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HOW FINTECH STARTUPS ARE TRANSFORMING FINANCIAL INTERMEDIATION IN EUROPE

COME LE STARTUP FINTECH TRASFORMANO L'INTERMEDIAZIONE FINANZIARIA IN EUROPA

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انتبه على حالك يا لبنان، فيك أغلى الناس على قلبي

« لِبَيْروت... مِن قَلْبِي سَلامٌ لِبَيْروت »

-فيروز

Alla mia mamma,

Per quanto possa scrivere, non riuscirò mai a renderti tutto ciò che meriti. Non esistono parole capaci di descrivere tutti i sacrifici che hai fatto e tutto l'amore con cui mi hai accompagnata fino a questo giorno. Oggi questa laurea non è solo mia, è anche tua. Questo traguardo ti appartiene tanto quanto appartiene a me, perché sei stata la ragione di ogni passo che mi ha portata fin qui. Per quanto ci provi, non riuscirò mai a esprimere quanto ti voglio bene e quanto io sia grata per tutto ciò che hai fatto per me. Ringrazio Dio ogni giorno per avermi donato una madre come te e voglio che tu sappia quanto sono orgogliosa di te.

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Table of Contents

ABSTRACT (EN)

During the last few years, technology changed financial services in Europe in several ways. A lot of activities that people usually did inside banks can now be done through an app or a website. For many customers, this quickly became part of everyday life, especially for payments or transfers. During these years, FinTech startups expanded rapidly in several European countries. Small businesses and startups started searching for alternative ways to obtain funding instead of depending only on banks. Some used crowdfunding platforms, while others preferred peer-to-peer lending because the process was simpler and required fewer administrative steps. Sometimes, getting support from a bank could take too long for a company that needed money immediately. Customer habits changed after the COVID-19 period. People who rarely used digital transactions became more familiar with them. Even older users, who were usually less interested in these services, started using mobile payments or banking applications more frequently. Many financial institutions were not fully prepared for how quickly consumers adapted to digital services. Banks still maintain an important role in lending activities and financial security, so digital companies did not replace them completely. Financial technology changed the way many people interact with money and financial institutions in daily life. The thesis examines how FinTech startups influence financial intermediation in Europe and how digital financial services became more common in everyday economic activities. This study also discusses several financing methods that became more common with the growth of FinTech, including crowdfunding, peer-to-peer lending, decentralized finance, and revenue-based financing. Another part of the study looks at the role of European regulations and the way institutions try to encourage innovation without ignoring consumer protection and financial stability. This research is based on academic literature, institutional reports, and European regulatory sources related to financial technology and financial intermediation.

SOMMARIO (IT)

Negli ultimi anni, la tecnologia ha cambiato diversi aspetti del settore finanziario europeo. Molte operazioni che le persone svolgevano abitualmente in banca oggi possono essere effettuate tramite applicazioni o siti web. Per molti utenti questo è diventato parte della vita quotidiana, soprattutto per pagamenti e trasferimenti di denaro. Le aziende FinTech sono cresciute rapidamente in questo periodo. Startup e piccole imprese hanno iniziato a cercare metodi alternativi per ottenere finanziamenti senza dipendere esclusivamente dalle banche. Alcune hanno utilizzato piattaforme di crowdfunding, mentre altre hanno preferito il peer-to-peer lending perché il processo era più semplice e richiedeva meno passaggi amministrativi. A volte ottenere supporto da una banca richiedeva troppo tempo per imprese che avevano bisogno di liquidità immediata. Anche le abitudini dei consumatori sono cambiate dopo il periodo del COVID-19. Persone che prima utilizzavano raramente transazioni digitali hanno iniziato a usarle più spesso. Perfino utenti più anziani, normalmente meno interessati a queste tecnologie, hanno iniziato a utilizzare applicazioni bancarie o pagamenti mobili più spesso. Questo cambiamento è probabilmente avvenuto più rapidamente di quanto molte istituzioni finanziarie si aspettassero. Le banche mantengono ancora un ruolo importante nelle attività di credito e nella sicurezza finanziaria, quindi le aziende digitali non le hanno sostituite completamente. Tuttavia, la tecnologia finanziaria ha modificato il modo in cui molte persone gestiscono il denaro e si relazionano con le istituzioni finanziarie nella vita quotidiana. Questa tesi analizza l'influenza delle startup FinTech sull'intermediazione finanziaria in Europa. La tesi esamina modelli di finanziamento come crowdfunding, finanza decentralizzata, revenue-based financing e peer-to-peer lending e il ruolo delle normative europee nel sostenere l'innovazione e proteggere i consumatori e mantenere la stabilità del mercato.

INTRODUCTION

Technology has changed many aspects of financial services during the last decade. Today, payments, transfers, investments, and financing activities can often be completed through digital platforms instead of traditional bank branches. As digital technologies became more common in everyday life, the financial sector also started changing.

One of the most important developments has been the growth of financial technology, commonly known as FinTech. FinTech startups introduced new ways of providing financial services and created alternatives to some traditional banking activities. Their services cover areas such as digital payments, crowdfunding, peer-to-peer lending, digital banking, and crypto-assets. As a result, they have become an increasingly visible part of the European financial sector.

The expansion of FinTech also changed the options available to businesses and consumers. Many startups and small firms started using alternative financing solutions when access to traditional bank financing was difficult or time-consuming. These developments contributed to important changes within the financial sector.

This thesis examines how FinTech startups are transforming financial intermediation in Europe. The main research question is whether these companies are changing the way financial services are provided and how this affects traditional intermediaries such as banks. The study also discusses the role of European regulation in supporting innovation while protecting consumers and maintaining financial stability.

The thesis is divided into four chapters. The first chapter introduces the concept of financial intermediation and the emergence of FinTech. The second chapter examines the main FinTech financing models. The third chapter discusses the European FinTech ecosystem and its impact on traditional financial institutions. The fourth chapter focuses on the European regulatory framework for digital finance. The final section presents the conclusions of the study.

1. FINANCIAL INTERMEDIATION AND FINTECH: THEORETICAL FRAMEWORK

1.1 Traditional Financial Intermediation

Before the expansion of digital finance, banks were the main institutions responsible for most financial activities. People relied on banks for deposits, payments, savings accounts, transfers, and loans, while businesses depended on them for financing and investment support. For many individuals, visiting a bank branch was a normal part of everyday life, especially before online banking services and mobile applications became common (Mishkin, 2018).

In traditional financial systems, banks mainly acted as intermediaries between savers and borrowers. Financial institutions collected money from customers who wanted to save and redirected these funds toward individuals or businesses that needed financing. According to Mishkin (2018), this circulation of money plays an important role in supporting economic activity because it allows money to circulate through the financial system instead of remaining unused.

The traditional banking model was largely based on deposits and lending activities. Customers deposited their money in banks for security and savings purposes, while banks used part of these funds to provide loans to households, firms, and public institutions. Businesses often relied on bank financing to purchase equipment, expand operations, or manage investments. At the same time, many households depended on loans for housing, education, or other important expenses.

For a long time, many people considered traditional banks to be safer and more reliable than other financial institutions. Large financial institutions were usually considered reliable because they operated under financial regulations and had experience in managing risks. Freixas and Rochet (2008) note that banking supervision and regulation contributed significantly to maintaining confidence in financial systems. Because of this, many people continued preferring traditional banks, particularly for long-term savings and important financial decisions.

However, traditional banking systems also created difficulties for some customers. Obtaining financing could sometimes be a slow process, especially for small businesses or startups with limited financial history. Loan applications often required administrative documents, guarantees, and long waiting periods before approval. Companies needing immediate financial support often found these procedures difficult.

Costs represented another challenge for certain users. Some banking services involved transaction fees or administrative expenses that smaller businesses and lower-income customers considered expensive. Access to banking services could become more limited outside large urban areas where financial infrastructure was less developed.

Table 1.1: Traditional Banking vs Digital Financial Services

Traditional Banking	**Digital Financial Services**
Physical branches	Online platforms
Longer procedures	Faster processing
Limited opening hours	24/7 accessibility
More paperwork	Simplified procedures
Traditional lending	Alternative financing

Source: Author's elaboration based on Mishkin (2018) and Gomber et al. (2017).

As internet access and smartphones became more common, customer expectations slowly started changing. Many people became used to faster digital services in other areas of daily life such as shopping, communication, and transportation. Customers expected financial services to become quicker and easier to access as well. Younger users especially preferred simpler services and were often less patient with long banking procedures.

Even after the growth of digital finance, traditional banks continued maintaining an important position within the financial sector. Many customers still preferred established institutions because they were associated with stability, regulation, and financial security. Because of these limitations, alternative financial services slowly started becoming more attractive to customers and new digital platforms that later contributed to the expansion of FinTech companies (Gomber et al., 2017).

1.2 Emergence of FinTech and Digital Platforms

FinTech became more visible as digital technologies expanded. Financial activities slowly moved beyond traditional bank branches, especially as people became more comfortable using online services in everyday life. Activities such as shopping, communication, entertainment, and bill payments increasingly took place through websites and mobile applications. Many customers began expecting financial services to become faster and easier to access (Arner, Barberis & Buckley, 2015).

Customer habits also started changing during this period. Many users became less willing to follow long banking procedures for simple financial operations. Younger generations preferred services that appeared quicker and easier to use. Small businesses were interested in digital platforms because some offered fewer administrative requirements compared to traditional banking systems (Gomber et al., 2017).

The growing use of smartphones made digital financial services much easier to access in daily life. Mobile applications became part of normal daily routines, including financial activities. Users could transfer money, pay bills, monitor investments, or even apply for financing directly from their phones. A few years earlier, many customers were still hesitant to trust these services for important financial operations (European Commission, 2020).

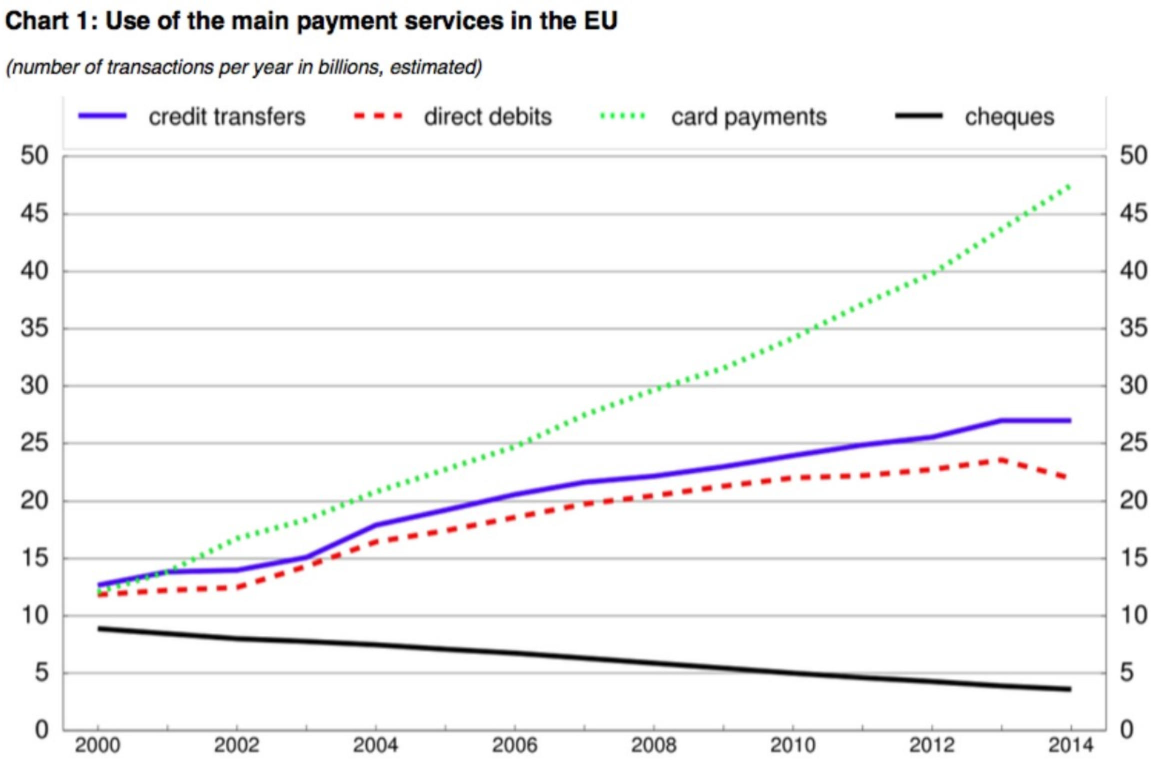

Figure 1.2: Use of Main Payment Services in the European Union

Source: European Central Bank (ECB).

The 2008 financial crisis influenced the development of financial technology. In several countries, trust in large financial institutions weakened after the crisis. During this period, many startups began introducing alternative financial services that focused more on accessibility, flexibility, and lower costs. Some entrepreneurs saw an opportunity to create financial solutions that looked more practical for customers frustrated with slow procedures and complicated requirements (Arner, Barberis & Buckley, 2015).

Digital finance changed the way banks interacted with customers. Traditional banking models depended heavily on branch visits and fixed opening hours, while digital platforms introduced services that could be accessed almost anytime.

In recent years, Europe became one of the most active regions for FinTech growth. Better internet infrastructure, technological innovation, and European regulations all contributed to this development. Open Banking and the PSD2 directive created opportunities for third-party providers to offer services connected to banking data after customer authorization. As a result, many startups offered new financial services and different financing approaches (European Parliament, 2019).

Today, FinTech includes a wide range of activities such as digital payments, online lending, crowdfunding, cryptocurrencies, decentralized finance, and robo-advisory services. Traditional banks still maintain an important role in larger financial operations and long-term financing. Digital financial platforms have become much more visible in everyday transactions, especially among customers searching for faster and simpler services (Gomber et al., 2017).

1.3 How FinTech Reshapes the Role of Banks

The growth of FinTech changed the role of traditional banks in the financial sector. For many years, banks were responsible for most financial services and managed a large part of financial transactions. As digital technologies expanded, new platforms started offering financial services in ways that were often faster and easier for customers to use (Navaretti et al., 2018).

Customer expectations changed as well. Many people today prefer financial services that can be accessed directly through mobile applications or websites without visiting a physical branch. As a result, banks started facing more pressure to improve their digital services and simplify certain procedures. Mobile banking applications, digital wallets, and instant payment systems became common in everyday financial activities (Vives, 2019).

Banks started facing stronger competition in services such as payments, transfers, and lending services. Some digital platforms now allow customers to transfer money, apply for financing, or manage investments entirely online. Confidence in digital financial services increased with time (Philippon, 2016).

Later on, traditional banks adapted to these changes instead of ignoring them. Some institutions invested heavily in digital transformation projects by improving online banking services and automating several operations. Some banks preferred cooperating with FinTech startups through partnerships and shared projects rather than competing directly in every area of financial activity (Navaretti et al., 2018).

Open Banking influenced the role of banks in Europe. Regulations such as PSD2 required banks to allow licensed third-party providers access to customer banking data after authorization. This increased competition in the financial sector and allowed new digital services to expand more easily. Banks no longer controlled financial information and customer interaction in exactly the same way as before (European Parliament, 2019).

Table 1.3: Traditional Banks and FinTech Companies - Main Differences

Traditional Banks	**FinTech Companies**
Physical branches	Mainly digital platforms
Slower procedures	Faster services
Traditional lending	Alternative financing
High institutional structure	Innovation-focused models
Limited flexibility	More adaptable services

Source: Author’s elaboration based on Vives (2019) and Gomber et al. (2017).

Despite these developments, traditional banks still maintain an important role in the financial system. Many customers continue trusting banks because they are associated with stability, regulation, and financial security. Banks also remain important for larger loans, long-term financing, and savings management.

The relationship between banks and FinTech companies is no longer based entirely on competition. Cooperation became more common. FinTech startups often provide technological innovation and digital flexibility, while banks contribute financial experience, customer trust, and knowledge of regulations. In recent years, several banks across Europe have also started collaborating with digital payment services and financial technology companies to improve online customer experiences.

Digital finance services are likely to continue changing the banking sector in the coming years. Customer expectations continue changing as digital financial services become more common in everyday life. Financial institutions are expected to continue investing in technology and digital innovation in order to remain competitive within the financial market.

2. FINTECH FINANCING MODELS AND MECHANISMS

2.1 Revenue-Based Financing (RBF)

For many startups, obtaining financing through traditional banks is not always easy especially during the early stages of business development. Companies with limited financial history or unstable revenues often face difficulties when applying for loans because banks usually require collateral and long financial evaluations. Some startups need financial support faster than traditional lending procedures could provide.

These difficulties helped alternative financing models become more popular within the FinTech sector. One example is Revenue-Based Financing (RBF), a model where investors provide capital to companies in exchange for a percentage of future revenues. Unlike traditional bank loans, repayment is usually connected to the company's income rather than fixed monthly installments. Repayments can become lower during weaker periods and higher when the business performs better.

Revenue-Based Financing became particularly attractive for digital startups and online businesses with recurring revenues. Subscription-based companies, e-commerce platforms and software services often preferred this model because it offered more flexibility. A lot of entrepreneurs liked this model because they could obtain funding without losing ownership of the company.

RBF also expanded because of digital financial platforms. FinTech companies used technology and data analysis to evaluate business performance more quickly than traditional institutions.

Instead of relying mainly on collateral or long credit histories, some platforms focused more on revenues and customer activity. These differences made RBF attractive for several startups.

Table 2.1: Traditional Bank Loans vs Revenue-Based Financing

Traditional Bank Loans	**Revenue-Based Financing**
Fixed monthly repayments	Repayments linked to company revenue
Often requires collateral	Usuallyless collateral required
Longer approval procedures	Faster digital evaluation
Common for established firms	Popular among startups
Fixed repayment schedule	Flexible repayment structure

Source: Author's elaboration based on Klonowski (2021).

However, Revenue-Based Financing also presents some limitations. Companies with irregular revenues may struggle during periods of lower income, especially when repayments remain linked to sales performance. This finance model is also not suitable for businesses without stable revenues. In some situations, total repayment may become expensive compared to traditional financing. RBF became more common among digital startups searching for flexible financing solutions (Klonowski, 2021).

2.2 Crowdfunding

Crowdfunding became a popular financing method with the growth of FinTech and digital entrepreneurship. Many startups preferred crowdfunding because obtaining traditional financing was often difficult during the early stages. Digital technologies made this process faster and easier compared to traditional financing procedures.

Crowdfunding expanded together with the growth of online platforms and digital payment systems. Entrepreneurs could present business ideas or projects online and receive support from people located in different countries. Some projects even became popular on social media before reaching crowdfunding platforms.

Today, crowdfunding includes several different models. Donation-based crowdfunding is commonly used for charities or community projects where contributors do not expect financial returns.

Reward-based crowdfunding often offers products, services, or rewards in exchange for financial support. Equity crowdfunding and lending-based crowdfunding became more connected to startup financing and investment activities. These models differ mainly in the type of return contributors receive.

Table 2.2: Main Types of Crowdfunding

Type of Crowdfunding	**Main Characteristics**
Donation-based crowdfunding	Contributors support social or community projects without financial return
Reward-based crowdfunding	Supporters receive products, services, or other rewards
Equity crowdfunding	Investors receive shares or ownership participation
Lending-based crowdfunding	Funds are provided through loans that are repaid over time

Source: Author's elaboration based on European Commission (2020).

For startups, crowdfunding created new financing opportunities during the early stages of development when traditional loans were often difficult to access. Some entrepreneurs used crowdfunding platforms to test market interest before officially launching products or services. In some cases, successful campaigns also helped startups attract attention online before officially launching their products.

Despite these advantages, crowdfunding involved some risks and challenges. Not every project succeeds in attracting enough contributors, especially in highly competitive digital markets. Investors and contributors may face risks related to fraud or project failure.

As a result, several European countries introduced regulations designed to improve investor protection and increase platform supervision.

Crowdfunding became more visible in Europe as digital entrepreneurship and online financial services contributed to the development of an important financing alternative for startups and smaller businesses. Regulations such as the European Crowdfunding Service Providers Regulation (ECSPR) were later introduced to create a more unified framework for crowdfunding activities across the European Union (European Commission, 2020).

2.3 Peer-to-Peer Lending (P2P)

Peer-to-peer lending (P2P) became an important financing model with the growth of FinTech and online financial platforms. Unlike traditional lending systems where banks act as intermediaries between lenders and borrowers, P2P platforms connect individuals or businesses directly through online services. Many borrowers preferred this model because the process was simpler and faster than some traditional lending procedures.

P2P lending became more popular as customers started searching for faster online financing services. Borrowers were searching for financing options that appeared faster and more flexible than conventional bank loans. Some investors were interested in these platforms because returns were sometimes higher than traditional saving accounts.

Through P2P lending platforms, borrowers usually submit financial information online while investors choose whether to finance part of a loan request. Digital systems and algorithms often help evaluate credit risk and borrower profiles. Compared to traditional banking procedures, this process usually requires less paperwork and can sometimes provide financing more quickly.

Small businesses and startups became some of the main users of P2P lending services, especially when access to traditional bank financing was limited. Some companies used these platforms to obtain short-term funding, support business expansion, or manage operational costs. For some borrowers, the simplified process was one of the main advantages of this financing model.

However, P2P lending introduced several risks and challenges. Investors may face financial losses if borrowers fail to repay loans, while platforms themselves can encounter regulatory and operational difficulties. In addition, some critics argue that reduced banking intermediation may increase financial risks if platform supervision remains insufficient. European regulators later paid greater attention to the supervision of digital lending activities.

In Europe, the P2P lending sector expanded together with the broader growth of FinTech and alternative finance. Countries such as the United Kingdom, Germany, and France became important markets for digital lending platforms during the development of the European FinTech ecosystem.

Although traditional banks still maintain a dominant role within lending activities, P2P platforms increased competition and expanded access to alternative financing solutions (Vives, 2019).

2.4 Hybrid and Emerging Instruments

Digital finance contributed to the development of new financing instruments alongside more established FinTech models such as crowdfunding and peer-to-peer lending. Several of these emerging solutions combined elements from traditional finance and digital technology in order to provide faster or more flexible financial services. Startups and small businesses became the main users of these instruments because they searched for alternatives to conventional financing methods.

One example is Buy Now, Pay Later (BNPL), a model that allows customers to divide payments into smaller installments over time. Digital platforms offering these services became more popular in online shopping and e-commerce activities.

For consumers, these systems were often considered more convenient than traditional credit cards, especially for smaller purchases and short-term payments.

In recent years, embedded finance started becoming more visible in digital markets. This model allows financial services such as payments, lending, or insurance to be integrated directly into non-financial digital platforms. Some e-commerce applications started offering payment or financing options directly during online purchases without requiring users to interact separately with banks or financial institutions.

Some smaller firms started using digital invoice financing services. Another emerging area involved invoice financing and digital microfinancing platforms. Certain businesses used digital services to obtain short-term liquidity based on unpaid invoices or smaller financing needs. Compared to traditional procedures, these digital solutions often reduced administrative complexity and accelerated access to funds for smaller firms.

Despite their advantages, these financial models created new regulatory and operational problems.

Some analysts argued that rapid technological innovation developed faster than financial regulation in certain areas. Concerns related to consumer protection, transparency, and digital security gradually became more important as these services expanded across digital markets.

Several of these financing instruments still represent relatively small segments of the financial sector, but their presence increased with the expansion of FinTech and digital entrepreneurship.

In recent years, financial institutions started exploring similar digital solutions in order to remain competitive within changing financial markets (Zetzsche et al., 2020).

3. FINTECH IN EUROPE

3.1 Overview of the European FinTech Ecosystem

During the last decade, Europe has become one of the most important regions for the development of financial technology. Digital innovation, wider internet access, smartphone use, and changing consumer habits created favorable conditions for the growth of FinTech companies. As a result, many startups entered the financial sector and introduced new services in areas such as payments, lending, wealth management, insurance, and digital banking (European Commission, 2021).

The growth of FinTech in Europe was also supported by changes in the financial environment after the 2008 global financial crisis. Following the crisis, many customers became less satisfied with traditional banking services and started looking for faster and more flexible alternatives. At the same time, technological developments made it easier for new firms to enter the market and offer financial services through digital platforms (Arner, Barberis & Buckley, 2015).

The European FinTech ecosystem is quite diverse. Unlike some regions where FinTech activity is concentrated in only a few locations, Europe has several important financial and technological hubs. The United Kingdom is often considered the largest FinTech market in Europe, particularly because of the role of London as a global financial center. London hosts a large number of FinTech startups, investors, accelerators, and financial institutions, making it one of the most developed FinTech ecosystems in the world (Ziegler et al., 2021).

Other European countries have also seen growth in this sector. Germany has become an important center for digital banking and financial innovation, while France has supported the development of FinTech through government initiatives and startup programs. The Netherlands, Sweden, Ireland, and Estonia have also developed strong FinTech communities.

Estonia is often mentioned because of its advanced digital infrastructure and support for digital entrepreneurship.

The European FinTech market includes a wide variety of business models and services. Digital payments remain one of the largest segments of the industry, largely because consumers increasingly prefer electronic transactions over cash payments. Mobile payment applications, digital wallets, and online payment platforms have become common across many European countries. The growth of e-commerce has also contributed to the expansion of digital payment services (European Central Bank, 2022).

Another growing segment is digital lending. FinTech companies have introduced alternative methods of borrowing and lending through online platforms. These platforms often provide faster application processes and use technology to assess creditworthiness. As discussed in the previous chapter, peer-to-peer lending and other alternative financing models have become increasingly popular among startups and small businesses that may face difficulties obtaining traditional bank financing (Ziegler et al., 2021).

Digital banking has also become a major part of the European FinTech ecosystem. A growing number of consumers use online-only banks, often referred to as neobanks. These institutions operate mainly through mobile applications and offer services such as current accounts, payments, transfers, and savings products without maintaining extensive physical branch networks. Their business model allows them to reduce operating costs while providing convenient services to customers (Nicoletti, 2017).

Investment also played an important role in the growth of FinTech across Europe. Venture capital firms, private investors, and institutional investors have invested substantial amounts of capital in FinTech startups. Although investment levels have fluctuated in recent years because of economic uncertainty and changing market conditions, Europe continues to attract significant investment in financial technology companies.

The growth of FinTech has not been the same in every European country. Some markets have adopted digital financial services more quickly than others. Differences in regulation, financial infrastructure, consumer preferences, and levels of digitalization have influenced the pace of adoption. Nevertheless, the overall trend across Europe shows increasing use of digital financial services by both individuals and businesses.

Another factor that contributed to FinTech growth is the increasing cooperation between startups and traditional financial institutions. In the early stages of FinTech development, many observers viewed startups mainly as competitors to banks. However, partnerships between FinTech companies and established financial institutions have become increasingly common. Banks often use FinTech solutions to improve efficiency, enhance customer experience, and support their digital transformation strategies (Vives, 2019).

The European Union has also influenced the development of the FinTech sector. Various regulatory initiatives have encouraged innovation while promoting competition within financial markets. Some of these initiatives, particularly those related to payment services and open banking, created new opportunities for FinTech firms to enter the market and develop new products.

Table 3.1: Main FinTech hubs in Europe and their principal areas of activity.

Country	**Main Areas of FinTech Activity**
United Kingdom	Digital banking, payments, lending platforms
Germany	Digital banking, investment platforms
France	FinTech startups, digital payments
Netherlands	Payment technologies and digital finance
Estonia	Digital services and e-government solutions

Source: Author’s elaboration based on Ziegler et al. (2021) and European Commission (2021).

Today, the European FinTech ecosystem includes startups, technology providers, investors, banks, regulators, and consumers. The continued digitalization of financial services suggests that FinTech will probably remain an essential part of the European financial sector. Although challenges related to regulation, competition, and cybersecurity remain, the sector continues to play an increasingly important role in the way financial services are provided and accessed across Europe.

3.2 Adoption of Alternative Finance by Startups

One of the main challenges faced by startups is access to finance. Many new businesses have innovative ideas but limited financial resources. Traditional banks are often cautious when lending to startups because these companies usually have a short operating history, limited collateral, and uncertain future revenues. As a result, many startups look for alternative sources of funding to support their growth and development.

The growth of digital platforms has helped increase the use of alternative finance across Europe. These platforms connect entrepreneurs, investors, and lenders through online systems that simplify the financing process. Compared with traditional financing channels, alternative finance is often faster and more flexible for young firms (Ziegler et al., 2021).

Crowdfunding has become one of the most visible forms of alternative finance. Through crowdfunding platforms, startups can raise capital from a large number of individuals who contribute relatively small amounts of money. This model is often used by startups that are developing new products or services. In addition to raising funds, crowdfunding allows entrepreneurs to test market interest and build a community around their projects.

The growth of crowdfunding in Europe has been supported by increasing digitalization and the development of specialized online platforms. Several European countries introduced regulatory frameworks that provide greater legal certainty for both investors and entrepreneurs. Although crowdfunding cannot replace all traditional financing sources, it has become an important option for many startups, especially during the early stages of business development (European Commission, 2020).

Another financing method that gained attention in recent years is peer-to-peer lending. Through peer-to-peer platforms, individual investors provide loans directly to borrowers without the involvement of traditional banks. This model can offer startups access to capital that might otherwise be difficult to obtain through conventional lending channels.

Peer-to-peer lending has expanded in several European markets, although growth rates differ from one country to another. The United Kingdom has historically been one of the largest markets for this type of financing, while other European countries have also experienced increasing adoption. For startups, the main advantage is often a simpler application process and faster access to funds. However, interest rates may sometimes be higher than those available through traditional bank loans, particularly for businesses considered riskier by investors (Ziegler et al., 2021).

Revenue-based financing has also attracted growing interest among startups, especially in the technology sector. Under this model, investors provide capital in exchange for a percentage of future revenues until a predetermined amount has been repaid. Unlike traditional loans, repayments are linked to business performance. This means that startups pay more when revenues are strong and less during slower periods.

Many entrepreneurs like this approach because it does not require giving up ownership in the company. At the same time, investors have the opportunity to participate in the success of growing businesses. Nevertheless, revenue-based financing is generally more suitable for startups that already generate stable revenues and can demonstrate predictable growth patterns.

The growing use of alternative finance is also linked to changes in the European financial sector. Digital technologies have made it easier for startups to access funding. Online platforms allow startups to reach investors and lenders beyond their local markets, creating financing opportunities that were less accessible in the past.

Despite these advantages, alternative finance also presents certain limitations. Investors face the risk of business failure, while startups may encounter difficulties if financing costs become too high. In addition, some alternative finance platforms operate in rapidly changing regulatory environments. This creates uncertainty for both entrepreneurs and investors, particularly when regulations differ across countries.

Another issue is that alternative finance remains concentrated in certain European markets. Although adoption has increased across the region, access to these financing options is still more developed in some countries than in others. Factors such as financial literacy, digital infrastructure, investor participation, and regulatory frameworks continue to influence market development.

Overall, alternative finance has become an important source of funding for European startups. Crowdfunding, peer-to-peer lending, and revenue-based financing provide additional opportunities for businesses that may struggle to obtain traditional bank financing. While these models do not completely replace conventional financial institutions, they have expanded the range of financing options available to entrepreneurs and supported the development of many startups across Europe.

3.3 Impact on Banks and Traditional Intermediaries

The growth of FinTech has affected banks and other traditional financial intermediaries across Europe. For many years, banks were the main providers of financial services such as payments, lending, savings, and investment products. The emergence of FinTech companies introduced new competitors and changed the way many financial services are provided.

One of the main differences between FinTech firms and traditional banks is their use of technology. Many FinTech companies were created as digital businesses and did not need to maintain large branch networks or complex organizational structures. This allowed them to offer some services more quickly and sometimes at lower cost. As a result, customers gained access to a wider range of financial products and services (Gomber et al., 2017).

In the early stages of FinTech development, many observers expected strong competition between startups and traditional financial institutions. Some FinTech companies entered areas that had previously been dominated by banks, particularly payments and consumer lending. Some people believed that banks could lose market share if they failed to adapt to changing customer expectations.

Over time, the relationship between banks and FinTech firms became more complex. Instead of competing in every area, many institutions started cooperating. Banks increasingly recognized that FinTech companies could provide innovative technologies and digital solutions that would be difficult or expensive to develop internally. As a result, partnerships became more common across the European financial sector (Nicoletti, 2017).

These partnerships can take different forms. In some cases, banks invest directly in FinTech startups. In other situations, banks integrate FinTech solutions into their existing services. For example, digital payment systems, automated customer support tools, and data analytics platforms are increasingly used by traditional financial institutions. This allows banks to improve efficiency while maintaining their existing customer relationships.

The growth of FinTech also encouraged banks to invest more in digital transformation. Many financial institutions invested heavily in mobile banking applications, online services, and digital customer experiences. Customers today expect banking services to be available at any time through smartphones and other digital devices. To remain competitive, banks have had to respond to these changing expectations.

Another important change concerns financial intermediation itself. Traditionally, banks acted as intermediaries between savers and borrowers. The development of peer-to-peer lending platforms and other forms of alternative finance created new channels through which funds can move directly between investors and businesses. Although banks remain central actors within the financial system, they are no longer the only providers of many financial services.

At the same time, traditional financial institutions continue to possess several advantages. Banks generally have larger customer bases, stronger capital positions, established reputations, and extensive experience in risk management. These factors help explain why banks remain important even as FinTech companies expand their presence in the market.

Open Banking has also influenced the relationship between banks and FinTech firms. New regulations have encouraged greater data sharing between financial institutions and authorized third parties. This has created opportunities for FinTech companies to develop new products and services based on customer financial data. For banks, Open Banking represents both a challenge and an opportunity. While competition may increase, new forms of collaboration can also emerge (Vives, 2019).

The impact of FinTech is not limited to banks. Insurance companies, investment firms, and payment service providers have also adopted digital technologies and invested in innovation to remain competitive.

Despite the changes introduced by FinTech, traditional intermediaries have not disappeared. Instead, the European financial sector has gradually moved toward a model in which traditional institutions and technology-based firms operate alongside each other. In many cases, cooperation has become just as important as competition.

FinTech has changed many aspects of the European financial sector. It has encouraged innovation, increased competition, and supported digital transformation. At the same time, banks and other traditional intermediaries continue to play a central role in financial markets. Rather than completely replacing existing institutions, FinTech has changed the way financial services are provided and encouraged traditional firms to adapt to a more digital environment.

4. REGULATION AND POLICY FRAMEWORK IN EUROPE

4.1 EU Digital Finance Strategy, Open Banking (PSD2), and Regulatory Challenges

The growth of FinTech in Europe has created new opportunities for consumers, startups, and financial institutions, but it has also created new regulatory challenges. As digital financial services became more common, European policymakers faced the challenge of supporting innovation while also protecting consumers and maintaining financial stability. For this reason, the European Union has introduced several initiatives aimed at creating a regulatory framework that responds to technological change.

One of the most important initiatives in recent years has been the Digital Finance Strategy introduced by the European Commission in 2020. The strategy was designed to support the digital transformation of the European financial sector and encourage innovation across the European Union. It also aimed to improve access to financial services, strengthen competition, and create a more integrated digital financial market (European Commission, 2020).

The Digital Finance Strategy was introduced at a time when digital technologies were changing the way financial services were provided. Consumers increasingly use online banking, mobile payment applications, and digital investment platforms. Businesses also rely more on digital solutions for financing and financial management. The strategy aims to support innovation while maintaining consumer protection and financial stability.

Another important regulatory development was the introduction of the Second Payment Services Directive, commonly known as PSD2. This directive entered into force in 2018 and became one of the main regulatory reforms in the European financial sector. PSD2 was designed to increase competition, encourage innovation, and improve the security of electronic payments within the European Union (European Parliament, 2019).

Before PSD2, banks controlled most customer payment data. The directive changed this situation by allowing authorized third-party providers to access customer account information with the customer's consent. This allowed new companies to develop products and services based on banking data.

PSD2 is closely connected to the concept of Open Banking. Open Banking refers to a system in which financial institutions share customer data with authorized third parties through secure technological interfaces known as Application Programming Interfaces (APIs). Customers decide whether their information can be shared.

Open Banking has created new opportunities for FinTech companies. Startups can use banking data to offer services such as payment initiation, personal finance management tools, spending analysis, and account aggregation. These services can help consumers manage their finances more efficiently and compare financial products more easily (Vives, 2019).

The introduction of Open Banking has also affected traditional financial institutions. Banks can no longer rely only on their control of customer information as a competitive advantage. Instead, they increasingly compete through service quality, innovation, and customer experience. Some banks have responded by developing their own digital services, while others have established partnerships with FinTech companies.

For consumers, Open Banking can provide several benefits. Greater competition may lead to improved services, lower costs, and more innovation. Customers can also access financial information from different accounts through a single platform, making financial management more convenient. At the same time, the sharing of financial data creates new responsibilities regarding privacy and security.

Despite the potential benefits, several regulatory challenges remain. One important challenge concerns data protection. Financial services increasingly depend on the collection and processing of personal information. Regulators must ensure that customer data is handled securely and in accordance with privacy regulations such as the General Data Protection Regulation (GDPR).

Regulators also pay attention to Cybersecurity issues. As financial services become more digital, the risk of cyberattacks also increases. Financial institutions and FinTech firms must invest in security systems capable of protecting sensitive customer information. Regulators continue to monitor these risks because security failures can reduce public trust in digital financial services.

Consumer protection is another issue discussed by regulators. Many digital financial products are easy to access and use, but consumers may not always fully understand the risks associated with them. Regulators therefore face the challenge of encouraging innovation while ensuring that customers receive adequate information and protection.

Another challenge relates to the cross-border nature of digital financial services. FinTech companies can often operate across multiple countries using online platforms. However, differences in national regulations may create difficulties for firms seeking to expand across European markets. One objective of European regulatory initiatives is therefore to promote greater harmonization between member states.

Table 4.1: Main European Digital Finance initiatives.

Initiative	Main Objective
Digital Finance Strategy	Support digital transformation and innovation in financial services
PSD2	Increase competition and improve payment services
Open Banking	Allow secure sharing of financial data between institutions and authorized third parties
GDPR	Protect personal data and strengthen privacy rights

Source: European Commission (2020); European Parliament (2019).

Overall, the European Union has played an important role in shaping the development of digital finance. Initiatives such as the Digital Finance Strategy, PSD2, and Open Banking have encouraged innovation while creating new opportunities for startups and consumers. At the same time, issues related to cybersecurity, data protection, consumer protection, and regulatory coordination continue to require attention. These issues will probably remain important as digital financial services continue to grow across Europe.

4.2 Crowdfunding and Crypto-Assets Regulation

The growth of FinTech has introduced new ways of raising capital and transferring value. Among the most important developments are crowdfunding platforms and crypto-assets. Both have attracted attention from investors, startups, and regulators. As their use increased across Europe, policymakers faced the challenge of creating rules that support innovation while also protecting market participants.

Crowdfunding became popular because it allows entrepreneurs to raise money directly from many investors through online platforms. This model can be particularly useful for startups and small businesses that may have difficulty obtaining financing from traditional sources. As discussed in Chapter 3, crowdfunding has become an important part of the alternative finance market in Europe.

The growth of crowdfunding also raised regulatory concerns. Different countries initially developed their own rules, creating differences across the European market. These differences made it more difficult for crowdfunding platforms to operate across borders and limited access to investors in other countries.

To address these issues, the European Union introduced the European Crowdfunding Service Providers Regulation (ECSPR), which began to apply in 2021. The regulation was introduced to create common rules for crowdfunding activities across member states. One of its main objectives is to allow authorized crowdfunding platforms to operate across the European Union under a common regulatory framework (European Commission, 2021). Investor protection is one of the main elements of the regulation. Crowdfunding investments can involve significant risks because many projects are linked to young businesses with uncertain future performance. For this reason, the regulation requires platforms to provide investors with clear information regarding risks, costs, and investment opportunities. The goal is not to remove risk completely, but to ensure that investors are able to make informed decisions.

The regulation also benefits startups by increasing access to potential investors across Europe. Instead of focusing only on their domestic market, companies can potentially reach a wider group of investors through regulated crowdfunding platforms. This may help new businesses grow and support innovation across the European Union.

Another area that has received attention from regulators is crypto-assets. The growth of cryptocurrencies and other digital assets created new opportunities but also introduced new risks. Crypto-assets can facilitate fast transactions and support new forms of financial activity, but they are often associated with price volatility, market uncertainty, and regulatory concerns. One difficulty for regulators has been the diversity of crypto-assets. Some function primarily as payment instruments, while others are linked to investment activities or provide access to specific digital services. Because of these differences, creating a consistent regulatory framework has been challenging.

In response to these developments, the European Union introduced the Markets in Crypto-Assets Regulation, commonly known as MiCA. The regulation aims to establish common rules for crypto-assets that were not previously covered by existing financial legislation. It is one of the first major regulatory frameworks for crypto-assets at the regional level (European Parliament, 2023).

MiCA aims to improve legal certainty within the crypto-asset market while strengthening consumer and investor protection. The regulation also aims to reduce some of the risks associated with market abuse and insufficient transparency. By creating common rules across member states, policymakers hope to support innovation while maintaining confidence in financial markets.

At the same time, regulating crypto-assets remains a complex task. Technological developments often occur faster than regulatory changes. New digital assets, platforms, and business models continue to appear, creating challenges for policymakers. Regulators therefore need to balance flexibility and innovation with the need for effective supervision.

Crowdfunding regulation and MiCA reflect the general approach adopted by the European Union. Rather than preventing innovation, European policymakers generally seek to create rules that allow new technologies to develop within a regulated environment. This approach aims to support economic growth while reducing risks for consumers and investors.

Both crowdfunding and crypto-assets created new possibilities, but they also raised regulatory concerns. The European Union has responded by developing frameworks that promote transparency, investor protection, and market stability. Although these regulations will continue to evolve, they represent important steps towards a more integrated and secure European digital finance market.

CONCLUSION

This thesis examined how FinTech startups are transforming financial intermediation in Europe. The development of digital technologies created new opportunities for both businesses and consumers and contributed to the growth of alternative financial services. As a result, financial activities that were once carried out mainly through banks can now be accessed through a wide range of digital platforms.

The study showed that alternative financing models became an important option for many startups and small businesses. Crowdfunding, peer-to-peer lending, and revenue-based financing expanded the range of funding opportunities available to firms that may have difficulties obtaining traditional bank financing. Digital platforms also helped make financial services more accessible and easier to use.

The findings also showed that the relationship between FinTech companies and banks is not based only on competition. While FinTech firms introduced innovation and new business models, traditional banks continued to play an important role because of their experience, resources, and position within the financial system. In many cases, cooperation between the two became increasingly common.

The thesis also highlighted the importance of regulation. European initiatives such as PSD2, Open Banking, ECSPR, and MiCA were introduced to respond to changes within the financial sector while protecting consumers and supporting market stability. These measures show that innovation and regulation are developing alongside each other.

The research suggests that FinTech has changed financial intermediation rather than replaced it. Traditional institutions remain important, particularly in areas such as lending, savings, and financial stability. At the same time, digital platforms expanded the range of financial services available to businesses and consumers. Overall, FinTech has contributed to a more digital and diversified financial sector in Europe.

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