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FinTechs in Poland: Insights, Trends and Perspectives



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FinTechs in Poland: Insights, Trends and Perspectives

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Preface

The goal of the report is to present the situation of the FinTech sector in Poland, review its recent development (based on the comparison of the current situation and the situation presented in the previous reports), investigate its specific problems and show its main challenges and opportunities. This report is based on the survey run in January 2020. The questionnaire containing 37 questions was sent to 233 firms, out of which 48 has responded. This study is a part of a bigger European survey addressed to the FinTechs in the post-communist countries. However, the findings presented in this report, refer exclusively to Poland.

The report is divided into the following sections. In the first one, we introduce the regulatory, economic, social, and technological environment of the FinTech sector in Poland. Next, we present detailed results of the survey carried out among the FinTech companies in Poland. We focus on their business, key activities in daily operations, revenue model, financing sources, challenges and opportunities they were facing at the time of the survey, their interactions with banks and governmental agencies. The survey was run just before the coronavirus outbreak, so it reflects the respondents' opinions expressed in the pre-COVID19 world. Thus, in Conclusions, we express a bird's eye view on how the outbreak affected the overall conditions of the Polish FinTech.

The main findings of the report are:

- although the FinTech sector is still considered young, 50% of the companies operating in Poland exist on the market for longer than 5 years;
- about 40% of the FinTech businesses are small companies (microenterprises) employing up to 9 people, while only 6% hire more than 50 employees;
- Although Poland is not considered as a top-innovative country, the FinTech sector is developing dynamically: almost 40% of the respondents declared large or moderate growth of employment between 2018 and 2019;
- most of the companies do not consider competition as a pressing problem, but indicate *finding customers* and *regulation* as the biggest growth barriers;
- the problems with legal system appear on various levels, starting from loopholes in some areas, through difficulties with compliance and ending up with the companies' expectations toward government agencies;

-
- FinTechs dealing with payment, banking infrastructure and deposit & lending do not consider themselves as competitors against banks, but rather as collaborators and supporters.

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We are grateful to all of those, who have spare their time to read the preliminary version of the Report and give us valuable comments, especially Maciej Janiszewski (CEO of Payholding) and dr Grzegorz Wojtenko (CEO of Bee-Tech).

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Polish FinTech Environment

This report captures the FinTech environment using a PEST analysis, which is commonly used for assessing the external business environment. PEST is an acronym for political, economic, social and technological factors. The underlying idea of the PEST analysis is that companies need to react to changes in their external environment and are affected by those changes (see: Timaste et al., 2019 after: Gupta, 2013).

Political and Legal Environment

The regulatory framework in Poland is strongly influenced by the membership in the European Union and a broader plan for the development of the Capital Markets Union (a single market for innovative financial services - the Digital Single Market). In the scope of this agenda, since March 2018, the European Commission has been realizing FinTech Action Plan, which aims to:

- enable innovative business models to scale up at the EU level;
- support the uptake of new technologies such as blockchain;
- implement artificial intelligence and cloud services in the financial sector;
- increase cybersecurity and the integrity of the financial system (European Commission, 2018).

Coordination of regulatory actions is supposed to allow for the development of financial innovations with benefit for clients, companies and banks offering innovative solutions in a harmonized European ecosystem. Poland has already implemented some of the European FinTech regulations including such directives as: Payment Services Directive (PSD2), Anti-Money Laundering and Counter-Terrorist Financing (AML/CTF) and the Markets in Financial Instruments Directive

(MIFID-2). Despite that, complexity and uncertainty of regulatory requirements remain major challenges for the sector development (KNF, 2018). To overcome these obstacles, Polish authorities plan to i.a. deliver new legal solutions for FinTech sector, allow for a regulatory sandbox and implement artificial intelligence and distributed processing technologies (DPT) in supervision for the financial sector (KNFb, 2020)¹.

Entities and regulation scope

There are three major tasks in terms of the FinTech regulation in Poland:

- FinTech-oriented interpretation of existing rules,
- issuing new rules,
- deleting unnecessary rules from the system.

A crucial role in these matters is played by **The Polish Financial Supervision Authority** (*Urząd Komisji Nadzoru Finansowego*, henceforth: the KNF). This institution does not only interpret the rules as a financial market supervisor but also actively supports legislative works. With the support from external stakeholders, the KNF identifies what (and how) should be changed in the Polish regulatory environment. In particular, it launched the works within two important initiatives: *Special Task Force for Financial Innovation in Poland* (identifies obstacles in the institutional framework) and *Innovation Hub* (provides institutional support for business operators in the FinTech sector).

KNF working group - Special Task Force for Financial Innovation

To efficiently support the FinTech legal framework in Poland, the KNF has expanded its structure with the FinTech Department. This cell applies regulatory and supervisory measures and tools for the development of FinTech in Poland (KNF, 2018). Since 2016, a **Special Task Force for Financial Innovation** (public authorities, non-profit organizations, and business organizations representing market) has engaged to detect regulatory problems and identify key barriers for technology development, under its auspices. This working group proposes solutions and recommendations for further regulatory activities and analyzes current developments in the system².

Problems identified by the KNF working group already in 2017 considered i.a. application of Cloud Computing, replacing paper with digital documents, or decreasing restrictions for outsourcing. Currently, the working group is divided into subsections that cover five areas:

1. general system issues,
2. capital processing,
3. banking processing,
4. consumer and data processing,
5. identity and AML.

In 2020 24% of barriers in regulatory environment detected by the group have been identified as falling into the scope of general issues (resolving them is important for all FinTech sub-sectors). Apart from that, the group has defined problems, which are particularly important for data processing (22%), payment services (20%), banking (15%), capital sector (10%), AML (6%), lending (3%), and insurances (1%) (KNF, 2020a). In practice, this translates into issues such as register

¹These actions are in the scope of a project carried out with the support of the European Bank for Reconstruction and Development.

²The presence of Ministry of Finance and Office of Competition and Consumer Protection within that body, increases the expected impact of their works.

accessibility, the length of the procedures, written-form requirements, overregulation, or digital identity (KNF, 2020b).

Innovation hub program

In 2018, the KNF launched the **Innovation hub** which aims to engage a dialogue with start-ups and institutions under its supervision, such as banks. The idea of the hub is to provide all kinds of support for companies from the FinTech sector, including the interpretation of regulations and the licensing process. Among the topics raised by the group, the most common were: payment services (including PSD2), ICO/virtual currencies, robo-advisors in the capital market, exchanges/cryptocurrency exchanges, crowdfunding, banking/loans, stock exchanges and financial markets (KNF, 2018). Companies seeking institutional support may qualify for the program.

FinTech activities regulation and enabling technology

The KNF working group identifies the obstacles and defines its sources to adjust actions, responsibilities and facilitate the process of change. Several legislative acts need amendments in order to enable innovations in financial sector in Poland³. In this section we summarize some of the required actions in reference to particular sectors and services.

Requirements for FinTechs in banking and financial services

In the scope of the banking, digital banks, and new bank services there is still vast area of required intervention, including supervision of compliance with the PSD2, RTS, and eIDAS⁴. In principle, it is required to decrease formalities and clarify the rules of operation for new financial entities on the market. Among the fundamental issues, Supervisor's opinion regarding maintaining bank accounts for non-banking FinTech entities is required (for instance, there are situations in which banks refuse opening bank accounts e.g. cryptocurrency trading platform organisers).

As noted by one of our respondents:

Maciej Janiszewski - the CEO of Payholding

After implementing the PSD2 regulations, Fintechs, instead of being treated on an equal footing with banks, were even removed from the banking network under the pretext of not meeting standards, etc.

Moreover, for those FinTechs that do not have a KNF license (e.g. MIP or KIP), agreements are terminated by banks.

Lastly, the lack of licenses, insufficient rules for monitoring transparency of transactions (despite reporting transactions above EUR 15,000) and the lack of proper supervision over the implementation of KYC and AML reduce trading certainty for the currency exchange platforms.

So far, there are limited options for expanding Account Service Information Provider (further: ASIP) services in Poland, both in terms of content (scope of data) and entity (extension of the catalog of entities subject to the obligation to provide the data). Such input could foster "open banking" model to other financial market segments. Technical facilitation of transactions in banking requires widening forms for declarations of consent to e.g. electronic stamps. Additionally, European law introduces the concept of **Third-Party Providers (TPP)** — a new category of entities that will be able to provide selected financial services on behalf of the client, or to inform

³In particular the Act of 21 July 2006 on financial market supervision and certain other acts in connection with the development of financial innovations, the Act of 29 July 2005 on public offering, conditions governing the introduction of financial instruments to organized trading and public companies, the Act of 19 August 2011 on payment services, the Act of 11 September 2015 on the business of insurance and reinsurance, the Banking Law of 31 January 1989, or the Act of 15 September 2000 Commercial Companies Code.

⁴eIDAS Regulation is Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market

them of the status of their account. For robo-advice, FinTech-specific regulations are not common, yet a guidance on issues that are unique to robo-advice as compared with traditional financial advice are needed (see Table 1).

Table 1: Examples of required changes in legal environment of FinTech identified by the KNF working group

Required action	Expected outcome
Require regulation	new instruments for start-up funding
	compulsory publication of rules interpretations for the KNF
	creating a mechanism to review the KNF interpretation
	legal and business advice for new transborder payment services providers
Regulation change	national framework for crypto assets including taxation;
	possibility to dematerialize shares in companies
	clarification of rules for financial instruments digitalization
	possibility to tokenize documents such as cheques, bills of exchange, waybills or bills of lading
	allowing for digital document form to substitute written form
Interpretation / practice change	decreasing length of getting a license for payment services process;
	excluding small payment institutions from obligation of data processing in computing cloud
	precise interpretation of the term “innovativeness” by the KNF
	provide possibility for new securities creation
	robo-advice – clarification whether there is a need for regulated outsourcing requirements for the algorithm provider

Requirements for InsureTech

In the area of insurance, there are innovative solutions such as telematics, expert systems for premium valuation, or insurance on request. Generally, existing regulations are considered as sufficient to embrace them. There are only some detailed issues which need to be addressed, such as e.g. enabling financial institutions to automatically obtain information from tax offices, or the limitation of the liability of the service provider towards payment institution (for damages caused to customers as a result of non-performance or improper performance of the contract).

Requirements for FinTechs dealing with crowdfunding

With a growing interest in crowdfunding for charity, the rules - in particular for telecommunication service providers - need to be clarified. Polish authorities shall also prepare for the adoption of an EU crowdfunding license. This idea involves a Community license to match investors and companies in the EU, giving a chance to pitch business ideas to a wide base of founders (KNF, 2020a).

Requirements for FinTechs dealing with data analysis

In terms of data processing it is expected i.a. to allow business information offices (in Polish: *biura informacji gospodarczej*) to outsource using modern technological solutions and to enable creditors to send payment requests electronically in all cases (email, SMS, MMS). Other issues, such as introduction of legal solutions for automated trading (including new identification methods for legal persons using automatic trading tools), require further consideration. Moreover, there is a need to create institutional framework to prevent identity theft, which hamper FinTech industry development (KNF, 2020a).

Finally, crypto assets are subject to an array of regulatory and interpretation responses, yet the area still requires major regulatory effort and clear position of Polish authorities. For now, the rules are unclear and provide uncertain environment for any business model. There are no new crypto-specific licenses or authorizations which could help to get the sector in order and allow for its development. Some of the barriers for distributed ledger technologies can be found in the eIDAS Regulation, which for that matter should be revised to explore the possibilities of reconciling electronic identity framework with blockchain technology, e.g. self sovereign identity (SSI) (KNF, 2020a). It is noteworthy, that despite the public interest in cryptocurrencies in 2018-2019 necessary changes in the legal system were not introduced. Currently, the interest has decreased, but the idea to expand the application of distributed ledger technologies and digital assets remains an important element of regulatory agenda.

Public policy

One of the crucial challenges for the better regulation policy in Poland is to eliminate *gold plating*. The practice to implement solutions stricter than required by the European law, has been common in Poland since the accession process. Instead of increasing compliance, these practices usually hinder private sector development and create an illusion that Poland is not a part of the European single market⁵. The KNF working group has made it one of its goals to identify such rules for amendment.

Several restrictions in the Polish law (i.a. innovative outsourcing, insurer liability limitation) were identified as barriers to be removed for the reason that **no analogous regulations exist elsewhere**. Removal of such institutional constraints is not only market and innovation-friendly, but also **mandatory to cooperate with international supervision actors and other institutions**. It is also good news, that Polish authorities open up to innovative policy approaches, such as the "regulatory sandbox".

The **regulatory sandbox** is supposed to operate as a programme designated for innovative startups to allow them to test their services or products under market conditions, without actually meeting the regulatory requirements. This approach should help FinTechs to deliver secure products to the market (KNF, 2018). Sandbox's idea intends to reduce information asymmetries between the market and the supervisor.

It is noteworthy that delays in the adjustments of regulatory environment may jeopardize the security and the legal certainty for service providers in Poland. Contrariwise, in some cases, leaving blank spots in the formal institutions' framework can leave the space for invention of new products or services. It also seems plausible, that the efforts of policymakers should be first placed in the regulatory efficiency (e.g. the process interpretation of laws by the KNF) and next in the legislation. Hopefully political tensions in Poland will not interfere with the process of FinTech regulation and the establishment of sound policies for the FinTech industry.

Economic Environment

Big tech companies, e-commerce leaders, and social media platforms entering the market, as well as FinTech startups, exert pressure on traditional financial institutions to innovate by offering completely new ways of making payments, granting loans, carrying out investment processes, pricing insurance, and many more. Many technological solutions, including AI, machine learning, blockchain/distributed ledger technology, biometrics, and cloud computing move from universities and R&D labs to business, thus **nurturing a technological transformation** of traditional financial services.

⁵For example, a quota threshold for electronic money instruments that are exempt from the application of AML provisions is 50 Euros in Poland, whereas in relation to the Community requirements it should be 150 Euros (Article 38 of the Act on counteracting money laundering and terrorist financing).

Open banking schemes, cyber security, data protection, digital identification, and the ability of state officials and supervisors to cooperate with FinTech companies in the Innovation Hub give a **solid public policy foundation for a financial revolution**. There are also several changes within the regulation processes. Various EU directives influencing the market are being introduced, government initiatives, such as regulatory sandboxes or cross-disciplinary collaborations of regulators are being launched, and the development of the RegTech is well underway.

The emergence of companies promoting financial innovation, its influence on traditional business models, and the reaction of the authorities, are the elements that shape the financial services market. Disruptors often aim at leveraging their lower costs of operation, more innovative and up-to-date infrastructure, or even large and loyal customer base. By trading on these advantages and offering more secure, cheaper and faster services with more customised solutions, they are better capable of capturing a significant market share. The already-existing financial institutions' need for such a solution seems to be extensive, when we realise that obstruction may come from many directions. Those hindrances more frequently force traditional financial services providers to reconsider their value proposition and implement changes into their organisational culture, as well as into their approach to R&D and innovation.

An important factor in a country's attractiveness for innovative ventures is how favourable its business environment is. There are various measures published by many authorities. One of them is The Global Financial Centres Index (GFCI) - a ranking of the competitiveness of financial centres based on over 29,000 financial centre assessments from an online questionnaire together with over 100 indices from organisations such as the World Bank, the Organisation for Economic Co-operation and Development (OECD), and the Economist Intelligence Unit. In March 2020, Warsaw, the capital of Poland, has been 50th of the 108 cities covered (for comparison: Prague has been 46th, while Vienna: 38th).

Another useful measure for comparison countries' attractiveness for investors is the Global Entrepreneurship one (further: GEDI). The authors of the index collect data on the entrepreneurial attitudes, abilities and aspirations of the local population and then weight these against the prevailing social and *economic infrastructure* (such aspects as broadband connectivity and the transport links to external markets). This process creates 14 pillars which GEDI uses to measure the health of the regional ecosystem.⁶ In this methodology, Poland was ranked 30th, just after Lithuania (29th), Slovenia (25th), but before Slovakia (36) and the Czech Republic (38).

Social Environment

What is certain about any disruption in the financial sector, is that it is never one-off, and that it usually drags on. The mechanism which is an integral part of the financial services industry is backed by new applications of the already-established technologies, as well as by newly-designed solutions, but mostly by changing the expectations of customers. More and more customers demand multi-channel access, a seamless service and integration, as well as value-added digital customer experience.

On the other hand, companies have organised programs fostering the growth of selected startups by mentoring the company by professionals, organising workshops, giving access to experts of marketing, accounting, and other related fields, providing the company with offices, facilitating the process of Venture Capital financing or granting non-refundable financial aid, as well as enabling access to business clients.

Taking into account the evolution of the way in which the basic financial activities are performed, startup acceleration programs and the favorable economic environment, we can suppose that the impact of FinTech on the traditional financial market will be more and more visible.

In international comparisons of social environment among countries, three factors are taken into account: availability of talent and skills, the customer base, and associations for those in the sector (see e.g. : Timaste et al., 2019). The performance of countries with regard to the availability of talent and skills is assessed in the IMD World Talent Ranking using three factors. The *Investment*

⁶See: <https://thegedi.org/global-entrepreneurship-and-development-index/> for details

and *Development* factor measures the resources engaged in increasing the home-grown workforce, *Appeal* measures the attractiveness to local and foreign talent, and *Readiness* measures the quality and skills of human resources. In the IMD World Talent Ranking 2019 of 63 countries, Poland came 37th: 27th in Investment and Development, 46th in Appeal, and 45th in Readiness. The overall score was better than the analogous one for the Czech Republic (39), Hungary (45) and Slovakia (57), but weaker than the one for Latvia (34), Lithuania (28) and Estonia (27).⁷

Technological Environment

The API economy boosted by open banking scheme

The shortcut API stands for application programming interface, i.e. a computing interface which defines interactions between multiple systems. These enable entrepreneurs to create platforms, marketplaces and envision new business models. APIs eliminate barriers to growing revenues by integrating platforms and apps so that organizations can quickly launch new business models and then scale fast.

One of the most valuable initiatives for the development of the Polish FinTech sector was the **PolishApi** initiative. The project participants include the Polish Bank Association together with commercial and cooperative banks, cooperative savings and credit unions (SKOK), the Polish Organisation of Non-banking Payment Institutions (PONIP) together with its associated members, the Polish Chamber of Information Technology and Telecommunications (PIIT), the Polish Insurance Association (PIU), Krajowa Izba Rozliczeniowa, Biuro Informacji Kredytowej, and Polski Standard Płatności.⁸

The PolishAPI standard is the essential part of the Open Banking on the Polish financial market. It defines the interface that permits third parties to access payment accounts, and as such, it enables the cooperation of FinTech companies with banks. The objective of the initiative is also to reduce the costs of implementation of the PSD2 Directive (and other accompanying legal acts) for the payment institutions and third parties (see: <https://polishapi.org/en/>). The creators of the standard assume its permanent improvement in response to administrative, technological and business changes in the Polish and European markets.

Data universe, AI and cloud

The exponential growth of the datasphere offers countless opportunities to provide brand new AI-driven solutions. The Big Data revolution can break out due to increasing cloud computing power at reduced costs. These costs decrease on average by 50% in 3 years.

Internet and mobile access

According to the World Bank data, in 2018 77.5% of population in Poland had access to Internet, while mobile cellular subscriptions per 100 people amounted to 134.7. Thus, the percentage of population with Internet access in Poland was higher than in Hungary (76.1%), but lower than in Lithuania (79.9%), the Czech Republic (80.7%), Slovak Republic (80.7%), Latvia (83.6%), and Estonia (89.4%). However, when it comes to mobile cellular subscriptions per 100 people, Poland exceeded Hungary (103.4), Latvia (107.3), the Czech Republic (119.1) and Slovakia (132.8), but was overtaken by Estonia (145.4) and Lithuania (163.9).

FinTech companies in Poland

In the *Doing Business* report from 2017, Poland scored the high 24th place (see: Widawski and Brakoniecki, 2016), while in 2019 - the 25th within the OECD group and 40th overall. In this index, economies are ranked on their ease of doing business. A high score in the ranking means

⁷See: IMD World Talent Ranking (2019) for details.

⁸See: <https://polishapi.org/en/> for details.

that the regulatory environment is more favorable to the opening and running of a local firm. Such a result has a strong implication for the FinTech sector, where the companies on early-stage development dominate. On the other hand, as Widawski and Brakoniecki noted, in the Global Innovation Index (GII) Poland took only 39th place. The GII has become one of the leading references for measuring an economy's innovation performance. This means that Poland provides relatively good opportunities for starting a new business and there are a lot of niches to fill with respect to innovation. The Report of FinTech Hub Polska published in 2017 stressed that the role of FinTech has been already noticed by the government and that FinTechs were pointed to be one of the key sectors to become a driver of the Polish economy.

Overview of the FinTech companies in Poland

To identify the field of activity of Polish FinTechs we used the following classification presented in Table 2⁹.

Table 2: Polish FinTechs: field of activity

Payment	Mobile payments Online payments Mobile transfers Other form of payments
Analytics	Big data Data (business) analytics Big data analysis Machine learning Artificial intelligence used for automated advice Chatbots
Banking infrastructure	User interface Processing enhancement Infrastructure technology Software companies in the financial sector
Distributed ledger technology	Cryptocurrency Blockchain
Deposit and lending	Crowdfunding Crowdlending Invoice trading
Investment management	Robo advisor Social trading Hybrid models Advice-supported Digital Investing
InsureTech	Software technology in insurance
Accountech	Software technology in accounting

⁹This classification is similar to that used in IFZ FinTech Study 2018 (Ankenbrand et al. 2018) with the exception of insurance, which was excluded from that work. Our classification is also compatible with the one used by our partners in their *FinTech Report Estonia* (Timaste et al., 2019).

FinTech sector in Poland - overview

Our FinTech database constructed at the turn of 2019-2020 consisted of **233** companies of which the majority dealt with **Payments** (28.3%). The second largest group were companies from **Deposit and lending** sector (22.7%). Further, 17.6% of the identified enterprises were those who provided **Banking infrastructure**, 9.9% have been classified as from an **Investment management** sector, while 9.4% accounted to **Analytics**. The Distributed Ledger Technologies subsector was relatively small as we identified 5.2% of firms belonging to that one. Eventually, the smallest number of companies were classified as **InsureTech** and **Accountech** (each group accounted for 3.4% only).

We need to stress also that a number of companies operates in more than one sector. The classification is mostly based on the firms' descriptions found on the Internet or in other FinTech reports. In the survey, some companies classified themselves to different areas than it would stem from their description on the website, while some others did not indicate any of the pre-defined class.

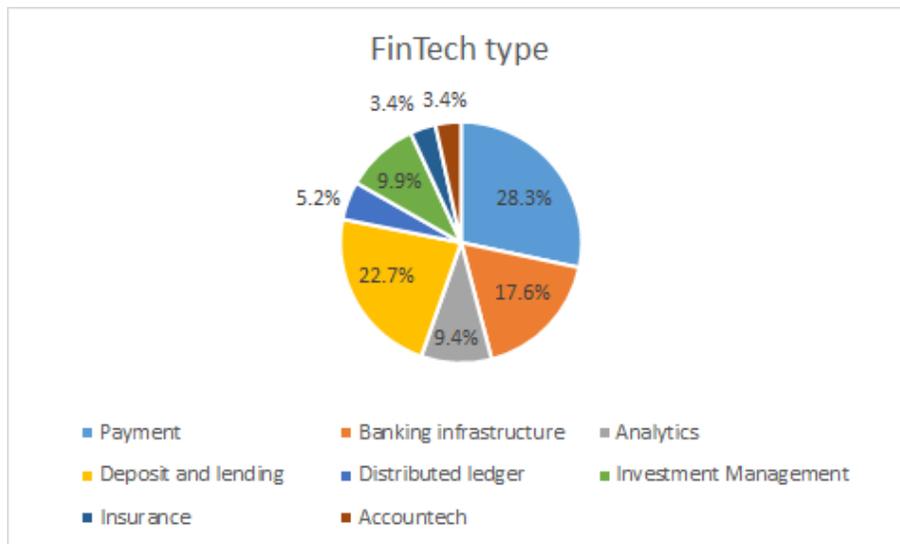


Figure 1: Field of activity of companies

Results of the Survey

The survey was run in January 2020 by Quantify and QuantFin Foundation. We obtained responses from 48 companies. The questions considered the following aspects:

- Field of activity, key activities and revenue model;
- Maturity and size;
- Sources of capital;
- Challenges and opportunities (sentiment questions on 10 points Likert scale)
- Communication with state organizations and possible support expected from them;
- The relations of FinTechs with banks.

Field of activity, key activities and revenue models

Similarly to the distribution in the whole population (i.e. 233 companies mentioned in the previous paragraph), in our sample, three main groups encompass companies dealing with payment (33.3%), deposit and lending (20.8%) and banking infrastructure (18.8%). The fourth-largest group is analytics (10.4% - comparing to 9.4% in the whole population). In our sample, the share of investment management companies and the Accounttechs is equal and represents 6.3% of the investigated group. This is not fully compatible with the whole population, where the share of investment management companies was larger (9.9%), while the share of Accounttech smaller (3.4%). The smallest fraction of our sample belongs to the companies from the insurance and distributed ledger sector (2.1% each - meaning that we had only one respondent from each of the groups). The distribution of the sample by the activity type is presented in Figure 2.¹⁰

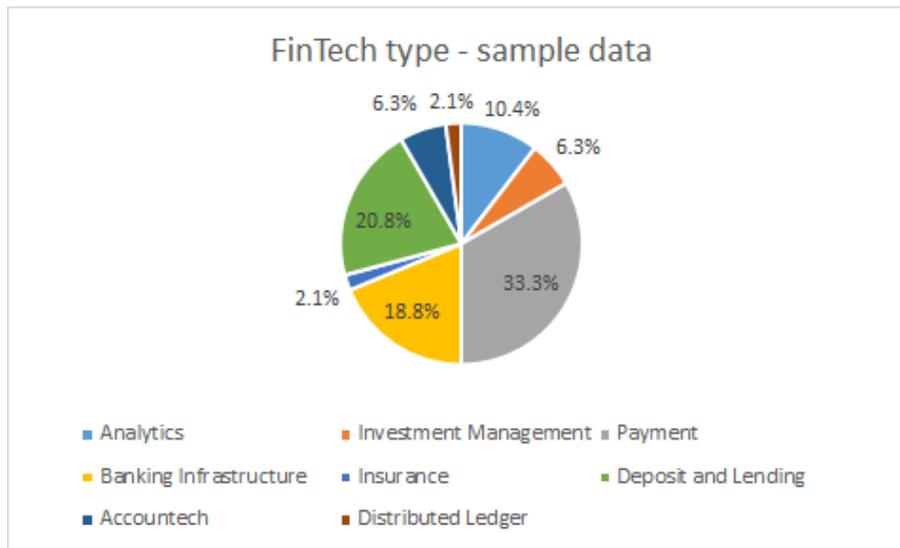


Figure 2: Field of activity of companies which completed the survey

We also asked the companies about their key activities - i.e. the activities a company performs to run its business. These include programming and engineering, marketing, and managing day-to-day operations. The results are presented in Figure 3. More than 60% of the respondents mentioned programming and engineering as their main activities. Remaining 40% indicated marketing or running daily businesses as the core ones.

It appears that depending on the sector of operation, key activities of companies are different (Figure 4). The analytic companies rarely engage in marketing and finding clients (we obtain no such answer from our respondents), while they spend most of their time on programming and engineering. Respondents from banking infrastructure also indicated programming and engineering as their key activities (53% of the cases). Companies from payment, investment management and deposit and lending spend roughly the same amount of time on the three identified activities, while the Accounttech - slightly more on marketing and finding clients, than on any other activity.

Eventually, we asked the companies about their revenue model. Most of the respondents named commission income (from service or products they deliver) as the main revenue source. The second most frequently given answer was a license fee from a product or software. Centralized hosting of business applications and trading income (from active trading in the financial markets) were marked twice rarer (respectively: by 19% and 17% of the respondents). 13% of the respondents chose data (gathering and selling) as their revenue source, while 10% - advertising income. Only 4% pointed out the interest income as a revenue source. The full picture is presented in Figure 5.

¹⁰It was possible to choose more than one option as an area of activity or define its own.

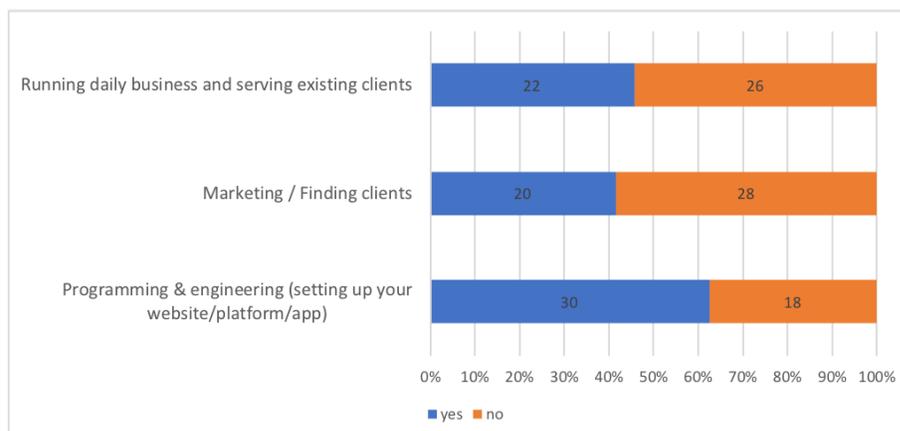


Figure 3: Daily key activities of respondents

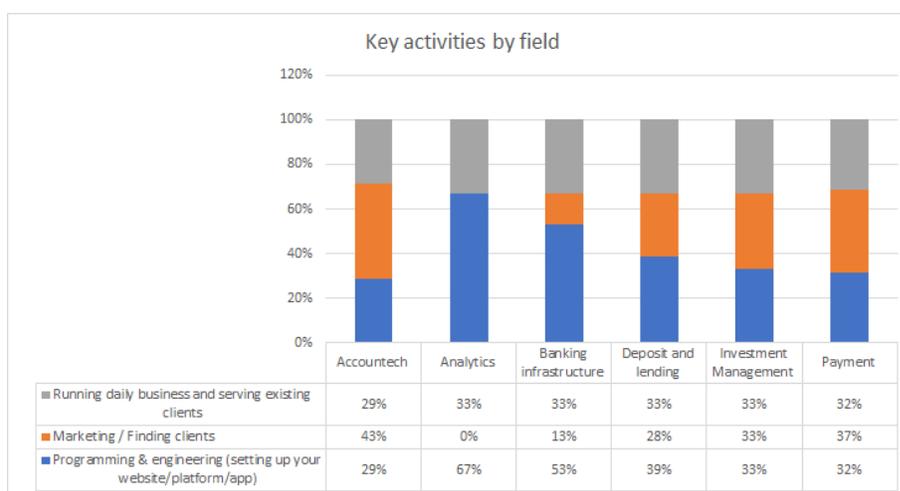


Figure 4: Daily key activities by sector

Maturity and size

Around 85% of our respondents represented companies already running, while 15% - those under development (in a testing phase). In Table 3, we present the percentage of companies from different activity fields in each maturity group. In the sample of the already running companies, the largest share belongs to the payment (34%), banking infrastructure (21.95%) and deposit and lending ones (19.51%). Again, among the companies under construction, the share of the deposit and lending, investment management, as well as payment firms is equal (each: 28.57%).

In the FinTech study from 2018 (*Mapa polskiego Fintechu 2018*), the authors document that 60% of Polish FinTechs were created in 2013 or later, while only 3% operated longer than 20 years. Our sample data roughly reflects this distribution. 35% of our respondents operated on the market for a period of 1 to 5 years, while the majority (44% - from 5 to 10 years). The lowest share (6%) declared to fall in the interval from 10 to 15 years (see Figure 6, left panel).

When we compare it with the data from the 2016 report (Widawski i Brakoniecki, 2016), we notice that the share of very young companies (1 to 5 years) shrank from 62%, which can suggest that the companies still exist in the market, but moved to the second group (5-10 years of maturity), which in 2016 constituted only 18% of the group. Such a shift might be treated as a sign of development in the sector.

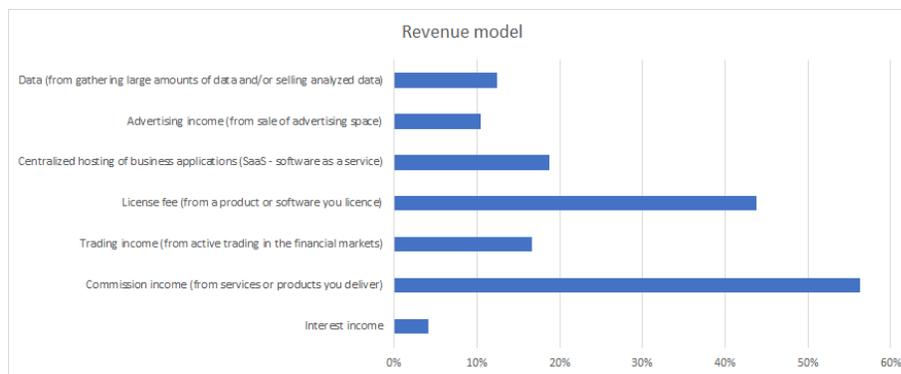


Figure 5: Revenue model

Table 3: Share of companies of different activity in *already running* and *under development* groups

	Already running	Under construction
Accounttech	7.32%	0.00%
Analytics	12.20%	0.00%
Banking infrastructure	21.95%	0.00%
Deposit and lending	19.51%	28.57%
Distributed ledger	2.44%	0.00%
Insurance	0.00%	14.29%
Investment Management	2.44%	28.57%
Payment	34.15%	28.57%
TOTAL	100.00%	100.00%

In 2016, small firms dominated in the FinTech sector in Poland. The situation did not change much in 2019, when the companies of 1 to 9 employees constituted almost 40% of the sample (see Figure 6 right panel and Table 4). The second two largest groups were FinTech employing from 10 to 25 people (27.1% of the sample) and employing from 26 to 50 people (25% of the sample).

In Table 4, we present the distribution of the size of the companies versus their field of activity. We can see that in the sectors of payment, deposit lending, as well as insurance and investment management, the small companies were the most frequent ones (1 to 9 employees). Among the firms from the banking infrastructure field, the most frequent size was from 10 to 25 employees. In analytics, the dominating enterprises were those that employed from 26 to 50 people. The largest companies, employing 51-100 people, were present only in the sector of banking infrastructure and payment, while those that hired over 100 people - in banking infrastructure only.

From the companies that participated in the questionnaire, the majority of the sample (87.5%) were those whose employees were working in Poland. Only 4 admitted that not all of their employees worked in the home country (the answers provided were: 98%, 90%, 10% and 2% of employees from Poland).¹¹

In Figure 7, we present the change of employees of the surveyed companies between 2018 and 2019. It appears, that in the prevailing case, the number of employees did not change. However, from those companies that admitted a change in the workforce, only 6.3% reported a moderate decline, while the rest - moderate (22.9%) or large (16.7%) growth.

To summarize, the FinTech sector in Poland is dominated by micro and small enterprises, hiring most often from 1 to 50 people, operating on the market not longer than 5 (35%) or 10 years (44%).

¹¹When we compare it with the country of registration: 46 companies were registered in Poland, one in the Czech Republic and one in Belgium. Moreover, 77% of the respondents stated that they focused their business on the Polish market, while 33% served international clients.



Figure 6: Maturity and size of FinTech companies

Table 4: Number of employees versus the field of activity

Field of activity	Number of employees					
	1 – 9	10-25	26-50	51-100	101-250	no answer
Accounttech	2.1%	4.2%	-	-	-	-
Analytics	2.1%	2.1%	6.3%	-	-	-
Banking Infrastructure	4.2%	6.3%	4.2%	2.1%	2.1%	-
Deposit and lending	8.3%	6.3%	4.2%	-	-	2.1%
Distributed ledger	-	-	2.1%	-	-	-
Insurance	2.1%	-	-	-	-	-
Investment Management	4.2%	-	2.1%	-	-	-
Payment	16.7%	8.3%	6.3%	2.1%	-	-
TOTAL	39.6%	27.1%	25.0%	4.2%	2.1%	2.1%

This means that the start-ups represent a large sector of the Polish FinTechs. The substantial share of the companies who documented the growth of their employment, also confirms that this branch of the market is still growing.

Sources of capital

In its report from 2018, Cashless notes that nearly half of the FinTechs use equity capital to finance their business (Cashless, 2018). This means that the founders of these companies need to have such a high level of accessible funds to be able to build technical infrastructure and recruit skilled employees.

In the case of the companies investigated in our survey, again one source of capital dominates - equity capital. Only seven companies did not indicate it (three respondents refused to answer this question). Out of these seven, three received capital from a business angel or an individual investor, two - from venture capital funds, one - from the accelerator, and one - from a bank or other financial institution. Moreover, two respondents indicated current sales income as an additional source of capital.

As one can see in Figure 8, equity capital is supported mainly by business angels, individual investors and venture capital funds. This also corroborates the results presented by Cashless in 2018, where business angels and venture capitals appeared to be two-second popular sources of capital.

None of the companies have mentioned capital sources such as IPO or Initial Coin Offering. The ICO is a kind of financing that uses distributed ledger technology (DLT), i.e. Blockchain. Recently, it is one of the most popular methods of obtaining financing by entities with potentially high innovativeness of services rendered but associated with considerable investment risk. However, the KNF refers to it with caution (see the report of Cashless from 2018).

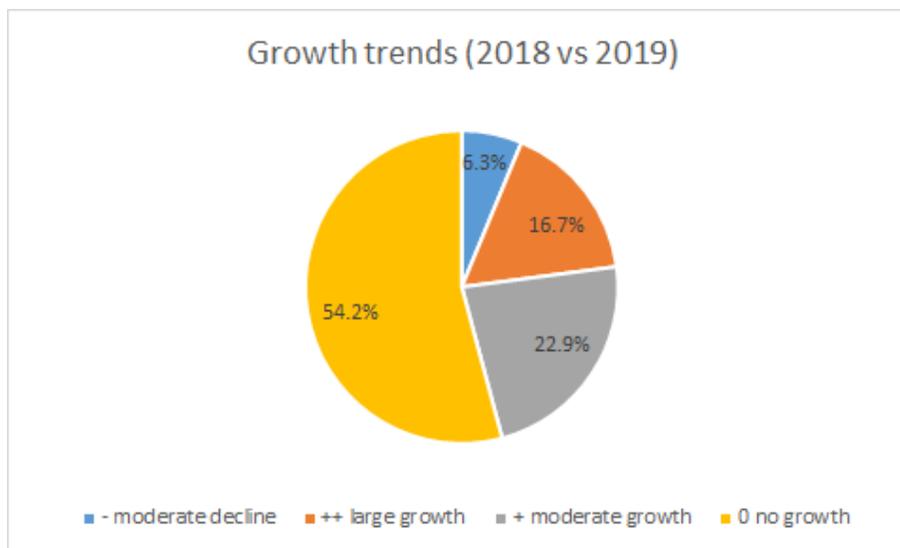


Figure 7: Change in number of employees between 2018 and 2019

When it comes to other possible sources of capital, dr Grzegorz Wojtenko, the CEO of Bee-Tech, notes that The National Centre for Research and Environment (further: NCBiR) should be one of the key ones.

dr Grzegorz Wojtenko - the CEO of Bee-Tech

Cooperation between industry and universities definitely needs improvement. There is no mature concept here. Most of the intellectual potential associated with universities is, of course, used by companies, but rather through establishing direct cooperation with individual scientists, instead of the institutional cooperation. Scientists are involved in the work on the NCBiR application, but not as formal representatives of the university, only private individuals. This is due to the pragmatic approach of the university and the lack of a good mechanism for university-industry cooperation. Unlike heavy industry (very capital-intensive), the area of new technologies (including FinTech) is still an opportunity for Poland to be among the leaders in an international race.

Challenges and opportunities

The outbreak of the COVID-19 pandemic in March 2020 undoubtedly provided many opportunities for the development of the FinTech sector. For instance, as noted by dr Grzegorz Wojtenko (Bee-Tech CEO):

dr Grzegorz Wojtenko - the CEO of Bee-Tech

It took only two weeks to increase the amount of contact-less payments without a PIN from 50 to 100 PLN - after the two-years discussion.

Our survey was run just before the pandemic, but some of such opportunities have been already identified. In Figure 9, we present the answers given by our respondents to the question about the main triggers for the development of the sector. The most frequently chosen answers were *digitalization of financial services, expansion of FinTech beyond traditional financial services and rising number of payment options at retailers*. Thus, the main reasons given by the respondents in January 2020 are also the ones that should remain valid in the post-COVID world and provide the main opportunity for the development of the sector in the future.

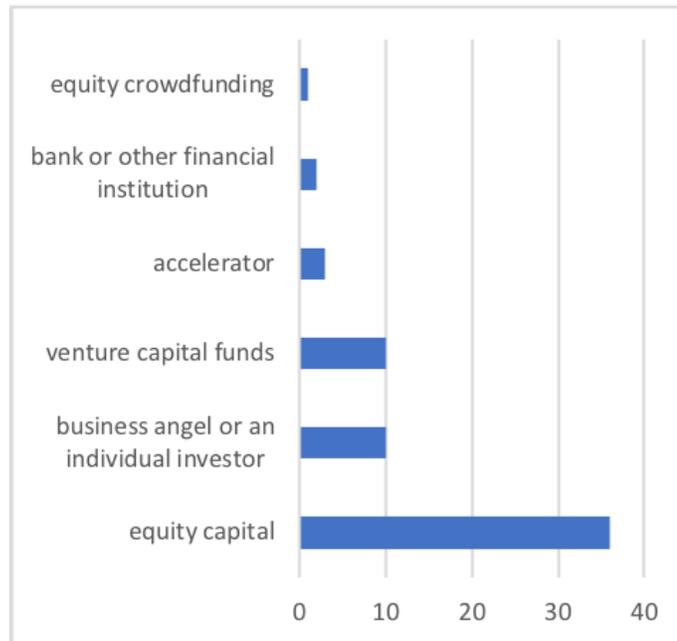


Figure 8: Sources of capital

For this reason, it is necessary to analyse also the obstacles that prevent the development of the companies. According to the report of Widawski and Brakoniecki (2016) the three main catalysts for the development of financial technology are: clearly set strategic directions for the digitization of the state, a vibrant innovation ecosystem and a system of incentives for start-ups and corporations. The identification of technological, cultural and educational barriers, and above all legal ones, is fundamental to achieving these goals.

FinTechs in Poland - especially start-ups - face many challenges. Staszewska (2018) enumerates the following: complying with regulations, resistance among companies to adopt new technologies, changing consumer behavior and widening access to funding. The report of Widawski and Brakoniecki identified three main barriers to its growth:

- lack of new knowledge on emerging financial technologies;
- ambiguous regulations and lack of binding interpretations made by the supervisory authority, meaning higher business risk;
- lack of incentives for both banks and start-ups.

The results of our survey show that when it comes to the specific problems which the FinTechs companies face, among the **most pressing issues** are (see Figure 10):

- regulations;
- the availability to find skilled staff/experienced managers;
- finding customers.

The mean value of the responses for these questions amounted to 8 on 1 - 10 scale. Furthermore:

- the cost of production,
- the expansion to international markets

were both **second-ranked**. The least pressing (with mean value of response equal to 6) appeared to be the **access to finance** and a **threatening competition**.

Among "other problems", the companies enumerated:

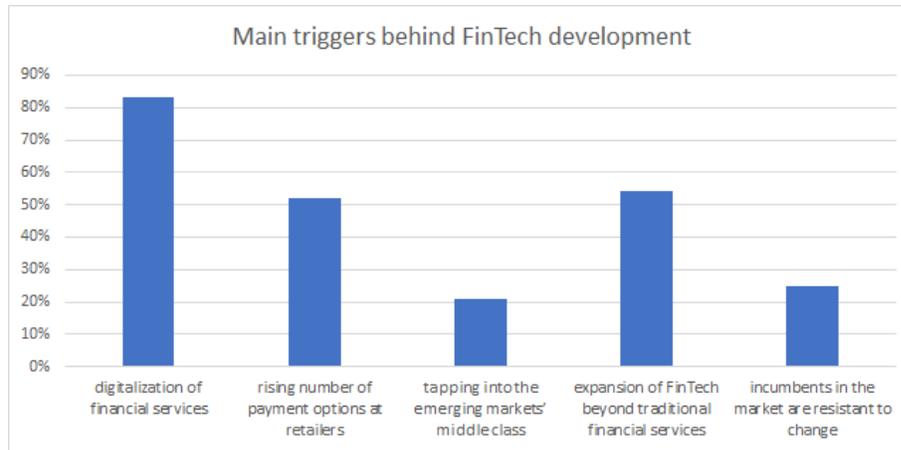


Figure 9: Triggers behind FinTech development

- data cost (ranked 8),
- openness of large organizations (ranked 10),
- and lack of clear regulations (ranked 9 - although the regulations as such were also mentioned as one of the answers to be chosen).

In Table 5 we present the distribution of the responses by the six most common FinTech groups in our sample. It seems that not each group valued the problems equally. For instance, the problem of finding customers was most pressing for Accounttech, deposit and lending, as well as for companies from the payment sector. Regulations seem to be the least important problem for the companies representing the accounting field. Eventually, finding competent staff seem to be roughly equally important for all the sectors. The competition was the least pressing for investment and management, as well as Accounttech enterprises.

Table 5: Specific problems and their pressure - by FinTech type

	Accounttech	Analytics	Banking infr.	Dep. and lend.	Inv. manag.	Payment
Competition	4.67	5.00	6.00	7.10	4.67	5.81
Finding customers	9.67	8.60	7.44	9.00	7.00	8.56
Access to finance	6.00	5.40	6.11	7.50	7.33	5.13
Cost of production/labour	6.67	6.40	7.11	6.30	4.67	6.88
Availability of staff	7.00	8.60	7.89	7.60	7.00	7.38
Regulation	4.67	8.00	8.11	8.30	8.33	7.25
Expansion to international markets	7.67	7.20	7.56	7.00	6.33	6.38

Although most of the companies named regulations as one of the most pressing problems, only 37.5% of the respondents of our survey claimed that the existing financial regulations restrict their activities, The rest (67.5%) do not consider the regulation as an obstacle.

Those, who answered *yes* to the question, most often complained about ambiguity and imprecision of the regulations, adding that those that were precise, required lots of bureaucracy. The respondents claimed also that *the regulations are backward, not taking into account the rapidly changing reality*. This was especially visible in the case of companies dealing with leasing, where regulations expected by the industry - i.e. the possibility of signing leasing contracts online - have not yet been implemented. The respondents wished that institutions would consult market leaders to implement modifications *that make sense and reflect current changes as well as changes anticipated in the near and distant future*. Some respondents noted also that the legislators favoured

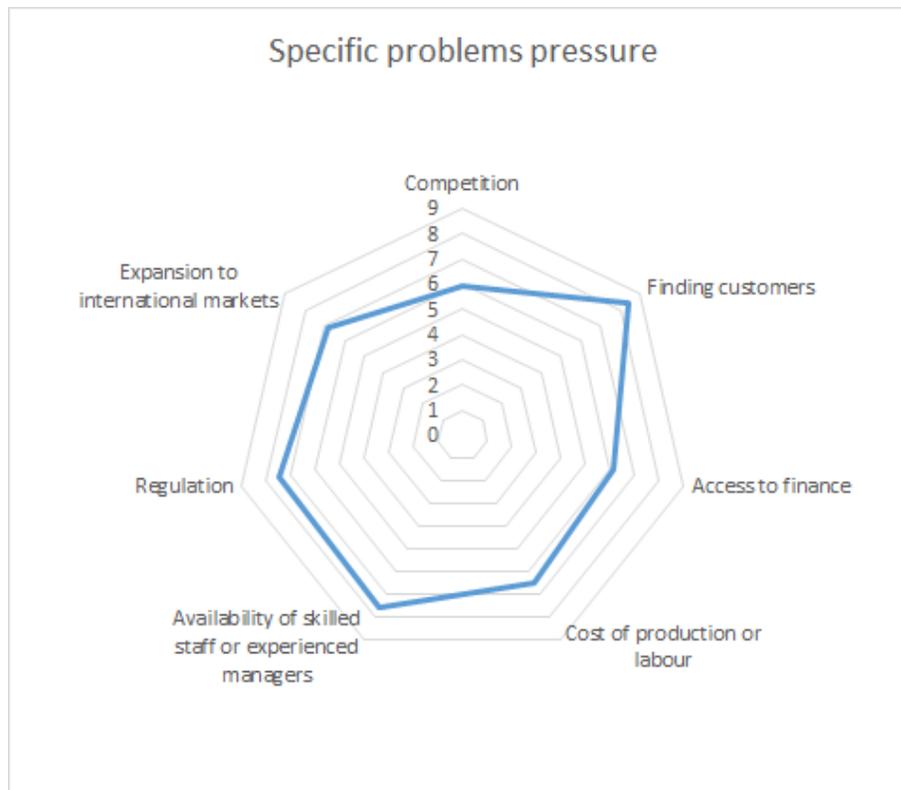


Figure 10: Specific problems and their pressure (means)

banks and that the regulations did not take into account the existence of FinTechs. As most FinTechs in Poland deal with payments, the comment of one of the respondents that acquiring the status of a payment institution is *tedious, lengthy and expensive*, is of special importance.

Eventually, we asked the FinTechs to evaluate their company against competitors on a 7-point Likert scale, when it comes to such aspects as:

- profit margin (1 - very low to 7 - very high);
- asset light, i.e. fixed costs related to assets (1- low fixed costs to 7 - high fixed costs);
- ability to scale (1-very scalable to 7 - not scalable);
- innovativeness (1- very innovative to 7 - not innovative);
- ease of compliance (1 - not subject to high compliance regimes to 7 - subject to very high compliance regimes).

The results are presented in Figure 11, for each sector separately, as mean values of responses. It comes out that companies belonging to the sector of analytics, banking infrastructure, deposit and lending, as well as payment pointed out the ease of compliance as the highest problem. Analytic firms, as well as investment management ones felt innovative as compared to the competitors. The profit margin was the highest problem for the Accounttech and investment management businesses.

FinTechs versus state organizations

In their report from 2018, Flanders indicated that the KNF is the most important organization that supports FinTechs in Poland (see also: **Political and Legal Environment** section of this

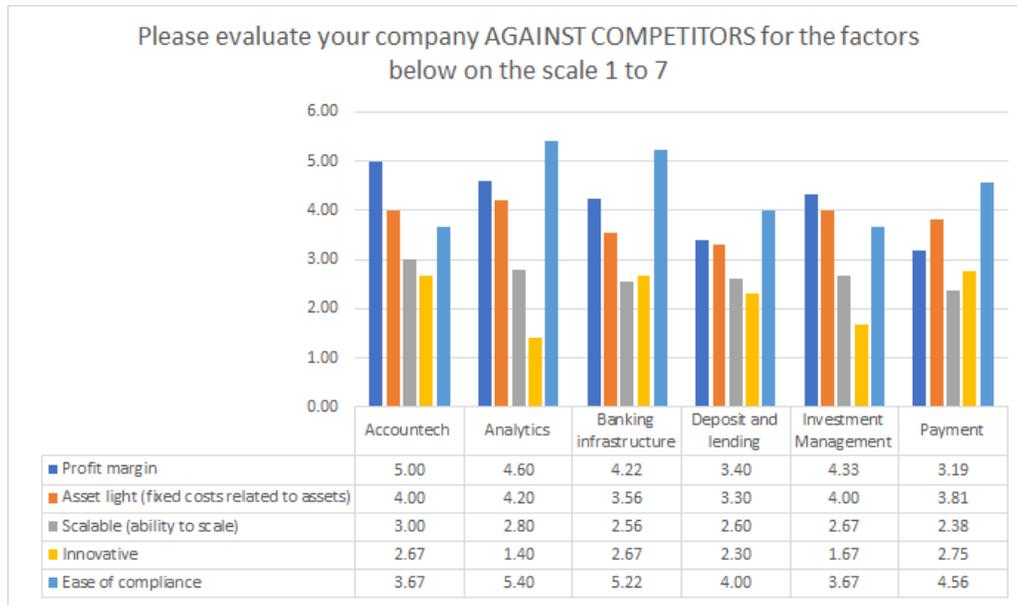


Figure 11: Company against competitors (means)

report). Indeed, when it comes to the state organizations with whom the FinTech sector communicates regularly, 35.4% of the respondents mentioned the KNF. The second most commonly given answer was: "none". 12.5% of the companies communicated with tax offices. The remaining answers listed banks, the Warsaw Stock Exchange, the Polish Agency for Enterprise Development (PARP), the General Inspector of Financial Information (GIIF), the Polish Development Fund (PFR) and various ministerial agencies (e.g. Ministry of Finance, Ministry of Economic Development, etc.) - see Figure 12 for details.

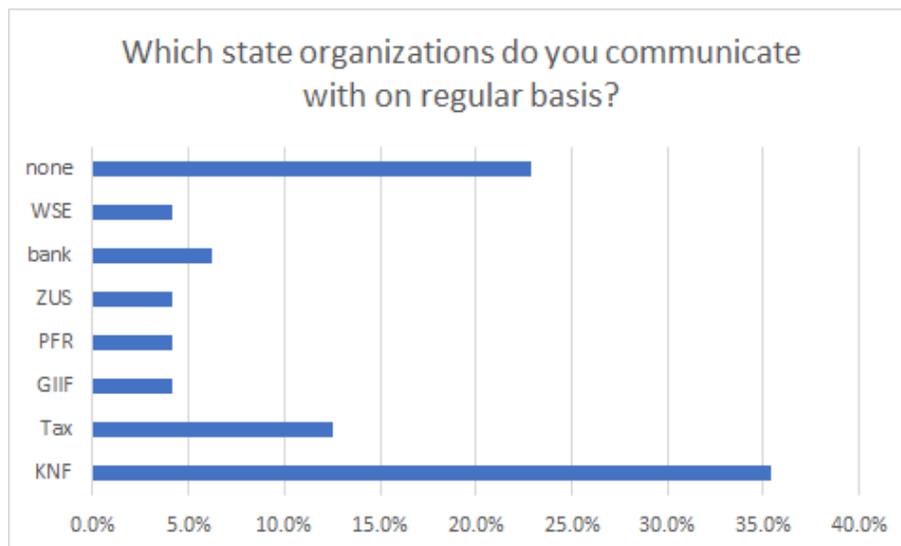


Figure 12: State organizations with which FinTech sector communicate on regular basis

When we asked our respondents about the incentives that they would like to get from the state organizations, the majority would expect special regulations from the Polish government (65%). 56% named sandboxes as potential incentives for sector development. Eventually, 46% of the respondents would like to obtain tax relief (see Figure 13).

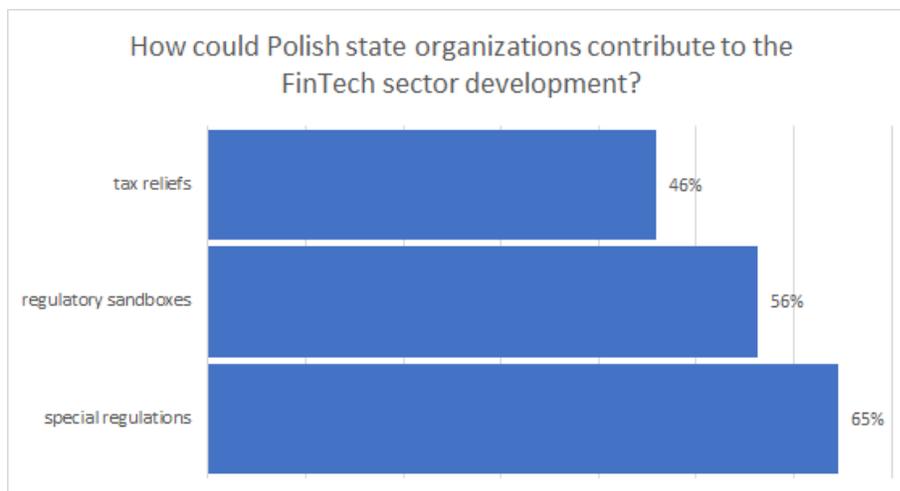


Figure 13: Incentives from state organizations

In Figure 14 we present the distribution of the answers by the analysed sectors (we omit InsureTech and distributed ledger, to assure the anonymity of the responses). Tax reliefs were the least common answer among analytic companies. The highest need for special regulations was noted in the banking infrastructure, deposit and lending and Accounttech, while in the case of payment - regulatory sandboxes were as frequently chosen answer as the special regulations.

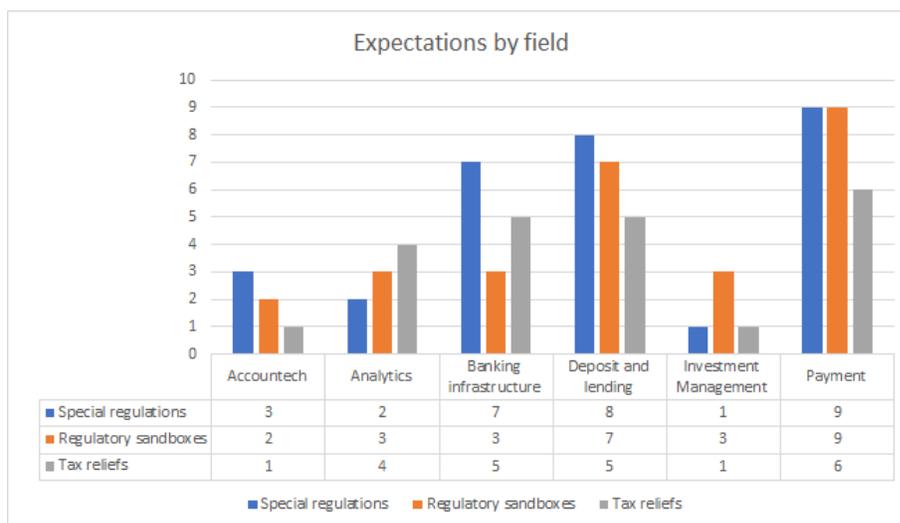


Figure 14: Expectations of incentives by field

We stress the fact that these answers corroborate the KNF recommendation mentioned in the section **Political and Legal Environment** of this report, as well as the answers given by the respondents to the question about the specific problems (see Table 5). Regulations were chosen as one of the most pressing problems by analytics, deposit and lending, banking infrastructure, and investment management companies (in all cases the mean value was equal to at least 8.00). In the case of the payment sector, the mean value of the *Regulation* pressure amounted to 7.25, and only among the Accounttech companies, it was relatively low (4.67). When we look at Figure 11, the answer *Ease of compliance* was also ranked very high by analytic, banking infrastructure, deposit and lending and payment sectors. All the results suggest that the need for clear regulations is a pressing problem, and solving it is crucial for the development of FinTech companies.

FinTechs versus banks

The authors of *Flanders Investment and Trade Market Survey* (2018) note that in recent years, Poland has become a regional leader in technologically advanced, pioneering solutions in the banking sector. Mobile is emerging as an essential channel for Polish customers.

In her paper from 2018, Staszewska notes that Polish banks indeed are willing to co-operate with FinTechs (and vice-versa) and that the most innovative of them consider themselves as a part of the FinTech sector. When we look back at Figure 2, we can notice that most of the Polish FinTechs deal with payment, banking infrastructure, deposit & lending, as well as investment management. This means that they can indeed support **or even replace** banks with customer relationships, offering better or more personalized products.

Staszewska (2018) noted that FinTech start-ups cannot compete with banks when it comes to the convenience and security of having a current account at a bank. This was also noticed by one of our responders, who said: *Banks are strong economic organisms and in the event of a threat they will be able to buy competition or make a change in their business. The role of the FinTechs is the role of "disruptor" but without changing the market relationship.*

Moreover, Staszewska (2018) named three fundamental advantages FinTech start-ups have over traditional banks:

- the ability to cut costs and improve the quality of financial services (FinTechs do not face as much regulation as traditional banks, they do not have to upgrade legacy IT systems that are no longer relevant. They neither have to maintain branch networks, nor to protect existing businesses);
- the way of risk assessment (traditional banks use credit scores and meetings with clients to assess the risk of a loan, while FinTechs can make data-driven assessments of customers before lending them funds, based on Internet data);
- the opportunity to create more diverse and stable credit landscape that is less concentrated geographically (traditional banks take short-term liabilities and use them to create long-term assets like mortgages, while crowdfunding platforms connect lenders and borrowers directly in peer to peer lending, with individual lenders bearing the risk of default on the loan, not the intermediary).

Based on the results of its international survey on mobile banking from 2015, ING said that 60% of smartphone users in Poland had already used mobile banking or expected to use it (ING, 2015). This was the third best score in Europe - compared to Netherlands (67%) and the UK (63%). Thus, the potential of growth of mobile banking services in the coming years is still enormous. Yet, according to Flanders Investment, 38% of established retail banks in Poland did not offer their services through the mobile channel, neither via a dedicated app nor a website based on "lite" / RWD (responsive web design) architecture. Those things changed rapidly during the pandemic - we comment on it at the end of the survey.

In our survey, we asked the FinTech sector about their opinion on the following question: *How do you see that FinTechs change traditional banks?* It appears that the FinTechs do not see themselves as competitors, but rather as collaborators with the traditional banks (see Figure 15). 73% of the respondents claim that traditional banks will inevitably adopt new technologies, modernize, and ultimately digitalize. 60% support also the idea of the emergence of new business providing specialized services, but not attempting to be universal banks. 44% suspect that the role of traditional banks will change to commoditized service providers, while direct customer relationships will be handled by FinTechs. The smallest group expects either that traditional banks would become irrelevant (17%) or disappear and be replaced by new technology-driven banks (19%).

When it comes to the problem of legal regulations, the impact of FinTechs was noticed also by our respondents (one of them said that they will contribute to *the ongoing dialogue on the introduction of legal regulations*).

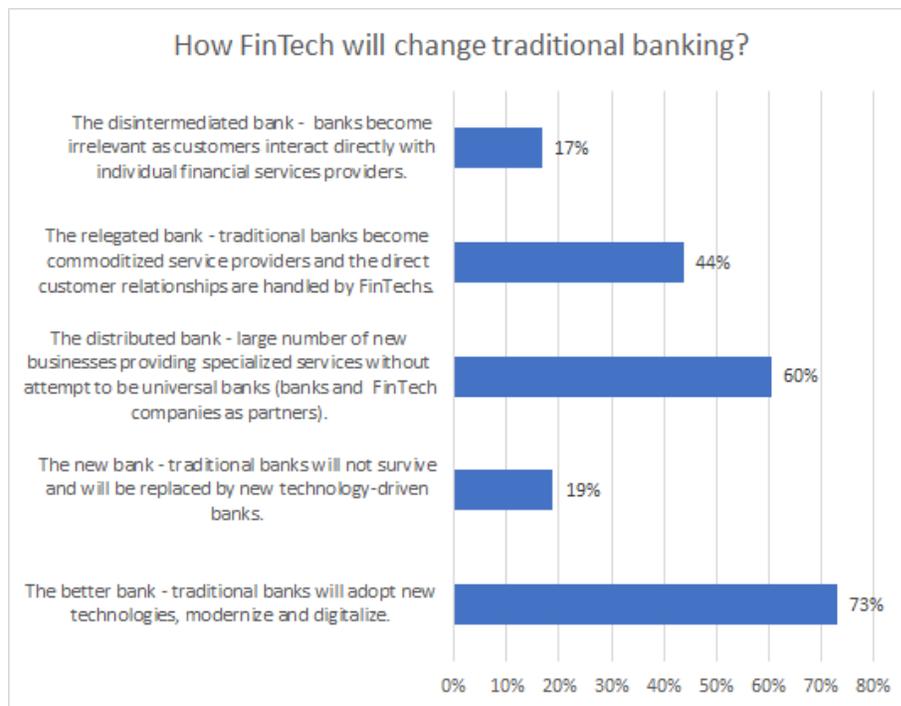


Figure 15: FinTechs versus banks

In the survey, we also asked FinTechs to explain, how they cooperate with traditional banks. Only 17% stated that they do not interact at all. From those who do cooperate, the majority sell or aggregate bank products and create appropriate IT solutions (analytical tools, mobile applications, or programs responding to the challenges of banks related to large amounts of work in the back-office areas). Other FinTechs use bank products - mostly traditional accounts. Some companies declared to interact with banks indirectly (e.g. through leasing companies, brokerage houses, etc.).

To summarize - most FinTechs in Poland directly or indirectly cooperate with banks, either as supporters or as customers. Most of them do not aim at competing with banks nor see themselves as a threat to them. Instead, banks and FinTechs are mutually linked through cooperation.

Conclusions

The survey was run in January 2020, just before the outbreak of the coronavirus pandemic. There is no consensus on the prognosis, how the current situation can affect the FinTech sector. On the one hand, lots of the companies are startups, and they need funding from investors, who may not be willing to support them. On the other hand, the outbreak of the pandemic increased the demand for cashless payments. The online work created opportunities for some FinTechs - namely those from the banking infrastructure and payment sectors. The new reality that the world has to face is a home-office work, increased demand for cashless payments and digital solutions. When most of the small enterprises encountered many tremendous difficulties to survive, the FinTech branch seems to be in a better position.

As the interview provided by Comparic (2020) shows, there are some ambiguities about the FinTech future. From one side, the current situation is an opportunity for the FinTech start-ups, who are better in facing high-risk situation than the traditional banks. On the other hand, there are lots of FinTechs that provide different products and solutions for the tourism industry and those would face the same challenges as the whole sector. It seems that the FinTech industry responds to the new economic situation dependently on the sector in which they operate.

There is no doubt, however, that those who operate in payment or banking infrastructure sector,

will be the ones, who will suffer the least. As the cashless payments have become compulsory in the everyday shopping, the market for apps and all solutions aimed to ease the market exchange has flourished.

From the beginning of the outbreak, the FinTech sector has had a significant competitive advantage over other sectors as the one which is based on software and technology. Moreover, what has come out in favor of FinTechs, is that they have no physical footprints and thus, are operationally effective during the lockdown. There is no need to reduce employment in firms which have no physical branches. Moreover, Fintechs are digital natives with strong emphasis on user-experience and hence, are much more flexible than the traditional firms. Although FinTechs, as almost debt-free, could have been considered to be more resistant to the unfavorable market conditions, in fact their dependence on the continuity of equity investment is remarkable. And this type of financing might be very capricious in tough times.

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