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The impact of digital innovations on the current banks' offering towards SMEs

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1. Executive summary (English Version)

Corporate banking might seem not affected by the digital disruption that has struck several other industries including music, retail, and travel. Although some corporate banks have offerings that go well beyond a basic Web presence, most of the industry seems not sufficiently ready to embrace that digital transformation that have been already well accepted by other sectors, including retail banking. In particular, digital offerings for Small and Medium Enterprises (SMEs) are almost reduced to payments services and balance account information. For this reason, it is important to understand to what extent digital innovations can help banks improving their offering to SMEs, on one side by strengthening their relationship with small and medium size businesses and, on the other side, by reducing the huge costs related to the servicing model for this category of customers. Since SMEs represents a large part of European companies, employing almost 70% of European population, and are considered the true engine of the economic growth (European Commission, 2015), it is important to preserve and support this type of customers, improving the way they have been served and providing up-to-date products and services exploiting the digital transformation.

The study of the relationship between banks and SMEs has its roots in the middle '90s when Berger and Udell studied the importance of banking sector as the most important source of external finance for small and medium firms. In the following years literature analysed the way through which banks and SMEs interact among themselves. The main idea stemming from most of the academic literature is that SMEs banking is operated as a relationship business. Indeed, what emerged by several studies is that for banks in order to better serve small and medium businesses, it is important to have some relationship agents that are able to understand the true needs of small firms and that deeply know the industry and the environment in which the specific company operates. This is not true for larger corporations that can be served by using more technological and not personal tools (such as credit scoring) that do not require a deep knowledge of the firm that is being served. Serving large companies is much more easier and safer than serving SMEs since banks can rely on "hard" information, that are quantifiable and easily obtainable information of the company, mainly coming from income statement and balance sheet. The reason why usually small businesses need a relationship manager is due to the problem of asymmetric information. According to many researchers, in fact, small and medium companies are considered more opaque, since they do not have any external specialized firm that certificate what they are doing and what are their real results. Therefore, banks have to look for the so called “soft” information, that are information achievable only through a longstanding relationship between the bank and the firm. This fact leads to higher risks for banks and to a greater effort in order to collect accurate information, transforming this category of customers in a less appealing client.

According to empirical studies, thus, it seems that SMEs prefer a direct relation with a bank agent and that proximity between bank and SME reduce the costs of borrowing (Udell, 2009). Consequently, it could be difficult for digital technologies to have a significant impact in the way banks serve SMEs. On the other way around, a number of FinTech is entering the market for loans to small businesses, thus providing an alternative, innovative and faster (in terms of issuing time for the borrowing) source of funding for SMEs. This is surely true for the most innovative countries, such as UK, US and Netherlands, where innovative online platforms are serving important slice of the market (e.g. lending-based crowdfunding provided 14% of the total number of loans to SMEs in 2015 in UK (Zhang, et al., 2016)). By now, the same logics seem difficultly applicable also to the Italian case, where companies are more hesitant to finance themselves through alternative sources of funding. Italian small companies, indeed, are among the most bank-centric firms in Europe with a large part of their Debt/Equity ratio, equal to 88,1% in 2015 (Rapporto Cerved PMI, 2015), provided by a banking institution.

Thus, this dissertation will first go through the analysis of what are the main products and services that are currently offered by Italian and European banks, with an eye on the distribution channels used to provide them. Indeed nowadays, it is important for banks to provide a complete package of offerings that goes beyond the mere source of funding. A lot of value added services, such as online advisory form industry experts or strong support for the entrance into international markets, can be a new way for creating a strong relationship between banks and SMEs. Furthermore, banks cannot disregard from a full multichannel offering in order to enable companies to choose the channel they prefer to perform all their usual operations. On this line, have been analysed the current product / service offering towards SMEs of the top 21 Italian banks and the top 38 European banks. In Italy there is a great discrepancy between the bigger banks and the smaller ones, with the former that offers more the two times the online products / services of the latter (7 vs 3). Nevertheless, results suggest that despite a good commercial offering of some major banks, there is again room for improvement, especially for what concerns the fully digitalization of the lending process. In

Italy in fact, the unique credit product available online is the request of an advance payment of invoices. Throughout Europe, instead, it is possible to find some interesting cases. The most innovative banks are for sure in Netherlands, where all the three major banks enable their customers to purchase business loans directly online. On a similar line is BBVA that enables its customers to start the borrowing process of all its lending products (also leasing and rental ones) directly online, even if the final approval requires visiting the branch. However, the two Italian biggest banks stand out in terms of value added services. Indeed, they belong to the 27,5% of European banks that can be considered Digital Leaders for SMEs offering. Indeed, they provide a good number of digital products, with most of them that are truly innovative and with great values for the companies, like financial analysis or business matching marketplace. In the second stage of the analysis, the dissertation will go through an investigation of the most interesting digital innovation affecting small business banking. It will be described possible ideas and real examples for the standardization of lending products and the creation of value added services for SMEs' expansion. Finally, there will be a focus on business lending FinTechs, with some examples of profitable cooperation between FinTechs and banks, such as ING and Kabbage or Intesa Sanpaolo and iwoca, and a brief mention about possible applications of the new services enabled by the forthcoming PSD2.

Executive summary (Italian Version)

L’offerta delle banche corporate potrebbe sembrare non essere interessata dalla rivoluzione digitale che ha colpito diversi altri settori, come quello musicale, retail o turistico. Sebbene alcune banche corporate dispongano di offerte che vanno ben oltre una basica presenza online, la maggior parte dell'industria bancaria non sembra abbastanza pronta ad abbracciare quella trasformazione digitale è stata già ben accettata da altri settori, inclusa la banca retail. In particolare, le offerte digitali per le Piccole e Medie Imprese (PMI) sono quasi interamente ridotte ai servizi di pagamento e alle informazioni sul saldo del conto corrente. Per questo motivo è importante capire in che misura le innovazioni digitali possano aiutare le banche a migliorare la loro offerta verso le PMI, da un lato, rafforzando i loro rapporti con le piccole e medie imprese e, dall'altro, riducendo i grandi costi connessi il modello di servizio per questa categoria di clienti. Poiché le PMI rappresentano una gran parte delle imprese europee, che impiegano quasi il 70% della popolazione europea e sono considerate il vero motore della crescita economica (Commissione europea, 2015), è importante preservare e sostenere questo tipo di clienti, migliorando le modalità con cui vengono serviti e fornendo prodotti e servizi aggiornati che sfruttano la trasformazione digitale.

Lo studio del rapporto tra banche e PMI pone le sue radici nella metà degli anni '90 quando Berger e Udell studiarono l'importanza del settore bancario come principale fonte di finanza esterna per le piccole e medie imprese. Negli anni successivi la letteratura ha analizzato il modo in cui le banche e le PMI interagiscono tra di loro. L'idea principale che deriva dalla maggior parte della letteratura accademica è che le banche delle PMI operano come *relationship banking*. Infatti, ciò che è emerso da diversi studi è che al fine di servire meglio le piccole e medie imprese per le banche è importante avere alcuni agenti (*relationship agents*) capaci di comprendere le vere esigenze delle piccole imprese e di conoscere profondamente l'industria e l'ambiente in cui la specifica società opera. Questo non è vero per le grandi aziende che possono essere servite utilizzando strumenti più tecnologici e non personali (come il *credit scoring*) che non richiedono una profonda conoscenza dell'azienda che viene servita. Servire le grandi aziende è molto più facile e più sicuro di servire le PMI, poiché le banche possono contare su informazioni "*hard*", ovvero informazioni quantificabili e facilmente ottenibili dell'azienda, principalmente provenienti dal conto economico e dal bilancio. Il motivo per cui le piccole imprese di solito hanno bisogno di un *relationship agent* è dovuto al problema dell’asimmetria informativa. Secondo molti studiosi, infatti, le piccole e medie imprese sono considerate più opache, poiché non dispongono di nessuna agenzia esterna che ne certifichi le attività e i veri risultati. Pertanto, le banche devono cercare le cosiddette informazioni "*soft*", che sono informazioni raggiungibili solo attraverso un rapporto di lunga durata tra la banca e l'impresa. Questo fatto porta a rischi maggiori per le banche e ad uno sforzo maggiore per raccogliere informazioni accurate, trasformando questa categoria di clienti in un cliente meno attraente.

Secondo gli studi empirici, quindi, sembra che le PMI preferiscano una relazione diretta con un *relationship agent* e che la vicinanza tra banca e PMI riduca i costi legati ai prestiti (Udell, 2009). Di conseguenza, potrebbe essere difficile per le tecnologie digitali avere un impatto significativo nel modo in cui le banche servono le PMI. Tuttavia, un certo numero di FinTech sta entrando nel mercato de prestiti alle piccole imprese, fornendo così rapida ed innovativa fonte di finanziamento per le PMI. Ciò è certamente vero per i paesi più innovativi, come il Regno Unito, gli Stati Uniti e Paesi Bassi, dove le piattaforme innovative online servono una fetta importante del mercato (ad esempio, il crowdfunding basato su prestiti ha fornito il 14% del totale dei prestiti alle PMI nel 2015 nel Regno Unito (Zhang, et al., 2016)). Ormai le stesse logiche sembrano difficilmente applicabili anche al caso italiano, dove le imprese sono esitano a finanziarsi attraverso fonti alternative. Le piccole imprese italiane, infatti, sono tra le imprese più dipendenti dal credito bancario in Europa, con gran parte del loro D / E, pari al 88,1% nel 2015 (Rapporto Cerved PMI, 2015), fornito da un'istituzione bancaria.

Pertanto, questa tesi analizzerà in primo luogo quali sono i principali prodotti e servizi attualmente offerti dalle banche italiane ed europee, con un occhio di riguardo ai canali di distribuzione più utilizzati. Oggigiorno, infatti, è importante che le banche forniscano un pacchetto completo di offerte che vada oltre la semplice fonte di finanziamento. Un sacco di servizi a valore aggiunto, come consulenza apportata da esperti di settore o un sostegno forte per l'ingresso nei mercati internazionali, possono essere un nuovo modo per creare un forte rapporto tra banche e PMI. Inoltre, le banche non possono ignorare un'offerta multicanale completa per consentire alle aziende di scegliere il canale preferito per eseguire tutte le loro operazioni usuali. Su questa linea di pensiero, sono state analizzate le offerta attuali di prodotti / servizi verso le PMI delle prime 21 banche italiane e delle prime 38 banche europee. In Italia c'è una grande discrepanza tra le banche più grandi e quelle più piccole, con le prime che offrono più del doppio dei prodotti / servizi online delle seconde (7 vs 3). Tuttavia, i risultati suggeriscono che, nonostante una buona offerta commerciale di alcune grandi banche, c'è ancora spazio per migliorare, soprattutto per quanto riguarda la completa digitalizzazione del processo di prestito. In Italia infatti, l'unico prodotto di credito disponibile online è la richiesta di un pagamento anticipato delle fatture. Guardando all'Europa, invece, è possibile trovare alcuni casi interessanti. Le banche più innovative si trovano sicuramente nei Paesi Bassi, dove tutte e tre le maggiori banche consentono ai propri clienti di acquistare prestiti aziendali direttamente online. In maniera simile anche BBVA consente ai propri clienti di avviare il processo di prelievo di prestito di tutti i suoi prestiti (anche leasing e noleggio auto) direttamente online, anche se l'approvazione finale richiede la visita della filiale. Tuttavia, le due banche italiane più grandi si distinguono in termini di servizi a valore aggiunto. Esse infatti appartengono al 27,5% delle banche europee che possono essere considerate leader digitali per le PMI, offrendo un numero elevato di prodotti digitali, di cui molti di essi che veramente innovativi e con grandi valori per le aziende. Nella seconda fase dell'analisi, la tesi si svolgerà attraverso un'indagine delle più interessanti innovazioni digitali rivolte alle piccole imprese. Saranno descritte idee possibili ed esempi reali per la standardizzazione dei prodotti di prestito e la creazione di servizi a valore aggiunto per l'espansione delle PMI. Infine, ci sarà un focus sulle FinTechs, con alcuni esempi di cooperazione redditizia tra FinTech e banche, come ING e Kabbage o Intesa Sanpaolo e iwoca, e una breve menzione sulle possibili applicazioni dei nuovi servizi abilitati dal futuro ingresso della PSD2.

2. Introduction

The last decade has been hard time for the banking sector. Starting from the financial crisis of 2007, banks have seen a strong deterioration of both their profitability and their reputation. The exacerbation of the rules coming from Basel Committee, in order to avoid dangerous behaviours from banks, and the worsening of the reputation in the eyes of both retail and corporate clients, that saw banks as mere profiteers, posed banking institutions in a complicated situation. In addition to the macroeconomic factors, digital evolution and digital financial technology startups, better known as FinTech, came up, affecting the banking sector that until those years have been less touched by the digital revolution. In this difficult context, some banks started to react, searching for new alternative ways to serve clients and make profitability. Thus, from the end of the first decade of '00, almost all banks decided to reverse course, starting a process of branches' cutting, exploiting digital opportunities and moving clients onto more agile and less costly channels (i.e. Internet Banking and Mobile Banking).

This new strategy is bringing its first results, as highlighted by the increasing utilization of indirect channels among banking clients (European average online banking penetration in 2016 equal to 49% vs 38% in 2014)[1]. However, if on one side digital technologies enable banks to reduce the number of branches, thus saving important amount of costs, on the other side the strong competition between banking Groups and the entrance of new fully-digital banks, oblige them to decrease prices on the non-value added operations (e.g. payments) in order not to lose too much clients. Moreover, as it will be discussed in chapter 4, some researchers found that reduction in the number of branches implies higher marketing costs, as banks need to establish a brand without the promotional benefit of a physical branch network (DeYoung, 2005). For this reason, it is important for banks to find new value added services that can distinguish them from the rest of the market.

This is not an easy issue for mass clients, whose utilization of banking services is quite simple and standard, thus implying low profitability. On the other end, business clients seem more fascinating for banks and a possible interesting client are the small and medium enterprises (SMEs). This particular category of client can be very interesting for all banks. First of all, they are the vast majority of companies, both in Italy and throughout the Europe. Then, even if they singularly do not move an amount of cash as large as big corporates, they need a lot of

[1] Source: "Online Banking penetration selected European markets", Statista

products and services in order to run their day-to-day operations. Obviously, small businesses have less bargaining power than large corporates, that can move from one bank to another in order to reduce at the minimum possible the interest rates, thus implying possible higher profitability. In addition, some of them can be prospect companies, that with the right support and the right choices can become the future large corporates, making the fortune of the bank that before others has been able to understand their potential.

It is evident, thus, that in order to capture new SMEs and help them increasing their businesses, banks have to innovate their current offering, not only providing standard digital products, but also pushing on value added services. For this reason, after a preamble on the importance of SMEs and the current situation of the banking sectors, and an analysis of the literature findings regarding the relationship between banks and SMEs, this thesis will analyse the current offering of top 20 Italian banks and top 20 European banks. This analysis will help to understand the current scenario, comparing differences between banks from different countries and, in Italy, of different sizes. Subsequently, an investigation of digital possibilities to improve the current scenario has been performed, with an eye on strategic partnership between some major banks and some ambitious FinTech.

3. Overview of the economic and financial environment

3.1. SMEs overview

Small Medium Enterprises (SMEs) are fundamental entities for the European Union and are considered the true engine of economic growth. Indeed, SMEs represent the 99,8% of European companies (93% are micro enterprises) in the non-financial business sector[2]. For this reason, they play an important role for growth and employment: almost 90 million people worked for an SME in 2015 (67% of total employment), and they generated 58% of the sector's value added (European Commission, 2015). These data achieve their peaks in Italy and Spain where the share of workers employed by small companies are equal to 79,6% and 73,1% respectively (**Figure 3-1**).

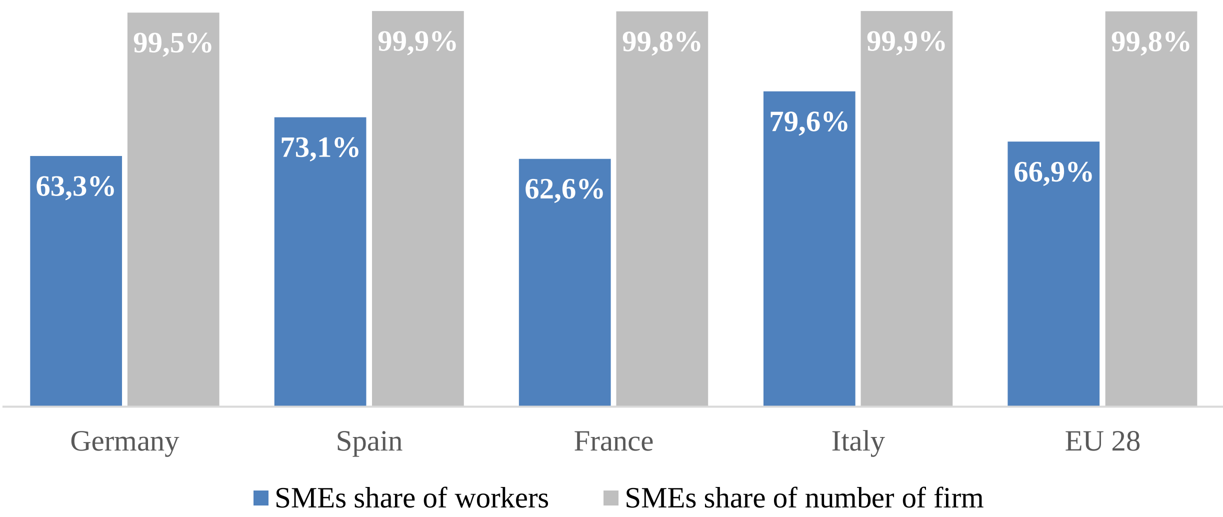


***Figure 3-1**: SMEs role in selected European countries*
Source: European Commission, Annual Report on European SMEs

Before the financial turmoil of 2007-2008, the number of jobs in SMEs increased at an average annual rate of 1,9%, while the number of jobs in large enterprises increased by only 0,8% (European Commission, 2009). However, what does it mean SME? In 1996, the European Commission established a definition of Small and Medium Enterprises that has successively been updated in 2003 and is based on four quantitative criteria (European

[2] The non-financial business sector includes all sectors of the economy except for 'financial services', 'government services', 'education', 'health', 'arts and culture', 'agriculture, forestry and fishing'

Commission, 2003):

a) The total number of employees in the enterprise;
b) The annual volume of the turnover;
c) The total of the assets in the enterprise balance;
d) The degree of independence of the enterprise or the ownership over it;

	Employees	Revenue	Assets
Micro	< 10	$<$ €2 million	$<$ €2 million
Small	$10 - 49$	€2 million – €10 million	€2 million – €10 million
Medium	$50 - 250$	€10 million – €50 million	€10 million – €43 million
Large	> 250	$>$ €50 million	$>$ €43 million

***Table 3-1**: Companies classification*
Source: European Commission

The criterion of staff numbers (the 'staff headcount criterion') must be observed as the main criterion; introducing a financial criterion is nonetheless a necessary adjunct in order to grasp the real scale and performance of an enterprise and its position compared to its competitors (EC, 2003). Therefore, to classify an enterprise, the condition a) must be present and accompanied by condition b) and/or c). Finally, the ultimate condition, d), states that it is necessary that the participation of a big enterprise in the ownership of a small or medium enterprise should be of no more than 25% of its share capital. This criterion allows for the differentiation of those enterprises which are really small and medium from those representing parts of big companies. However, in order to encourage the creation of enterprises, equity financing of SMEs and rural and local development, enterprises can be considered autonomous despite a holding of 25 % or more by certain categories of investors who have a positive role in business financing and creation. The case of business angels[3] deserves special mention because, compared to other venture capital investors, their ability to give relevant advice to new entrepreneurs is extremely valuable. Their investment in equity capital also complements the activity of venture capital companies, as they provide smaller amounts at an earlier stage of the enterprise's life (EC, 2003).

Nowadays, the recovery from the financial crisis requires the economies to create employment opportunities for the citizens. Hence, given the aforementioned contribution of

[3] Individuals or small groups of individuals who provide starting or growth capital in promising ventures, and helps also with advise and contacts

SMEs to employment, the growth and creation of SMEs is essential. At the 2009 Pittsburgh G-20 Leaders' Summit, the G-20 committed to identifying ways to improve the access to finance by SMEs. SME development is also high on the reform agenda of many governments. A broad range of policies and programs targets improvements in SME business environments, as well as financial support to SMEs.

Figure 3-2 and **Figure 3-3** show the relative contribution of SMEs to total employment and total value added across the members of the European Union in 2014:

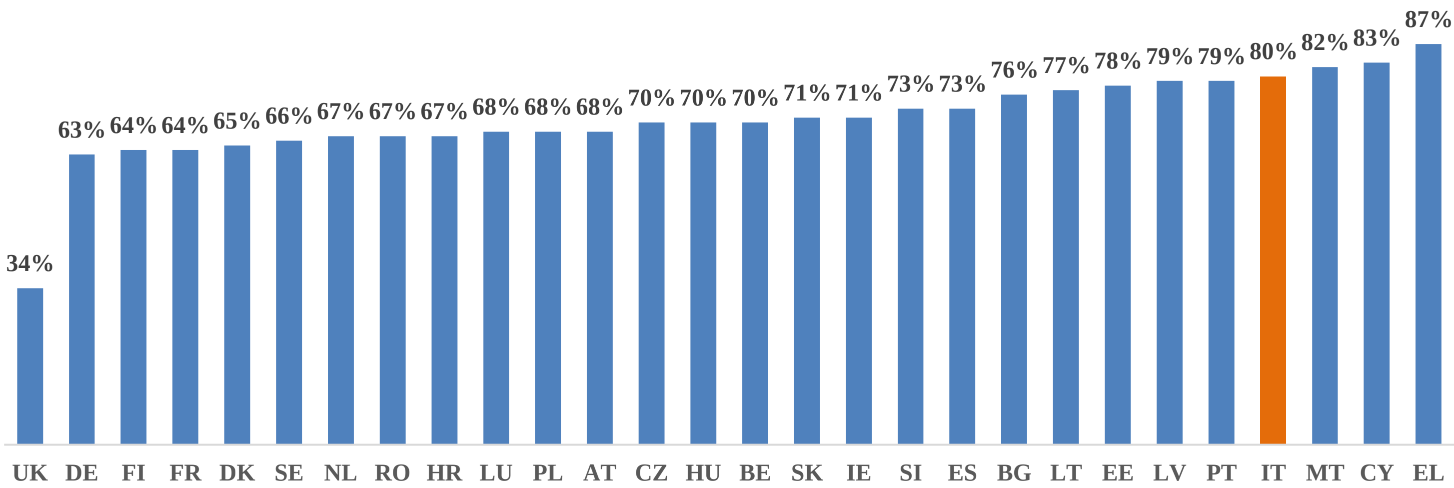


***Figure 3-2**: Relative contribution of SMEs to total employment*
Source: Eurostat, National Statistical Offices and DIW Econ

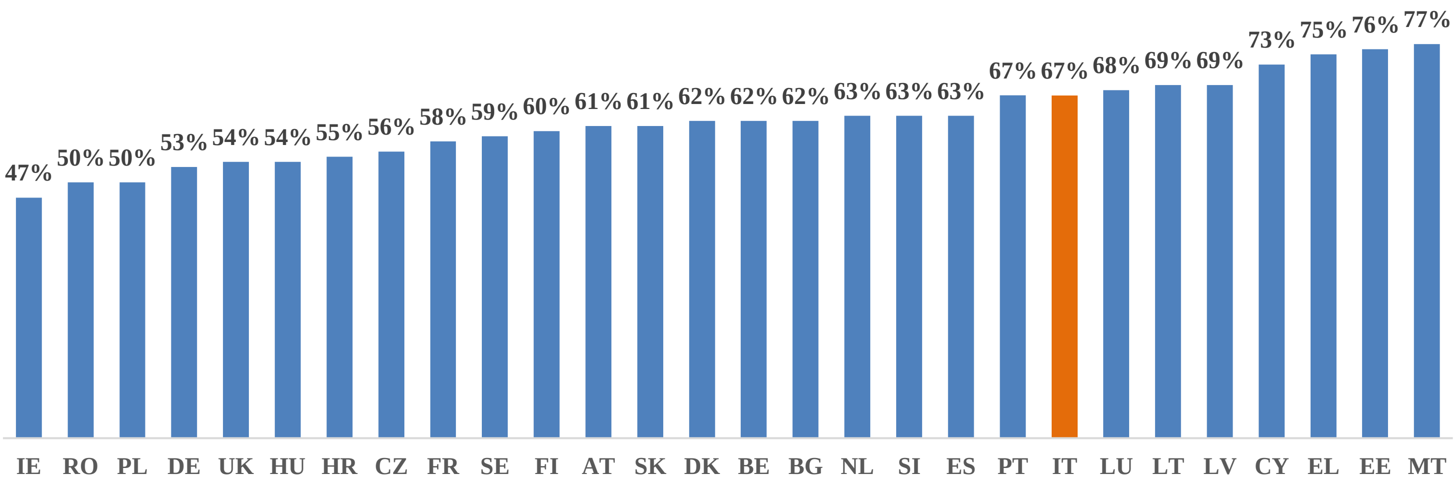


***Figure 3-3**: Relative contribution of SMEs to total value added*
Source: Eurostat, National Statistical Offices and DIW Econ

As shown in the pictures above, SMEs are extremely important for Italy, much more than in other European big countries, such as France and Germany. The result is not unexpected, since a lot of Italian SMEs, particularly in the manufacturing industry, are famous all over the world: "made in Italy" is considered a guarantee of the high quality of the products.

The downturn of 2008 has created several problems to Italian SMEs, undermining their ability to generate profit and, not less important, to generate cash. From the beginning of the crisis to 2015, more than 82.000 firms have failed with the consequently loss of almost 1.000.000 jobs[4]. Many of them died not because they were not profitable anymore, but because of lack of cash. Banks were almost forced to deny credit to a lot of small companies, more opaque and riskier than large corporates, thus deteriorating SMEs' situation.

As already said, SMEs are the basic element for the Italian economy, hence it is fundamental to sustain them during difficult periods and help them re-finding the path of growth. This can be done both with the politic support of the government, through ad hoc fiscal policies to unburden the firms, and with the monetary support, i.e. banks that give credit to companies in order to finance their day-to-day operations and new profitable projects.

3.2. Banking sector overview

Since the global financial crisis of 2007, probably the worst crisis that financial markets had experienced since 1930s, it has been hard time for the banking sector. Following that disaster, the Basel Committee realized that a major overhaul of Basel II, whose implementation, by chance, started approximately in those days, was necessary. Basel II increased capital requirements for market risk. The Basel Committee wanted to increase capital requirements for credit risk as well. In addition, it considered that the definition of capital needed to be tightened and that regulations were needed to address liquidity risk. In December 2010, the final version of the Basel III regulations was published[5].

From that moment on, banks must accumulate sufficient capital to cover all the risks assessed by the regulations in order to be compliant, by the 1st of January 2018, with the Basel III requirements. This event had dramatic impacts on the banking sector since it changed the

[4] Ansa.it
[5] For further details see John C. Hull, "Risk Management and Financial Institutions", fourth edition, Wiley, 2015.

banks' business model, forcing them keeping a lot of liquidity, that reduce the profitability of the banks, and accumulating more and more good quality capital.

Furthermore, the effects of the crisis, that was born in the United States but rapidly affected the world economy, had repercussions on families and firms and the world plumbed in a great recession. Even if in different periods, this fact forced almost all the central banks to intervene with their tools in order to remedy the situation. For what concerns Europe, Mario Draghi, president of European Central Bank (ECB), from September 2011 started an accommodating monetary policy by lowering, in a gradual way, the interest rate for the euro area (**Table 3-2**).

Date		Deposit facility	Main refinancing operations		Marginal lending facility
			Fixed rate tenders	Variable rate tenders	
			Fixed rate	Minimum bid rate	
With effect from					
2016	16 Mar.	−0.40	0.00	-	0.25
2015	9 Dec.	−0.30	0.05	-	0.30
2014	10 Sep.	−0.20	0.05	-	0.30
	11 Jun.	−0.10	0.15	-	0.40
2013	13 Nov.	0.00	0.25	-	0.75
	8 May.	0.00	0.50	-	1.00
2012	11 Jul.	0.00	0.75	-	1.50
2011	14 Dec.	0.25	1.00	-	1.75
	9 Nov.	0.50	1.25	-	2.00
	13 Jul.	0.75	1.50	-	2.25

Table 3-2: *Key European interest rates in percentage per annum*
Source: Banca d'Italia

This action has been taken in order to lower the cost of money and force commercial banks to lend money to the real economy, i.e. households and companies. For example, looking at the actual situation, the rate on the deposit facility, which banks may use to make overnight deposits with the European system, is negative, meaning that banks have to pay the ECB if they want to keep overnight deposit at the ECB. Hence, it is convenient for commercial banks to lend money rather then keep overnight deposits. Of course it is not so easy because the lending activity must take into consideration the Basel III regulations that require capital according to the riskiness of the counterparts: basically speaking, the higher the riskiness of the counterpart, the higher the capital requirement.

But the most important implication of this accommodating policy is the cut of the net interest rate for commercial banks, i.e. the difference between the active interest rate charged by the banks on its borrowers and the passive interest rate at which the banks borrow money.

$$Net\ Interest\ Rate = Active\ Interest\ Rate - Passive\ Interest\ Rate$$

The reduction of the net interest rate implies less profitability for the banks. Years ago, for banks it was easier to make business because profits stemming from the lending activity were sufficiently high and they had not to create complex business models to make money. The average ROE before 2008 was higher than 10%. Nowadays, to see a double digit ROE is a utopia for almost all the banks (**Figure 3-4**). The main source of revenue for banks, the lending activity, has lost its appeal both for the more stringent regulations and for the accommodating monetary policy of the central bank. For this reason, banks have to find new ways to make money.

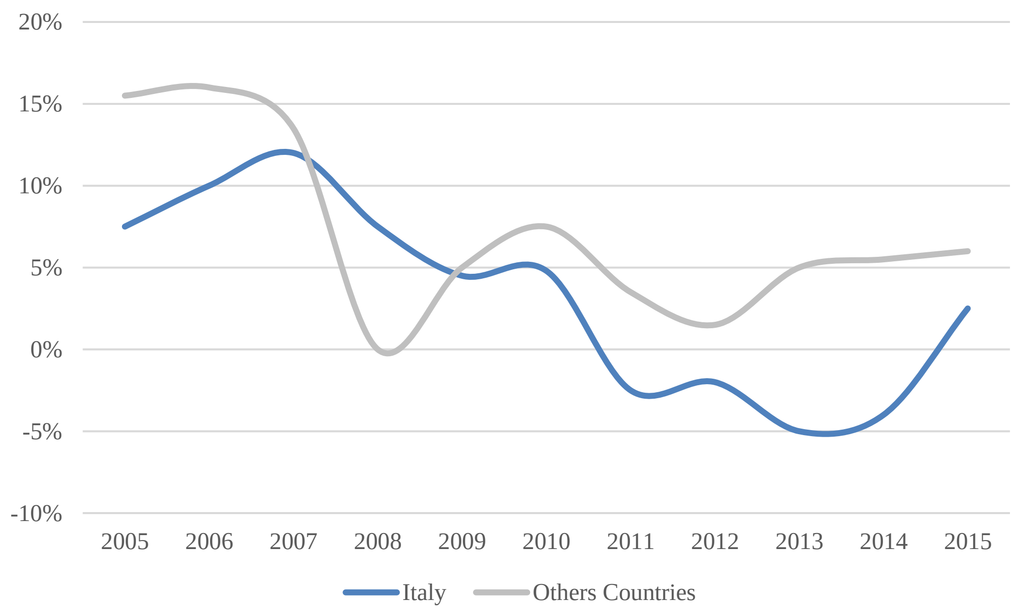


Figure 3-4*: Average ROE of Italian and European Banks*
Source: Banca d'Italia

To complete the picture of the banking sector, it is important to highlight that in the last year the stock price of all banks has dramatically reduced. The lower ROE and the higher need of capital that forced banks to retain more profits, altogether with the introduction of the bail-in[6],

[6] A bail-in is rescuing a financial institution on the brink of failure by making its creditors and depositors take a loss on their holdings. A bail-in is the opposite of a bail-out, which involves the rescue of a financial institution

induced many investors to sell their banking shares with an inevitable reduction in the banks' value (**Figure 3-5**)

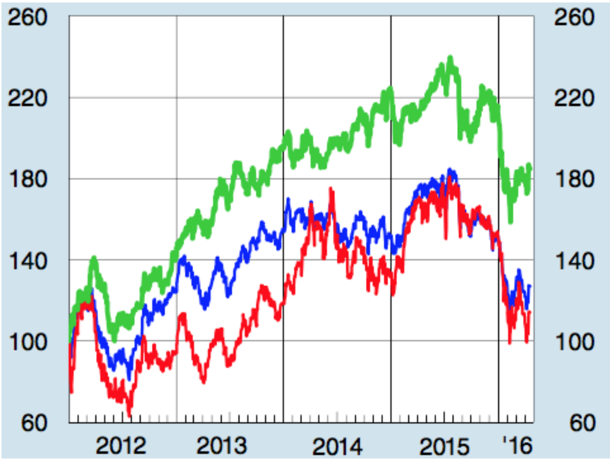


***Figure 3-5**: Average Banks stock prices*
Source: Rapporto sulla stabilità finanziaria, Banca d'Italia 2016

In particular, investors are very scared about and regulators are very keen on two main issues affecting the banks' assets: the huge amount of derivatives and the impact of non-performing loans (NPLs).

- Derivative Exposure: a derivative is an instrument whose value depends on (or derives from) other more basic variables, such as the price of a stock, the price of a commodity or even the weather of a certain day. The directive on the risky exposure to those assets is not well defined since it is difficult to delineate with much precision the exact risky amount of some derivatives. Nowadays the calculations are performed internally by the banks but the regulators are trying to set some standards in order to make the process homogeneous for all banks
- Non-Performing Loans (NPLs): a non-performing loan is the sum of borrowed money upon which the debtor has not made his schedule payments for at least 90 days. They are an important issue especially for Italian banks: Italy is one of the largest market for NPLs with a gross amount of almost €360 billion. With respect to derivatives exposure, it is easier to assess the amount of NPLs and so to compute the required capital to cover that risk

by external parties, typically governments using taxpayers money.
Source: http://www.investopedia.com/terms/b/bailin.asp

3.3. Excessive number of branches

Analysing how the Italian banking sector is responding to the situation described above, it comes up that since the beginning of the financial crises in 2008, the number of Italian branches has dropped by approximately 4.000 units, at an annual rate of $-1{,}7\%$ (CAGR 11-15 = $-2{,}6\%$) (**Figure 3-6**). Before that date, banks believed that in order to be more competitive it was necessary to increase the penetration of branches among cities. This was perceived as the optimum strategy to better serve their already existing customers and to capture new ones, thanks to the marketing function of the widespread branches. The turnaround began in 2008 when, starting from the biggest banks but rapidly affecting also the smallest ones, almost all the intermediaries changed their strategy for two main reasons: first of all the financial turmoil and the new regulations were forcing banks to revisit their business model and cutting branches, and the related personnel, was a way to reduce costs. The additional reason was the evolution of the other distribution channels, such as the advanced ATM and the digital channels (Internet and Mobile Banking). The new idea spread among the major banks was that in order to give to clients the best customer experience, it was necessary to give them more than one channel to perform their activities. Forcing customers to come to branches in order to make a bank transfer or another payment was not perceived anymore as a value added activity.

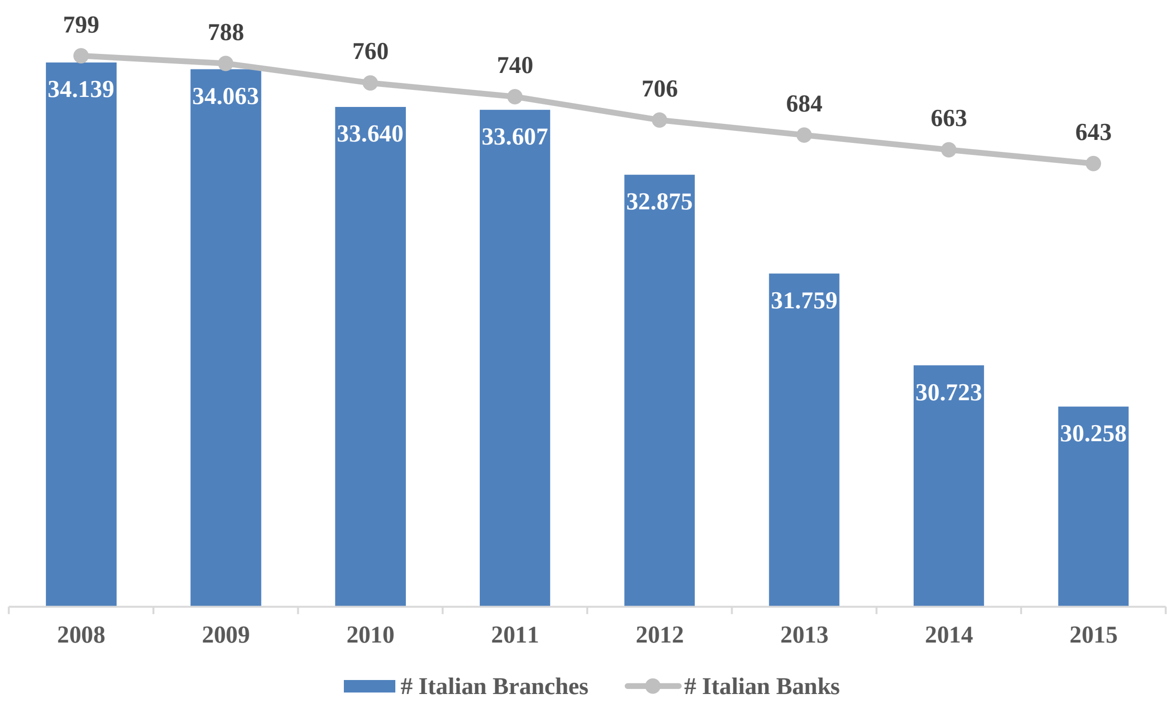


***Figure 3-6**: Number of Italian banking branches and Number of Italian Banks*
Source: Banca d'Italia

Obviously, this rationalization process has to go hand in hand with the penetration of the utilization of these channels among families and firms. According to Banca d’Italia, the diffusion of digital banking distribution channels is increasing: 57% of Italian families are enabled to use Internet Banking (50% in 2014). The volumes are similar also for the corporates. Nevertheless, the high number of Banking Institutions (643 in 2015) and the relatively low “digital education” of Italian people, pose Italy as one of the country with the highest number of branches. In 2014 the number of branches in Italy per 10.000 inhabitants was equal to 5,1 that is lower than in Spain (6,9) and French (5,7) but higher than the average of the Euro Area (4,7) [7]. Moreover, Italian banks offer through digital channels just payments and asset management services, while are very few the intermediaries that use digital channels to place loans, and almost all of them make it just for retail customers, excluding large corporates and SMEs (Banca d'Italia, 2016). The evidence of this topic will be analysed in chapter 5.

[7] Report on financial structure, BCE 2015

4. Literature review

4.1. The role of the banks in the SMEs economy

Even if many sources of funding for small and medium corporate emerged in the last years, such as crowd-funding and venture capital funding, a lot of SMEs are tightly linked with banks' financing. This phenomenon is particularly relevant in Italy: despite a downward trend of the ratio financial debt/equity (CAGR 2007-2015 −3,3%)[8], this value for Italian SMEs in 2015 is 88,1%.

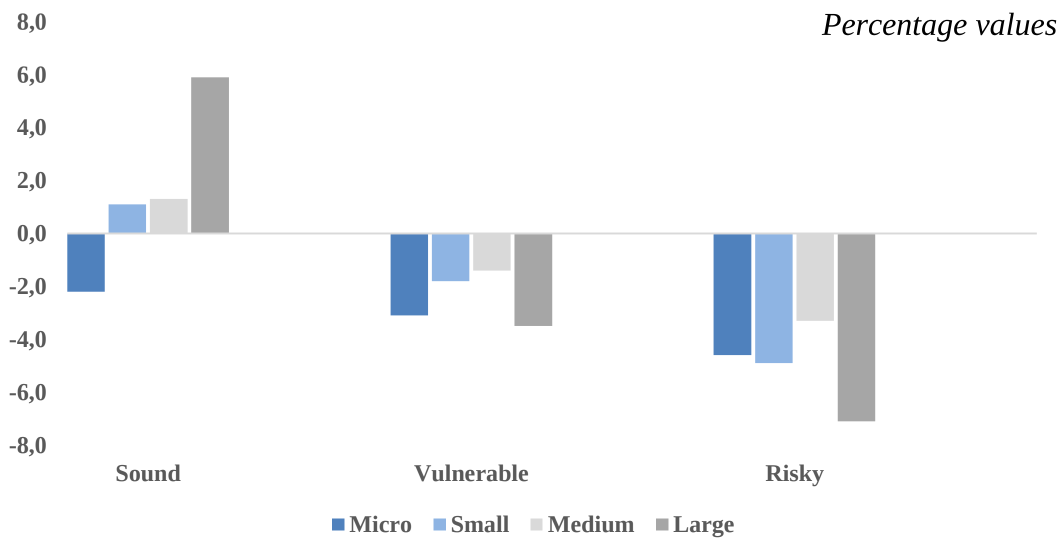


***Figure 4-1**: Loans by size and risk category, average 2014 12-months percentage changes*
Source: Banca d'Italia

Nevertheless, most of the literature on SMEs points to the fact that small and medium firms face higher barriers to external financing than large firms, which, in turn, limits their growth and development. Small firms find it difficult to obtain commercial bank financing, especially long-term loans, for several reasons, including lack of collateral, difficulties in proving creditworthiness, small cash flows, inadequate credit history, high risk premiums, underdeveloped bank-borrower relationships and high transaction costs (Ardic, et al., 2012). **Figure 4-1** highlights this evidence for Italian companies: in 2014 the soundest smaller firms had much more difficulties than bigger ones in obtaining credits. Nonetheless, the favorable credit conditions mitigated the difficulties in obtaining funds: the quota of corporates not to been able to achieve the financing required in 2015 diminished with respect to the peak of

[8] Rapporto Cerved PMI

2012 (6% vs 12%).

Through a paper, Beck et al. find that larger and older firms report lower financing obstacles. The relationship is not only statistically but also economically significant. Through a survey, they discover that the probability that a small firm lists financing has a major obstacle (as opposed to moderate, minor or no obstacle) is 39% compared to 36% for medium-size firms and 32% for large firms. Additionally, Dietrich (2010) argues that the lack of negotiating power of small enterprises has significant explanatory power in explaining differences in lending rates between small and large enterprises.

Looking at the supply side of credit financing to SMEs, Beck et al. (2008) toward a rich survey concluded that banks are attracted to SME segment due to its perceived high profitability and good prospects. On the other hand, comparing SME to large firm financing, they observed that banks experience more defaults on SMEs so they are less exposed to smaller firms and charge them higher fees and interest rates. Indeed, even if the cost of credit dispersion is reducing over years, the differential between Large and Micro firms in 2015 remain substantial and even higher than the same value in 2007, before the beginning of the crises (2,5% vs 1,5%,Figure **4-2**).

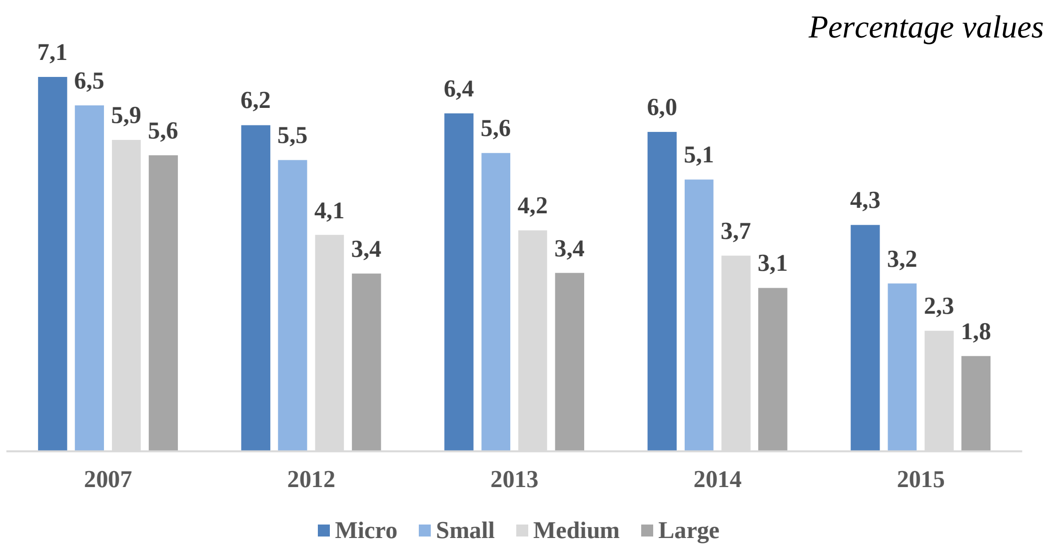


Figure 4-2: *Cost of funding for corporate dimension*
Source: Banca d'Italia and CE

Nowadays, the amount of credit allowed to non-financial Italian corporations accounts for almost half (44%) of banks' total non-bank loan portfolio[9]. This data underline once more the importance that banks have for Italian companies. On the other way around, Italian companies are fundamental actors for the banks' business. On one side, they are a key source of revenue due to the different product / service they need to run their businesses, but on the other side, their loans account for 70% of the overall amount of NPL, thus affecting in a strong way the healthiness of the Banking Institutions. So, it is evident that commercial Banks face several difficulties to carry out an adequate risk assessment of small business projects. This element leads to the above mentioned higher interest rates applied to small companies with respect to large companies, generating a typical adverse selection problem. Indeed, good entrepreneurs with safer but less profitable projects will retain from borrowing money at an excessively high interest rate, while bad ones will be more willing to accept that condition, being their project riskier but more remunerative. Of course, this theory is true even for larger companies. On top of that, there are some fixed costs in the lending process, such as the appraising and monitoring of borrower, that pose the lending activity to SMEs less appealing for banks. In order to cover those fixed costs, Banks tend to ask higher interest rates, turning to the problem of adverse selection and creating a vicious circle.

Moreover, as already discussed, many European Banks have been forced to increase their capital in order to be compliant with the new Basel regulation and this process is not concluded yet. In these years, capital increase has often been directly linked with the NPLs: the higher the amount of NPLs, the higher the capital needed to cover eventual extraordinary losses. However, "NPL ratio vary widely across European markets, asset classes as well as between stock and flow. The Southern Europe countries worst hit by the financial crises show the highest NPL ratios, while Nordic countries and Switzerland are at the other end of the spectrum" (Oliver Wyman, 2015). According to the analysis performed by Oliver Wyman, SME loans generally have higher NPL ratios than other loan types and they contribute about half of the total NPL balances, both in developed and emerging countries. In particular, Italy and Spain have the largest NPL volumes in Europe. Together they represent almost half of the European total NPL, although the markets differ due to Italian NPL's being SME focused while Spanish ones mortgage focused. Indeed, at the end of 2015, the amount of Italian corporates NPL was 30% of the overall amount of corporates loans, while the families' one

[9] Source: Bollettino Statisctico Banca d'Italia 2016

was only 11%. Thus, it is evident the importance of this topic for both Italian Banks and SMEs. Nevertheless, the situation is a little bit improving. Consistent with the data provided by Banca d’Italia, the flow of the ratio between new non-performing loans and the overall amount of loans is decreasing (**Figure 4-3**) with a rate of almost 3% for corporations and 1% for families.

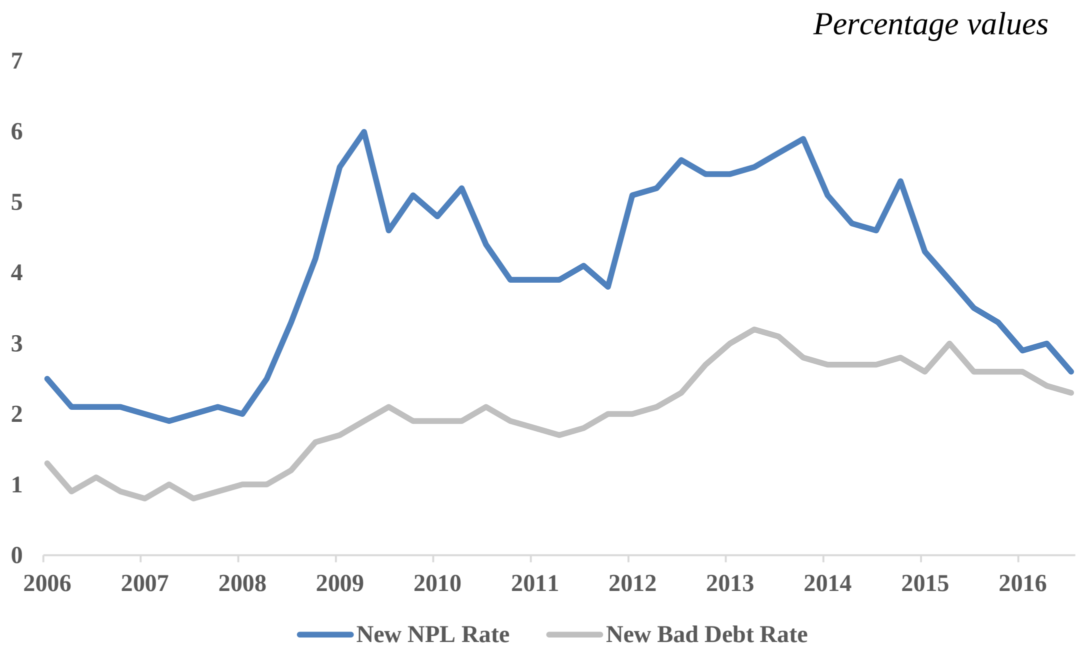


***Figure 4-3**: New NPL Rate and New Bad Debt Rata*
Source: Banca d’Italia

4.2. The main elements affecting loan lending activity to SMEs

The relationship between banks and SMEs and the related difficulties in the lending process has been analysed several times in literature. As highlighted in the introductive chapters, the relevance of this topic is very high since it affects a large portion of the economy of each country, being SMEs the engine of growth of many nations. The first evidences found by many scholars showed that larger banks tend to lend less to small firms because of their opaqueness. Indeed, even if a small firm has the opportunity to invest in a positive net present value project, it can be blocked from doing so because of lack of providers of external capital. This is due to the fact that a provider of external finance, such as a bank or another financial institution, neither can easily verify the quality of the project (adverse selection problem) nor can be completely sure where the provided funds will be effectively used (moral hazard problem) because of the opaqueness present above small and medium companies. A possible way to reduce these problems of opaqueness of the small firms and the connected reluctance to provide them affordable loans, is the presence of a longstanding relationship between the borrower and the lending bank (Diamond, 1991) (Boot & Thakor, 1994). Many scholars, thus, started studying the effect of the so called "relationship lending".

According to many researchers, relationship lending is one of the most powerful technologies available to reduce information problems in small firm finance. The idea underneath the concept of relationship lending is that banks acquire information over time through contact not only with the firm, but also with its owner and its local community, using this information to make more accurate decisions about the availability and terms of credit to the firm. These contacts enable the bank to gather an important amount of "soft" information by collecting data during the relation with the firm. "Soft" information are defined as information which cannot be easily stored and are not easily transferrable over long distances within large and complex banking organization. According to Berger and Udell, three characteristics define the relationship lending:

i. It depends on "soft" information collected by the firm, its owner and the local community, such as customers and suppliers;
ii. The loan officer typically has the most important relationship with the firm, the owner and the local community becoming the main repository of all the "soft" information

regarding that firm. For this reason, the information gathered from the loan officer can be difficultly shared with other individuals in the bank;

iii. Due to this advantage position of the loan officer, some agency problems can arise among the loan officer, the borrower, the bank senior management, bank stockholder, bank creditors and regulators creating a hierarchy of contracting problems.

Thus, they states that small banking organizations with few managerial layers may have less contracting problems between the management and the loan officer, facilitating relationship lending and therefore providing more loans and at a better rate to firm.

Nevertheless, other lending technologies have been studied in literature: financial statement lending, asset-based lending, small business credit scoring, factoring, fixed–asset lending, leasing and trade credit. Those lending technologies are often referred to as “transactions-based lending” and lending decisions are based on “hard” information, i.e. quantifiable and easily stored information available to the bank at the moment of loan origination. So, what is a lending technology? According to Berger and Udell, a lending technology is a “unique combination of the primary source of information, screening and underwriting polices / procedures, structure of the loan contracts, and monitoring strategies and mechanism”. Among others, always Berger and Udell provided a deep description of the transaction-based lending technologies. Financial statement lending, as the naming suggest, principally evaluate information from the firm’s financial statements. Thus, the decision whether to allow or not to allow funding to a firm and at which interest rate are based on the strength of the balance sheet and income statements of the borrowing firm. This kind of approach is best suited for relatively transparent firms, whose financial information are easily available and, maybe, certificated by an audit firm. For this reason financial statement lending is considered a less effective approach to evaluate small firms creditworthiness. Asset-based lending, instead, provide credit decisions based on the quality on the collateral of the firm. However, since many companies offer as a collateral accounts receivable and inventory, this lending approach become very monitoring-intensive and quietly expensive, requiring great expertise and intensive monitor from bank’s employees. In these cases, the extension of credit is based more on the value of the collateral than on the creditworthiness of the company. Small business credit scoring is an adaptation to (small) business lending of discriminant analysis and other statistical techniques used in consumer lending. This particular technique mixes an evaluation of both balance sheet and income statement of the firm together with the financial condition and the history of the principal owner. Usually credit scoring models are used to provide credit up to $ 250.000 (Berger & Udell, 2006). Factoring involves the purchase of accounts receivables by a specific figure known as factor. Exactly as in the asset based lending, it is assessed the value of the accounts receivable rather than the overall value / risk of the firm. Anyhow, differently from asset-based lending, factoring involves just the financing of accounts receivables. The meaningful information in this case are referred to hard information about the value of the borrower's receivables. Fixed-asset lending technologies encompass lending against long lasting asset that are not frequently sold during the life of the firm, such as equipment or real estate, that are taken as collateral by the lender. Here, the focus is on the assessment of the value of the fixed asset. Leasing involves the purchase of the asset by a lender known as lessor. Basically, the lessor purchases the asset and simultaneously enter into a rental contract with the borrower, known as lessee. Usually, at the end of the contract, the lessee is allowed to buy the asset at a predetermined price. Also in this transaction, the underwriting is based on information about the value of the underlying asset being leased. The last technologies that is take into consideration is trade credit and literature has not defined yet if it can be classified as relationship-based or technology-based lending. Trade credit is basically credit extended by vendors to purchase raw materials. Usually, it is specified a maximum maturity and a (short) discount period during which the borrower can repay its obligation at a discounted price. According to Berger and Udell and in contrast with the bulk of the academic literature, also some transactions-based lending can be effective in providing credit to opaque small businesses. Indeed, even if the firm is considered opaque, what is important is the ability to find the right lending technology adapt to scrutinize that specific firm. The main elements of the lending approaches are summarized in the table below.

	Lending approach	Type of information	Main characteristics	Borrower
	Relationship lending	Soft	Information gathered over time through contacts with the firm, its owner and its local community	Opaque
	Financial statement lending	Hard	Information from balance sheet and financial statement	Transparent
	Asset-based lending	Hard	Information on the quality of the collateral (e.g. inventories or accounts receivables)	Opaque
Transactions-based lending	*Credit scoring*	Hard	Information from balance sheet and financial condition of principal owner	Opaque and Transparent
	Factoring	Hard	Information on the quality of the collateral (accounts receivables)	Opaque and Transparent
	Fixed-asset lending	Hard	Information on the quality of the collateral (long-lasting asset)	Opaque and Transparent
	Leasing	Hard	Information on the quality of the asset being leased	Opaque
	Trade credit	Soft/Hard	Information on the value of the trade credit	Opaque and Transparent

Table 4-1*: Summary of the main lending approach*
Source: Berger & Udell, A more complete conceptual framework for SME

Adding materials to this topic, Degryse and Van Cayseele studied how the strength of the bank-borrower relationship affect the price and non price terms of a loan contract using two measures of relationship strength: duration and scope. According to them, durations is the length of time the bank and firm have maintained a financial relationship. Usually, as the relationship gets longer, information asymmetry between the lending bank and the borrower firm are reduced, producing a gain in the allocative efficiency. Scope, instead, represents the breadth of the relationship and is measured by the number of different services the firm purchases from the bank. Indeed, a bank or a financial institution in general can obtain different private information about the firm by providing it different products and services, such as deposit accounts or payment services. Both this two elements could help the bank to obtain more information about the firm to which it is going to lend money, reducing the opaqueness presents above the firm financial and non-financial information. This information gained can be very useful in order to produce an accurate analysis on the creditworthiness of the company and better asses its financial stability and the right loan rate to apply. Furthermore, de la Torre et al. explain that lending is just of a broader package of services that banks provide to SMEs. According to them, cross-selling is the heart of the banks' SMEs business strategy. Contrarily to what many researchers stated in the past, Degryse and Van Cayseeke documented that loan interest rate is increasing in the duration of the bank-firm relationship, meaning that a firm with a longer financial relationship pays a higher interest rate on its loans. On the other hand, the interest rate on loan significantly decreases in the scope of the relationship, meaning that the higher the number of bank products or services the company has, the grater are the benefits on its interest rate on a loan.

Alongside the evolution of technological innovations that creates serious alternative to relationship lending, the empirical literature has analysed also the impact of the organizational structure of the banks on lending activity to SMEs. Banking industry is living from some years a period of consolidation, resulting in an increase of the size and complexity of banking institutions. Both these two elements have a spatial dimension (Udell, 2009). Technological innovations enable banks to lend from at a longer distance, while consolidation of banking industry necessarily brings to a reduction of the huge amount of local banks at the expense of fewer large groups. Generally speaking, literature has studied distance from two different perspectives. From the borrower's point of view, Degryse and Ongena studied the distance as the proximity between branch and customers' locations (physical or operational distance). On the other side, from the lender's point of view, Berger and DeYoung studied the distance as the remoteness between the headquarters of the bank, where the main decisions take place, and the operating branches that directly serve the final customers (organizational or functional distance). Jimenez et al. focused their research on basic assumption that any large bank faces organizational diseconomies because of the information asymmetries and conflict of interest affecting large organizations. For this reason, they concluded that large complex banks are better to serve larger corporations, using transaction-based lending technologies to make their assessment. Consistent to them, Petersen and Rajan explained how the greater use of Information Technology can help reduce the effect of distance in the process of lending to SMEs by, for example, lowering the cost of monitoring accounts receivable, one of the essential collateral of the asset-based lending. According to them, in fact, advances in computing and communications have increased the availability and timeliness of hard information allowing for more distant and impersonal lending. Several papers show that better communication technologies, computerization of risk modelling and loan underwriting and other technological and financial innovations are contributing to the increase in physical distance between banks and their borrowers (Udell, 2009). On the other hand, a number of studies state that smaller local banks that are close to their borrowers are more adapt to serve small and medium companies, whose opaqueness requires more relational landings. Indeed, in order for relationship lenders to collect the aforementioned soft information, they need to be located close to their borrowers. This proximity enables loan officers to contact personally their borrowers at a relatively lower cost and to use their knowledge of the owner and the connected local community to better assess managerial skills and integrity (Udell, 2009). Moreover, the simple organization of small banks is considered appropriate to deliver relationship lending because this simplification does not require the internal transmission of soft information (Stein, 2002). This is the reason why most of the empirical literature states that the consolidation of the banking system that has characterized at least the last two decades have been a negative effect on the small business lending (see for example Hancock et al. 2006). On the other side, another study found that this reduction in the number of small business lending from merging banks depends on how the acquisition is handled organizationally. Indeed, if the acquired bank is allowed to operate as a separate subsidiary, maintaining the characteristics of a local bank, small business lending tend not to change after the acquisition (Udell, 2009). Thus, large banks that decide to adopt a flexible decentralized strategy can maintain an important role in the small business lending.

Taketa and Udell introduced the lending channel paradigm that combine the concept of lending technologies introduced by Berger and Udell with the type of institution that offers the technology. According to them, the bulk of the literature, that identify relationship lending as the only way to provide credit to SMEs, is over simplifying the topic. Indeed, they demonstrated that a lot of banks use transaction-based lending to provide financing to SMEs, exploiting economies of scale. The same results are achieved by de la Torre et al. In a more recent update of the lending channel paradigm by Udell, it has been introduced also lending-based crowd funding. The lending-based crowdfunding is an alternative form of financing where families and small firms are directly financed by a myriad of investors and borrowers and lenders are connected through online platforms, without the intermediation of a financial institution. The table below represents the composition of the lending channel paradigm:

	Large Banks	Small Banks	Credit Unions	Large commercial Finance Companies	Internet	Corporations
Relationship lending		✓	✓			
Financial statement lending	✓	✓	✓			
Asset-based lending	✓	✓		✓		
Credit scoring	✓					
Factoring	✓	✓		✓		
Fixed-asset lending	✓	✓	✓	✓		
Leasing	✓	✓	✓			
Trade credit						✓
Crowd Funding					✓	

Table 4-2*: Lending channel paradigm*
Source: Udell, Financial innovations, organizations and small business lending

The debate on whether the distance has an impact or not on small business lending and if transaction-based technologies can take the place of relationship lending in serving SME customers must take into consideration also the impact on transaction costs. At the beginning, Elliehausen and Wolken defined two components of transaction costs that are affected by geographic proximity: transportation and information costs. Transportation costs are defined as the costs, both in terms of money and time, sustained by banks or their clients to conduct business in person rather than by other means, such as telephone, mail or, in the last years, online. Moreover, it can be included in the transportation costs all those costs related to the monitoring of borrower after the loan has been grant (for example travel costs due to site visits by a loan officer). Those impacts have a negative effect on the willingness of banks to lend to geographically remote borrowers (Almazan, 2002). Also information costs have a double meaning for both customers and financial institutions. For the customers of the bank, information costs are referred to as the costs the borrower has to sustain in order to make research and find different alternatives among several lenders. On the other side, for banks and financial institutions in general, information costs are associated with those costs they have to face in order to find the above-mentioned hard and soft information they need. Thus, as discussed above, banks who rely on relationship lending to serve SMEs, will face lower costs in case of proximity with the borrowing firm since relationship lending requires an important involvement of the loan officer for long period of time.

Subsequently, empirical literature started study if technological innovations may have an impact on the importance of geographic proximity in banking industry, by reducing its costs and its need to be as less distant as possible from the borrower. Online banking, for example, may have a positive impact on the reduction of transaction costs, enabling borrower and lender to have a distant relationship with fewer in person interactions and without affecting the successful of lending activities (Kenneth & Wolken, 2009). Nonetheless, Amel and Brevoort states that small businesses using online banking reported fewer alternative services available than other peers not using online banking. Consistent with them, Kenneth and Wolken declare that despite online banking has the potential to reduce transportation costs for customers willing to obtain financial services, currently it is just considered as a service enhancement rather than a substitute for in person interaction.

4.3. The importance of Internet Banking

Even if a little bit later with respect to other industries, also the banking sector has been strongly affected by the phenomenon of digitalization in the last years. Internet Banking is revolutionizing the banking industry and is no longer seen as a merely distribution channel but as something affecting the business models. Internet technology was introduced in the US banking industry almost twenty years ago. In 1995, Wells Fargo became the first bank to give its customers on-line access to their account statements, and Security First Network Bank became the first Internet-only bank that same year. By 2002 nearly half of US banking allowed their customers to perform some type of banking transaction over the Internet (Furst, et al., 2002) and the percentage of banks offering this technology has continued to climb since then affecting, of course, also Europe and Asia. As of 2012, bank call report data suggests that 90% of commercial banks offer transactional website and those banks control 95,3% of commercial bank deposits (Frame & White, 2014). Different researchers have studied the importance and impact of Internet technology on the banking business, in order to assess if and where banks can exploit this channel to improve their economic results and the customer experience. It is necessary to distinguish between two classes of banks, according to their business model to provide Internet banking: “bricks and clicks” and “Internet primary” banks (Cyree, et al., 2009). The former utilizes traditional bricks-and-mortar offices, supplemented with the Internet. The latter are electronic, virtual banks having little or no branching system and relying on other physical networks to meet the majority of customers’ physical transaction needs.

Among the researchers regarding the banks adopting a “bricks and clicks” model, Ciciretti et al. (2009) examined the performance of Italian banks and discover a positive link between Internet adoption and bank profitability. Hernando and Nieto (2005) examined the performance of multi-channel banks in Spain finding the same result: Internet adoption is linked with higher profitability, mainly due to increased commission income, increased brokerage fees, and eventual reductions in staffing levels. They also conclude that the Internet channel is a complement to physical banking channels. Again, DeYoung et al. (2007) report that US banks that offered Internet-related services had higher profitability relative to their peers, primarily due to increases in noninterest income from service charges on deposit accounts. Moreover, they agree with the fact that Internet channel is complement to, rather than substitute for, physical bank branches. In contrast, Bonaccorsi di Patti et al. (2004) concluded that Italian banks between 1998 and 2001 were not able to extract substantial consumer surplus by offering dual delivery channels, and thus rejected the notion of channel complementarity. Also Depandani et al. with a study on US credit unions, found no relationships between online banking adoption and profitability, while they found significantly higher operating expenses. Anyhow, it is clear that offering online banking has become a “competitive necessity” (Xue, et al., 2011)

Even if the literature is small, there are some interesting studies that have examined the performance of Internet-only, or “pure-play”, banks, i.e. those banks operating with an “Internet primary” business model. The logic of the Internet-only banking model is straightforward: a bank eliminates its costly branch overhead, uses the savings to subsidize its prices (e.g. charge below-market interest rates to loan customers and/or pay above-market interest rates to deposit customers), and as a result, it can grow faster than its rivals without sacrificing profitability (DeYoung, et al., 2007). In practice, however, many Internet-only banks have had a difficult time implementing this model. DeYoung (2005) analysed the performance of a dozen Internet-only banks in the US between 1997 and 2001. He found that these banks were less profitable than their branch banking counterparts on average mainly for two reasons: marketing costs were higher, as they need to establish a brand without the promotional benefit of a physical branch network, and because they require more highly educated and thus more expensive workforce. On the other hand, he also found that Internet-only banks may have access to deeper scale economies than branching banks due to the fact that bank customers are not geographically limited and average computer system costs decline rapidly as customers are added, and because of this, they are likely to become more financially competitive over time as they grow larger. Delgado et al. (2005) found similar results for Internet-only banks in the EU: Internet-only banks have been outperformed by their traditional competitors. According to Arnaboldi and Claeys (2008), instead, Internet only banks are hard to distinguish from banks that adopt both click and mortar strategies in terms of profitability. Indeed, country-specific features appear to be more important in explaining differences across banks. Cyree et al. (2009) assert that although their accounting profits are not as good as the ones of their traditional peers, the profit efficiency of Internet banks is higher than that of newly chartered traditional banks. This profit efficiency indicates that this business strategy can challenge traditional product delivery institutions if the higher efficiency can eventually translate into higher accounting performance and cash flows. David VanHoose (2009) concludes that there is little evidence that Internet banking may reduce banks' sunk costs which may encourage more entry into banking markets, other things being equal. Available evidence suggests perhaps some revenue enhancement impacts, which for most institutions appear to have been at least sufficient to compensate for the initially higher costs associated with Web banking. While the pre-crisis literature has focused on the presumed cost advantage of Internet-only banks, the credit crisis has drawn attention to the pros and cons of easy scalability in the banking industry (Foss, et al., 2010). In a more recent study, Arnold and van Ewijk (2011) conclude that managing deposit growth appears to be the prime challenge to Internet-only banks because the faster deposit growth, the more difficult it is for lending to keep up. Moreover, "pure-play" banks have high interest-sensitive customers, which imply that any attempt to increase interest rate margins by lowering savings rates, puts the bank funding stability at risk.

4.4. The inefficiency of the actual service model

In addition to what has been said so far, some researchers state that lending to small businesses is much less profitable than lending to corporations. Navaretti et al. highlight the fact that providing loans requires a lot of per-loan fixed costs, such as appraising and monitoring borrowers, that are independent form the loan size. An article on the Communities & Banking of the Federal Reserve Bank of Boston underline the same concept: "smaller loans are more costly for banks to originate and service than larger loans because they require the same resources to approve as more-remunerative loans". In addition, in a research on the actual banking service model for companies, the consulting firm KPMG achieved the same result. According to them, the current banking service model, based on an undifferentiated product / service offering for each type of counterpart, is not sustainable anymore in the long run: the contribution margin on small loans (import lower than €30.000) is negative. Their evidences demonstrate that as the loan size increases, the contribution margin increases too, making less convenient to lend money to small businesses.

	Loans of €10k	**Loans of €30k**	**Loans of €100k**
Active Interests (Average yield of loans 3,4%)	€340	€1.020	€3.400
Passive Interests (Average cost of financing 1,5%)	(€150)	(€450)	(€1.500)
Adjustments (Hypothesis cost of credit 1,00%)	(€100)	(€300)	(€1.000)
Commissions[1]	€8	€8	€8
Intermediation Margin	€98	€278	€908
Fixed Costs[2] (Distribution and personnel costs)	(€ 295)	(€ 295)	(€ 591)
Contribution Margin	(€ 197)	(€ 17)	€ 317

(1) Hypothesis of commissions equal to €500 for a period of 60 months
(2) Hypothesis of daily average costs equal to €591 and effort equal to 0,5 man days for loans lower than €30k and equal to 1 man days for financing equal to €100k

***Table 4-3**: Bank's contribution margin for different loan sizes*
Source: KPMG Advisory

In their opinion, the problem is due to the large amount of fixed costs. These per-loan fixed costs explain the reason why the contribution margin becomes positive just for loans of important entities that are able to absorb the fixed costs. Those costs, in fact, grow less than proportionally than the increase in the value of the loan. This fact leads banks to focus their credit operations only towards bigger companies that borrow significant amount of money, excluding that slice of firms that need loans for just few thousand euro.

If it was true, it would be a big problem for the Italian economy. As it was said before, in Italy there are several entrepreneurs that contribute with their enterprises to create products and services requested all over the words and generate a lot of employment, along with an important part of the Italian GDP. Many of them could need just small loans during their day-to-day operations and if nobody is available to give them the money demanded, they could have relevant problems. In the next session it will be illustrated the current offering towards SMEs of top Italian and European banks, in order to assess which kind of products banks use to serve to their small business clients and to what extent they are already integrating online channels within their distribution model.

5. The current offering of Italian and European banks towards SMEs

Given the situation discussed so far it is evident that banks have to find new solutions in order to modify the status quo. Nowadays several Banking Institutions from all over the Europe are facing investments in order to innovate themselves and to develop new interesting commercial propositions that can capture clients' attention. Nevertheless, it seems that most of the effort is concentrated on the innovation of the propositions towards mass retail clients, offering them, for example, new digital payments method or new dashboard to categorize and analyse their expenses. However, it has already been said, that SMEs clients represent an important customer for banks and, economically speaking, a good source of revenue. For this reason it is interesting to investigate what is the current offering of Italian and European banks towards small businesses, in order to understand if they rely again on a physical involvement, obliging SMEs to come to branches in order to ask for a loan or receive some advises, or if the proposition is developing, moving on a less physical but faster relationship.

In order to understand the current offering of banks towards SMEs, it has been analysed the range of products addressing this category of clients of the first 21 Italian banks, covering almost 80% of the market according to their asset value at 2015. For the purpose of the analysis, these banks have been also split into three clusters according to the dimension of their assets. This categorization is suggested by Banca d'Italia, that divided banks into 3 classes: Large, Medium and Small[10]. The table below represents the list of banks belonging to the Italian panel, the respectively asset value and their clusters:

	Italian Banks	Asset 2015 (M€)	Cluster
IT	UniCredit	860.433*	Large
IT	Intesa Sanpaolo	676.496*	Large
IT	MPS	169.012	Large
IT	Banco Popolare**	120.509	Large
IT	UBI	117.200	Large
IT	BNL	77.494	Medium
IT	BPER	61.261	Medium
IT	Cariparma CA	51.373	Medium
IT	BPM**	50.203	Medium
IT	Popolare di Vicenza	39.783	Medium
IT	Credem	37.544	Medium
IT	Popolare di Sondrio	35.538	Medium
IT	Veneto Banca	33.349	Medium

[10] For further details visit: https://www.bancaditalia.it/footer/glossario/index.html?letter=b

IT	Carige	30.299	Medium
IT	Credito Valtellinese	26.902	Medium
IT	Deutsche Bank	24.186	Medium
IT	Popolare di Bari	14.809	Small
IT	CR Asti	12.277	Small
IT	Banco Desio	12.248	Small
IT	Popolare dell'Alto Adige	8.715	Small
IT	CR Bolzano	8.214	Small

* Comprehend the asset of the whole Group
** Banco Popolare and BPM are now merged into Banco BPM. Anyway, right now their product / service offering is differentiated

***Table 5-1**: Italian panel of analysed banks*
Source: Bilanci Fast, flussi per analisi statistiche, 2015, ABI

To enlarge the research beyond Italian borders, it has been analysed also 38 among the primary European Banking Institutions. The panel of banks has been selected starting from the list of Global Systematically Important Institutions (G-SIIs) draught by EBA, that includes all the largest banks with an exposure of more than €200 billion[11]. This list includes 32 banks coming from 11 countries that ordered form the highest to the lowest value of GDP (excluding Italy) are: Germany, UK, France, Spain, Netherlands, Sweden, Belgium, Norway, Austria and Denmark. On top of this selection, there have been selected other 6 banks representative of the other most important European countries, such as Portugal, Poland, and Luxemburg. Since most of them are huge Banking Group operating throughout the world (e.g. Santander, BNP Paribas, …), have been analysed just the offering within their domestic country. The table below represents the list of banks belonging to the European panel, the respectively asset value and GDP of the country at 2015:

	European Banks	**Asset 2015 (M€)**	**Country GDP 2015 (B€)**
GER	DZ Bank*	408.341	2.815
GER	Commerzbank	402.644	2.815
GER	Bayern LB	215.000	2.815
GER	LBBW	212.901	2.815
GER	Sparkasse	2.157	2.815
UK	Barclays	1.545.100	2.395
UK	RBS	921.684	2.395
UK	Lloyds Bank	917.838	2.395
UK	HSBC	828.241	2.395
FR	BNP Paribas	1.994.193	2.036
FR	Credit Agricole	1.698.900	2.036
FR	Societè Generale	1.335.391	2.036

[11] For the complete list visit http://www.eba.europa.eu/risk-analysis-and-data/global-systemically-important-institutions/2017

FR	Banque Populaire	1.170.000	2.036
FR	Credit Mutuel	458.515	2.036
FR	Banque Postale	233.019	2.036
SP	Santander	1.465.000	1.000
SP	BBVA	689.071	1.000
SP	La Caixa	344.255	1.000
SP	La Caixa	344.255	1.000
SP	BFA (Bankia)	213.699	1.000
SP	Banco Sabadell	208.628	1.000
NET	ING	1.005.000	628
NET	Rabobank	670.373	628
NET	ABN Amro	390.317	628
POL	Alior Bank	40.003	477
SW	Nordea Bank	646.868	414
SW	SEB	262.419	414
SW	Swedbank	225.843	414
SW	Handelsbanken	117.328	414
BEL	BNP Paribas Fortis	273.683	380
BEL	KBC	252.356	380
NOR	DNB	278.369	323
AUT	Erste Group	200.000	314
AUT	Bank Austria	123.590	314
DEN	Danske Bank	442.469	252
POR	Millenium BCP	74.885	199
POR	Banco BPI	40.673	199
LUX	BIL	21.500	58

* Since it is the holding Group of almost 900 German popular banks, it has been analysed the offering of different Volksbank and Raiffeisenbank and it has been selected the bank with the most comprehensive catalogue of products / services for SMEs

Table 5-2: European panel of analysed banks
Source: Banks financial report

In order to categorize products and services offered, they have been firstly divided according to the specific delivery channel: ATM, physical branch, phone banking and Internet banking[12]. Subsequently, it has been defined three different levels of depth, moving from the category to the macro product, ending with the specific product (e.g. Financing – long term – mortgage loan). Details of the three levels are defined in the tables below:

Category	Description
Accounts	It refers to the possibility to open a banking account and perform the main operations / transactions • ATM: withdrawal, balance and transactions, cash deposit, phone / cards charge, cards management, endowments • Branch: withdrawal, balance and transactions, cash deposit, phone / cards charge, cards management, endowments and all the other operations that can be

[12] ATM and phone banking data are not available for most of the European banks

	performed at the branch (excluding payments and collection operations) • Phone: balance and transactions, securities trading • Internet / Mobile Banking: balance and transactions, phone / cards charge, cards management, endowments
Advisory	It comprehends advisory towards SMEs, mostly addressed to the ones that would like to expand their business abroad. It undertakes internationalization (vis-à-vis advisory with a consultant) and VAS, online advisory and matching platforms that provide advices on foreign countries (e.g. market studies, tax system, legal system) and help firms to find the right counterparts (clients and suppliers). In this category are included also advisory services for the financial management support of the SMEs, both for short and long term investments.
Financing	It undertakes the financing products for SMEs, both short term, long term and addressing internationalization. They are divided in the following products: • Overdraft • Working capital loan • Advanced payments for POS • Unsecured • Mortgage • Secured • Specialized • Leasing • Factoring
Help Desk	Help desk service for each kind of problem
Investments	Specific products for the investment of SMEs' liquidity, generally sold toward "standard" products (i.e. investment common funds, repos and so on)
Payments & Collection	It refers to all the products / services for payments and collection, such as the possibility to pay through credit transfers or bank orders (Ri.Ba.), to pay taxes, bills and telephones top-ups, and to use collection instruments such as bank orders, MAV, direct debits, with no distinction between domestic and international payments. Moreover, all banks introduce in this section also the possibility for their firms clients to receive a POS for the reception of payments by means of cards
Rent	Long term rental of vehicles and ICT instruments
Risk management	It comprehends insurance products addressing financial risks (e.g. exchange rate, interest rate, commodity coverage, etc.) and insurance products on life or real estates

***Table 5-3**: Products category legend*

Macro Products	**Description**
Car	Rental of vehicles
Cash management	Service for the management of payments and collections and for

	the firm's liquidity when firms have two or more banking accounts, belonging to different banks
e-invoicing	e-invoice service
Factoring	Service through which a firm gives a batch of credits to a factoring company that will provide to manage them, also integrating accounting and credits collection services. The most famous factoring solutions comprehend: • Non-recourse factoring: the bank does not bear the risk in case of a missed payment • With – recourse: the bank bears the risk in case of a missed payment
Financial risk management	Insurance products for the financial risk management (e.g. exchange rate risk, interest rate risk, commodity coverage risk, etc.)
ICT	Rental of ICT instruments
Insurance	Insurance products on life or real estates
Internationalization	Products that support SMEs that operate or would like to operate abroad. They comprehend the same products included in the Long term and Short Term macro products categories, together with other possible services of payment and collection and advisory for firms that would like to expand their businesses abroad
Leasing	Alternative solution to the purchase, in which there is a contract by means of whom the first part (lessor), grant to the second part (lessee) a goods, receiving regular payments and for a specified period of time. At the end of this period, the lessee can give back the good or become the owner, paying the difference between the amount already payed and the value of the good. It can be split in: • Equipment: leasing for the purchase of plant, equipment, machineries, etc. • Real estates: leasing for the purchase of commercial, industrial or professional properties • Vehicles: leasing for the purchase of cars or other business vehicles • Ships: leasing for the purchase of watercraft or other nautical units • Specialized medical: leasing dedicated for the purchase of medical equipment
Long term	Long term financing products, divided in: • Unsecured: unsecured loan ("chirografario") that is issued and supported only by the borrower's creditworthiness and that can be granted with no guarantees or collateral • Mortgage: financial loan ("ipotecario") useful for firms to finance their investments in properties and real estates. The property or real estate that is financed is used as collateral of the loan • Secured: financial loan guaranteed by third parties (e.g. "confidi", specialize entities, associations, etc.) • Specialized: financial loan specialized for specific

	industry (e.g. agriculture, tourism) and, usually, guaranteed by some category association or from the State
POS transaction	Possibility to consult the overall POS transactions and to download the list of the operations in order to perform, directly on the PC, analysis and elaborations on the data gathered
Short Term	Short term financing products, divided in: • Overdraft: extension of credit when the banking account reaches zero • Working capital loan: financing products specific for the working capital (e.g. advance invoices) • Advanced payment for POS: financing products specific for the financing of the payments collected through POS, as an alternative form of financing for short periods of lack of liquidity • Secured: financial loan guaranteed by third parties (e.g. "confidi", specialize entities, associations, etc.) • Unsecured: unsecured loan ("chirografario") that is issued and supported only by the borrower's creditworthiness and that can be granted with no guarantees or collateral • Specialized: financial loan specialized for specific industry (e.g. agriculture, tourism) and, usually, guaranteed by some category association or from the State
Stocks recap	Possibility to visualize the stocks portfolio from the ATM screen
VAS	Innovative product or service, usually but not mandatory linked to digital innovation, with unique characteristics with respect to all the other products of the same category. It is a product that is present in few or no other banks and that distinguish the offering of that specific bank with respect to the others[13]

***Table 5-4**: Macro Products legend*

Products	Description
Account receivable coverage	Products to cover credit risk on account receivables
Advanced payment for POS	Short term financing products specific for the payment in advance of transactions collected through POS
Business matching	Online platform useful to find new business opportunities and to meet companies stemming from connected industries (also abroad)
Commodity coverage	Products to cover the risks related to the possible increase of the price of commodity raw materials
Documentary credit	International trade procedure in which the credit worthiness of an importer is substituted by the guaranty of a bank for a specific transaction. Under documentary credit arrangement (also called

[13] In this category reside advisory services from industry experts, support for the internationalization of companies, support for financial forecasts, alternative funding (like P2P), and others that according to consulting companies like BCG, Strategy& and KPMG are among the main services for the next generation corporate banking (sources: BCG, Global Corporate Banking 2016 and Strategy&, Banks' small business imperative, KPMG, Nuovi modelli distributive nel settore bancario).

	letter of credit arrangement) a bank (usually in the importer's country) undertakes to pay for a shipment, provided the exporter submits the required documents (such as a clean bill of lading, certificate of insurance, certificate of origin) within a specified period[14]
Equipment	Leasing for the acquisition of plant, equipment, and so on
Exchange rate coverage	Products to cover the exchange risk over foreign currencies
Fast credit	Specific financing products through which firms can receive the money they need within few working days (generally 48 hours)
Finance support	Value added products / services, usually linked to digital innovation, that characterize the offering of a specific bank (VAS) and that support small businesses with their financial management (e.g. business plan creation, cash flow management,…)
Interest rate coverage	Products to cover the risk of an increasing variable interest rate
Internationalization	Products that support SMEs that operate or would like to operate abroad. They comprehend the same products included in the Long term and Short Term macro products categories, together with other possible services of payment and collection and advisory for firms that would like to expand their businesses abroad
Mortgage loan	Financial loan (“ipotecario”) useful for firms to finance their investments in properties and real estates. The property or real estate that is financed is used as collateral of the loan
Overdraft	A credit agreement made with a financial institution that permits an account holder to use or withdraw more than they have in their account, without exceeding a specified maximum negative balance. Establishing an overdraft facility with a bank can help an individual or small business with short term cash flow problems, although the negative balance typically needs to be repaid within a month[8]
Real estate	Leasing for the acquisition commercial or industrial buildings
Secured loan	Financial loan, both long and short term, guaranteed by third parties (e.g. “confidi”, specialize entities, associations, etc.)
Ships	Leasing for the acquisition ships or other watercraft
Specialized agri	Financial loan, both long and short term, specialized for agricultural insudtry and, usually, guaranteed by some category association or from the State
Specialized chemist	Financial loan, both long and short term, specialized for pharma industry and, usually, guaranteed by some category association or from the State
Specialized construction	Financial loan, both long and short term, specialized for construction industry and, usually, guaranteed by some category association or from the State
Specialized craftsmanship	Financial loan, both long and short term, specialized for craftsmanship industry and, usually, guaranteed by some category association or from the State
Specialised	Financial loan, both long and short term, specialized for

[14] Documentary credit. BusinessDictionary.com. Retrieved August 20, 2017, from BusinessDictionary.com website: http://www.businessdictionary.com/definition

Manufacturer	manufacturer and, usually, guaranteed by some category association or from the State
Specialized tourism	Financial loan, both long and short term, specialized for tourism sector and, usually, guaranteed by some category association or from the State
Unsecured loan	Unsecured loan ("chirografario") that is issued and supported only by the borrower's creditworthiness and that can be granted with no guarantees or collateral
Vehicles	Leasing for the acquisition cars or other industrial vehicles
Working capital loan	Short term financing products specific for the working capital (e.g. advance invoices)

***Table 5-5**: Products legend*

Category	Macro Product	Product
Accounts	Standard	/
	Stocks Recap	/
Advisory	Internationalization	Internationalization
	VAS	Business Matching
		Finance Support
		Internationalization
Financing	Factoring	/
	Leasing	Equipment
		Real Estate
		Ships
		Vehicles
		Specialised medical
	Long Term	Internationalization
		Mortgage Loan
		Secured Loan
		Specialised Agri
		Specialised Chemists
		Specialised Construction
		Specialised Craftsmanship
		Specialised Manufacturer
		Specialised Tourism
		Unsecured Loan
	Short Term	Advanced payment for POS transactions
		Internationalization
		Overdraft
		Secured Loan
		Specialised Agri
		Specialised Manufacturer
		Specialised Tourism
		Unsecured Loan
		Working Capital Loan
	VAS	Fast Credit
Help Desk	/	/
Investments	/	/
Payments & Collection	Cash Management	/
	e-invoicing	/
	Internationalization	/
	POS transaction	/
	Standard	/
	VAS	/
Rent	Car	/
	ICT	/
Risk management	Financial	Account receivables coverage
		Exchange rate coverage
		Interest rate coverage
		Commodity coverage
	Insurance	/
	VAS	Exchange rate coverage

***Table 5-6**: Recap of product categorization*

5.1. Italian view

As already said in the former chapters, SMEs represent the bulk of the Italian firms, strongly contributing to the overall employment. Therefore, many Italian banks decided to prepare a target offering encompassing this category of clients, differentiating products and services from the ones already offered to other segments, such as individuals or corporate. Among the overall amount of products and services targeting SMEs, the great majority is referred to financing products (349) (**Figure 5-1**)

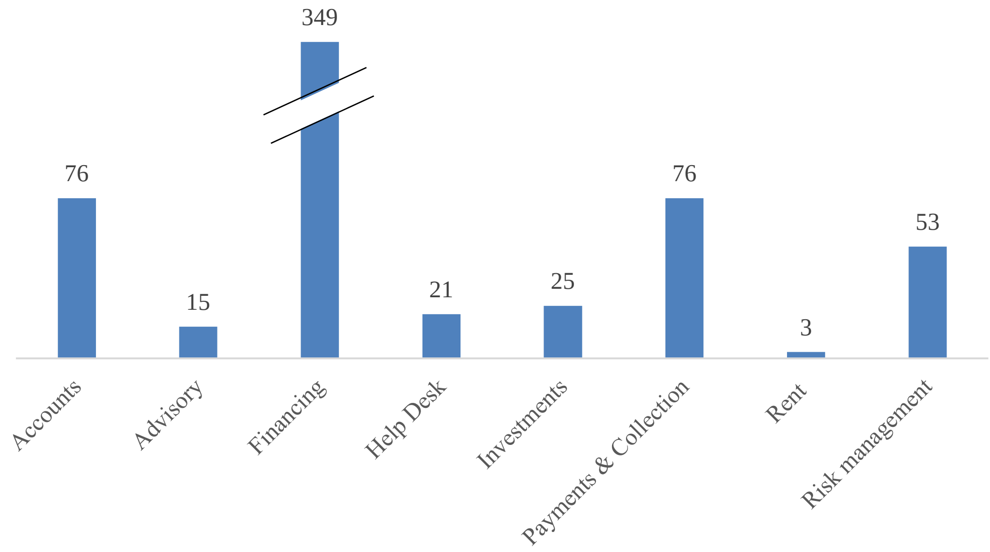


***Figure 5-1**: Distribution of Italian banking products for category*

This result is not surprising at all, considering both perspectives: banks make substantial part of their income statements through lending activities, while SMEs constantly need financing products, both long term for their investments and short terms for their running operations. This result highlights once more how lending is the key element of the relationship between banks and SMEs. The other relevant categories, of course, are related to the operations on a banking accounts (76) and services for the main payment and collection instructions (76) that are almost always available through all the four delivery channels.

Focusing on the financing category, the most widespread products are long term ones (163). Indeed, they are offered under many forms and target different needs: from the purchase of plants or equipment to the financing of a specific agricultural product, with differences in terms of guarantees, duration and maximum amount. Naturally, all banks offer also several kinds of short term products, mainly aiming to support firms' working capital. Leasing products are also commonly offered by banks, targeting mostly the purchase of a vehicle or an equipment. An interesting point is the presence, in almost all the banks belonging to the panel, of factoring products. Nowadays, factoring has become a well known product also among small firms that slowly are starting to exploit it as an alternative to the simple invoice advances.

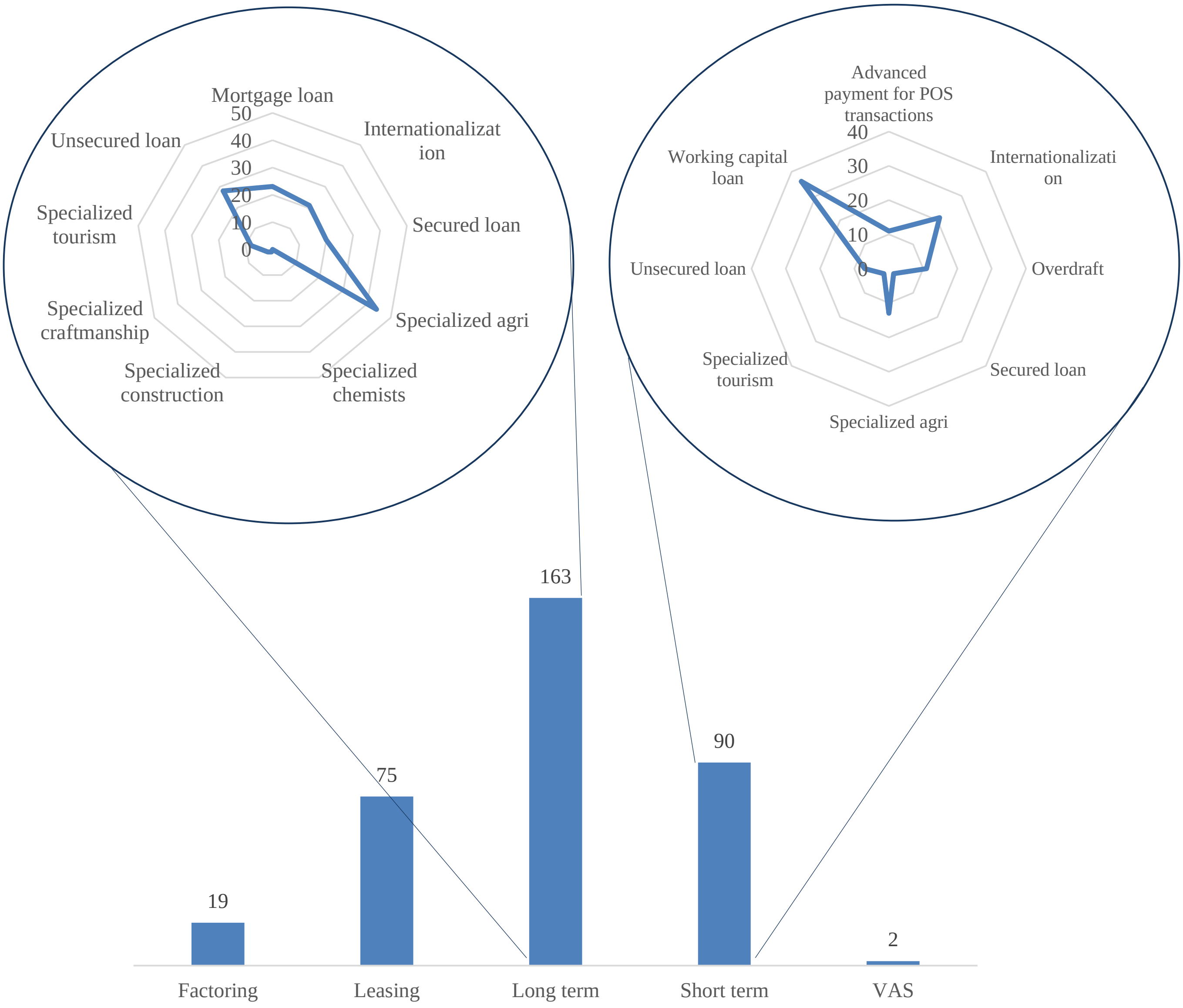


Figure 5-2*: Detail of Italian financing products with focus on short and long term loans*

Beside the almost standard aforementioned products, the two Italian major banks, UniCredit and Intesa Sanpaolo, offer outstanding products categorized as VAS. Fast Credit is a UniCredit specific product for SMEs that, thanks to a simplified valuation process, enable them to receive credit in less than 2 days. For the most outstanding firms that can benefit of this product, it is an interesting opportunity to get almost immediately access to credit, providing just few documents. On the other side, Intesa Sanpaolo offers Programma Filiera, an exclusive program that encompasses a series of comprehensive products for the most outstanding supply chains. As a result of the collaboration with a so called "Capofiliera"[15], the Turin based bank offers ease access to finance to firm's suppliers and helps the supply chain to optimize the whole cash management.

Giving a sight to the channels through which financing products and services are provided, it is evident that banks continue to rely on branches as main distribution channel. On the total number of financing products offered by banks in the panel (349), just 6 of them can be purchased by SMEs through their Internet Banking, while the remaining ones are available just moving to branches. **Figure 5-3** and **Figure 5-4** show the number of financing products offered by Large and Medium banks through their physical and digital channels while Small Italian banks do not have any financing product offered through the digital channel.

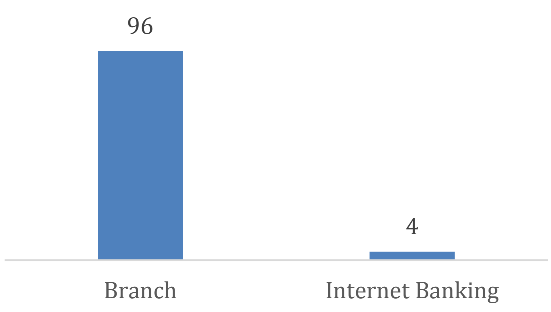


Figure 5-3*: Number of financing products offered by Large banks through physical and digital channels*

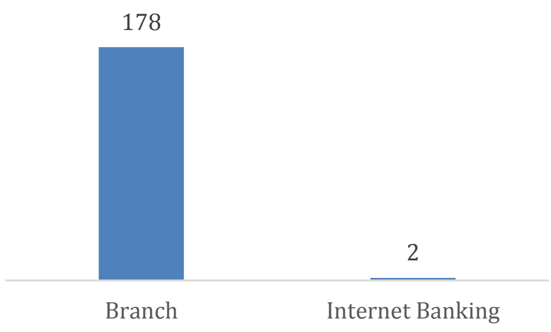


Figure 5-4*: Number of financing products offered by Medium banks through physical and digital channels*

The 6 innovative products offered are summed up in table below:

Bank	Macro Product	Product	Product Name	Description
UniCredit	Short term financing	Working capital loan	Anticipo fatture online	It enables SMEs to manage autonomously the payment in advance of their invoices, uploading them directly on their Internet Banking
Intesa Sanpaolo	Short term financing	Working capital loan	Anticipo fatture web	It exploits the Inbinz portal through which firms can require, monitor and manage payment in advance of their invoices towards domestic and foreign clients
Intesa Sanpaolo	Factoring	/	Factoring Inbinz	It exploits the Inbinz portal through which firms can require factoring services (e.g. advanced payment of credits, credit collection support, etc.)

[15] A firm is considered "Capofiliera" if it is a valuable, top performer firm with several suppliers that compose its supply chain

Banco Popolare	Short term financing	Working capital loan	Anticipo fatture online	It enables SMEs to manage autonomously the payment in advance of their invoices issue towards Italian clients
BNL	Short term financing	Unsecured loan	Credit BIZ	It enables firm to ask for a short term loan of up to € 30k directly online. It requires firms to pass from the branch for the final signature
BNL	Long term financing	Unsecured loan	Credit BIZ	It enables firm to ask for a medium term loan of up to € 50k directly online. It requires firms to pass from the branch for the final signature

***Table 5-7**: Description the 6 Italian VAS financing products*

Thus, it is evident that the offering of Italian banks towards SMEs through digital channels is quite poor. In most cases, what SMEs can do with their online banking are basically the elementary operations, such as to have a look at their banking accounts and dispose payment and collection operations. This is particularly true for Small banks, that on average, offer 3 products / services through their internet banking, i.e. a remote banking to check their balance and perform basic operations of payment and collection and an e-invoicing system or a report of the transactions with the POS. Large banks offer on average more than two times (6,8) the number of products / services offered by Small banks through Internet banking (**Figure 5-6**).

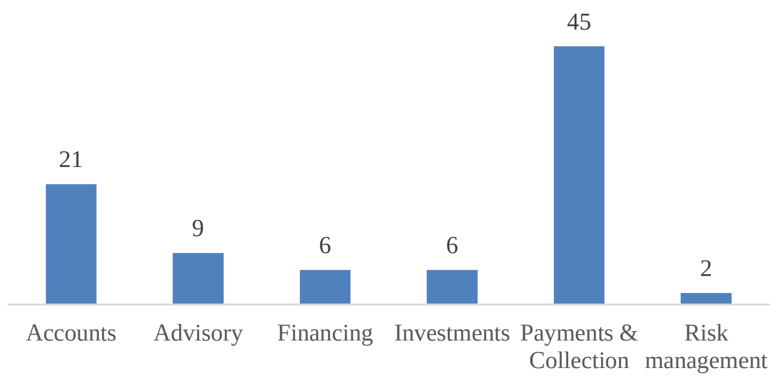


***Figure 5-5** Detail of Italian products / services available through Internet Banking*

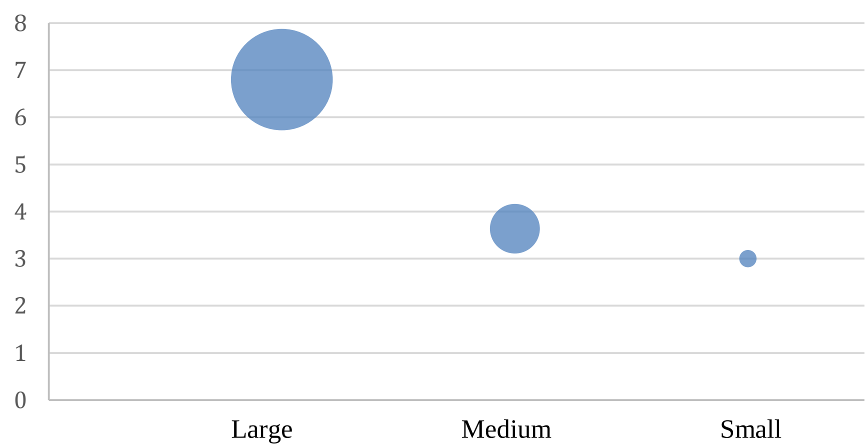


***Figure 5-6**: Average number of products offered through IB per cluster of banks*

However, beside the aforementioned financing products, some banks are trying to differentiate themselves with interesting products / services (VAS), most of them offered through their online channels, especially in the advisory category. Among the most interesting ones there are UniCredit's My Business View and My Business Manager, Intesa Sanpaolo's Opportunity Network, and BPER's BEPR Estero (for further details please refer to chapter 6.1). Together with Intesa Sanpaolo and BPER, also BNL, Cariparma Credit Agricole and Veneto Banca offer an advanced platform for SMEs that would like to expand their businesses abroad, with the possibility to consult update information on foreign countries, to receive specialized online advisory and to contact possible foreign partners. These three innovative services can be considered a direct consequence of the increasing necessity for Italian SMEs to expand their businesses overseas. In this sense, banks are trying to position themselves as a trusted partner to support most enterprising SMEs that want to undertake new ventures abroad.

Indeed, even if through quite simple products, almost all banks of the panel offer specific products targeting firms that operate, or would like to do it, with foreign counterparts. As highlighted in the pie chart, the bulk of the products are related to loans, bot short and long terms, in order to support Italian SMEs for their investments abroad and for their needs to finance their export or to anticipate invoices that have to be payed by foreign clients. In this process, banks are accompanied by entities, such as EIB[16] or SACE[17], that act as guarantor for SMEs, enabling them to borrow money at a discount rate and covering all or part of the financing in case of company's financial distress.

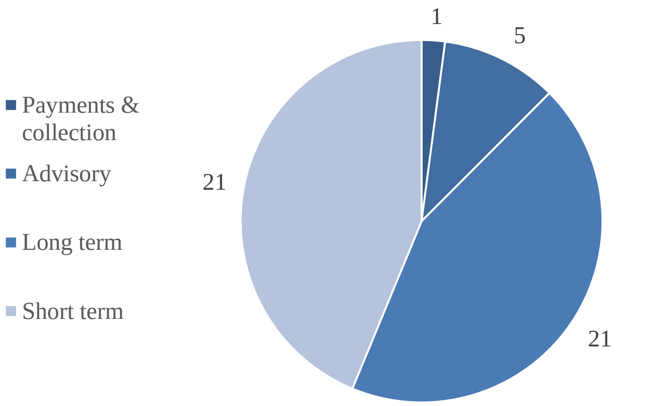


Figure 5-7*: Detail of Italian internationalization products*

[16] The European Investment Bank (EIB) is jointly owned by the EU countries and seeks to boost Europe's potential in terms of jobs and growth lending at favourable conditions to firms with worthy projects. Source: https://europa.eu/european-union/about-eu/institutions-bodies/european-investment-bank_en

[17] SACE is a company 100% owned by Cassa Depositi e Prestiti (CDP) that offers assurance and financing products to support the export and internationalization of Italian firms. Source: http://www.sace.it/chi-siamo

In this sense, there are not great differences among the three clusters of banks, since also Small banks offer, on average, almost the same amount of internationalization-related products / services as Medium and Large ones. What truly differentiate banks, is both the type of product / service and the delivery channel. Indeed, Small banks offer just financing products for companies that want to invest abroad or that already have some deals with foreign counterparts by means of their branches. This is true also for Medium and Large banks that do not offer international financing products through their Internet Banking. Nevertheless, they are trying to differentiate their offering, through specialised advisory services targeting SMEs that operate overseas (as mentioned before). Moreover, UniCredit offers also a useful "Payment & Collection" online platform (Export Manager) that helps SMEs managing their invoices with foreign counterparts, with an automatic reconciliation of payments and invoices and an automatic sending of payment request to foreign debtors.

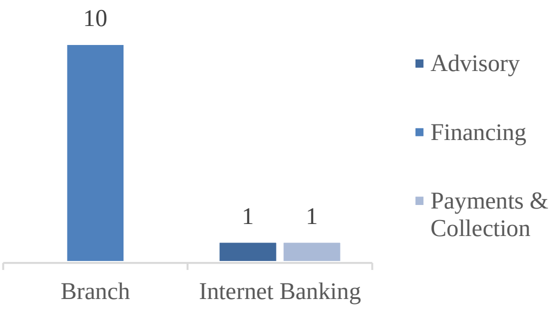


***Figure 5-8**: Number and type of internationalization products offered by Large banks through physical and digital channels*

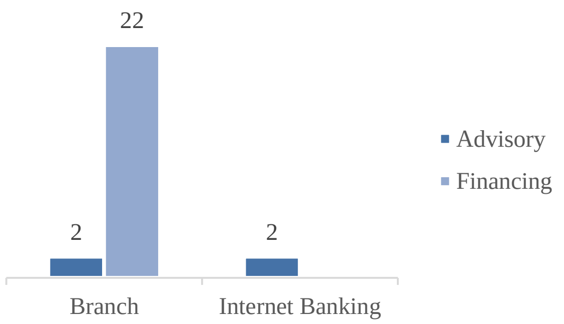


***Figure 5-9**: Number and type of internationalization products offered by Medium banks through physical and digital channels*

Internationalization products are by far the ones where bigger banks are trying to differentiate their offerings towards SMEs. As represented in **Figure 5-10**, the greater part of VAS resides in the advisory services (8), 6 of which targets companies' internationalization needs through the above-mentioned business matching platforms. However, excluding larger banks, the other Banking Institutes have quite a poor offering both in terms of VAS and in terms of digital distribution channels, relying once again on simple, standardized products, mainly sold by means of their branches.

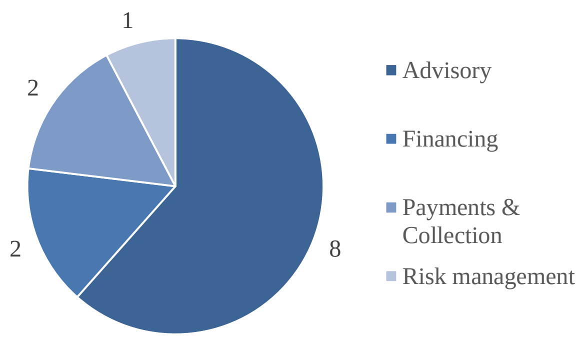


***Figure 5-10**: Detail of Italian VAS*

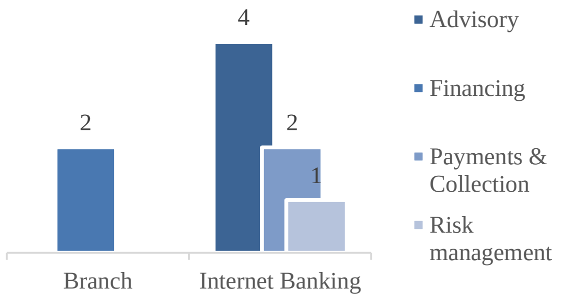


***Figure 5-11**: Number and type of VAS products offered by Large banks through physical and digital channels*

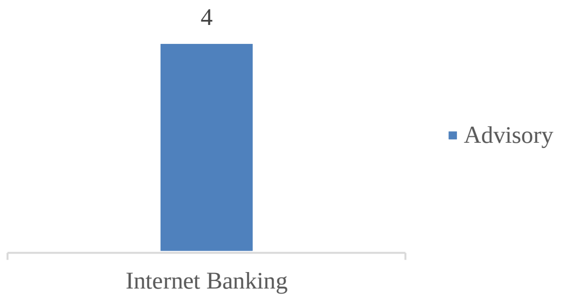


***Figure 5-12**: Number and type of VAS products offered by Medium banks through physical and digital channels*

Thus, it is possible to split Italian banks on a matrix (**Figure 5-13**), where the x-axis corresponds to the number products / services offered online, the y-axis corresponds to the number of VAS offered, both online and offline, while the dimension of the ball corresponds to the asset value (i.e. the bigger the ball, the higher the asset value of the bank).

It is evident that an abyss divides the two biggest banks, UniCredit and Intesa Sanpaolo, from the others, both in terms of online number of products / services and number of VAS. Few exceptions arise: in terms of VAS, BPER, BNL, Cariparma CA and Veneto Banca stand out for their business matching platforms, while MPS is noticeable for its service that support SMEs to analyse their historical results and perform accurate business plan (MPS Piattaforma Commerciale). In terms of online banking, the bulk of the banks in the panel has at least 3 categories of products, enabling their firms to make and control transactions (accounts and payments & collection) and, usually, to make investments or to issue e-invoices. Few medium banks stand out for their important presence of online products (at least if compared with the rest of Italian market). It is the case of Cariparma CA, that adds cash management, POS transactions, as well as business matching services, to its standard offering, and BNL, that boasts of two financing products to its online catalogue (even if both of them require coming to branch for the final signature).

Therefore, it is possible to identify four categories of banks splitting matrix into four quadrants, according to the number of VAS (higher or lower than 2) and the number of products / services served online (higher or lower than 4).

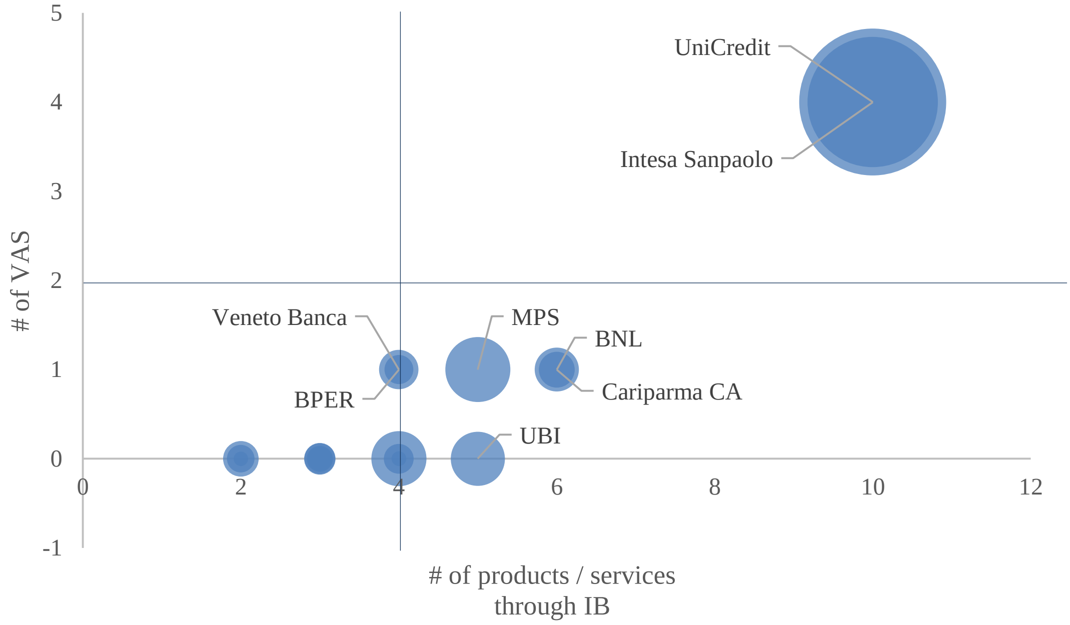


Figure 5-13*: IB – VAS matrix for Italian banks*

As usual, UniCredit and Intesa Sanpaolo are the two market leaders, and can be considered Digital Leader, since they offer a lot of services by means of their online channels (10 products / services each). Moreover, some of them are very innovative and characteristic, enabling the two banks to distinguish their offers from the ones of all the other banks (e.g. My Business View and My Business Manager for UniCredit and Opportunity Network and ISP for Value for Intesa Sanpaolo).

Eight banks, instead, can be considered Digital Compliant (Banco BPM, BNL, BPER, Cariparma CA, MPS, Popolare dell'Alto Adige Popolare di Sondrio, UBI and Veneto Banca), since they do not offer many outstanding products or services but have a good catalogue of online products. Consequently, even if there are still margin of improvements, especially in the quality of the products offered, these banks are at a good point for facing the digital evolution required to the banking sector.

The bulk of the banks is still a Digital Follower, since they have few or none value added services or products and also their digital offering is quite poor. These banks offer the minimum online products needed by SMEs and also their offline offering is not innovative. These banks should improve their digital presence on the SME segment and find new ways to capture clients, otherwise future SMEs, lead by more innovative and digital entrepreneurs, will surely opt for other Institutes, or maybe, third players (i.e. FinTech or Internet OTT)

Finally, no Italian banks can be considered Digital Aspirational, since no one sells value added products or services almost completely offline, highlighting the fact that nowadays banks are trying to be innovative and diversify their offerings mainly by means of digital channels.

To sum up the results:

Quadrant	Metrics	Banks	%
Digital Leader	• # of p / s through IB ≥ 4 • # of VAS > 2	UniCredit, Intesa Sanpaolo	10%
Digital Compliant	• # of p / s through IB ≥ 4 • # of VAS ≤ 2	MPS, UBI, BNL, Cariparma CA, Banco BPM, BPER, Pop. di Sondrio, Veneto Banca, Pop. dell'Alto Adige	43%
Digital Follower	• # of p / s through IB < 4 • # of VAS ≤ 2	Pop. di Vicenza, Credem, Carige, CreVal, Deutsche Bank, Pop. di Bari, CR Asti, Banco Desio, CR Bolzano	48%
Digital Aspirational	• # of p / s through IB < 4 • # of VAS > 2	N/A	0%

Table 5-8: Summary of the IB – VAS matrix results for Italian banks

Actually, the only element that can save small local banks from the attack of FinTech and other competitors that offer digitally driven services, is the offering of customized products / services for specific sectors. Indeed, smaller local banks could leverage their territory knowledge and presence in order to distinguish their offering and remain competitive, at least with local SMEs.

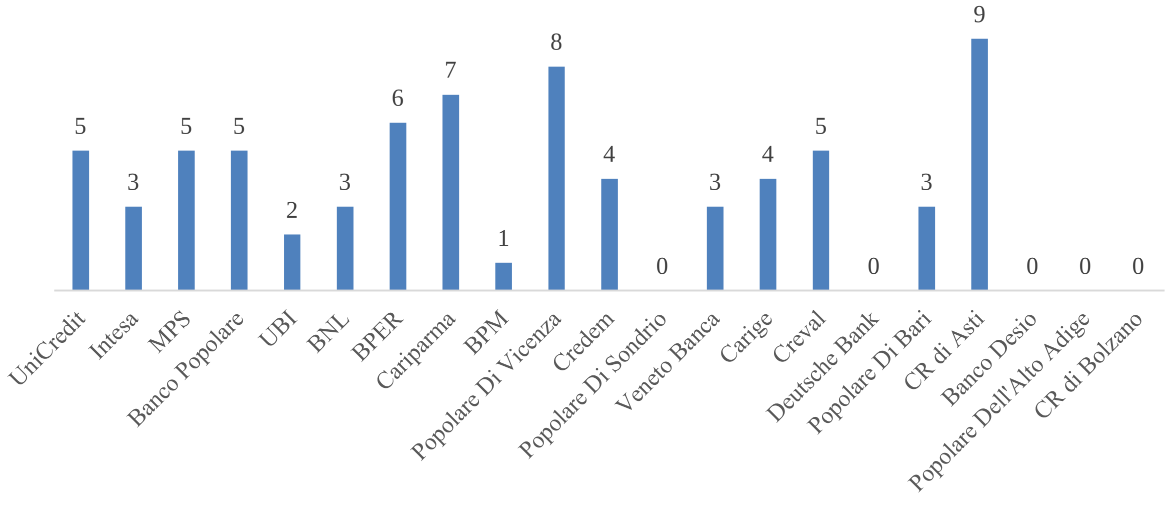


***Figure 5-14:** Detail of number of products for specific industry in each Italian bank*

According to this view, several banks developed a specific commercial proposition on some industries, trying to customize their products on the specific needs of that precise industry

As shown in **Figure 5-15** the number of products customized for specific industry is independent from bank's dimension (in the chart, banks are positioned from the biggest one, UniCredit, to the smallest one, CR Bolzano). Indeed, many small and medium banks have at least the same number of products for specific industries of the top 5 banks. Of these kind of products, offered just through the physical channel, the vast majority targets the agribusiness (57), followed by tourism (10). The most active banks in finding products for specific industries are the medium ones. In particular, Medium banks in Emilia Romagna have several customized products for small firms operating in their territory. Some examples of products customized for agribusiness are the credit line for the financing of the aging wines (Cariparma CA, Orizzonte Vino) or for the aging of cheese and ham (Credem, Anticipo Merci Agricoltura).

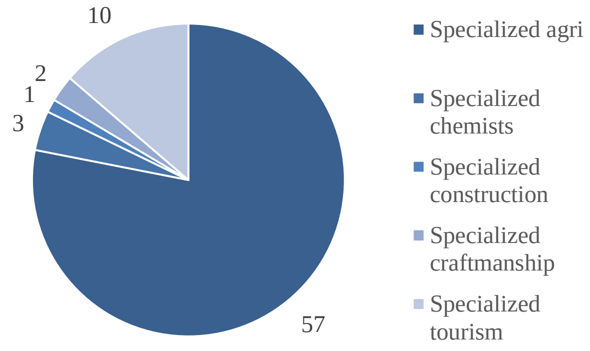


***Figure 5-15**: Detail of Italian products specialized for each specific industry*

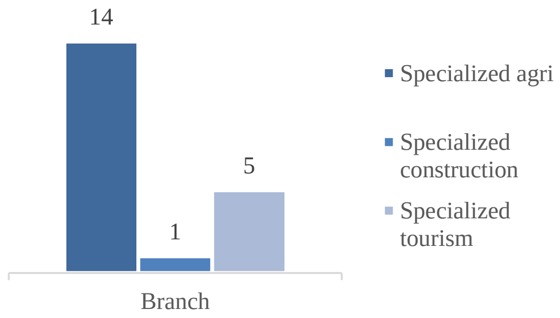


***Figure 5-16**: Number and type of specialized products offered by Large banks through physical channel*

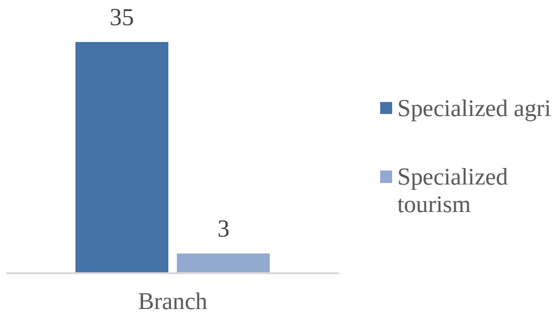


***Figure 5-17**: Number and type of specialized products offered by Medium banks through physical channel*

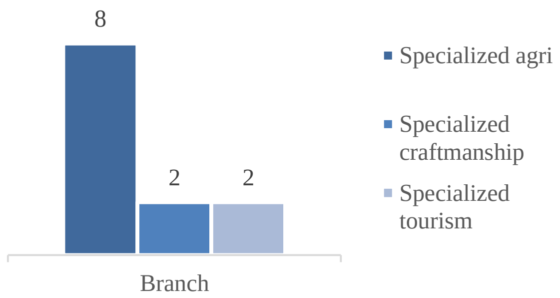


***Figure 5-18**: Number and type of specialized products offered by Small banks through physical channel*

Finally, the hypothesis that Small and Medium banks are pushing more on specific products, vertical on determined industries, rather than on a growing digital offer, is highlighted by **Figure 5-19**. The chart puts on the x-axis the number of products served through Internet Banking and on the y-axis the number of specialized products for a specific sector. It shows that the two biggest banks, Intesa and UniCredit, are the most advanced in terms of Internet Banking products, as already said, while are absolutely on average with their smaller competitors for what concerns the specificity of products for industries. Smaller and medium banks, should thus leverage this local knowledge and local presence, exploring new digital way to support their small firms through less expensive and more innovative channels. Naturally, this process has to go hand in hand with the digitalization growth of these small local firms, slowly helping them moving from the traditional channels to the most innovative ones.

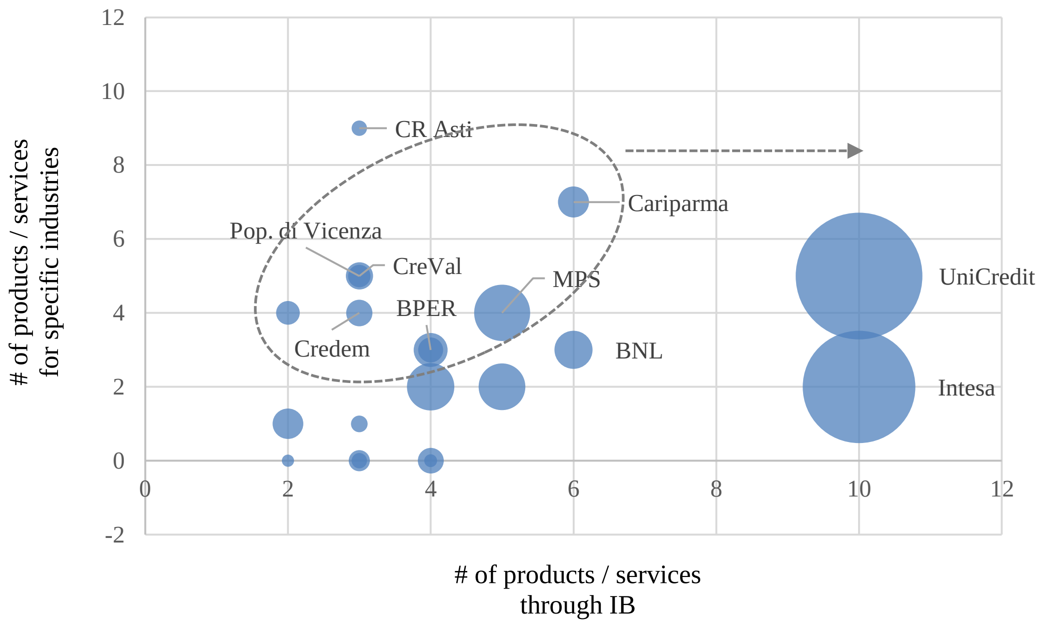


***Figure 5-19**: IB – Specific industry products matrix for Italian banks*

5.2. European view

Having a look outside Italian borders, the situation is quite different, especially in terms of digital channel offering. In this sense, in fact, European banks seem more prepared to serve small firms through their online channels. Anyway, it must be always remembered that the panel of European banks comprehends just the biggest banks for each country, without investigating the current offering of smaller banks. Nevertheless, looking at how products are split through the macro category, there are not differences among Italian and European banks. The dominant macro category is, again, the one referred to financing products (485, that is almost 13 per each bank), of course the most important products for both small businesses and banks not only in Italy but also throughout the Europe. Second and third places are taken up by payments and collection products / services (111) and banking accounts (84), necessary, of course, for the SMEs operations. The main difference between European and Italian banks lays in the greater presence of renting products among European Institutions. It is more widespread in Europe than in Italy that SMEs ask for a long lasting rent of a vehicle, as an alternative to the "standard" leasing or direct purchase, to their banks rather than directly to specialised renting companies.

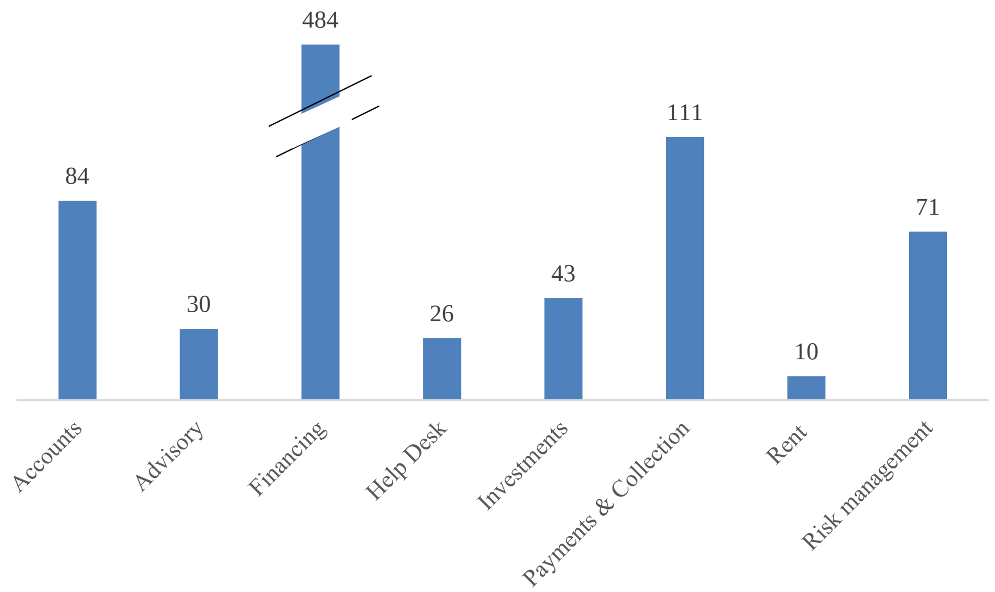


Figure 5-20: *Distribution of European banking products for category*

Within financing products, the dominating category is newly the one related to long term products (200), with mortgage and secured loans that cover the vast majority of them. The result was easily predictable, since banks require important guarantees before issuing long term loans of important entity. It does not surprise that the second most widespread category of products is the one related to short term loans (135), fundamental for day-to-day operations also throughout European small business. Leasing products are also commonly offered, targeting principally vehicles, equipment and real estate. Finally, also in Europe the great majority of banks in the panel offer factoring products to their SMEs clients.

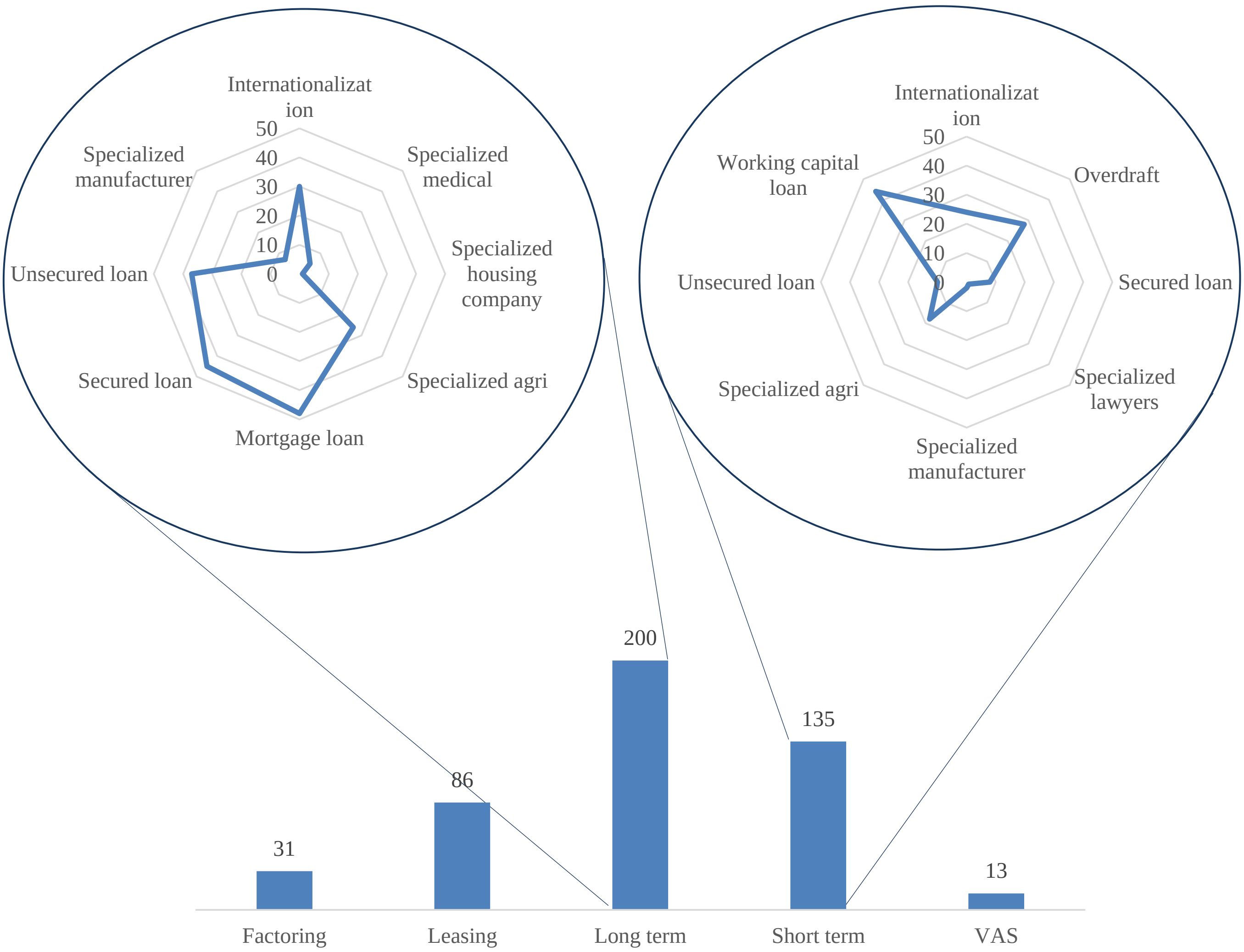


Figure 5-21*: Detail of European financing products with focus on short and long term loans*

In addition to the mentioned products, there are 11 banks (Barclays, Bayern LB, Banco Sabadell, BNP Paribas Fortis, Commerzbank, Credit Mutuel, ING, Nordea, Rabobank, SEB and Societè Generale) that offer innovative financing products categorized as VAS. The most innovative bank is ING that places three innovative products: fast credit finanicng, with the application submission in less than 10 minutes and money available on firm’s banking account in less than 48 hours; crowdfinding financing, through the partnership with Douw&Koren, on of the most famous crowdfunding pltaforms in Netherlands; and supply chain finance services, where ING connects in an intelligent way all trade partners onto an ad hoc web platforms, providing advantages such as transparent trade recivables / payables status, automatic payment and faster funding, support in order to avoid negative impact on buyer and supplier, and many others. ING covers all the type of VAS financing products, while the other banks have one or two services similar to the ones proposed by the Datch bank. For example, fast credit is provided also by:

- BNP Paribas Fortis: the Belgian bank of BNP Paribas Group offers fast credit through "Streight Loan", a product that enables companies to receive credit on their banking account within 48 hours
- Societè Generale: it issues loans within 48 hours for amount up to € 50k
- SEB: the Swedish bank's SME customers can apply for a loan between 10k and 300k Swedish Krona (i.e. 1k – 30k Euro) and receive them within 24 hours
- Barclays: it offers long term loan (up to 10 years) for an amount of maximum £25k, giving the answer within 48 hours

For what concerns P2P lending, it is already offered by:

- BNP Paribas Fortis: it offers crowdfuning financing by means of a partnership with MyMicroInvest, that allows firms to finance 20% of their capital through crowdfunding.
- Commerzbank: through the Main Funders platform, it enable P2P lending for sum between 200k and 10 million euro
- Rabobank: it collaborates with 4 crowdfunding platforms that differentiate according to the target customer and the maximum amount of funds collectable. In particular:

Platform	**Target**	**Financing (€)**
Collin Crowdfund	SME Entrepreneurs	50k – 2.500k
One Planet Crowd	Project with social impact	50k – 2.500k
ZIB Crowdfunding	For financing real estate	1.000k – 2.000k
Customized Capital	SME Entrepreneurs	25k – 2.500k

Moreover, Rabobank developed Money Meet Ideas, an online platforms that meet together entrepreneurs and investors in order not only to raise funds but also to develop together business ideas

- Nordea Bank: with its own portal, the first Sedish bank help prospect start ups to collect money for their businesses

Moreover, also Bayern LB offers a Supply Chain Finance product that helps companies belonging to the same supply chain to optimize their cash flows and create advanteges through the right management of liquidity.

VAS - Financing products are sum up in the table below:

VAS – Financing Product	Bank	Delivery Channel
Fast Credit	ING	Internet Banking
	BNP Paribas Fortis	Internet Banking
	Societè Generale	Branch
	SEB	Branch
	Barclays	Branch
P2P lending	ING	Internet Banking
	BNP Paribas Fortis	Internet Banking
	Commerzbanzk	Internet Banking
	Rabobank	Internet Banking
	Nordea Bank	Internet Banking
Supply Chain Finance	ING	Internet Banking
	Bayern LB	Internet Banking

***Table 5-9**: List of VAS – Financing products*

However, looking at the overall amount of financing products, the most of them are distributed through branches (**Table 5-10**).

Banks	Branch	Internet Banking
ABN Amro	6	2
Alior Bank	10	9
Banco BPI	19	
Banco Sabadell	19	
Bank Austria	10	1
Banque Populaire	18	
Banque Postale	6	
Barclays	9	
Bayern LB	7	
BBVA	13	1
Belfius	9	
BFA	22	
BIL	7	
BNP Paribas	24	2
BNP Paribas Fortis	10	3
Commerzbank	7	1
Credit Agricole	14	1
Credit Mutuel	3	
Danske Bank	12	1
DNB	7	
DZ Bank	8	
Erste	12	
Handelsbanken	7	
HSBC	14	1
ING	5	8
KBC	5	2
La Caixa	17	
LBBW	12	
Lloyds Bank	23	
Millenium BCP	17	
Nordea Bank	8	2
Rabobank	18	3
RBS	10	1
Santander	16	
SEB	12	
Societè Generale	11	
Sparkasse	10	
Swedbank	9	
Grand Total	**446**	**38**

***Table 5-10**: Number of financing products for each bank per delivery channel*

Nevertheless, Eruopean banks rely more on digital channels than Italian banks that are more focused on physical ones. Indeed, 38 financing products can be purchased by SMEs directly through their internet banking. The most innovative banks in this sense are ING and Alior Bank with respectively 8 and 9 financing products / services offered online. These two banks give the possibility to their clients to ask for a wide set of loans, both short and long term ones, directly on thier website, reducing the amount of documents required and, of course, the time needed to get a loan. Beside these three banks, also a dozen of other European Groups offer online financing products .

Country	Bank	# of IB Financing Products
GER	Commerzbank	1
FR	BNP Paribas	2
	Credit Agricole	1
UK	HSBC	1
	RBS	1
SP	BBVA	1
NET	ING	8
	Rabobank	3
	ABN Amro	2
BEL	BNP Paribas Fortis	3
	KBC	2
SWE	Nordea Bank	2
POL	Alior Bank	9
AUT	Bank Austria	1
DEN	Danske Bank	1

Exluding the aformentioned VAS – Financing products / servics, the bulk of the financing products offered though the digital channel refers to short / medium term loans with a limited amount of money (usually around € 30k). This is quite straightforward, since SMEs online loan issuing is at its first phases and risk assessment processes must be sharpen. The following table offers some examples of these products:

Bank	Macro Product	Product	Product Name	Description
BNP Paribas	Short term financing	Unsecured	Credit PRO en ligne	It enables SMEs to ask for a loan of a sum up to € 30k and for a period of time between 24 and 60 months directly online
Credit Agricole	Short term financing	Working capital loan	Crèances Services	It enables SMEs to manage autonomously the payment in advance of their invoices getting their money within 24 hours
BNP Paribas Fortis	Short term financing	Unsecured	Le crédit pour versement anticipé d'import	It enables SMEs to ask for credit and pay their taxes directly online

KBC	Short term financing	Working capital loan	Straight loan	It enables SMEs to fund short term operational requirements directly online
ING	Short term financing	Working capital loan	ING Rekening Courant Krediet	It enables firm to ask for a short term loan of up to € 5k directly online
Alior Bank	Long term financing	Unsecured loan	Prestito in linea	It enables firm to ask for a medium term loan of up to € 150k and for a period of time up to 120 months directly online

Table 5-11: *Description the main 6 European Financing (non-VAS) products issued through digital channel*

The above table represents just an extraction of some of the products offered by the 6 banks through their online channel. Anyway, it is significant to highlight the investments that European banks are doing in order to develop their current offerings to provide faster and seamless user experience to their business customers. Thus, even if full digital loan issuing is still a work in progress for many banks, a lot of Institutions are exploiting an omnichannel approach, with a customer that can start its loan application on the web, and complete it moving to the branches. This is the case, for example, of BBVA, that allows its customers to start the lending process of almost all its credit products online, or of the UK based Lloyds Bank, that enables SMEs to complete online the enquiry for a loan in about 10 minutes. In a second phase, an agent of the bank will contact the company in order to discuss with more details the business needs of the company[18]. The same process is performed also by Rabobank, that lets its customers start the lending process online and contacting him in order to discuss about details.

Once again, what SMEs can do with their online banking are the elementary operations, such as to have a look at their banking accounts and dispose payment and collection operations. Obviously, also European banks have a series of outstanding products categorized as VAS. Beside the aforementioned fast credit, P2P lending and supply chain finance solutions, it is possible to

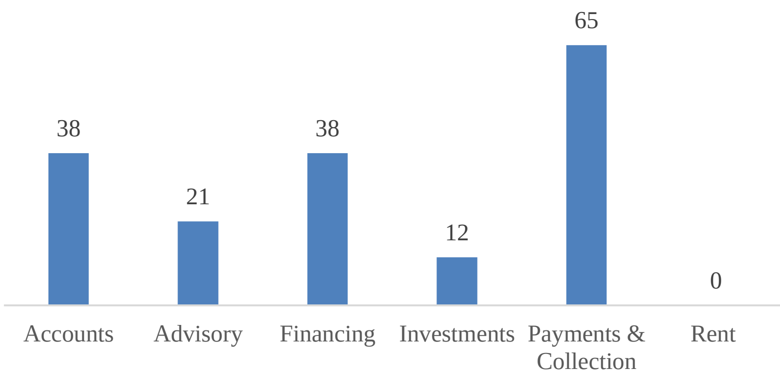


Figure 5-22: *Detail of European products / services available through Internet Banking*

[18] For more details: https://apply.lloydsbank.co.uk/personal/a/gforms?formId=F035&prodType=GN#

find advanced web platforms that support small companies that would like to expand their businesses in a foreign country. It is the case of Societè Generale “Import Export Solutions”, a complete website that provides to companies useful information on foreign markets, a tool for the research of partner overseas and support for the choice of the best financing products for external investments. Like SoGen, also Banco Sabadell offers “Sabadell International Business”, an online portal for the internationalization of companies, with advise on where and how to invest in foreign countries and a valid support to find partners overseas. In the same way, “BBVA con tu empresa” gives companies, in addition to the previous features, suggestions about possible target foreign countries suitable for the specific company and support for the computation of the right price in the right place.

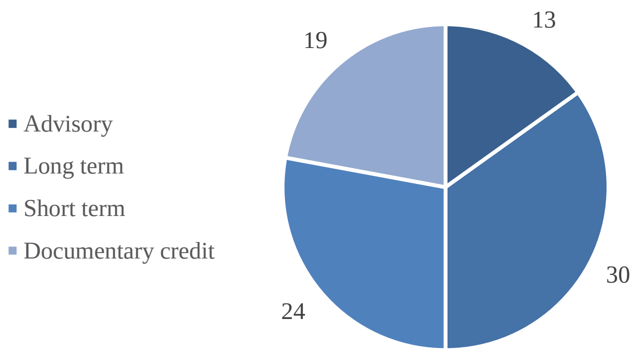


Figure 5-23: *Detail of European internationalization products*

Naturally, banking offerings of products / services for the internationalization of companies encompass also more standard products. The greater slice of the pie chart refers to the already mentioned secured products due to the important investments coming form the European Union in order to support the development of European companies that would like to expand their businesses abroad. Of course are not missing working capital or forfaiting products, for the advance payment or financing of export / import but also documentary credit products, useful to guarantee that the payment will be set only when goods have effectively been sent by the supplier.

With respect to the Italian situation, European VAS products are just partially focused on internationalization of companies, such as the aforementioned web platforms. For example, changing perspective but remaining on advanced web platform, Rabobank offers “FAR”, an ad hoc

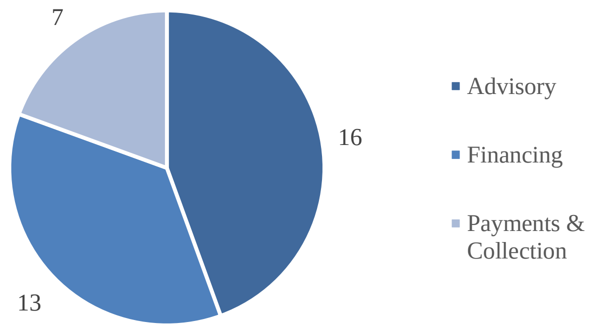


Figure 5-23*: Detail of European VAS*

platform specialised for the agribusiness (for further details please refer to chapter 6.1). Similarly, Credit Mutuel dedicates an ad hoc platform, “Agrisalon” to its agricoltural customers, in order to give them a simple tool where they can find all the relevant products and information targeting the agri business. Moreover, some European banks offer P2P financing as an alternative form of funding for small businesses that find difficulties in accessing funds through the standard channels. These offerings are embedded in banks catalogues even if are performed by third specialised parties.

However, if it is possible to say that European offering through digital channel is a little bit more developed than the Italian ones, the same conclusion cannot be taken considering VAS products for SMEs. Obviously, it makes no sense to compare the panel of the 21 Italian banks, that comprehends also less significant banks, with the G-SIIs and the other top biggest banks of the main European countries. However, it is possible to include the two Italian G-SIIs, UniCredit and Intesa Sanpaolo, together with the other top 38 European banks in the IB – VAS matrix, in order to compare the main differences. The matrix highlights the fact that many European banks have a discrete online offering towards SMEs, with more than half of the bank that offer four or more products / services by means of their internet banking. The most outstanding and truly Digiltal Leader bank is ING that, being mainly a

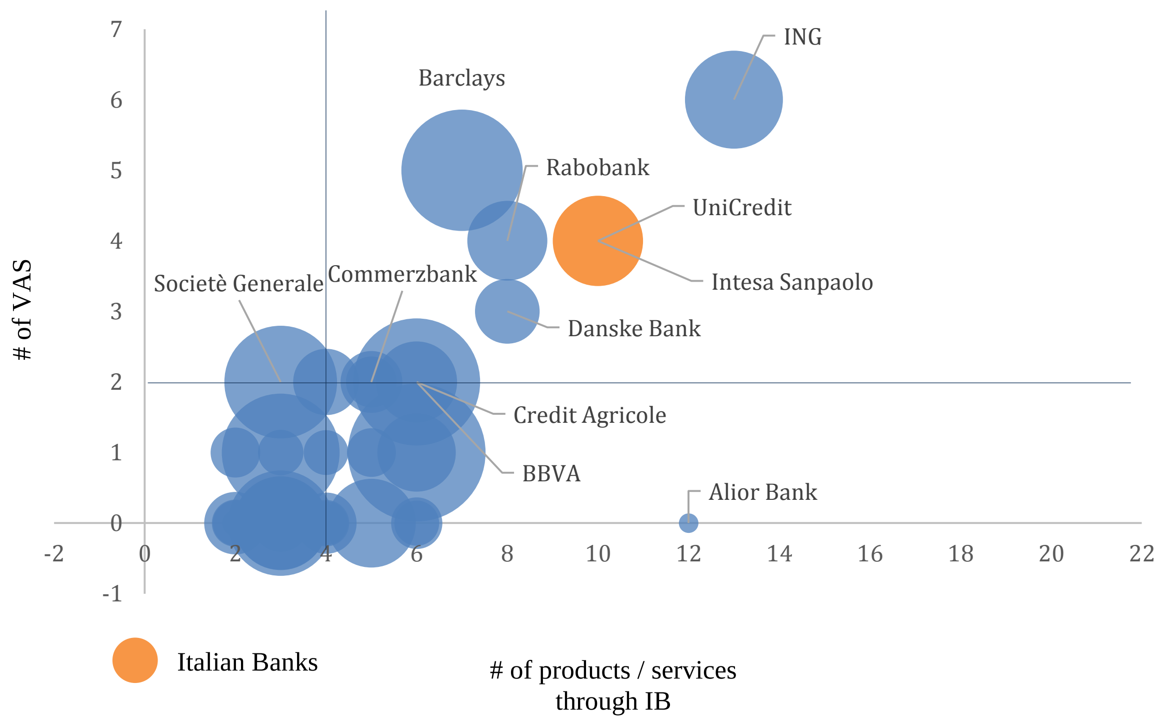


Figure 5-24: IB – VAS matrix for European banks

digitital bank, offers most of its products fully online. Furthermore, it prposes a lot of value added services spreading from international advisory to easy way of financing. Nevertheless, three other banks stand out for their innovation. It is the case of the other Dactch bank Rabobank, that offers several P2P options and two interesting advisory web portals, targeting agricoltural and international companies respectiverly. Then teher is Barclays, that beside a fast credit product, offers a complete dashboard that supports SMEs with cash flows forecasts and marketing information. Finally, also Danske Bank can be considered a Digital Leader, since it provides a platform with all the relevant market information for each companies' sector, a business matching platform in order to put in contact buyers and suppliers and "Dynamic Pay", an online solution that buyer and supplier can use to automate payments and billing. In addition, Commerzbank, BNP Paribas Fortis and Credit Agricole lay on the line to be a digital leader, offering a good number of online products and a couple of VAS, such as P2P lending, fast credit and an interesting informative platform on markets and industries. Also BBVA is in the same situation but it deserves more attention. The Spanish bank, indeed, has a huge amount of products / services that can be purchased directly online, even if the final approval requires visiting the branch. For this reason, even if most of its products are quite standard (e.g. short term loan, long term loan, leasing, and so on) it could be considered almost a Digital Leader. Moreover, it is intersting to highlight the effort that such a big bank like BBVA is doing in order to innovate itself and streamline its processes and the customer experience of its small business clients. Finally, also Alior Bank stads out for its huge amount of products issued through the digital channel and even if they are quite standard products (i.e. simple financing products), it can be considered one of the most innovative banks.

The bulk of European banks can be considered digital compliant, in the sense that offers an interesting number of online products / services but few or none VAS. It is the case of Noredea Bank and LBBW that offer several products through the digital channel, including short term financing or market portal, but that do not have many truly innovative and outsandig offerings.

A good number of European banks resides in the Digital Follower quadrant. Most of them present an offering towards SMEs that is almost completely offline, except for the basic features that each bank must have (i.e. standard online accounts and payments & collection). It is quite odd to see in this quadrant a bank like Santander that can be considered one of the top worlwide banks but that in Spain has a quite basic offering for its SMEs clients.

The unique bank that lays in between the two left quadrants and can almost be considered a Digital Aspirational is Societè Generale. Indeed, even if its online franch offering twards SMEs is quite poor, it has a couple of interesting products such as Jet Pro, that gives you the money you need within 48 hours (even if it is providided just physically through branches) and the Import Export Solutions portal for the internationalization of firms.

To sum up the results:

<table>
<tr><th>Quadrant</th><th>Metrics</th><th>Banks</th><th>%</th></tr>
<tr><td rowspan="11">Digital Leader</td><td rowspan="11"># of p / s through IB ≥ 4
# of VAS > 2</td><td>Alior Bank</td><td rowspan="11">27,5%</td></tr>
<tr><td>Barclays</td></tr>
<tr><td>BBVA</td></tr>
<tr><td>BNP Paribas Fortis</td></tr>
<tr><td>Commerzbank</td></tr>
<tr><td>Credit Agricole</td></tr>
<tr><td>Danske Bank</td></tr>
<tr><td>ING</td></tr>
<tr><td>Intesa</td></tr>
<tr><td>Rabobank</td></tr>
<tr><td>UniCredit</td></tr>
<tr><td rowspan="14">Digital Compliant</td><td rowspan="14"># of p / s through IB ≥ 4
# of VAS ≤ 2</td><td>ABN Amro</td><td rowspan="14">35%</td></tr>
<tr><td>Banco BPI</td></tr>
<tr><td>Banco Sabadell</td></tr>
<tr><td>Bank Austria</td></tr>
<tr><td>BNP Paribas</td></tr>
<tr><td>Credit Mutuel</td></tr>
<tr><td>DNB</td></tr>
<tr><td>Erste</td></tr>
<tr><td>HSBC</td></tr>
<tr><td>KBC</td></tr>
<tr><td>LBBW</td></tr>
<tr><td>Nordea Bank</td></tr>
<tr><td>Sparkasse</td></tr>
<tr><td>Swedbank</td></tr>
<tr><td rowspan="4">Digital Follower</td><td rowspan="4"># of p / s through IB < 4
# of VAS ≤ 2</td><td>Banque Populaire</td><td rowspan="4">35%</td></tr>
<tr><td>Banque Postale</td></tr>
<tr><td>Bayern LB</td></tr>
<tr><td>Belfius</td></tr>
</table>

		BFA BIL DZ Bank Handelsbank La Caixa Lloyds Bank Millenium BCP RBS Santander SEB	
Digital Aspirational	# of p / s through IB <4 # of VAS >2	Societè Generale	2,5%

Table 5-12: *Summary of the IB – VAS matrix results for European banks*

In this view stand out the two bigger Italian banks, that for what concern the offering towards SMEs are among the most innovative in the market, belonging to the 27,5% of European banks with the most advanced digital offering. As already said, their innovative proposition towards this kind of customers covers a vast group of services, that move from a fast credit issuing to innovative digital platforms for the day-to-day business of every kind of small company.

Concluding the analysis on European banks it is useful to have a look on the offering that these top banks have in order to face specific needs of certain industries. It is not a surprise that banks that in the IB – VAS matrix belong to digital follower or digital compliant quadrants are the ones with a good proposition in terms of industry specificity. Indeed, some banks like Lloyds Bank, La Caixa or SEB, rely more on products customized for specific industries rather than on a pushing digital offering. Indeed these banks offer several products addressing specific sectors such as agricultural, medical or manufacturer. Beside them and together with Rabobank and its FAR platform, also giant banks like BNP Paribas and Credit Agricole count on a good industry proposition with products and services targeting mainly the agribusiness.

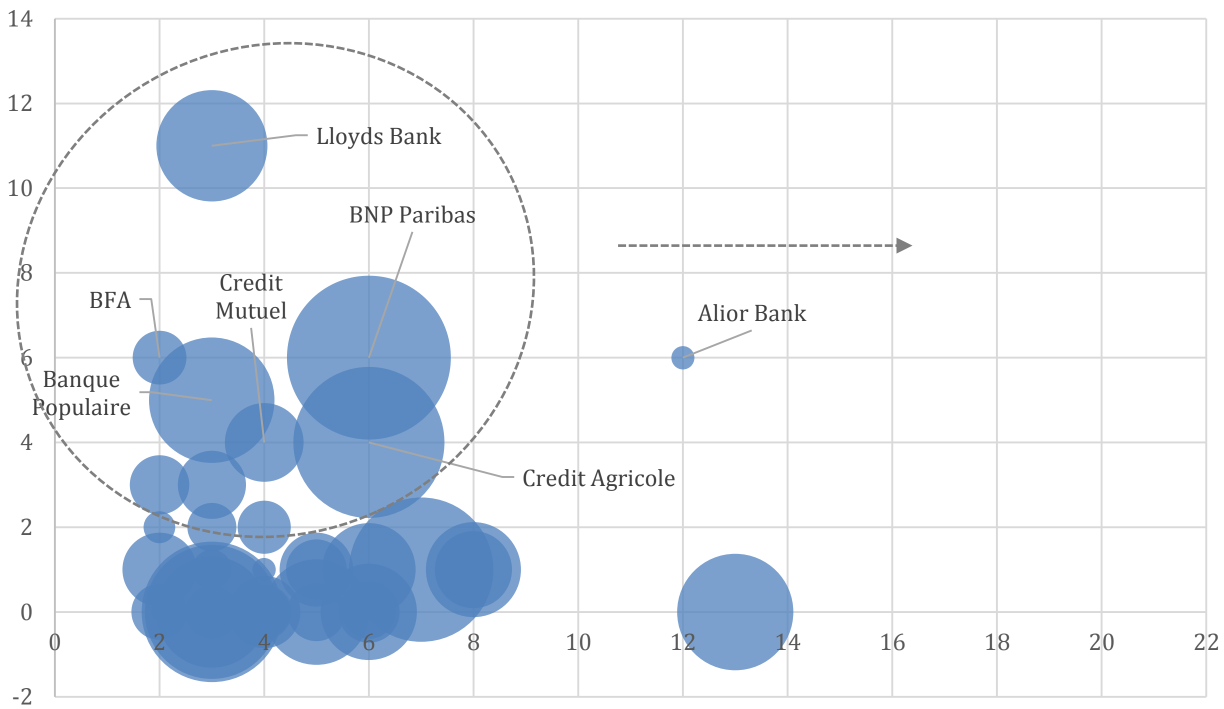


Figure 5-25*: IB – Specific industry products matrix for European banks*

6. How digital can help improving business banking. Possible solutions and real cases

Digital innovation is changing traditional small business banking. The continuous research of efficiency by the banks, along with the increasing demand of small business owners who are raising their expectations in their business banks, is pushing the transaction of banking institutions through digital solutions also for small business clients. Banking are looking for ways to exploit digital innovation to support small business activities, solving their day-to-day problems and helping them expand above their geographical border. Moreover, banks can often take advantage of the investments that have already been made in retail banking digital platform. As highlighted by Oliver Wyman in the report on European retail and SME credit, "banks that successfully digitalise their SME offering can benefit enormously. In North America, Bank of Montreal and PNC claim significant increases in customer numbers as a result of online and mobile banking offers targeting small business owners". Nevertheless, as resulted from the analysis of the previous chapter, there is again room for improvement in terms of digital proposition for SMEs. For this reason, this chapter would like to give some hints on the possibilities that could rise from the digitalization. It starts with the recap of some of the most interesting products that came out from the analysis of chapter 5, going on with some suggestions for innovative products, also through the cooperation with FinTechs, and ending with possible opportunities stemming from the PSD2, everything accompanied by some examples coming from the real world.

6.1. Online advisory and internationalization

Many times in the previous paragraphs have been said that a great portion of NPL in banks' balance sheets derives from corporate clients, especially the smaller ones. The reason behind this evidence is straightforward: a lot of SMEs do not have sufficient financial knowledge. This is particularly true in Italy, even if it is a general problem of SMEs from all over the world. Generally, Italian entrepreneurs have great ideas and are able to deliver niche products, requested also from foreign countries. Thus, the default of many SMEs is often due to lack of financial expertise and dangerous financial choices and not because of a poor product, difficult to sell on the market.

The actual relationship between banks and firms is based on a dispute for the lowest spread on the loan or the line of credit, without reasoning on the value added elements. Usually, what SMEs really need is a deep support in financial activities, such as instruments of cash flow forecasting and the right advisory on how to finance an investment or what the main movement of the markets are. Indeed, many SMEs do not have an internal solid and specialized accounting, finance and control business unit and, consequently, do not have a CFO that takes reasonable decisions with a financial viewpoint. This lack of financial knowledge often bring small firms to undertake hazardous actions that in some years lead the business to fail.

In this field, the digital can have an important role. Online advisory is already reality for the retail clients of many digital banks, such as Wediba and Fineco, and soon can affect the corporate segments. Such digital capabilities, in fact, are playing a significantly greater role in the selection process of the banks. According to a research performed by BCG, “after financial stability, service excellence, and business understanding, customers rated digital capabilities the most important factor in evaluating their business-banking relationship requirements.” In the same research, they highlighted the importance of human interaction that, however, must be accompanied by newly digital solutions because “banking clients expect those one-on-one relationships to be complemented with smart, tailored, digitally enabled service.” (The Boston Consulting Group, 2016)

By now, the two leading banks in Italy, UniCredit and Intesa Sanpaolo, have developed some interesting digital tools to support their small business clients. In particular, UniCredit merchants that need a POS to run their business, can activate My Business View (**Table 6-1**), a service that gives to business owners a set of intuitive graphs and synthetic prospects, useful to deepen their business trends and the buying habits of their customers.

My Business View	**Advantages**	• Professional analysis of customers buying habits to monitor the movement of the business during time • Up-to-date data, represented in an aggregated and anonymous form • Support for the elaborations of commercial and marketing strategy
	Functions	• To deepen the buying habits, with preferred times and the average outlay of the bill • To confront the results of your business with the one of your direct competitors and the markets • To check different point of sales with the same instruments and the support of numbers and graphs

Table 6-1: *Description of UniCredit My Business View*
Source: UniCredit webpage

Another interesting product offered by UniCredit is My Business Manager (**Table 6-2**), a useful tool for all the SMEs that have more than one banking account. This product offers not only an aggregated view of all the expenses and financial situation of the firm, but also help it to understand what could be the most suitable financing products according to its operations and its current situation. Furthermore, it is possible to manage autonomously advanced payment of account receivables.

My Business Manager	**Advantages**	• Entrepreneur has its business under control and accesses all its firm's main banking information • Analysis of possible reasons for particular positive or negative peaks and future financial planning • Possibility to verify in any moment the situation of its own financings
	Functions	• Dashboard with automatic expenses categorization and possibility to insert cash flow forecasts • Complete view of all the financings and forecast of possible future liquidity needs • Possibility to ask autonomously for an advance payment of account receivables

Table 6-2: *Description of UniCredit My Business View*
Source: UniCredit web page

On the other hand, Intesa Sanpaolo offers to its small business customers Opportunity Network, an online platform where they can publish request of commercial collaborations, acquisitions, sales and meet online firms coming also from foreign countries (**Table 6-3**).

Opportunity Network	
Advantages	**Functions**
• Useful to expand the contact network of the firm, not only in Italy but also overseas • Valuable advisory from professionals of the banks to enlarge the business of the firm	• Guided procedure to publish several business opportunities and meet different firms • Assistance support from the bank in order to better plan possible business relations

Table 6-3: *Description of ISP Opportunity Network*
Source: Intesa Sanpaolo web page

It is known that export is a fundamental component of Italian economy and Italian products are very well appreciated by foreign countries. Moreover, the increasing globalization of the market is pushing several companies to find new interesting customers abroad. Sometimes this is an issue for small businesses that are used to sell their products within their border and do not have sufficient means and expertise to go out of the country. For this reason, many banks are developing online platforms, such as the aforementioned Opportunity Network of Intesa Sanpaolo, able to support SMEs in their expansion abroad.

In Italy, these kind of digital solutions are spreading also through smaller banks that want to be among the first movers of the country. A practical example is BPER, that recently launched its platform BPER Estero, developed to increase and improve the internationalization paths of the firms, providing directly online the resources and information needed by answering to four simple questions (**Table 6-4**).

BPER Estero	
Where to go?	**What to export?**
A deep analysis of the most suitable foreign markets for the internationalization strategy	A deep analysis of the products and the opportunities offered by the foreign commerce
How to do?	**How to supply abroad?**
Support in the definition of the most efficient strategy for each firm (banking services, opportunities and institutional support)	A deep analysis of the dynamic of the principal commodities pricing

Table 6-4: *Description of BPER Estero*
Source: BPER web page

A similar product is offered also by some European banks. An example is provided by BBVA, the second biggest bank in Spain, that offers BBVA Con tu empresa, a digital web platform that support Spanish SMEs that would like to expand their business overseas by means of advisors expert in different markets and sectors **Table 6-5**.

Con Tu Empresa	
Advantages	**Functions**
• Useful to understand how to approach foreign markets • Valuable advisory from professionals of the banks to better assess the market and find the right pricing for the products exported	• Guided test to assess its own business and advise on which are the most potential markets for the specific business • Assistance on the actual tariffs of the market and the best pricing to apply

Table 6-5*: Description of BBVA Con Tu Empresa*
Source: BBVA web page

Nevertheless, different businesses belong to different sectors and their related economics are different from one industry to another. For this reason, it would be better for some banks to specialize on specific industries and become a leader of that specific segment of firms. SMEs need an advisor that deeply understand the challenges of a specific market, that help them recommending where to invest and not to invest and that is able to forecast possible development of the market and the connected impact on the cash flows of the firms. Logically, the choice of the target industry, such as agribusiness, energy or mechanic, will depend on the specific context of the local market, on the dimension of the industry and on the possibility to create differentiation with respect to other banks. Industry specialization would mean, for example, to create tailored products for that industry, to hire specialists coming from that industry that become valuable advisors but also useful risk managers because the economics of an agribusiness firm are radically different from the ones of an energy firm and experts would prevent to take unnecessary risks.

In Europe, Rabobank is one of the bank that provides a real application of this solution. As highlighted in chapter 5, the Dutch bank has developed, beside a generic but well detailed platform that gives online advisory and insights of several markets, a specific platform for the agribusiness. FAR, that stands for Food & Agribusiness Research and Advisory, is a platform that provides a lot of reports created by more than 80 food & agribusiness research analysts that collect information and spot opportunities using local knowledge and global reach (**Table 6-6**).

Rabobank

FAR	**Advantages**	• Possibility for all the firms active in food and agribusiness to access up-to-date information about their sector • Access to specialised financial products and advisory provided by agribusiness experts
	Sectors	• Agri commodity markets • Animal protein • Beverages • Consumer foods • Diary • … and many others

***Table 6-6**: Description of Rabobank VAR*
Source: Rabobank web page

Of course, not all the solutions described so far lead directly to an increase in the revenue of the bank. Nevertheless, they have two main effects that will be visible in the long run. On one side, firms will become more autonomous and will not need to visit a branch to have financial advisory, with some clients that may ultimately opt for an entirely digital self-service model. The digital approaches will enable the advisors to spend more one-on-one time serving as strategic advisors to high-value clients and to use digitally enabled tools and channels to streamline service and expand client reach. On the other side, banks may sustain those high-value small business clients during their growth, benefitting from the long run partnership and the different products and services that the companies may need to run their expanding business.

6.2. Product standardization and multichannel distribution

"Most large banks suffer from significant and unnecessary product complexity" (Bain & Company, 2016). This complexity brings to a wide number of superfluous costs that banks are not permitted to sustain anymore. Often, each product has different risk management processes, as well as separate operations and technology. Moreover, the current banking service model is based on an undifferentiated product / service offering for each type of counterpart that carries to a strong reduction of margins, especially for small size financing. Consequently, as showed also in the **Figure 4-1** in the chapter 4, smaller firms have much more difficulties than larger ones in obtaining financing, avoiding them the possibility to invest and to grow.

In order to manage this product complexity, some leading banks are pursuing different approaches for different segments of customers. According to Bain & Company, in general, small businesses with relatively simple needs, are interested in modular bundle of standard products. Larger firms, instead, are more complex than SMEs and require more advanced auxiliary products and advisory solutions (**Table 6-7**).

Segment	Banking Needs	Requirements to win
International Large Corporations	• Full suite of products focused on international cash management, trade finance, cross-border transactions • Broad set of advisory services, including high volume investments, structured finance and risk management	• Competitive full range product/ service offering and market-leading advisers, product specialists, services • Service model and offering aligned across geographies • Strong implementation and integration abilities
Midsize Enterprises	• Full suite of products focused on international cash management and trade finance • Setup that can grow with company, access to advisers on business plans, structured finance and risk management • Access to select product specialist	• Abilities to scale offering and identify changing needs as the business grows • Relationship manager with some industry specialization • Service model aligned across geographies • Product specialist when needed
Small Businesses	• Financial solutions that cover both business and owner needs, accommodating the interlinkages • Basic offering focused on daily needs (lending, deposits, cash management) and asset finance	• Simple, user-friendly products and interfaces, including web, phone and mobile • Modular, packaged financial solutions • Ability to offer private banking advice

***Table 6-7**: Banking needs and requirements for different segments of firm costumers*
Source: Bain & Company

Thus, in order to make the process of funding to SMEs more efficient and to increase the satisfaction of this segment of customers, the credit offering to SMEs must be revised by the banks through new models.

One possible solution is the creation of financing products easy to buy and rapid to access, similar to the ones already existing for consumer credit. In fact, even if the rate is a fundamental component in a financing offering, it is not the only element that has to be taken into consideration by the borrower. Nowadays, banks should avoid the competition exclusively on the rate, which currently would bring just to a bloody war. Instead, the credit offering to SMEs should aim at satisfying other real needs of the firms, such as the reduction of the initial costs for the preparation of the procedure, transparency on the modality of costs calculation and reduction of both the scrutiny and issue time. Hence, among the critical success factors of SMEs financing there are rapid credit access and a standard product offering with user-friendly interfaces and different channels. With this mind, banks should industrialized processes and build simple products in terms of offering, pricing and required guarantees with the aim of reducing the managing costs of these contracts. One possible example of this type of product could be a financing without a mortgage guarantee, with fixed rate, sureties and definite and rapid time for the approval and the issue of credit (KPMG, 2016). This kind of product could be offered through digital channels, with the support of the digital sign, or through the net of branches, mainly to SMEs with consolidated relationship with the bank. The simplified process is represented in **Figure 6-1**. The benefits stemming from this solution would be the ease of offering and issue of credit and the extension of the services offered, useful for customers' retention. Moreover, the creation of standard products would lead to a more industrialized process, with considerable benefits in terms of efficiency and costs reduction.

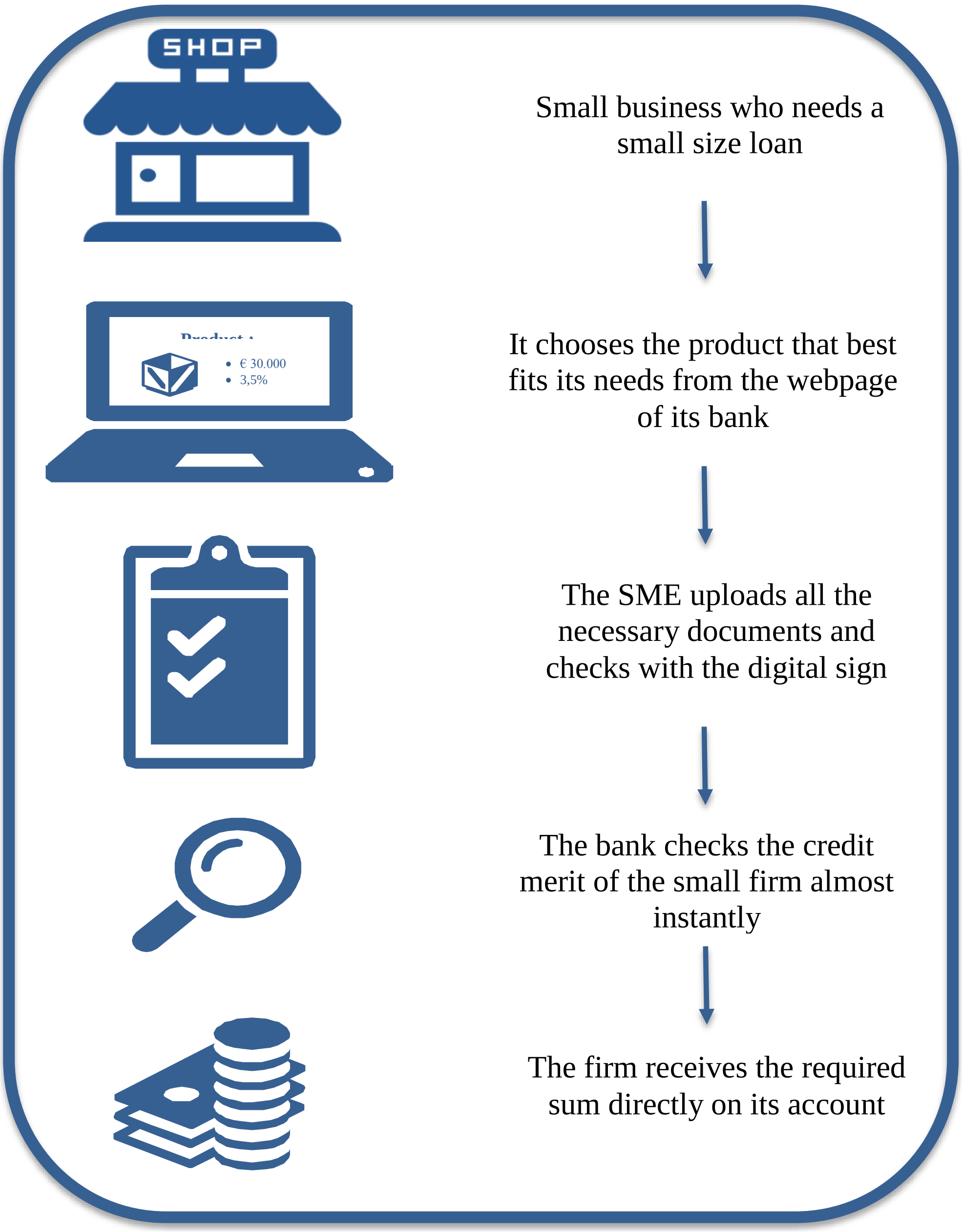


Figure 6-1: *Digital process of a standard banking product acquisition*

Currently, there is a Poland bank that offer a similar product for retail customers and is aiming at doing the same also for corporates. This bank is mBank, a bank owned by German's Commerzbank, operating also in Slovakia and the Czech Republic, that gained a lot of global recognition for banking innovation. Indeed, even if it is the third retail bank in Poland, it has just 160 branches and it is considered one of the best EU digital bank.

mBank has succeeded by offering customers access to unsecured personal loans up to about €35.000. Its process is quite simple and divided into three steps (**Figure 6-2**):

1. First of all the customer determine the amount and tenor of the loan and the rata is immediately computed
2. Subsequently, it has to accept terms and conditions of the loan
3. At the end, the loan is available in around 30 seconds from the confirmation

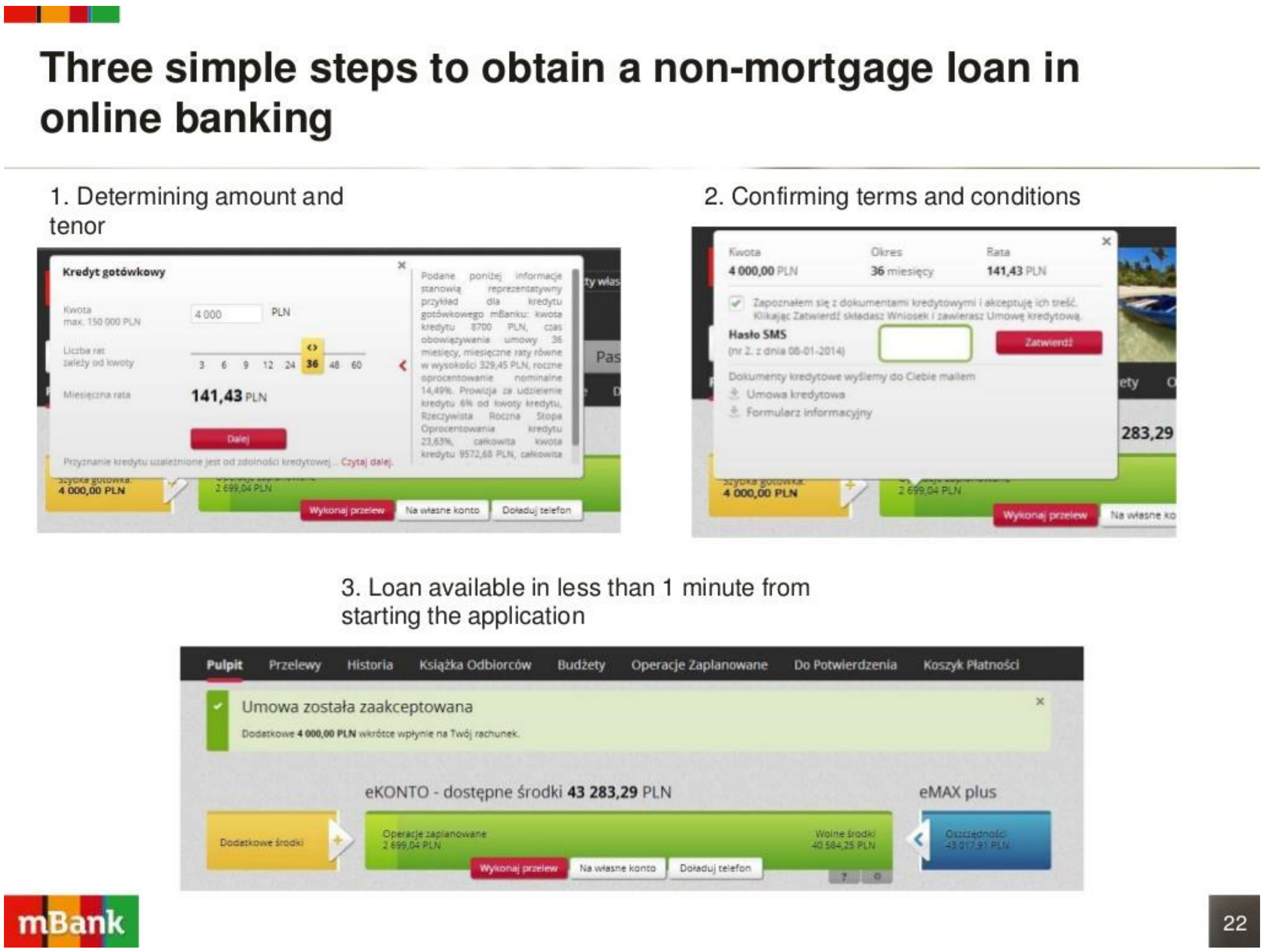


Figure 6-2: Steps for an unsecured loans at mBank
Source: mBank presentation

Of course, product offering must be aligned with the customers' characteristics of the specific region, but is indubitable that every bank requires a digital transformation. Nowadays, many banks offer simple internet banking platform with a limited number of actions available. As it has been demonstrated in the previous chapter, usually a firm, but the same is valid also for retail clients, can only check its balance and manage its money in a limited way, but it cannot sign up for a loan or interact directly with a representative. The future of the bank will probably lead to an integrated multichannel offering where customers can perform exactly the same activities through each channel in the same way. In fact, going digital does not mean giving up branches, because the physical interaction with people will still remain an important component, while it means that branches have to change their functions and have to be completely integrated with the digital processes.

6.3. FinTech cooperation

Digital technologies are reducing the amount of costs necessary for entering the financial services industry. The number of start-up related to financial services grows up year over year, trying to ease the customer experience and disintermediate the historical players. As defined by Capgemini in its World FinTech Report 2017, four main reasons can explain the spread of this kind of startups:

1. Increased customer expectations, inspired by what Internet OTT like Google, Amazon, Facebook and Apple deliver to their customers every day
2. Lower barriers to entry, since FinTech can exploit an agile organizational structure with few physical assets and a restrained number of employees
3. Increase access to VC funding, that has provided a powerful spark to the financial services industry, investing almost $25 billion in 2015[19]
4. Accelerated technological advancements, such as the spread of newer channel like the mobile

Nowadays there are plenty of FinTechs rising all over the world. In order to give a high level overview of the category where these FinTechs operate and according to CB Insights, FinTech can be categorized into 16 main categories:

[19] Global Investments in FinTech Companies, CB Insight database, October 3, 2016

1. Blockchain
2. Business Lending
3. Capital Markets & Trading
4. Credit Score & Analytics
5. Crowdfunding
6. Financial Services & Infrastructure
7. General Lending & Marketplaces
8. Insurance
9. Merchant Services
10. Personal & Consumer Lending
11. Personal Finance & Mobile Banking
12. Processing & Payments Infrastructure
13. Real Estate Investing
14. Regulatory & Compliance
15. Wallets & Money Transfer
16. Wealth Management

In particular, the most interesting categories for the purpose of the dissertation are the crowdfunding, especially lending-based crowdfunding[20], and the business lending. Respect to the classical financial intermediators, the lending-based crowdfunding is an alternative form of financing where families and small firms are directly financed by a myriad of investors. The meeting between offering and demands of funds happens on a digital platform that evaluate the credit merit of the potential debtors and manage the payment flows between debtors and investors. Business lending platform, instead, use to analyse a series of business information uploaded by the entrepreneur in order to assess company's risk. Once they have defined if the company is eligible for a line of credit, the entrepreneur choose the amount he needs and receives the money within few minutes on its banking account.

Despite financing through this kind of solutions are just a tiny portion of the overall amount of loans distributed each year, this kind of loan are rapidly growing in some countries like China, United States and, particularly, United Kingdom. Indeed, in UK in 2015 the loans allowed to SMEs through lending-based crowdfunding have been doubled with respect to the previous year, representing up to 14 per cent of the credit distributed to this category of customers (Zhang, et al., 2016) (**Figure 6-3**). Conversely, lending-based crowdfunding is not so spread in Italy where the main platforms active in the country in 2015 facilitated loans for less than 10 million euro.

[20] Landing-based crowdfunding is different form the other crowdfunding sources in which: the financers make donations without asking anything back (donation-based crowdfunding); the financed subjects promise to the financers a specific reward (reward-based financing); the financers participate in the equity capital of the company (equity-based crowdfunding).

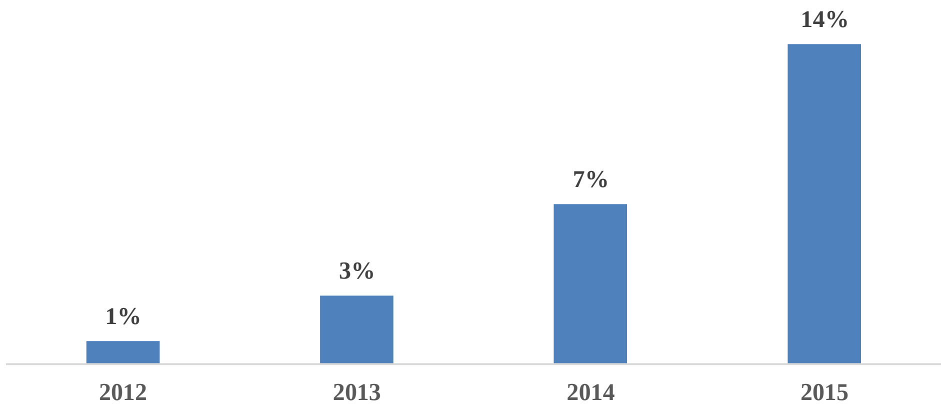


Figure 6-3*: Peer-to-peer business lending as a % of new loans to SME in UK*
Source: Pushing Boundaries. The 2015 UK Alternative Finance Industry Report

However, to exploit this alternative source of funding would be a great opportunity for Italian small firms eager to obtain new funds for their operations. In a period in which many small companies struggle with obtaining new loans, as already said in the previous chapters, the lending-based crowdfunding would be a new channel available to give them the capitals they need.

Landing-based crowdfunding platforms, as well as all the other FinTech companies, are challenging traditional Financial Institutions. They are able to serve that part of the market asking for small size loans, easy to be obtained and rapidly to be issued, that traditional Financial Institutions are no longer willing to serve, being more risky and less profitable than other forms of financing.

For this reason, in order not to lose an important slice of the market, traditional banks have two main possibilities. On one hand, they can try to develop similar platforms and services internally, competing directly with the FinTechs on their playing field. Anyway, this solution will pose the banks as second movers in a market where some players have already been very well known and are appreciated for their work. Financial Institutions should try to replicate exactly the algorithms standing behind those platforms and this is not an easy issue, since many times FinTechs are able to analyse in an efficient way a huge amount of information stemming from disparate sources. Moreover, it would require substantial costs of implementation with the risk, in case of a negative future scenario, of having burnt a lot of cash in a useless investment.

The alternative to the internal development is a possible partnership with FinTech companies. Indeed, despite some very good products, most of the FinTech finds difficulties in scaling their solutions and do not have access to a widespread mass of clients. On the other hand, banks have scalable possibilities and a lot of clients, but struggle in delivering captivating products. This is why some famous banks have sought to better serve their SME customers by collaborating with peer-to-peer lenders[21] or business lending platform. One of the first examples is the partnership between Santander UK and Funding Circle, the world leading peer-to-peer lender exclusively focused on small businesses that by December 2016 has lent more than £2.5 billion to 25.000 businesses in UK, USA, Germany and Netherlands[22]. Through this partnership, Santander UK moves their small business clients that ask for small size loans or that, according to their policies, are too much risky to serve to Funding Circle that, in return, promotes Santander's current accounts and services to its customers, achieving a win-win situation. It is interesting to highlight that these kind of lending-based crowdfunding perform an optimum risk assessment of the company asking for a loan. According to Funding Circle, indeed, the annualised bad debt rate[23] of the loans that it has granted have always been close to 2%:

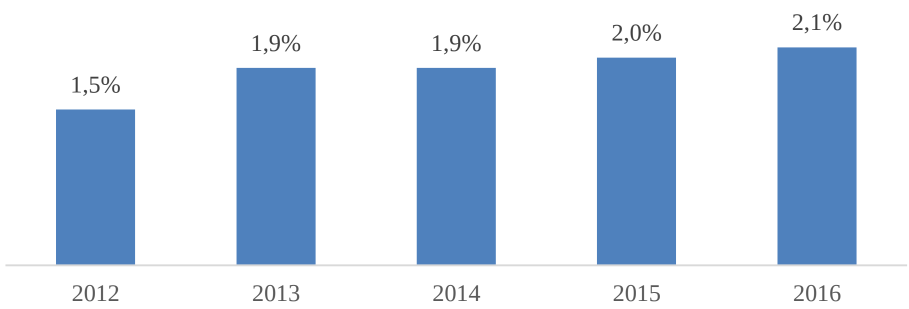


Figure 6-4: *Funding Circle annualised bad debt rate*
Source: www.fundingcircle.com/uk/statistics/

Another example of successful collaboration between a very well known bank and a FinTech company is the strategic partnership signed between ING and Kabbage, a data platform powering automated lending to small and medium enterprises. Through this partnership, ING enable SME customers to ask for an unsecured loan up to $100 thousand with a new rapid and paperless procedure, offering an innovative user experience to its clients. The main characteristics of this service model are sum up in the table below.

[21] Peer-to-peer lenders are particular players that differs from traditional credit providers since they typically offer borrowers and lenders direct access to each other, rather than using their own balance sheets to intermediate.
[22] www.fundingcircle.com
[23] The annualised bad debt rate is the percentage of loan, by loan amount, that do not repay over their total lifetime

Risk model	• Latest machine learning techniques used in the risk model • Kabbage adapt its model to ING requirements with collaboration and validation of ING risk management team • ING will have final ownership of the risk model
Balance sheet	• All loans will be on ING balance sheet • Maximum loan per client is €100,000
Risk Sharing	• ING will have the lower risk credit
Pricing	• Risk based pricing
Client relationship management	• ING maintains client relationship, both for ING and Kabbage portfolio clients • Client management (recovery, service, etc.) by ING

Table 6-8: *Main characteristics of ING-Kabbage partnership*
Source: www.slideshare.net/ING

Coming back to Italy, instead, it has been recently closed a deal between Intesa Sanpaolo and iwoca, an online SME credit provider based in the UK. Until now, iwoca platform operates in 4 countries, i.e. UK, Poland, Netherlands and Germany. Through this platform, an SME can borrow up to $100 thousand by linking their online account (such as eBay, Amazon, PayPal, and others) or uploading bank statements or VAT returns and get their money in few hours. The maximum term for the loan is 12 months, with interest rates that can vary from 2% to 6% per month. Intesa will test this technology on its Central – Eastern Europe clients before bringing it within its domestic market.

6.4. Possible opportunities from PSD2

Starting from January 2018, European Member States will have to implement the Directive 2015/2366/EU, better known as Payment Services Directive 2, into their national regulations. The necessity of this Directive came up in order to regulate a market that, in the last years, have been strongly affected by an increasing complexity, principally due to the strong digital innovation and the rising of many new players (FinTech). Certainly, these innovation and these new players are improving financial services, bringing new, and often cheaper, alternatives to final customers with an improved user experience. Nevertheless, these new players were playing in a grey field, where there was none or unclear regulation, with consequent high risk for final customers. Thus, regulators opted for a new Directive, in order to answer to this and other issues, listed below (PwC, 2016):

- Strengthen consumers' protection
- Develop new payment solutions
- Regulate new market players
- Uniform fees on card payments in line with MIF
- Increase the level of competition
- Overcome differences between the disciplines of the EU Members
- General increase in efficiency through the standardization of infrastructures

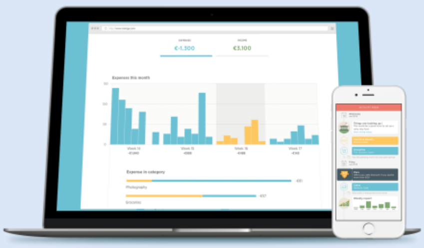
Among the different implications that PSD2 will have on European Banks, the most relevant for the topic of this dissertation is the introduction of new payment services, such as:

1. Payment Initiation Service (PIS): is a service provided by a third part that lays in between the payer and his online payment account and that starts the payment to a third-party payee
2. Account Information Service (AIS): is a service that enables multibank accounts users (both retail and corporate) to have an aggregated view of all their banking accounts, giving them a complete picture of their financial situations

In particular, the AIS is the one that more than other can affect small businesses' banking behaviours. Indeed, SMEs use to have more than a single banking account, losing many times the complete view of their financial positions. Moreover, as already said when dealing with online advisory, SMEs do not usually have a solid financial structure, and financial decisions are taken on the sentiment of the entrepreneur, not often supported by the advice of a banker.

In this context, Account Information Service Provider can play an important role for SMEs financials. In fact, AISPs do not provide just a mere service of accounts aggregation, but add several useful features, such as cash flows forecasts and advice on possible future financial needs or benchmark with other peer, in order to compare company's performance with the one of similar firms. Banks that will be able to better exploit these services and create a unique, efficient proposition not only for retail clients but especially for SME ones, will probably gain market share at the expense of their competitors. Two among the most famous account aggregators are Meniga and Strands, whose main features are represented in the following cards:

MENIGA



Financial Planning	Automatically generate and manage financial budgets tailored to SMEs
Cash Flow & Upcoming	Predictive planning tool enabling SMEs to track expenses and visualize operating activities and how they influence liquidity. It is possible to connect accounting systems for AR/AP
Analysis	Visual and interactive expense and income reports and the ability to drill down and analyze all aspects of inflows and outflows
Peer comparison	Benchmarking tool allowing SME customers to perform a comparison of how they are performing against others with similar profiles

Source: https://www.meniga.com/

STRANDS

Invoice Tracking	Makes AR/AP management effortless and enables banks to handle end-to-end payment cycles for SME customers
Cash Flow Analysis	SME customers can analyze and understand cashflow by tracking historic, actual and forecasted inflows & outflows
Financial Calendar	An interactive heat map shows daily, monthly and yearly spending patterns
Provisioning	Custom thresholds allow business financial goals to be met faster and more intelligently

Source: https://www.strands.com/

7. Conclusions

Digital SME banking is already reality. Nevertheless, the picture rising from this paper defines a banking industry fragmented between those banks that are facing digital innovation, trying to understand how to exploit it in order to better serve their small business clients, and those ones that instead are adopting a strategy of "wait and see", focusing on other client segments. The results stemming from the analysis of the current offering of Italian and European banks of chapter 5, describe a situation in which the bulk of the banks proposes to their SMEs just a handful of standard products and services, without a strong differentiation of their offering. For what concerns the Italian situation, is quite straightforward that the two biggest banks, UniCredit and Intesa Sanpaolo, are the leading ones in terms of digital and innovative offering towards SMEs. Indeed, if smaller banks are more concentrated on quite standard products dedicated for a specific industry, such as agribusiness or tourism, the bigger ones are looking for new digital solutions that can help small companies to expand their businesses or to better manage their financials. What can somehow surprise is that the two aforementioned biggest Italian banks can be considered leading banks, in terms of offering towards SMEs, also in a European context. Indeed, UniCredit and Intesa have developed a series of interesting propositions for this category of clients that is rarely present throughout their European peers, as highlighted in **Figure 5-24**. Anyway, there are, of course, interesting solutions also in Europe and BBVA and ING can be considered, in terms of digital and innovative offering towards SMEs, among the most outstanding European banks. The Spanish bank has implemented a massive digital strategy trying to move its clients asking for a product or service from the physical branch to the digital channel, requiring their presence just for the final formalities. Indeed, SMEs that would like to ask for a loan or need a leasing, can easily complete the form directly online, visiting the branch just at the end of the process. In Europe, this is probably the first example of a big physical bank seeking to radically change its business model pursuing a digital strategy. In the same way, also the Dutch bank is very active on this segment, seeking to develop the most interesting online products and services for SMEs. In addition, it is very active on the market and constantly monitors the most interesting solutions provided by third parties in order to understand which could be the most suitable to complement its offering. This is why ING has completed its offering with a P2P lending option and has started a partnership with Kabbage, one of the most famous business lending platform in the world, in order to issue loan to SMEs for a restricted amount ($100.000) in almost 10 minutes. However, ING is not the only bank that has started a partnership with a FinTech; Santader UK and Intesa Sanpaolo did the same with, respectively, Funding Circle and iwoca while Rabobank has a partnership with several P2P lenders, targeting different business customers needs. Indeed, when talking about digital in the financial industry, it is impossible not to mention FinTech companies. These new particular startups are entering with force into the financial sector, bringing innovation and delightful user experiences to customers. In this way, they are reducing the need for SME clients of a physical relation with a banking agent, since both lending and transactions can now be funded and processed in a completely digital way and by nonbanking entrants. Thus, the relationship paradigm, that has been mentioned for several years by lot of researchers and elected as the best way to serve SMEs, seems less valid. Thanks to the myriad of data and sources of information available, the opaqueness affecting small companies seems less relevant than in the past. At the same time, it fails the paradigm of physical distance between bank and SME, stating that large banks are better to serve large corporate, while small local banks are better to serve small firms because of their physical presence. As highlighted also by Petersen and Rajan, the use of Information Technology can help reduce the effect of distance in the process of lending to SMEs. This is why there are some FinTechs that are able to lend to SMEs and assess their risks in just few minutes, with satisfying results (**Figure 6-4**), independently from their physical location. Obviously, time will tell if this way of lending will be sustainable in the future, for example during new crises or adverse macroeconomic situations. All this said, it is quite intuitive that there is no "one-size-fit-all" strategy for SMEs banking business model adjustment but the preferred strategy will likely depend on the starting point of the individual bank and, most of all, on its operating environment. Anyhow, it is undeniable that banks have to continuously improve their digital offering, not only in the lending activities, but also transaction and advisory ones, in order not to lose market share and, thus, profitability. According to BCG, indeed, over the next five years, "banks that go digital only gradually on their offering towards SMEs, could see profits drop by as much as 15% to 30% relative to fast-moving competitors" (The Boston Consulting Group, 2016).

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