinized SWOT analysis of the Greek banking environment on the other.

2. Current Literature

The topic of challenger banks is very recent and the same applies to the topic of Fintech. Aldermore is considered as the first challenger bank and it was launched in 2009. From then on, many more digital-first banks appeared and most of them are characterized as challenger banks.

Being so new, it is of no surprise that not a lot of literature exists on the subject. All articles identified, start by assessing the market of challenger banks analyzing their marketing propositions and offerings. All articles focus on the UK challenger banking market. Their methodologies and points of view differ.

As early as in 2017, Lerong Lu dealt with the subject by approaching it from the regulatory point of view concluding that it would be hard for challenger banks to rival their traditional competitors unless the regulatory bodies became friendlier to newcomers. Lu observed that, already then, FCA (Financial Conduct Authority) and PRA (Prudential Regulation Authority) had started to cooperate in order to establish fair conditions and equal opportunities among challengers and incumbents considering that it would enhance competition in the financial services arena (Lu, Financial Technology and Challenger Banks in the UK: Gap Fillers or Real Challengers?, 2017).

In her dissertation submitted in 2018, Sara Santos did a research to conclude on which factors influence consumer behavior and have an effect on consumers' perception of what constitutes the value they receive from traditional banks and challenger banks. Her research was based on input from 201 respondents contacted online and resulted in a value measuring model which was built on 34 items and 8 factors. She concluded that challenger banks overwhelmingly dominate the perception of consumers regarding the value they receive and that word-of-mouth and loyalty are two specific consumer behavior outcomes thar stand out regarding challenger banks (Santos, Traditional and Challenger Banks in UK: Comparison in Terms of Customer Value, 2018).

In 2019, Schepinin and Bataev created a model to estimate the efficiency of the challenger banking model regarding what should constitute an early success of a challenger bank compared to the technology investment needed. Their model approaches the establishment of a challenger bank as an IT project and calculates some form of a net present value of the future number of customers and their transactions. The IT project-based approach is based on the fact that 80% of personnel in a challenger bank work on technology and digital and all initial investment is also related to technology infrastructure

and digital assets. They concluded that such a project would be efficient from a financial point of view if the new bank could onboard at least 210 thousand customers in its first year of operation (Schepinin & Bataev, 2019).

Emeka Okeke in 2019 researched the perception of UK consumers about the challenger banks in their country. Regarding information gathering, Okeke adopted the objective ontology method, the positivism approach (O'Gorman & MacIntosh, 2015), the quantitative method and non-probability sampling. The deductive method was used regarding theory development (Jaana & Urs, 2018). The set of questions was rather small though and the same applied to the number of responses. Nevertheless, the report is considered to have successfully applied the technology acceptance model, regarding the success of challenger banks, which "must continue their technological focused route" (Okeke, 2019)

In 2019 again, Joshua Insoll et al. researched the attitude of consumers regarding the switching cost from a traditional to a challenger bank. The researchers used previous research around switching costs in other industries and they found out that the prevailing ones are procedural, financial, and relational. During the data collection process, they utilized the cross-sectional research design and semi-structured interviews. They concluded that "a loss of benefits or monetary losses is not a strong switching cost … and has a minimal negative impact on [consumers'] willingness to change providers" and that traditional banks' physical presence is no longer considered by consumers as a loyalty factor as they are willing to rely on digital-only banking (Insoll, Teasdale, & Pataki, 2019).

Finally, Cong was the only researcher identified who used the SWOT analysis in his bachelor's thesis, as a method to compare the four elements of SWOT for traditional and challenger banks, concluding that collaboration between the two is the best route, as it will bring benefits for both competitors and consumers (Cong, 2019).

The thesis at hand takes a quite different approach. Although – and as expected – it mainly focuses on the challenger banking market in UK, it also deals with two more countries and, most importantly, it performs a thorough and detailed analysis of the marketing propositions of challenger banks and it explains in detail how the global financial crisis of 2007-2008 set the ground for the new entrants. But the most significant difference of this study lies with the application of the SWOT analysis model a) to assess the feasibility of the launch of a new bank in a country where no challenger bank exists yet, in this case Greece and b) to lay out a rather detailed business model of such a potential entrant. For every element of the SWOT model, i.e. Strengths, Weaknesses, Opportunities and

Threats, we identify specific categories and lay out a scrutinized breakdown. Regarding opportunities and threats, we present a thorough assessment of the Greek banking market and the systemic banks as potential competitors. Regarding strengths and weaknesses, we use the European challenger banks as a paradigm, adapted to the peculiarities of the Greek market.

3. The Global Financial Crisis

Banks and other financial institutions worldwide were impacted directly or indirectly by the very causes of the US financial crisis. 25 US banks failed in 2008 during the financial crisis. Although this crisis started in 2008 in the US because of toxic investment products based on subprime mortgage loans, it greatly affected many economies across the globe.

3.1. Origin of the Global Financial Crisis

The United States economy experienced a short recession in 2001, from which the market has nicely recovered. Nevertheless, the dotcom bubble and other accounting scandals gave rise to new considerations, including the fear of recession, causing the Federal Government of the United States to reduce the base interest rate (Latham & Braun, 2008) which dropped down to 1.75% from 6.5% in a series of eleven reductions made by the US central bank, just in the period from May 2000 to December 2001 alone. The purpose of such financial measures is to boost the economy through the increase of consumption which, ultimately, creates ripple effects of increased spending throughout the nation's economy and subsequently, on a global level (Bernanke & Reinhart, 2004). This wave also applies to the real estate market, where more mortgage loans mean more homebuyers, which eventually makes house prices rise. This favorable environment for home purchasing also encouraged 'profitable' investments in the mortgage market. Consequently, there was a sharp increase in the volume of mortgage loans. As a result, the banking sector lowered interest rates further, to as low as 1%, registering the lowest rate in 45 years. To some extent, the bankers started giving mortgage loans, which allowed more people to purchase homes (Bowles, 2000).

The American market, where 'toxic' products were originally introduced widely, became the foundation of the global financial crisis. Reinhart and Rogoff explained that rising price expectation of property in the US as well as in several European nations such as Spain, Ireland and Iceland led mortgage dealers to grant unfavourable mortgage loans to the families that borrowed excessively, causing imprudent purchases of houses (Reinhart & Rogoff, 2009). In early years, it was called "low teaser interest rates" and after that, it ballooned with interest rates coming into double digit. These loans often included prepayment penalties and were generally very difficult to refinance (Crotty, 2008); (Fratzscher, 2011). After realising the short-term profit and price-skimming strategy of 'flipping' houses and 'subprime' borrowers with high default risks did not work as expected,

following the housing bubble burst, most of the banking leaders sold respective loans to investment banks. Similarly, the sold loans were sub-divided, then sold to other investment banks and these banks further re-subdivided these loans and sold them to investors. At the end, a huge amount of loans had been sold to investors in the form of loan packages referred to as mortgage-backed securities (MBS), which in turn were rated as very secure by lenders and agencies, concealing the fact they were extremely complex and opaque (Aalbers, 2016). In 2008, the so called “housing bubble” burst and it triggered the dramatical fall of house prices, causing the default of mortgage holders in the US.

In early 2008, a United States investment bank, Bear Stearns, defaulted on its debt and was rescued by JP Morgan with the support of the US government. The crisis became deeper when, in September 2008, two major United States financial institutions, Freddie Mac and Fannie Mae, also faced huge financial losses and were rescued by the United States Federal Government. On September 15, 2008, Lehman Brothers filed for Chapter 11 protection. By the time, the company had more than $639 billion in assets. This was the greatest bankruptcy in the history of the United States. The major issue was created when the US government decided not to save Lehman Brothers, stating that the government cannot rescue every troubled financial institution (Monaghan & Monaghan, 2018).

No doubt, the financial crisis became more dangerous when Lehman Brothers collapsed. After this, many banks globally refused to lend money predominantly to other financial institutions or banks because of uncertainty as well as lack of liquidity. Due to the financial crisis, most governments across the globe supplied funds to support banks and introduced specific regulations for banks to maintain liquidity (De Belvis, Ferrè, Specchia, & Valerio, 2012); (De Bonis, Stacchini, & Pozzolo, 2011). The ECB cut down the discount rate while banks reduced credit facility to the customers to retain liquidity. Notably, Italy was not singled out by the crisis, given its economic dependence on other countries, emanating from exports, imports, debts owed by its government as well as debts Owed to it or other financial institutions.

By the fourth quarter of 2008, many leading economies globally were either in recession or struggling to avoid it. The US unemployment rate was increased by almost 64% in December 2008, at a considerably higher level than March 2007, when it stood at 4.4%. Similarly, economic growth shrunk to 0.5% in the third quarter of 2008.

Although the crisis emanated from the US, affecting greatly its economy, European economies were not spared and were also significantly hit with effects ranging from a

crumpling banking system, negative growth in the housing and industry sectors to huge unemployment rates (Serricchio, Tsakatika, & Quaglia, 2012); (Gelos, Berkmen, Rennhack, & Walsh, 2009). According to Wagner, the financial crisis showed the degree to which banking systems and economies are interdependent on a global basis and any mismanagement or failure at any point (i.e. one country's economy) ripples through the global economy, having a detrimental impact on it (Wagner, 2008). For instance, Germany, the largest economy in the Eurozone, underwent its most awful recession since the Second World War in late 2008 and early 2009. The economy started to recover, and it returned to growth in the second quarter of 2009 with a GDP growth of 0.4% from the previous quarter with a further growth by 0.7% in the following quarter. Still, it was not enough to avert the steep decline for 2009 (Spiegel International, 2010). The economies of the 15 countries of the Eurozone shrank by more than 0.2% in the third quarter. Following this world financial crisis, most European countries adopted policies to mitigate the recession period and stabilize the economy as soon as possible. The banking sector also restructured and formulated policies driven by the need to cut back and cushion the impacts of the depression. This includes the Central Bank of Europe dropping down its interest rates as a measure to support the economy and promote business activity (Windels & Wendler, 2014).

China and Japan, the largest economies in Asia, were also affected by the financial crisis. China and Japan's economies are driven by industrial production and they depend on an internalized trading and banking system. Reduced spending in the US and Eurozone as well as called in loans by banks reduced production and demand, slowed down exports and increased unemployment rate and counterparty credit risks globally, including emerging markets (Berkmen, Gelos, Rennhack, & Walsh, 2012); (Kim, Salem, & Wu, 2015). Exporters could not get loans from banks in US and Europe to finance their sales. Japan contracted at a pace of 3.7% in the second quarter of 2008 and annually at more than 1%, leading its government to announce a fiscal stimulus via a $250 billion package in December. Because of its trading size that includes exports, imports and industry production, Chinese growth rate was inevitably affected and dropped close to 9% from growing nearly 14% just one year before. The Government of China prepared a two-year economic plan of $586 billion, shifting its economic model to become less export-dependent and rely more on internal sources, rebalancing debt and investment and cutting down interest rates (Morrison , 2009).

3.2. The Post-Crisis European Banking Market

To overcome the problem caused by the crisis, the UK government provided almost $88 billion and overhauled the operation of banks, either partially or completely to guarantee bank loans of $438 billion. After this crisis, the UK government invested up to $64 billion in the Royal Bank of Scotland and Lloyds TSB group (Shachmurove, 2010).

Other European countries such as Belgium, France, Germany, Ireland, Spain, and Greece took similar action to save undercapitalized banks. Governments of Belgium, Netherlands and Luxemburg initially bought 49% of shares in BNP Paribas Fortis in their countries. This cost almost $16.6 billion and, later, Belgium sold most of its shares.

In Germany, banks such as Düsseldorf-based IKB bank and Deutsche Bank fell victims to toxic US financial products after buying and investing heavily on bundled up subprime mortgages. The banking sector was bailed out by the state-owned KfW bank, the German government and other lenders by providing $10.9 billion to commercial banks (Eichacker, 2015); (Bengtsson, 2013).

The Swiss government acquired a 9% stake in the beginning of the third quarter of 2008. It injected 6 billion Swiss francs in capital to UBS, a bank that had endured enormous financial losses from the US subprime mortgage debt.

Similarly, Iceland, famous for its rapidly growing banking industry, was also heavily affected and, even though the Icelandic government tried to take radical measures such as nationalizing and restructuring the banking system, it failed mainly because of its size being disproportionate to the size of Icelandic economy combined with the misperception of corporate social responsibility (CSR) as “strategic philanthropy” by most of the banks (Jonsson & Sigurgeirsson, 2017); (Sigurthorsson, 2012). Iceland saw the collapse of its three biggest private banks (Boyes, 2010); (Dabrowski, 2010). The fall of these three banks, namely Landsbanki, Íslandsbanki (previously Glitnir) and Arion Banki (previously Kaupþing), with combined assets ten times more than the country’s GDP, had a severe impact on the Icelandic economy (Jonsson & Sigurgeirsson, 2017). Following the crisis, these banks were nationalised and restructured by the Icelandic government to avoid credit crunch. Nevertheless, economically resurgent Iceland faced a hard time mitigating the wave of an out-of-control banking system, especially due to the size of combined balance and external debt of these banks exceeding €50 billion, compared to the country’s GDP of just €8.5 billion (Kiani, 2018); (Amadeo, 2019); (Sigurthorsson, 2012).

The most dangerous situation occurred in the south-eastern corner of Europe. Greece was severely influenced by the financial crisis with most financial companies going bankrupt, pushing the whole Greek economy to the limits of collapse. Claessens and Van Horen illustrated how the global financial crisis happened at a bad time for Greece, particularly because it had just joined the Eurozone, with its economy starting to grow, while being the poorest and most indebted nation in the Eurozone. These factors led to serious pro-longed effects, including unemployment rate reaching 28% in 2013, way worse than the US where the unemployment rate had already dropped below 8% (Claessens & van Horen, The Impact of the Global Financial Crisis on Banking Globalization, 2015).

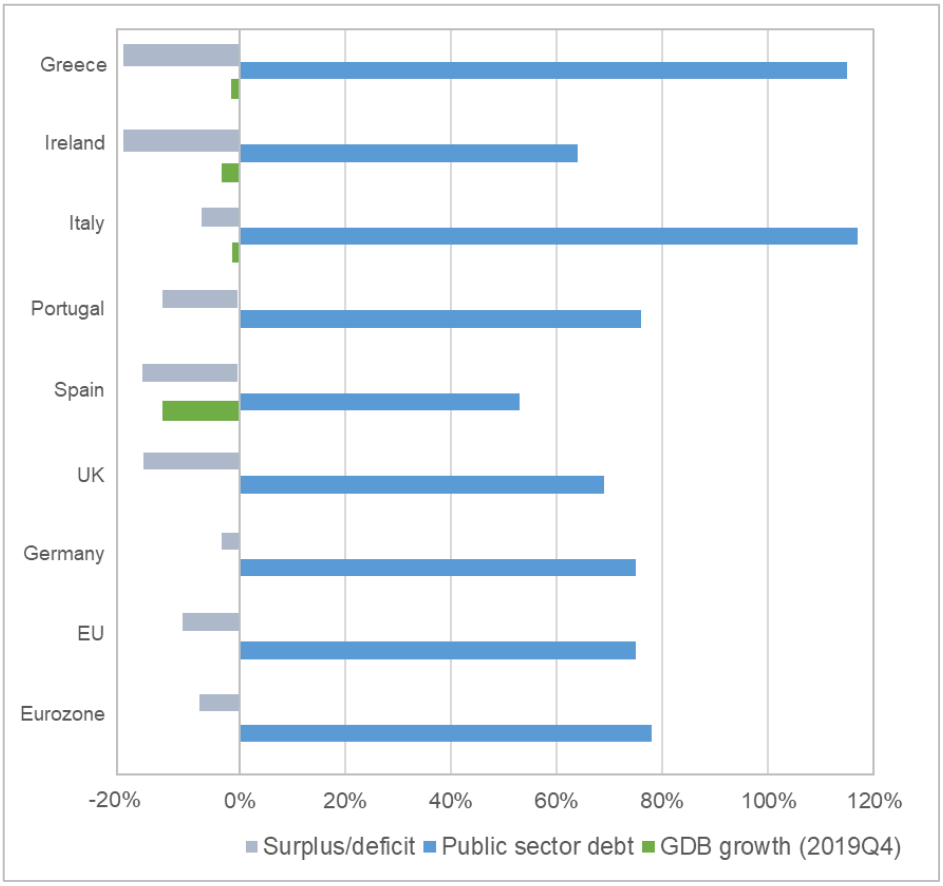

Figure 1: European Economy in 2009, after the financial crisis (Wikiwand, n.d.)

The Basel Committee on Banking Supervision (BCBS) was created in 1974 by the governors of central banks of the Group of Ten European countries. It is a committee of banking supervisory authorities and expanded its membership in 2009 and 2014 (Bank for International Settlements, n.d.). BCBS had already established their Second Basel Accord (known as Basel II) back in 2004. Because of the cruciality of the financial crisis and to curb the ambitious regulatory reforms of the banking industry, BCBS developed the

Third Basel Accord (Basel III). Basel III addresses regulatory deficiencies of the era before the crisis and outlines a new regulatory foundation for the banking industry forming a framework around capital adequacy, market liquidity risk and stress tests. Basel III focuses on intensified bank capital requirements to be achieved through increased liquidity and decreased leverage, with an aim for all banks to have enough capital to bear unexpected financial losses. As explained by Young (2012), among other measures, Basel III requires large banks that are active on an international basis to keep a minimum of 4.5% of their risk-adjusted assets in common equity. Basel III is organized around three Pillars focusing on a) capital, risk coverage and leverage ratio, b) risk management and supervision and c) market discipline, respectively.

Pillar 1 obliges banks to maintain the leverage ratio which is equal to risk weights. It further highlights that banks mostly use their capital for financing large fixed assets instead of using it for credit opportunities and this is mainly because of the high risk on the house-based assets (Lee & Hsieh, 2013); (Howarth & Quaglia, Banking on Stability: The Political Economy of New Capital Requirements in the European Union, 2013). To maintain the credit risk exposure within acceptable parameters, Pillar 1 sets a standard that an institution may not hold an exposure in the form of credit option that exceeds 25% of its eligible capital. Pillar 2 assesses the dependent nature of institutions to externalities and it includes the terms of cyclic development and risk management based on external factors. In the same way, Pillar 3 focuses on disclosure requirements and is especially focused on the risk management in every factor that matters for an institution (Gatzert & Wesker, 2012). Basel III also introduces the risk management global standard for liquidity. They set standards for the requirements for high quality of liquid assets to resist a minimum of 30 days stress scenario.

The revised and strengthened pillars of the accord following the financial crisis, aim to enforce stricter requirements for the quality and quantity of regulatory capital, outlining capital conservation buffer, countercyclical capital buffer, leverage ratio and liquidity requirements that include minimum liquidity ratio, Net Stable Funding Ratio (NSFR) and Liquidity Coverage Ratio (LCR) in banking industry (Goodhart, 2013). The net stable funding ratio (NSFR) addresses the potential sources which must be deposits or assets. The Basel Committee also introduces the minimum total loss-absorbing capacity (TLAC) predominantly for large banks, measured in market share and assets. The EU stipulated for a minimum requirement for own funds and eligible liabilities (Gatzert & Wesker, 2012). It also set a rule to minimize the chance of bailout by imposing losses to their debtors.

3.2.1. The Impact of the financial crisis on the United Kingdom

The crisis of 2007-08 has heavily affected the financial companies and businesses inside and outside the United Kingdom, not to mention the impact on the public sector. The Bank of England agreed to bail out Northern Rock, where depositors were massively withdrawing their savings. In February 2008, the UK government nationalized Northern Rock becoming a major shareholder in the company due to financial problems in the wake of subprime mortgage crisis. Presently, as reported by "The Independent", more than a decade after the 2007/08 global financial crisis, return to normality has been slow and painful (The Independent, 2018). Although the banking industry in the country is now more regulated and better funded than before the crisis, a deep distrust of the banking system combined with a lack of accountability and transparency, lingers on the public domain (Ibid). Nevertheless, one critical lesson learned from the financial crisis of 2007/08 is that a failure in one market far away geographically, can ripple its effects globally, with shockwaves that can be felt across the world. Savers in the UK were badly hit by toxic mortgage products in the US, financial collapse of Fannie Mae and mismanagement in the over-expanded Icelandic banking system.

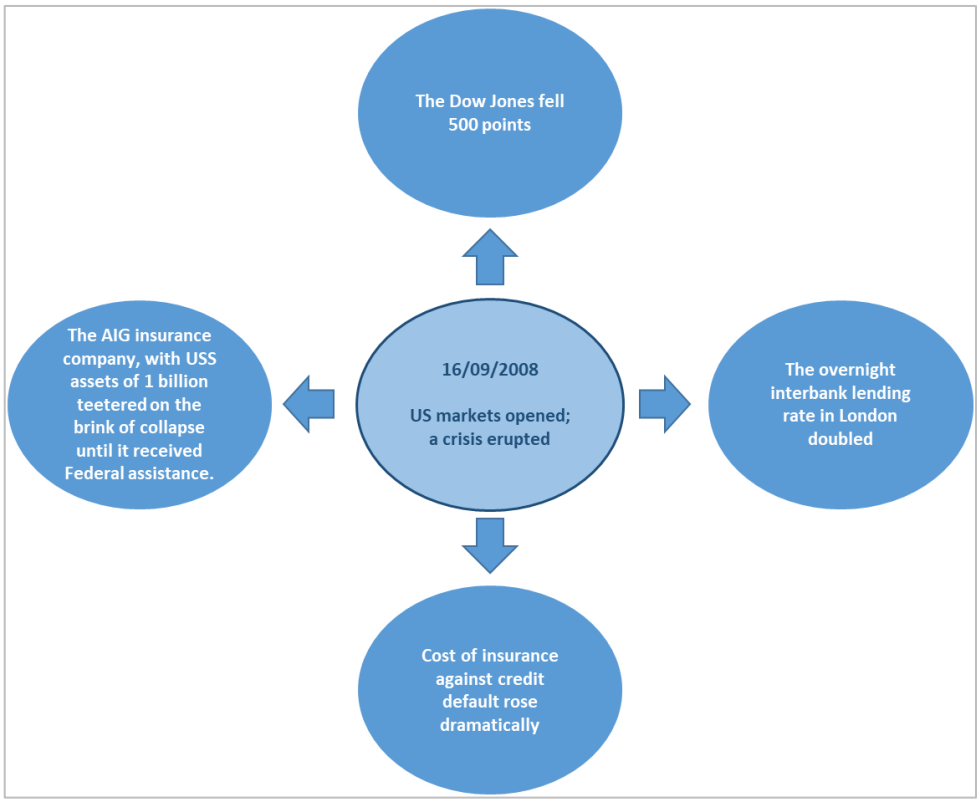

Figure 2: UK Market after Financial crisis 2008

Effects on the UK's banking industry

In late 2008, the Bradford & Bingley Building Society faced huge financial problems and was partially acquired by the Spanish banking giant, Banco Santander. Because of the liquidity issues in the Royal Bank of Scotland group, the UK government initially acquired 58% of RBS shares in 2008 and eventually obtained 84% of the bank's shares (Kemal, 2011). Housing prices continued to dwindle globally, seriously affecting mortgage banks in the UK. In January 2009, the UK government took 43.4% of shares in Halifax Bank of Scotland with most of banks in the United Kingdom also facing huge liquidity problems due to the free-fall in the housing market (Taylor & Ellis, 2010). The UK government decided not to nationalise every financial institution that faced financial difficulties but forced other banks like Barclays and HSBC to increase their capital by issuing new shares and attract external investments (Yorulmazer & Goldsmith-Pinkham, 2010). This issue of shares minimized the need for liquid assets, while increasing available capital (Acharya, Strebulaev, & Davydenko, 2012). Eventually, the UK banking system saw an unprecedented shrinking through a huge consolidation of many financial institutions into a few systemic banks as shown in Figure 3.

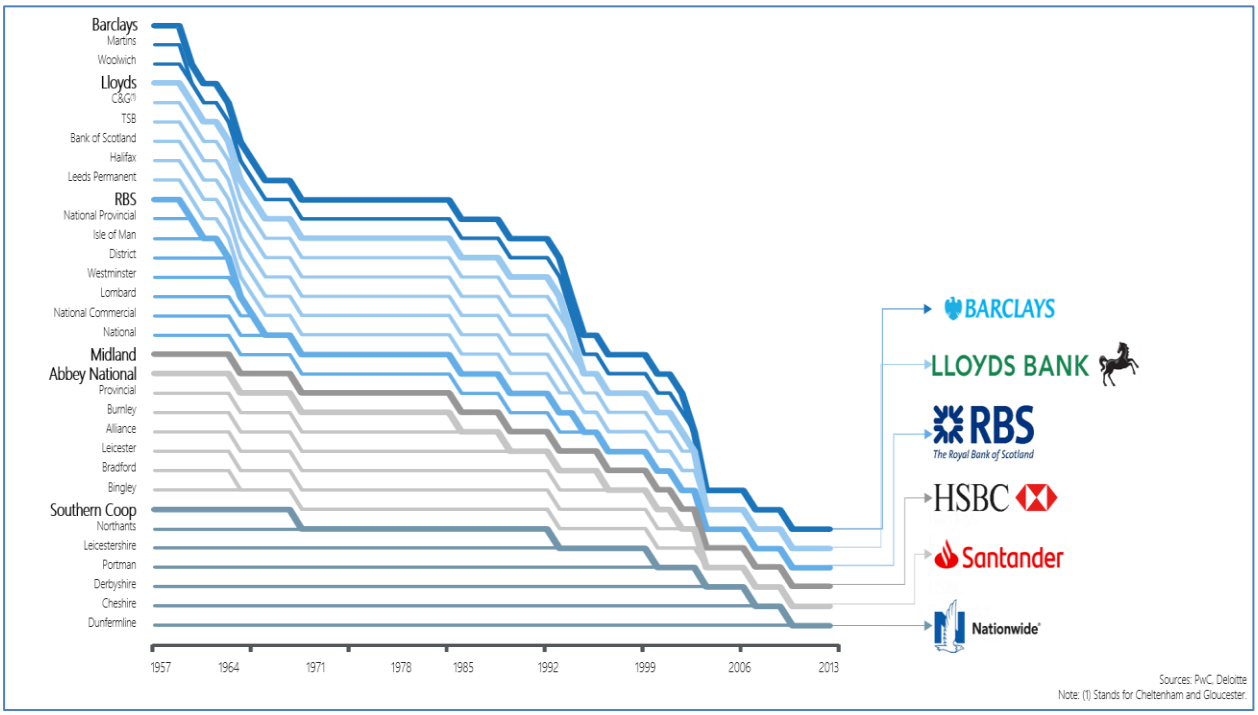

Figure 3: Consolidation of UK banking system over the years (pwc UK, 2017)

The failure of the banking sector in the UK led to a sharp cut in interest rates, but those charged on interbank lending remained high, which shows the lack of trust even among banks (Basten & Sánchez Serrano, 2018).

Financial and social consequences in the UK

However, the greatest impact on the economy of the UK came from the fall in retail sales, exemplified by a huge impact on do-it-yourself and furniture-related businesses. Companies had already been harmed by the low market performance confronted growing challenges in obtaining bank funding to maintain a healthy operation. Several big brands such as MFI, Blacks and Woolworths saw their business activity shrinking and had to close several outlets or go out of business (Cowling, Ledger, & Liu, 2012). Moreover, unemployment rate rose significantly in the UK especially among the age of 18 to 24 (see sub-section 0) with a consequent severe impact on spending.

The huge drop in sales led to decreased tax revenues for the government, not only in the United Kingdom but also worldwide. This decrease in sales and profitability also affected UK's GDP, already in the fourth quarter of 2008, which fell by 1.5%, indicating the official beginning of the recession period in the country (Kollewe, UK's escape from recession stronger than first thought, 2010); (The BBC, 2009). The recession continued throughout the year of 2009 but at the end of the year, some indication of betterment in the UK economy was visible. At the last quarter of 2009 the GDP growth rate reached 0.3% although criticism has been levied and many questions arose regarding this GDP growth (Kollewe, UK's escape from recession stronger than first thought, 2010); (The BBC, 2013). Most critics commented on the policies which were followed by the huge investment banks that defaulted during the financial crisis. At that time, Northern Rock was a building society but acted as an investment bank, while Lehman Brothers was an investment bank but behaved more like a building society than a bank.

Rise of Unemployment in the UK

Fall in the sales of houses combined with the decrease in spending led to the credit crisis in the US, quickly spreading and affecting the UK economy. The fall in retail sales led to the fall in market performance and revenues of nearly all businesses regardless of size, but large firms registered the biggest effects, measured in assets and market share, which in turn resulted in a decrease in job opportunities. According to Ferraro, many big brands went bust and this meant a huge decrease in tax revenue for the government. Many people, especially in the age group 18 to 24, became jobless, causing an additional drop in tax revenue. Personal spending also dropped down, while due to the lower level of tax collection, the government was unable to fund public services (Ferraro, 2017).

This cycle continued throughout 2008 and resulted in a huge fall in GDP and spending. In order to increase personal spending, the government made important changes in their tax policies. The UK government lowered its value-added tax (VAT) rates in November 2008, but it was too late, as the market was already heavily affected by the reduction of house prices by 10.5%. In the same way, in January 2009 the FTSE 100 dropped by 31.3%, which was the biggest fall since its foundation, 24 years back. In 2009 the UK faced difficulties in preparing the budget as there was no sign that the economy was improving. The number of job openings decreased not only because of the crisis in the banking sector, but also because General Motors, the largest car manufacturer, was facing bankruptcy. Because of the decrease in income, people were reluctant to buy luxury items like cars, houses, precious metals and jewels, as well as travel services, seriously damaging tourism and hospitality industries. As more and more businesses were crashing, unemployment rate increased inevitably.

Customer Service issues in the UK

Over the last decades, dependence on credit sales has increased rapidly but during the financial crisis many banks and big brands crashed, resulting in a failure to repay cash loans and/or pay their bills. Low tax collection by the government meant that an increase in public spending was not a solution. The only viable solution was to decrease the value of the pound, making it possible to increase exports, kick-start the performance of companies and improve tax collection. During the crisis, most of the banks had low reserves, making it hard or even impossible to take many risks on available reserves. The major problem was that no one was sure about the exact amount of debts owed (Ivashina & Scharfstein, 2010). An additional problem for banks was having to deal with an increased number of people defaulting on their credit cards, as credit cards tend to be one of the first bills people stop paying when expenses exceed their income.

Due to high unemployment rate, more people claimed unemployment benefits causing lower tax revenues (Reinhart & Rogoff, 2009); (Geels, 2013). The hardest hit on London was the high number of people engaged in the financial sector with most of them working in the housing sector and investment banks. Research on the impacts of the financial crisis, has shown that the financial crisis did not stop at the housing sector, but also affected many other industries related to construction, such as builders, estate agents, DIY stores, electronic goods stores, housing material stores and furniture stores (Karanikolos, et al., 2013); (Dées & Brinca, 2013). In a word, all industries that were

directly or indirectly involved with the housing industry, were heavily damaged and more and more skilled people were losing their jobs as the crisis deepened (Vauterin, Linnanen, & Marttila, 2011); (Dées & Brinca, 2013).

British regulations in response to the financial crisis

Big economies across the globe, including the US, Canada, Germany, UK and Iceland adopted a wide range of changes in the banking regulation as well as business policies. UK was the only country in the financial crisis that completely overhauled regulators in every financial sector (Sawyer, 2012); (Cowling, Ledger, & Liu, 2012). As an aftermath of the crisis, the UK government created new bodies, to successfully oversee banking regulation and effectively implement supervision of banks. The Financial Conduct Authority intended to assess and monitor customer protection as well as market and social responsibility by banking and financial institutions (Aebi, Sabato, & Schmid, 2012); (Lodge & Wegrich, 2011). In parallel, the Prudential Regulation Authority was established to oversee policies and regulations on large banks. According to James Smethurst, regulatory partner in Freshfields Bruckhaus Deringer in London, by implementing these changes and regulatory measures, Britain overhauled completely the confinement of this toxic system and ensured the prevention of another financial crash caused by the banking sector, including banking misconduct, stating “it’s a big task to ensure everything will work the way it should.” (Scott, 2013)

Additionally, these authorities are mandated to monitor illegal insider trading. The goal of the formulated policies was to perform policy-making responsibilities in the banking operation (Mullineux, 2012). It was the second time since the 1990s that the British government had made major changes in banking regulations. Despite the introduction of these regulatory measures, the government failed to curb the impact of the financial crisis, giving rise to public demands for new, more effective changes to replace non-functioning regulations. George Osborne, Chancellor of the Exchequer, stated in a speech that a new major overhaul was required for the effective mitigation and future prevention of such crisis. The regulations placed before the financial crisis were deficient because of their micro-prudential nature which were completely inadequate for a potential crisis at this level as observed by (Osborne, 2010) and (Hanson, Kashyap, & Stein, 2011). Nevertheless, an important aftermath of the crisis was uncovering the fragility and lack of regulation in the traditional banking system, as the drama was unfolding. The questions raised included what was the key component that led to market failure, why banks deviated from the

agreed plan and what is expected of them in the future. The presence of regulatory authorities, forced banks to avoid risky lending, prevent money-laundering schemes and exploitation of trading procedures by hedge funds. Scandals, such as the mismanagement of 2.3 billion dollars in funds by a former UBS trader (Shirbon, 2012) and an estimated trading loss of 6 billion USD by the London branch of JPMorgan Chase (Hurtado, 2016), could have been avoided with the right regulations and policies.

Due to the financial crisis and the resulting culture change in the banking sector, US and UK authorities have imposed on Barclays fines of more than $450m for trying to manipulate LIBOR[1]. Andrew Bailey of the Financial Services Authority blamed the bank of having a "culture of gaming" against the regulatory system (Gond, et al., 2014); (Griffiths & Lucas, 2016). Researchers had expressed the opinion that we have to promote rules and standards in the best interest of the people and far from past culture (Hurley, Gong, & Waqar, 2014); (Griffiths & Lucas, 2016). Recently, British regulators have demanded auditing of the small local lenders and made it mandatory for them to declare a review on sales and interest rates, as many local companies were involved in illegal operations (Financial Conduct Authority, 2015). At the same time, British and US regulators investigated global banks over the manipulation of benchmarks and interest rates. Before this, abuse of authority has been limited to the low-rank bank officers and low-ranking traders, but now senior executives would also be accountable for their involvement.

3.2.2. The impact of the financial crisis in other European countries

Apart from UK, the cradle of challenger banks in Europe, the phenomenon was observed in most European countries as well. In this section we will assess the situation in two other European countries, Germany, and Italy, where the impact of the financial crisis gave birth to some non-UK challenger banks.

Germany

To understand the effects of the financial crisis on German economy, we need to understand the country's banking system. The German financial system consists of private-, public- and cooperative-owned banking organizations. The German banking

[1] The London Interbank Offered Rate (Libor) is the basic interest rate used in lending between banks on the London interbank market. It is also used as a reference for setting the interest rate on other loans.

sector is among the largest in the European Union. In 2014, after recession, the German government announced that asset accumulation held by German banks amounts to approximately €6.8 trillion (Brandmeir & Holzhausen, 2015) which equals roughly 250% of the German GDP. Germany has comparatively large banks with activity inside and outside Germany. Similarly, more than 1700 branches of foreign banks and credit institutions operate in Germany (Behr & Schmidt, 2015); (Kerl & Koch, 2015). In a wider perspective, the size of the German banking sector covers a huge portion of the European Central Bank (ECB) and has a significant influence as a financial paradigm within Eurozone. Small and medium-sized bank earnings are also sound (Howarth & Quaglia, The steep road to European banking union: Constructing the single resolution mechanism., 2014). Although there is some risk for medium-sized banks, as they provide long-term loans on small interest rates, the interest rate fluctuation remains particularly narrow in Germany (Bean, 2018).

The fiscal cost of support to German financial institutions was exceptionally large. Precise data on fiscal cost is not available, but by adding up numbers that have been publicly given for various institutions, one finds that total costs to taxpayers exceeded €70 billion. The greater part of this cost involved the Landesbanken, wholesale banks owned by many different regional governments of the Federal Republic. To support the real estate industry, the German government offered €14 billion to Hypo Real Estate, €3-5 billion to Commerzbank and similar figures to other mortgage financial institutions. Public banks are the most important and prominent part of the German financial system (Detzer & Herr, 2015); (Behr & Schmidt, 2015). Given that German economy is among the biggest economies in Europe and the backbone of the Euro zone, the effects of the financial crisis were quite felt in the country. Gross domestic product shrunk by 0.5% in the last quarter of 2012. The worst GDP performance for Germany in the recession was in 2008/09, but as most economists expected, it bounced back relatively well, with little economic damage.

Commerzbank, the second largest bank in Germany, sustained losses of €285 million just in Q3 2008. The German government approved a banking rescue package worth almost €500 billion in the third quarter of 2008. Commerzbank reported that the government injected €8.2 billion and offered a guarantee up to €15 billion to secure the bank (Shahzad, Hernandez, & Hoang, 2018); (Hellwig, 2018). The bailout would be in effect for three years but in return, the bank was required to follow the stipulated rules. These requirements included no dividend or bonus paid for 2008 and 2009, fixed salaries for employees and a commitment to maintain the salaries of the board members below €500,000 (Hardie &

Howarth, 2009); (Goddard, Molyneux, & Wilson, 2009). In addition, as pointed by the chief financial officer of the bank, Eric Struts, it could not make any forecasts or announcements for the years 2008 and 2009 due to the extreme conditions caused by the financial crisis. Following the announcement of these policies, the shares of the bank improved by 10%. Commerzbank was the first German private bank that was rescued by the German government to contain the crisis and give a firm response to international pressure.

At the same time, Deutsche Bank, the biggest private bank in Germany, stated that it would not be asking for any rescue funds, arguing that it was self-sustaining and strong enough to cope with the crisis and its aftermath (Spiegel International, 2008). Just like the British government, the German one started investigating certain capital adequacy ratios. The initial reports stipulated that private banks with a ratio less than indicated, would have to accept rescue funding and fulfil new capital requirements (Hardie & Howarth, 2009); (Hellwig, 2018). Hüfner perceived that German banks are much stronger than the rest of European banks, arguing that although most German banks struggled at the beginning of the recession, managed to grow and stabilise shortly afterwards (Hüfner, 2010). These measures, coupled with the regulatory framework applied by the German Government that included strict policies and rules, made it possible for investors to start investing again in Germany, which in turn built even more confidence in the market (Karanikolos, et al., 2013).

Italy

The Italian banking system consists of both large and small and medium-sized banks, which are operating at a regional scale (De Bonis, Stacchini, & Pozzolo, 2011). At first, the financial crisis affected large banks that lost value of assets and some of these defaulted on their debts after the stock market crashed. Despite not being much involved in high speculative sectors, the main issue of Italian banks was the decline in liquidity due to cross-border links with other eastern European countries and global markets where large Italian banks had expanded in the recent years (Hardie, Howarth, & eds., 2013); (De Bonis, Stacchini, & Pozzolo, 2011). The small and medium-sized banks reacted to liquidity problems by reducing credit to clients (Morsy & Sgherri, 2010). This policy reduced investment in most sectors, including housing, manufacturing, agriculture, tourism and hospitality industry, posing a great threat for small and medium-sized firms countrywide (Blinder, 2013); (Goddard, Molyneux, & Wilson, 2009). Reducing credit to customers also reduced consumer spending, causing a ripple effect to other economic sectors such as

car sales, housing and real estate, tourism, hospitality and hotel businesses that were greatly affected and nearly collapsed (Di Quirico, 2010); (Lachman , 2016). The crisis also had a severe effect on the number and remuneration of full-time permanent jobs, resulting in an increased unemployment rate, especially among the young and low paid workers. Dismissal of highly paid and skilled workers was limited, as they were mainly needed by large and medium-sized firms (Coletto, 2010).

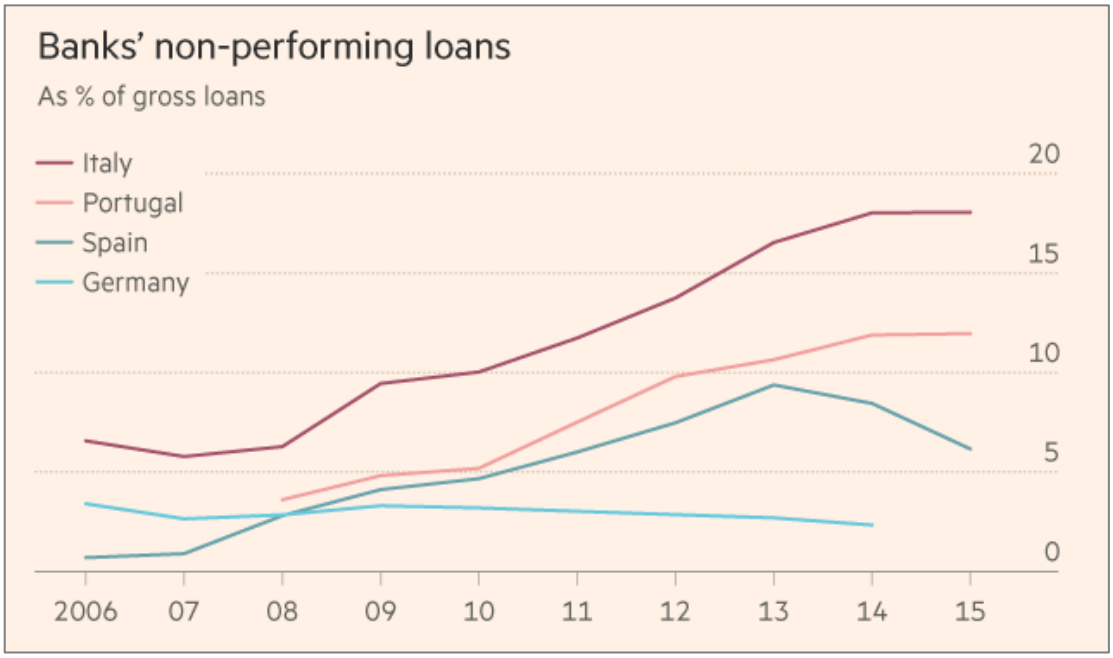

Figure 4: Banks non-performing loans between 2006 and 2015 of four European nations (Murphy, 2016)

As with other European countries' responses and policies, the Italian government also supported large banks and big industries during and after the crisis by cutting spending and formulating banking regulations. At first sight, these types of policies seem to have been effective in helping large banks (measured by assets and market share) with their liquidity problems and in the same way supporting large industries to retain their employees. Another important policy set by the Italian government was cutting down public spending rather than increasing tax rates, which seemed to discourage both investors and consumers. The policies adopted in response to the financial crisis are recognised as correct by the opposition but many critics voiced their objections on the implementation process, arguing that the government only cut public spending and salaries of government employees, while failing to distribute these additional resources to different sectors and social groups (Morsy & Sgherri, 2010); (Di Quirico, 2010); (Jones, 2009). According to Di Quirico, the main victims of the financial crisis in Italy were government employees, the public sector, and public universities. The government of Italy

simply minimised transfer payments and reduced the extent of services provided to the public, to satisfy the opposition. In short, one can argue that the Italian government adopted the correct economic policy but didn't follow the correct implementation strategy.

After receiving widespread criticism and opposition to the prevention and mitigation strategy, the Italian government changed their approach by focusing on the traditional industry sector and revised the policies to improve it (Morsy & Sgherri, 2010). Small and medium firms together with a small number of large companies, such as Fiat, mainly support the Italian economy. The great value of exports coming from these industries essentially drives the Italian economy, therefore the government practically supported the big industries by formulating policies, getting into trading agreements, lowering levy fees, and providing incentives to boost exports. The Italian economy was badly hit during and in the aftermath of the crisis, because of its specialisation in capital goods (machinery and currently robotics) (Romei, 2017), (Geopolitical Futures Team, 2016).

A rebound in economic activity in the first quarter of the recession, was the result of successful decision making by the Italian government. The GDP of Italy however, fell in the second quarter compared to the first. The short-term picture of the Italian economy was not bright, as low production in the 2nd and 3rd quarter of 2008 also indicated the seriousness of the matter. On the other hand, household expenditure fell by 0.3% in the first six months of 2007 (ibid). Corporate investment was also declining in the second quarter of 2007 (Morsy & Sgherri, 2010). After the Global financial crisis, Italian banks faced more bad debts as compared to other European countries, as companies and households found it hard to pay back their loans. The number of nonperforming loans increased by 85% to almost 360 billion euro in just five years. The portion of bad debts as a percentage of all loans is shown in the chart below.

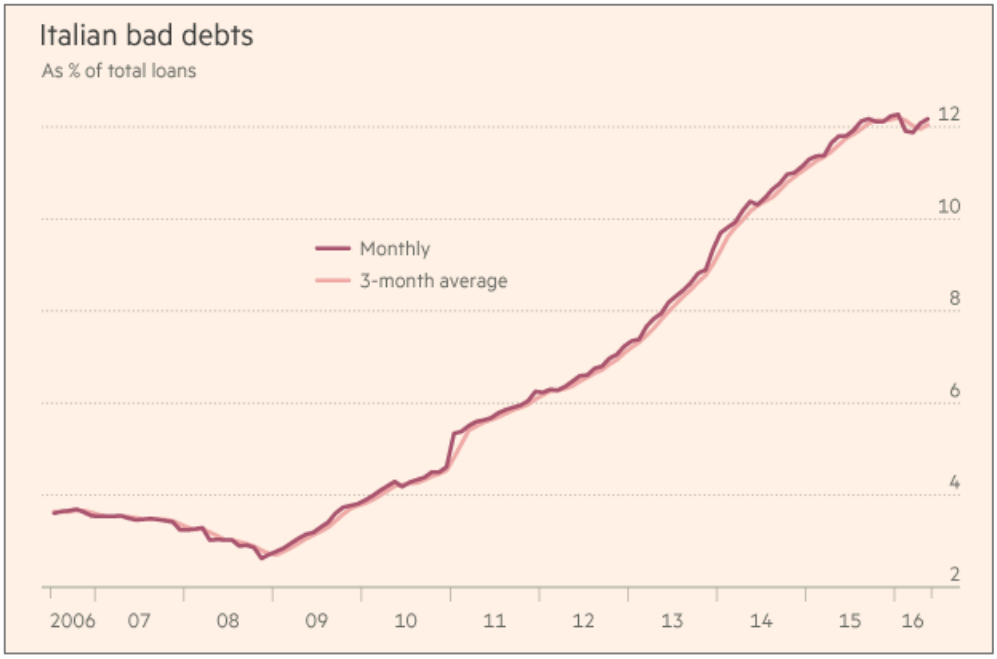

Figure 5: Italian bad debts chart (Murphy, 2016)

4. The Emergence of Challenger Banks in Europe

The history of challenger banks mainly revolves around the turn of events in Europe and specifically in the United Kingdom. The emergence of challenger banks has a direct link to the 2008-2009 financial crisis, which had a significant impact on the European economy, including the banking market. Most of the developed markets, at the time, suffered hefty losses of trust and incremental reforms have consistently been realized over time. According to many analysts, in the next few years there will probably be another financial crisis with many similarities to the one that appeared in 2008.

In parallel, the need for lower interests and a banking culture that called for a simplistic Facebook or Google-like experience, heavily motivated the emergence of the entrepreneurial-led banking revolution (Gomber, Kauffman, Parker, & Weber, 2018).

Amidst all these changes, a new and vibrant group of banking businesses is emerging in Europe. The number of these banks is increasing day-by-day because of the consumers losing faith in institutional banks after the global financial crisis. New customer-centric and technology-driven institutions fostered culture change and digital transformation of the banking landscape across the entire market. These institutions came to be later identified as “challenger banks” and their dominance has been accredited to the highly adaptive services and convenience they provided. The term “challenger bank” also derives from these banks’ competitive nature of challenging traditional banks in terms of customer satisfaction, providing easy-to-use banking facilities, using digital methods and tools of banking and many more.

Developed markets became the favourite destination of challenger banks, as the traditional bank market was already saturated, with those banks sitting comfortably and not expecting any further competition to come. As a result, market entry and expansion of challenger banks went particularly well in developed nations, with a long list of challenger banks growing up in the UK at a rapid rate. The UK is one of the earliest adopters of digital banking, hence the early launch of challenger banks there. This wave started back in 2009, just after the financial crisis and therefore, challenger banks began sprouting up all over the UK (Carey, 2018) (KPMG, 2019). It was not easy for them to compete with big banking firms such as of Lloyds, Barclays, and RBS, but they managed to develop their own market by defining their target audience.

In UK alone, over 30 challengers have applied for a banking licence as of the end of 2015, but just 8 banking licences were granted between 2010 and 2015 by the regulators in the banking industry. In April 2016, Masthaven Bank also acquired a banking licence, followed by Starling Bank and Monzo Bank. The trend has also been spreading throughout Singapore, China, France, the United States, Mexico, Australia, and Germany, among others.

While challenger banks have been trying to create a competitive environment, some of the established service providers have also opted to launch their own Fintech[2] products in the market. For instance, Clydesdale Bank and Yorkshire Bank have launched a new mobile banking app known as "B", that supports expense tracking, provides customers with new and exciting insights into their spending habits and helps them create realistic and affordable budgets. Other incumbent banks are also establishing cooperative relationships with some of the Fintech start-ups, as a way to attract new customers, thus benefitting from the industrial growth. For example, the Spanish BBVA has taken a 29.5% stake in the UK digital lender Atom Bank for £45 million, as it noted the advantages of Fintech start-ups, including low operating costs, convenience, and ease of access to their services.

4.1. Fintech and Challenger Banks

Challenger banks use the Fintech knowledge and know-how by leveraging their banking software tools and by using technology to transform the traditional retail banking into a digitized and streamlined one. Through mobile-driven digital distribution channels, they offer competitive retail banking services, such as credit cards, savings accounts, insurance services, loan services, etc. Due to the wide variety of services provided to customers, challenger banks appeal to a large customer base, despite their lower size and lack of any history of achievements (Santos, 2018). They are attempting to replace the incumbent banks and capitalize on the discontent of customers with traditional banks on the grounds of high fees, no lending, poor customer service, shady business practices, etc. With the help of growing internet user penetration and mobile-friendly business

[2] Fintech stands for "Financial Technology" and it means all kinds of new technologies and software that enhance and automate the way that financial services are provided to individuals and businesses

models, these products of several mergers and acquisitions that have been taking place since 2012, play a vital role in the development and expansion of the economy.

Following market dynamics and advancements in technology, challenger banks have garnered an irreversible momentum for the past six years. This has also attracted the interest of non-banking players such as Sainsbury and Tesco, who have established loan and credit card facilities. Most of the challenger banks offer good interest rates, personalized advice, and innovative products, which are rarely realized by the high street banks. In the United Kingdom, the growth of Fintech has been a key enabler for interplay between technology and finance (Chuen & Deng, 2017). Because of Fintech, market players are encouraged to develop innovative solutions and provide new financial services. This innovative disruptor is here to challenge the obsolete business models and secure its market share, by exploiting the full potential of digital transformation realized in the growing financial industry.

Fintech, for the past 10 years, has witnessed a significant growth, supported by the heavy investments drawn from venture capital funds across the world. During the third quarter of 2016, the Fintech industry raised over $2.4 billion in capital. This shows how digital transformation has consistently appealed to customers and notably the millennial generation (Gomber, Kauffman, Parker, & Weber, 2018). The Fintech industry covers diverse areas, including wealth management, virtual currency, online lending, and banking services. These web enabled services are provided to customers through websites, personalized apps or physical branches and make use of a combination of internet and mobile technologies.

Fintech Sectors	Examples
Online-only banks (including mobile-based banks)	Atom Bank, Monzo, Aldermore, Shawbrook, "B" Smart Banking App
Online peer-to-peer lending (including peer-to-business lending)	Zopa, Funding Circle, Lending works, MarketInvoice, Ratesetter, LendInvest, Iwoca
Payment & transfer	Apple Pay, GoCardless, WorldRemit, TransferWise
Insurance (Insurtech)	Cuvva, Cyense, Safeshare, SPIXII
Wealth management platform	Nutmeg, Wealthify

Virtual currency	Bitcoin, Blockchain

Table 1: Categories of Fintech industry and examples (Lu, 2017)

Focusing on four challengers in UK and one in Germany, new entrants that are constantly gaining market share through leaner business models and concentrating on niche and high-value product areas, we observe the following overview of their activity and their main products and services.

Product/Service	N26	Revolut	Atom	Monzo	Tandem
Headquarters	Berlin, Germany	London, UK	Durham, UK	London, UK	London, UK
Current areas served	All EU except for Cyprus, Malta	EU, Switzerland	UK	UK, EU	UK
Operating since	2014	2015	2015	2015	2014
Card schemes	MasterCard	MasterCard Visa	Visa	Visa	MasterCard
Basic product portfolio	Basic Current Account, Debit Card	Pre-paid Card, Currency and Cryptocurrency Exchange, Current Accounts, P2P Payments	Fixed Rates Savings, Mortgages, Debit Card	Prepaid Card, Current Account	Credit Card, Fixed Term Savings Account
Fast account opening	√	√	√	√	√
Monthly/annual fees	–	–	Min £50 per account	–	–
ATM withdrawals in domestic currency	5 free/month	£200 free/month	No limit	No limit	No limit
ATM withdrawal fees	£2.00/withdrawal	2.0%	–	–	2.5% Min £2.50
Domestic transfers	√	√	√	√	√
Foreign currency transfers	√	√	√	√	√
Personal loans	–	9.9% APR £27.50/year	Mortgages Fixed rates	–	Only credit card 18.9% APR
Cryptocurrency buy & exchange	–	1.5% mark-up on average exchange price	–	–	–
Premium membership fee (including insurance)	€5.9/month	£6.99/month	–	–	–
Mobile application	√	√	√	√	√

Product/Service	N26	Revolut	Atom	Monzo	Tandem
Travel insurance	–	£1.00 / traveling day	–	–	–
Personalized updates and spending reports	√	√	√	√	√
Freeze/unfreeze card in one tap	√	–	–	√	–
Identify better deals for bills	–	–	–	–	√
Emergency cash advance	€130.00	–	–	–	–
Payment reminder	€3.00/reminder	–	–	–	–
Current account switch guarantee	–	–	–	–	–
Call center & online customer support 24x7	√	√	√	√	√

Table 2: An overview of five leading challanger banks in EU

As we can see, they share a lot of common characteristics and features, a finding that is in sync with the business model they share, but still there are quite a few differences.

4.2. Regulatory Challenges for the Challengers

There are two ways to start a challenger bank and make it operational, either by buying banking services exclusively from existing banks or by getting a banking license or charter. Most of the European challenger banks or start-ups have taken the second way, with the first one being preferred by those having difficulties with the financial services regulations (Worthington, 'Challenger banks': are they for real?, 2015). This tells us a lot about the importance of understanding banking regulations to build a compliant service model and framework, based on them.

As far as regulations for challenger banks are concerned, there have been significant changes made by the regulatory bodies in most European countries to level the field equally for larger (institutional) and smaller (challenger) banks. The traditional, internal ratings-based (IRB) approach of modelling credit risk capital requirements has been refined, together with the Pillar 2A capital framework (Baglioni, 2016); (Euromoney, 2016). However, challenger banks still have to meet a long list of objectives set by regulatory frameworks covered under the following Acts/Rules: The Banking Act 2009; the

Insolvency Act 1986; the Financial Services and Markets Act 2000; the Consumer Credit Act 1974; the Prudential Regulation Authority (PRA) Rulebook; and the Financial Conduct Authority (FCA) Handbook.

Challenger banks must use a standardized approach for calculating the capital amount in certain loans approval, according to the Basel III norms. As elaborated by (Hills, 2017), challenger banks are also required to store more capital because of their higher risk rating, as compared to the traditional banks. With GDPR going into effect, these banks need to focus especially on data security and protection against cybercrime, to meet all the requirements for compliance with the new regulation. After the global financial crisis, the regulatory bodies of Europe are trying to identify the key drivers of the crisis and several significant regulatory measures have been taken in response to that situation (Euromoney, 2016) (Hills, 2017). At the same time, European governments are trying to improve stability of the banking sector and build the necessary resilience of the banking system, overall.

A recent paper published by PwC (2016) described the difficulties faced by challenger banks in complying with the capital requirements regulations, required for entering new markets. It has been highlighted that from the challenger banks' perspective, regulatory compliance is disproportionately time-consuming and costly. Moreover, the Payment Service Regulator has not yet shed light on the supply of indirect access to payment systems which has to be used by challenger banks for offering retail banking services. These are just a few of the issues encountered by challenger banks.

4.3. Investment in Challenger Banks

The small and medium-sized banks of UK were getting ready for a new round of consolidations since intensified competition, increased costs, and a slow-moving economy generate new problems for smaller banks that intend to confront the large five banking institutions. The takeover of Shawbrook for £850m and of Aldermore by South African bank FirstRand for £1.1bn (both in 2017) gave the sector the signal that new deals were on the way and this is why senior executives at smaller and high street banks expected a rise of M&A activity, (Maake, 2017) (Financial Times, 2018). After the global financial crisis, new regulations were introduced to support competition among banks and this encouraged the entry of new banks, the so called "challenger banks" and specialist lenders. Figure 6 gives valid proof of the uneven distribution of capital between traditional

and challenger banks, as indicated by the order of magnitude of the difference between the total assets that traditional and challenger banks have. It is evident that challenger banks like Virgin Money and TSB account for only a small portion of the total capital earned by larger banks.

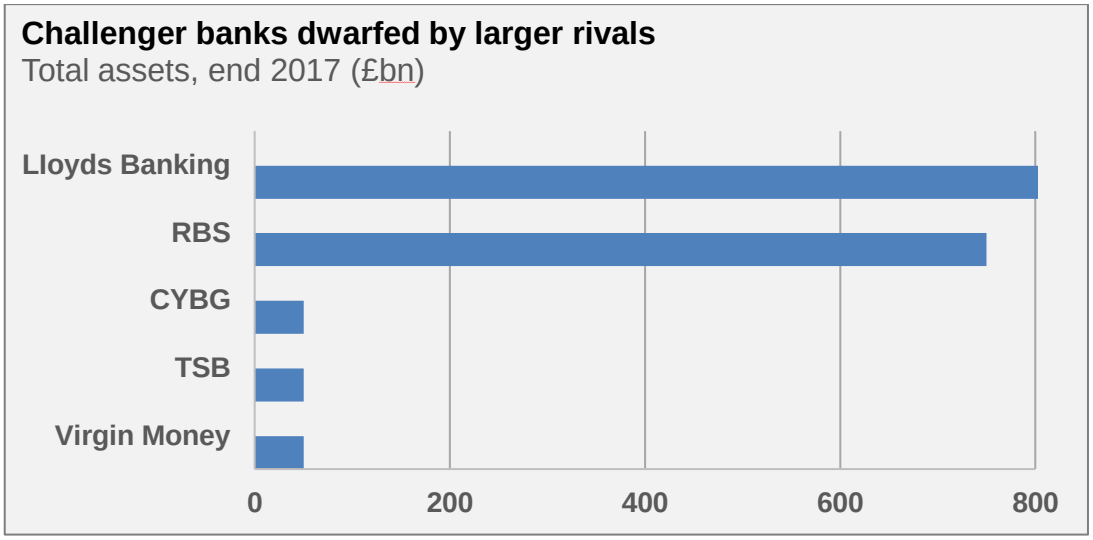

Figure 6: Challenger banks dwarfed by larger rivals (Megaw, 2018)

As we can see in Figure 7, global investment in challenger banks has increased constantly over the last five years and this can be attributed to the growing popularity of these banks as a result of increasing digitization and customized banking. More so, banks with less than ten developers are now able to compete with large banks by delivering a variety of unique features, based on cheap cloud computing, digital media and ubiquitous computing, which allows them to use applications anytime and everywhere.

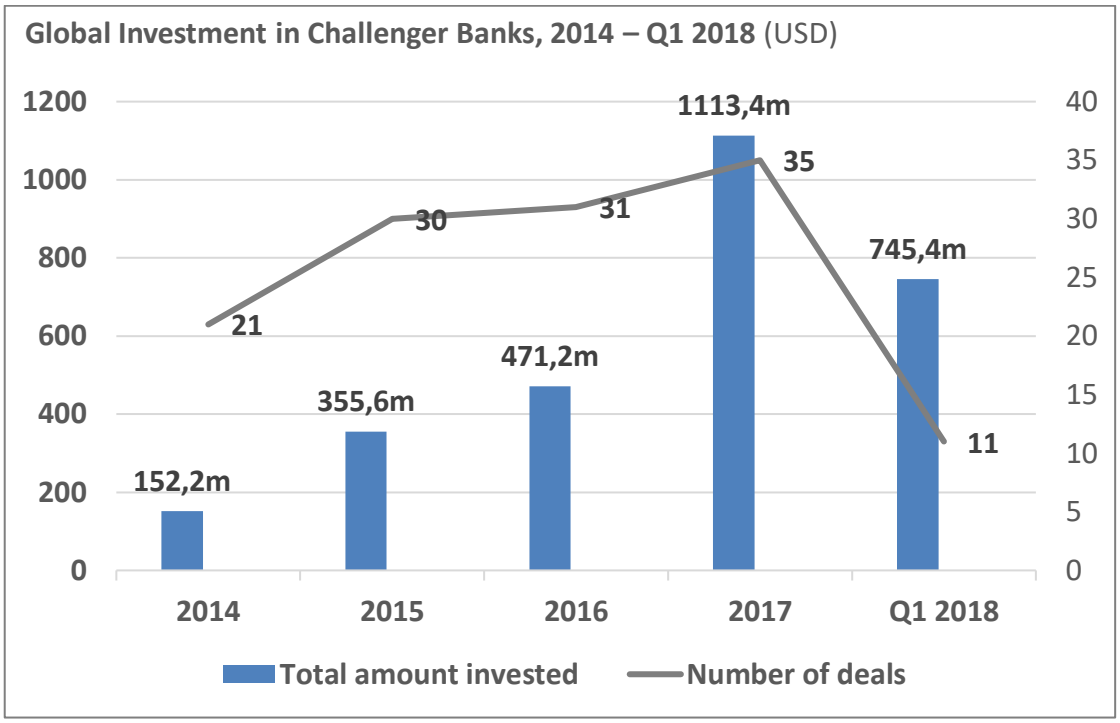

Figure 7: Global Investment in Challenger Banks, 2014-Q1 2018 (FinTech Global, 2018)

Over time, challenger banks have attracted noticeable interest, even from key players in industries, other than the banking industry. Recently, more than $500 million have been invested into EU digital banks, as noted by the investment firm Frontline Ventures. Recent findings also show that challenger bank lending assets have grown 30% YoY in Europe, while their subsequent performance in certain regions indicated a rapid industrial growth. A bank like Metro Bank serves over 700,000 customers while realizing a growth of 40% per annum, while the UK bank Shawbrook has lent more than £1.6 billion to 60,000 small and medium-sized enterprises, as well as individuals, in the year 2015. In 2014, Virgin Money had over 2.8 million customers with an accumulated value of £1.25 billion. The remarkable rise of challenger banks has been majorly driven by the new regulations established in Europe. Based on the current state of the industry, Frontline Ventures anticipates the rise of more “horizontal” banks which will target specific market segments, such as immigrants or freelancers. (FintechNews Switzerland, 2017)

4.4. Challenger Banks in the UK

There have also been cases of falling valuations for the challenger banks in the UK, where a declining trend in the price-to-book ratio (P/B ratio) for these banks has been observed. However, despite of these difficulties and stringent regulatory frameworks, the UK has

been one of the most favourite places for these banks to start with. Country's past record of early digital medium adopters has provided a boosting support to the technological framework for these new institutions (FinTech Global, 2018); (Chudry, 2016). Apart from this, the digital banking market of the UK is still in its nascent stage of development. Moreover, the traditional banks and branches are not yet as oversupplied as in US (Pratley, 2018). This creates an opportunity for new financial institutions like challenger banks to enter this market and provide the customers with disruptive quality solutions, resulting in an overall high efficiency banking operation.

The Prudential Regulation Authority (PRA) has provided some leverage for challenger banks' perceived benefit to the society, by looking after the customers' best interests and of course by lowering banking fees. As reported by Boland (2018), the investors are also favouring the challenger banks these days, with Monese raising a total of $60 million in funding, Atom bank raising $149 million and many others following their example. In a recent survey conducted by the data management company "Relay 42", about 27% of the respondents have already moved to online or mobile-only banking, while roughly 26% of the respondents showing their intent towards switching to digitized banking (Skinner, 2018). The two major reasons for this are better online experience and functionality (Miller, 2017); (Roberts, 2017). Only 13% of the respondents denied exploring new technologies in the banking sector. These numbers are likely to shift more in favour of challenger banks with the passage of time. Bank analysts are expecting a disruptive change in the UK banking market due to the digitization of the banking industry in the next five to ten years.

Table 3 displays the consolidated status of various challenger banks at the end of 2017. There have been several jumps in terms of total assets, but the leverage ratio has remained stagnant over the years. If the overall strength of challenger banks is under consideration, the leverage ratio must have to improve, along with a required increase in Total Regulatory Capital.

Challenger Bank	CET1 Ratio	Total Capital Ratio	Leverage Ratio	Total Regulatory Capital (€m)	Total Assets (€m)	Total Lending (€m)
Aldermore Bank	10.4%	14.8%	6.3%	400.20	5,565.24	4,801.00
Charity Bank	28.0%	33.1%	11.7%	16.14	114.20	54.29
Charter Court	N/A	N/A	N/A	N/A	773.65	726.85
Close Brothers	13.7%	14.3%	10.2%	848.00	7957.30	5737.80

Crown Agents	18.9%	21.5%	2.9%	28.55	833.36	813.50
Investec	12.1%	17.5%	7.5%	1915.00	17943.46	7035.69
Jordan International Bank	15.7%	15.7%	15.3%	60.98	342.27	221.89
Kingdom Bank	14.5%	18.2%	9.1%	5.90	49.84	29.70
Metro Bank	27.4%	27.4%	13.0%	387.26	3,664.30	1,595.78
OneSavings Bank	11.4%	14.8%	4.2%	269.88	4936.53	3945.43
Secure Trust	18.7%	19.0%	14.7%	123.40	782.30	622.50
Shawbrook Bank	11.6%	13.9%	6.2%	203.00	2754.00	2284.80
Triodos Bank	19.0%	19.0%	8.8%	661.23	7152.40	4,266.32

Table 3: Challenger Banks consolidated (BBA, 2016)

One of the most famous banks coming in this category is Atom bank, which has raised £149 million in just the first half of 2018 and is rapidly expanding with the backing of hefty technology along with FIS's profile core banking system and FIS's ambit focus for both treasury and risk management (Keane, 2018) (Ohr, 2018). They have also acquired a local digital design agency named Grasp, which could help them provide a collection of attractive user interfaces for the customers. Finally, yet importantly, they have recently partnered with Deposit solutions to offer retail deposits in Germany.

Some of these challenger banks are merging with each other or acquiring other banks these days, which allows them to provide a holistic solution for their customers (Warner, 2018); (Deely, 2016). For example, CYBG owns Yorkshire Bank, Clydesdale Bank, and an app-based banking service named "B" and provides banking products and services to Small and Medium Enterprises as well as other individuals. They have recently confirmed their takeover plans of acquiring Virgin Money, in a deal valued around £1.7 billion. This acquisition would allow them to become their country's 6th largest bank with a combined total of 6 million personal and business customers.

Free basic banking transactions and unlocking the MasterCard through the App have been two of the most attractive features and decisive factors for the increase in the popularity of challenger banks among the customers (Andreasyan, 2018). The overall number of banks and credit institutions in the European region has declined over the last few years, from around 8.4 thousand in 2009 to approximately 5.6 thousand in 2018, which can be attributed to the growth and disruption of the banking industry in the form of challenger banks.

Challenger banks are partnering with other smaller firms in order to provide a holistic solution to customers and achieve cheaper customer acquisition (Figure 8). These banks are also planning to enter the Asian market, having in mind the large unbanked populations, and developing economies of most Asian countries, where the markets are quite untapped and filled with potential. The only problem is that the Asian market still lacks the regulatory framework that would allow challenger banks to operate appropriately.

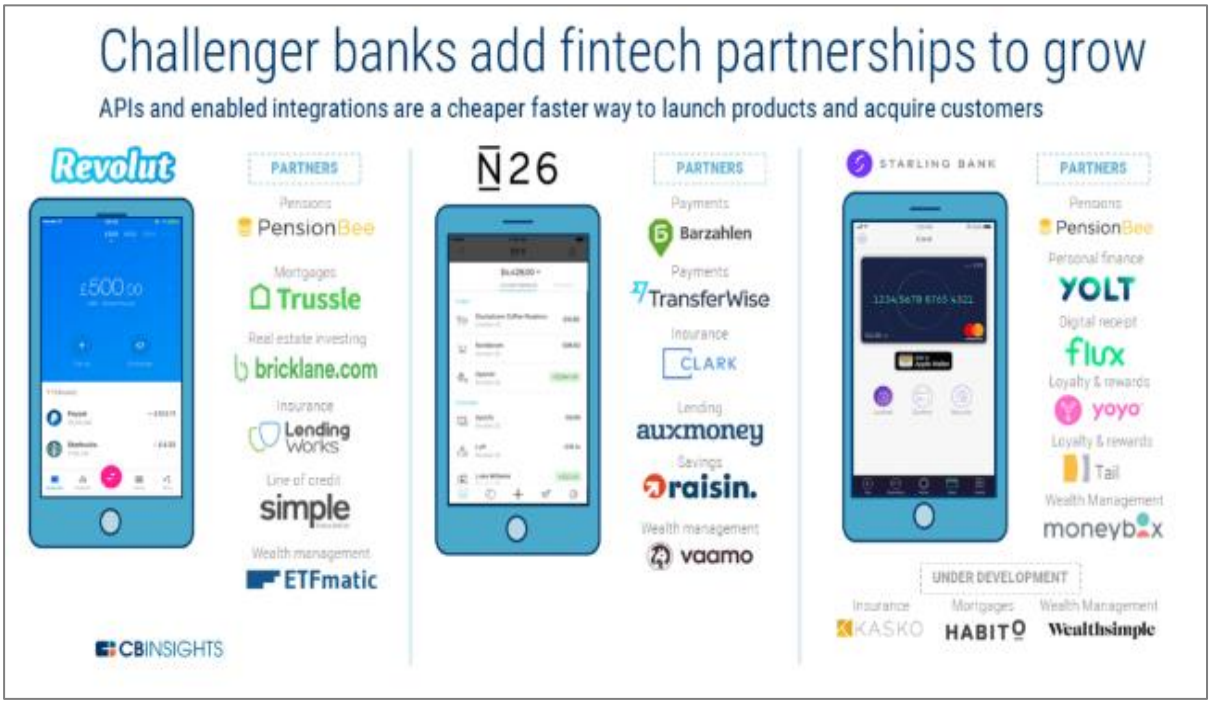

Figure 8: Challenger banks add Fintech partnerships to grow (CB Insights, 2018)

Challenger banks are also expanding their customer base and are actively trying to enter new markets (Figure 9). The 'borderless' account is one of the widely used terms for the accounts with a multi-country profile. By providing these new types of features to the customers, these banks are gaining traction against the traditional banks and rapidly increasing their consumer base. Revolut has recently announced the launch of their new branch in the USA, after having captured the European market and they are diversifying their product offerings for this, mainly by providing a new commission-free trading platform (Revolut Wealth) which is licensed to support mortgages, ETFs, and pensions. Aldermore, a challenger bank located in Berkshire that focuses particularly on the SME sector, is trying to move towards complete digitization – based on its omni-channel digital engagement platform – and further expand to other parts of Europe (Andreasyan, 2018).

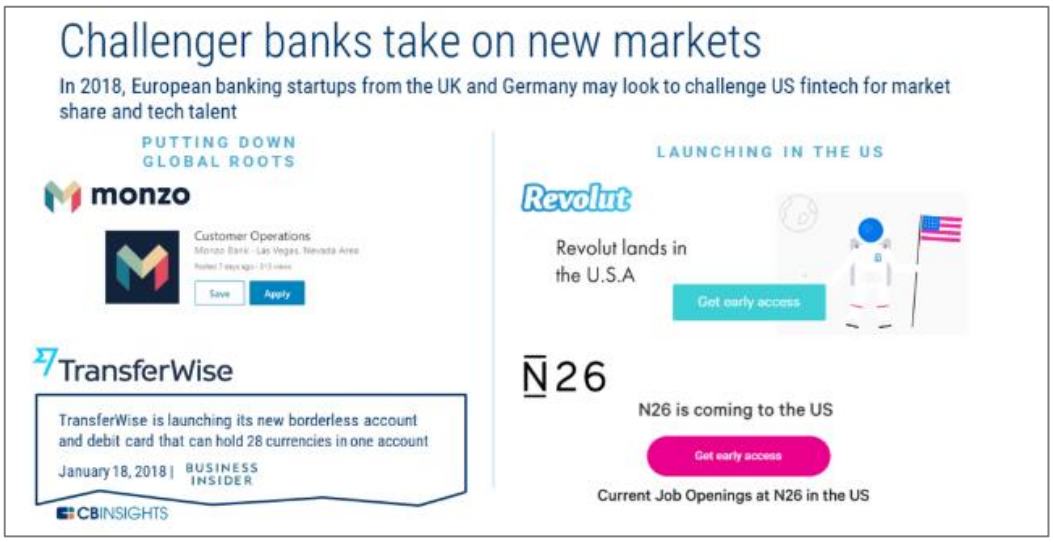

Figure 9: Challenger Banks take on new markets (CB Insights, 2018)

4.5. Challenger Banks in Other European countries

Along with UK challengers planning to expand, challenger banks are springing up and their number is growing day-by-day across the globe, with a fair amount of share going into the European region.

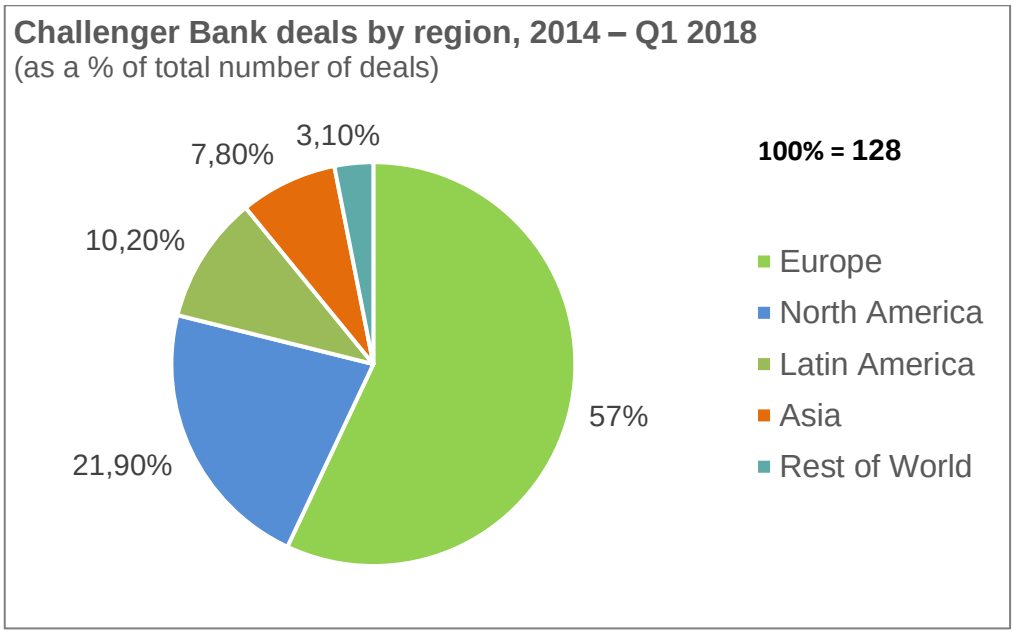

Figure 10: Challenger Bank deals by region, 2014-Q12018 (FinTech Global, 2018)

As can be seen in Figure 10, the European region constitutes around 57% of total challenger bank deals since 2014. Over the past few years, there have been quite a few challenger banks emerging in other European countries like Germany, Italy, Sweden,

France, etc, and they are changing the structure of the whole European banking system. (Heathman, 2018) pointed out that Revolut, which is one of the largest challenger banks in Italy, has recently raised $250 million in funding, thus becoming a $1.7 billion valued company, whereas Swedish Mobile banking challenger Plexian raised SKR 2.8 million to take on the big banks (Plexian, 2017).

One of the digital banks in Germany, N26, has been called the bank of the future. They provide a free basic current account to their customers, along with a Debit MasterCard. They verify accounts of the customers via a video chat with them through their N26's identity verification platform (IDnow), which only takes about 10 minutes, resulting in a much faster account verification process (Lee & Shin, 2018). As we can see in Figure 8, N26 has partnered with firms like Raisin, Vaamo, Auxmoney, Clark, TransferWise and others and has already launched a wide range of products.

On the other hand, in the Netherlands, a new challenger bank is very likely to face problems due to a highly concentrated banking industry on a national level, with the major players covering a very wide range of financial products (Banking & Insurance, 2018). Not much has changed in the landscape in this country since the financial crisis, as not only hasn't the banking sector become competitive, but in fact, the number of companies got reduced, instead of increasing. The five biggest credit establishments in the Netherlands account for a market share of 85%, one of the most noteworthy in the EU - while the EU average is just 46%. Due to their size, any of them going bankrupt would have a huge negative impact on the economy and therefore these foundations should be going into administration.

Another new start-up named Amaiz, which is basically another mobile banking app, provides a free Mastercard debit card with the facility of instant transfer of money using debit cards and credit cards, Android Pay or Apple Pay. This app also provides smart analytics backup for the user to monitor and manage all payments or transactions, alongside fund protection and a 24x7 service. They also provide categorized tags to their customers and send periodical spending reports for them to maintain in their own database. Founded in London, Amaiz gradually expanded into other parts of Europe and has its Research and Development office located in Russia.

4.6. A Categorization of Challenger Banks

Before understanding the categorization of challenger banks, let us first understand the different types of institutions in the banking sector.

- **Traditional Banks.** These institutions have a banking license, as well as hundreds of physical branches. The main feature distinguishing them is that they offer their own "closed" full suite of products to their clients, according to the latter (Mullineux, 2012). Some of these traditional banks are HSBC, Barclays Bank, Lloyds Bank, RBS, etc.

- **Neobanks.** These institutions do not have a banking license and they provide core banking services in the form of current account. However, they keep on improving their current account products by adding features, some of which are free bookkeeping tools, Personal Financial Management Tools (Banking & Insurance, 2018). Monese, Moven and Simple are some of the Neobanks currently in operation.

- **Traditional Challengers.** These have banking licenses of their own and they have a similar business model to traditional banks. They have both digital banking and physical branches. Metro bank, OneSavings Bank and Close Brothers are some of the companies which come under this category (McCulloch, 2017).

- **New Challengers.** These are the non-existing banks which have either received their banking licenses recently or have applied for a license and are perceived as start-ups. They engage with their customers only through digital mediums, that is, they do not have any physical branches (Wright, 2016); (Carey, 2018). Examples of this category are N26, Monzo bank, Atom bank, Starling Bank, etc.

Broadly, challenger banks are classified into 4 broad categories, as follows:

- **Mid-Sized Full-Service Banks.** These are well known brands with a customer base of over 1 million and tens of thousands of employees. Although they use digital channels, they also believe in the importance of physical presence and hence, they have hundreds of branches (pwc UK, 2017). Around 35% of British consumers think that these banks offer as attractive services and products as the bigger banks. As pointed by (pwc UK, 2017), TSB, CYBG and the Co-operative bank are some of the Mid-sized full-service banks.

- **Specialist Banks.** These banks have specialized lending and saving schemes for their customers, with a focus on small and medium-sized enterprises as well as the buy-to-let market. They give more emphasis on third party distribution channels and call centres, rather than on physical presence (pwc UK, 2017). Digital channels are their primary source of communication and customer engagement. Secure Trust, Shawbrook and Aldermore are some of the specialist banks in operation.

- **Digital-only Banks.** These banks understand the trend of growing digitization throughout the globe and they have responded quickly to customer demand, shifting towards digital banking. According to (Terekhova, 2017), they boast about their exceptional level of service and great customer experience, following a solid customer engagement strategy by providing innovative solutions to the customers. They are actively accessible through mobile apps and try to leverage the limited physical nature of traditional banks. They are growing at a rapid rate and they are expected to scale up multi-folds in the coming years (pwc UK, 2017). Starling, Tandem, Monzo are some of the banks coming under this category. They work on the concept of Open Banking, providing users with a network of financial data using data-secured APIs and other technological tools.

- **Non-Bank Brands.** These brands derive from strong and famous brands operating in other industries. The assured trust and wide customer base of the parent brand allow for these brands to analyse past data and build customized loyalty schemes for the customers in order to give them a compelling value proposition (British Telecom, 2015). As pointed by (pwc UK, 2017), they do not offer a full range of banking products and services. They focus mainly on earning the trust of customers and maintaining a long-term relationship with them. Tesco bank and Virgin Money are some of the banks which come under this category.

All these four categories of banks have different target markets and different service models. (pwc UK, 2017) illustrated that their value propositions vary and hence, the scalability of each one is different. Essentially, the categorization of challenger banks varies from one country to another based on their characteristics and how the government is dividing them in that country.

	Mid-sized Full-Service banks	Specialist Banks	Non-Bank Brands	Digital-Only Banks
Strategy Mantra	Achieve high scalability by transforming the operating model to lower down costs	Develop digital capabilities to help them expand anywhere while maintaining a low level of risk against default	Manage the impact on parent groups by utilizing the existing data base and optimizing the distribution model	Gain advantage of Open Banking and innovation and utilize it to achieve maximum profitability while expanding and attracting new customers
Size & Presence	Must have a physical presence due to the business model; Larger scale with less than 5 million customers and around 6K – 7K employees	Smaller scale, but still highly profitable because of low capital expenditure on providing physical presence by keeping it bare minimum	Limited flexible physical presence, yet achieving larger scale with the backing of strong players, along with loyal and a large customer base	Smaller at present, with employees within 200 – 300 in number but having higher scalability and no physical presence because of the modern platforms and apps with online features
Unique Selling Proposition	Full-service banks with traditional product offering and high trust among customers because of their past relationships	Specializes in personal and SME (Small and Medium Enterprises) lending to niche markets with a focused differentiation strategy	Focuses on the existing customer base, earned from the parent company and making propositions keeping those customers in the target group	Provides limited retail product offering at present, but innovative and technology driven products being generated continuously to cater to the digital savvy customer market

Table 4: Strategic differences across categories of challenger banks (pwc UK, 2017) (Hill, 2017)

4.7. Analysis of Marketing Propositions

Challenger banks have tried creating a disruptive innovation in the banking sector and they have indeed managed becoming of concern for the largest banks of the world by bringing along innovation and differentiation. But again, this has been possible only because of two reasons – first being the funding they have been able to raise from the investors and second being the large customer base they have been able to attract. None of these would be possible if the challenger banks were not able to convey their message properly to both the customers and the investors. Keeping all these factors in mind, these banks have come up with different types of marketing strategies to allure customers, while utilizing the gap in the banking industry.

The value propositions of all challenger banks are centred around the customer experience. Their marketing message revolves around improving user interface, utilizing the technology stack effectively and delivering that experience via cohesive digital channels. They have a clear strategy in mind about the ways of providing a more personalized customer service. They have successfully tried to improve onboarding and maximize retention, although there is a long way ahead. They focus on innovation and constantly introducing new products in order to attract new customers and achieve a higher level of customer satisfaction for both new and existing customers.

However, a good strategic plan alone is never enough if you are not able to convey this message to your customers. To successfully pass the message, these banks have also modified accordingly their web pages and their firms' taglines and as a result, they managed to modify the consumer perception of their brands. The value propositions of challenger banks vary from providing an overall product offer as traditional banks do, to specializing in personal loans and digital offers to attract digital savvy customers. If we see the trend of their value propositions so far, it can be expected that a group of these challenger banks will merge and be able to deliver a holistic customer experience, like building a data dashboard containing all information about the customer's account at a given time, helping them make better decisions in regard with all types of transactions or keeping full record of past transactions for their customers. According to a survey done by PwC in 2017, only around 11% of respondents answered that they switched primary banking providers based on their level of satisfaction with the quality of services provided. Around 57% of the customers, who have changed their banking providers in the last three years, identified better financial incentives as the main reason behind the switching. Some

of these financial incentives include better rates, cash back offers, discounted transactions, etc.

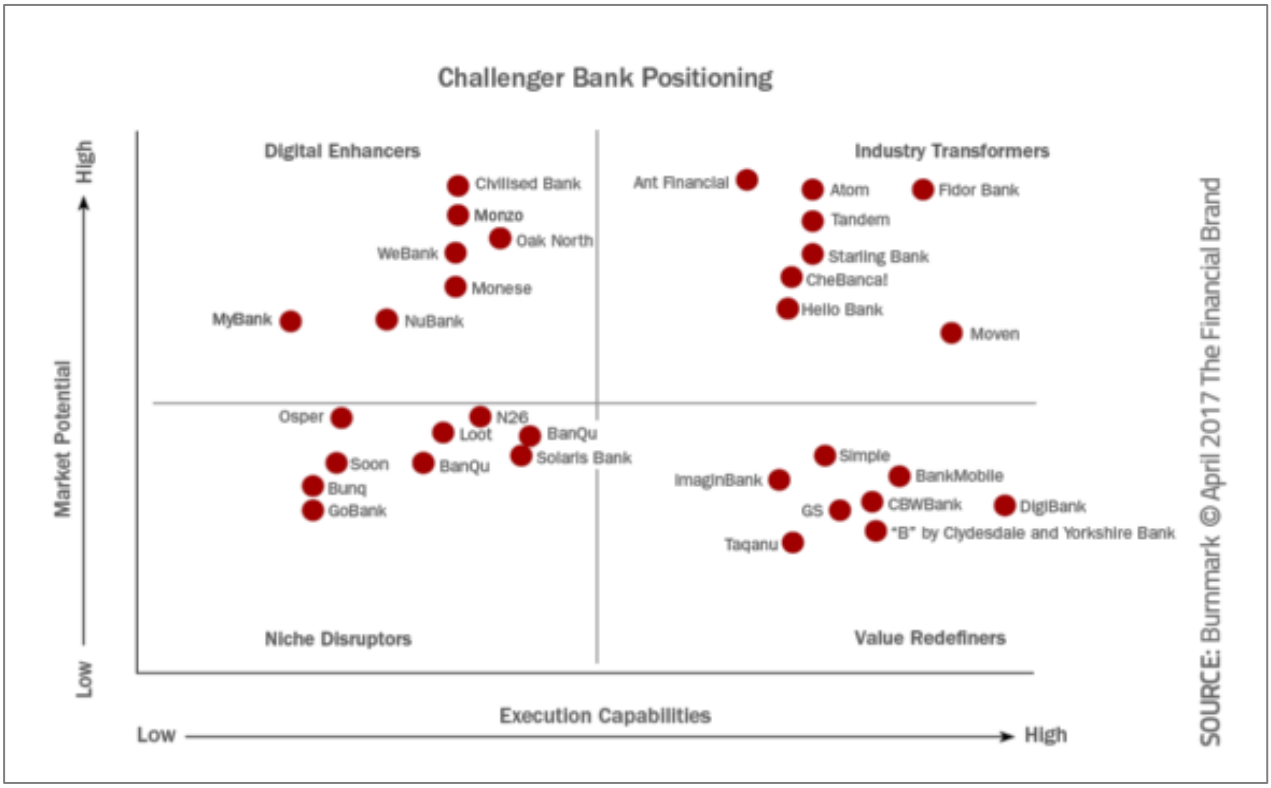

Figure 11: Challenger Bank Positioning (Mohan, The Challenger Bank Battlefield, 2017)

The above picture gives a clear idea of how challenger banks want to position themselves in the market. It describes the position of these banks in the minds of consumers from a market potential and execution capabilities point of view, dividing them in four quadrants based on factors such as certain parameters of their disruptive impact on the banking market, the level of market transformation and the effectiveness of digital promotion (Mohan, The Challenger Bank Battlefield, 2017) (Competition Begins To Boil For Challenger Banks, 2017). The categories defined in this model are:

- **Digital Enhancers.** Those who promote digital methods more than anything else, but with lower levels of execution capabilities at present
- **Industry Transformers**. Bank entities that have strong execution capabilities and can transform the industry structure due to their high potential
- **Value Re-definers.** Banks that have redefined the industry value chain due to their execution capabilities, but have limited market potential as of now
- **Niche Disruptors**. Banks that narrow their audience due to their limited execution capabilities and as a result, they are less capable of acquiring a large market share.

In order to create a unique value proposition and manage to convey it properly to their intended audience, challenger banks need to follow a progressive planning approach, by choosing their target audience, understanding consumer behaviour and fulfilling their needs and desires.

4.7.1. Target market and customer focus

The value proposition and target marketing of challenger banks is all about giving customers the best banking experience of their lives. Challenger banks are currently targeting those people who are tech-savvy and inclined towards growing digitization. According to a report given by the ICAS academy, millennials are the driving force behind this upheaval in the banking and financial ecosystem, which is leading to a huge structural change in the banking industry (McHale, 2018). Another important aspect to be considered, is that millennials' consumer behaviour is completely different from the buying behaviour of baby boomers and generation X, as well as their perception towards online shopping, the financial ecosystem and utilization of assets (Wilson, 2018). They tend to save less, prefer renting over buying a house and they are more attracted to those companies who market their product and services with special focus on "digital first" philosophy and providing a complete, secure, and hassle-free medium with high operational efficiency. For these reasons, challenger banks also need to meet their needs and expectations, which are constantly evolving.

According to a survey, conducted by Expand Executive Search Firm, on public perception of challenger banks, around 80% of the respondents said that they were not aware of these banks, which is quite an important factor to look upon; if customers are not aware of these banks, how are they going to open a bank account in one of them and how will challenger banks manage to inculcate these new banking habits to the people, in order to introduce all these new features and services to them? Large marketing campaigns are required to popularize these innovative financial institutions. Around 54% of the millennials surveyed, agreed to receive advice on budget-related management aspects, providing that it is communicated through an app-based medium rather than any bank employee. So, customers are also looking towards reduced lead time and engagement, without hampering transactional efficiency. Trust is one of the most important issues that challenger banks need to deal with, unlike existing traditional banks, which have already built a long-term relationship with their customer base, by providing holistic solutions.

Challenger banks first need to change customers' perception of the banking system and then try to approach their target market with the right set of products and features.

The timeline of the engagement of a customer with any banking service provider follows a pattern such as the one shown in Figure 12. Not only in the banking industry, but across every business environment, consumer retention is paramount for growth and sustainability. (Morgan, 2017) and (Anderson, 2018) asserted that challenger banks should aim to have deep understanding of the whole customer's journey, which begins with opening and maintaining a bank account with a financial institution. However, after certain days from acquisition, there are some customers who silently close their account or leave it dormant for no reason. There are also some customers who are not satisfied with the services provided by the bank and eventually leave it, after reaching a certain dissatisfaction level. According to (Miller, 2017) and (Ahmad & Al-Zu'bi, 2011), a bank can retain its customers only after a long-term relationship with them has been built and is able to cater to their needs, at an affordable cost.

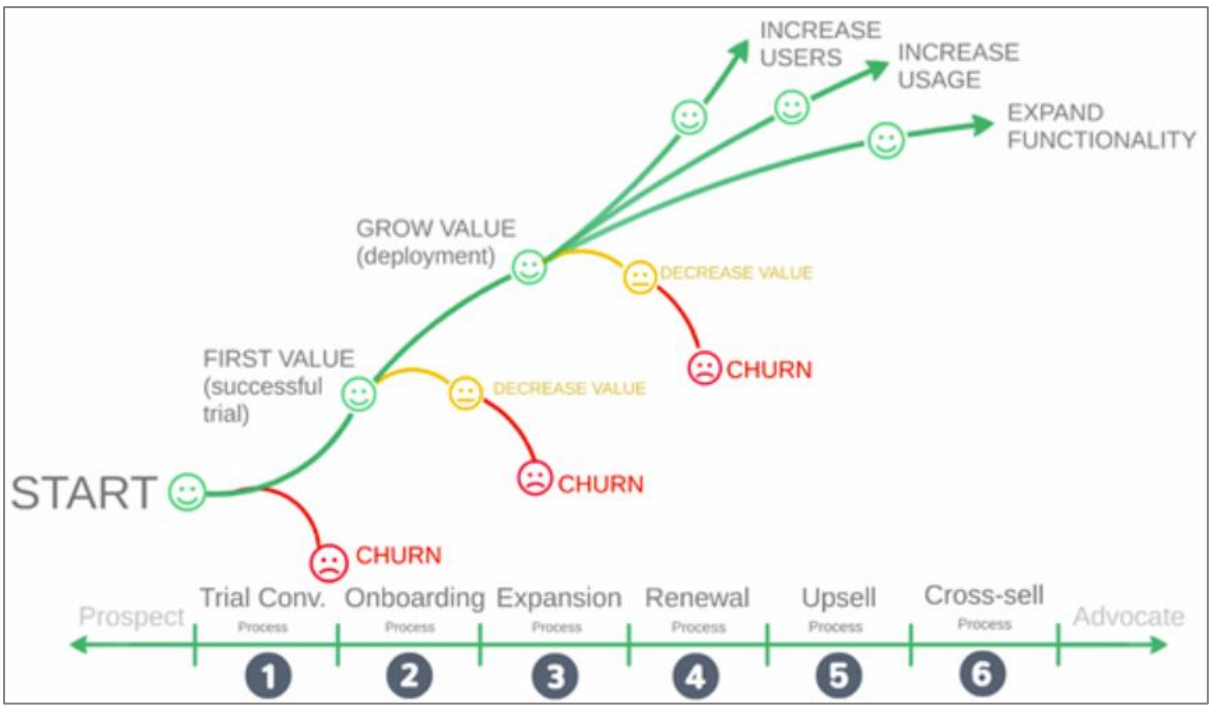

Figure 12: Consumer's journey in the banking industry (Skok, n.d.)

Challenger banks aim to attract public trust towards the banking industry after the ground-breaking financial crisis. According to a survey of YouGov conducted in 2013, only 16% of participants agreed to the fact that banks provided quality products (Walker, 2018), while 83% of them believed that most bankers are greedy and are paid too much,

considering current economic conditions. The remaining 1% said that bankers were not doing enough in support of economic growth and development. (Shakespeare, Kellner, Rowe, & Studzinski, 2013)

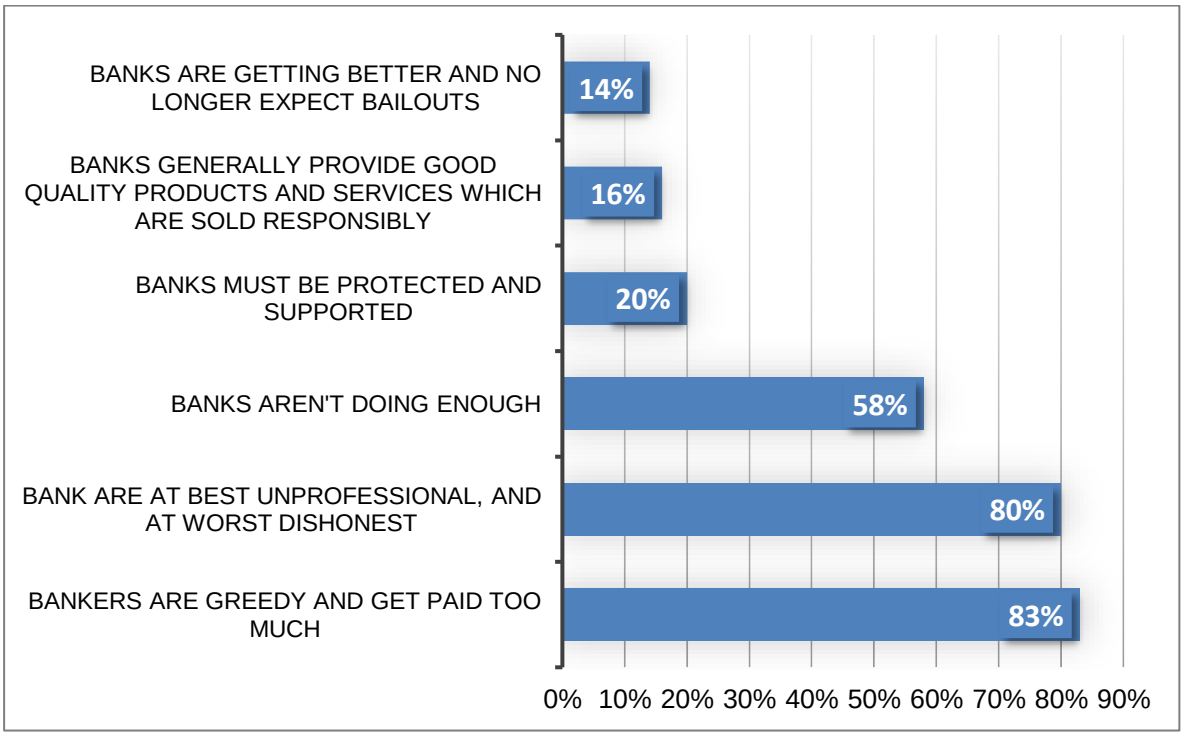

Figure 13: Graphical representation of the people's feeling towards traditional bankers (Shakespeare, Kellner, Rowe, & Studzinski, 2013)

As a general principle, challenger banks attract customers from the financially marginalized population, previously ignored by dominant leaders in the market, by addressing their needs and thereby putting them in a financial dilemma. Challenger banks' operating models are also aimed at attracting individuals who have an understanding of the potential of the internet and mobile technologies (Crosman, 2018).

Dynamics of banking penetration indicate that more millennials have confidence in online services, which gives room for challenger banks to provide their services. In the United States, for example, the market experienced a shift in demographics with the millennial population standing at 92 million, overtaking baby boomers that stand at 77 million. Millennials, sometimes referred to as "digital natives", are hyper-connected and more attracted to online financial services, already having a tremendous effect on the business landscape.

This part of population is already comfortable with on-demand services, such as Uber and Airbnb, which already provide Google-like experiences. Some European countries have already expressed enormous interest in online banking, with users from Malta leading with 72%, Luxembourg coming second with 66%, Estonia having 55% and Czech Republic closing with 50% (Micu and Micu, 2016). Various economies also have extreme mobile penetration with Singapore leading at 92%, South Korea following at 82%, the United Kingdom at 75%, the United States at 70% and Germany with Smartphone penetration at 65%. (Burnmark, 2016)Therefore, banking innovation is generally at the peak, with more players, especially the incumbent, showing great interest in the online market (Chishti, How Peer to Peer Lending and Crowdfunding Drive the FinTech Revolution in the UK, 2016). In developed markets with high smartphone penetration, challenger banks are likely to collaborate with the incumbents, not only in serving the digital generation, but also in restoring public trust as far as the banking market is concerned.

4.7.2. Product offering

Challenger banks provide a wide range of products and services to their customers as a market offering. Niche offerings, positive company culture and focus on customers as their priority have been the three main pillars behind the growing popularity of challenger banks (Ozcan, Dinçkol, & Zachariadis, 2018); (CB Insights, 2018). As pointed out by (Ozcan, Dinçkol, & Zachariadis, 2018), these banks orient their operation to targeting customers with a wide range of innovation and technology driven products and services. The Fintech industry is continuously moving towards providing streamlined and innovative digital solutions to customers, including peer-to-peer lending and insurance, digital accounts and credit cards that work in many countries (Gomber, Kauffman, Parker, & Weber, 2018).

To provide convenient solutions to their customers, challenger banks have worked to integrate new technologies and incorporate them into their products. According to (Guo & Liang, 2016), one of the most important requirements for successful digital transformation is to find out innovative and hassle-free ways of handling critical “Know Your Customer” (KYC) procedures, while optimizing customer onboarding. (Soni & Duggal, 2014) argued that these new business processes help them reduce customer onboarding time in the retail banking industry from a few days to within minutes. This has become possible due to the availability of scanned ID documents of customers, which exist within the vast network of offices Nowadays, biometric authentication tools are becoming more popular in handling KYC requirements, including fingerprint, face recognition, voice recognition,

palm vein, retina and iris recognition, by using state-of-the-art technological applications through the internet (Burt, 2018).

The findings by (Desmet, Markovitch, & Paquette, 2015) indicated that some digital banks focus on conveying their value proposition revolving around current accounts provided, while some try to position themselves based on specialized loyalty schemes making best use of the past data of customers and others provide customers with dashboards including information regarding all their accounts, as well as customized reports.

4.7.3. Service model

Challenger Banks have built their service model keeping two questions in mind. First: How customers feel about options offered by traditional banks compared to new technological-oriented products offered by new banks at a lower cost? And second: How can they bridge the gap between customer expectations and provided banking services and whether it is always necessary to have a physical branch for delivering them. According to (Fintech Finance, 2016) and (Santos, 2018), these questions founded a base for exploring more concerns related to the banking industry, such as the necessity of having a branch, the efficiency of bank security systems, working models of ATMs and sustainability of traditional banks' revenue model.

Traditional banks earn their revenue primarily from two sources, Fees and NII (Net Interest Income). (Murray-West, 2010) explained that these fees are charged for the transactional service and customer care service provided to the customers. This also includes ATM transaction charges, checks' charges, SMS charges and other similar services. Net Interest Income, on the other hand, is the difference between the interest rate paid to deposit account holders and the interest rate charged on loans provided to the customers. Considering the models adopted by challenger banks, NII does not seem to be a viable source of revenue for the initial period of establishment, as they are venture-backed start-ups and it is very difficult for them to have enough capital to give loans and enough customers to deposit money. In addition, the robust credit approval process to ensure long-term profitability limits revenue development during the initial stages. Therefore, the fees charged by these banks seem to be the sole source of revenue generation for them, the main one being the interchange fees. The differentiating factor here lies in the functionality and service models of challenger banks (Vyšný, 2017). Customer acquisition cost for large banks ranges between $300 and $500, whereas the acquisition cost for

challenger banks ranges between $5 and $60 per customer. This is where the main advantage for challenger banks lies, while their digital nature allows them to have more economical ways of cross-selling other products and services to the existing customers or retargeting converted customers.

Apart from the revenue model, analysis of the Unique Selling Propositions for different challenger banks shows that they vary significantly. Some banks try to position themselves as market innovators while others focus on providing the best customer experience possible. For example, N26 has an expression written on its website: “You’ll never have to visit a bank again”. This can be perceived either negatively or positively. For some consumers, it can convey the message of the bank lacking physical branches, while for others, who are mobile or digital savvy, it can give the good feeling of not standing again in a long queue at the bank.

4.7.4. Distribution channel mix

Contemporary business environment in the banking industry demands any bank to have a presence on multiple channels, whether it is a traditional or a digital banking institution. (Bhalla, 2014) and (Kurila, Ketikidis, & Lazuras, 2016) perceived that all banks have the sense that they must be within the range of customer’s reach along with multiple touchpoints. Branch banking is expected to change radically, with virtually all banks becoming direct banks. In a recent survey by PwC about retail banking in 2020, around 85% of respondents view optimising the distribution channel as important and around 82% of respondents want to see their organization’s distribution changing (pwc, 2014)

Challenger banks use digital media as the primary means of reaching customers to communicate their offers and effectively interact with them, mainly due to their efficiency. Nevertheless, some of these banks have physical branches (addresses) but most of them interact with consumers through online platforms (websites and mobile/tablet apps). Even customer support is offered via live chat or call centres. Cloud architectures, open Application Programming Interfaces (APIs) and Streamlined Third-Party Management Processes allow them to operate at a low cost with high efficiency. However, this distribution channel is highly depended on each country’s current situation in terms of internet penetration, market demand, culture and most important, infrastructure.

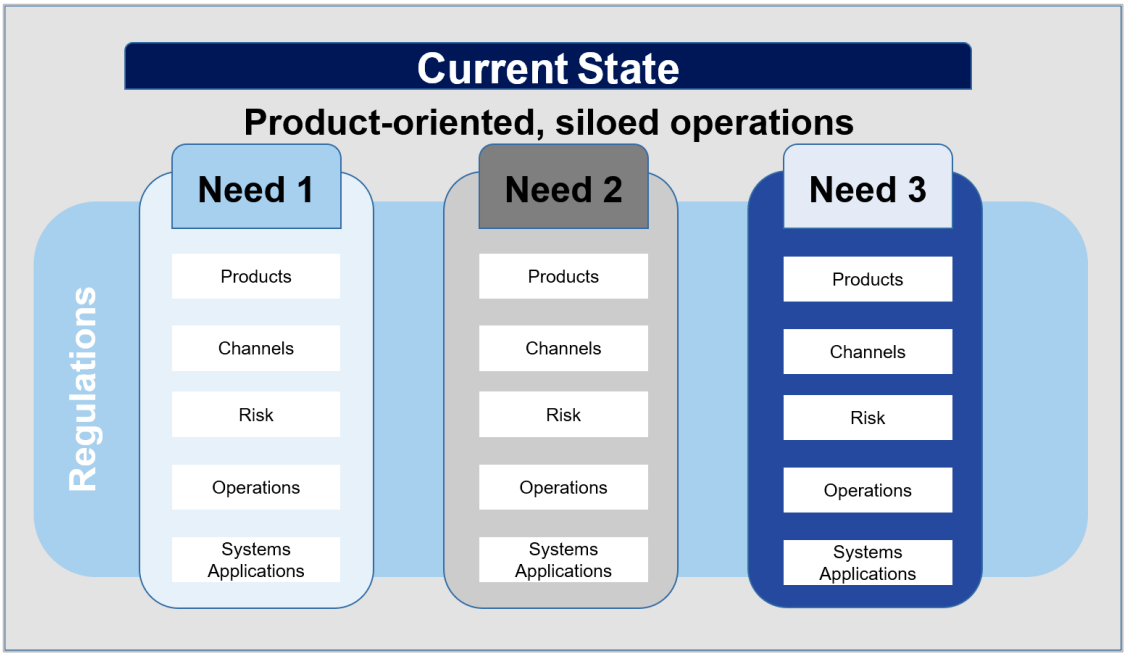

Figure 14: Banks that move to solution-oriented integrated operations will be the winners in 2020 (pwc, 2014, p. 30)

Currently in the banking industry, every physical branch is practically working in silos, following a product-oriented strategy. There is a single channel of communication for financial institutions to engage with customers. Challenger banks though, are focusing on implementing an omni-channel strategy through creation of innovative apps, websites and even some physical branches.

4.7.5. The role of digitization and technology

Digitization and technology form the two most important pillars behind the rise of challenger banks. Most of these banks already use Artificial Intelligent (AI)-enabled devices, such as chatbots to communicate with clients, yet this is just the beginning of what is to come in this industry. From AI-powered virtual financial assistants to automated credit scoring through predictive analysis, the extent of digital transformation of banking operation through AI will probably reach unexpected levels. From a customer's perspective, machine-learning has already begun to improve efficiency and effectiveness in resolving their problems (Parakh, 2017). AI and machine-learning enable banks to identify patterns in the data and formulate their strategy correspondingly to address customers' issues in a timely and cost-efficient manner. They also help banks in making educated guesses about their future customer value, but their most important contribution

expected to come into existence, is in addressing potential challenges and threats to be faced.

In terms of digital innovation, the disruptive model employed by challenger banks is making a huge impact, which is expected to transform the whole banking industry in terms of customer journey mapping and engagement. This presents an ideal opportunity for banks to seize the innovation available in the market and use it to make lasting changes and address challenges faced in the field effectively. These changes can be driven by new disruptive innovations that enable banks to fortify client commitment with imaginative contributions, customized interaction, engagement and ultimately satisfaction. The business as of now is already using IoT with versatile applications, swipe cards, ATMs, card readers and sensors, which pave the way to a future of real-time asset financing.

A few banks have recently integrated blockchain innovation into their strategic plans in order to implement ground-breaking change to their business operation, as it offers greater transparency, enhanced security, improved traceability, increased efficiency and faster transactions, in comparison to conventional banking. Blockchain has long been in the limelight for its capacity to diminish extortion in the capitalist world economy. As of now, some of the uses of blockchain-based payment instruments are for storing capital, paying instalments (cross-fringe, shared, corporate and interbank), making private value resource exchanges, tracing subsidiary items, administering and monitoring of exchanges, consumer spending, keeping track of home loans, benefit records and credit records, as well as other microfinance applications (Guo & Liang, 2016) (Peters & Panayi, 2016). For instance, blockchain can be used to decrease handling times, from three to six days, to minutes. This improves client experience significantly, while lowering the cost of exchanges. Banks are famous for their ability to exploit new advertising services accessible using technology. In the meantime, they should deal with the new threats caused by the digitization of economy.

Evidently, innovation and integration of technologically driven platforms has revolutionized banking and transformed the whole financial industry in terms of culture, beliefs, operation and structures. The findings demonstrate that banks which embrace technological advances have considerably more chances to adapt in the changing financial environment by improving distribution and enhancing commercial & corporate lending services. New technologies also give banks the capacity to:

- Work with other like-minded business entities or individuals in the field, to create advanced products and come up with new ground-breaking approaches
- Provide clients with consistent, multichannel, and technologically advanced interactive platforms and services
- Improve and enhance business operation through technology institutionalization, while streamlining business processes with the use of cloud computing arrangements
- Enhance operations and services offered, with the aid of disruptive innovations like man-made brainpower (AI), IoT and blockchain.

In a wider perspective, digitalization has transformed previously manual processes, transactions, and activities of banks into digital and technology-based services. Multi-purposed mobile platforms are currently used in the banking industry in conducting monetary operations and other banking activities. Recent introduction of Payments System Directive 2 (PSD2) regulation and Open Banking is expected to accelerate this on-going transformation by enhancing consumer engagement and involvement, ultimately resulting in their demands and expectations to be considered regarding policy-planning and structural implementation.

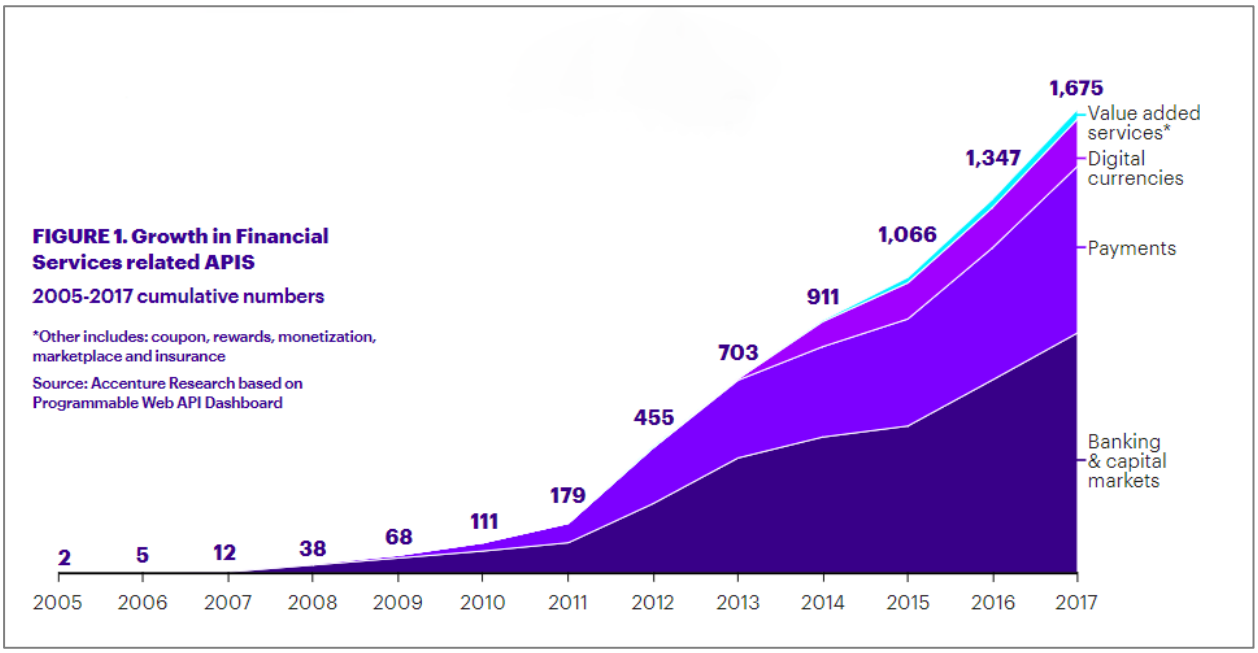

Figure 15: Growth of Application Program Interfaces (APIs) in financial and banking industry (Vieira, 2019)

As depicted in Figure 15, there is an upward trend in the popularity of financial services APIs, which has been undergoing a rapid surge since 2010. Ideally, APIs allow banks running on a digital core to check their streamlined processes and reduce overall costs.

With the help of Big Data, challenger banks can upload their data onto a cloud platform that provides reliable access (can be accessed from anywhere and anytime via internet connection) to every customer and business operation. Blockchain can also be used in the case of cross-border payments to reduce the execution times of such transactions, from days or even weeks to a few minutes, thus enhancing efficiency and satisfaction.

4.8. Incumbents, Fintechs and Challengers

Incumbent institutions are the ones that provide the full range of banking services (Ex – Payment services, wealth management, retail, and business lending) via their networks of both online distribution channels and their already well-established physical branches. Banking industry was once perceived as one of the most stable for the bigger and more dominant players, but the introduction of digital technology has significantly impacted the industry, leading to limiting the conventional ways of conducting banking activities. The consulting firm McKinsey estimated that by 2025, if traditional banks fail to evolve and to integrate changes in the sector, then they will see their profits fall by up to 60%. This is the reason they are keen to embrace new technologies in their activities and operations. The return on equity (ROE) for challengers is twice as high compared to that of the incumbents. However, there are a few incumbents that have effectually managed to catch-up with the digital trend and have been able to show good progress in designing and integrating an effective User Interface. Those who have already started working on making certain changes are going to enjoy some first mover advantage over other traditional banks. The latest EBA Risk assessment report suggests there is a high probability of incumbents changing their business models to ensure profitability, after seeing increased competition from Fintech firms.

Fintech, comes from “financial” and “technology” and is a term used to describe the influence of new, mainly digital, technologies on the current financial system industry, through a wide variety of tools for getting consumers’ insights, such as artificial intelligence, distributed ledger technology (also known as blockchain), cloud computing, big data analytics and machine learning, and APIs (Ainger, 2017). By using these newly developed technologies, the Fintech industry can provide services such as new models of online banking, new digital payment methods, new money transfer services, personal investment advice through “robots”, peer to peer lending and more. The industry has improved consumer satisfaction and service delivery in the banking sector by providing

convenient, cost-effective, and innovative payment services to the customers. As aforementioned, blockchain has allowed for cheaper, faster, and most importantly, more traceable transactions and therefore banks use it to ensure transactions.

The European Commission has recently provided a 19-step action plan for Fintech companies, which has three basic objectives (FinTech Action plan: For a more competitive and innovative European financial sector, 2018). First, to encourage innovative business models, second, to support the uptake of new technologies and third is to build stronger cyber resilience. In such a fast-paced environment, such as the banking industry, overly precipitous and prescriptive regulations carry a risk of undesired outcomes. Despite Fintech being the top selection among technically knowledgeable banking clients (67%), recent college graduates (61%) and rich shoppers (61%), the findings uncovered a huge trust gap between budgetary brands and Fintech organizations. Officeholder monetary brands kept up a trust rating 13 rate focuses higher than that of Fintech challengers (37% to 24%).

A challenger bank can be broadly defined as a banking institution or firm that is looking to challenge the big companies, measured by market share and assets, such as Lloyds Banking Group (A group of Halifax, Lloyds Bank, Bank of Scotland), HSBC, RBS (NatWest and Ulster bank) and Barclays. Challenger banks are more specialized in creating and adding new features to products, growing their user base, and improving retention. Current accounts often act as a tool to lure new customers into using the bank's main platform. A challenger bank's business model includes customer acquisition, customer engagement, cost management and viral marketing strategies such as crowd funding campaigns, ensuring a wide range of investors contributing to the company's project. Branding through messaging and other promotion tools and techniques is a key part of customer engagement, whereas low cost acquisition channels and attractive products and services offered are the main tools for increasing consumer base. Absence of physical branches and low-cost customer support keep cost of essential activities and daily management low. Customers are expected to stay longer with the firm due to cross-selling and enriched product offering, which can be customized based on customer analytics, as well as providing a marketplace banking interface. Consumer trust is a potentially challenging field, as challenger banks will have to compete against well-established and bigger players in the market. Given that incumbent firms have built consumer trust over the years, competing with them will be quite a task, especially against the older market segment,

which have always been loyal to their brand, irrespective of changes in their demands and needs.

	2017			2016		
Lender	Rank	Gross Lending (£bn)	Market Share	Rank	Gross Lending (£bn)	Market Share
Lloyds Banking Group	1	41.0	16.0%	1	38.3	15.5%
Nationwide BS	2	31.7	12.3%	2	35.3	14.3%
Royal Bank of Scotland	3	30.9	12.0%	3	31.8	12.9%
Santander UK	4	25.2	9.8%	4	25.5	10.3%
Barclays	5	23.2	9.0%	5	20.7	8.4%
HSBC Bank	6	18.2	7.1%	6	15.6	6.3%
Coventry BS	7	8.6	3.3%	7	9.0	3.7%
Virgin Money	8	8.4	3.3%	8	8.4	3.4%
Yorkshire BS	9	7.8	3.0%	9	7.0	2.8%
TSB Bank	10	7.0	2.7%	10	6.6	2.7%

Table 5: Top ten UK Mortgage Lenders by gross lending (UK Finance, n.d.)

Given the values in Table 5, we can observe that the first six positions out of the top 10 UK mortgage lenders by gross lending are occupied by the traditional banks. Although challenger banks like TSB and Virgin Money are there, market share in terms of gross lending differs hugely between these challenger banks and traditional banks.

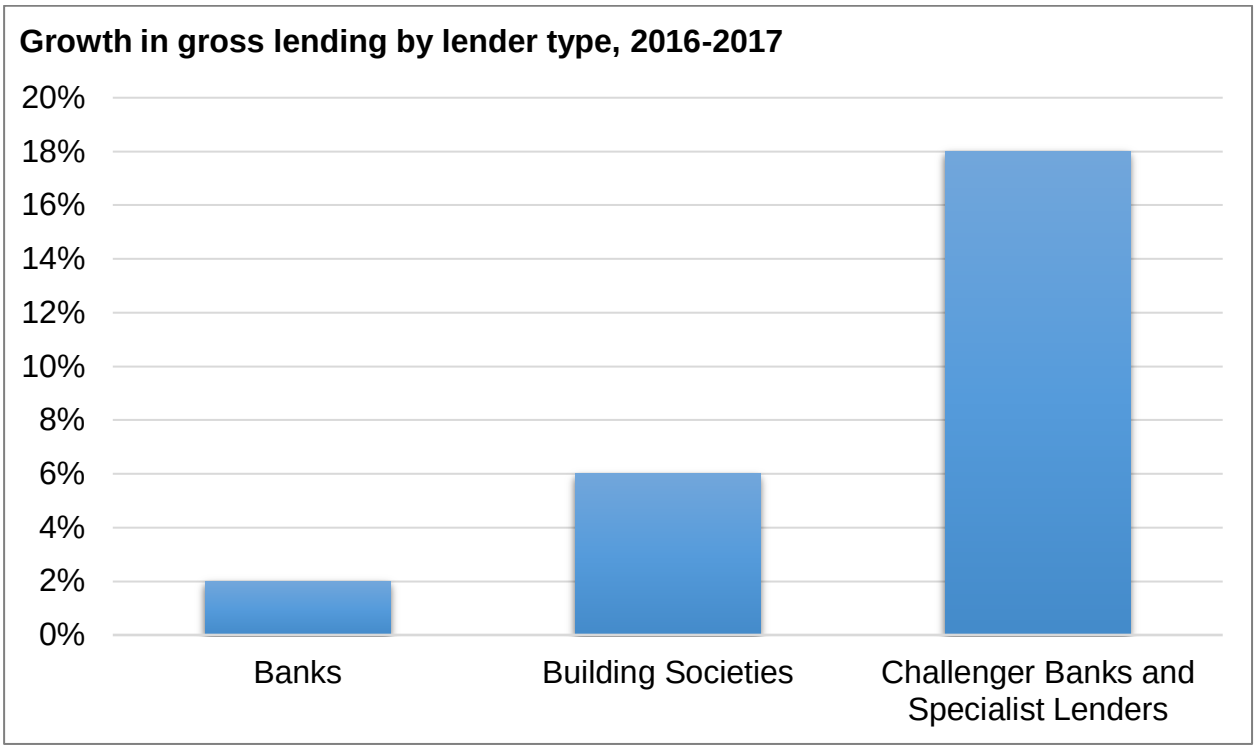

Figure 16: Growth in gross lending by lending type in UK (UK Finance, n.d.)

Nevertheless, using Figure 16 above, measuring growth in gross lending by lender type, it becomes clear that challenger banks and specialist lenders have the highest growth margin of all financial institutes, with a percentage of around 18%, compared to only 2% for the traditional banks. One can argue that the challenger banks have a greater ability to attract new customers and capture new markets, compared to conventional banks (bigger players in the market). Additionally, there has been a recent spike for challenger banks in the increase of their customer base and market presence.

5. Strategic Planning

In this section, we will examine the potential launch of a challenge bank in Greece in 2020.

First, we briefly present the Greek banking market after the financial crisis to draw the bigger picture. Then, we proceed with an analysis of the Greek banking competition and we do this using Porter's Five Forces Model.

This analysis will offer us the tools to perform a detailed and thorough SWOT analysis that will allow us to derive the business model of the new challenger bank. The analysis of the market and the competition will allow us to identify opportunities and threats. To also identify strengths and weaknesses, and because we are not yet analysing a specific enterprise, we will consider the Greek banking industry.

Eventually, based on the SWOT analysis, we will recognise the goals in terms of target market, customer segments and product/service offerings, the strategy to be applied in terms of market differentiation and pricing and the competitive advantages.

To assess the competitive landscape and to create the SWOT analysis, we should focus our research on a specific time. Since not all the financial figures of 2019 are available at the time this thesis is being written, we will take under consideration the financial figures of 2018 and, in some cases, figures of 2017, since the changes of most data are not significant year-on-year. We analyse the qualitative elements, for example product offering and service model, having in mind the banking environment of the broader 2019.

5.1. The Greek Banking Market After the Financial Crisis

Banks play a major role in emerging markets like Greece. Although after the 2007-08 financial crisis most of the affected economies in Eurozone, as well as the economy of the United States, recovered considerably well, Greek economy was heavily damaged and therefore, recovered very slowly and unevenly. The findings from economic experts indicate that the recent financial crisis Greece experienced was the aftermath of the crash of the banking industry in Greece, as well as other European countries and, to some extent, across the globe. (Economou, et al., 2016) and (Gibson, Hall, & Tavlas, 2012) illustrated that Greek banks were mostly damaged due to risky credit policies and poor long-term loan practices before the crisis. Subsequently, bank share prices dropped down by 20% in the second half of 2008, compared to the corresponding period of the previous year, forcing government and banks to increase lending interest rate by 5%.

Greek banks survived the crisis only after Bank of Greece took measures to improve liquidity with the implementation of policies supervised by national authorities under ECB oversight. The policies implemented provided a massive cash flow to the Greek banks during the recession. The Bank of England and the Swiss Central Bank followed the same policy to mitigate the impact of the financial crisis and prevent further economic problems as a result of the crisis. As on can observe in the graph of Figure 17, the liabilities of banks to Bank of Greece rose significantly between August 2008 and May 2009, up to an unsustainable level, which was cushioned by some credit flow from the government in-between.

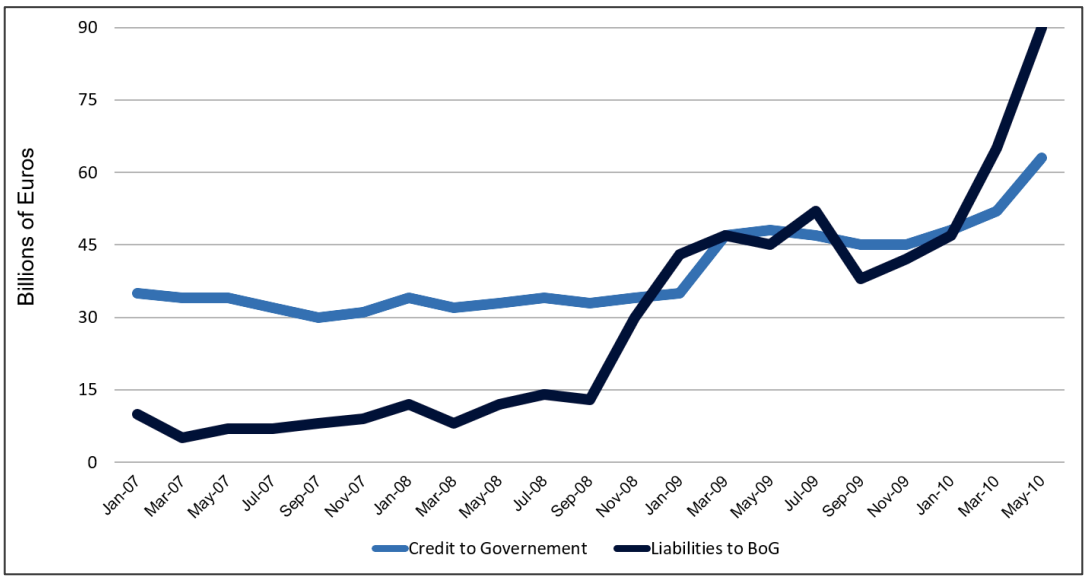

Figure 17: Exposure of Greek banks credit to government and liabilities to BOG, 2007-2010 (Source: Bank of Greece)

This strategy was not an isolated case applied only to Greece; the same approach was followed by the central banks of most countries of the European Union. The Central banks of European countries became a way out for most, if not all, commercial private banks in 2008 and 2009. The Turkish Government announced a bailout package of 28 billion Euros for its banks, 3.5 billion Euros of which were used to capitalise the banks and the remaining amount was used as guarantee for further borrowing from the Central Bank. Many European banks received financial aid between October 2008 and September 2012 from the European Union to maintain adequate liquidity. A report by the European Commission (2017) indicated that the total aid granted to European banks reached 5,059.9 billion Euros, amounting to 40.3% of the total GDP value of the EU. According to Professor James Fulkerson, the US Fed granted financial aid of almost 29,614.4 billion dollars to US and non-US banks during the crisis (McGinty & Appelbaum, 2011).

5.1.1. Particularities of Greek banks

The most alarming elements of the Greek banking system were weak equity and the continuously increasing number of people defaulting on their credit card debts. The equity of Greek banks was reported being 28.9 billion Euros in October 2009, which is approximately 6.2% of their balance sheet (that was 473.1 billion Euros). The actual amount of loan loss reserves was 7.2 billion Euros, much smaller compared to the actual loan hazard rate, estimated at 3% of the loans granted. Overseas private shareholders caused an asset deficiency for Greek banks between 2005 and 2008. The below memo from the European Parliament illustrates that the non-performing loans ratio increased to 43.5% for Greek banks and 50% for Cypriot banks.

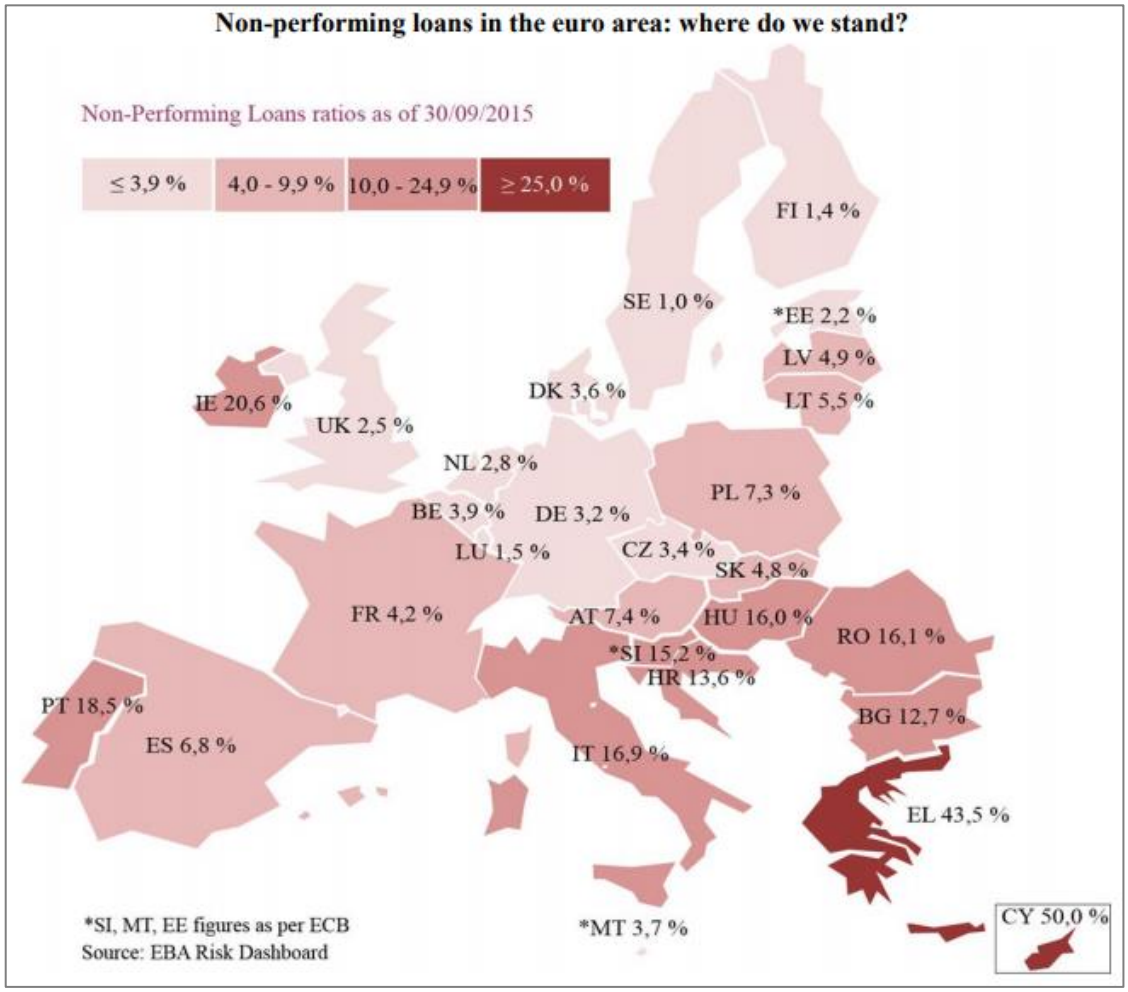

Figure 18: Non-Performing Loans Ratio as of 30/09/2015 (Magnus, Deslandes, & Dias, 2018)

The financial crisis also had a severe impact on households and small companies. The amount of bank deposits of these entities was insignificant compared to the amount of outstanding loans, resulting in scarce private lending, increased arrears and fall in real

estate prices. These were some of the effects of the crisis on the banking sector and they were particularly hard for Greek banks to overcome, as it turned out. The Greek government and other European regulatory authorities also did not handle the problem effectively, although the government of Greece provided financial aid for Greek banks in an attempt to stimulate the economy and help them fulfil minimum capital requirements, as property prices were in free fall. Greek Government also set strict regulations on the use of funding by the banks; however, they used it for entirely different purposes resulting in even more severe economic effects.

5.1.2. Mergers and acquisitions as an instrument for the development of Greek economy

According to the Financial Times, the debt crisis in the Euro area, combined with market volatility, led to mergers and acquisitions of banks, resulting to the shrinking of the banking sector, especially in Europe and Greece. There was a 32% reduction in the value of mergers and acquisitions in the fourth quarter of 2011 (compared to the 4th quarter of 2010), amounting to 375.3 billion dollars. Eurozone was adversely affected by the global crisis and many economists advocated bank mergers as a recovery measure (de Haas & van Lelyveld, 2014) (Fahlenbrach & René, 2012). As a result, since 2010, the value of mergers and acquisitions in Europe has increased by 3.3% in nominal terms.

According to ICAP, mergers and acquisitions can play a vital role in the strategic expansion and development of enterprises in a competitive environment (Triantafyllopoulos & Mpourletidis, 2014). Due to the extreme effects the financial crisis had on Greek economy, the economic conditions were tough and difficult to deal with. After the global financial crisis, mergers and acquisitions finally had a positive effect on Greek economy. The privatization of banks led to economic growth and banking sector development. Broadly speaking, mergers created value and triggered development of the banking sector, which in turn caused an increase in the number of branches and business size. Consequently, it also tackled high unemployment in Greece after the great recession. To address the problem of devaluation and huge bad debts, Greek banks adopted merger and acquisition strategies. In addition, and for big banks to survive the crisis, they provided facilities to the public at a low cost and with an extremely low commission rate. These low-cost services also improved the competitiveness and efficiency of the banking sector.

Moreover, SMEs contributed to improving Greek economy, by reducing unemployment in Greece.

According to the ICAP report, mergers and acquisitions act as apparatus for developing and expanding enterprises and can often provide a fast-track route to new and established markets, especially in regions with different values and consumer perception, combined with the presence of local competition. Success of mergers and acquisitions is grounded on human resources, culture of all parties and changing environment. Therefore, failure to involve and engage employees during the entire process will ultimately have a hugely detrimental effect to the core goals and objectives of the business.

5.1.3. Capital controls and recent development of Greek economy

After the elections of January 2015, the new Greek government initiated a series of negotiations with Greece's creditors, responsible for the Greek economy's bailout. The bailout extension period was set to be June 2015, a time by which the Greek government had not come to an agreement on a further extension.

Part of the lack of agreement was Greek government's decision not to pay the €1.6bn due to International Monetary Fund (IMF). Another key factor was the creditors' austerity demands, including reductions in pensions of €1.8 billion and an increase of value-added tax (VAT) that would raise the cost of electricity consumption by 10 percentage points. Given that no country wanted to offer financial aid to Greece and several restrictions on economy and business operation imposed by the IMF and the Eurogroup, Greece's only option was to control its capital to avert economic collapse.

The European Central Bank did not further increase the level of the Emergency Liquidity Assistance for Greek Banks. As a result, the Greek government was forced to immediately cease the operation of Greek banks and to implement measures of capital control. The so called "capital controls" referred to extreme limitations on international fund transfers and the extremely low allowance of €60 of cash withdrawals per day, to prevent a bank-run that would cause a total failure of the Greek banking system. The banks remained closed for around 20 days and the only channels customers could use were the ATM for cash withdrawals and digital banking for funds transfers. Capital control measures were gradually minimized (limits were gradually increased) until their complete elimination on the September 1, 2019.

5.1.4. An overview of the Greek banking system

The Greek banking sector has undergone major structural changes since the beginning of the financial crisis, contracting to half its size. Now, the Greek banking industry is highly consolidated. As we can observe in Figure 19, after the crisis there remain only four large banks, the so-called "systemic banks". They are Piraeus Bank, Eurobank Ergasias, National Bank of Greece and Alpha Bank and they are supervised by the Single Supervisory Mechanism (SSM) through Bank of Greece.

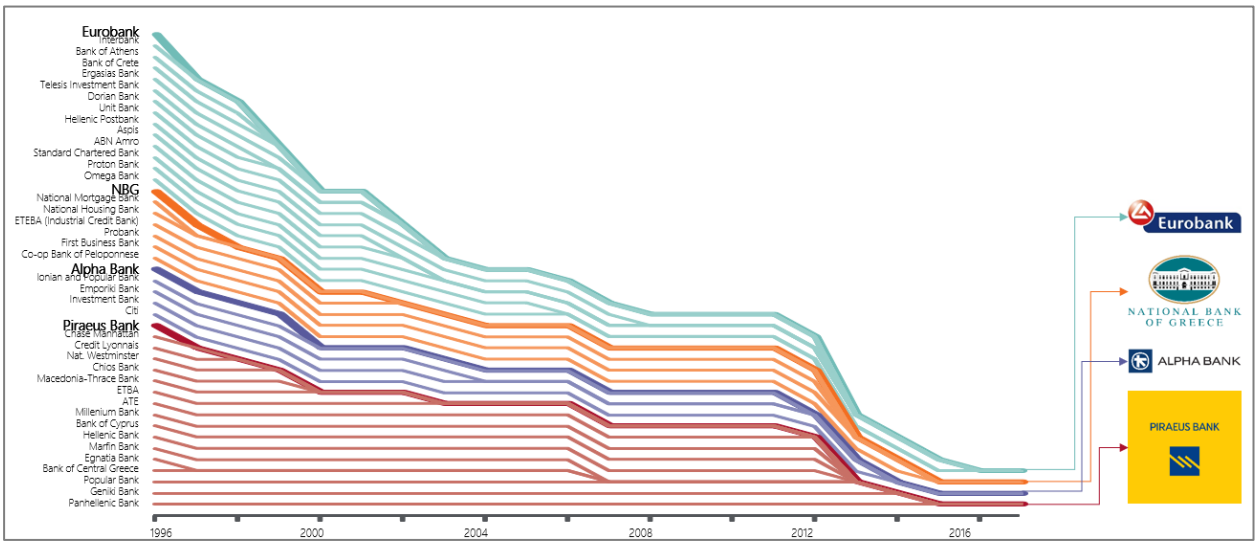

Figure 19: Consolidation of the Banking Sector in Greece, 1996-2017

Apart from the systemic banks, there is one state-owned bank, Attica Bank, directly supervised by Bank of Greece. Additionally, there are three small financial services companies owning banking licenses that allow them to offer the whole range of banking products and services and they are Praxia Bank (renamed from Credicom Consumer Finance Bank), Optima Bank (renamed from Investment Bank of Greece) and Aegean Baltic Bank.

Finally, there are nine cooperative banks with significant limitations on their ability to provide overall products and services: Pancretan Cooperative Bank and the Cooperative Banks of Chania, Epirus, Evros, Karditsa, Thessaly, Pieria, Drama and Serres. Since we analyze the launch of a challenger bank, i.e. of a commercial bank with a broad range of products and services and with a national operation, we will exclude the cooperative banks as they cannot be considered as potential competitors because of their special regime and their regional limitations.

An overview of the current Greek banking system is presented in Table 6: Balance Sheet Data of Greek Banks for 2018 (Source: consolidation from each bank's financial reports)

. The five largest credit institutions accounted for 97,3% of the Greek banking system in terms of assets in 2016, compared to 69,2% in 2009.

Financial Results 9M2017 (€ mn.)	Piraeus Bank	Alpha Bank	NBG	Eurobank	Attica Bank (6M2017)
Net Interest Income	1,209	1,463	1,116	841	38.7
Pre-Provision Income	822	1,014	633	524	10.7
EBT	-32	252	104	132	-17
Net Profit	-11	85.1	-94	61	-15
Loans/Deposits (%)	114%	132%	83%	112%	155.9%
NPE Ratio (%)	55.6%	53.7%	45%	48.2%	61.5%
NPE Cash Coverage Ratio (%)	45.4%	47%	57%	51.6%	50%
NPL Ratio (%)	36.1%	37%	34%	38%	N/A
NPL Coverage Ratio (%)	69.9%	68%	75.2%	65.2%	N/A
CET1 Ratio (%)	16.6%	17.8%	16.8%	15.1%	14.3%

Table 6: Balance Sheet Data of Greek Banks for 2018 (Source: consolidation from each bank's financial reports)

Regarding Greek banks' physical presence, in Table 7 we can see the number of branches in Greece as it has evolved between 2013 and 2019, while in Table 8 we can see the number of on-site and off-site ATMs for each bank as it has evolved from 2013 to 2019. The number of branches has declined by 67.2% and the number of ATMs has increased by 3.5% due to the increase of off-site installations.

Bank	2013	2014	2015	2016	2017	2018	2019
Piraeus Bank	957	803	709	662	622	555	527
NBG	540	528	526	509	485	460	389
Alpha Bank	626	609	608	517	469	431	382
Eurobank Ergasias	537	506	486	438	396	350	350
Others	226	116	89	84	77	81	78
Total	**2,886**	**2,562**	**2,418**	**2,210**	**2,023**	**1,877**	**1,726**

Table 7: Evolution of number of branches in Greece, 2013-2019 (Source: Hellenic Banking Association, statistics section)

Bank	2013	2014	2015	2016	2017	2018	2019
Piraeus Bank							
In-store	1,045	911	788	763	864	852	780
Off-site	838	940	991	1,101	1,127	1,118	1,150
Total	**1,883**	**1,851**	**1,779**	**1,864**	**1,991**	**1,970**	**1,930**
NBG							
In-store	858	853	854	852	790	753	646
Off-site	540	561	589	596	670	714	791
Total	**1,398**	**1,414**	**1,443**	**1,448**	**1,460**	**1,467**	**1,437**
Alpha Bank							
In-store	766	851	659	625	591	631	681
Off-site	471	369	437	456	489	523	606
Total	**1,237**	**1,220**	**1,096**	**1,081**	**1,080**	**1,154**	**1,287**
Eurobank Ergasias							
In-store	565	532	511	466	425	382	388
Off-site	318	296	316	347	452	553	581
Total	**883**	**828**	**827**	**813**	**877**	**935**	**969**
Others							
In-store	104	85	85	80	70	70	74
Off-site	24	24	27	27	27	29	25
Total	**128**	**109**	**112**	**107**	**97**	**99**	**99**
Grand Total	**5,529**	**5,422**	**5,257**	**5,313**	**5,475**	**5,625**	**5,722**

Table 8: Evolution of number of ATMs, Greece 2013-2019 (Source: Hellenic Banking Association, statistics section)

Deposits of Greek consumers were distributed in Greek banks as shown in **Error! R eference source not found.**.

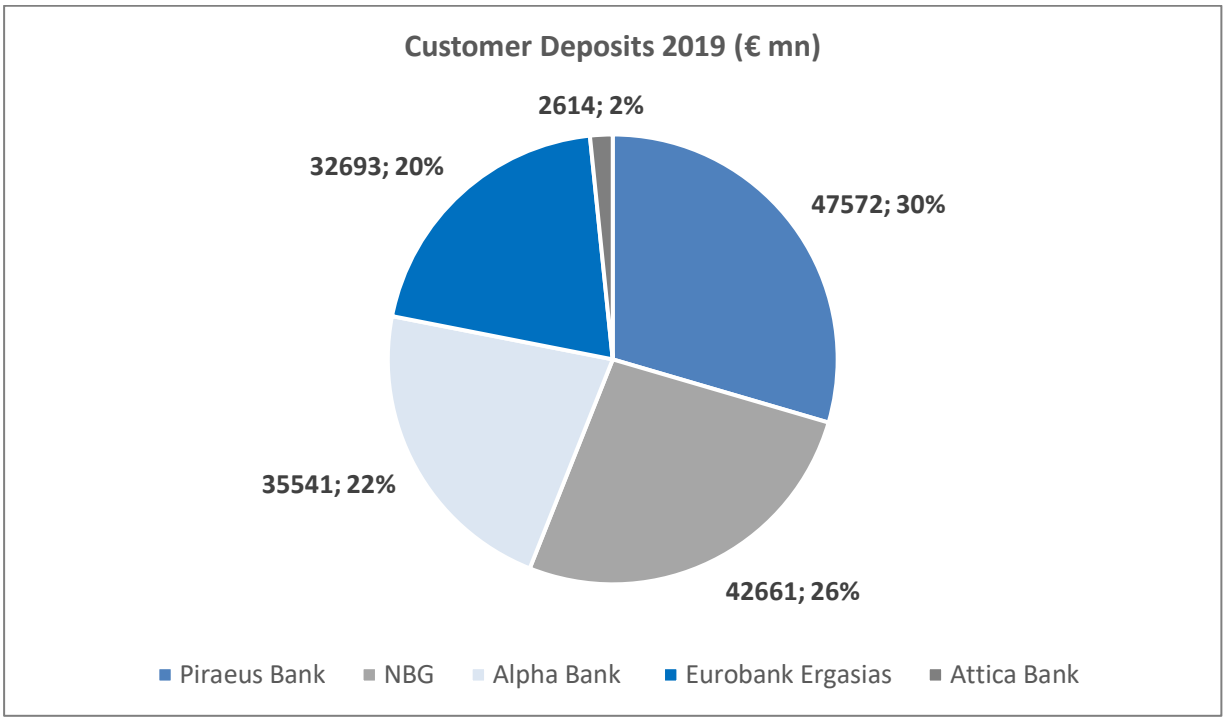

Figure 20: Customer deposits in Greek banks Source: Hellenic Banking Association, statistics section)

5.1.5. The attitude of Greek consumers against the Greek banking system

According to a study of DiaNEOsis in 2017 on a weighted sample of 2,500 Greek citizens, when analyzing the income distribution of the total sample, we see that it is heavily skewed towards the low-income segments.

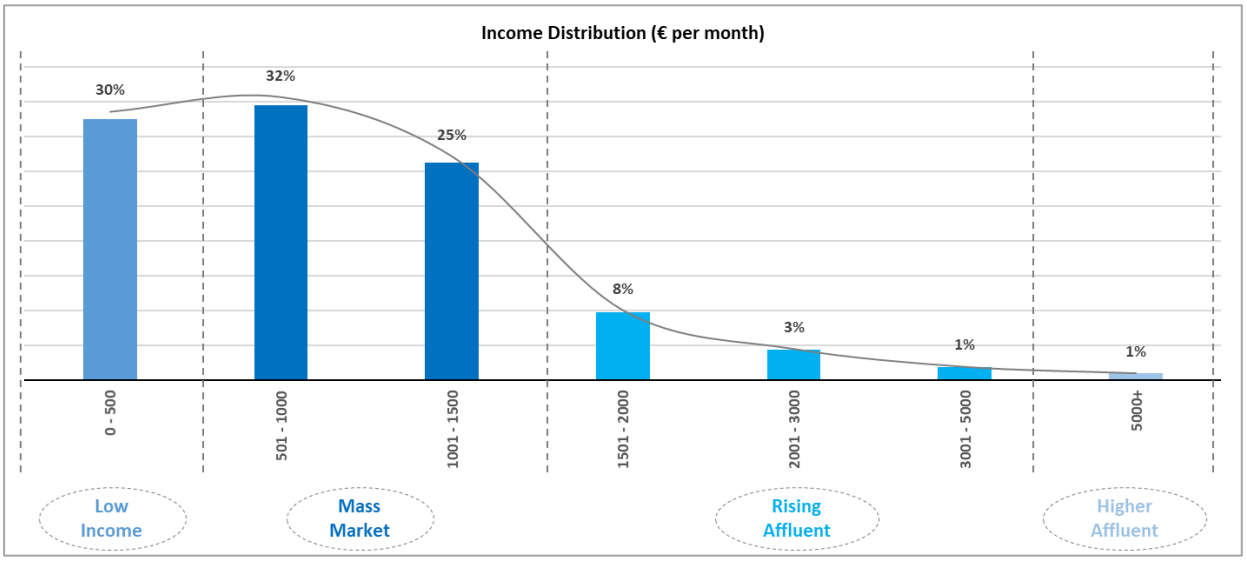

Figure 21: Income distribution among Greek citizens (Source: DiaNEOsis study, 2017)

As seen in Figure 21, we define the segments “Low Income”, “Mass Market”, “Rising Affluent” and “Higher Affluent”. Obviously, the Mass Market segment consists mainly of younger people.

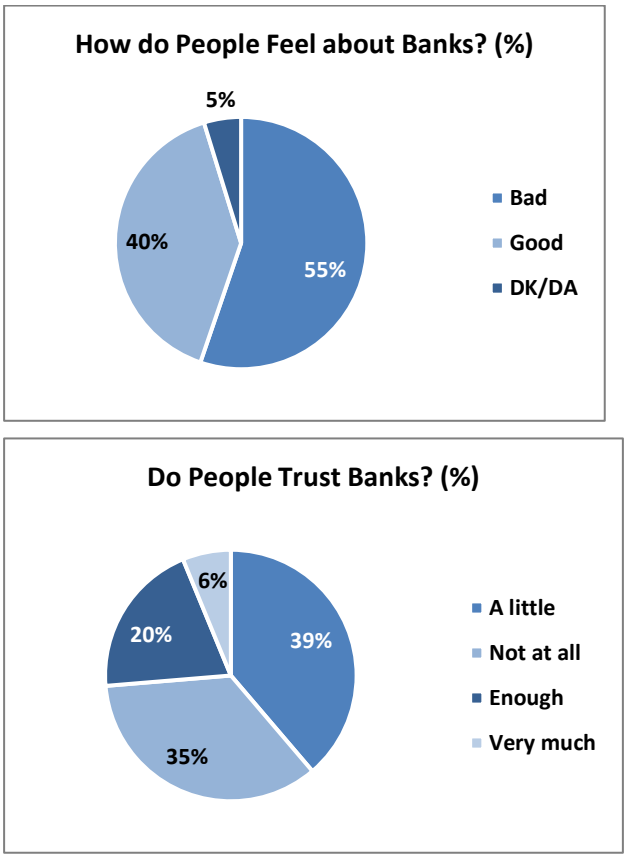

Figure 22: People's feelings about banks (Source: DiaNEOsis study, 2017)

According to the same study, the total of Greek population – and especially younger people – declares strong negative feelings towards banks (Figure 22). More specifically:

- Most of the Greek population demonstrate a negative opinion towards banks; mainly due to the connection of the banks with the financial crisis that the country is currently undergoing; ; it is those who are over 65 years old that gather a smaller percentage of discontent
- To the other extent, Greeks who consider banks as “good” amount to 40% of the “Mass Market”
- Interestingly, a 5% of the respondents chose not to answer showing in this way their neutrality
- When assessing the Mass Market population, it is evident again that most of them – above 70% – place little or no trust in banks

- As seen in Figure 23, people with low incomes tend to answer that they have “low” or “weak” trust in banks; as income increases, responses are becoming more neutral
- However, in all income groups (Figure 24), it is evident that the people have difficulty in trusting banks
- Moreover, it is interesting to notice that, the higher the income, the better the opinion people have about banks
- As seen in Figure 25, when examining the Rising Affluent population, it is evident again that most of them, regardless of their financial standing, do not place trust in banks; however, people with income > 3,000 aged 45-54 declare a strong distrust in banks
- These outcomes are only ascribed to the severe economic crisis which in effect deteriorated to a great extent the purchasing power of the Greek people.

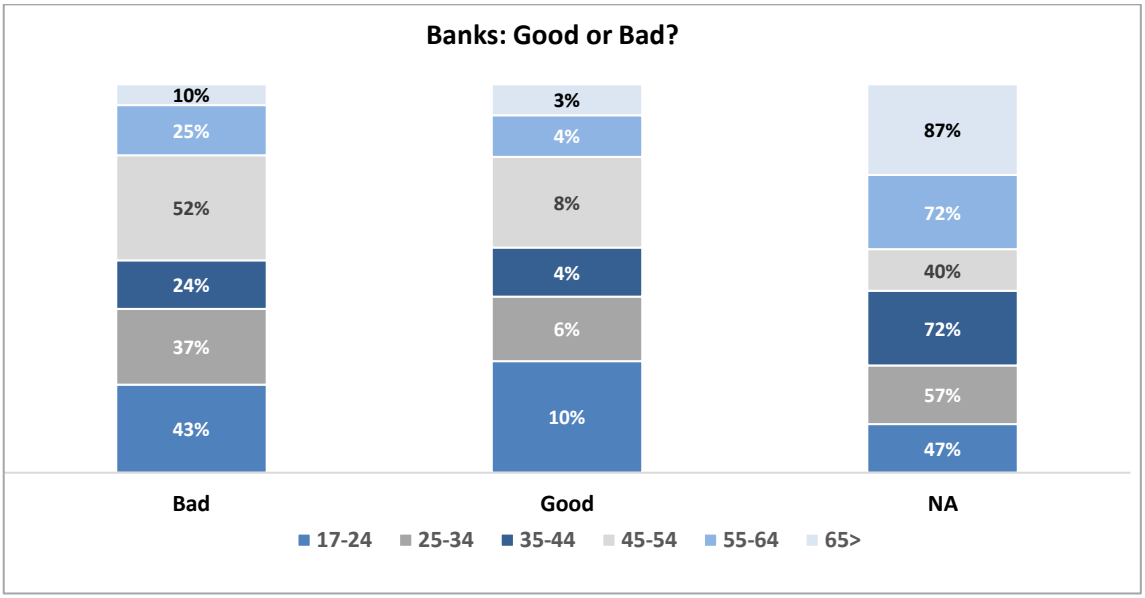

Figure 23: Consumers’ feeling about banks, per age group (Source: DiaNEOsis study, 2017)

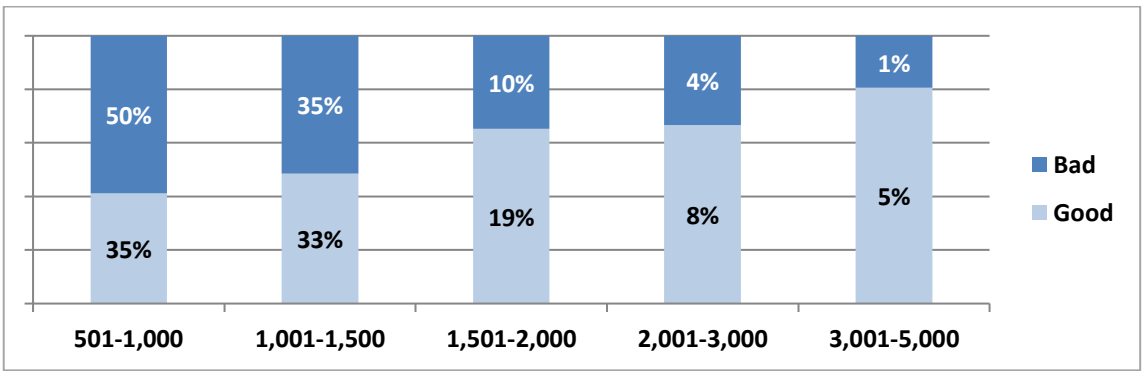

Figure 24: Consumers' feelings about banks, per income range (Source: DiaNEOsis study, 2017)

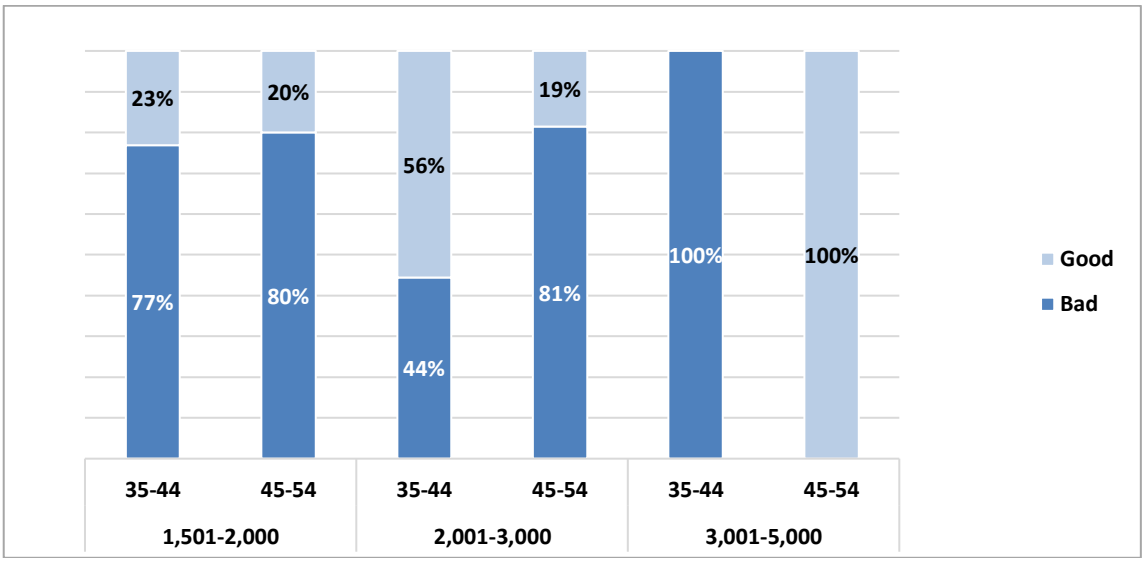

Figure 25: Feeling of the "Rising Affluent" about banks, per income sub-range (Source: DiaNEOsis study, 2017)

5.1.6. Digital banking in Greece

In Greece, card-based, electronic, e-commerce and m-commerce transactions gradually replace traditional paper-based payments. The first payment instrument to see a fast usage growth was the card in all its forms (debit, credit, prepaid etc.); this is highly credited to the capital control measures imposed in 2015.

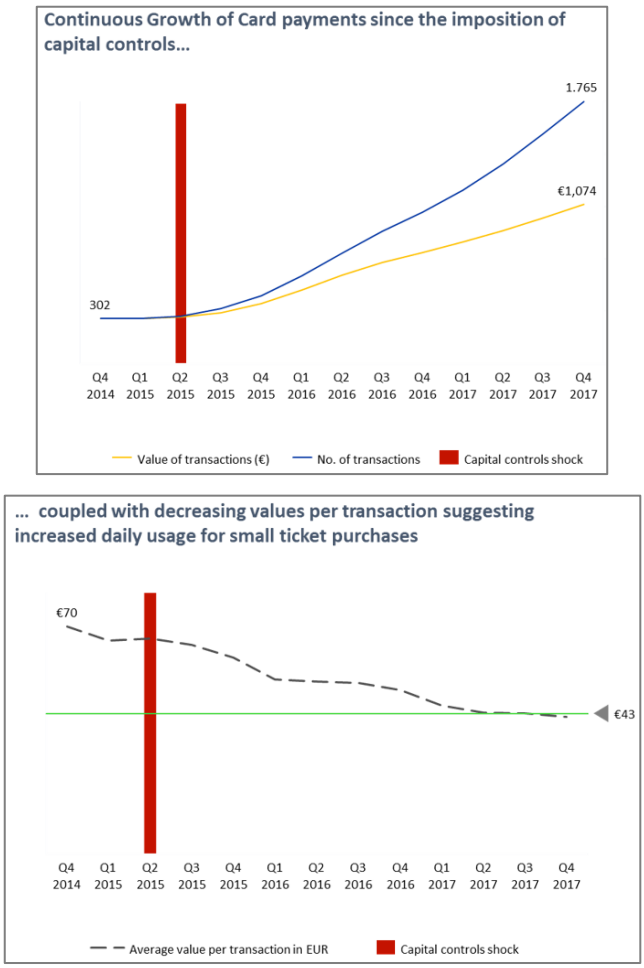

Figure 26: Card usage has been integrated into the Greek consumer's daily life (Source: Digital payments after capital controls, Foundation for Economic and Industrial Research, July 2018)

Greeks are in the lower end of their EU counterparts in terms of internet banking usage as a percentage of total internet usage. As shown in the following figure, Greece lags with a delta of 26% from the EU average (51%), which in retrospect means that Greece has ample room to grow.

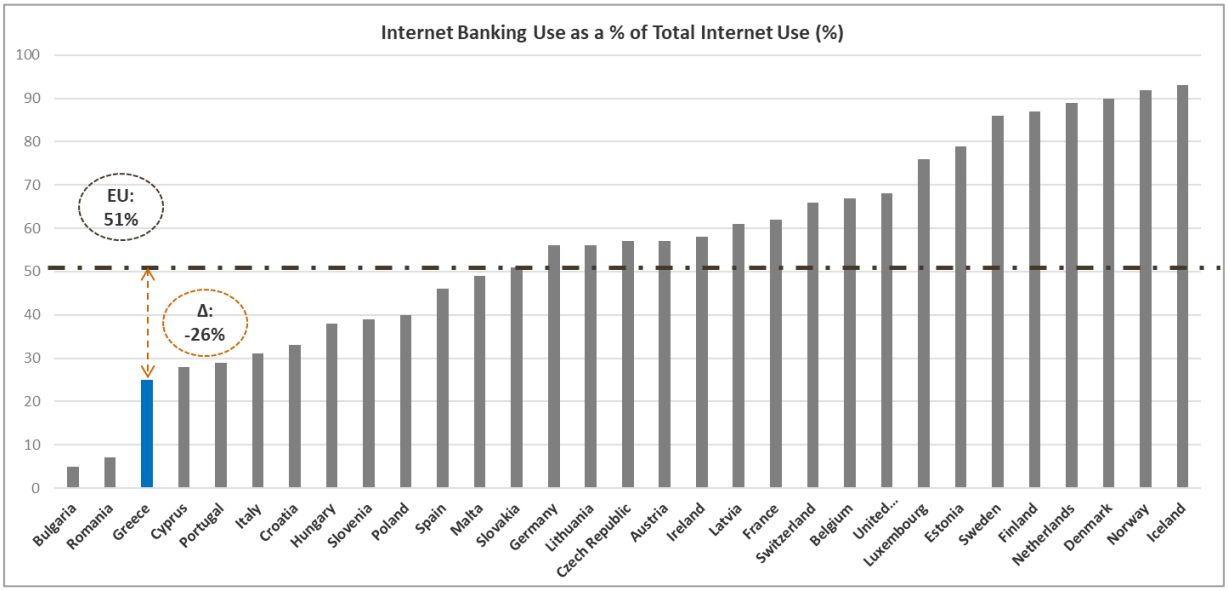

Figure 27: Internet banking use in EU (Source: Eurostat 2018, raw data)

However, internet and mobile banking penetration in Greece has grown much faster than the rest of Europe, as shown in Figure 28. Internet banking use in Greece grew by 22,6% CAGR between 2010 and 2017, compared to 5,1% in the EU.

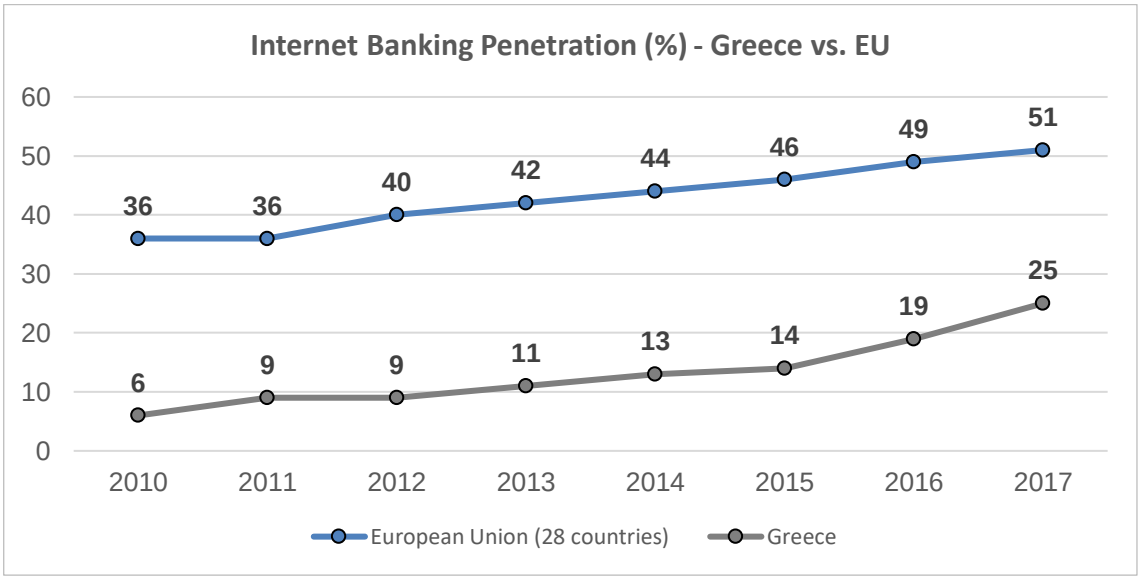

Figure 28: Internet banking penetration, Greece vs. EU (Source: Eurostat 2018, raw data)

As seen in Figure 29, this rapid increase is mainly driven by the younger part of the population. The highest growth can be seen in the age groups between 25-34 and 35-44 (both at 39% in 2017)

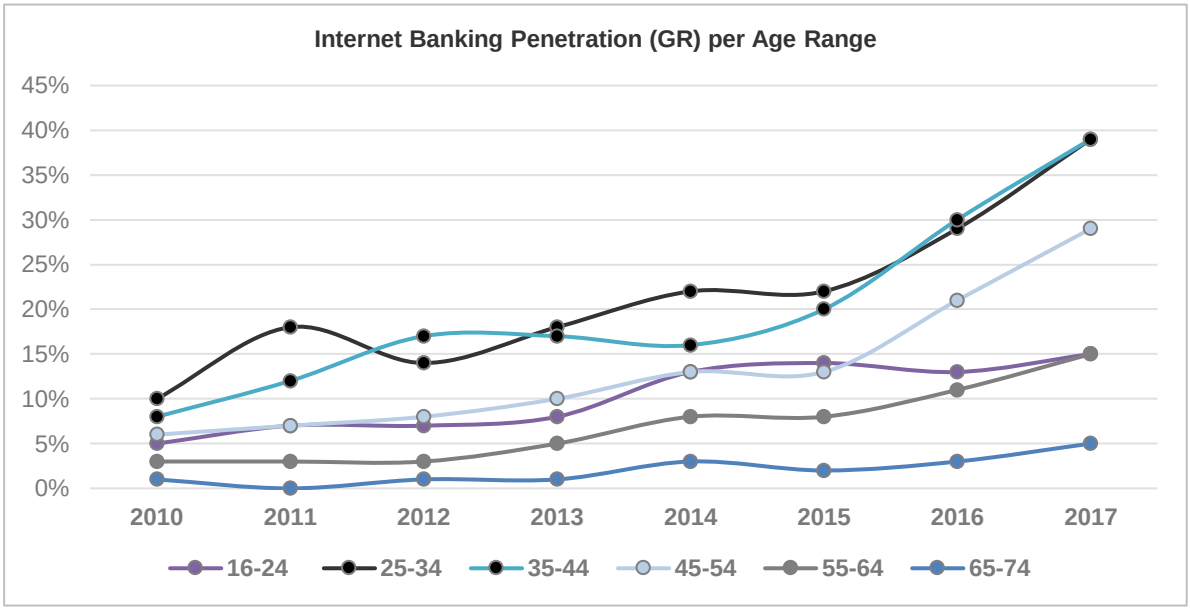

Figure 29: Internet banking penetration per age range in Greece (Source: Eurostat 2018, raw data)

In the last quarter of 2019, the number of mobile banking active users in Greece exceeded 2 million for the first time. This statistic alone has increased ten times since March 2015, which is staggering for such a small market during a financial crisis. Of course, this is also an effect of the capital control measures.

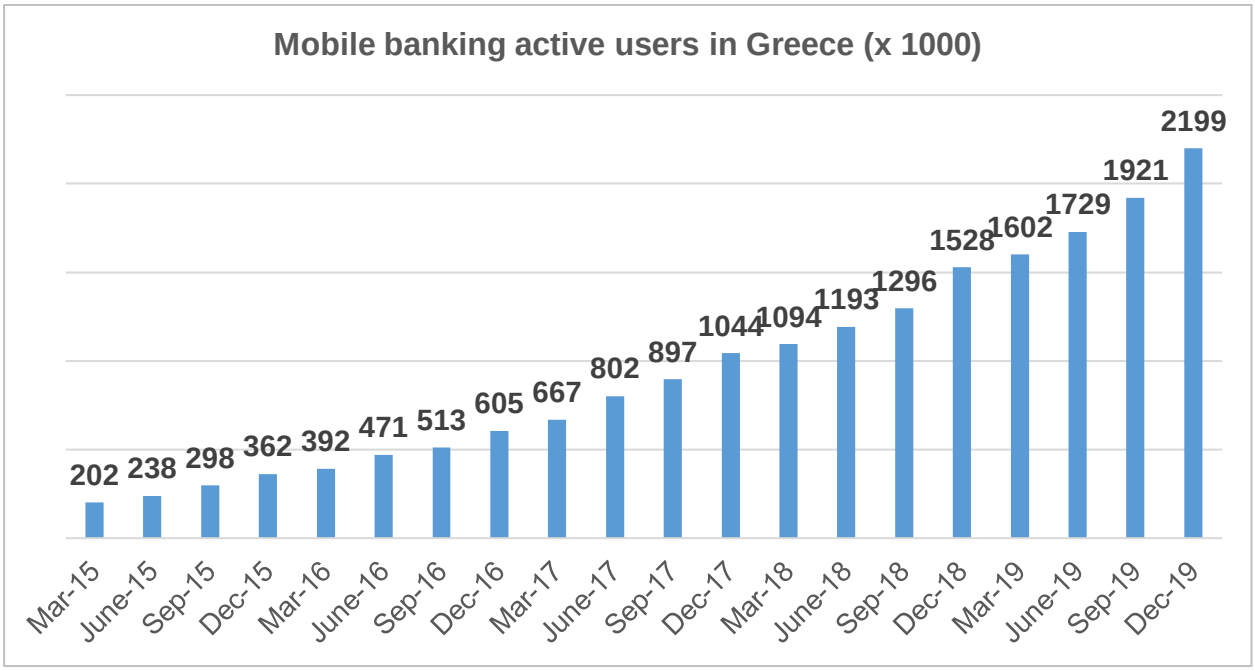

Figure 30: Number of mobile banking users (Source: Hellenic Banking Association)

Additionally, over the past four years, the volume of transactions performed via e-banking channels has increased, while transactions through other channels such as APS, Network, and ATM have remained constant or decreased.

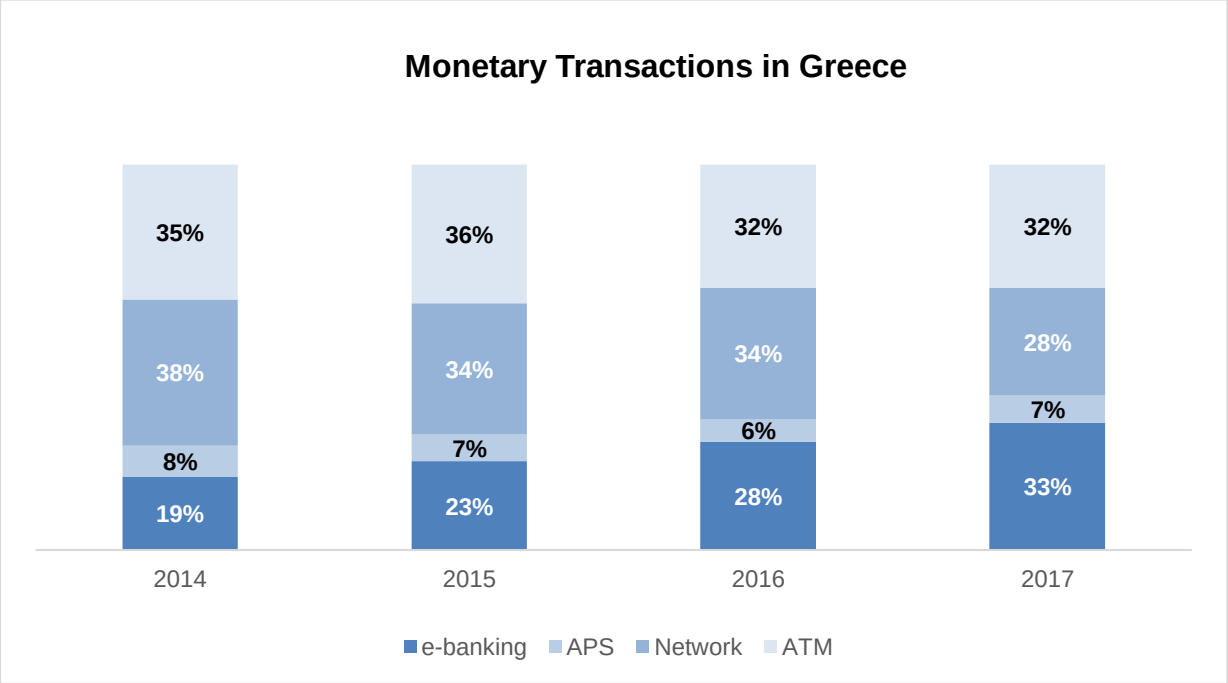

Figure 31: Monetary transactions (Source: Eurobank statistics 2017)

Engagement through Digital Channels in Greece is high, showing impressive year-over-year improvements, creating a significant window of opportunity.

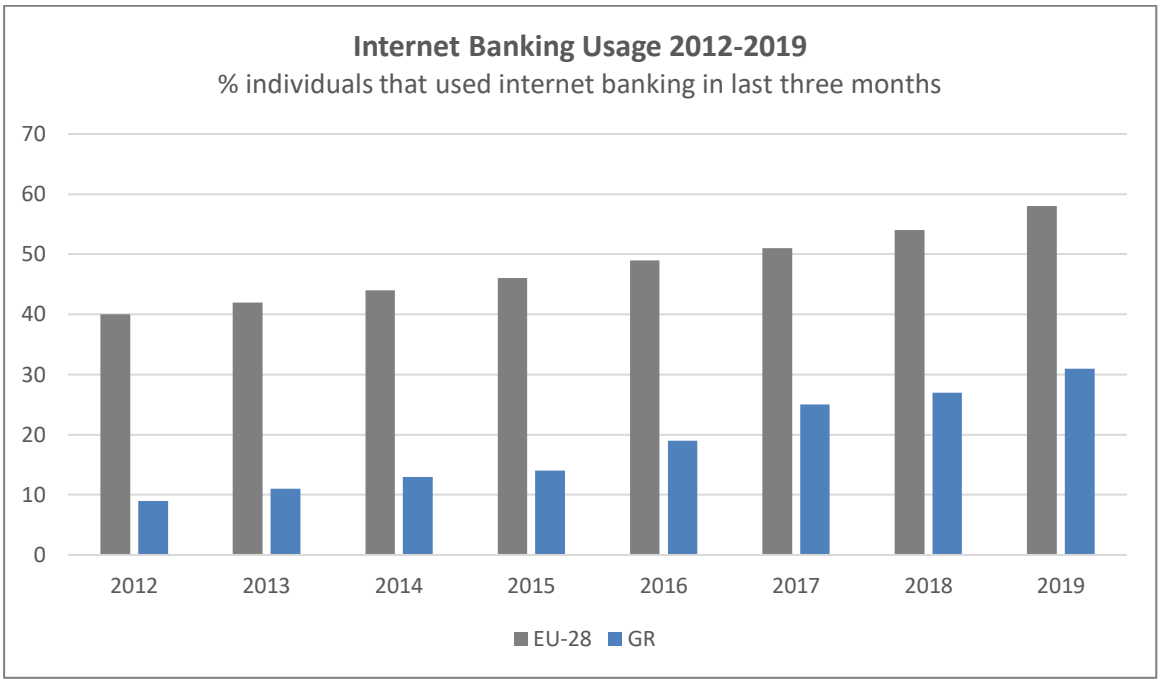

Figure 32: Online banking usage (Individuals using the internet for internet banking, n.d.)

Between 2009 and 2016, mobile banking transactions increased by more than 140%, internet banking transactions increased by 40% while the total number of branches decreased by more than 40% (Source: Hellenic Banking Association, Documentation data on the Greek Banking System).

Every major bank in Greece has invested to some extent in redesigning and increasing the capabilities of their own e- and m-banking services. These digital initiatives have been primarily focused on improving Customer Experience and simplifying Payments. Some of the current trends are shown below. Still, Greek banks have not moved far beyond the level of basic transaction execution. Payment services such as NBG's "i-bank" and Eurobank's Pay a Friend ("PAF") allow peer-to-peer payments to friends and businesses via their mobile applications. Applications such as "my Alpha wallet" and Piraeus's "Winbank wallet" allow customers to make contactless payments on compatible Point of Sale terminals. Nevertheless, lack of inter-bank standards hasn't allowed wide take-up of these services. NBG collaborated with Visa to release a "*pay band*". In collaboration with Mastercard, Eurobank launched a digital wallet that allows users to make transactions at cooperating stores directly through the Eurobank mobile app.

The product offering is generally standard in Greece, but most products are not yet offered through digital channels by the current market players. Customers are redefining "value" and how it is delivered to them – and they expect it much faster and more consistently

across more channels than in the past. Traditional banks and even fintechs in Greece have not been able to keep up with these demands thus far. A new player can disrupt the market and create value for customers through compelling experiences offered via digital channels.

Greek systemic banks offer the following functionality through their digital channels, products, and services:

Digital Services & Products Offered	NBG	Alpha Bank	Piraeus Bank	Eurobank
Digital Service Channels				
web banking	√	√	√	√
mobile banking	√	√	√	√
SMS banking	√	√	√	√
phone banking	√	√	√	√
Web banking				
Account Deposits				
View account balance - activity	√	√	√	√
View account details	√	√	√	√
Open new account			√ only private banking	
Transfer funds	√	√		
Make payments (utility, government services, phone bills)	√	√		
Make remittances	√	√		
Make stock exchange transactions	√	√ Alpha Trade, Alpha Global Trading		
Receive account alerts	√	√		
Change PIN or get a new PIN	√			
View e-statements	√	√		
Cash transfers				
Transfer money between your main bank accounts	√	√		
Transfer money to someone else's account (same bank provider)	√			
Transfer money to an account at another bank in Greece (domestic remittances)	via DIAS TRANSFER	IRIS payments	IRIS payments	
IRIS instant payments	√		√	
View transaction log	√	√	√	√
Loans				
Get new bank card			√	
View loan balance activity/ get loan details	√		√	
Loan plan			√	
Pay loan instalment			√	
Set up / manage / cancel a standing payment order			√	
Cheques				
Learn about cheques issued	√		√	
Apply to withdraw / cancel cheque	√		√	
Apply for a new cheque book	√		√	
View cheque log (overview)	√		√	
Stock exchange				
Get Portfolio Valuation Updates	√		√	
Manage Alerts (Share Purchase Orders, Daily Portfolio Valuation)			√	
Buy / Sell shares	√		√	

Apply to Participate in Public Offerings	√		√	
Securities Account Statements	√		√	
Other Services				
Send / issue an order for someone to withdraw cash without a card			Instant Cash "Lefta sto Lepto"	
Withdraw cash without a card			Instant Cash "Lefta sto Lepto"	
View your instant Cash transaction log			Instant Cash "Lefta sto Lepto"	
Issuance & Payment of e-Administrative Fee	i-bank simple pay		√	
Tax deduction expenses	√	√	√	
Mobile apps				
	MyBank	my Alpha wallet	New winbank mobile app	Eurobank Mobile App
	i-bank mobile banking	Alpha Mobile Banking	winbank wallet app	
	i-bank 4business	Alpha Safe Access	winbank mycard app	
	i-bank simple pay		easypay app	
	go4more		check in Class app	
	i-bank E-commerce			
Mobile banking				
Retail				
View balances and transactions for accounts, cards and loans	√	√	√	√
Bill payments	√	√	New winbank mobile app, easypay	Eurobank wallet
Card payments	√	√	√	√
Transfers and remittances to Banks in Greece or abroad	√	√	√	√
Lower transaction fees compared to going to a branch / using ATM / easypay device	√	√	√	√
Transfer money to Facebook friends & mobile contacts, without bank account details	√ i-bank Pay	√	√	√ through PaF payments
Share common expenses	Split-the-bill feature	√	-	-
IRIS online payments (send money up to €12,500/ transaction in Greece with no further	√	√	√	√
Payment using QR code (no cash / card needed)	√	√ Tap 'n Pay through “My Alpha”	√ winbank wallet app	√
Loan prepaid cards	√	√	√	√
Contactless payments via mobile	√	√	√ winbank wallet app	√ Eurobank Masterpass
Tax deduction expenses analysis & expenses calculator	√	√	√	√
i-bank pay band	√			
instant cash		√	√	
Personalized information on your loyalty points	√ go4more	√ Bonus	√ Yellow	√ Epistrofi
Online trading	√	√ Alpha Trade, Alpha Global Trading	√	√
Business	√ i-bank pay 4Business	√	√	√

Other Services				
i-bank pass (issue e-ticket online so as to not wait to queue at the bank)	√			
i-bank store	√		e-branch	
remote cashier			√	
i-bank alert (get instant alerts about account and card activity via e-mail and SMS)	√	√	√	√
i-bank simple pay	√			√
i-bank pay spot (pay online bills)	√	√	√	√
Block / unblock cards			√	√
Mobile top-up	√	√	√	√
e-Administrative fee payment	√ i-bank simple pay	√	√	√
View card offers related to own cards		√		
Be notified when physically approaching locations where offers exist (geofencing)		√ Push notification	√ Push notification	
Security				
fingerprint		√	√	√
face recognition			√	
PIN	√	√	√	√
SMS i-code	√	√	√	√
i-code device	√	√		
link-up of accounts	√	√	√	√
assign user friendly names to accounts	√			

Table 9: Greek Banks' digital products and services

Despite the increasing use of digital banking in Greece and although Greek banks try hard to be creative and innovative regarding their digital banking services, there is still a gap versus the European trend. For Greek banks to approach their European competitors, improvements to gain and retain customers are necessary in several categories for both digital and physical channels. Examples of such improvement could be digital customer onboarding, digital loan origination, utilization of PSD2 APIs to offer account aggregation and so on.

5.1.7. Greece vs. Other Countries with a Vibrant Fintech Scene

Greece is emerging as one of the hubs for innovative start-ups, as it has contributed immensely in fuelling technological transformation and boosting the venture capital market through Equifund, which is a platform that was established by European Investment Fund (Nicoletti, 2017). The country believes that an investment of €1 billion for early-stage development is enough to propel Fintech start-ups to an elevated stage of growth. Greece is one of the most favourable business environments for most of start-ups in terms of activities as well as investment. Greece has a highly educated pool of talents with almost

25% of the people aged between 25 and 64 years having a bachelor's degree (Antoniades, Giakoumelos, Petkakis, & Zacharia, 2018). Greece is located at the crossroads of Africa, Europe and Asia and is an EU member, making it a strategic hub for Fintech investments, that potentially grants access to major markets within and around it. However, when one compares Greece with other countries such as the United Kingdom, the United States and China, there are notable differences and similarities between them (Chishti & Barberis, The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 2016).

First, Greece is still encountering limited access to convenient talent, despite the enormous number of graduates entering the job market each year in fields like engineering, science, technology, and mathematics. The labour market demand is tight and a shortage of trainees in some of the high-demand fields is evident. Perhaps, specialized training courses must have been a missed opportunity, which is quite different from how things work in countries like the United Kingdom, the United States and China among others (Antoniades, Giakoumelos, Petkakis, & Zacharia, 2018). The financial and insurance sectors are among the most specialized sectors, as far as labour is concerned. However, economic shocks and the aftermath of the crisis, interfered with the first challenger banks. The global crisis resulted in an enormous departure of talents from the banking industry, leaving it with less people who had deep sector knowledge. This situation is also true for Greece where the reduction of experience banking personnel during the crisis was huge – and it does not regard only branch personnel. London still holds a large as well as highly qualified talent base that is stronger than those of rival European cities like Paris and Berlin.

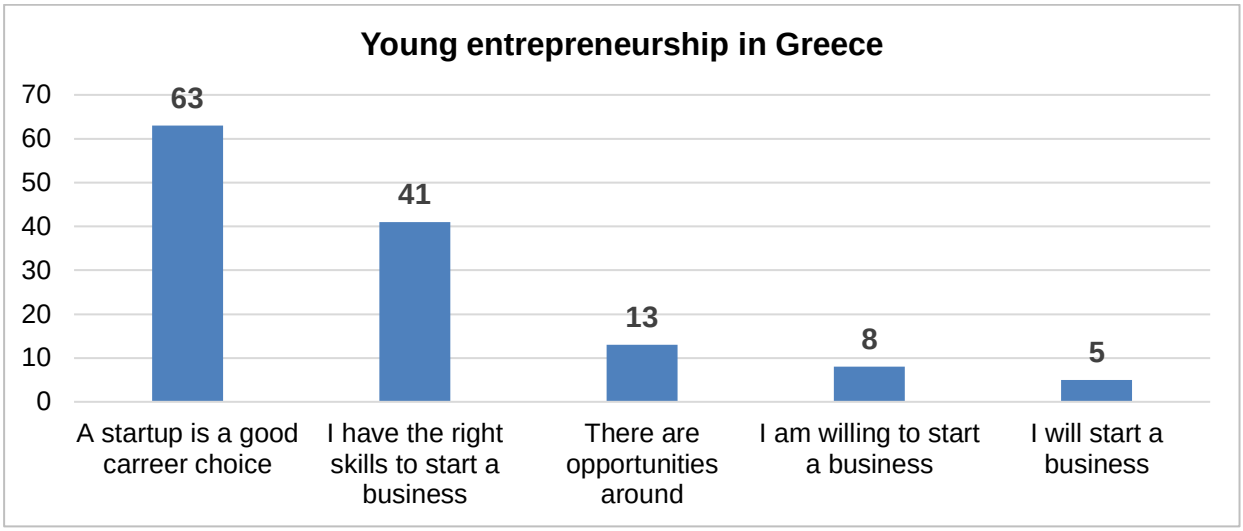

Figure 33: Fear of failure discourages potential founders from creating startups (Antoniades, Giakoumelos, Petkakis, & Zacharia, 2018)

Secondly, the business environment and market structure of Greece is still unfriendly to a large degree. Restrictive market regulations exist, and they impede market development and technological innovation. Greece is at the 67th place among 190 countries, in terms of easiness of doing business, based on the World Bank's rankings. The position is one of the lowest to have ever been held by an OECD member. For a commercial dispute to be resolved in Greece, a business would have to spend around 53 months compared to 19 months in other OECD countries. Pricing restriction regulations as well as state monopolies are potentially causing competition distortions that prevent development of new markets. Such distortions discourage the establishment of large corporations that would be innovative and globally competitive (Antoniades, Giakoumelos, Petkakis, & Zacharia, 2018).

Finally, based on the European Commission report, Greece exports 33% less because of the profound institutional barriers (Chishti & Barberis, The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 2016). Governments of countries like the UK and the US are in support of loose regulations that accommodate innovation in the financial services sector. In 2016, for instance, the Financial Conduct Authority regulatory sandbox allowed businesses to safely test innovative products that propelled the business models to the next level. Other global markets like China also believe in challenger banks as an answer to the global crisis lessening public trust in the banking industry (Haddad & Hornuf, 2018). Digital transformation in the banking sector highlights the fact that markets all over the world are ready for change (Davies, 2013).

Despite the hostile business environment in Greece, the country still has an opportunity to embrace market dynamics, especially in the financial sector. Greece can also promote properly structured incentive programs, which can attract as well as retain talent in the country. This will attract Fintech investments that can fuel the growth of challenger banks in the market (Antoniades, Giakoumelos, Petkakis, & Zacharia, 2018). Some features to be considered for the incentive package include providing expatriates with tax incentives, which encourages them to invest their expertise in the economy and focusing tax policy on economic reforms, such as promoting employee stock options, thereby creating a special category of employees and young investors in Greek economy (Chishti & Barberis, The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 2016). If such significant changes are made in the market, Greece will gradually attract investments in the banking sector and will soon move closer to other OECD member countries in terms of economic performance, supported by the banking industry.

5.2. Greek Banking Competition Analysis

Having briefly described the state of Greek economy and the Greek banking system, we will further analyze the banking competitive environment in Greece. This analysis will allow us to articulate the opportunities and the threats for the SWOT model we will be building later. Regarding the potential launch of a challenger bank in Greece, knowing who its competition would be and how their products, services and marketing strategies affect it, would be critical to its survival and potential success.

5.2.1. Porter’s Five Forces Model

To analyse the competition, we will use Porter's Five Forces model. Michael Porter, a Harvard Business School Professor, developed this model which looks at five issues that define whether a business can be profitable as it operates along with other businesses in the industry. When used together with SWOT analysis, Porter’s Five Forces allows us to understand where a company fits in the industry landscape.

We will use Porter's Five Forces (PFF) as the tool for a macro business analysis (looking at the banking market as whole) and a SWOT analysis as the microanalytical tool to focus on the challenger bank itself.

1. Competitive rivalry. This force analyses the intensity of competition, the rivalry among existing competitors. It takes the number of existing competitors under consideration and assesses what each one can do and their ability to weaken a company. If there are a lot of competitors and a lot of products and services they offer, then the power of a company is reduced. When competitive rivalry is low, a company can increase pricing and achieve larger revenues and profits. While examining competitive rivalry, one looks at quality differences, costs of switching from one competitor to another, customer loyalty etc.

2. The bargaining power of suppliers. This force analyses the ability of a supplier to raise its pricing because this would lower the profitability of a business. It also examines the number of suppliers: the fewer the suppliers, the more their power. Businesses would prefer multiple suppliers. Other factors to be assessed are the size of suppliers, the uniqueness of the products and services they supply, a company's ability to substitute a supplier and the cost of switching to a different supplier.

3. The bargaining power of customers. This force explores the power of the customer and their impact on quality and pricing. The power of consumers increases as their number decreases (i.e. when a company has fewer customers) and as the number of service providers increases, since this means easier switching. On the other hand, when a provider's service is quite different from that of its competitors, then the customers' buying power is low. Other factors to be analysed are price sensitivity, ability to substitute and cost of changing.

4. The threat of new entrants. This force considers the competitors' easiness or difficulty to enter the market. If it is easy for a new competitor to enter – for example, in terms of less time and less money – then the existing competitors face the risk of losing market share and have their positions weakened. Existing competitors like barriers of entry such as strict regulation, time consuming processes, high costs of licensing, expensive and hard to install technology. Other barriers of entry are strong branding, cost advantages and economies of scale of existing competitors.

5. The threat of substitute products or services. This force considers the easiness of consumers to switch among competitors. It studies the number of competitors, it compares their prices and quality to the ones of the business under assessment and the competitors' profitability, a parameter that could determine their ability to reduce their cost base. To

analyse the threat of substitutes, one should assess immediate and long-term switching costs and consumers' tendency to switch.

5.2.2. Competitive rivalry

Before the economic crisis, when there were many banks in the country, the industry was highly competitive. Advertising budgets were large, new products were being launched, the functionality of digital channels was quickly growing, new branches were appearing on a weekly basis and there was a fierce pricing war.

After the crisis, the consolidation of the banking system was the highest in Europe, as this is illustrated in Figure 34.

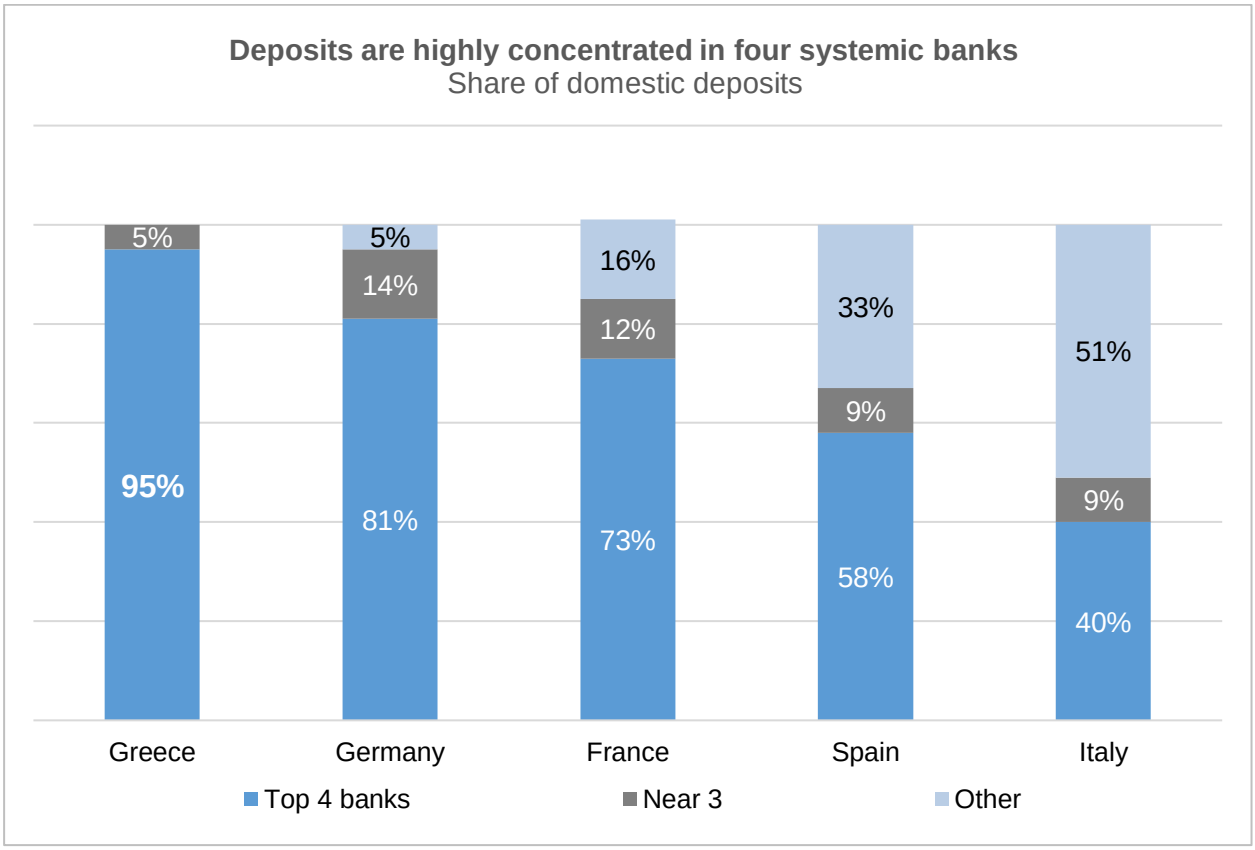

Figure 34: Deposits Concentration in Greece and Other Countries (Source: Bank of Greece, ECB)

The four systemic banks have been around for decades. National Bank of Greece (NBG) is the first bank ever created (in the second half of the 19th century) while Piraeus Bank and Eurobank were practically launched in the early 90s. Just about every citizen who needs banking services already has them.

There is not a significant differentiation among the systemic banks. Regarding retail, their pricing lists are similar, and they are modified almost simultaneously, be it for interest rates (both for deposits and loans) or for commissions. Recently, banks have been accused for concerted practice for creating a new set of commissions and for increasing charges for a series of transactions (Naftemporiki, 2019).

Retail Deposits	Deposit Level	Interest Rate
Piraeus Bank		
Basic Savings Account Multi-Membered Family Savings Account	€0.01 - €50,000 €50,000.01 and over	0.01% 0.05%
"Axizei" Savings Account (Tiered – whole balance – interest rate)	€0.01 and over	0.01% (0.50% privileged)
"Mporo" ("I can") Savings Account (Tiered – whole balance – interest rate)	€0.01 and over	0.20% basic (1.20% privileged)
"Mporo" ("I can") Savings Account (Tiered – whole balance – interest rate)	€0.01 and over	0.20% basic (1.20% privileged)
"Diplo" ("Double") Savings Account (Tiered – whole balance – interest rate)	€0.01 - €4,999.99 €5,000 and over	0.01% 0.25% (0.50% privileged)
"Proodevo" ("I progress") Savings Account (Tiered – whole balance – interest rate)	€0.01 and over	0.50%
Polimorfikos (polymorphic) & Personal Banking Account	€0.01 - €50,000 €50,000.01 and over	0.01% 0.05%
Cash Manager (Tiered – whole balance – interest rate)	€0.01 and over	0.05%
winbank Direct Account (Tiered – whole balance – interest rate)	€0.01 and over	0.10% basic (0.50% privileged)
Piraeus Payroll Account (Tiered – split balance – interest rate)	€0.01 - €3,000 €3,000.01 and over	0.6% 0.01%
Piraeus Pensioners & Civil Servants Payroll Account (Tiered – split balance – interest rate)	€0.01 - €3,000 €3,000.01 and over	0.8% 0.01%
Time Deposits Do It Yourself 1-3 weeks	€5,000 - €100,000 and over	0.05% - 0.10%
1-12 months	€5,000 - €20,000	0.15% - 0.30%
1-12 months	€20,000.01 - €50,000	0.15% - 0.30%
1-12 months	€50,000.01 - €100,000	0.20% - 0.35%
1-12 months	€100,000 and over	0.25% - 0.40%
Alpha Bank		
Alpha 100	Up to €200,000 Above €200,000	0.01% 0.02%
Alpha 400	Up to €200,000 Above €200,000	0.01% 0.05%
Alpha 410	Up to €150,000 €150.000 - €200.000 Above €200,000	0.01% 0.02% 0.30%

Retail Deposits	Deposit Level	Interest Rate
National Bank of Greece		
NBG Savings Account	€0.01 - €100,000 €100,000+	0.01% 0.05%
European Savings	€0.01 - €10,000 €10,000.01 - €100,000 €100,000.01 and over	0.01% 0.01% 0.05%
Salary Basic	€0.01 - €1,000 €1,000.01 - €100,000 €100,000.01 and over €100,000.01 and over	0.5% 0.1% 0.2% 0.2%
Professional Plus - For Engineers Members of Tee	€0.01 - €3,000 €3,000.01 - €100,000 €100,000.01 and over	0.1% 0.2% 0.3%
Time Deposit Account (3-month)	€20,000 - €59,999.99 €60,000 - €200,000	0.55% 0.6%
Eurobank		
Regular Savings (compounded monthly)	-	0.6%
Current Account (compounded every 6 months)	€0.01 - €100,000.00 over €100,000.01	0.01% 0.03%
Salary / Pension Account (Statement / Passbook) (compounded every 6 months)	€0.01 - €20,000.00	0.05%
Salary / Pension Account Public Sector Employees (tiered split balance)	€0.01 - €1,000.00 €1,000.01 - €5,000.00 over €5,000.01	1.25% 0.1% 0.05%
Salary / Pension Account Private Sector employees	€0.01 - €1,000.00 €1,000.01 - €5,000.00 over €5,000.01	0.9% 0.1% 0.05%
«Panta Neoi» Salary / Pension Account (Statement / Passbook) (compounded every 6 months)	€0.01 - €1,000.001 €1,000.01 - €5,000.00 over €5,000.01	1.25% 0.1% 0.05%
Time Deposit for All «Live simple» 1 month - 3 months duration	€5,000 €50,000 €100,000	0.5% (weighted IR) 0.6% (weighted IR) 0.6% (weighted IR)
6 months duration	€5,000 €50,000 €100,000	0.45% (weighted IR) 0.5% (weighted IR) 0.5% (weighted IR)
12 months duration	€5,000 €50,000 €100,000	0.4% (weighted IR) 0.5% (weighted IR) 0.5% (weighted IR)

Table 10: Pricing of deposit products, April 2018 (Source: banks' web sites)

Loan product	Category	Amount (€)	Interest rate
Alpha Bank			

Loan product	Category	Amount (€)	Interest rate
Metron Ariston with collateral	Collateralized open loan	Up to 100,000	3Month Euribor + 5,75%
Metron Ariston	Uncollateralized open loan	From 1,500 to 30,000	13,75% fixed interest
All in 1	Uncollateralized open loan	From 1,500 to 150,000	12,75% fixed or 12,25% variable
All in 1	Collateralized open loan	From 1,500 to 150,000	3Month Euribor + 5,00%
Green Solution	Car loan for hybrid cars	From 1,500 to 40,000	Variable 9,00%
One more day	Overdraft in salary account	From 900 to 3,000	11,25% fixed
Car loan	Car loan	From 1,500 to 100,000	11,00% fixed
X12	Loan against salary account	From 1,500 to 30,000	11,75% fixed
Eurobank			
Uncollateralized open loan	For non-salary holders	Up to 30,000	13,50% to 14,50% fixed
Uncollateralized open loan	For salary account holders	Up to 30,000	11,50% to 12,50% fixed
Uncollateralized open loan	For personal banking holders	Up to 30,000	10,40% to 11,40% fixed
Collateralized open loan	For non-salary holders	From 10,000 to 100,000	6,70% to 7,90% variable
Collateralized open loan	For salary account holders	From 10,000 to 100,000	6,30% to 7,70% variable
Collateralized open loan	For personal banking holders	From 10,000 to 100,000	6,15% to 7,55% variable
Overdraft	Overdraft account	From 500 to 10,000	15,80% to 13,30% variable (depends on amount)
Overdraft	Overdraft for personal banking	From 500 to 10,000	3% lower interest than simple overdraft
Overdraft	Overdraft for private banking	From 500 to 10,000	4,25% lower interest than simple overdraft
Car loan	Car loan	From 1,500 to 100,000	9,5% for new cars, 12% for used cars, 13,95% for motorcycles
Piraeus Bank			
Profile personal loan	Uncollateralized open loan	From 1,500 to 40,000	12,2% to 14,5% fixed or 10,95% to 13,55% variable
Open personal loan	Uncollateralized open loan	From 1,500 to 20,000	14,25% variable
Overdraft	Overdraft on current account	From 500 to 5,000	13,60% to 13,95% variable
Student loan	Uncollateralized open loan	From 1,500 to 40,000	11,85% variable
Loan for those with debts to public authorities	Uncollateralized open loan	From 1,500	9,95% variable
Green loan for eco-friendly car or home equipment	Collateralized open loan	From 1,500 to 20,000	8,75% variable
Loan for natural gas installation	Uncollateralized open loan	From 1,000 to 40,000	10,70% fixed
Collateralized by deposits personal loan	Collateralized by investment or deposit	From 3,000 depending on deposit	Euribor variable
Salary account loan	For salary account holders	From 1,500 to 40,000	12,55% variable or 14,50% fixed
Salary account overdraft	Overdraft for salary accounts	From 500 to 5,000	13,55% variable
National Bank of Greece			
Overdraft	Overdraft for all accounts	Up to 5,000	12,50% variable
Antapodosi (return)	Open personal loan	From 1,500 to 30,000	12,121% variable, reduced by 0,25% every six months if current
Weightlifting loan (collection of debt)	Uncollateralized open loan	From 1,000 to 80,000	3Month Euribor + 8.00%
Weightlifting loan (collection of debt)	Collateralized open loan	From 1,000 to 80,000	3Month Euribor + 4,50%
House-secured open loan	Collateralized open loan	From 10,000 to 100,000	6,121% variable
SPOUDAZO (student loan)	Uncollateralized open loan	From 1,500 to 25,000 per student	9,621% variable
SPOUDAZO (Overdraft)	Overdraft for student accounts	Up to 10,000	10,50% variable

Table 11: Pricing of consumer loan products, April 2018 (Source: banks' web sites)

The lack of genuine competition has discouraged bank customers from switching banks and therefore the number of customers per bank and the deposit market shares have remained highly unchanged since 2014 when the consolidation was realized, as can be seen in Figure 35.

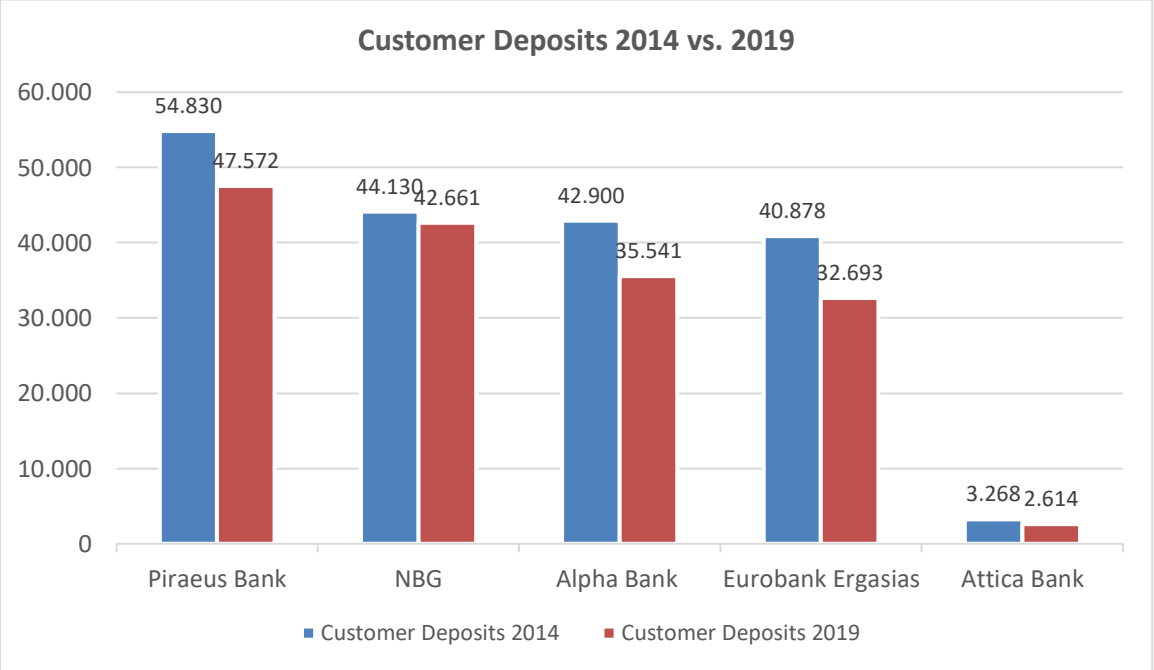

Figure 35: Market shares of Greek banks 2014 and 2019 (Source:Banks' Annual Reports 2014, 2019)

5.2.3. The bargaining power of suppliers

The main resource of banks is capital. The most important "suppliers" of capital are customer deposits, loans from other financial institutions and loan-backed securities. An additional form of capital is the human capital since employees supply the resource of labour. By utilizing these suppliers, a bank can be certain that it has the required resources to satisfy the borrowing needs of its customers – while always having enough capital to also satisfy withdrawal needs of customers.

Regarding Greek individual depositors, they do not have significant bargaining power except for a few large corporate customers and a few high net-worth individuals. The

absence of authentic competition, as already said, further reduces the bargaining power of depositors. Still, the sum of individual depositors has a considerable bargaining power, especially in Greece where banks have been bailed-out through government funds and their capitalization is an extremely difficult exercise.

Regarding Greek banking employees, individual ones have little bargaining power except for a few executives in each bank. Labour unions that represent employees are practically inactive. Normally, to increase its bargaining power, a bank should continuously try to satisfy and retain its best employees as well as attract the best possible talent from the market by offering attractive compensation packages, appealing career paths and pleasant working conditions. Yet, the huge consolidation of the banking system and the declining revenues of banks have dramatically decreased the number of banking employees in the country and have stagnated salaries and benefits, thus significantly reducing the bargaining power of employees.

5.2.4. The bargaining power of customers

The bargaining power of customers is like that of suppliers since customers constitute suppliers as we saw above. In general customers' bargaining power is a significant for the banking industry. Nevertheless, individual retail customers have relatively little bargaining power since losing a single deposit account, consumer loan or credit card has a minimal impact a bank's bottom line.

Still, the aggregate bargaining power of Greek customers is far greater as a bank cannot suffer attrition of large numbers of customers. Similarly, corporate customers and high net-worth individuals have greater bargaining power as losing a single customer from these segments can cause loss of capital and revenues and have a serious impact on a bank's bottom-line.

Greek banks address this issue by trying to retain their existing customers. They reward the loyal ones through loyalty schemes since this leads to opening new accounts and buying additional services which, in turn, makes it harder for customers to leave to a competitive institution.

5.2.5. The threat of new entrants

Any new entrant, i.e. a new banking entity with a license to provide all kinds of products and services will impose a threat on existing banks as it will capture a market share of the

products and services that it will focus on. Depending on its marketing proposition and its target market, the new entrant might grab a larger share of a specific bank or banks.

In Greece, the threat of new entrants is extremely small. Bank of Greece is not issuing new full banking licenses to contain the banking competition and limit the number of supervised entities. This is a result of the memorandum between the Greek government and the lenders.

Nevertheless, the three non-systemic banks form a potential threat as they could be acquired by any entity that would like to launch a new bank in Greece. In this way, there are three potential new entrants. Of course, they would not be able to compete directly on the same level with the major banks. The main obstacles would be the significant amount of capital required, the time needed to establish their brands and the complicated regulations that apply to banking operations.

However, banks that operate on a more international scale, be it major financial institutions (for example Chinese banks) or digital neo-banks (for example challenger banks in UK), would form a future threat if and when they decide to launch in Greece. This is also dealt with in the next paragraph as they can also be considered as substitutes.

5.2.6. The threat of substitute products or services

The banking industry faces an increased threat of substitute products. Companies outside the banking industry have started offering a subset of financial products and services that, until recently, were offered only by traditional banks. Such substitute products and services are payment processing and funds transfer services such as PayPal and TransferWise, prepaid cards such as the ones offered by N26 and Revolut and digital peer-to-peer lenders such as Lending Club. The intrusion of such substitute services can gradually cost major banks sizeable revenue.

Regarding deposits, only fully licensed commercial banks can accept deposits that bear interest. Still, consumers can hold digital wallets with non-banking institutions. Such wallets do not bear interest to their holders, but they still absorb a sum of deposits. Of course, the total amount of deposits held with digital wallets is not significant and not threatening for the major banks. In Greece, the only significant company offering digital wallets is VivaWallet and, as said before, the number of digital wallets and the respective total amount is extremely low.

Regarding loans, Greek banks are the sole source for funding of the economy, as shown in Figure 36. As substitute lenders, we observe a limited number of companies that provide loans to SMEs and a start-up that offers e-factoring that very recently launched operations. No peer-to-peer lending solution exists. In general, if Greek economy is not developing, the threat remains low. International banks, even if they saw an opportunity in terms of competition, they would think twice before investing in a rather unstable economy.

Regarding consumer-to-business payments, VivaWallet presents a real alternative to banks as they provide merchants with POS terminals and virtual POS services for card acceptance. A few more payment institutions exist but they represent a small share of the market. Regarding person-to-person payments, there is not any alternative to the P2P services of systemic banks.

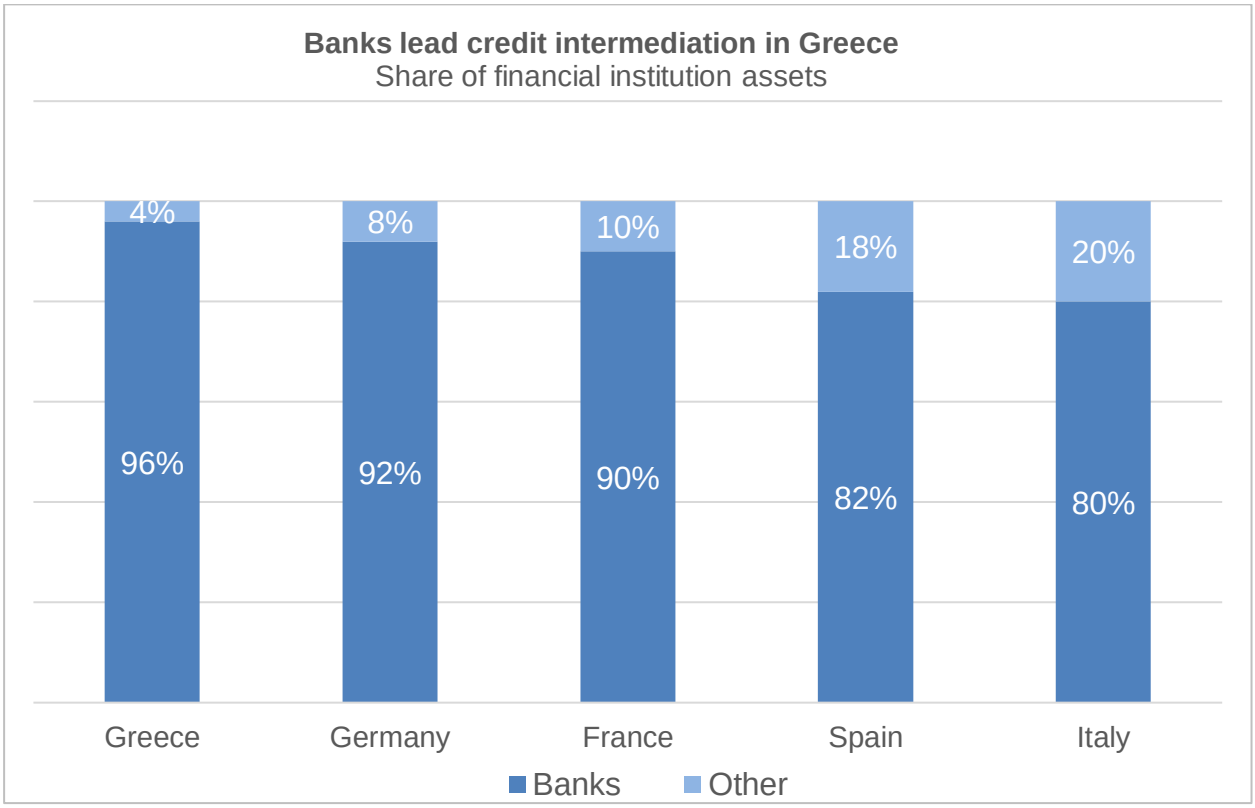

Figure 36: Share of financial institution assets (Source: Bank of Greece, ECB)

5.3. SWOT Analysis

We selected the SWOT Analysis as a method to assess the viability of a challenger banking model as it allows for the development of awareness of all the elements that could influence strategic and business planning and it helps uncover opportunities and possible

issues that must be tackled or, at least, identified. SWOT analysis is a valuable decision-making tool as it helps to assess the feasibility of the business and marketing approach, it assists to identify possible alternative approaches, it reveals optimum routes for achieving economic viability and it aids the definition of the optimum marketing strategy.

The SWOT analysis will present a solid appreciation of a potential bank customer's existing perceptions and a strong understanding of regulations, technology, competition, and differentiation factors. It also aids towards understanding the importance of banking channels and their effect on customer perceptions regarding brands and their offerings.

The SWOT analysis is an efficient tool but it has specific limitations: there can be an overlap of strengths and weaknesses; the SWOT-based assessment is static since there are changes in the business environment even at the time the assessment is done – not to mention future changes; and there are some associations between the internal and external factors assessed.

We start the SWOT analysis in Section **Error! Reference source not found. Error! Reference source not found.**, with recognizing the strengths and weaknesses of the proposed challenger bank model. Then, based on the competition analysis, we will identify the business opportunities that can be explored, and we will detect potential obstacles in the process of establishing its operation and the threats it is likely to face.

5.3.1. Strengths

There will be multiple advantages of a challenger bank in Greece. It will suggest substantial potential towards improving efficiency, reducing cost, upgrading infrastructure, enabling better risk management, and allowing access to day-to-day banking, payments, and credit.

To identify strengths, we will consider the opportunities laid out in Section 5.3.3 below and we will identify why Ambient is well positioned towards exploiting such opportunities. Additionally, we will list other factors that work as Ambient's strengths.

Market

- **Internet usage, cost of internet services, capital controls and digital banking usage.** Ambient will be digital-first and, more specifically, mobile-first. It will be perfectly positioned to ride the wave of society going digital, especially after the superficial

"training" that consumers went into, because of the obligatory adoption of electronic and digital banking.

- **Financial inclusion and customer segments.** As outlined in subsection 0 above, Ambient will facilitate financial inclusion by targeting the low end of the market. Ambient's digital offering will attract millennials by its design. Furthermore, it will attract all consumers that are familiar with and keen to use advanced and mobile-first digital offerings.
- **Social media.** Any digital-first player gets active in social media early on and, this way, it can engage large numbers of digital-ready customers. Moreover, digital players across industries utilize social media as a customer service platform and people are expecting such an approach by digital banks. Ambient will fully utilize this trend as one of its trends.
- **Consumer loans.** As explained in Section 0 below, Ambient will provide consumer loans with a special focus on car loans.
- **Unfulfilled customer needs**. This is the sweet spot of incumbent banks and Ambient will fully exploit it. Ambient's attitude towards superb customer experience will be one if its greatest strengths.
- **First Mover Advantage.** The first digital bank in Greece will create a huge buzz around its brand and will reap significant marketing benefits without the corresponding spending.

Technology

- **Core Banking Systems.** The brand-new core banking system (CBS) will be an enormous advantage of the first challenger in Greece. A cloud-ready CBS will accelerate the launch, and it will minimize the initial investment in on-premise hardware and infrastructure. More importantly, it will allow the bank to swiftly implement new products and services and apply continuous innovation. Compared to the decades-old, "spaghetti" systems of incumbent banks, the CBS will be a significant strength.
- **Digital Experience Platforms.** Along the lines regarding the CBS, the appropriate Digital Experience Platform (DEP) will define the omnichannel experience for customers. Although it seems obvious for a digital bank, it takes a lot of effort and focus for a digital bank to excel with its front-end channels. Incumbent banks employ and use advanced DEPs and can be competitive from this point of view.
- **Continuous Innovation**. Starting from scratch, the new bank can adopt modern methodologies such as design thinking, agile development and DevOps that allow

continuous innovation. Additionally, this makes faster time-to-market feasible and it enhances the perception of the bank as one that constantly delivers useful features to its customers.

- **Include Third-party Innovations.** New Digital Experience Platforms are strong regarding APIs. This allows the bank to easily cooperate with numerous partners through who will offer their own products and services to the bank's customers. Such co-operations augment the bank's offering and it creates new revenue sources.
- **Intellectual Property Rights.** A new digital bank, with its technological infrastructure-infused ability to create unique innovative products, services, and methods, can obtain IPRs, patents and trademarks. This will offer exclusivity for its creations and obstruct other banks to copy them.
- **Talent.** Because of its open and cloud-based technologies, there is an ability to hire diversified personnel, with people coming from various racial, cultural, geographical, and educational backgrounds. This would help the bank by combining different ideas and methodologies.

Regulatory Environment

- **PSD2.** The ability to utilize other banks' APIs and thus to offer its customers access to their accounts with incumbent banks, will be significant strength: as a newcomer in the market, Ambient will want to attract customers of other banks without obliging them to keep both relationships in order to view and access their existing products.

Industry and Competition

- **Non-Performing Loans.** The clean slate start, without any NPLs at all, is a huge competitive advantage against incumbent banks who bear the burden of massive NPLs.
- **Personnel**. Digital-first players are lean, and they employ small numbers of people. This is a noteworthy strength as it makes a challenger bank nimble and agile, it helps it keep operating cost at the lowest possible level (since human resources are a significant cost element) and it takes away a serious complexity.
- **Low cost structure, better profitability, ability to invest**. Many of the factors laid out above, prove a challenger bank's ability to operate at lower cost levels and increased profitability. Cost-to-income and revenues per employee, two of the most important KPIs, will be attractive to future investors, for the additional reason that, under specific

conditions, they can boost return on equity. This further allows the new bank to continue investing in areas where it matters most, i.e. systems and talent.

- **Customer satisfaction**. Challenger banks are constantly the winners of awards regarding customer satisfaction and experience (British Bank Awards, 2018). Giving customers such satisfaction is a vital strength as it spreads through word of mouth, via social media and so on and it becomes a costless marketing tool.
- **Foreign digital banks**. The existence – and even the local operation – of other challenger and digital banks is an advantage for a new player as the bar has already been raised and the distance from incumbents has already grown.

Other strengths

- **Operations**. Because of its simple model, a challenger bank has substantial ability to improve efficiencies, lower cost, modernise infrastructure, facilitate more efficient risk management and grow access to a range of financial services.
- **Scalability**. The digital-based infrastructure – and especially the cloud – is a strength as it allows a digital bank to rapidly increase its customer base and serve large numbers of people without having first to heavily invest in upgrading its infrastructure.

Differentiation

The challenger banking model is so different that it creates a unique selling proposition on its own. The offering of the challenger bank will not be about products, it will be about customer journeys. Ambient will offer a new experience, not just a relationship. Its technological infrastructure will allow it to fully digitize customer journeys through the application of the newest digital technologies, usage of modern programming languages and APIs, the way that firms like Virgin Money, Tesco and Metro have already done (Beattie, Goodacre, & Fearnley, 2003), (Haldane, Brennan, & Madouros, 2010).

5.3.2. Weaknesses

In this section, we will identify the weaknesses that need to be improved before Ambient takes advantage of the opportunities laid out in Section 5.3.3 and the weaknesses that need to be completely fixed and converted into strengths in order to defend itself against potential threats such as the ones presented in Section 5.3.4.

Market

- **Customers' indifference**. Even if incumbent banks do not differ among them regarding their product and service offerings, customers are used to having decent digital experiences via their traditional banks' digital platforms. Banking is not an enjoyable activity and, even if a challenger bank like Ambient, presents a different proposition, customer might not become enthusiastic about it.
- **Customers' unawareness**. Digital-first or digital-only banks have not been active so far in Greece (excluding the two foreign entities, N26 and Revolut)**.** The first player must educate and train the market, and this requires additional effort and cost that a new small player can't bear. Additionally, there is a possibility of fraud or financial risks linked with consumers that do not grasp the way the new products and services operate.
- **Branding**. Brand recognition is important regarding the attraction and acquisition of new customers. In contrast to established banks, Ambient will have a very weak brand equity and must invest in brand awareness programs. Although a superb service model and an advanced product offering can significantly aid towards building a strong brand, branding is still a major disadvantage.
- **Trust**. This is the Achilles' heel of challenger banks and, in general, of new entrants. Consumers are reluctant to trust brands and entities that they are not familiar with. Building trust takes time and, to expedite trust building, any new entrant must put a lot of resources, both effort and money.
- **Existing suppliers**. Ambient, contrary to incumbents, has no relationship with existing suppliers and other members of the supply chain. Thus, it cannot leverage such relationships to increase products and services.

Technology

- **Brand new systems**: Despite their benefits as outlined in Section 5.3.1, new core banking systems and new digital experience platforms are not always adequately and thoroughly tested in production environments. Having technical problems that hinder or even cancel the ability of customers to access their funds is something that could seriously damage the brand of a new entrant such as Ambient.
- **Talent**. Engineers experienced in modern technology stacks are hard to find and hire. Especially for a new bank carries two negative notions: being a traditional and conservative organization and having a risk to fail before or soon after launch.

Engineers are also hard to retain as they always look for a working environment that pleases them and allows them to grow professionally.

- **Research and Development**. Limited budgets lead to limited investments and R&D expenditure. This is a disadvantage against incumbent banks that can spend more to build innovative products.

Regulatory Environment

- **Status Quo**. New entrants and especially Ambient that will be the first one to start operation are paving the way for the rest that will follow. Ambient would have to put a lot of effort working with regulators to convince them about their business models, their robustness and their know-your-customer and anti-money laundering methodologies and systems.
- **Technology**. Cloud technology and digital customer onboarding are two typical areas where Ambient could excel and where the regulator could object regarding their usage. Moreover, security and cybercrime are two additional areas of great concern from the regulator's point of view.

Industry and Competition

- **Foreign fintech**. Ambient will be launched as a fintech, as a digital-first player and, inevitably, it will be compared with the well-established players, especially if they have launched operations in Greece. Such a comparison will work against Ambient since its offering will not have the maturity of the foreign ones.
- **Regulation and barriers of entry**. Established banks will use regulation to defend themselves. They will activate their lobbies and they will try to present entry barriers from the regulatory point of view.
- **Physical network (branches)**. Customer research has always shown that branches play a vital role for customers, not necessarily for day-to-day banking but mainly for getting advice on complicated and/or expensive products such as investments and mortgages. Branches also underline a bank's trust notion, and this is crucial for customers to bring their deposits to a bank.
- **Loyalty platforms and reward systems**. With all four systemic banks having registered millions of customers to their reward schemes, new players will find it extremely hard to move customers to their own offerings. Developing their own loyalty schemes would be a difficult, time-consuming, and costly exercise.

- **Market share**. The initial extremely low market share of Ambient's products places the bank in a position susceptible to external pressures.

Other weaknesses

- **People**. Launching a new venture means large workloads for extended periods of time and this may harm employees' morale.
- **Culture**. Nurturing a culture of innovation, agility and collaboration inside the organization is of paramount importance. Having people of different professional origins, who have been raised in various corporate environments, makes it hard to build a unified culture.
- **Data**. As a new entrant, Ambient will not have any data at all to analyse to build new products and services, personalised and fit-to-purpose for its customers.
- **Financial issues**. Almost by definition, Ambient will have a tight expense budget since investors will always want to limit cash burn. This will make it hard to invest, attract people from the competition, spend on training and so on. Additionally, capital will be limited, and continuous funding will be needed. This will place a constant pressure on management and personnel to move into profitability as soon as possible and, in turn, this will create anxiety and frustration.
- **Fragility**. Financial crises or even abrupt negative changes in the market can be literally fatal for a small player that is trying hard to get a market share and become profitable.
- **Funding through deposits**. To gather substantial amounts of deposits, enough to fund the lending operation, any new player would have to price deposit products aggressively, offering interest rates much higher than those of the competition. Such high rates are also needed to attract deposits from Deposit Aggregators as mentioned already in sub-section 0.

5.3.3. Opportunities

We will categorize the opportunities in four categories: market, technology, regulatory and industry and competition.

Market

- **Internet usage.** There is a constant increase in the number of internet users. E-commerce purchases are growing, and this proves that consumers are less and less

reluctant to perform important transactions – such as opening a bank account and depositing funds – on the internet. Smartphone ownership is one of the largest in Europe and mobile apps usage is strong. In general, there is an apparent familiarization of people with technology. This presents a significant opportunity for new players to capitalize on the readiness of potential customers to adopt new business models.

- **Cost of internet services.** A factor that partially contributed to the increase of usage of such technologies is the declining cost of internet services. Still, there's room for further cost reduction and this promising regarding a further usage increase.
- **Financial inclusion.** Both factors above work in favour of financial inclusion since leveraging fintech and digital banking can promote financial inclusion by reaching people who remain without proper access to formal financial services.
- **Social media.** Social media usage is also constantly increasing. This is an opportunity for digital players to approach potential customers presenting to them a fresh, more familiar "personality". Combining this with the negative image of incumbent banks on social media, one can easily observe that there is ground to cultivate interesting customer relationships and focus on customer experience by interacting with customers and collecting their feedback.
- **Capital controls.** The application of capital control measures (see Section 5.1.3 above) indirectly forced large parts of the population to use electronic and digital media to execute financial transactions, thus establishing a mentality of non-physical banking and considering the existence of branches as not completely necessary.
- **Digital banking usage.** 20 years after the launch of the first internet banking services and because of all the factors laid out before, Greeks are now rather heavy users of digital banking services, i.e. internet banking and mobile banking. Security concerns, the main obstacle for adopting digital banking, have been overcome over time and now almost all financially active consumers and businesses
- **Income increase.** As the Greek economy gets of recession and enters a new growth phase, there will be a gradual increase in average household income and, consequently, an increase in consumer spending which, in turn, will bring about the growth of the market since there will be new consumers to be attracted.
- **Tourism.** The growth of Greek economy has always been closely tied to the tourism industry. Tourism keeps constantly growing and this is also reassuring regarding a strong economy growth.
- **Consumer loans**. Since the economy is expected to grow at significant rates, consumers will start spending and consumer loans will be back in demand. Especially

for car loans, when an economy starts to grow after a long time, the car market is one of the first to enjoy a strong demand. This is due to both a practical need to replace old, broken cars as well as a psychological need of consumers to experience a brand new good. Thus, car loans present a significant opportunity for growth, especially because of the high interest margin that they offer and their low delinquency rates. Moreover, the car dealer market lacks a modern technological loan origination platform, powered by digital technologies and a digital disruptor can offer that.

- **Deposits out of the banking system.** During the crisis, Greeks withdrew large amounts of deposits. A large portion has been moved abroad, deposited in foreign banks, and invested in foreign mutual funds and other investment instruments. These funds are mainly owned by the wealthier part of the population. At the same time, mass market customers withdrew smaller amounts and kept them as cash, either in safe deposit boxes or hidden at home (the, so called, “under the mattress” deposits).
- **Unfulfilled customer needs**. Consumers are used to been served by digital or hybrid ventures that offer unparalleled customer experience and which demonstrate a strong advocacy approach towards their customers. Financial institutions’ attitude is far from this; thus it is an opportunity for new players to attract those underserved customers.
- **Customer segments.** Specific customer segments are keener than others to receive digital financial services. Millennials, because they have been raised in the internet era and digital technologies are part of their life; immigrants, because of their inability to reach traditional banking services; small business owners, because they were underserved during the recession. By laying out strategies towards such segments, a new challenger can lure these customers away from banks.

Technology

- **Core Banking Systems.** All traditional banks use core banking systems dated back in the 90’s or even the ‘80s. These systems are extremely hard to develop and customize to produce new products and services or even to comply with new regulations. Moreover, it is even more difficult to build digital products and services on top of these systems. Tapping on this weakness of incumbents, presents an opportunity for challengers to get ahead of competitors by employing the newest possible core banking systems, either purchasing them as packages or developing them from scratch by utilizing the most advanced technology stacks.
- **Digital Experience Platforms.** Even the digital banking offerings of incumbents are based on older platforms and/or have been created in-house and over 20 years,

something that makes it hard for them to further develop them to create new digital experiences and utilize new opportunities such as the Cloud, Application Programming Interfaces, Robotic Process Automation etc. By commissioning the newest of such platforms or, as said above, by developing them in-house with the most appropriate and modern technology stacks, challengers can present competitive digital offerings and be considered as pioneers.

- **Talent.** Greece is well known for the high level of education of its younger workforce and especially those that have graduated STEM courses. There are many highly skilled software engineers and developers available. A new digital venture such as a challenger bank will be far more attractive to this workforce than the incumbents are, and this will give it a competitive advantage since talent is a scarce and much needed resource. Additionally, being able to hire skilled resources reduces expenditure on training and development, therefore, saving costs. Finally, by employing new technology platforms, such as cloud-based ones, opens the doors to international talent in global scale.
- **Changing Technology Landscape.** Artificial Intelligence and, specifically, Machine Learning technologies are thriving and transforming the way companies operate and they improve efficiencies, reduce cost, and transform processes. By utilizing such technologies, a challenger bank can better predict consumer demand, cater to niche segments, and build better recommendation mechanisms.
- **Expansion**. The digital operating model allows the rapid and inexpensive expansion to relevant markets, for example the Greek-speaking Cyprus and the neighbouring countries. This is because of the ability to operate without any physical presence, be it branches or data centres, as well as because of the speed to create new products and services, relevant to the local markets.

Regulatory Environment

- **Banking regulation.** The Greek banking sector is highly regulated, and this imposes obstacles on incumbents regarding innovation. Some new technologies are considered as being able to create “potential systemic risks” if applied. On the other hand, non-systemic players (for example VivaWallet) are treated in a looser manner and they can utilize new technologies such as the cloud. Accordingly, it would be expected that a challenger, as a new entrant, would be considered as a non-systemic player and be freer to use new technologies.

- **Sandbox.** More and more central banks, including the Bank of Greece, promote Fintech by adopting the "sandbox" approach to allow new digital players to prove their technologies and to also allow the regulator to better understand the nature of the new services. This is an important advancement for challengers as it eases the cooperation with the regulator, and it accelerates the process of approving specific new models.
- **KYC**. Fintech helps towards the reduction of risk by providing solutions to issues such as "Know Your Customer" policies. Central banks gradually approve the proposed approaches (for example, video-based and selfie-based face matching with IDs such as national ID and passport). This is extremely important for challengers as this is the only way they can on-board new customers if they do not have any physical presence at all.
- **PSD2.** The 2nd Payment Services Directive includes the obligation of financial institutions to create APIs that "expose" their customers' data to certified third parties that are authorized by the customers themselves to retrieve such data. Although this is important for incumbents too, it is far more crucial for new entrants since this gives them the ability to attract new customers who will continue to have access to their financial products with traditional banks through the digital platform of the new challenger.

Industry and Competition

- **Non-Performing Loans.** Greek banks carry a huge portfolio of NPLs. This is an enormous burden from many points of view. NPLs, except for not generating revenues, they decrease capital adequacy and, on the other hand, they consume a lot of resources, including top management attention and focus, IT resources and so on, thus they place systemic banks in a difficult position compared to challengers.
- **Technology.** As mentioned in Section 0 above.
- **Physical network (branches)**. Traditional banks rely heavily on their brick-and-mortar distribution networks. The relative cost is huge, especially from a labour perspective.
- **Personnel**. Due to labour laws, it is extremely hard for banks to reduce their personnel and this imposes both a high cost and an operational inflexibility.
- **High cost structure**. All the above indicate a high cost structure that is hard to manipulate, something that reduces their competitiveness to new players with a "clean" balance sheet.

- **Reduced revenues**. Due to the credit crunch, customers are not buying banking products and they have significantly reduced spending. This leads to a grave reduction of interest and fees/commissions
- **Profitability**. High cost structures combined with reduced revenues lead to a systematic undermining of profitability.
- **Inability to invest**. Consequently, incumbent banks cannot significantly invest in new systems and this reduces their competitiveness with new players regarding technology infrastructure.
- **Customer satisfaction**. Satisfaction of customers of traditional banks has been severely injured during the crisis as banks offered services of lesser quality. Moreover, products and services of all systemic banks are similar to each other and are not considered as proper "value for money". In theory, this makes all customers vulnerable to new entrants who will promise a much higher level of satisfaction through competitive products, services, and experiences.
- **Foreign digital banks**. Although they obviously present themselves as a threat, they are also an opportunity. They demonstrate a valid alternative to traditional players, and they establish a new way of banking which is already operating successfully in other countries. This way, they pave the way for similar local players who could be even more appealing because of their domestic nature.
- **Collaboration**. Fintech and the traditional banking sector can complement each other and build new collaborations for the effective provision of innovative financial services.

5.3.4. Threats

We will categorize threats in the same categories as we did with opportunities above.

Market

- **Indifference**. For many years, all banking products and services are practically the same regarding their features and pricing. Banking is not considered as enjoyable activity but rather as a boring one. Consumers are not ready to consider switching banks. It would take a lot to draw their attention and even more to move them towards establishing a relationship with a new bank.
- **Trust**. This is the most important asset of traditional banks regarding their stance against challengers. This asset would be the most significant obstacle for challengers

to overcome, especially as they are completely unknown themselves, with no history, no track record, no branding.

- **Account switching**. In Greece, there is no account switching service to make it easy for consumers to open an account with a bank and automatically transfer all related services from the previous bank. In countries where such a service is in place, new entrants manage to achieve significant volumes of new accounts. In Greece, this will be a significant obstacle and it will initially lead to the new entrant being only a "second bank" for consumers.
- **Population**. Greek population is not growing and is expected to shrink in the upcoming years. Apparently, this leads to a reduction of younger population, a segment that will be much more welcoming to new business models and new technologies.
- **Geopolitical risk**. Turkey has always presented a potential threat and a destabilizing factor for Greece. This is important regarding the potential capital increases that a new player would need in the future and could prove crucial, even for the survival of a new venture.
- **Credit risk**. To attract new borrowers, a challenger would promise easy access to finance and would have a tendency towards loosened risk models. That could encourage unnecessary borrowing and excessive personal debt, something that could be harmful for the challenger's future.
- **Funding**. A new player would rely on proper funding for a long time. If significant events take place – for example, a new recession – investors could become reluctant to follow up and that could be fatal for the challenger, especially in the "valley of death" phase.
- **Deposits**: If consumers do not respond to the challenger's marketing activities, then the new player would have to rely almost solely on deposit aggregators such as Raisin and Deposit Solutions. Deposit Aggregators are companies that promote deposit products from all European countries to all European consumers who seek high interest rates. This would impose a risk as a deposit aggregator would turn their attention to other, more attractive markets (interest rate-wise) at any time, thus cutting off the "oxygen" of the challenger.

Technology

- **Exponential evolution**. Continuous development of technology necessitates training of the workforce since failure to stay in touch with these changes can lead to crucial delays in development, loss of critical talent and increased cost of training.

- **Old technology enhancements**. Traditional banks are benefited from upgrades in technological enhancements of their otherwise obsolete technologies.

Regulatory Environment

- **Status Quo**. Existing regulatory barriers are helping incumbent banks to maintain the status quo. Challenger banks are not equivalently equipped to overcome such obstacles.
- **Entry barriers**. In small countries like Greece where Fintech is rather immature, the rise of the challenger bank sector can put a pressure on regulatory bodies that are ill-prepared. The regulator may make it harder for new entrants to get required approvals.
- **New technologies.** The regulator may require a series of risk assessments to approve the utilization of new digital technologies that may be considered as immature, improperly tested and risky, with the cloud being on top of such concerns.
- **Government**. Any given government may stand friendly towards financial disruption and increase of competition while an election may lead to a new government with a less friendly attitude towards challengers.
- **Security and cybercrime**. Cybercrime can theoretically weaken the integrity of the whole financial system. There are concerns that many Fintechs focus too much on quick launch and they sacrifice security measures. Thus, some central banks are unwilling to welcome fintech more widely as they do not have the capacity and means to preserve cybersecurity.

Industry and Competition

- **Full banking licenses.** As laid out in Sections 5.2.5 and 5.2.6 above, apart from the four systemic banks that are obviously fully licensed by the central bank, there are four more banks with full banking licenses. Under specific preconditions, any of these banks can present itself as a potential challenger bank and it will face the threat that any of the other three could evolve into a competing fully licensed challenger. In a small market as Greece, there is doubt that more than one or maybe two challengers could coexist and thrive or even survive.
- **New full banking licenses.** Currently, the central bank is not issuing new full banking licenses. As the Greek economy stabilizes its course of growth, there is strong possibility that new licenses will be granted. In this case, competition will be much

harder, especially if the new licenses are granted to foreign entities with a strong capacity to invest.

- **Foreign fintech**. Fintechs and digital banks such as N26 and Revolut are already present in the Greek market having acquired large numbers of customers – but not necessarily of deposits. These banks have already established a standard of customer experience and they are more advanced than any new entrant.
- **GAFA.** The tech giants (Google, Apple, Facebook, Amazon and more) have always posed a potential threat to incumbent banks. They are also a threat to challengers for the same reasons – and even more because their technology is similar (but more mature and advanced) to the one of challenger banks.
- **Market share.** For all the reasons above, the potential market share of any new challenger is threatened. Any challenger may lose customers to these new entrants.
- **Physical network (branches)**. Although at a large cost, branches form a significant positive factor for traditional banks since it is proven that they attract depositors and they indirectly underline trust. This is a threat for digital-only players that want to gather large deposits.
- **Trust**. Apart from their physical presence, traditional banks – especially the older ones – are widely trusted by all consumers
- **Copycats**. The business model of any challenger could be copied and replicated by any other new entrant since the depth of the model will not be such that it would discourage a competitor.
- **Competitors utilizing new technologies.** If some competitors employ new technological developments, then they will present a threat as customers can be lost to such competitors, and this could shrink market share.
- **Loyalty platforms and reward systems**. To attract and retain customers, all four major banks have built branded reward programs, which allow customers to earn points or cash-back when making purchases at qualified retailers. Customers can also view their transactions and rewards accumulation online or via apps. Many consumers have already adopted and use these platforms and would be reluctant to abandon them for a new player.
- **Wealth of data**. Incumbent banks own a plethora of customer data to analyse using the newest technologies such as machine learning and come up with personalised marketing propositions and advanced credit scoring models – just to name a few benefits.

- **Response of incumbents.** An anticipated growth of the Fintech industry in Greece is of great concern for the incumbent banks who feel that challenger banks will soon start eating into their market share. Pressure of competition and the loss of market share pose the biggest threats to the incumbents who feel that the Fintech companies will sweep a significant percentage of their business away. Perhaps, the incumbents will be forced to forge "a work together forum", which would be an exciting development. Although Greek bankers did not participate, a report released by PwC indicates the ripple effect that Fintech start-ups have caused in the banking industry. The report was based on the opinions of 544 financial service respondents across 46 countries, providing an impact assessment of Fintech based on the results obtained. (FinTechs are growing concern for incumbent banks, collaboration is key, 2016)

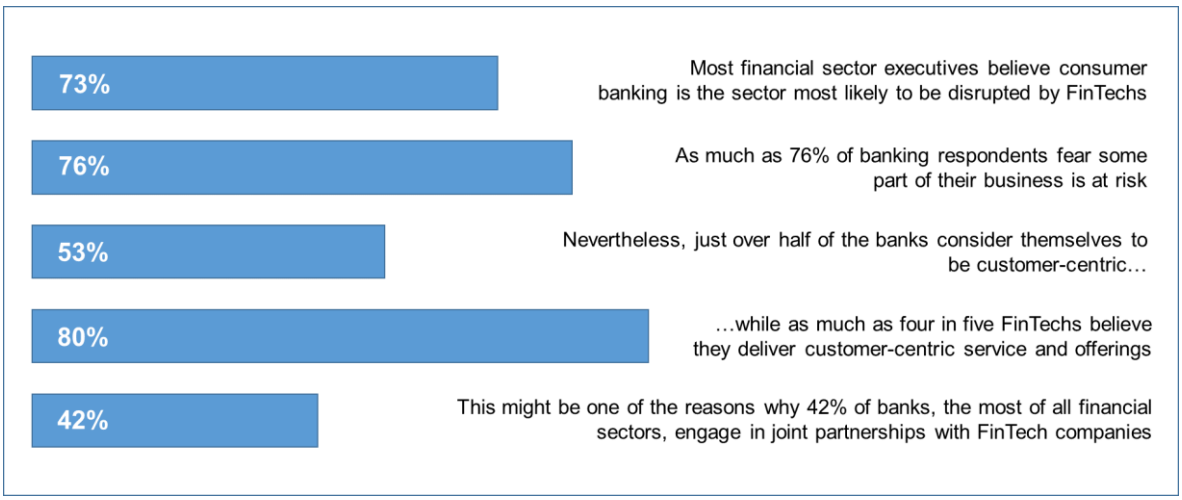

Figure 37: Highlights from the PwC Global Fintech Report 2016

A potential tech-based challenger bank is forcing the incumbents to become more alert, with some of them seemingly showing interest for developing products like the Fintech ones, marketing and selling them. The banking sector saw major changes in the way banks choose to invest their capital, with increased information technology expenditure through heavy investment in digital banking, extensive digital upgrades, innovation labs and technological alliances. High street banks are thinking of setting up start-up programs to incubate Fintech companies. Corporate venture capital is accelerating in the investment sector, as large corporations secure funds to invest in start-ups.

Technology experts advocate strategic application of emerging technologies that can have a positive impact on the bank's profitability and return on investments. It is worthy of note that most of the incumbents were still addressing the challenges caused by the

impact of the 2008-2009 financial crisis. Even before setting up proper structures that could contain the shock in the industry, digital transformation had been on its way, taking on the challenge of changing the banking industry. The European Central Bank pointed out several challenges faced by the banks including overcapacity, impact of digitization, low profitability, low interest, clean-up of balance sheets, fragmentation, Brexit process and stronger regulations. With such significant challenges in place, the number of bank branches in Greece saw a huge decline, as analysed in sub-section 5.1.4, with 863 branches shut down between 2013 and 2017.

The introduction of Fintech and digital transformation is both a relief and a challenge for the Greek financial sector. However, most of the incumbents have shown a great interest in embracing the digital transformation rather than fighting it. This has been accompanied by adoption of the new IT architectures and cutting-edge technologies such as big data, Artificial Intelligence, cloud, and biometric technologies, among others. The present effort is largely directed towards realization of digital sales, excellent customer experience and development of fresh business models in the industry. Greek incumbents embrace the small local Fintech ecosystem relying on an open innovation business.

On the other hand, if incumbent banks feel they are seriously threatened, they will consider their significant firepower. Large banks are rich in cash and can fight back by reducing prices and increasing spending on marketing. A downward pressure on pricing will cause reduced revenue to any challenger that will respond by adjusting its own prices or loss of market share if it does not. Increased spending on marketing means more advertisement (in an already cluttered space where the effectiveness of challengers' messages will be significantly reduced) and strong loyalty/rewards propositions that will discourage customers from migrating.

5.4. Business model for a potential challenger bank in Greece

In this section, we will propose a specific challenger baking model for Greece. To come up with this, we take under consideration a) the opportunities and threats derived through the analysis in Section 5.3 above and b) the business models of the most typical challenger banks of Europe and, specifically, of UK as we have studied them in the first part of this thesis.

Having completed the SWOT analysis, we can deploy the go-to-market strategy of the new challenger bank. For the rest of this analysis, we will call the potential challenger bank as **Ambient**. We will use the findings from our SWOT analysis to address how Ambient should capture opportunities by exploiting strengths, mitigate weaknesses to make the most of opportunities, monitor possibly threatening external factors while developing internal means to be prepared to respond if a threat appears and how to eliminate weaknesses to protect the venture from threats.

5.4.1. Introduction

A new challenger bank would benchmark the significant digital capabilities to identify the digital pioneers for key offerings for the new bank to analyse and adapt these capabilities in its strategy.

Furthermore and having analysed the Greek banks landscape above, it emerges that incumbent banks are behind their international peers in terms of their digital offerings although they increasingly focus on improving the experience of their customers, creating an opportunity for the new entrant.

The new bank should aim to be a bank that customers will like, and this should be materialized through better user experience, products, processes, and customer on-boarding and by creating a data-driven engine for growth.

Ambient will be a digital-first retail bank. It will gather deposits from and offer consumer loans to individual customers. Debit cards will accompany the deposit accounts to allow cash withdrawals and payments. Day-to-day banking, payments and personal finance management will be key ingredients if its service offering.

5.4.2. Target customers

As we saw in Section 5.1.5, we observe the following segments in the Greek market:

- Low Income, i.e. people with income less than €500. They are 30% of the total.
- Mass Market, people with income up to €1,500. These consumers represent 57% of the total
- Rising Affluent, people with income from €1,501 to €5,000, who represent 12% of the total

- Higher Affluent whose income is more than €5,000 and they account for 1% of the total.

Obviously and es expected, income distribution is heavily skewed towards the low-income segments.

Based on the above, Ambient will target the last three consumer segments. Targeting the Rising Affluent and Higher Affluent customers is obvious since they will be the main source of deposits, mainly term deposits. Nevertheless, the final mix of customers will include a sizeable number of Mass Market customers holding an inversely proportional amount of total deposits, practically all of it as core deposits.

Mass Market

The Mass Market segment mainly includes young consumers, also known as “Millennials”, who are digitally enabled and tech-savvy individuals. Ambient’s digital service model allows the acquisition of Mass Market customers at an exceptionally low cost.

Digital challenger banks aspire to provide financial services and products that are meant for customers who have been ignored by the traditional leaders. These new players have clear reputations and innovative capacity, while they work on low-cost models that favour the market segment that has been feeling side-lined for the longest period (Crosman, 2018).

The significant increase in internet banking and mobile banking users has been presented in Section 5.1.6. In Figure 31, we saw that the percentage of internet banking transactions rose from 19% to 33% in just 3 years. As these trends make evident, there is still a market gap, which can be exploited by challenger banks in Greece. With the large increase in digital engagement, key players in the banking industry need to gain their market share, as well as retain existing customers.

Looking at all the features of challenger banks, one is more convinced that they would aim at serving the millennials and Greek youth, people aged between 18 and 33 years. Millennials constantly rely on digital channels to give and receive information. They are extreme users of mobile phones checking their devices more than 43 times in a single day (Britton, 2015, pp. 233-234). They ask for seamless experience between traditional and digital banking, while rejecting communication through the phone. They want around the clock on-the-go customer service, personalized and tailored to their needs.

This is an opportunity for challenger banks as shown by the Millennial Disruption Index 2015, reporting that 71% of millennials would rather go to the dentist than listen to what traditional banks have to tell them (Chishti & Barberis, The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 2016). Most of them have significant financial needs, yet existing banks do not consider them as a valuable target group of customers. Millennials are thought to have boosted the number of internet users in Greece, thereby creating an enabling platform for challenger banks to deliver their services.

In 2017, the number of active mobile banking users exceeded 1 million for the first time, which has largely been accredited to an increase in younger users, who are also the most profound users of mobile technologies and the internet (Lee & Shin, 2018).

For the young people in Greece, digital on-boarding, account aggregation, tailor-made user experience, electronic funds transfer, and loan origination are some of the matters that need to be addressed. The millennial market in Greece has similar characteristics to those of other millennial markets in other European countries like the United Kingdom. Half of the millennials in Europe have consistently been using banking apps, while over 51% of UK millennials think Open Banking is a good idea as it will help them budget better (Lee & Shin, 2018).

Based on the above and the analysis in Section 4.7.1, we can safely say that the challenger banking model for Greece should aim to serve the marginalized market segment, as well as the upcoming tech-savvy generation, that relies on the internet and mobile technologies (Mohan, How banks and FinTech startups are partnering for faster innovation, 2016). Ambient's performance marketing in social media will allow for viral, word-of-mouth, low cost marketing, especially among these digitally savvy, younger Mass Market customers.

Rising Affluent

The Rising Affluent customers are a sizeable market segment, combining previously Mass Market or Higher Affluent customers, with some wealth.

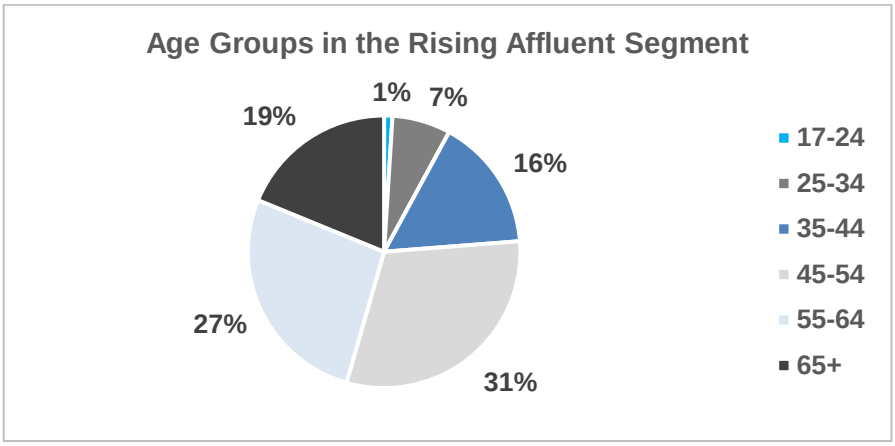

Figure 38: Age groups in the Rising Affluent segment (Source: DiaNEOsis 2017)

They are in the middle or older ages since, as we can see in **Error! Reference source not found.**, 47% of this segment are between 35 and 54 years old. They have a medium to high income/wealth and they are very well educated (**Error! Reference source not found.**) compared to the Mass Market segment.

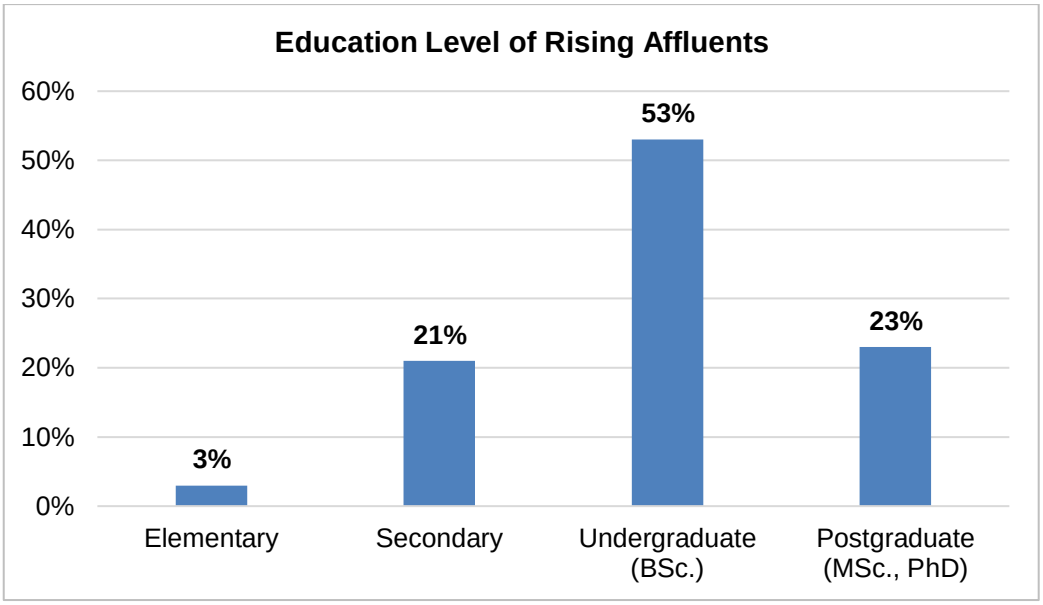

Figure 39: Education levels of the Rising Affluent population (Source: DiaNEOsis 2017)

They are financially sophisticated and with a tendency to explore more, they are financially self-aware and independent. They are the most digital-savvy segment (**Error! Reference source not found.**), familiar with transacting online while also asking for human interaction through relationship managers.

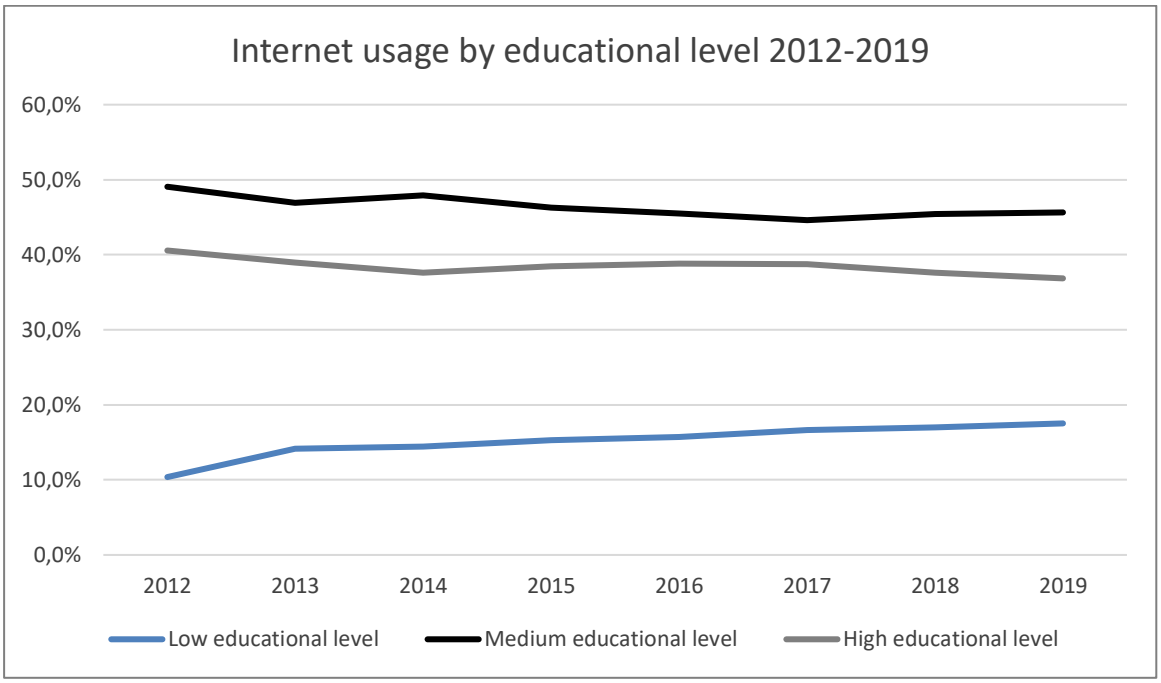

Figure 40: Regular internet users per education level (Use of Information and Communication Technologies by households and individuals (ICT), χ.χ.)

These are the customers where Ambient's product sophistication will be applied, for example with personalized, customizable term deposits. The final mix of customers will have many Rising Affluent customers holding the largest amount of deposits, spread between core and term.

Higher Affluent

This is the smallest segment in the market; however, they possess material wealth. They are older than the Rising Affluent ones, with a high income, particularly good financial sophistication, and medium digital maturity. They would currently prefer private physical service through a specialized, dedicated relationship manager but are more and more keen in catching up with digital. Ambient will attract them with favorable terms and will educate them to gradually use its digital offering. The final mix of customers will have a small number of affluent customers holding a sizeable amount of deposits, most of which will be term deposits since these customers consider term deposits as an investment product.

Products per Customer Segment

Based on the above analysis of customer segments, we come up with a distribution of products per customer segment based on how receptive each segment will be based on their financial needs, as shown in **Error! Reference source not found.**.

Core products	Mass Market	Rising Affluent	Higher Affluent
Current accounts	****	*	
Term deposits	**	***	***
Consumer loans	****	*	
Car loans	*	***	*

Table 12: Product targeting per customer segment

5.4.3. Value proposition and service model

To differentiate its digital offering, Ambient should focus on delivering unique digital banking experiences in the Greek market leveraging on best of breed offerings, as

emerged from the benchmark, such as N26 for its rapid customer onboarding, Monzo for its end-to-end unified user interface and user experience (UX), N26 for its card management UX and its gamification capabilities, Starling for its advanced digital marketplace offering and the rest of challengers for various attractive features. Ambient will also be inspired from challengers with hybrid models (physical and digital), such as mBank for its enhanced lending propositions and Metrobank for its comprehensive list of loan offerings in its digitally enhanced environment.

The business model should focus on digitally powered customer experience to optimize customer onboarding, deposit account opening and management, online lending, and day-to-day banking. Greece needs a different bank, one that is modern and digitized, intended to maintain core banking services, while improving customer relationships, modifying current business models and leveraging technology to promote growth (Krishnakumar, 2018).

Based on the above, the value proposition of Ambient is analyzed in the following four pillars:

Optimized user experience

- Address real customer needs and solve customers' pain points
- Real omni-channel capabilities: mobile, online, and physical
- Customer journey oriented; not product silos driven
- Great brand and communication experience

Optimized product offering

- Simple product offering, with comprehensible terms and wording
- Easy pricing scheme, with no hidden fees
- No small print and no jargon in terms and conditions
- Small range of products that will not confuse customers

Optimized processes

- 24x7x365 experience
- Minimal waiting time for applications to be approved
- No bureaucracy
- Proactive to anticipate and accommodate customer needs

Optimized customer on-boarding

- Frictionless experience to purchase products

- Easy card issuing process
- Easy credit line activation

The bank should create value for its customers by implementing three values to its service philosophy: unique proposition, customer advocacy and mobile moments.

Unique proposition. The new bank will present a unique profile of freshness, modernity, and innovation to its potential customers. It will be a contemporary bank, distinctive among its peers, it will emphasize on exemplary customer service, on speed of fulfilling customers' requests, it will underline flexibility towards customer satisfaction and it will pay special attention on product/service personalization.

Customer advocacy. The meaning of customer advocacy is taking customer's part instead the bank's part. Guiding the customer towards a solution that is more beneficial for the customer and less for the organization. It is the essence of loyalty. To fully implement advocacy, there should not be any hidden fees and any fine print. Pricing schemes should be easy to grasp and remember. Language used should be simple and contracts easy to understand with less banking jargon in terms and conditions. The utmost level of customer advocacy could be offering customers a service level agreement that would promise minimum service levels and a compensation to the customer when not meeting these levels.

Mobile moments. Digitization will be observable throughout the customer's financial life and it will be mainly based on "mobile moments", i.e. a plethora of services provided to the customer via his/her smartphone and through the mobile banking offering. Mobile moments include "physical" operations and transactions by the customer, for example payments at retail outlets.

Traditional banks are structured around product units and silos. This approach misses the mark on many opportunities. Instead of organizing around product silos, Ambient will offer a state-of-the-art customer experience by organizing around customer journeys which makes banking simpler and easier to trust while offering the bank business development prospects. Cases of missed opportunities are:

- Every customer should be viewed in a holistic way. While the bank provides real value to the customer, opportunities for upselling and cross-selling should be created. For example, when a bank focuses on just selling a car loan, it may miss the opportunity of

cross selling a car insurance product. By designing the journey “customer purchases car”, all value-adding elements and opportunities will be revealed.

- When a customer uses a banking product, there are “moments of truth” that define the total experience of the customer when using the product. Moments of truth are just steps of the different customer journeys that involve the specific product. By not designing the journey, these steps will not be recognized and, thus, they will not be optimized. Moments of truth are important because they greatly influence customer’s loyalty and brand advocacy. For example, using a credit card abroad is a moment of truth since the card could be locked for transactions abroad and it would lead to a negative experience.

5.4.4. Product offering

Challenger banks in Europe are looking at Fintech developments, which define to a great extent the very nature of products and services that the banks offer to the market. The definition of Fintech involves financial innovation that can result into new applications and processes and even new products that have a material effect on meeting the demands of consumers in the financial market. Fintech has gained popularity in recent years because of innovation, fitting within existing regulatory frameworks and disruption, which demands development of new rules. The Fintech industry also supports innovative products and business projects that are realized in different sectors (Chishti & Barberis, The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries, 2016).

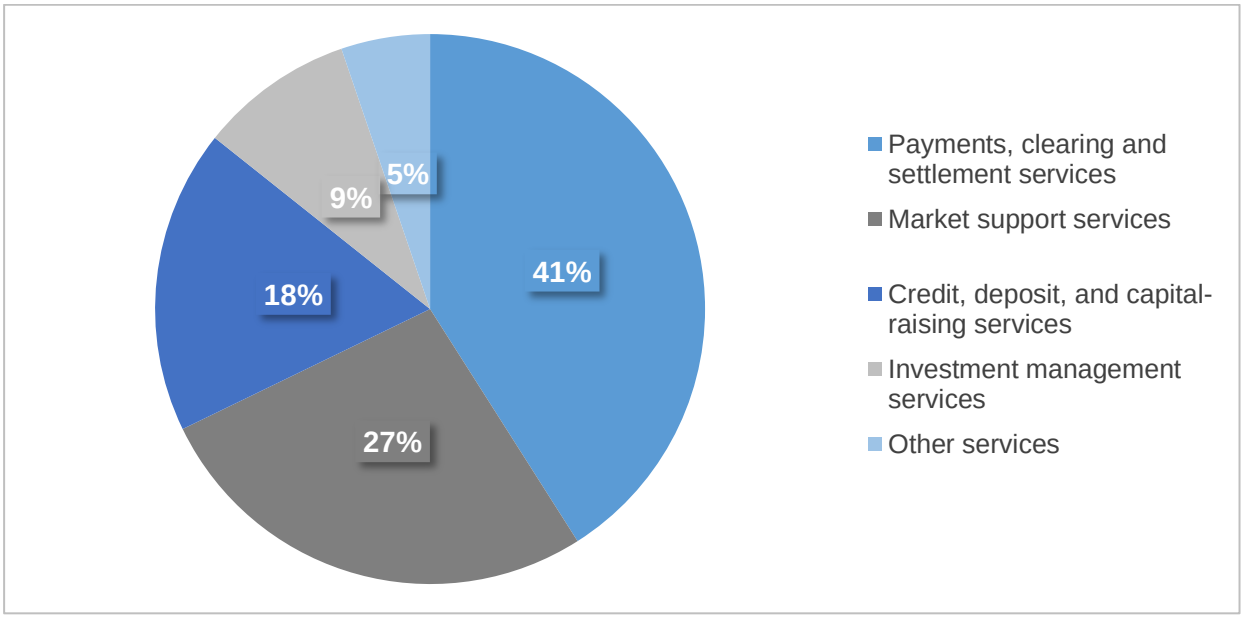

Figure 41: Categories of Fintech service providers, BCBS Survey

Based on the BCBS survey (BIS, 2018), "Respondents reported that the highest number of fintech service providers are in the payments, clearing and settlement category, followed by credit, deposit and capital-raising services. Within the payments, clearing and settlement category, retail payment services firms represented the majority of fintech firms identified, as compared with wholesale payment services providers. The number of market support servicers, meaning companies that provide support for fintech financial services, was second only to payments, clearing and settlement services in the number of players identified".

The need for innovative and technological solutions that can have a disruptive effect on the banking industry becomes evident. With that in mind, in this section we layout deposit accounts, debit cards and consumer loans, the main product lines of Ambient.

Optimized product offering through digital product strategy

All new products of a digital-first bank should be digital-first themselves. Ambient's product strategy should involve the following essential features that will enable it to exploit the slow-moving competition and the lack of digital products in the market.

- Small range of products and a few simple characteristics in each product, so that they are easy to understand and easy to choose and so that customers are not confused with meaningless options
- For each product, just a few features, the ones that customers will use

- Competitive interest rates and fees, something that is feasible because of the low-cost operating model
- Easy to grasp pricing scheme, with no hidden fees
- Full transparency regarding terms and conditions. As mentioned in Section 5.4.3, terms and conditions should be simple, with comprehensible wording, without banking jargon and with no small print.
- Simple, clean digital statements and customized reports on financial activity
- Full digital integration. Products must be customizable by customers using digital tools such as “wizards” and calculators that allow customer to fully understand what they are purchasing
- User interfaces that advance user experience when using products online
- As will be described in sub-section 0, omni-channel is of paramount importance as, in this way, the customer will experience a consistent brand across all channels and he/she will not be referred among several departments, as it is in a typical silo-based, traditional banking organization.
- Viewing accounts online is the most common use of digital banking and therefore account aggregation is an important feature, feasible through PSD2 APIs.
- A series of additional, customer experience-enhancing, loyalty-oriented features such as online investments including cryptocurrencies, cashless Payments, virtual debit card, real-time analytics and financial planning, real-time suggestions, alerts via mobile banking, e.g. payment reminders, instant payments to friends and contacts, cashback service, low or no fees for use of cards abroad, instant freeze/unfreeze of account online and notifications regarding upcoming installments of consumer loans.

The optimized product offering will be further achieved through outsourcing, partnerships, alliances, and aggregation. PSD2-driven APIs allow for connections with digital partners and other banks.

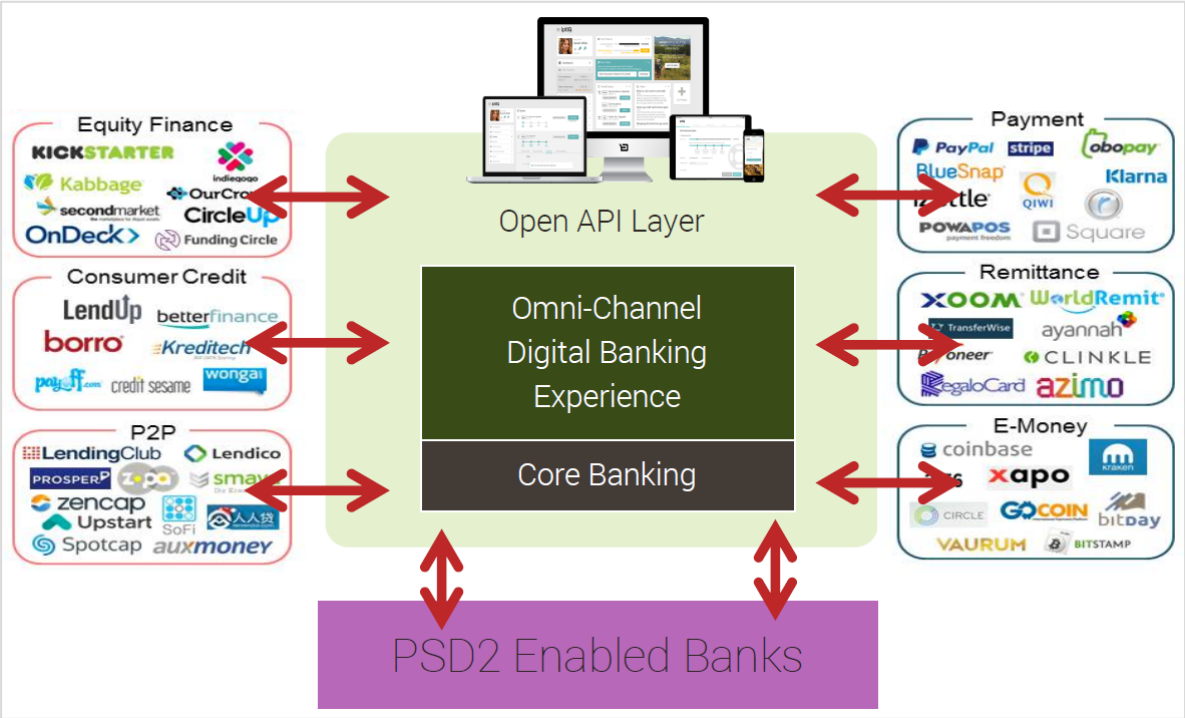

Figure 42: Connecting to 3rd-parties through APIs (Backbase, 2017)

Customer onboarding

The most important process to be designed and digitized is customer onboarding since this is mandatory to remove barriers of entry for customers and ease bank switching. Before acquiring products, a consumer will be able to become a customer of the bank using the digital onboarding process offered. Because the bank will be digital-first and, more specifically, mobile-first, the consumer's smartphone is the only device that the consumers uses to open an account.

The user enters his/her personal data and validates the ownership of the entered email address and of the specific smartphone device and telephone number. The first critical step is receiving the consumer's identification document, usually a passport or a national id, which is scanned (photographed) by the user via the smartphone's camera. Then, the user will have to also scan an additional document to prove his/her postal mailing address. It is important for this step to be avoided if the regulator (Bank of Greece) allows since every step of the process reduces the conversion rate up to 40% (Optimizely, 2019).

The last, most important, and most difficult task is for the user to prove that he/she is the one that applies, and this requires retrieval of the customer's biometric data. Originally, the most popular method was a video session during which the user authorizes the call

center agent to take a picture of his/her face. Recently, the most popular method is the "selfie" where the user takes a picture of him/herself. There are other elements in the process, aiming to improve the total security as well as anti-money laundering requirements.

Finally, an AI-based algorithm compares the picture on the identification document with the picture of the user, compares the biometric characteristics of both pictures and decides whether it is the same person or not.

After onboarding, the customer will be able to open an account online, in real time and/or apply for a consumer loan. By default, a debit card will be mailed to the customer's postal address.

Deposits

Regarding deposits, and for the product offering to be simple, Ambient's deposits products will be simple, easy to understand and easy to select: one savings account product and one term deposit product with variable tenure. Apart from being easier for customers to understand, such a product offering will also allow for a faster time-to-market. The main characteristics of the two products will be based on precise market insights and design thinking.

An optimized product offering includes an optimal pricing model. For a new entrant, interest rates should be highly attractive, for example the rate of the savings account – although it will be a sight account, meaning that the customer will be able to withdraw any amount at any time – should match the average rate of term deposits at traditional banks (where the customer cannot withdraw any amount before the end of the term without sacrificing the interest born). For Ambient, this is highly feasible because of the much lower operating cost.

If we analyse deposits of Greek households, we can come up with the following stratification of account based on their average balances.

Household Deposits	% of total accounts	Deposits in segment (€m)	% of total segment
0 – €2K	84.1%	4,287	4%
€2K – €10K	9.1%	12,565	12%

€10K – €50K	5.3%	34,523	34%
€50K – €100K	1.0%	20,938	21%
€100K+	0.5%	28,486	28%
Total	**100%**	**100,800**	**100%**

Table 13: Average deposit balances in Greece: distribution in 2017(Source: Hellenic Banks Association, Bank of Greece data)

Obviously, a new player like Ambient, lacking the trust that incumbent banks have, will aim to serve customer of the first two segments and gradually start to attract customers with higher balances in their accounts. The digital operating model provides a low cost to serve and it allows a bank like Ambient to serve large numbers of customers even if they seem as not as profitable at first glance.

More specifically and based on the experience of challenger banks in Europe, their customers use these mobile-first banks for their day-to-day banking only, something logical since these accounts do not bear interest. This requires for their monthly salaries to be credited to the deposit account. This is also the reason that the average balance of those accounts is extremely low, compared to that of customers of incumbent banks, as seen in Table 14. Practically, accounts of challenger banks in Europe fall into the first two segments show in Table 13: Average deposit balances in Greece: distribution in 2017(Source: Hellenic Banks Association, Bank of Greece data)

, above.

Bank	Customers (mn.)	Loans (mn.)	Deposits (mn.)
Monzo	4	$20	$568
N26	5	$224	$453
Revolut	10	N/A	N/A
Nubank	15	$1,566	$585
Barclays (UK only)	15	$340,000	$253,000

Table 14: Customers, deposits and loans of challenger banks (Detrixhe, 2020)

Having that in mind, Ambient will launch its account along with facilities to allow customers to switch their payroll accounts easily and conveniently from their traditional bank. The significant interest rate will tempt customers to transfer additional funds from their banks to exploit the significantly better pricing.

Current Account Characteristics. The current account of Ambient will have the following characteristics:

- Cash deposits & withdrawals at lower fees than incumbents
- Money transfers, domestic and international, bill payments and standing orders, all at more competitive rates than incumbents
- Free incoming remittances
- Overdraft option for an annual fee
- Issuance of cheque book option
- Travel insurance
- Physical and virtual debit card
- Consumer financing
- Transfers with privileged rates abroad
- Insurance programs participation
- Instant cash service
- Investment option through 3rd parties
- Participation in insurance programs through 3rd parties

Term Deposit Characteristics. Term deposits should be targeted mainly to the Rising Affluent and the Higher Affluent segments.

- High returns with tiered interest rates based on amount and duration
- Many options regarding duration
- Option of premature withdrawal without penalty
- Rewards program
- Easy liquidation via digital banking and the contact center
- Option to add beneficiaries (individuals) without requiring closing the existing account and the opening of a new one
- No maintenance fees

As mentioned above, terms and conditions of deposit products should be clear and without small letters and hidden fees. Interest rates should be straightforward, easy to understand and remember. Language used should be simple and comprehensible.

Debit cards

The debit card is a straightforward product. Actually, it is more of a service than of a product as it allow its owner to withdraw funds from accounts (for example, via ATMs) and to make payments, both at physical locations (via EFT/POS terminals) and online.

According to Kathimerini newspaper (Tzortzi, 2016), debit cards are important as card transactions in Greece have soared since the imposition of capital controls in 2015, according to European Central Bank data. Transactions conducted by credit or debit cards amounted to 5% of GDP in 2015, while two years later they jumped to 12.1%, approaching the average Eurozone rate of 14.8%. This change is attributed to the adjustments Greek consumers were forced to make as an answer to the extraordinary conditions created by capital controls imposed by the government two and half years ago. The use of debit cards hit record levels, which is a positive indicator of improved online transactions in everyday life. Capital controls encouraged consumers to use their cards to make even small purchases, a practice that has really changed the landscape positively for financial technology.

The convincing performance of the Greek services market is an indication of an improved business environment that can support card transactions and other services provided through financial technology. Card transactions hosted by most challenger banks are more secure and trusted than other online transactions that are more susceptible to cybercriminals (D'Alvia, 2017). Increased cases of digital identity theft have made financial fraud a challenging issue in the course of embracing financial technology in the financial market. Perhaps, this is just a fraction of the many challenges that can either discourage or encourage the Greek market to embrace financial technology, or reject it based on security concerns. Sound innovation should be invested in card transactions to ascertain that risks are managed, by taking all security measures and precautions.

Banks in Greece are now going the UK way and promoting contactless card payments for transactions up to 25 euros as well as payments via smartphones (Pimentel & De Sousa, 2017). Contactless smart cards seem to gain significant ground against contact smart cards and non-smart cards.

Ambient will follow and further enhance the challenger banks' paradigm by making its debit card an integral part of its offering. Such a lighthouse challenger bank is Starling Bank in UK.

Notably, Starling Bank claimed vertical debit cards, reflecting the way consumers use them. Starling Bank though, is a rather unique case of a challenger bank issuing debit cards (Mavadiya, 2018). The vertical design adopted by Starling Bank changes the way customers slot their debit cards into an ATM or a card machine and places all customer and plastic details on the back (Baratta, 2016).

The challenger bank's art director Mark Day explained that “debit cards had been redesigned to align closer to Starling's banking app and had been streamlined so that all the relevant information was on the back of the card” (Mavadiya, 2018). The new card has attracted the attention of many customers across Europe and the United Kingdom in specific (Bunea, Kogan, & Stolin, 2016). This new unique experience includes contactless payment, while the new card has a signature strip as well but does not have the sort code or the account number, which used to appear on the debit card before. Gaining access to the details of the card, requires the card holder to use the app on his smart phone in combination with his or her credentials. Starling stood out as a disruptor when it launched the first joint account with a fully mobile application process, that can be set up in minutes without a branch visit. This innovative product also offers real-time notifications and spending insights (Mavadiya, 2018), while offering multiple payment methods realized via Android Pay, Fitbit Pay and Apple Pay among others, providing a brand new user experience.

Most importantly, no unauthorized overdraft fees are charged on debit card purchases, while the interest is earned on customer’s current account. The app grants access to various financial products, including insurance and pension plans. Starling is in the group of burgeoning challenger banks with the aim of simplifying management of personal finances as well as providing engagement-facilitating technology. However, the case of Starling does not absolutely reflect the features of Fintech Stat-ups, as most of them prefer internet services that are vested in the mobile app technologies, rather than making use of the cards themselves. Nevertheless, the innovation of using new cards by Starling not only does not exclude it as a challenger bank but acts as a very important extension on the several key features of the challengers (Scardovi, 2017).

The thought of debit cards being utilized by some of the challenger banks has raised the question of what impact such transactions have on the financial plan. Starling Bank simply put forward the idea that debit cards can be used in smart ways by the Fintech industry,

especially considering how they thrived through the capital controls. Capital controls are simply restrictions asserted for cross-border trade (Górka, 2016).

Consumer loans

Various types of consumer loans will be provided with a specific focus on car loans.

- **Overdraft**. As mentioned above, current accounts will offer the option of an overdraft which serves as a means of facilitating customers' everyday transactions
- **Student Loans**. Student facility loans, issued to the young part of the Mass Market customers for undergraduate or graduate studies, along with a special debit card for their everyday needs; participation in the rewards program, discounts for specific purchases, option to start repaying the loan by the end of studies
- **Personal Loan**. A personal loan tailored to the customer's personal needs and for any reason the loan will be used for
- **Car/Motor Loan**. A special personal loan for car/ motor purchase. The loan origination can be either online by the customer or during the car purchase by the car dealer.

According to BoG (Bank of Greece, 2017), three main drivers have been identified, with regards to demand for retail loans.

Consumer expenditure. It has been positively correlated with disposable income and as such both have decreased heavily during the period from 2009 to 2015. As the economy grows, lending demand is expected to increase further in the medium term. In fact, based on the survey, respondents replied that demand for retail lending has increased/is going to increase at an extent (0,5 score out of 1) for both last two quarters (Q3 & Q4) of 2017.

Consumer confidence. It has been stabilized from Q3 2015 (record low) onwards. In fact, Consumer Confidence Index (CCI) which expresses households' plans for spending and their financial situation, both currently and for the immediate future, has been improved significantly during H2 2017 affecting positively domestic demand on retail lending.

Interest rates. Although a less important factor for lending demand according to the survey, consumer loan rates are still high and discouraging.

These observations set the ground for a potentially fruitful activity in the consumer lending area. Ambient will fully utilize its digital channels to simplify selling simple, straightforward loans to its customers.

To further focus its efforts on a specific market, Ambient will become a niche expert in car loans. The car loan market is expected to surge in the years to come as, during the crisis, people did not replace their vehicles and, as cars grow old, this means increased cost of maintenance and decreased pleasure for their owners. In fact, the average age of the carpool in Greece is about 15.7 years, much higher than the EU average of 10.8 years. (Statista, n.d.)

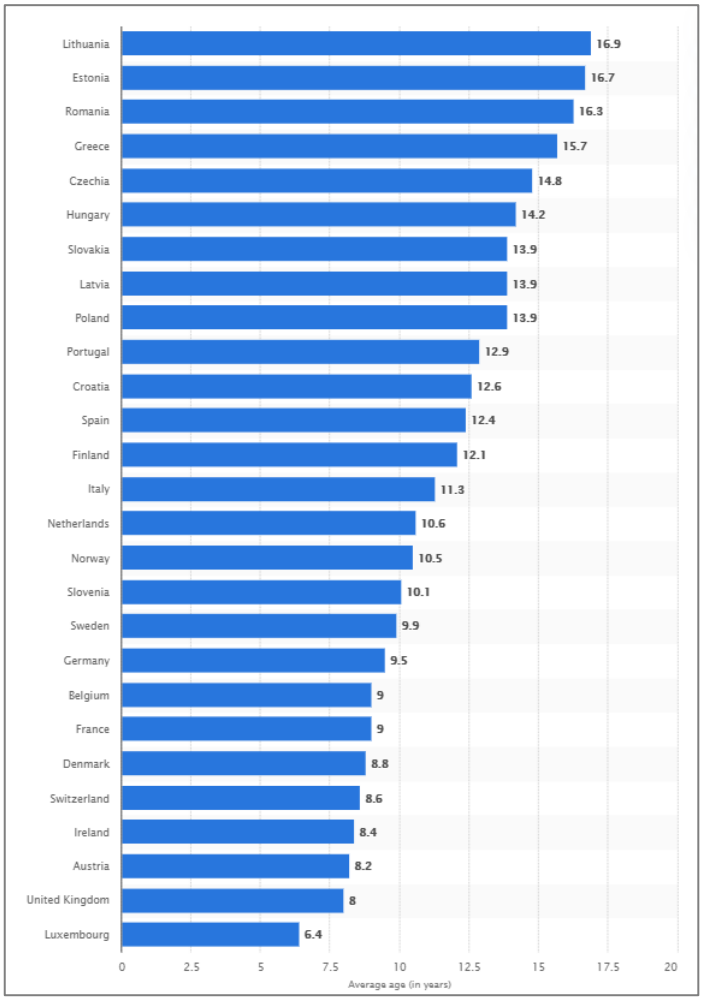

Figure 43: Average age of passenger cars in Europe, 2018

According to data from Hellas Stat, there has been a constant and significant increase in new and used car registrations in Greece from 2012 onwards.

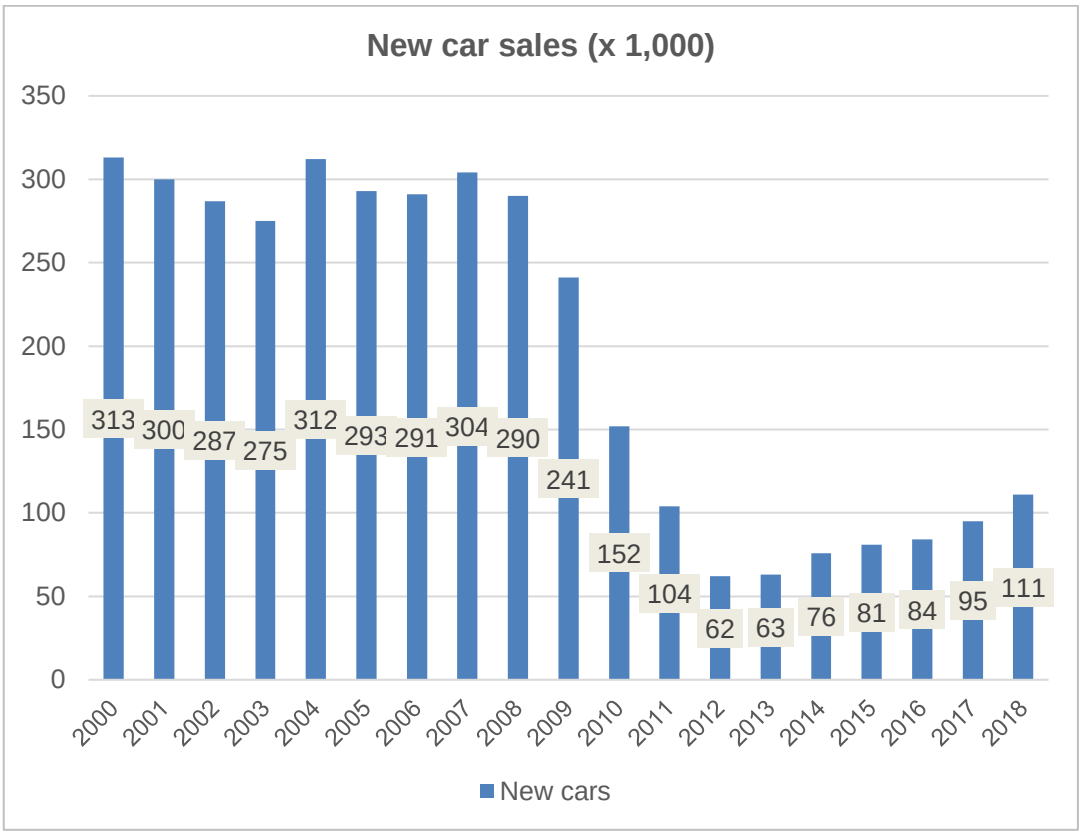

Figure 44: Car sales (new cars only) (Source: Oxford Economics; Hellenic Association of Motor Vehicle Importers-Representatives)

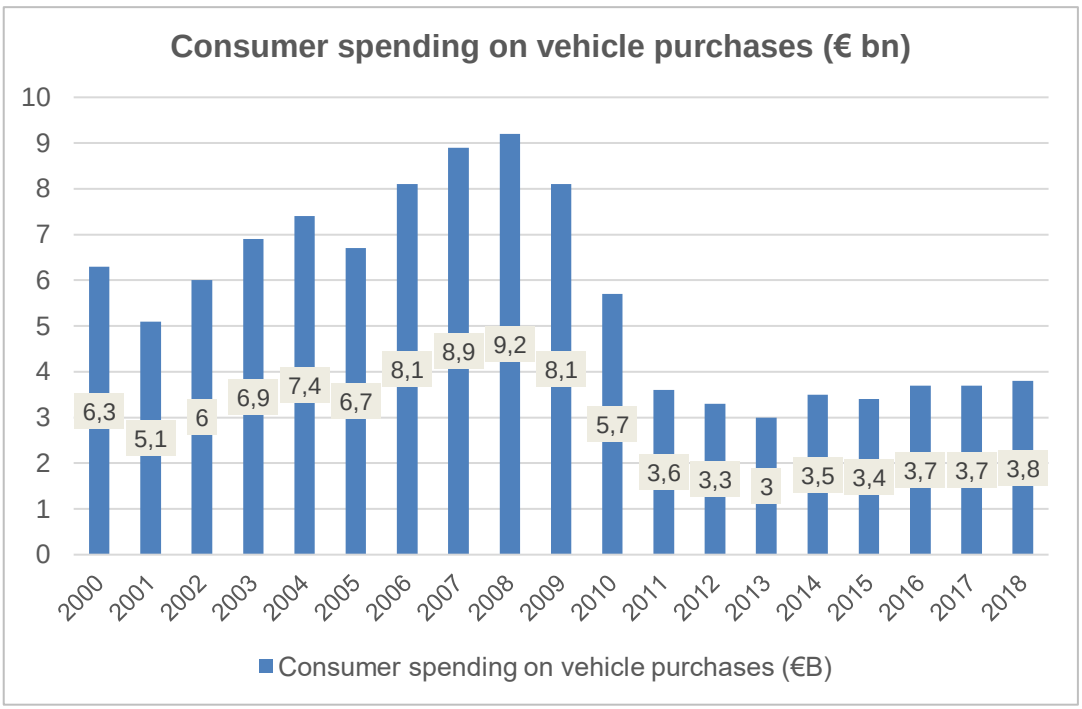

Figure 45: Consumer spending on vehicle purchases (Source: Oxford Economics; Hellenic Association of Motor Vehicle Importers-Representatives)

The data presented above clearly show that there is a strong opportunity for car lending in Greece. Finally, car loans are interesting from a financial point of view too, as they offer a significant margin while also having a cost of risk much lower than the rest of consumer loans.

Loan origination will be fully digital, and it will be offered both to the potential buyer directly and to the car dealer indirectly, via a dedicated portal. Advanced credit risk models will be employed, and this will facilitate the rapid evaluation and fulfillment of applications. Car dealers will also be offered the ability to onboard digitally and become partners, something that will further increase business development since the network of car dealer partners can quickly expand.

5.4.5. Channels and digital strategy

Most of the digital banking or Fintech start-ups have progressively gained traction in the market in recent years. This has been due to the retail banking services these start-ups have been offering to clients in the market, posing a serious challenge to the traditional incumbent business. The Challenger landscape is particularly diverse with most Fintech start-ups attempting to streamline operations, creating project plans to focus product development, and narrowing down business ideas. This ensures that challenger banks remain one step ahead of the incumbents by fostering smarter vertical solutions that help them prioritize customer needs (Mirsch, Lehrer, & Jung, 2016).

Ambient will offer a unique marketing proposition which will be mainly based on fintech and digital banking and it will develop continuously enabling a substantial differentiation from the traditional banks.

State-of-the-art customer experience

- Mobile first
- Omni-channel, single view of the customer, with consistent branding and uniform service across all channels
- Context-aware experience, as defined by geo-location, time of day, seasonality and more
- Easy customer onboarding to eliminate barriers to entry and make switching banks easy
- Emphasis on excellent customer support via channels such as call center, chat etc.

- Use technology such as fingerprint scanning, face recognition, voice recognition to make transactions easier and offer increased security that will further enhance people's trust in digital channels.

Customer journeys, not product silos

- Viewing the customer as a whole and providing real value to the customer while at the same time creating opportunities for upselling and cross-selling (e.g. supporting the acquisition of a new car, upselling car insurance, providing alternative car financing options, combining the financing with a gas-based loyalty discount)
- Optimize customer service on steps of the journey which are critical for the customer (moments of truth) and greatly influence their loyalty and brand advocacy
- Support meaningful journeys which are not immediately linked to bank services, such as switching jobs or sending a child to college to engage the client and generate upselling opportunities

Extrovert banking

- Ambient's banking brand will utilize and be part of all digital platforms to meet customers in their natural environment
- Banking will no longer be performed in a self-contained environment like the e-banking website or the mobile banking app
- New touchpoints, either for transacting or for support, in platforms such as voice speakers and assistants (Alexa and Google Home), 3rd party wallets (Apple Pay, Google Pay) and messaging platforms (Viber, Facebook messenger, Whatsapp, Instagram etc.)

Simpler and trusty banking

- Create ourg products that match people's mental models and heuristics
- Hide complexity of banking products with predictive algorithms
- No small letters and hidden fees
- Easy-to-grasp and remember pricing schemes
- Easy-to-understand contracts

Expansive definition of banking

- Provide financial planning tools and advisory services (such as PFM, robo-advisory etc.) that can answer broader, customer-centric pain points such as: "Will my money

be enough to pay all my bills by the end of the month?"; "How will I be able to remember to fulfill all my financial obligations and not miss/forget something?"; "How can I save some money for a rainy day?"; "How can I change my behavior in order to make more rational and sound financial decisions?"

Data & Analytics

Providing customized, everyday banking services in a world of big data will require Ambient to develop integrated competencies within its core banking processes to:

- Collect all data related to communication with customers, for example recordings of contact center discussions and email messages
- Integrate the tremendous volume of external data, for example social media interactions
- Develop customer trust by showing that sufficient measures are in place to guard confidential customer data. Many bank customers consider security as the most significant obstacle towards a wider acceptance of personalization services
- Use analytics to identify customer micro-segments and to provide more personalized products and services – preferably in real-time – to amplify the benefit of temporary customer-related data, for example, location.
- Develop a data-driven platform for a continuous, detailed review of customer behavior
- Target customers in an accurate, non-intrusive way and through the appropriate channel and medium by utilizing state-of-the-art cross selling tools to promote custom built offerings and to trigger retention actions. Such a marketing approach combined with a hassle-free experience at all touchpoints, works towards customer retention and gradually makes the bank the "center of the customer's financial life".

These capabilities will enable Ambient to offer a strong, intimate customer experience that turns the bank from a usual financial products provider to the "center of the financial life" of the customer.

Digital-first and mobile-first

Ambient will emphasize on mobile banking. It will be a digital-first and, more specifically, a mobile-first bank. Design thinking will be used as the philosophy behind the design of the digital offering. During customer journey mapping, digital touchpoints will be identified, and digital experiences will be injected. User experience will be thoroughly designed from scratch and a scrutinized detailed design will lead to the agile development of a top-notch

mobile platform. All web-based services will be responsively designed and the whole offering will be continuously tested by future potential end users.

Digital customer onboarding and user authentication through biometrics will be part of the minimum viable product. Real-time person-to-person payments and real-time card blocking/unblocking will be integral functions of the final offering.

Continuous innovation, made feasible through modern core banking and digital experience platforms will allow for rapid addition of new functionality such as account aggregation through PSD2 APIs, gamification, loyalty/rewards, QR- and NFC-based payments, cardless ATM withdrawals and more.

Physical presence

Being a digital bank, Ambient will not have a physical presence. Initially, a cooperation with a retailer will be assessed to establish a deposits collection channel. Without a physical channel, customers can only transfer funds from their accounts with other banks. This way, customers will be able to visit a store and give the retailer cash that will be credited to the customer's account via the retailer's EFT/POS terminal. Later, Ambient will create a few flagship branches that will underline the bank's brand and promote its innovative business model and digital offering.

Regarding ATMs, Ambient's customers will be able to use the existing, country-wide ATM network of other banks through their debit cards. Since these withdrawals will be "not-on-us" for the bank, their cost has to be absorbed by the bank up to a number of transactions that constitutes the "fair use of ATM withdrawals".

Contact Centre

Ambient will establish a customer contact center to enable sales to new customers and also to provide banking services to existing customers. The contact centre will provide the following services to its customers:

- Seamlessly welcome new and existing customers (single interface and CRM)
- Explain differentiation and value proposition of Ambient
- Address customer concerns and general questions
- Sell Ambient's values and customer promises
- Setup new deposit accounts
- Advisory services on range of retail and commercial products offered

- Collect retail deposits
- Complete consumer loan applications
- Register car dealers as car lending partners
- Record customer complaints
- Provide support for web site and mobile app
- Conduct outbound sales calls and customer service questions

Contact centre employees will also be responsible for few, specific outbound calls, for example to measure customer experience and to promote new products and services.

The omni-channel experience

Based on experience and numerous gaps in the traditional market, challenger banks opted to adopt the so called omni-channel digital approach. Nearly all consumers in the market want to have a seamless omni-channel experience. Most bankers would agree that omni-channel orchestration is extremely important and most of the banks, both traditional incumbents and Fintech start-ups, are still exploring, experimenting and deploying each phase of the omni-channel strategy (Osterwalder & Pigneur, 2010). Omni-channel strategy has attracted the attention of challenger banks, as it fosters the cross-channel content strategy already used by most organizations to optimize user experience, by using all offered devices and channels to connect and engage with customers in an adaptable and exclusive way.

The omni-channel experience is a requisite measure that challenger banks ought to put into consideration, as customers expect seamless operations across every touch point and desire a similar experience across all channels. Most of them would want to move from user experiences that are not customer-centred to a mobile-first design meant for retail customers, as well as a desktop-first design addressed to corporate customers (Patel & McCarthy, 2000). Customers in the digital era want to move from disparate digital services that are developed over time to an omni-channel that provides a single view of the customer, realized on any channel (Rogers, 2016). They also want a shift from legacy core banking systems with inconsistent experiences to a context-aware experience, as well as a friendly customer onboarding process that makes switching banks easy. Finally, customers want to move from flawed handoffs to seamless customer support, realized through channels like chats and call centres.

Characteristic	Multi-channel	Cross-channel	Omni-channel
Path of Product/Service/ Information Delivery	Channels	Channels and touchpoints	Channels and touchpoints
Integration	No switching between channels possible	Switching between certain channels and touchpoints possible	Seamless switching among all channels and touchpoints possible
Management	Separated by channel	By channel or connected channels and touchpoints	Across all channels and touchpoints
Goals	By channel	By channel or connected channels and touchpoints	Across all channels and touchpoints
Interaction	Two-way	Any type	Any type
Data	Data are not shared across channels	Data are partially shared across channels	Data are partially shared across channels

Table 15: Characteristics of the channel management approach

The omni-channel approach also ensures scalability and integration of a seamless banking experience, including data sharing, consistent product information and a unique brand image. Omni-channel management is seen as the synergetic management of touch points in a way that optimizes overall performance and provides excellent customer experience regardless of the channel (Barisitz, 2008). All touch points and channels are managed as a single unit, which ensures that customers enjoy every touch point experience the same and positively embrace the brand as a whole (Drechsler, Savov, & Schnabl, 2018).

Customers have the freedom to pick the channel that better meets their preferences, as every available channel fits different situations or has certain constraints regarding the services provided by the bank. For instance, a consumer's attention can be drawn by a financial product advertised on a poster that includes a URL and he/she may choose to explore the product through this website but there is a chance that the purchase is not eventually completed. Later, when the same customer is at the office, he/she decides to open the mobile app of the bank. The app allows the consumer to complete the purchase and specifies the completion process. Therefore, omni-channel ensures that a consumer

can switch channels with no interference on the final purchase. It is also important to note that omni-channel is essentially empowered by data integration and thus can avail new data through both mobile and social channels (Cortet, Rijks, & Nijland, 2016).

In Figure 46 below, we can see an example of an omni-channel customer journey to be implemented by Ambient for its customers that search for a car and apply for a car loan.

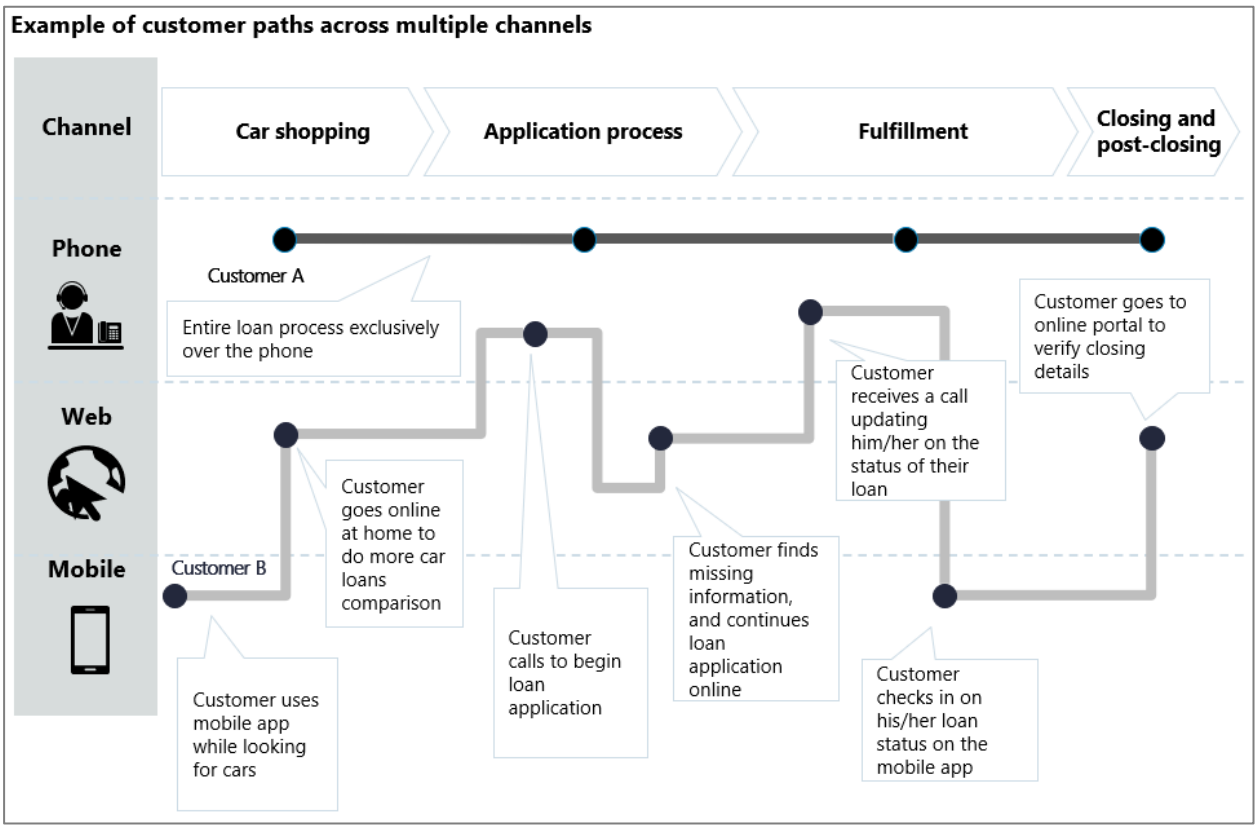

Figure 46: Two example customer journeys to purchase a car loan (Source: Ambient)

Customers expect seamless experiences at all touchpoints. Ambient's omnichannel experience should be based on a mobile-first design, an omni-channel, single view of the customer, consistent branding across all channels, customer case management in any channel, context-aware experience, as defined by geo-location, time of day, seasonality etc., easy customer onboarding to eliminate barriers to entry and make switching banks easy and emphasis on excellent customer support via channels such as call centre, chat etc.

6. Conclusion

The banking industry is undergoing a transformation in terms of a technology driven ecosystem, changing customer expectations, greater competition, and new regulations. Fintech is not only a buzzword; Fintech is here to stay. Digitalisation is going to change the way customers interact with banks and an ensemble of innovations is going to hit the industry in the forthcoming years. Meanwhile, when it comes to digital banking, customers are also becoming more sophisticated day-by-day, moving towards diversified product offerings that better suit their changing needs, whether they come from challenger banks or the incumbents. The structure and operational processes of traditional banks are going to change in a responsive way to the changing market and customer behaviour.

This research focused on the analysis of challenger banks in Europe and mainly in the UK, as well as the development of a banking model to be adopted by a new challenger bank that would launch operation in Greece.

The emergence and subsequent rise of challenger banks can be traced back to technological advancements in services provided by the finance industry, combined with public mistrust of traditional banking institutions, following the financial crisis of 2007/8. Challenger banks can be described as the banks of the future, but considerable modifications can be made to their structure in terms of revenue generation and customer engagement by taking advantage of the upcoming technology breakthroughs.

Challenger banks receive more prominence in developed markets, mostly because of the underlying inefficiencies of the incumbents and the excellent customer experiences they provide, mainly in digital ways. The European market has been one of the most favourable for challenger banks. We will have to wait and see if this trend continues even after Brexit, as its impact on the European business environment is hard to predict.

Emerging markets on the other hand, look at challengers as a medium to accelerate banking innovation as well as financial inclusion, with an ever increasing mobile penetration rate allowing challengers to utilize this excellent opportunity by digitizing the channels of communication while onboarding, engaging, or serving their customers and hence, improving the overall customer satisfaction level.

To develop a new banking model for a digital-first challenger bank in Greece, we used SWOT Analysis. First, we analysed the banking environment as it has evolved through

the crisis and we assessed its status. We applied Porter's five forces model, and this allowed us to locate the opportunities and threats that arise from the competition analysis.

The analysis shows that a new entrant would reap significant opportunities. The Greek economy is about to enter its recovery phase and this new era will find Greek consumers eager to consume financial products and services while being much keener to utilize digital media and channels than in the past. Customers' lessened satisfaction from traditional banks opens the road for new entrants that will focus on delivering superb customer experiences using fintech and digital banking. The ability to start from scratch and build a modern banking software infrastructure, the opportunity to apply new methodologies in design and software development and the prospect of using the newest technologies place new entrants in an advantageous position. In parallel, the new entrant will find incumbent banks in a difficult situation as they are trying to offload huge amounts of non-performing loans to preserve their capital adequacy without having to further increase capital. At the same time, existing banks bear a large cost structure which, combined with reduced revenues – because of lack of demand by crisis-hit consumers – effects a significant hit on their profitability which, in turn, prohibits them to seriously invest in fintech, digital transformation and customer experience initiatives. In general, there is a large but latent customer demand for the kind of services that a digital-first, challenger bank would convey in the market and this provides a first positive signal for an investment in a new challenger bank in Greece.

Our analysis also revealed the potential threats that the new entrant would face. Such threats are related to the state of the market and the mindset of consumers on one hand and to the expected reaction of competitors on the other. Consumers are used to use specific banking platforms which they have learnt to trust over the years. It is not certain at all that a new player would see immediate traction and, even more, strong engagement. The main threat lies with the incumbents since competition is fierce and traditional banks would utilize their own advantages to fight the entry of a new player in the market. Incumbent banks will showcase their physical presence, their loyalty platforms and the lack of an account switching service to convince customers not to leave them. In parallel, new digital entities will also be aggressive against any other digital entity since they all fight for the same small market share and the same capital of interested investors. As existing players will be more advanced in the beginning, they will present a more mature and attractive digital offering.

Based on the opportunities and threats, we described a suggested model for a new challenger bank to be introduced in Greece. The initial, draft business model covers products, services and distribution mix and it serves the identification of strengths and weaknesses that a new entrant with such a model would have.

The main strengths of the new entrant lie with the new customer experience model that it will present in the market, since this will be directed towards meeting previously unfulfilled customer needs. Such model will be based on digital experiences that will be built on top of a fresh technology infrastructure that allows for continuous innovation and makes perfect use of favourable regulations such as PSD2 and its APIs. Additional strengths are the low-cost operating model that makes competitive pricing feasible while it also allows for additional technology investments.

Looking at the weaknesses of the new banking model, we underlined the absence of a known brand and the difficulties and cost related with brand building and support. Along with branding issues, comes lack of trust which also needs time to build. Especially regarding deposits, it would be hard for substantial amounts to be gathered since consumers need to feel comfortable with the bank they trust with their money. The difficulty to build a competitive loyalty platform is another weakness regarding customer attraction.

Finally, we used the results of the SWOT analysis to assess what it would take to build a challenger bank that would bring a value proposition of a “better bank for Greece”. We analysed the differentiation factors in terms of product strategy, service model, channels mix and digital strategy. We gave answers to questions like what are the products that the new challenger bank should offer and what their characteristics should be; what service model should be adopted and how should customer experience be managed; and mainly what its digital strategy should be. Regarding the latter, we described a strategy that starts from the design of customer journeys rather than products and channels, to the provision of state-of-the-art customer experience and from there to creating an expansive definition of banking through advanced data analytics. Finally, and maybe most importantly, we assessed why a customer would choose a challenger bank over an incumbent, and who these customers would be, and we identified three specific customer segments of which we analysed their profiles.

Greece can reap the benefits of the most recent ground-breaking developments of digital technologies in many industries. Especially for the financial services industry, digital

technologies help create the completely new challenger banking model which Greek economy greatly needs to advance its banking services by creating and adopting Fintech products and services that will elevate customer experience to levels unseen so far. Our research showed that there is a huge opportunity for a challenger bank to be launched in Greece and it will be a matter of time until this is realized.

What our research has not covered and what can be the subject of further research, is the detailed financial model of a new challenger bank. A thorough and scrutinized study of investments and operating expenses in accordance with a detailed analysis of volumes, interest revenue and fee income will reveal different scenarios of growth, profitability and return on equity over time, based on various parameters, the most important of which being the required capital investment to maintain the regulatory capital adequacy required.

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