



FINTECH STUDY
LATVIA 2020



UNIVERSITY OF LATVIA
**FACULTY OF BUSINESS,
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AND ECONOMICS**

University of Latvia

Faculty of Business, Management and Economics

FINTECH STUDY

LATVIA 2020

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1. PREFACE

The term “FinTech” is now fashionable all over the world. FinTech is seen as a market integrating finance and technology (Arner, Barberis & Buckley, 2015), whereby traditional financial services are replaced with new technology-based processes. FinTech is associated with mobile applications, social networks, machine learning, distributed ledger technology, cloud computing, big data analytics and artificial intelligence, which increased access to financial products and services while raising new risks to financial stability and integrity. The spread of FinTech technologies can be seen largely in the emergence of FinTech hubs - cities where start-ups, talents and funding are concentrating. While centres such as London, New York, and Silicon Valley are widely recognised as dominant FinTech hubs, other centres/countries are interested to become if not global then at least regional hubs of this fast-growing market. For instance, Australia, Switzerland, and China are showing good progress in recognising their financial centres of Sydney, Zurich, and Shanghai, as global market players. Also, some emerging markets (including Brazil), Israel, and Canada are expected to play a larger role in the global FinTech ecosystem in the future. Besides, smaller countries such as Lithuania, Estonia, Latvia, Malta, Belarus, Gibraltar, Luxembourg are competing for the role of international regional hubs.

This study provides an overview of the current state and the developments in the Latvian FinTech environment. This is also the first attempt of the research team at the Faculty of Business, Management and Economics of the University of Latvia to explore the Latvian FinTech landscape and increase the visibility of Latvian FinTechs and is part of a larger European survey targeting FinTechs in Eastern Europe.

The study is divided into several sections. Section 2 provides the definitions and overall framework of the study. Section 3 uses a PEST analysis to provide an overview of the current Latvian FinTech environment. Section 4 presents the Latvian FinTech landscape and the results of the survey of FinTechs registered in Latvia conducted in summer 2019. Section 5 concludes the report with the most important findings. The last section, Section 6, contains factsheets that provide information on the 56 FinTechs that were recognised as Latvian FinTechs in March 2019.

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2. DEFINITION AND FRAMEWORK OF THE FINTECH ECOSYSTEM

2.1. Definition of FinTech

The main challenge of determining FinTech is its versatility and the fact that this phenomenon is in an active stage of development. Thus, policymakers, regulators, companies, researchers, academics and the public freely use such term. A growing number of jurisdictions are working on a legal basis for defining specific forms of FinTech. Many international and regional groups are currently exploring various aspects of FinTech in accordance with their mandates. The regulators from the USA, China, the UK mostly work on payment area and lending, such as crowdfunding and peer-to-peer lending. Some supervisors, for instance in the US, Singapore, Japan, Hong Kong, Australia and Canada, have stimulated the development of FinTech centres/hubs. Many regulators work on or have already established regulatory sandboxes that provide for temporary easing or updating of regulatory requirements, for instance, the U.K, the U.S., Australia, Switzerland, Singapore, Hong Kong, Malaysia, Thailand, Malta and the United Arab Emirates. Regulatory sandboxes help FinTech companies test innovative financial products in real life, without going through the complete authorization and licensing process, but for a limited time (Rupeika-Apoga & Thalassinou, 2020)

However, it is still unclear which companies fall within the domain of “FinTech” and, therefore, should be included in the Latvian FinTechs list. The most used definition provided by the Financial Stability Board explains FinTech as “*technology-enabled innovation in financial*

services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services”. (Financial Stability Board, 2019)

According to the OECD, “*FinTech involves not only the application of new digital technologies to financial services but also the development of business models and products which rely on these technologies and more generally on digital platforms and processes*”. (OECD, 2018)

According to EU Parliament definition, FinTech should be understood “*as finance enabled by or provided via new technologies, covering the whole range of financial services, products and infrastructure*”. (European Parliament, 2017) The definition also includes Insurtech and RegTech.

In this report, we use the definition of FinTech provided by the Bank of Latvia and the Financial and Capital Markets Commission (FCMC), a company which develops and uses new and innovative technologies in the area of financial services. This leads to the development of new financial products and services or a significant improvement of the existing ones. (FinTech glossary, 2019; FCMC, 2020.b) To be included in the report, the FinTechs had to be registered in The Register of Enterprises of the Republic of Latvia and their activity had to fall under at least one of the following seven areas:

- Analytics – data mining, data (business) analytics, big data analysis, machine learning, artificial intelligence used for automated

advice, chatbots, customer relations management, and data handling.

- Banking infrastructure – user interface, processing enhancement, technology infrastructure, various trading platforms, and software companies with a focus on the financial sector.

- Deposit and Lending – crowd investing, crowdlending, invoice trading, and other lending forms such as payday loans.

- Distributed Ledger Technology – cryptocurrency and everything encompassing blockchain technology, even from companies that are payment or crowdfunding companies at the same time.

- Insurance – insurance-related products and services, and InsurTech.

- Payments – mobile payments, online payments, money transfers, and anything related to payments.

- Investment management – online investment processes based on algorithms and models, robo advisors, and social trading.

This classification is similar to the one, used in IFZ FinTech Study 2018 (Ankenbrand, Dietrich, & Bieri, 2019), the International Organization of Securities Commissions (International Organisation of Securities Commissions, 2017) and FinTech Report Estonia 2019. (Tirmaste, Voolma, Laidroo, Kukk, & Avarmaa, 2019)

2.2. PEST Analysis

This study provides the FinTech environment using a PEST analysis, which is commonly used for assessing the external business environment.

PEST analysis examines opportunities and threats due to Political, Economic, Social, and Technological forces. FinTechs are looking for countries with a stable and transparent economic, legal and regulatory environment that provide clear information on regulatory requirements and procedures, provide a prompt and predictable response. At the same time, FinTechs need human capital, reputation and related infrastructure.

2.3. Survey

Since there is no official list of FinTechs in Latvia, our first task was to identify them. We used the definition of the Bank of Latvia, that defines “FinTech as a company that develops and uses new and innovative technologies in the area of financial services”. To find companies falling under this definition, we started with companies listed as FinTechs in the Crunchbase and re-checked whether these companies fell under our definition. Then we added FinTechs found from other data sources: Key Capital for Latvia, Alternative Financial Services Association of Latvia and Investment and Development Agency of Latvia. Also, the list of FinTechs was cross-checked against the Register of Enterprises of the Republic of Latvia to ensure that only FinTech companies incorporated in Latvia are considered. In 2019, we identified 66 companies that meet our criteria. However, during the preparation of the study, some companies were dissolved due to mergers or acquisitions, some changed the country of registration or are in the liquidation process. As a result, 56 companies were selected to be included in this study¹. As the

¹ According to FinTech News Baltic, Fintech Latvia Startup Map 2020 consists of 33 FinTech startups.

(Fintech News Baltic, 2020) Meanwhile, according to the Latvian FinTech Report 2020, prepared by

definition of FinTech is controversial, we understand that some companies are missing from our list and we urge Latvian FinTech technologies not mentioned in this study to inform us of their activity. This will enable higher visibility of all Latvian FinTechs.

Second, we have prepared a survey. The questions in the survey were mainly based on the IFZ FinTech Study 2019 questionnaire (Ankenbrand et al., 2019) and FinTech Report Estonia 2019 (Tirmaste et al., 2019), and were modified to assess the development of Latvian FinTechs.

The survey consists of nine blocks: key activities, key partners, key resources, value proposition, customer relationships, channels, customer segments, revenue streams, and cost structure. (Osterwalder & Pigneur, 2010)

Key activities include 2 questions. First, identification of the field of activity:

- Analytics
- Banking Infrastructure
- Distributed Ledger Technology
- Deposit & Lending
- Investment Management
- Payments
- Insurance
- Other

The second question involved the identification of the key activities: programming and engineering; marketing; and managing day-to-day operations.

The block 'Key partners' focus on key & cooperation partners and the biggest

competitors. 'Key resources' involved questions on the number of employees, the proportion of local employees in their company and employment trend. The block 'Value proposition' refers to the added value a company can deliver to customers should they choose to buy their product. Customers' blocks ('Customer relationships', 'Channels', 'Customer segments') includes:

- the business model: business-to-business (B2B), business-to-consumer (B2C), or both B2B and B2C;
- customer geographic segmentation: local, international, or both;
- service delivery channels: digital, personal, or both.

The block 'Revenue streams' covers the types of income the company generates from its business activities, including income from interest; commissions or trading; licensing fees; software as a service (SaaS); or income from selling advertising space or data.

The survey also includes a sentiment analysis concentrating on the perception of certain challenges for the business on a scale from 1 (not pressing) to 10 (extremely pressing). In addition, FinTechs have indicated the way they work with traditional banks and the role of government agencies and regulations in their development.

The online survey was conducted in the summer of 2019. In total, 21 responses were received.

Swedbank in cooperation with Startin, the number of FinTechs in 2019 was 75, and in 2020 it reached 91 companies. (Swedbank, 2020)

3. THE LATVIAN FINTECH ENVIRONMENT

For centuries, cities have competed to become financial centres; nowadays they are competing to become international or regional FinTech hubs. Countries that did not have the potential to create traditional financial centres see an opportunity in this new, only in the process of formation, FinTech market. Their success depends on many factors, as access to finance and human resources and the attitude of national regulators as well as their degree of openness and flexibility. (Rupeika-Apoga & Thalassinou, 2020)

3.1. Political and Legal Environment

3.1.1. EU Regulatory Framework

Differences in the legal environment can lead to regulatory arbitrage between players in the same jurisdiction and trigger a race to the bottom between jurisdictions in deregulating the legal environment to attract or maintain companies who are qualified as FinTech. The regulatory framework in Latvia is predetermined by the EU regulation. The European Commission in 2018 adopted the FinTech action plan for the development of a more competitive and innovative financial sector in Europe. The main purpose of the plan is to increase supervisory convergence toward technological innovation and prepare the EU financial sector to benefit from new technologies. The action plan is a part of the European Commission's efforts to build a Capital markets union and a true single market for consumer financial services. It is also a part of its drive for a Digital single market. The EU

institutions are working to create a more future-oriented and innovative-friendly regulatory framework covering digitalization and creating an environment in which FinTech innovative products and solutions can quickly spread across the EU to benefit from the huge single European market. The idea underlying this is to reduce regulatory requirements for the FinTech sector without compromising the financial stability or protection of consumers and investors.

All new EU-legislation should be based on the 'innovation principle'. The EP emphasizes that, to prevent regulatory arbitrage in the Member States and the legal statuses, legislation and supervision should be based on the following principles:

- *Same services and same risks: the same rules should apply, regardless of the type of legal entity concerned or its location in the Union;*
- *Technology neutrality;*
- *A risk-based approach, taking into account the proportionality of legislative and supervisory actions to risks and materiality of risks.*

(European Parliament, 2017)

The principle of "same activity, same risks, same supervision and regulation" might protect the customers, but at the same time, we have to apply the risk-based approach, taking into account the proportionality of risks, which is one of the most important elements of AML / CTF programs.

Latvia has a much more detailed and rigorous approach to customer due diligence than in other countries, the cost of compliance is higher, which affects FinTech companies as customers of Latvian banks, and also in cases where FinTech wants to obtain an FCMC license to provide a service. This is a challenge for both FinTechs and the Regulator.

Latvia has already implemented some of the European FinTech regulations including such directives as Payment Services Directive (PSD2), Directive on the prevention of the use of the financial system for the purposes of a Money Laundering and Terrorist Financing (AMLD5), the Markets in Financial Instruments Directive (MiFID-2), Near-Field Communication (NFC), the Investment Firms Directive ((EU) 2019/2034) (IFD) and the Investment Firms Regulation ((EU) 2019/2033) (IFR), the new Prospectus Regulation regarding the format, content, scrutiny and approval of prospectuses has been published in the Official Journal (Commission Delegated Regulation (EU) 2019/980). In March 2018, as part of its Fintech action plan, the European Commission presented a proposal for a regulation on crowdfunding service providers. Once adopted at EU level, the new regulation will allow platforms to apply for an EU passport based on a single set of rules. This will make it easier for them to offer their services across the EU. In the near future, Latvia is planning to adapt crowdfunding regulation.

3.1.2. Latvian Regulatory Framework

In Latvia, there is no specific legislative framework for FinTech companies. Fintech companies have to acquire the appropriate

licenses that match their business models (deposit-taking, investment management, capital raising, issue of financial instruments, provision of payment or electronic money services, insurance or provision of consumer credit services etc.), if this business needs licensing. FinTechs are regulated and monitored by the FCMC or the Consumer Protection Center (CRPC), depending on which financial services are provided. The main regulator supervising the financial market is FCMC, while CRPC ensures consumer protection, market surveillance, the safety of products and services, etc.

Credit Institutions

To receive a credit institution operating licence (permit), a bank shall submit to the FCMC the information and documentation in accordance with the provisions of the Credit Institution Law and Regulations on the Issue of Credit Institution and Credit Union Operating Licences of 24.05.2002 approved by the Board of the FCMC. The minimum initial capital of a credit institution shall be equal to five million euros. The decision to issue a licence of credit institution operations is adopted by the European Central Bank based on the draft proposal by FCMC. Additionally, credit institutions are regulated by Deposit Guarantee Law, Law on the Recovery and Resolution of Credit Institutions and Investment Firms.

Credit Unions

In order to obtain a special credit union operating permit (licence), a newly established union shall submit to the FCMC an application and documents required for obtaining a licence in accordance with the procedures prescribed by regulatory enactments. Credit Unions are

regulated by the Credit Union Law and the Regulations on the State Fee for the Issue of a Special Permit (Licence) for Individual Types of Entrepreneurial Activity.

Investment Management Companies

An investment management company is a joint-stock company, the basic activity of which is the management of investment funds. The investment management company shall operate in accordance with the Law on the Investment Management Companies, the Commercial Law, the Investor Protection Law and other regulatory enactments, and its articles of association. The minimum initial capital of a company shall be EUR 125 000.

Investment brokerage firm

An investment brokerage firm (investment firm) is a capital company that provides investment services and ancillary (non-core) investment services, mainly, brokerage, investment advice, portfolio management, custody services. The investment firm shall operate pursuant to the provisions of the Law on the Financial Instruments Market, the regulatory enactments of the Commission, and its own procedures, internal policies and regulations. The investment firm, which provides services with financial instruments included in the Latvian Central Depository, shall comply also with the regulations of the Depository. The investment firm, which provides services with financial instruments admitted to a regulated market, shall comply also with the regulations of the regulated market. The initial capital depends on services provided-50 000, 125 000 or 730 000 EUR. It should be noted that the new Regulation on prudential requirements - IFR - will enter into

force in July 2021, which will change the capital requirements.

Alternative investment fund managers

An alternative investment fund manager is a joint stock company or a limited liability company, basic activity of which is management of alternative investment funds. The alternative investment fund manager shall operate in accordance with the Law on Alternative Investment Funds and their Managers, the Commission's normative acts, EU Regulations, the Commercial Law and other regulatory enactments, and its articles of association. An alternative investment fund manager can commence its activities after its registration within the Commission (the registered manager) or after the receipt of license for alternative investment fund management activities (the licensed manager). EU manager and non- EU manager can commence its activities under provisions of the Law on Alternative Investment Funds and their Managers.

Insurance Companies

An insurance company is an undertaking, which is registered in the Republic of Latvia as a stock company or a European commercial company or a mutual co-operative insurance association and is entitled to pursue insurance business under the Law on Insurance and Reinsurance. Commercial companies, which have intended to obtain a licence for the particular insurance classes (motor vehicle third-party liability insurance, aircraft ownership liability insurance, ship ownership liability insurance, general liability insurance, credit insurance, suretyship insurance or life assurance), shall have the minimum initial capital of 3.7 million

euro. For other commercial companies, the minimum initial capital shall be 2.5 million euro. Insurance companies are regulated by the Compulsory Civil Liability Insurance of Owners of Motor Vehicles Law, the Insurance Contract Law, the Insurance and Reinsurance Distribution Law and the Law on Insurance and Reinsurance.

Payment Institutions

The payment services specified in Article 1(1) of the Law on Payment Services and Electronic Money are entitled to provide a commercial company which has received a licence from the FCMC for the operation of a payment institution or a person (natural or legal) which is not required to obtain a licence for launching the operation of a payment institution and is registered in the register of institutions maintained by the FCMC. (FCMC, 2020.d)

The initial capital of a licensed payment institution must be equivalent to at least the following amount:

- 1) EUR 20 000 where the payment institution provides only the money remittance services;
- 2) EUR 50 000 where the payment institution provides only the payment initiation services;
- 3) EUR 125 000 if the payment institution provides any of the payment services referred to in Article 1 (1), Subparagraphs “a”, “b”, “c”, “d” or “e” of the Law on Payment Services and Electronic Money.

Whereas, if a licensed payment institution provides only an account information service, it is not required to have the initial capital. In any event, to provide an account information service and/or a payment initiation service, the payment institution shall be required to have its professional civil liability insurance.

Besides, for persons intending to provide only an innovative payment service, which requires the authorisation of a payment institution or electronic money institution, the Law on Payment Services and Electronic Money provides for financial allowances.

Electronic Money Institutions

An electronic money institution is a commercial company that has received a licence from the FCMC for issuing electronic money or a legal entity that does not need a licence to issue electronic money and is registered in the register of institutions maintained by the FCMC. The electronic money institution is entitled to provide payment services in accordance with the Law on Payment Services and Electronic Money. The initial capital of the licensed electronic money institution shall be at least EUR 350,000. Providing additional payment services, the initial capital of the licensed electronic money institution remains the same, at least EUR 350,000.

Private Pension Funds

A private pension fund is a joint-stock company which is registered in the Commercial Register and which, in accordance with the Law on Private Pension Funds and pension schemes, accrues and invests contributions of monetary assets paid by members of pension schemes themselves and those voluntarily paid for their account in order to ensure the supplementary retirement benefit to its member. To obtain a private pension fund licence, a joint stock company shall submit to the Financial and Capital Market Commission an application and the documents referred to the Law on Private Pension Funds. For the pension fund which offers a defined contribution scheme with

guaranteed profitability or a defined disbursement scheme or provides for the coverage of biometric risks in the pension scheme, the minimum size of own capital shall be EUR 3 000 000. The pension fund which offers only the defined contribution scheme without a guaranteed profitability or the coverage of biometric risks is not provided for in this plan, the fulfilment of the following conditions shall be ensured:

- 1) the paid equity capital of the open pension fund is not less than EUR 400 000;
- 2) the paid equity capital of the closed pension fund is not less than EUR 35 000.

Consumer Credit

Many FinTechs operating in Latvia, which are only interested in providing consumer lending services, are regulated by the Consumer Protection Act and monitored by the CRPC. In this case, they are not subject to the license of the credit institution but should obtain a license from the CRPC. The initial capital of the company must be at least EUR 425,000.

Other market players

Currently, not all services provided by FinTechs need to be licensed by FCMC or CRPC, but the regulatory framework is evolving to regulate new innovative activities. During the transition period investment platforms operating in the Latvian market will have to obtain an FCMC license (Mintos and Twino are preparing for this). Those who do not do this will have to cease to operate in Latvia. Activities related to cryptocurrencies are monitored by the State Revenue Service.

All financial services companies are subject to the Law on the Prevention of Money Laundering and Terrorism and Proliferation

Financing. The main institutions dedicated to combating money-laundering are The Financial Intelligence Unit of Latvia, FCMC, the State Revenue Service and CRPC.

Innovation Sandbox and Hub

One of the strategic directions of the FCMC is FinTech support, as well as promoting innovation in the financial system. Like regulators in other countries, FCMC has launched a regulatory innovative sandbox and hub. An innovative financial service that could be tested in the Innovation Sandbox is a new or substantially improved electronic payment or electronic money service at the national level. This service should result in an evident contribution to the user of services:

- increased competition in the sector; the service would be more advantageous, inexpensive, simpler for the customer; excluding individual inter-stages from the traditional chain of service provision (e.g. excluding the card scheme);
- the idea of innovative service on the market could potentially lead to a response from traditional market participants either by improving their service or by adopting the new innovative business model;
- providing consumers and non-professional customers with access to the market segment, which has not traditionally been available to them (FCMC, 2020.c).

Representatives of the FinTech field or those who have intended to start providing a new financial innovative service may receive free FCMC expert advice in PSD2, crowdfunding, virtual assets.

“Following the financial market developments in recent years, the Fintech industry is the

fastest growing segment, as a result one of the strategic directions of the FCMC activity is to support FinTech, as well as to promote innovation in the financial system. In the FCMC view, the FinTech sector will continue to grow and play a growing role in the availability, development and sustainability of Modernfinance, technology-based financial services and the significant increase in access to financial services in the digital environment, as evidenced by the European Commission's digital strategy, which will promote and improve solutions for the use of the digital environment” (Ingus Valtiņš, FCMC)

Taking into account the experience of other countries, regulation can be an effective tool in stimulation incentives to increase innovation and economic development (Romānova et al., 2018).

3.2. Economic Environment

One of the preconditions for becoming a FinTech hub is a developed economic environment. FinTech business is affected by the general economic environment in the country, such as economic growth, economic policy, tax rates, ease of doing business and cost. FinTechs, grouped in major FinTech hubs, are usually internationally mobile and located in the hubs that best meet their business needs. Low tax rates are one of the key factors in choosing companies location. When choosing a FinTech hub, companies also pay attention to the monetary policy (currency stability, interest rates).

Another important factor is the level of development of the financial market

infrastructure (stock exchanges, banks, insurance companies, investment funds, trust companies, etc.). There is a need for an efficient trading system and a variety of tradable financial instruments (equity, debt securities, derivatives, etc.). It is important that customers attract financing at the hub, either through traditional channels such as stock exchanges or banks or through alternative channels such as crowdfunding, venture capital or business angels. Also, the efficiency of the payment system, its speed and security, play an important role.

Various organizations offer ratings/indices of the economic and business environment of countries, including the World Bank's annual Doing Business Report, which is often used to assess the business environment. The Doing Business Report provides objective measures of business regulations and their enforcement across 190 economies and selected cities at the subnational and regional level. In the 2020 report, Latvia ranked 19th among the 190 countries covered. (World Bank, 2020)

According to the Global Financial Centres Index (GFCI), Riga in March 2020 ranked 70th out of 108 cities. Riga was the first time included in this globally recognized financial centres index in 2016, ranking 71st. And within a year it climbed to the 45th position, getting into the top three in the region of Eastern Europe and Central Asia, along with Warsaw (41st) and Tallinn (42nd), jumping over such centres as Stockholm (46th), Liechtenstein (48th) and Copenhagen (52nd). (Yeandle and Wardle, 2020; Solovjova et al., 2018) Unfortunately, Latvia's big ambition to become a leading regional financial centre failed, and in the next

half of the year Riga lost 8 positions and the decline continued until September 2018, which is mainly associated with the major scandals related to the AML processes and involving several Latvian banks. Since September 2019, the GFCI includes a separate index in which financial centres are classified as competitive locations for FinTech. Despite the strong positions of the Chinese and American centres, reflecting their focus on technology development, Vilnius is ranked 13th out of 15 leading financial centres in the world due to high ranks in government & regulatory sector. According to a GFCI survey in 2020, the four most important elements to create a competitive environment for FinTech providers are the availability of skilled professionals and access to finance, which are seen as leading factors, with big data analytics and cybersecurity being the most important applications. (Yeandle and Wardle 2020)

The Global Entrepreneurship Index measures the quality and dynamics of entrepreneurship ecosystems at a national and regional level. In 2019, Latvia ranked 45th out of 137 countries, behind Estonia (22nd) and Lithuania (37th). Latvia ranked lowest in entrepreneurial aspiration (51st) and highest in entrepreneurial ability (38th). (Ács, Szerb, & Lafuente, 2019)

According to the Findexable Global FinTech Index City Rankings report 2020, which ranks the FinTech ecosystems of more than 230 cities, 65 countries and 7000 FinTech companies, Latvia ranked 49th out of 65 countries, and Riga 34th among 50 leading European cities and 96th among 238 cities. Also in this index, Lithuania's performance is high (4th place) compared to

Estonia (10th place) and Latvia. (Findexable, 2019)

3.3. Social Environment

A skilled and educated workforce is the most important resource for the competitiveness and development of FinTechs (Rupeika-Apoga & Saksonova, 2018). Although the local population provides a larger share of the professional workforce, it should be complemented by a relatively small number of internationally mobile professionals moving from country to country, following and developing their business. The relationship between the two groups is very important. International professionals are usually people who will establish and conduct international transactions. Government policies on immigration and education have to be open and flexible, as FinTechs, hubs must be open to a highly-skilled international workforce with deep and extensive knowledge and experience in financial and technology services. A large number of local employees and flexible labour legislation allows companies to recruit and expand according to business needs. The IMD World Talent Ranking evaluates the extent to which economies develop, attract, and retain highly skilled professionals. The evaluation is based on three factors: Investment & Development, Appeal, and Readiness. In 2019 Latvia was ranked 12th in Investment and Development, 48th in Appeal, and 41st in Readiness, ranking 34th in the overall ranking out of 63 countries. Although Latvia ranks high on indicators such as *Female labour force* (2nd), *Government expenditure on education per student* (7th) and *Pupil-teacher ratio, secondary*

education (9th), the main disadvantages are *Brain drain* (50th), *Remuneration in services professions* (51st) and *Effective personal income tax rate* (47th). (Institute for Management Development, 2019)

According to The Global Competitiveness Report 2019 Latvia ranked as 22nd in the *Skills* pillar with the biggest obstacle *Ease of finding skilled employees* (100th) from 141 countries. The *Labor Market* pillar ranked 28th with high scores in *Wage flexibility* (10th) and *Workers' rights* (26th) and low scores in *Ease of hiring foreign labour* (113^h) and *Labour tax rate* (114th). (World Economic Forum, 2019)

The Europe 2020 Competitiveness Report of the World Economic Forum shows a similar situation. Out of 27 European countries, Latvia ranked 22nd in *Education and training*, 5th in the *Labour market and employment*, but only 25th in *Social inclusion*. (World Economic Forum, 2020).

3.4. Technological Environment

The technological environment is the state of science and technology in a country and related aspects such as the rate of technological

progress, institutional mechanisms for the development and application of new technologies, etc.

In terms of information and communication technology (ICT) adoption, Latvia was ranked 15th out of 141 countries, showing strong positions in Mobile-broadband and Fibre internet subscriptions (12th) and Internet users per cent of the adult population (32nd). Additionally, Latvia has an excellent score in electricity access (2nd), while electricity supply quality (34th) and digital skills among active population (still need to be improved (39th)). (World Economic Forum, 2019)

According to The Europe 2020 Competitiveness Report Latvia ranked 20th in *Digital agenda* and 24th in *Innovative Europe* out of 27 countries, significantly lagging behind Estonia at 5th and 12th places, respectively, and Lithuania at 11th and 21st, respectively. (World Economic Forum, 2020)

PEST analysis shows that Latvia has a strong potential to become a FinTech hub at the regional level.

4. FINTECH COMPANIES IN LATVIA

4.1. Overview of Latvian FinTech companies

In this section, we examine the FinTech companies in Latvia, identifying the recent trends and challenges in FinTech development. The FinTech companies were selected based on data retrieved from the Crunchbase, Alternative Financial Services Association of Latvia and Investment and Development Agency of Latvia databases as of March 2019. Additionally, the list of companies was crosschecked against the Latvian Register of Enterprises. Different sources of data were used, as there is no single comprehensive registration of FinTech companies in Latvia. Within this study, we take into consideration only companies that are established in Latvia, provide finance-related services and have a clear, and generally innovative, information technology component in their business model. The main source of information on the Latvian FinTech companies was Orbis database, the flagship database of the Bureau van Dijk's company (a subsidiary of Moody's)². The entire financial profile of the companies was obtained from the Orbis database and reflects the data at the end of 2018, as not all companies provided their data for 2019. Our final list of Latvian FinTechs contains 56 companies, excluding companies that are already dissolved or have insolvency proceedings. The full list and information about the companies are presented in Chapter 6.

Figure 4.1. represents the Latvian FinTech companies in the context of the main activity.

The majority of companies are established as a Financial Company (41% of the FinTechs) and a Computer Software Company (16%). The main activity of other FinTech companies is determined as Business Services (21%), Banking, Insurance & Financial Services (12%), Mutual and Pension Fund/Nominee/Trust/Trustee (7%) and the main activity of one company is registered as Corporate, Media & Broadcasting.

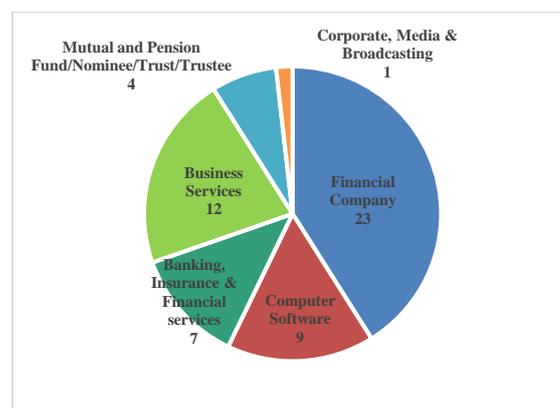


Figure 4.1. Distribution of the number of Latvian FinTech companies by type of activity

We summarised the company's key activities, representing their main services/products provided, according to the North American Industry Classification System (NAICS) (see Figure 4.2.). Analysing the key activities indicated by the FinTechs, four most popular activities can be identified. The non-depository credit intermediation as the main activity was indicated in 42.9% of cases (24 companies), 30.4% of companies are engaged in mortgage and nonmortgage loan brokerage (17

² <https://orbis.bvdinfo.com>. Accessed: March-July 2020.

companies), 16 companies work as credit bureaus (28.6%) or provide computer systems design and related services (17.9% or 10 companies). As the information on particular products/services provided by each company is not always publicly available, it is not included in Chapter 4.1. More detailed information on the products and services offered by Latvian FinTechs is shown in Chapter 4.2. representing the results of the survey.

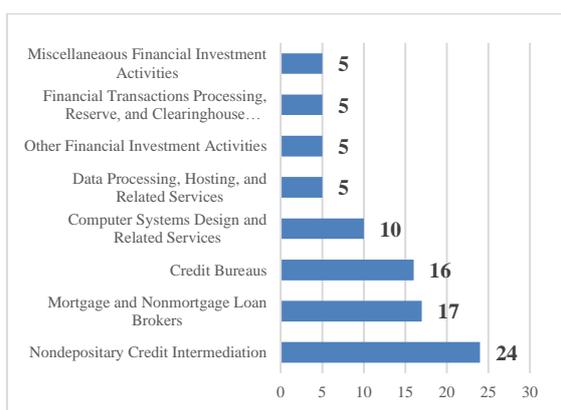


Figure 4.2. The most popular key activities of Latvian FinTech companies

As can be seen from Figure 4.3., 71.4% of Latvian FinTech companies are relatively young and were established in 2010 or later. The oldest company classified later as a FinTech was registered in 1991. Then after a long break, the second oldest company was established in 2003. Both companies are involved in the provision of financial services. After 2004 the number of Fintech companies was steadily increasing reaching the peak (up to now) in 2016 when 11 new FinTech companies were established in Latvia. These companies were mainly registered as computer software, financial company or a company involved in the

provision of banking, insurance and financial services.

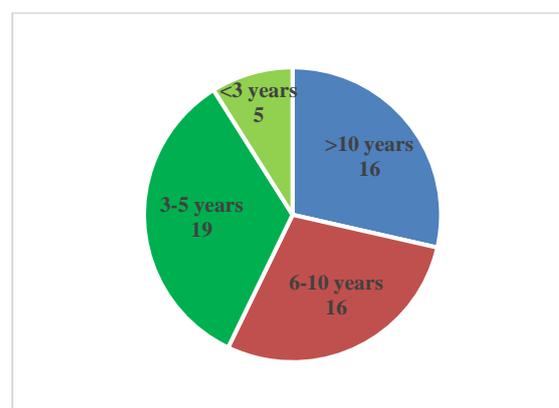


Figure 4.3. Distribution of the number of Latvian FinTechs by age

According to Orbis data, the majority of Latvian FinTechs are a part of a larger corporate group (national or international) and only 14.3% of the companies are independent, not belonging to any corporate group. At the same time, half of the Latvian FinTechs are established with the national capital. Foreign capital is invested in 27 companies, representing such countries as Azerbaijan, Cyprus, Estonia, Lithuania, Malaysia, Moldova, the Netherlands, Russia and Switzerland.

Analysis of the top management of Latvian FinTechs shows clear numerical superiority of the male board members. Nevertheless, 4 companies are managed by entirely female board members and 19 companies have a mixed board (including the two largest FinTech companies in Latvia).

The data on the number of employees shows³, that majority of companies are relatively small stating less than 20 employees (57.1% of the companies), whereas the average number of

³ The number of employees of five companies is not disclosed.

employees in Latvian FinTechs is 32. The smallest companies with five and fewer employees (16 companies) are mainly involved in non-depository credit intermediation and provision of computer systems design and related services. The two largest companies (with more than 100 employees) are financial companies belonging to a corporate group; both companies were established more than 10 years ago.

The total turnover of Latvian FinTechs in 2018 exceeded 450 mln. EUR. The data range is large: from 6.4 thousand EUR to 119.8 mln. EUR. The companies with higher sales revenue were mainly established as financial companies with foreign capital and are a part of a corporate group. These companies are managed by both female and male board members.

In terms of total assets, Latvian FinTechs are dissimilar: the smallest company holds assets in value of 20.2 thousand EUR and the assets of the biggest company are worth slightly more than 1 billion EUR. The dissimilarity is also seen in other financial indicators. The profit margins lay in the range from -25.37% to 91.54% with an average of 13.44%. The highest profit margins and profitability are indicated by the companies involved in non-depository credit intermediation and computer systems design and related services.

Usually, FinTech services are the highly standardised and internet-based allowing provision of low-cost financial services (Romanova, Kudinska, 2016). It explains a relatively high profitability of these companies. In general, Latvian FinTechs are profitable with an average return on equity capital (ROE) of

8.83%, whereas the maximal reported ROE in the sector is 172% and the minimal -555%. Besides, 9 out of 58 companies indicate a negative return on equity. Analysis of the solvency ratios of the FinTech companies has shown that eight companies have reported a negative solvency ratio indicating deeper business problems as well as potential bankruptcy in the nearest future. The return on equity of these companies is not disclosed (probably due to losses and negative equity capital).

On the other hand, in the majority of cases, the FinTechs have enough liquidity that is necessary to perform business activities: the average current ratio in the sector is 4.25. In some cases, the liquidity is too high: the financial data of 10 companies indicate a current ratio that is higher than 5 with a maximal value of 46.99.

At the beginning of 2020, the FCMC carried out a survey of participants of the Latvian financial and capital market in order to identify the scope of innovative FinTech. Overall, 188 market operators were invited to participate in the survey, of which 76 responded and of them 26 indicated that they were already applying cutting edge technologies in the provision of financial services, but 19 of respondents had set up a special team to implement and develop innovative solutions. 11 respondents pointed out that they were planning to start using innovative financial service solutions in 2020. (FCMC, 2020.a)

In general, Latvian FinTech companies are still relatively young and small, but fast-growing with a potential to become very profitable. The common profile of a FinTech company in

Latvia cannot be created due to high dissimilarity of the companies in the sector (Rupeika-Apoga & Solovjova, 2017).

4.2. Results of the Survey

4.2.1. General Characteristics of the Respondents

The study is based on a survey conducted with Latvian FinTech companies in May–June 2019 (21 survey respondents). The questions in the survey were mainly based on the Institute of Financial Services Zug FinTech Study 2018 questionnaire (Ankenbrand et al. 2018) and FinTech Report Estonia 2019 (Tirmaste et al., 2019); and were modified to evaluate the development of Latvian FinTech. It comprises nine blocks that are the important parts of any business: key partners, key activities, key resources, value proposition, customer relationships, channels, customer segments, revenue streams, and cost structure (Osterwalder and Pigneur 2010). The survey also includes a sentiment analysis: the companies are asked to rate how pressing certain challenges are for their business on a scale from 1 (not pressing) to 10 (extremely pressing). The sentiment analysis is based on the survey carried out by the European Central Bank with the addition of expansion to international markets (European Central Bank 2018).

Based on the analysis of the survey data, we conclude, that the majority of FinTech surveyed companies follow the B2C business model proving their services to individual customers (see Figure 4.4.), focusing on both Latvian market and international clients. Nevertheless,

25% of companies work with both individual customers and other business.

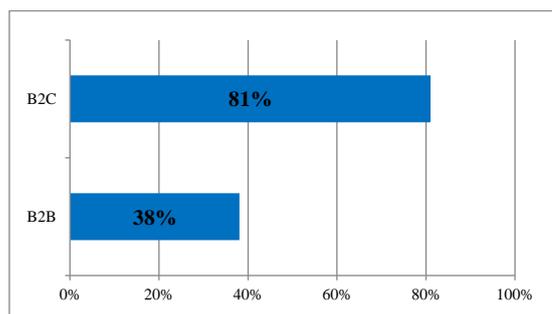


Figure 4.4. The Business Model

In the context of fields of activity, the most popular are financial services related to Deposit&Lending and Payments (see Figure 4.5.). The communication with customers in 90% of the case is both digital and personal, including online and face-to-face communication, communication via email and phone.

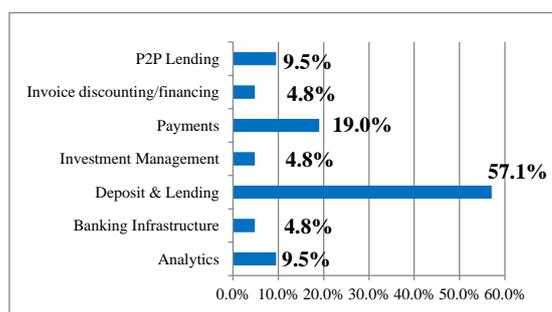


Figure 4.5. Fields of activity

P2P lending activities in Latvia are not allowed. Only companies that have received the appropriate permission from the CRPC can credit the consumer. According to the FCMC, it would be more appropriate to refer to crowdfunding platforms as investment platforms that require an investment brokerage firm license.

4.2.2. Sales and Customers

According to the survey data, the main sources of income of Latvian FinTech companies are commission income from services/products

delivered and interest income (see Figure 4.6.), whereby 30% of the surveyed companies stated both commission and interest as the main income sources.

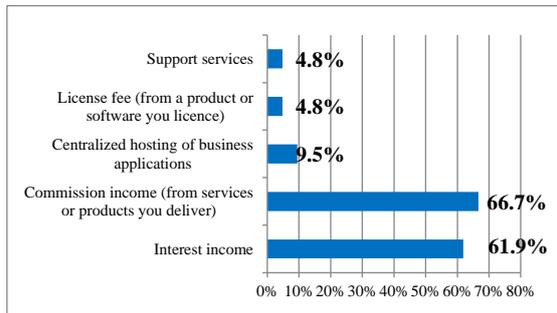


Figure 4.6. Revenue model

Analysis of the key activities shows that most of the time the companies spend to run the daily business and serve the existing clients (see Figure 4.7.), using the existing IT support solutions. However, approximately half of the companies state instant necessity to invest time in programming and engineering to ensure up-to-date provision of services.

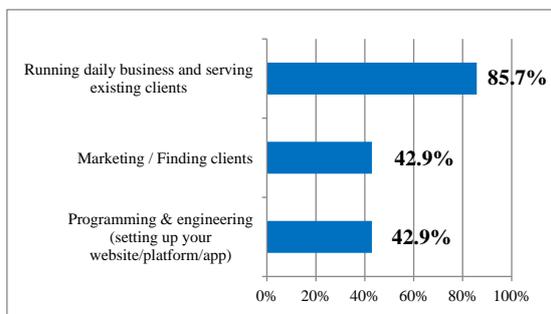


Figure 4.7. Key activities

4.2.3. The Sentiment of Latvian FinTechs

Within this study, we have conducted a sentiment analysis (see Figure 4.8.). The sentiment analysis is based on the seven challenges faced by FinTechs. Evaluating the current situation and the future development prospects, the Latvian FinTech companies see several existing/potential challenges, including access to finance (5.5 out of 10), finding

customers (6.0 out of 10), availability of skilled staff or experienced managers (6.0 out of 10) and competition (6.1 out of 10). It should not be disregarded that for the full-scale inclusion in the financial system almost every FinTech is required to have an account within the commercial bank that may reduce the level playing field.

The existing regulation and its potential changes are seen as the main challenge (7.1 out of 10; standard deviation: 2.59).

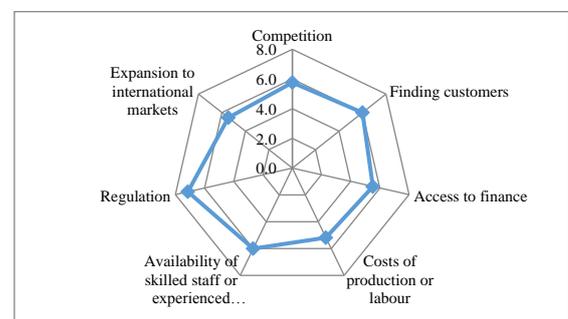


Figure 4.8. Mean evaluation of sentiment analysis by FinTech companies

Answering the question regarding the perception of the existing financial service regulations and the degree to which the companies feel these regulations restrict their activities, the majority of companies indicated that existing regulations limit their activities.

On the other hand, in their opinion, a special regulation and regulatory sandboxes could contribute to the development of the FinTech sector in Latvia (see Figure 4.9.). Besides, the companies see the main triggers of FinTech development in changing technological opportunities and customer's mindset, changing regulation (especially in AML) and labour costs.

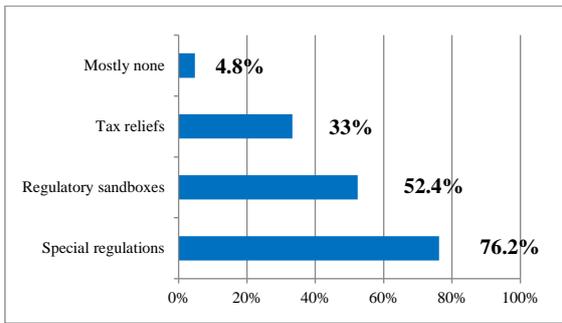


Figure 4.9. How could the Latvian state contribute to the FinTech sector development?

4.2.4. Outlook

The majority of the analysed FinTech companies see themselves as partners of traditional banks helping to adopt new technologies, modernize and digitalize. All companies participating in the survey forecast growth of their net turnover in the future. 81% of the companies (or 17 out of 21) expect a net turnover in 2019 to exceed 1 mln.EUR. The sector players indicated the plans to expand their activities, including an increase in export of their services with the largest potential in Europe and Asia.

The results of the survey conducted suggest also large growth expected in workforce demanded by the Latvian FinTech companies (see Figure 4.10.), which is in line with the expected growth of demand for FinTech services.

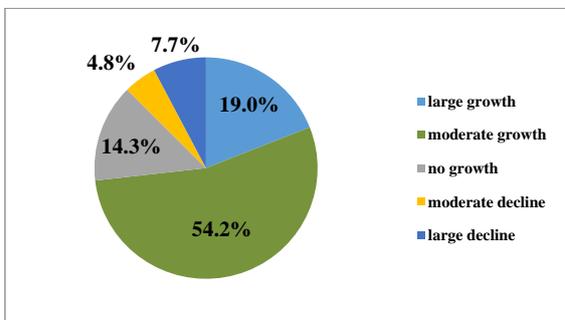


Figure 4.10. Expected change in the workforce in 2020

Latvian FinTech companies are still in the development stage, but already now, they

contribute to economic growth. Besides, the FinTechs can help to expand financial inclusion in Latvia, easing access to financial services and contributing to the development of the financial system.

Over the past few years, the rise of the financial technologies has become a notable global trend in the financial sector developments improving our daily lives and having a substantial impact on our habits. This study, conducted by the University of Latvia, provides the most comprehensive overview of the Latvian FinTech industry and identifies barriers to its successful growth and development. The use of standardized methodology provides an additional benefit as the results of the study are comparable with similar studies conducted in Estonia and Switzerland.

The latest activities of the FCMC demonstrate strengthening of the focus on the FinTech development. The new Latvian Financial Sector Development Plan for the years 2021–2023 is expected to be approved by the end of the year. The effort aimed at stimulating the rise in FinTech in Latvia will be much bigger than before and will boost the development of the FinTech industry in the upcoming years.

Studies of this type should become regular in the future, providing a full-scale overview of the issues and development trends, thus allowing policy makers and regulators to assess the efficiency of the stimulation measures performed.

Deniss Filipovs, Head of Payment Systems Policy Division, Latvijas Banka, FinTech expert.

5. CONCLUSION

Recent technological developments, wide use of online channels and mobile devices as well as changing consumer behaviour have transformed the financial sector throughout the world. Financial technologies have become an inherent attribute of the financial sector, changing the nature of the financial services.

Depending on the specific activities of the company, FinTechs are regulated and monitored by the FCMC or the CRPC, the State Revenue Service, as the FinTech-specific legislation is not yet existent in Latvia. On one hand, the absence of the FinTech legal framework provides additional comparative advantages to the FinTech market players comparing to the traditional financial service providers as commercial banks. On the other hand, it slows down the development of the market and the creation of the level playing field and Latvian FinTech hub. Additionally, Latvia has a much more detailed and rigorous approach to customer due diligence than in other countries, which affects FinTech companies as customers of Latvian banks, and also in cases where FinTech wants to obtain an FCMC license to provide a service.

Additional regulation is often seen as an obstacle to the development of the sector, however, in the case of Latvia, a specific legal framework within the existing legislation can help to stimulate the development of FinTech. The FinTech industry relies on the traditional banking industry as all FinTech companies require a traditional bank account, as results making them dependent on banking policy. The economic and social environment, in general, are stimulating market development: Latvia has

an adequately developed financial market infrastructure as well as a highly-skilled workforce with relatively high entrepreneurial ability. Besides, Latvia is internationally highly ranked in the context of the ICT development, showing strong positions in Internet subscriptions, electricity access and supply quality as well as regarding the Internet users' percentage of the adult population.

The FinTech companies in Latvia provide services that are both complementary to bank services and services that are traditionally covered by banks. Therefore, the development of FinTech increases competition in the financial services market.

With this study we aim to examine the FinTech companies in Latvia, identifying the recent trends and challenges in its development. This study might help to increase the visibility of Latvian FinTechs, thus contributing to the development of the FinTech market in Latvia.

Based on the data of the Orbis database we have analysed Latvian FinTechs, represented mainly by companies registered as a Financial Company or a Computer Software Company. The most frequent key activities stated by the FinTechs are non-depository credit intermediation, mortgage and nonmortgage loan brokerage, credit bureaus and provision of computer systems design and related services.

Latvian FinTechs are relatively young, mainly established as a company within a larger corporate group. Half of the companies are established with foreign capital, representing different countries, including Azerbaijan, Cyprus, Estonia, Lithuania, Malaysia, Moldova, the Netherlands, Russia and Switzerland.

The FinTech companies in Latvia are relatively small: 52% or 30 companies have a net turnover of less than one million EUR in 2018. The highest sales revenue was indicated for financial companies with foreign capital being a part of a corporate group. The average number of employees in Latvian FinTechs is 31, however, the majority of companies expect an increase in the number of employees in the coming years.

The average profitability numbers of FinTechs are positive, however, 16% of all companies have reported a negative solvency ratio, indicating potential bankruptcy in the future.

Due to the COVID-19 pandemic, some FinTech companies have exited the market or lost significant market share (investment platforms based on risky lending), the rest (IT service providers), on the contrary, are developing. It is clear that pandemics like COVID-19 are reshaping financial markets, including FinTech. Many FinTechs are under stress as the COVID-19 pandemic continues to create uncertainty, however, on the other hand, new opportunities may be created for some FinTechs.

The study was supported by a survey conducted with Latvian FinTech companies in May–June 2019. The total number of respondents was 21. Based on the analysis of the survey data, we conclude, that the majority of FinTechs participating in the survey follow the B2C business model proving their services to individual customers, both in Latvia and abroad. The main sources of income are commission income from services/products delivered and interest income. In general, companies focus on running the daily business and serving existing clients, mainly using the

existing IT support solutions. However, the companies regularly invest time and other resources in programming and engineering to ensure the up-to-date provision of services.

Evaluating the current situation and the future development prospects, the Latvian FinTech companies don't see any threats, still indicating some existing/potential challenges, including access to finance, finding customers, availability of skilled staff or experienced managers, competition. Whereas existing regulation and its potential changes are seen as the main challenge.

All FinTechs participating in the survey expect growth of sales net turnover, among others due to the potential increase in the export of services. The majority of the analysed FinTech companies see themselves as partners of traditional financial service providers (e.g., commercial banks), providing support in the adoption of new technologies, modernization and digitalization of bank services. Thus, FinTechs can contribute to the development of the financial system as well as the whole national economy.

Latvia is a small country with a small market, which is often seen as a negative factor for the country's prosperity, but not in the case of FinTech. Small size is not a disadvantage in this market, what matters is the connectivity – both physical and digital. A combination of national initiatives to promote Riga with amendments to local regulations to facilitate establishment of local FinTechs and for entrepreneurs from outside to set up FinTechs in Latvia could help us to become an active regional leader in the FinTech market.

6. FACTSHEETS ON LATVIAN FINTECH COMPANIES

This section contains factsheets on identified Latvian FinTech companies that were registered in Latvia in 2019. The information included in the factsheets was obtained from the Van Dijk Bureau (research firm Moody's) in June/July 2020.

LIST OF KNOWN FINTECHS REGISTERED IN LATVIA

4FINANCE AS	MINTOS MARKETPLACE AS
ALTERO SIA	MOBILLY SIA
ATOM SOFTWARE SIA	MOBILLYTX SIA
BILDERLINGS PAY, SIA	MOGO AS
BITFURY LATVIA SIA	MONETIZATOR SIA
BLOCKVIS SIA	MONIFY AS
C.T. CO SIA	NORDIC FINANCE SIA
CAPITALIA	NORDIGEN SOLUTIONS SIA
COINFIDE SIA	NOTAKEY LATVIA SIA
COMMERCIALIZATION REACTOR FUND SIA	OC FINANCE SIA
CREAMFINANCE LATVIA SIA	ONDO SIA
CREDIUM GROUP SIA	PAYBIS SIA
DECTA SIA	PAYDOO SIA
DELFINGROUP SIA	ROBOCASH SIA
DELTA CAPITAL SIA	SCANDIANTECH SIA
DOFINANCE SIA	SOLUT SIA
DUKASCOPY EUROPE AS	SWAPER SIA
EXTRA CREDIT SIA	TRANSACT PRO SIA
FINANZA SIA	TWINO SIA
FINERIUM SIA	UX DESIGN AGENCY SIA
FLEXIDEA SIA	VIA SMS GROUP AS
FOREX TEAM SIA	VIAINVEST SIA
GLOBITEX HOLDING AS	VIVENTOR SIA
GRAND CREDIT SIA	VIVUS SIA
GRUPEER SIA	VIZIAFINANCE SIA
HIPOCREDIT AS	WANDOO FINANCE SIA
IBANPAY SIA	WESTSTEIN SIA
IPF DIGITAL LATVIA SIA	X INFOTECH SIA



Founded in: 2008

Category: Financial company

Location: Latvia Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	International	Female & Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

The company, with registered head office located in Riga, Latvia, is engaged in the provision of services auxiliary to financial intermediation. It also raises funds by taking deposits and issuing securities, and, in the process, incurs liabilities, which are used to acquire financial assets by making loans and purchasing securities. The company also channels funds from lenders to borrowers and transform or repackage the funds with respect to maturity, scale and risk. In addition, it is also involved in the pooling of risk by underwriting annuities and insurance. The company collects fees (insurance premiums or annuity considerations), build up reserves, invest those reserves and make contractual payments. It was incorporated in 2008.



ALTERO SIA

www.altero.lv

Founded in: 2016

Category: Financial company

Location: Latvia Maturity: Live (already running)

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Nondepository Credit Intermediation
Financial Transactions Processing, Reserve, and Clearinghouse Activities
Miscellaneous Financial Investment Activities

Customer Segments
B2C

Financial services comparison platform operator

ATOM SOFTWARE SIA

Founded in: **2012**

Category: **Computer software**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Computer Systems Design and Related Services
Data Processing, Hosting, and Related Services
Other Management Consulting Services

Customer Segments

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BILDERLINGS

BILDERLINGS PAY, SIA

Founded in: **2015**

Category: **Financial Company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	National	Female & Male

Key Activities
Other Financial Investment Activities
International Trade Financing

Customer Segments	
B2B	B2C

--

BITFURY LATVIA SIA



Founded in: **2018**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Computer Systems Design and Related Services
Other Computer Related Services

Customer Segments	
B2B	B2C

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BLOCKVIS SIA



Founded in: **2012**

Category: **Computer software**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Computer Systems Design and Related Services

Customer Segments	
B2B	B2C

--

C.T. CO SIA



Founded in: **2016**

Category: **Computer software**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Female
Key Activities		
Computer Systems Design and Related Services		

Customer Segments	
B2B	

This company is engaged in the provision of computer programming services. It is a European IT solutions and services outsourcing company and is a subsidiary of international technology services group Com Tec Co (CTC). Started in 1997, the company has a registered office located in Kekavas Nov., Latvia. The company offers competences and technical skills, experience and knowledge, ReACT+ platform for financial services, business intelligence services, quality assurance and testing services, collaboration model and project management process, and software engineering process and quality assurance. It employs IT professionals, focusing on attracting the best talent matching the strong organizational culture. Through its commitment to personnel development, the company enjoys very low turnover rate contributing to the strategy of having highly professional, motivated and client-oriented workforce. Its customers are Swiss Re and the AXA Group.

CAPITALIA

www.capitalia.lv



Founded in: **2007**

Category: **Mutual and pension fund/
Nominee/Trust/Trustee**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities	
Nondepository Credit Intermediation	
Mortgage and Nonmortgage Loan Brokers	
Credit Bureaus	

Customer Segments	
B2B	

Financial advisory services provider ; Financing services provider

**COINFIDE
SIA**

<https://maksajumuportals.lv/>



Founded in: **2015**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Management of Companies and Enterprises
Offices of Bank Holding Companies

Customer Segments
B2B

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COMMERCIALIZATION REACTOR FUND SIA

Founded in: **2017**

Category: **Mutual and pension fund/
Nominee/Trust**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Other Financial Investment Activities

Customer Segments
B2B

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CREAMFINANCE LATVIA SIA

www.crediton.lv

www.auto-lombards.lv
Financial company

Founded in: **2010**

Category:

Live (already running)

Location: **Latvia**

Maturity:

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

Short-term loans services provider

CREDIUM GROUP SIA

Founded in: **2014**

Category:

Business Services

Live (already running)

Location: **Latvia**

Maturity:

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Offices of Bank Holding Companies
Offices of Other Holding Companies

Customer Segments
B2B



DECTA SIA

**Banking,
Insurance &
Financial
Services**

Founded in: **2016**

Category:

Location: **Latvia**

Maturity:

**Live (already
running)**

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Nondepository Credit Intermediation
Miscellaneous Financial Investment Activities
International trade financing services

Customer Segments
B2B

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DELFINGROUP SIA

**Financial
company**

Founded in: **2009**

Category:

Location: **Latvia**

Maturity:

**Live (already
running)**

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Lessors of Real Estate

Customer Segments
B2C

The company is engaged in the provision of credit granting, sales financing and consumer lending services on real estate. Its business was incorporated in October of 2009. The company has a registered head office based in Riga, Latvia.

The company provides secured and unsecured non-real estate loans; revolving retail sales financing services, as well as purchases retail sales contracts; and real estate loans secured by first or second mortgages on residential real estate. The company also offers credit life, credit accident and health, credit related property and casualty, credit involuntary unemployment, and non-credit insurance, as well as ancillary products, such as home security and auto security membership plans, and home warranty services.

**DELTA
CAPITAL SIA**



Founded in: 2010

Category: **Mutual and pension fund/
Nominee/Trust/Trustee**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

--

**DOFINANCE
SIA**



Founded in: 2016

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Data Processing, Hosting, and Related Services

Customer Segments
B2B

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www.dukascopy.eu

Founded in: **2014**

Category: **Mutual and pension fund/
Cominee/Trust/Trustee
Live (already running)**

Location: **Latvia**

Maturity:

Company	Ownership	Board Members
Corporate group	International	Female & Male

Key Activities
Other Financial Investment Activities
Brokerage services provider

Customer Segments
B2C

--



EXTRA CREDIT SIA

Founded in: **2012**

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	National	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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FINANZA SIA

www.fianza.lv



Founded in: 2011

Category:

Financial companyLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

--

FINERIUM SIA

Founded in: 2017

Category:

Financial companyLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Independent	National	Male

Key Activities
Nondepository Credit Intermediation
Miscellaneous Financial Investment Activities

Customer Segments
B2C

--



FLEXIDEA SIA

Founded in: 2017

Category: **Banking
Insurance & Financial
Services
Live (already
running)**

Location: **Latvia**

Maturity:

Company	Ownership	Board Members
Independent	International	Female & Male

Key Activities
Other Financial Investment Activities
Other Management Consulting Services
Invoice discounting/financing

Customer Segments
B2B

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**FOREX
TEAM
SIA**

forexteam.com

Founded in: 2014

Category: **Business Services**

Location: **Latvia**

Maturity:

**Live (already
running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Other Financial Investment Activities
Custom Computer Programming Services

Customer Segments
B2C

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GLOBITEX HOLDING AS



Founded in: **2015**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group		Female & Male

Key Activities
Management of Companies and Enterprises

Customer Segments
B2B

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Founded in: **2007**

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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GRUPEER SIAwww.grupeer.comFounded in: **2016**

Category:

Media & BroadcastingLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Other Information Services
Internet Publishing and Broadcasting and
Web Search Portals

Customer Segments
B2B

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HIPOCREDIT ASwww.hipocredit.lvFounded in: **2014**

Category:

Financial companyLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Independent	National	Female&Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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**IBANPAY SIA**Founded in: **2005**

Category:

Business ServicesLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	International	Female

Key Activities
Business Support Services
Data Processing, Hosting, and Related Services

Customer Segments
B2B

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**IPF DIGITAL LATVIA SIA**www.mobilecreditbaltic.comwww.credit24.lvFounded in **2007**

Category:

Financial companyLocation: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate Group	International	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

This company, based in Latvia, operates as a business credit institution that provides financial intermediation and other related investment activities. It was incorporated in 2007 and conducts business from its registered head office located in Riga. The company also functions as a personal credit institution, and banker and broker that purchases and sells securities and originates, underwrites, and distributes issues of securities, and issues shares of mutual and money market funds, unit investment trusts, and face amount certificates.



Founded in: 2015

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female&Male

Key Activities
Depository Credit Intermediation
Financial Transactions Processing, Reserve, and Clearinghouse Activities
All Other Nondepository Credit Intermediation

Customer Segments
B2B

Peer-to-peer lending platform operator

MOBILLY SIA



Founded in: 2003

Category: **Banking, Insurance & Financial Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	National	Female & Male

Key Activities
Nondepository Credit Intermediation
Miscellaneous Financial Investment Activities
Mobile virtual payment system operator

Customer Segments
B2C

MOBILLYTX SIA

www.cps.lv



Founded in: 2006

Category: Corporate, Computer Software

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Independent	National	Male

Key Activities
Data Processing, Hosting, and Related Services

Customer Segments
B2B

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MOGO AS

www.mogo.lv

Founded in: 2012

Category: Financial company

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Independent	-	Female&Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

This company specialises in non-depository credit intermediation and various financial assistance. It was incorporated in 2012 and has its registered head office located in Riga, Latvia. The company's business operation focuses on providing financial assistance such as extending credit or lending funds raised by credit market borrowing and issuing commercial paper or other debt instruments or by borrowing from other financial intermediaries. The company is also equipped with state-of-the-art technology and equipment, as well as employs professional staff such as financial managers and advisers who specialized in the management and other related financial support, scientific and technical assistance. The company offers services to various businesses operating across Riga.



MONETIZATOR SIA

www.monea.me

Founded in: **2013**

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate Group	National	Male

Key Activities
Depository Credit Intermediation
Mobile payment application developer

Customer Segments	
B2B	B2C

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MONIFY AS

**Banking,
Insurance &
Financial Services**

Founded in **2017**

Category:

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments	
	B2C

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NORDIC FINANCE SIA

www.e-finance.lv
www.iespejukredits.lv

Founded in: **2005** *Category:* **Financial company**

Location: **Latvia** *Maturity:* **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Female&Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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NORDIGEN SOLUTIONS SIA



Founded in: **2016** *Category:* **Computer software**

Location: **Latvia** *Maturity:* **Live (already running)**

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Data Processing, Hosting, and Related Services

Customer Segments
B2B

Banking data analytics platform operator
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NOTAKEY LATVIA SIA



Founded in: **2016**

Category: **Computer software**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Computer Systems Design and Related Services

Customer Segments
B2B

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OC FINANCE SIA

www.opencredit.lv

Founded in: **2008**

Category: **Financial company**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments	
B2B	B2C

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ONDO SIA

www.ondo.lv

Founded in: **2014**

Category:

Banking, Insurance & Financial Services

Location: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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PAYBIS SIA

www.paybis.com

Founded in: **2015**

Category:

Computer Software

Maturity:

Live (already running)

Location: **Latvia**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Computer Systems Design and Related Services
All Other Information Services
Other Computer Related Services

Customer Segments	
B2B	B2C

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PAYDOO SIA

Founded in: **2014**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Independent	International	Male

Key Activities
Management, Scientific, and
Technical Consulting Services
Payment Service Provider

Customer Segments
B2B

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ROBOCASH SIA

Founded in: **2016**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Management, Scientific, and Technical Consulting Services
International Trade Financing
All Other Nondepository Credit Intermediation

Customer Segments
B2B

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SCANDIANTECH SIA

www.scandiantech.com

SCANDIANTECH.

Founded in: 2014

Category: Computer Software

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate Group	National	Male

Key Activities

Computer Systems Design and Related Services

Custom Computer Programming Services

Customer Segments

B2B

www.solut.lv



SOLUT SIA

Founded in: 2015

Category:

Financial company

Location: Latvia

Maturity:

Live (already running)

Company	Ownership	Board Members
Independent	National	Male

Key Activities

Nondepository Credit Intermediation

Mortgage and Nonmortgage Loan Brokers

Credit Bureaus

Customer Segments

B2B



SWAPER SIA

Founded in: **2016**

Category: **Banking, Insurance & Financial Services**

Location: **Latvia** Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female

Key Activities
Nondepository Credit Intermediation
Financial Transactions Processing, Reserve, and Clearinghouse Activities

Customer Segments	
B2B	B2C

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TRANSACT PRO SIA

www.transactpro.eu, www.istadavanukarte.lv
www.premiumplus.lv, www.prioritycard



Founded in: **2004**

Category: **Financial company**
Live (already running)

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Nondepository Credit Intermediation
Financial Transactions Processing, Reserve, and Clearinghouse Activities
Miscellaneous Financial Investment Activities

Customer Segments	
B2B	B2C

The company is an entity based in Latvia that is primarily engaged in investment activities and provision of financial services. The company is principally involved in the ownership, buying and selling of loans and other debt claims and portfolios. Its financial services also include both short term and long term funding, mortgages, loans, independent financial advice, wealth management services, and other related financial services. It serves both private individuals and corporate clients. The company has its active operations within the country.



TWINO SIA

www.twino.eu

Founded in: 2015

Category: Financial company

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	National	Female&Male

Key Activities
Depository Credit Intermediation
Sales Financing
Consumer Lending

Customer Segments
B2C

This company is a privately-owned P2P marketplace lender operating, offering investors from across Europe the opportunity to earn premium returns. The company connects investors seeking premium returns with borrowers searching for convenient loans, through the digital landscape.



UX DESIGN AGENCY SIA

uxdesignagency.com

Founded in: 2012

Category: Computer software

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Computer Systems Design and Related Services

Customer Segments
B2B

VIA SMS GROUP AS

viasmsgroup.com



Founded in: 2007

Category:

Business Services

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	National	Female & Male

Key Activities
Management of Companies and Enterprises
International Trade Financing

Customer Segments
B2C

This company, based in Latvia, operates as an alternative financial services provider. It develops an extensive product portfolio with more than 10 different brands and products from ranging from consumer lending and credit card SAVA.card to peer-to-peer lending platform VIAINVEST. It offers short-term consumer loans under various conditions, as well as attractive product portfolio with flexible high-yield savings and term deposit.

VIAINVEST SIA



Banking, Insurance & Financial Services

Founded in: 2016

Category:

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Nondepository Credit Intermediation
Financial Transactions Processing, Reserve, and Clearinghouse Activities

Customer Segments	
B2B	B2C

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VIVENTOR SIA

Founded in: **2015**

Category:

Business Services

Location: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities	
Legal Services	

Customer Segments	
	B2C

Online peer to peer (P2P) loan investment platform operator

VIVUS SIA

www.vivus.lv



Founded in: **2014**

Category:

Financial company

Location: **Latvia**

Maturity:

Live (already running)

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities	
Nondepository Credit Intermediation	
Mortgage and Nonmortgage Loan Brokers	
Credit Bureaus	

Customer Segments	
	B2C

This company is primarily engaged in the provision of financial leasing services. The company offers security broking and fund management, depository credit intermediation, as well as other activities auxiliary to financial intermediation. It is also affiliated in providing financing solutions, payment transactions, financial consultancy, leasing, investment banking, corporate pension funds, capital markets and asset management, as well as venture capital provision, and other related services. In addition, the company covers an array of investment funds.

VIZIAFINANCE SIA



Founded in: 1991

Category: Financial company

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	National	Male

Key Activities
Nondepository Credit Intermediation
Mortgage and Nonmortgage Loan Brokers
Credit Bureaus

Customer Segments
B2C

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WANDOO FINANCE SIA

www.wandoofinance.com

Founded in: 2016

Category: Financial company

Location: Latvia

Maturity: Live (already running)

Company	Ownership	Board Members
Corporate group	International	Female

Key Activities
Management of Companies and Enterprises

Customer Segments
B2B

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WESTSTEIN SIA

www.weststeincard.com

Founded in: **2012**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Male

Key Activities
Advertising, Public Relations, and Related Services
Commercial Banking; Savings Institutions; Credit Unions
International Trade Financing

Customer Segments	
B2B	B2C

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X INFOTECH SIA

www.x-infotech.com

Founded in: **2006**

Category: **Business Services**

Location: **Latvia**

Maturity: **Live (already running)**

Company	Ownership	Board Members
Corporate group	International	Female & Male

Key Activities
Computer Systems Design and Related Services

Customer Segments	
B2B	

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LIST OF REFERENCES

- Ács, Z. J., Szerb, L., & Lafuente, E. (2019). *The Global Entrepreneurship Index 2019*.
<https://doi.org/10.13140/RG.2.2.17692.64641>
- Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of FinTech: A new post-crisis paradigm? *Georgetown Journal of International Law*, 47(4), 1271–1319.
- Ankenbrand, T., Dietrich, A., & Bieri, D. (2019). IFZ FinTech Study 2019 An Overview of Swiss FinTech IFZ FinTech Study 2019, 144.
- Bank of Latvia (2019). FinTech glossary. Retrieved from <https://www.bank.lv/en/publications-r/other-publications/fintech-glossary>
- Bureau van Dijk's data base. Retrieved from <https://orbis.bvdinfo.com>. Accessed: March-July 2020.
- European Parliament. Report on FinTech: the influence of technology on the future of the financial sector (2016/2243(INI)), A8-0176/2017 § (2017). <https://doi.org/10.1080/00344897208656356>
- FCMC.(2020.a). FinTech monitoring. Retrieved from <https://www.fktk.lv/en/licensing/innovation-and-fintech/fintech-monitoring/>
- FCMC.(2020.b). Innovation and FinTech. Retrieved from <https://www.fktk.lv/en/licensing/innovation-and-fintech/>
- FCMC. (2020.c). Innovation Sandbox. Retrieved from <https://www.fktk.lv/en/licensing/innovation-and-fintech/innovation-sandbox/>
- FCMC.(2020.d). Payment Institutions. Retrieved from <https://www.fktk.lv/en/licensing/payment-institutions/>
- Financial Stability Board. (2019). FinTech and market structure in financial services: Market developments and potential financial stability implications - Financial Stability Board, (February). Retrieved from www.fsb.org/emailalert%0Ahttp://www.fsb.org/2019/02/fintech-and-market-structure-in-financial-services-market-developments-and-potential-financial-stability-implications/
- Findexable. (2019). *The Global Fintech Index 2020*. Retrieved from https://findexable.com/wp-content/uploads/2019/12/Findexable_Global-Fintech-Rankings-2020exSFA.pdf
- Fong, V. (2020). First Ever Latvia Fintech Startup Map Draft Released. *Fintech News Baltic*. Retrieved from <https://fintechbaltic.com/2020/01/27/latvia-fintech-startup-map-2020/>
- Institute for Management Development. (2019). *IMD World Talent Ranking 2019*. Retrieved from file:///C:/Users/a_equ/Downloads/imd_world_talent_ranking.pdf
- International Organisation of Securities Commissions. (2017). *IOSCO Research Report on Financial Technologies (Fintech)*. International Organization of Securities Commissions. Retrieved from <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf>
- OECD. (2018). *Financial Markets, Insurance and Private Pensions: Digitalisation and Finance*.
- Osterwalder, A., & Pigneur, Y. (2010). Business Model Generation: A handbook for visionaries, game changers and challengers. In *John Wiley and Sons* (p. 288).
- Románova, I., Kudinska, M. (2016). Banking and Fintech: A Challenge or Opportunity, *Contemporary Issues in Finance: Current Challenges from Across Europe*, 98, 2016, 21–35.
- Románova, I., Grima, S., Spiteri, J., & Kudinska, M. (2018). The Payment Services Directive 2 and

competitiveness: The perspective of European FinTech Companies. *European Research Studies Journal*, 21(2), 5–24.

Rupeika-Apoga, R., Saksonova, S. (2018). SMEs' Alternative Financing: The Case of Latvia. *European Research Studies Journal*, 21(3), 43-52, DOI: 10.35808/ersj/1042.

Rupeika-Apoga, R., Solovjova, I. (2017). Access to finance for Latvian SMEs. *European Research Studies Journal*, 20(3), 57-68

Rupeika-Apoga, R., Thalassinou, E. (2020). Ideas for a Regulatory Definition of FinTech. *International Journal of Economics and Business Administration*, VIII(2), 136–154.

Swedbank. (2020). *Latvian Fintech Report 2020*.

Solovjova, I., Rupeika-Apoga, R., Romānova, I. (2018). Competitiveness enhancement of international financial centres. *European Research Studies Journal*, 21(1), 5-17.

The World Bank. (2020). Doing Business 2020. Retrieved from <https://www.doingbusiness.org/en/reports/global-reports/doing-business-2020>

Tirmaste, K., Voolma, L., Laidroo, L., Kukk, M.-L., & Avarmaa, M. (2019). *FinTech Report Estonia 2019*.

World Economic Forum. (2019). *The Global Competitiveness Report 2019*. *World Economic Forum*. <https://doi.org/10.1111/j.1467-9639.1999.tb00817.x>

World Economic Forum. (2020). *The Europe 2020 Competitiveness Report : Building a More Competitive Europe*.

Yeandle, M., Wardle, M. (2020). The Global Financial Centres Index. Z/Yen Partners & China Development Institute. Financial Centre Futures. Retrieved from <https://www.longfinance.net/publications/long-finance-reports/>