Digital financial inclusion:

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Economic impacts and policy recommendations that can be created financial technologies through inclusion

Policy Analysis Laboratory (PAL)

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Contents

Conducted by the Policy Analysis Laboratory (PAL), this study was sponsored by iyzico and supported by TÖDEB. The PAL team who prepared the report comprises Esen Çağlar, Emre Koyuncu, Deniz Ege Boz, İdil Savucu, Fırat Çetin and Ekin Erdolu. Burhan Eliaçık, Fevzi Güngör, Mehmet Kerse, Erdem Kozan, Barbaros Özbugutu, Ümit Özlale, Haki Pamuk, Ussal Şahbaz, Zafer Ali Yavan and Barış Yılmaz contributed to the development of the report with their valuable opinions.

List of Figures, Tables and Boxes

Abbreviation List

ABD	United States of America
ADB	Asian Development Bank
API	Application Programming Interface
B2P	Business to person
B4G	Business for Goals
BRSA	Banking Regulation and Supervision Agency
BigTech	Global Technology Companies (Giants)
BIS	Bank for International Settlements
CBILS	The Coronavirus Business Interruption Loan Scheme
E-KYC	Electronic Know Your Customer
EFT	Electronic Funds Transfer
Fintech	Financial Technologies
G2P	Government to person
GBS	Global Banking System
GDP	Gross domestic product
IBAN	International Bank Account Number
IMF	International Monetary Fund
VAT	Value-added tax
SME	Small and Medium Business
KOSGEB	Small and Medium Industry Development Organization
MENAP	Middle East and North Africa
OECD	The Organisation for Economic Co-operation and Development
OIC	Organization of Islamic Co-operation
SEC	Special Expertise Commission
P2P	Peer-to-peer
PAL	Policy Analysis Laboratory
SBA	Small Business Administration
CBRT	Central Bank of the Republic of Turkey
TURKSTAT	Turkish Statistical Institute

Executive Summary:

This study, ***aims to examine the economic impacts*** of increasing financial inclusion in Turkey through financial technologies. The findings obtained were complied in three sections.

1 Financial inclusion issue in Turkey

- Financial inclusion means enabling all segments of society to access financial products and services. The depth and access issues of the financial system need to resolved for Turkey to become a high-income economy. Depth and access issues stand our for particularly SMEs and households. 29% of SMEs in Turkey consider access to finance the biggest problem in the business environment, while this rate is 10% in European and Central Asian countries. On the other hand, SMEs have a share of 28% in commercial loans while providing 73% of employment in the country. It is seen that the credit expansion to respond to the Covid-19 crisis in recent months has not sufficiently spread to small and micro-scale enterprises.

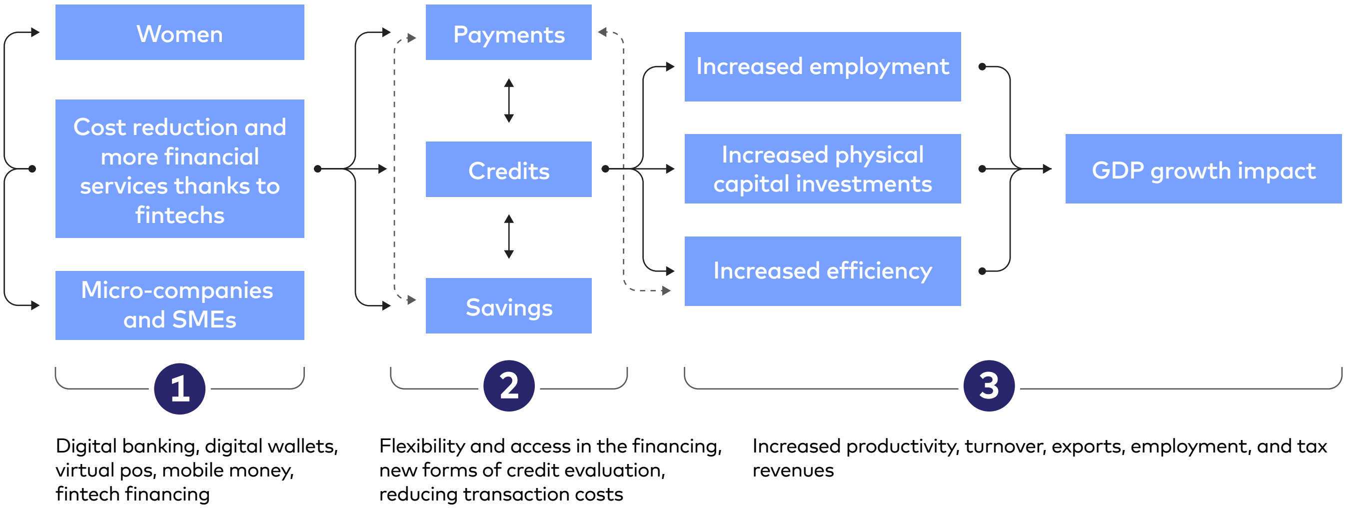
- Households have limited access to the financial system. The proportion of those borrowing outside the financial system in Turkey is 28% compared to an average of 13% in OECD countries. These constraints are particularly pronounced for women. In the OECD average, women account ownership rate is close to overall (Overall 95%, Women 94%), the difference in Turkey is remarkable (Overall 69%, Women 54%).

- As Turkey becomes more digital, the financial system is also expected to be transformed, but it is still in its infancy. Between 2010 and 2019, the ratio of individuals with internet access rose from 42% to 88% in Turkey leading to higher use of internet banking, e-government, and e-commerce. According to the results of the survey conducted by İstanbul Ekonomi Araştırma for this report, 14% of the respondents said that they made their first online purchases after Covid-19, and 9% stated that they paid their bills digitally for the first time in this period.

- Today, financial technology companies (fintechs in Turkey do not have any share in loans. In developed economies, fintechs started to be included in the credit system with various regulations. The fintech loan volume, which stood at 125 billion dollars in 2015, rose by 3.2 times to 400 billion dollars in 2017. US, Korea, England, and France are the countries with the highest fintech loan volume. In some of these countries, part of the Covid-19 loan and grant packages have been delivered to companies and households through fintech companies.

2 What would be the economic impacts of increased inclusion through fintechs?

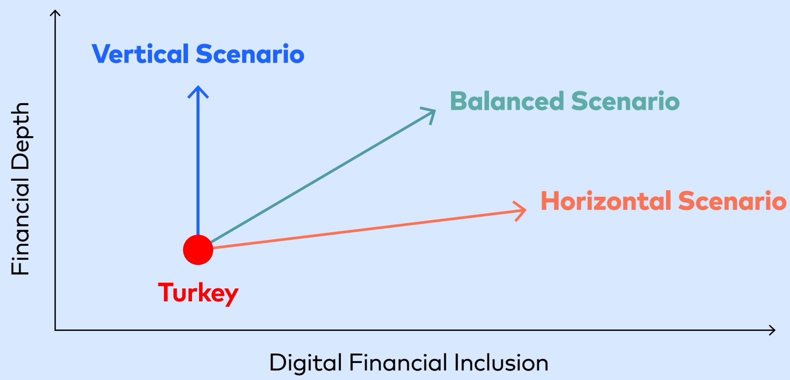
- Financial technologies play a supportive role in economic development by increasing financial inclusion with facilities. The contribution of fintechs to cost reduction and more financial services creates an impact on SMEs and households and can increase payments, loans and savings. It can create employment, turnover, investment, and productivity improvements and ultimately increase the potential GDP growth rate.



Source: Compiled by PAL

- This study focuses on the economic impacts that can be triggered by fintechs' increased share of the credit volume calculating the credit deficit primarily in our country. The SMEs used only 22% of the total loan volume of 495 billion dollars in 2019. The financing needs of SMEs and consumers totaling 73 billion dollars could not be met for various reasons.

- It is possible to reach out to the masses left outside the financial system or to increase their use of services through payments, loans, and savings, the main development areas of fintechs. According to financial depth and digital financial inclusion indicators, the mapping of countries in the upper-middle and high-income group reveals three basic scenarios for Turkey. The study examines economic impacts under these three scenarios:



- **Vertical Scenario:** Focusing only on credit growth (financial inclusion is not a priority). Existing beneficiaries use higher loans, but the democratization of the financial system remains limited. Inequalities in the economy increase further. GDP continues to grows but with a high fragility and low sustainability.

- **Horizontal Scenario:** Focusing only on inclusion (lack of fintech development in credit services) Particularly disadvantaged groups' access to financial services through payments may indirectly impact loans and savings. GDP may see a growth of up to 2.1%. 10 million people can start using digital payments, and 538,000 SMEs can start using digital financial services.

- **Balanced Scenario:** Increasing the inclusion and depth in a balanced way by paving the way for fintechs. Fintechs increase inclusion and ensure more efficient resource allocation in the economy. In addition to reaching segments with unmet credit needs, providing faster and more efficient service to the existing beneficiaries is the main impact channel. A GDP growth of between 2.1% and 3.5% can be achieved with a fair distribution of the impact on loan allocation. In addition to the horizontal scenario gains, the credit deficit of 640,000 SMEs will be covered completely or partially. In this scenario, Turkey converges to Korea and the OECD average instead of examples like China and Malaysia which applies excessive credit expansion.

3 Policy framework for fintech inclusion

- Fintechs are becoming important players in the innovation of global financial services with their software and data usage capabilities and they expand their service range. Today, fintechs in Turkey can move beyond the payment systems as in most countries leading to the development of the financial system in a balanced scenario. However, it requires regulations that meet the standards of developed countries by including new players and facilitating innovation. It is important to pave the way for regulations and expand financial inclusion in line with national targets.
- Under this study, **four** policy recommendations stand out:

1) Implementation of the legal infrastructure prepared for the development of fintech. The regulation[1] introduced to the law on payment services in 2019 made it sufficient for the customer to give their consent to the sharing of data located in one payment service provider (e.g. bank) with another payment service provider (e.g. fintech). In this way, fintechs will be able to manage the bank accounts through application programming interfaces (APIs) that enable software to connect with each other meaning a diversification in the payment intermediation service they offer. The secondary legislation to be prepared following this important step towards open banking practices should ensure that APIs are made accessible by securing competition with the general rules parallel to the European Union regulations through security, customer verification, and certification standards. On the other hand, issues such as the membership of electronic money institutions to the EFT system operated by the Central Bank, their ability to generate an IBAN number, and their immediate membership to the new fast payment system to be established are also considered critical.

2) Including the development of financial inclusion with fintechs in the agenda as a policy priority for Turkey. The role of fintechs in policy priority strategies and action plans should be developed, especially in line with global trends. Similarly, it will be possible for our country to benefit from fintech products that are standard in many parts. For example; (i) providing consumer financing in the form of microcredit for e-commerce transactions, (ii) providing electronic invoice and check financing to merchants. In this context, microcredit opportunities, especially for women-run enterprises, and Covid-19 support packages for micro-companies can be pilot studies.

3) Opening up an application area for new credit evaluation systems with the agile structure of fintechs and the use of big data. Fintechs' involvement in the credit side as well as in payment infrastructures, their experience in payments, and their ability to use technology are seen as critical in terms of financial inclusion and the transformation of loans into investments.

4) Establishing a Regulation-Innovation Center by placing fintechs in the focus of Istanbul Financial Center . The establishment of the Regulation-Innovation Center will allow for practices that will resolve these problems for fintechs, as in the case of the Investment Office dealing with large international investments. International consultancy to be received in this process will lead to a more mature technical capacity in regulatory mechanisms, improve the fintech ecosystem, and pave the way for practices such as regulatory testing space.

[1] Law No. 7192 on Payment and Securities Settlement Systems, Payment Services and Electronic Money Institutions and the Amendment of Certain Laws ("Law No. 7192") covers private enterprises.

Introduction:

In developing countries, approximately 2 billion people and 200 million businesses are deprived of access financial services (financial products such as credits, deposit accounts, payments, etc.). [2]

Rapidly spreading digital technologies reduce the costs of financial products and services, increase efficiency gains across the economy, and make them more compatible with unique user needs. Thus, financial products and services become available to all segments of society leading to a bigger "financial inclusion."

The segments that are not covered financially are at the most basic level the individuals without deposit accounts. However, having a deposit account per se doe not mean that financial products are used. Various imbalances can be found in the use of financial products in the market. In most countries, inequalities between regions, firm sizes, income levels, generations, or genders affect the level of inclusion in the financial system. [3]

As the development of digital technologies has provided a transformational effect for many industries, a similar effect has also been observed for financial services. According to estimates, digital technologies can deliver $1 trillion in profit and cost savings, equivalent to 17% of the total value of global financial services. [4] Digital financial technologies (fintechs) is one of the rapidly growing entrepreneurship areas both in the world and our country. Today, fintechs directly contribute to the improvement of the financial industry's inclusion level in many countries around the world. This leads to an important question of how a similar contribution in Turkey can influence the size and inclusion of the financial industry.

Increasingly widespread use of digital technology in Turkey makes it imperative to revise arrangements in most industries, including the financial one, in accordance with the requirements of the new era. In this context, this report aims to answer the question "What would be the economic implications of increasing financial inclusion through fintechs?" by examining supply and demand vulnerabilities of the Turkish financial system. The report also includes recommendations on what to do to benefit from the potential economic gains offered by fintechs. Thus, the goal is to support the deepening of economic policies in this area by contributing to the enrichment of informationon Turkey's fintech industry.

Conducted between March and July 2020, this study was carried out by the Policy Analysis Laboratory (PAL) with the iyzico's support. The study involved the analysis of the data sets related to the financial system, the literature review, and interviews with experts. The findings were compiled in three sections: (1) the gaps of the financial system in Turkey (2) economic impacts that may arise if fintechs increase inclusion (3) policy recommendations to benefit from the potential economic gains to be provided by fintechs.

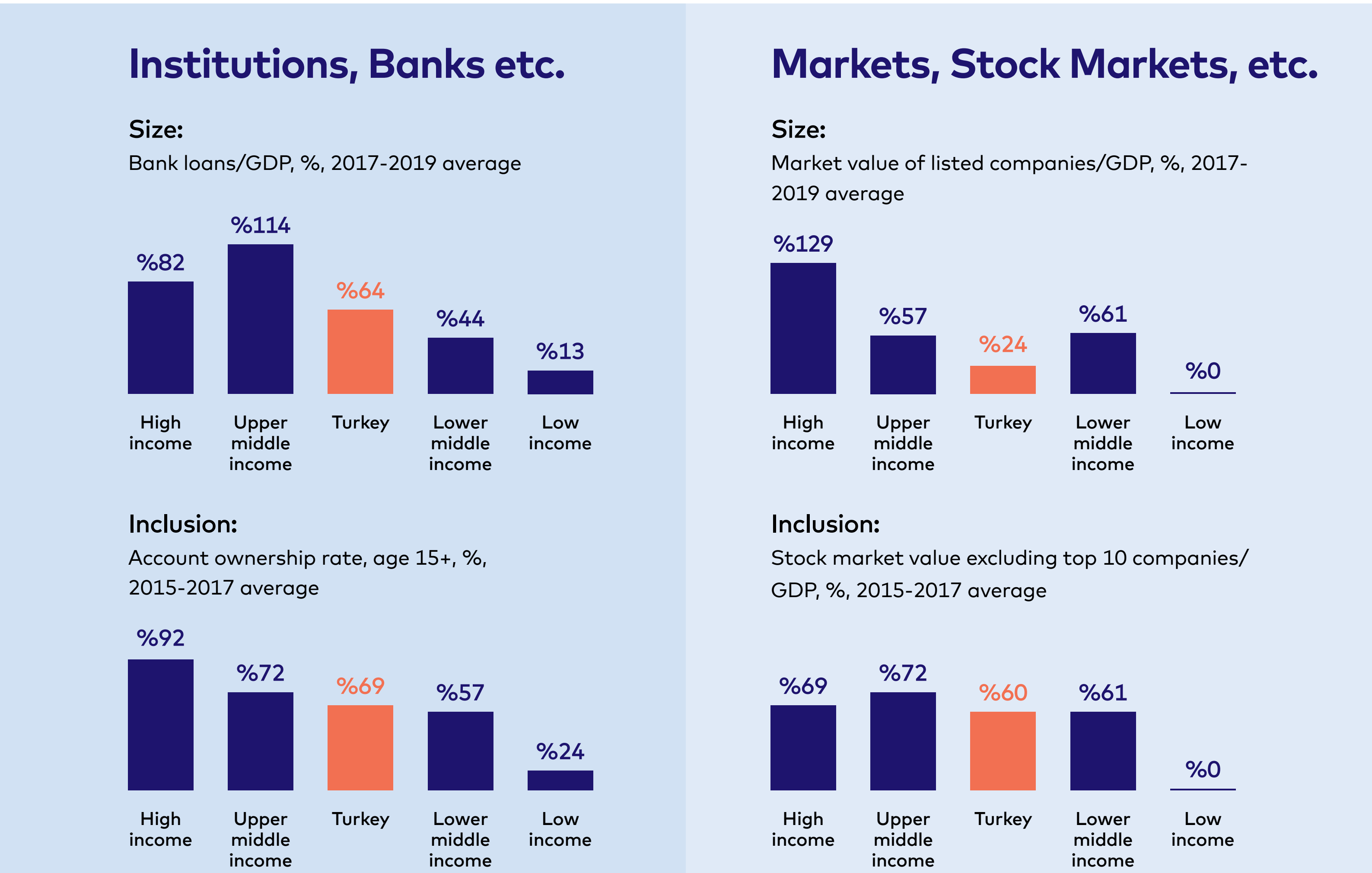
[2] Mckinsey Global Institute (2016)
[3] Asian Development Bank (2017)
[4] Oliver Wyman (2016)

1 Gaps of the financial system in Turkey:

A healthy economic growth depends on the development of the financial system.

The financial system consists of two dimensions: institutions and markets. Its development level is related to how large and inclusive it is. [5] On the institutional side, the share of the financial banking system tends to decrease in most countries as opposed to Turkey. The share of banks in the financial systems of high-income economies is 39%, while this rate is 73% in Turkey with an uptrend in the last decade. [6] On the other hand, the bank loans to GDP ratio is 64% in Turkey with 69% of individuals over the age of 15 lacking a bank account. These rates are lower than high-income economies, respectively 82% and 92% **(Figure 1)**. SMEs [7] and household constitute two essential segments to ensure the development of the financial system through increased financial inclusion.

Figure 1:
Criteria related to the financial system, Turkey and income classifications



Source: World Bank, Global Financial Development Report, 2019-2020, World Bank Database

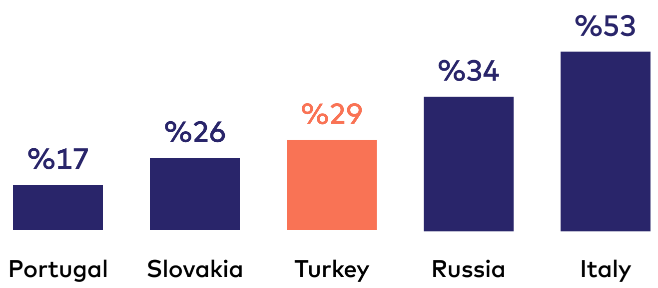
[5] According to the World Bank's Global Financial Development Report, conceptually, financial development is the process of obtaining information, executing contracts, and reducing transaction costs. It is difficult to measure financial development directly in an empirical sense. Therefore, financial development is addressed on the basis of two fundamental features (size and inclusion) for institutions and markets. The shares of credits and capital markets in national income were used as size criteria, whereas, the account ownership ratio and the share of the stock market value in national income, excluding the top 10 companies were used as inclusion criteria.
[6] The size of the financial system was calculated as the sum of bank credits and listed companies' market values.
[7] It includes micro (1-9 employees), small (0-49 employees), and medium (50-249 employees) enterprises.

Financial Inclusion and SMEs

The SMEs' access to finance in Turkey emerges as a major problem compared with various other countries.

For the entire economy, it is critical for businesses to meet their financing needs on time and accelerate their investment and operating processes. 29% of SMEs in Turkey point to their biggest business issue as access to finance. [8] However, this ratio is around 10% in Europe and Central Asia. The proportion of SMEs using bank credits for their investments also varies by country. **(Figure 2)**. Only 29% of SMEs in Turkey stated that they used credits for their investments as opposed to, for example, 53% in Italy.

Figure 2: Proportion of SMEs using bank credits for their investments, 2019



Source: World Bank Enterprise Survey

Facilitating SMEs' access to finance with innovative methods matters greatly for economic growth as they have an important place in the Turkish economy. SMEs account for 73% of employment in Turkey, 55% of investments and exports, and 53% of the added value (Table 1). On the other hand, SMEs have only a 28% share in commercial loans. It is critical to facilitate SMEs' access to finance so that they can create more added value with the appropriate investments and benefit more from economies of scale.

Table 1: Why should SMEs be the focus?

Indicator	Share of SMEs (%)
Businesses	%99
Employment	%73
Investments	%55
Exports	%55
Added Value	%53
R&D Expenditures	%18
Commercial Loans	%28

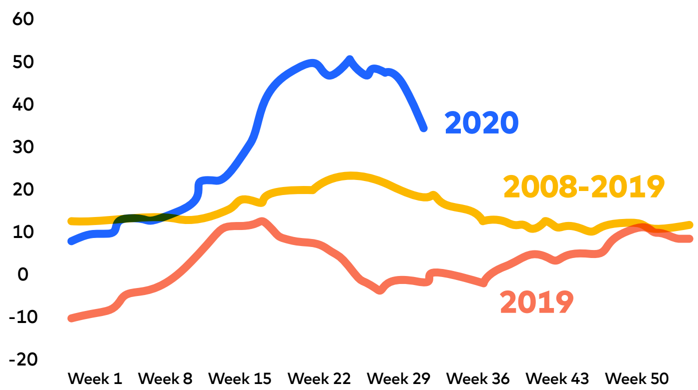
Source: Eleven Development Plan, SEC Report on Entrepreneurship, SMEs, Tradesmen and Craftsmen

[8] World Bank Enterprise Survey (2019)

All the problems SMEs experience in accessing finance can be defined as information asymmetry. Fintechs can overcome this problem and cover SMEs with limited access to the financial system. One of the main reasons that create the asymmetry is that the current financial system players do not know SMEs themselves and how to manage the data related to them well enough. A significant portion of SMEs leaves many traces in their daily operations. However, financial institutions can access a limited part of these traces or cannot adequately evaluate the accessed data. Thanks to big data analytics, fintechs can reach businesses assumed to be outside the market by conducting cost-effective and effective risk analysis. [9] Fintechs can reach segments left outside the reach of the system thanks to this skill, which enables them to recognize SMEs without establishing a direct relationship with them. For example, Lidya (fintech firm) operating in Europe and Africa can provide loans to those in need within 24 hours by performing credit and risk assessment of SMEs and enterprises. [10]

Another area where fintech provides SMEs with ease globally is their practical and flexible processes. Fintechs can make a difference here thanks to their ability to provide their services in an expeditious and efficient manner. Although SMEs currently face difficulty producing solutions for the unexpected financing needs that may arise due to various reasons such as machine failure and sudden demands, this situation may change if fintechs cover SMEs. In most developed countries, fintechs can provide faster and lower-cost solutions to businesses through innovative solutions, big data use, and other similar methods. More flexible collateral conditions and lower marginal profit expectations stand out as the main strengths of fintechs on the credit side. [11]

Figure 3: Increase in total credit volume, weekly, annualized growth, %

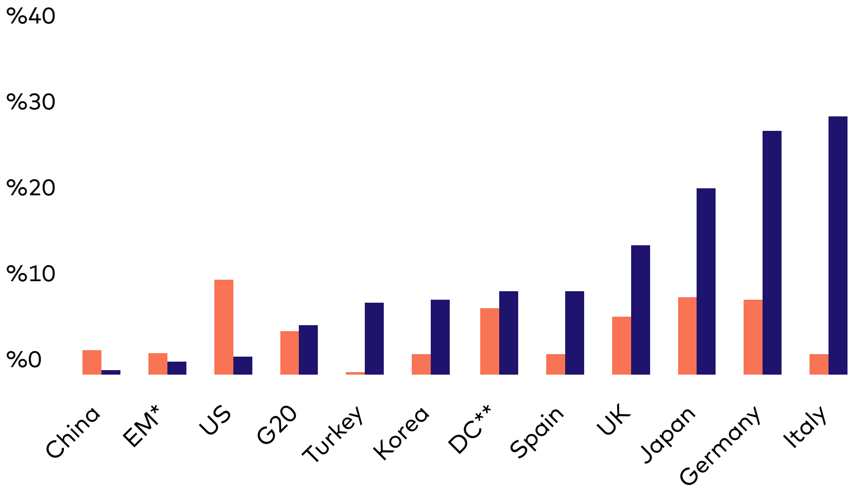


Source: CBRT

With ongoing economic impacts, the Covid-19 crisis made the problem of SMEs' access to finance even more visible. Loan growth between March and June 2020 outpaced that of the past 10 years. In this period, the weekly annualized growth published by the CBRT neared 50%, while the highest value reached between 2008 and 2019 was 22% on average **(Figure 3)**. On the other hand, the proportion of Covid-19 support packages to GDP reached 10% in Turkey as of June 2020. On the other hand, it is remarkable that almost all of this support has been realized through loans. In this respect, Turkey is similar to countries such as the UK, Italy, and Japan that intervene in the Covid-19 crisis through loan provisions while differing from countries such as the US, which intervenes with the budget **(Figure 4)**.

9 Şahbaz (2020)
10 Kehinde ve Eksin (2020)
11 Sahay vd. (2020)

Figure 4: Ratio of Covid-19 packages to national income



Source: IMF

* Emerging Markets, ** Developed Countries

SMEs, especially small and micro-companies, could not sufficiently benefit from the credit expansion during the Covid-19 process. Despite the support for businesses, one of the most important reasons why micro and small companies suffer more is that they do not benefit from loans sufficiently. According to research activity [12] conducted in May 2020, 31% of the large-scale companies in Turkey said they were greatly impacted by the Covid-19 crises, while this ratio increased inversely to the company size. The same research cited 49% of small firms and 69% of micro firms as greatly affected by the crisis **(Figure 5)**. Similarly, while 29% of small firms and 32% of micro firms stated that their capital was insufficient, this ratio was only 6% for large firms **(Figure 6)**. Furthermore, 33 percent of micro-companies said they had difficulty in payments such as wages, taxes, leases, and invoices, while this figure has dropped to 2% in large-scale firms **(Figure 7)**.

Figure 5: Proportions of firms heavily affected by the Covid-19 crisis

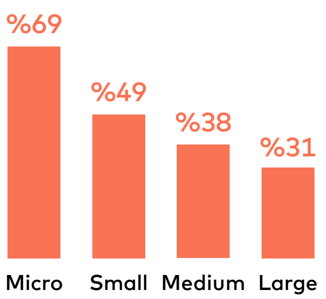


Figure 6: Proportions of firms whose capital is insufficient or can only last one month at most, by scale

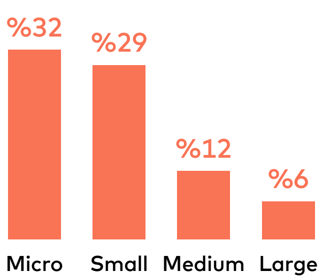
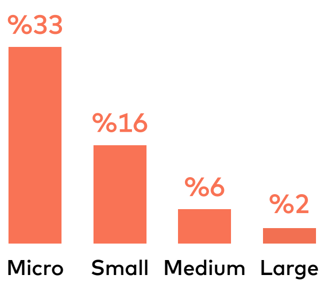


Figure 7: Firms that have difficulty making compulsory payments such as salaries, taxes, rents, and invoices



Source: UNDP Goals Business Survey (B4G), May 2020 data

12 For the results of the Covid-19 Survey of the Business World Platform for Goals, established by UNDP, TÜSİAD, and TURKONFED https://www.tr.undp.org/content/turkey/tr/home/presscenter/articles/2020/06/b4g-webinar.html

The inclusion of fintechs in loan services can strengthen Turkey's capacity to combat Covid-19 and similar crises. When the data presented above on the economic effects of the pandemic is evaluated as a whole, it is concluded that the highlighted loan expansion in the fight against the Covid-19 crisis did not sufficiently cover micro-and small-scale companies. In the same period, the fintechs are observed to have played an important role in SMEs' access to finance in countries such as the UK and the US. **(Box 1)**. The inability of public institutions and banks to sufficiently reach the segments affected by the crisis at the first stage of the Covid-19 support packages announced by the countries led to the engagement of fintech companies and a significant contribution to the inclusion level of these packages.

Box 1: The Role of Fintechs in Covid-19 support packages in the US and UK

Governments have sought to support households and businesses through various support packages in the face of the economic contraction caused by the Covid-19 pandemic. One of the countries most affected by the pandemic, the US approved a two-trillion-dollar economic support package, the largest in its history. Germany, the UK, India, and France were among the countries with the highest budget allocation amounts with government support packages worth 825 billion dollars, 430 billion dollars, 265 billion dollars, and 120 billion dollars, respectively. In this process, Turkey also announced a support package of 100 billion Turkish liras on March 18, 2020. The insufficiency and slowness of traditional banking services to reach households and companies needing these support packages raised the inclusion of the fintechs from the developed countries in the process as an agenda item.

The role of fintechs in support packages against the Covid-19 crisis in the US and the UK has evolved as follows:

- **US:** Despite the two-week loan application process, only 1% was distributed for the 200-billion-dollar worth of applications. Then, fintechs were included in the system in the second support package. After their inclusion in the Small Business Administration (SBA) Paycheck Protection Program, the fintechs notably PayPal, Square, and Intuit, began lending to small businesses that could not access Covid-19 aid funds. As of June 2020, Square alone has lent more than 820 million dollars to over 76,000 small businesses. On the other hand, Kabbage provided nearly 6 billion dollars in loans to 209,000 small-sized companies in the same period, helping maintain 782,000 jobs.

- **United Kingdom:** As of August 2020, nearly 60,000 applications were still in the approval process under the Coronavirus Business Interruption Loan Scheme (CBILS). Starling, OakNorth, and Funding Circle, etc. were allowed to provide loans under CBILS, and Starling loaned over 90 million pounds to SMEs in a day and a half. On the other hand, Funding Options in the UK quickly matched savers and loan-seekers, contributing to the transfer of financing to small businesses that cannot access loans. High inclusion of fintechs in support loan packages and cooperation with banks is still on the agenda in the UK.

Source: CNBC, Business Wire, Washington Post, Finance Magnates, Business Insider, gov.uk

Financial Inclusion and Households

Participation in our national financial system is also limited among households. The ratio of those borrowing outside the financial system is 28% in Turkey, while the OECD average is 13%.

Individuals turn to channels outside the financial system, especially the family and social environment, for their borrowing needs. It is noteworthy that the vast majority of households in developing economies use their social environment rather than official channels for borrowing purposes. And Turkey ranks among the top countries in asking for help from family and friends for urgent financial needs. 59% of the respondents from Turkey who joined the survey under the World Bank Global Financial Inclusion (Global Findex) study indicates they would first ask for debt from the close ones for their immediate needs **(Figure 8)**.

Although the level of financial system utilization is low in Turkey, most individuals think that they can find the money for their immediate needs thanks to the impact of social relations. 31% of individuals from Turkey state that they cannot find the money for their immediate needs. This rate is lower than the world average of 42% and close to the OECD average of 24% **(Figure 9)**. The risk level will be reduced when individuals start borrowing from each other in the financial system through fintechs. Understanding why the existing system cannot adequately cover these processes is critical. In this context, it can be said that the introduction of necessary regulations, development of financial technologies, and social relations constitute an opportunity for P2P (peer-to-peer) borrowing.

Figure 8: The percentage of people who say, "I want money from family and friends first for urgent needs," 2017

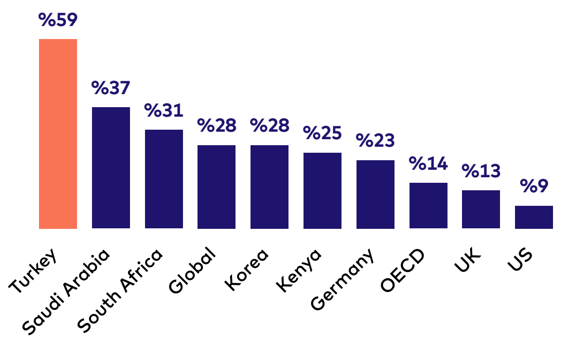
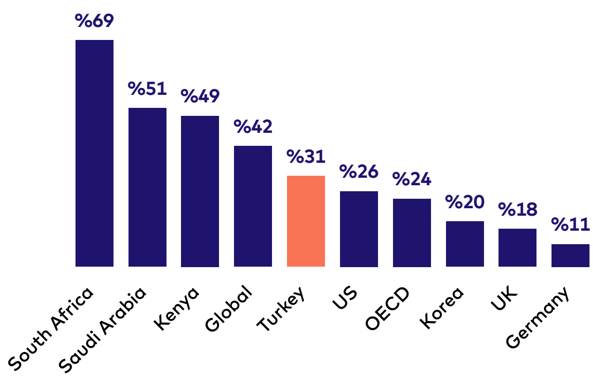


Figure 9: The percentage of people who say, "I cannot find the money for my urgent needs," 2017



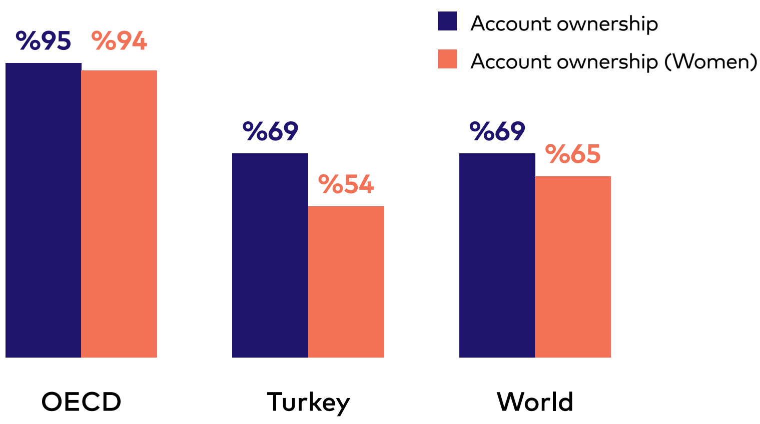
Source: World Bank Global Findex Database

Financial Inclusion and Women

In Turkey, women cannot sufficiently benefit from financial services both at an individual level and in entrepreneurship processes.

When we look at the account ownership ratio, the most fundamental indicator of financial inclusion, Turkey follows the global average with 69%, and the average rate of women is 54%. This percentage is behind the global and OECD average **(Figure 10)**. 65% of women lacking an account stated that "someone in the family has an account" as a reason for not having an account. Turkey ranks higher than others compared to countries such as Malaysia, Mexico, Thailand, and Kenya.

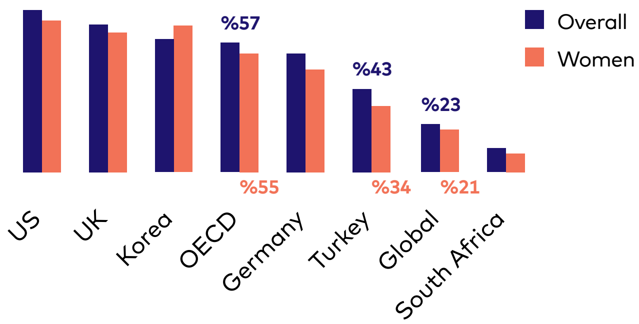
Figure 10: Account ownership rate, overall and women, 2017



Source: World Bank Global Findex Database

In Turkey, the percentage of women who say they previously used a bank loan or credit card for borrowing is lower than the OECD average.
In general, 43% of people in Turkey use credit or credit cards to borrow, while women are below the overall average with 34%. On the other hand, this percentage is 54% for overall and women within the OECD. **(Figure 10)**. Women in Turkey are seen to face additional restrictions compared to the general public. A similar situation arises for those who say "I previously made digital payments". While this rate is 54% overall but 43% for women. In the OECD, 89% of the overall population and 87% of women stated that they made digital payments **(Figure 11, 12)**.

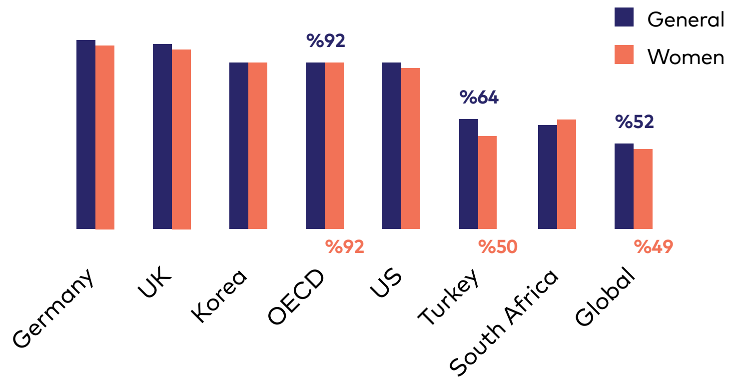
Figure 11: Percentage of those who said "I used a debit or credit card for borrowing purposes", 2017



Source: World Bank Global Findex Database

[11] Sahay et al. (2020)
[12] See for the Results of the Covid-19 Survey of the Business for Goals Platform founded by UNDP, TÜSİAD, and TURKONFED https://www.tr.undp.org/content/turkey/tr/home/presscenter/articles/2020/06/b4g-webinar.html

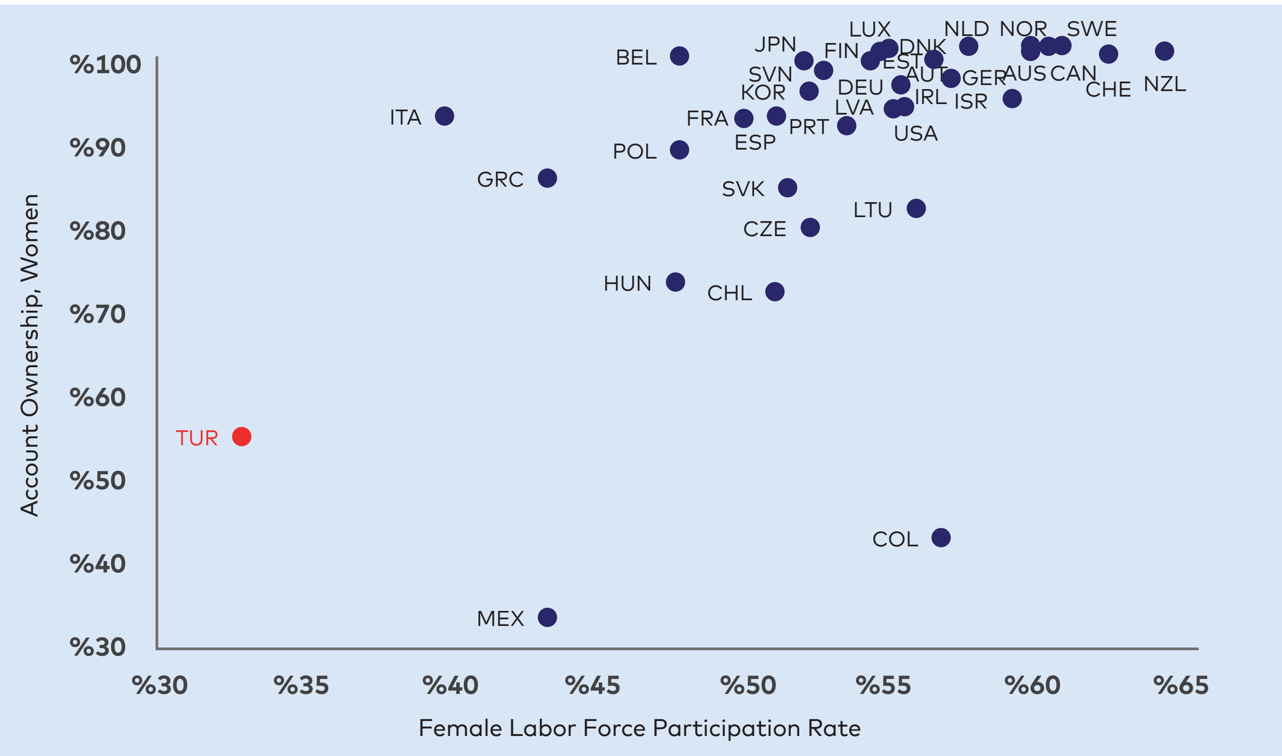
Figure 12: The the percentage of people who said, "I made digital payments last year," 2017



Source: World Bank Global Findex Database

In the coming period, the increase in women's participation in the labor force will bring significant opportunities for both financial inclusion and fintechs. There is a positive relationship between the level of female labor force participation and official account ownership rates in OECD countries **(Figure 13)**. Considering the distribution of countries, it is observed that having an account cannot go above a certain level before higher participation in the workforce. Fintechs will be able to take on the role of supporting women's involvement in the financial system through different services, particularly account ownership. Women tend to spend more than men when they have an account because they care more about their social environment in terms of eating, drinking, education, and health care. Moreover, they are observed to go beyond this to improve the prosperity and productivity of their families. [13]

Figure 13: Relationship between female labor force participation and account ownership in OECD countries

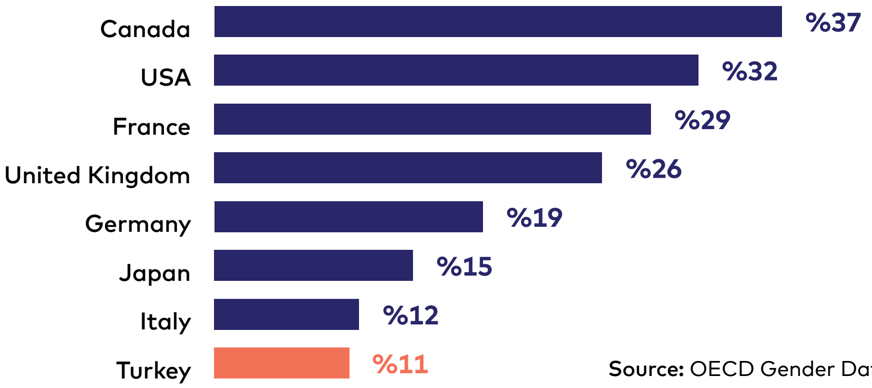


Source: World Bank Global Findex Database
World Bank Database Note: See for country codes.
http://www.mfa.gov.tr/data/Terminoloji/ulke-isimleri-listesi2019.pdf

[13] Doepke ve Tertilt (2011)

From the perspective of entrepreneurship, the percentage of women who receive money and support allocated to women through microcredit programs remains limited in Turkey. In 2018, Turkey's leading public and financial institutions (KOSGEB and Grameen Microfinance Program) provided 67 million dollars in support to nearly 46,000 women through their microcredit programs, but this figure is low compared to other countries. [14] The proportion of women borrowing to start a business has increased recently from 3.2% in 2014 to 10.9% in 2017. However, this rate is still well below the level in high-income countries **(Figure 14)**. The survey conducted in 2019 found that 29% of women entrepreneurs in Turkey have had difficulties in accessing bank loans and 38% of women in reaching early-stage public support. [15]

Figure 14: Women who can borrow money to start a business, G7 countries, 2017



Source: OECD Gender Database

Box 2: Examples of Empowering Women And Microfinance with Fintechs

American fintech firm **FINCA Impact Finance** aims to reduce poverty through long-term solutions by helping people set up a business and raise their living standards. The company operates in various regions including Africa, Eurasia, Latin America, the Middle East and South Asia. As of 2020, the FINCA provided the following opportunities:

- Businesses made an average annual profit of 3,500 dollars.
- 586,000 businesses were established by women, 269,000 of which were managed by them.
- Businesses employed approximately 688,000 women.
- 375,000 people were employed thanks to FINCA loans.
- Nearly 1.7 million people worked in the FINCA-funded businesses.
- Women constituted 41% of the population benefiting from fintech services.
- 39% of borrowers were from rural areas.

The UK-based **Monzo** digital bank has launched the "Banking for All" campaign for 1.3 million people who do not have access to banks (especially parents living alone, migrants, and excluded groups with disease problems). Monzo did the following under this campaign:

- It developed an online tool to create a platform where people from different backgrounds can receive support and advice for access to financial services.
- It created exemplary drafts to be used by other companies for writing terms and conditions that everyone in society can understand.
- It published information describing the processes for managing debt payments and complaints.
- Working with various local groups throughout the country, he held events to see what solutions these groups can produce for their communities.

Source:
FINCA Impact Finance (2020),
Monzo (2020),
Gonzalez Ormerod (2020)

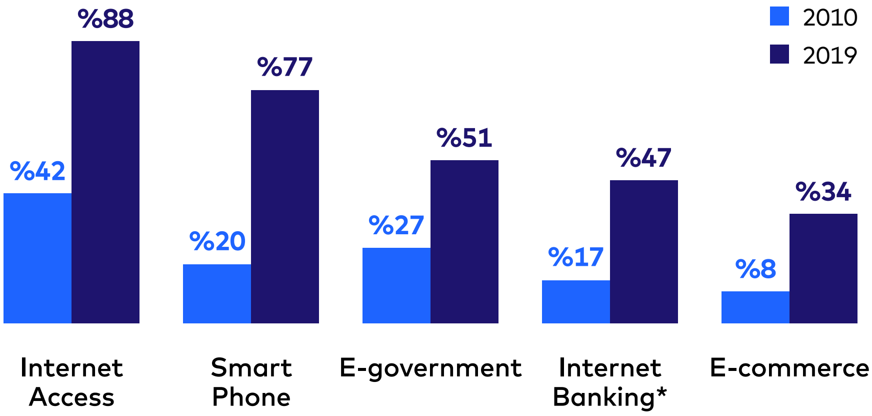
[14] KOSGEB and Grameen Microfinance Program Data (2018)
[15] Policy Analysis Laboratory (2019)

Financial Inclusion and the Potential Role of Fintechs

Over the last 10 years, digitalization trends, despite the restrictions in access to financial services, offer an important opportunity to increase inclusion through fintechs.

Internet access and mobile phone ownership, the most fundamental requirement for the digitalization of financial services, is nearing 100% in Turkey. Internet access, frequency of use, online communication with public institutions, e-commerce, and internet banking become increasingly widespread in Turkey. The percentage of those using e-government services rose from 27% in 2010 to 51% in 2019. The rate of e-commerce users increased from 8% in 2010 to 34% in 2019 **(Figure 15)**. It is inevitable that all these behavioral changes in digital services will also appear in financial services.

Figure 15: Internet, smartphone, e-government, e-commerce, and internet banking usage rates in Turkey, households, %, 2010 and 2019

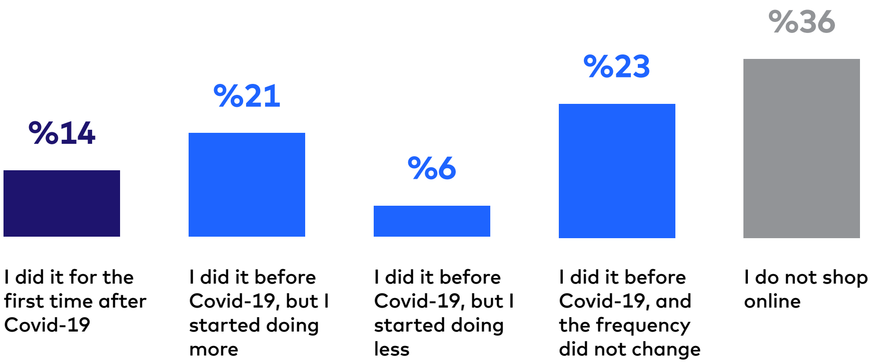


Source: TURKSTAT Household use of Information Technologies Survey
**Percentage among Internet users*

The Covid-19 crisis is seen to further accelerated the digitalization trends. The increase in the number of online shoppers in the last three months has reached the level seen in the last three years with 7 million people making online shopping for the first time. According to the July 2020 Survey data from the Istanbul Ekonomi Araştırma Turkey Report, 14% of the respondents stated that they shopped online for the first time after Covid-19, and 9% stated that they paid their bills digitally during this period. These results show that the digitalization increase in Turkey in the last three months was equal to that of the last three years: Seven million people made an online purchase for the first time and 5 million people paid their bills online after Covid-19 **(Figure 16, 17)**.

7 million people
shopped online for the first time after **Covid-19.**

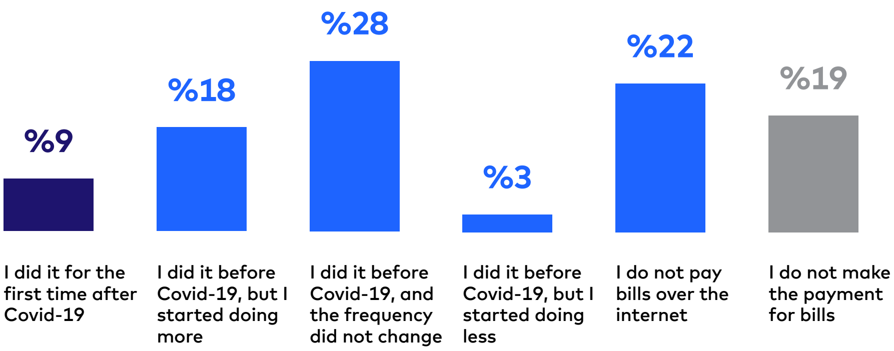
Figure 16: "Do you shop online? How did Covid-19 affect this?"



Source: Istanbul Ekonomi Araştırma, Turkey Report, Survey Data for July, PAL calculations

5 million people
paid their bills online for the first time after **Covid-19.**

Figure 17: "Do you pay your bills online? How did Covid-19 affect this?"



Source: İstanbul Ekonomi Araştırma, Turkey Report, Survey Data for July, PAL calculations

The digitalization of the financial system around the world covers payment, loan, and saving areas, while transformations are visible only on the payment side in Turkey. In many countries, fintechs act as a leverage to increase depth and access to the financial system. However, it is only seen as a tool for the efficiency of payment transactions in Turkey. Fintechs' function to increase payment efficiency is said to have been accomplished with their growth in recent years. Turkey's fintech payment market recorded a 2.3-fold growth between 2018 and 2020. [16]

Despite improvements on the payment side, the fintechs do not have a share in loans and savings provided in Turkey. In contrast, global financing loans reached 400 billion dollars in 2017 from 125 billion dollars in 2015. The increase in global fintech loans was 115% between 2015 and 2016, and 49% between 2016 and 2017. In 2017, 69% and 31% of global fintech loans were used by businesses and consumers, respectively **(Figure 18)**. China, the US, Korea, the UK, and France are the countries with the highest loan volume. The share of financing loans in China and the United States has reached 100 billion loans, while the fintech corporations in Turkey do not yet have a share in the loan volume. **(Figure 19)**. As international examples, technology giants called "big tech" (Amazon, Facebook, Alipay, and so on) increased their share in the credit market along with the fintech organizations. This situation indicates that large international companies can fill this gap if the fintech organizations do not meet the current needs on time.

[16] iyzico data

Figure 18: Global fintech loans (2015-2017), billion dollars

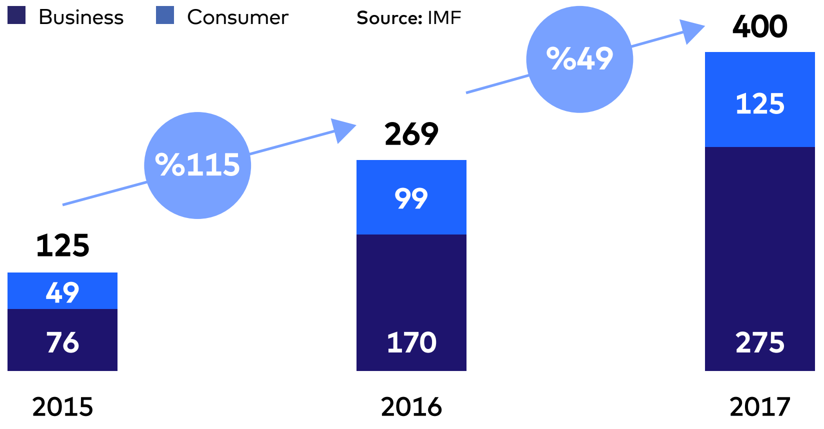
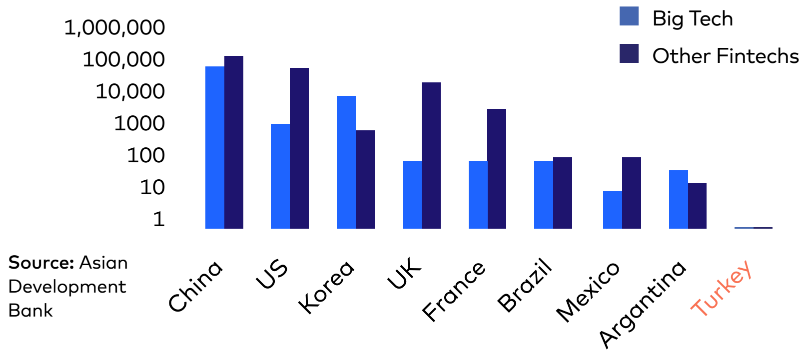


Figure 19: Total fintech loans in selected countries (2017), million dollars



Box 3: Lending non-bank technology platforms

Various technology platform models in the world have the potential to address situations in which the traditional banking industry is insufficient or unable to reach SMEs for loans. Basically, four platform models provide loans in different ways around the world.

- **Marketplace loan platforms** bring together the lending investor and SMEs and/or provide loans on their own balance sheets. Platforms commonly operating with P2P loans and online balance sheet credit models constitute an alternative channel for access to finance (especially for SMEs). P2P loans are quite common in China and the US.

- **E-commerce and payment platforms** provide e-commerce loans with their big data, data usage skills, and wide SME network. By analyzing customer preferences and behaviors through technologies such as big data use and artificial intelligence, they can lend loans to various groups of companies considered risky in terms of credit. Also, it allows the provision of more efficient, faster and cost-effective loans. E-commerce platforms in countries such as China, the US and India provide loans commonly.

- **Supply chain finance platforms** provide loans to SME suppliers who sell to larger companies in the process following delivery, enabling them to remain financially strong if payments are delayed. These loans (bill financing, supply chain, and trade loans) allow suppliers to make discounts for their receivables, increase business efficiency and reduce financing costs.

- **Mobile data-based credit platforms** offer small mobile loans on the basis of mobile transactions (data on mobile currency usage, savings history, previous credit history, etc.). They can reach loan candidates outside the financial system, especially by calculating new credit scores by using data. It is commonly seen especially in African countries where the financial system is not well developed.

Source: World Bank et al. (2017), BIS (2017)

Both SMEs and households will need to be covered more by the financial system as Turkey becomes a high-income economy.

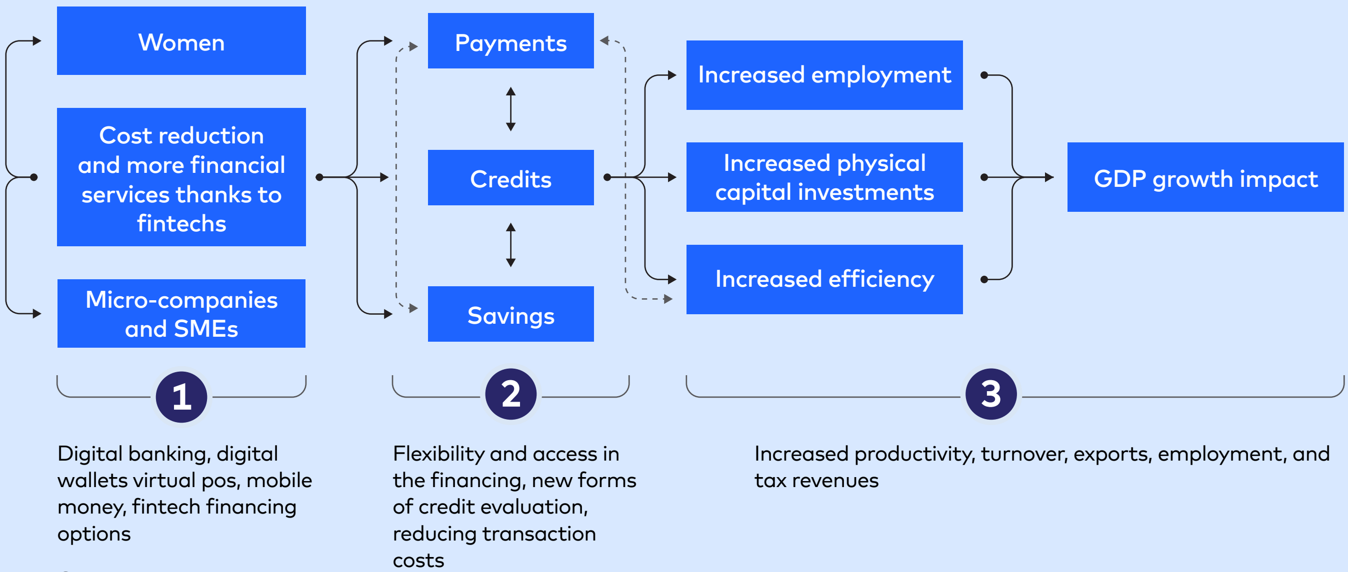
The reflection of this situation on loan services is a matter requiring special consideration given that Turkey is a growing economy. With the digitalization process in recent years, it has become more possible for fintechs to grow and ensure financial inclusion. Developed countries promote competition, increase inclusion and enhance efficiency by enabling fintechs to serve all financial products. The next section discusses the economic impacts that may arise if fintechs increase inclusion by offering different financial services.

2 What would be the economic implications if fintechs increase inclusion?

Financial technologies play a supportive role for economic development through impact channels such as growth, productivity, and employment by increasing financial inclusion.

There are many studies in the literature seeking to examine the relationship between countries' financial inclusion and economic growth/development.[17] Despite the lack of a comprehensive study on this issue in Turkey yet, the fintech market can be said to create opportunities through different impact channels in line with its development in recent years. With the cost reduction, more financial services can be made available for both individual users and SMEs.Efficiency increases through payments, loans and savings can be transformed into gains that can affect the entire economy. Therefore, economic growth can be achieved by increasing employment, investment, and productivity. **(Figure 20).**

Figure 20: Impact Map of Fintechs



Source: Compiled by PAL

Fintechs' main impact channels

The Turkish fintech market is growing at an average rate of 14% annually with over 300 companies18 with a value of over 15 billion dollars. [19] It contributes to the development of areas such as new credit assessment methods, the use of big data, and e-commerce in addition to savings, loans, and payments. [20] Big data has a positive impact on the quality, diversity, security, and costs of financial services. **Figure 21** provides detailed information about service areas of the fintechs. Digital banking, digital wallets, virtual pos services, mobile money accounts, and P2P debt services are the major service areas of the fintechs worldwide. Meanwhile, fintechs in Turkey have improved their virtual POS and digital wallet services in recent years.

17 The Asian Development Bank's "Accelerating Financial Inclusion in South-East Asia with Digital Finance (2017)" report discusses the effects of digitalization-related financial solutions on financial inclusion and economy in South Asian countries. The report reveals that 40% of the needs unmet in payment services and 20% of loans can be provided through digital financial services leading to a GDP growth of 2%-3% in South Asian economies and up to 6% in smaller economies. McKinsey's "Digital Finance for All (2016)" report reveals that the loan volumes in emerging economies can expand by 2.1 trillion dollars, and tax income losses and financial institution costs can decline by 500 billion dollars in total, leading to a GDP growth of up to 6% thanks to digital financing.
18 Startup.watch Turkey's Fintech Ecosystem Map
19 Deloitte (2017)
20 These payments can be person-to-person (P2P), business-to-person (B2P), or government-to-person (G2P).

Figure 21: Digital financial services offered through technologies

Online Platforms	**Virtual POS**	**Digital Wallets**	**Digital Banking**	**Mobile Money Accounts**	**P2P Debt /E-transfers**
Financial services offered to the user	It is the financial technology that enables businesses and institutions to receive and transfer payments in different currencies to integrated bank accounts in online environments. It enables payments made through credit/debit cards, money transfers, and digital wallets to reach businesses and institutions. There are also virtual POS applications that receive payment in physical life with options such as QR codes.	Mobile (digital) wallets create program interfaces that allow payment services to be performed on the internet or mobile. Consumers use credit/debit cards or various e-money or bank accounts they integrate into their digital wallet instead of cash, checks, or credit cards to make payments for the purchased products. The user's financial information is protected in the digital wallet. The person or institution receiving the payment cannot access any financial information of the person.	Banks that offer almost all traditional banking services in through mobile and online platforms EFT/remittance/SWIFT money transfers; term/current deposits, savings, investment accounts; invoice/tax/e-commerce payments; loan use for individual and commercial users; cash withdrawal from ATMs via physical bank/credit cards (limited number). Buying/selling transactions through cryptocurrency units. Part of the payments made at contracted workplaces with the Cashback application is refunded to the account.	It is not necessary to have a bank account to own a mobile currency account. Any phone owner user with a GSM connection can have a mobile money account. Users can transfer money to all mobile accounts registered with the same service provider and pay for products and services to businesses that have completed mobile money technology integration. The primary target users were mainly financially excluded segments.	P2P lending means matching lenders without intermediation from government agencies. P2P debt platforms can be used for different needs and set interest rates for individuals according to certain criteria. On the other hand, e-transfer platforms enable money transfer between accounts. There are also platforms specialized in international SWIFT money transfers without paying high transaction fees at real exchange rates.
Fintecs serving in Turkey	iyzico; PayU; papara; Paycore; Kpay	iyzico; PayU; papara; Masterpass; Paycore; BKMexpress	Enpara; Papara; CepTEB	PayCell	TransferWise (money transfer) P2P does not exist in Turkey.
The fintechs serving around the world	Stripe; PayPal; DailyPay; affirm	PayPal; Payoneer; ApplePay; Due	N26; Chime; Revoult; NuBank	M-Pesa; Easypaisa; JazzCash; Orange Money	Mintos; CrowdEstate; Auxmoney; Lufax

The scope of financial services offered to users may differ slightly in different fintech companies.

Source: Compiled by PAL
Note: Company names are given as an example.
vThe scope of the services offered may differ.

Fintechs produce new financial solutions with their technological capabilities and strengthen their impact channels by providing efficiency. With the innovations they offer, Fintechs can reach areas outside the scope of traditional financial services and offer more efficient and cost-effective services. The main impact channels that trigger the transformation of fintechs' payment, savings and loan services are as follows:

- **Accessible payment services.** Fintechs enable SMEs to receive digital payments and issue electronic invoices, making it easier for companies to increase their sales. On the other hand, the data obtained through digital payments and customer experience enable the acquisition of plenty of information such as the financial status of companies. The downtrend in cash payments worldwide also increases the importance of digital payments and shows great potential to reduce the size of informal economy.

- **Flexibility in financing and new forms of credit rating.** Fintechs can offer different products to meet the needs of different types of customers and reach large audiences by providing more flexible credit terms and faster services. Fintechs can be a potential solution, especially for immigrants, those lacking a credit score, and even individuals and companies who have been left out of the financial system due to a poor bank record.

  For example, the P2P lending platform Lufax (China) can provide access to financial services to those lacking an official credit history using the data obtained online. [21] *In countries like Kenya, Tanzania, and Uganda, households that lack energy can obtain daily micro-credits from their mobile money accounts and access solar panels and electricity.* [22]

- **Making identity checks easier.** E-KYC (electronically know your customer) and the spread of big data usage make it possible for customers to safely make payments, loans, and savings transactions. With the E-KYC practices, financial institutions have new customers verified in the system through certain procedures. Thus, the fight against financial crimes is facilitated and customers are able to access services in the future.

  For example, the P2P lending platform Auxmoney (Germany) conducts identity checks in loan applications fully digitally and remotely through video connectivity and digital signature. Processes are automated and customers are often engaged online (usually mobile). [23] *Identify (Germany) is a fintech organization providing services across Europe. It offers electronic signature, video-assisted customer identification, identity checks, etc. services, and digital onboarding processes altogether.* [24]

- **Lower call and transaction costs thanks to big data.** Digital financial transactions create records by leaving behind traces. These records ensure that the system is accountable and create data stacks that can be utilized to provide services specific to user needs. Financial service providers are thus able to coordinate processes more efficiently and expand their ability to use big data.

  For example, Kabbage, which operates in various countries, including the United States, the United Kingdom, Australia, Mexico, and Spain, analyzes data from small businesses and provides them with practical financing Kabbage offers support to more than 200,000 small businesses a year, using alternative data such as commercial, cargo, and social media movements of companies. [25]

21 Wu (2018)
22 The Economist (2018)
23 ibid.
24 Fintech Istanbul (2020)
25 World Bank (2017)

Financial inclusion has positive effects on macroeconomic variables such as growth, productivity, employment, and income inequality. Although there is no comprehensive study conducted for Turkey in this regard, the literature covers the economic effects triggered by increased financial inclusion in various countries.

- **Economic growth.** It was argued that the widespread use of digital financial services could contribute nearly 6% to the GDP of emerging economies by 2025. [26] It was calculated an increase in the digital financial engagement of SMEs can mean a 2%-3% GDP growth in Indonesia and the Philippines and 6% in Cambodia. [27] Furthermore, it was found that increases in account ownership, payments, and loans with the spread of digital financial services may increase GDP by up to 6% in emerging countries such as Mexico and Brazil. [28]

- **The income per capita.** Within the context of inclusion, it is seen that the increase of account ownerships, credits, and savings can increase per capita income by an average of 15% between 1990 and 2013 in 55 countries of the Organization of Islamic Cooperation (OIC). [29] In the research conducted with 45,000 households in India, it was stated that increased inclusion could raise 3.5% of the population above the poverty threshold. [30]

- **Employment.** The firm-level analysis performed in the research covering the years 1990-2017 in 19 countries from the Middle East, North Africa, Caucasus, and Central Asia revealed that SMEs' access to finance could lead to a 1% annual employment increase and a 2.4% increase in labor productivity. [31] It was seen from 2004-2011 that increased financial inclusion in OECD countries decreased income inequality by 15% in countries with higher financial fragility and 21% in those with lower incomes. [32]

- **Productivity.** The research examining the period between 2006 and 2013 in Kenya stated that the use of trading credits provided by M-Pesa mobile money technology accounted for 3.3% of the increase in total factor productivity. [33]

- **Tax revenues.** The research covering 137 countries and comparing 2011 and 2017 revealed that increases in bank account ownership and credit card ownership directly increased tax revenues. [34] According to research based on the data from the European Union countries between 2000 and 2012, the difference between expected VAT income and actual VAT income decreases as digital payments increase. [35]

- **Women's empowerment.** Women's access to financial services seemingly enables them to better manage risks and enhance their competencies for starting a business and making investments allowing them to allocate capital for fields such as education and health. [36] Increased access to financial services by women will be critical for development variables such as inclusive economic growth and fight against poverty.

[26] ibid.
[27] Asian Development Bank (2017)
[28] McKinsey Global Institute (2016)
[29] Kim et al. (2018)
[30] Blancher et al. (2019)
[31] Kim (2016)
[32] Churchill ve Marisetty (2019)
[33] Beck, Pamuk et al. (2015)
[34] Oz-Yalaman (2019)
[35] Immordino ve Russo (2018)
[36] Holloway, Niazi et al. (2017)

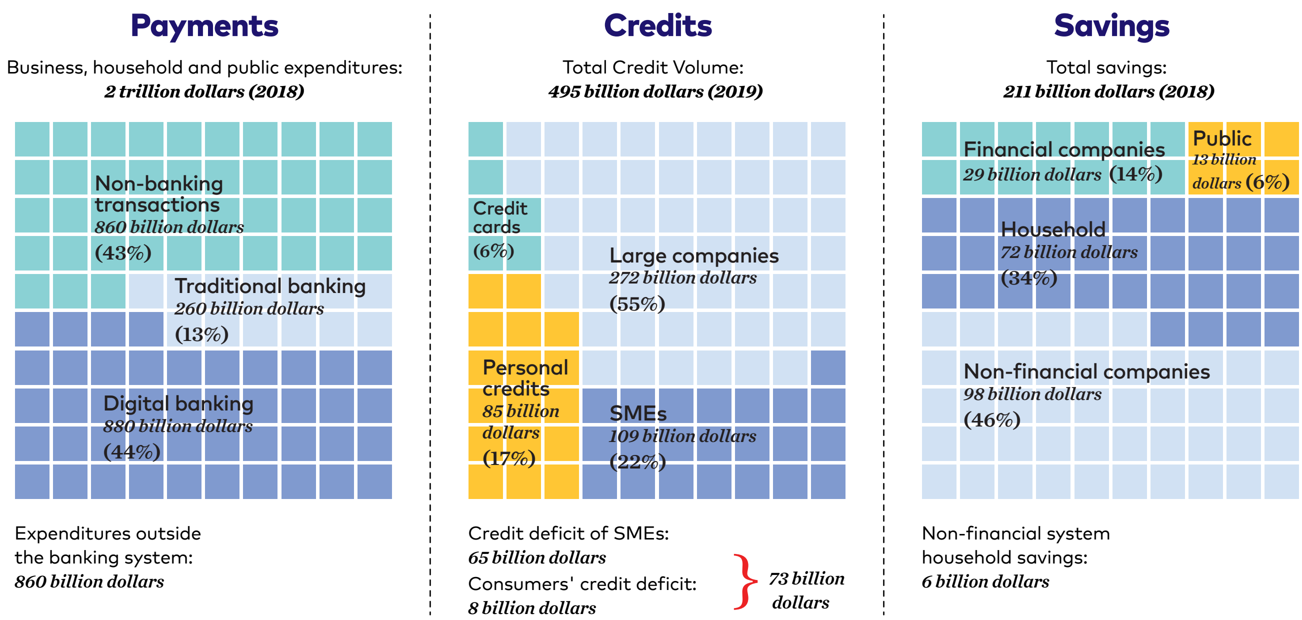
Fintechs are a candidate to introduce the groups not covered by - traditional financial institutions with traditional regulations to payment, credit and savings products and services. The financial system cannot basically reach some groups with respect to payments, credits, and savings or cannot enable them to benefit from them adequately. The report estimates the relevant gaps by taking into account the groups that are not - adequately covered by the financial system due to limited access to it. The payments outside the banking system in Turkey are seen to be approximately 860 billion dollars **(Figure 21).** Considering household savings, it stands out that 6 billion dollars of savings are realized outside the financial system and 6% of households save cash under the mattress.

Scenarios for the development of financial inclusion in Turkey

The deficit on the credit side is particularly noticeable for SMEs.

According to the World Bank study, which determines the credit deficit that cannot be sufficiently met by financial systems in developing countries, the credit deficit amount of Turkish SMEs arising from traditional financial system weakness is as much as 53% of the loans they use. [37] An analysis of the loans used by consumers according to income groups shows that there is an average credit deficit of 10%. In this context, it is estimated that Turkey's financial system currently faces a financing deficit of approximately 73 billion dollars it cannot meet **based on the method in the relevant study (Figure 22).**

Figure 22: Payments, credit, and savings estimated for fintech potential in Turkey



Source: PAL calculations, BRSA, TURKSTAT, GBS, ING Bank

[37] World Bank (2017)

The study develops three different impact scenarios to determine the possible effects of the increased financial inclusion on the Turkish economy. Determination of the impact scenarios requires evaluating how Turkey has proceeded in terms of financial depth and digital financial inclusion so far and predicting what is to come next. Financial depth is a criterion calculated by the ratio of credits to GDP. Digital financial inclusion was determined with an average of 12 indicators for each of the four main categories: the proportion in the population, the proportion in women, and their share in the poorest 40% segment **(Box 4)**.

Box 4:
Basic parameters used in scenarios

The financial depth and digital financial inclusion parameters were chosen together with indicators describing them to determine the scenarios which will provide a financial contribution to Turkey's growth.

Financial Depth Indicator:

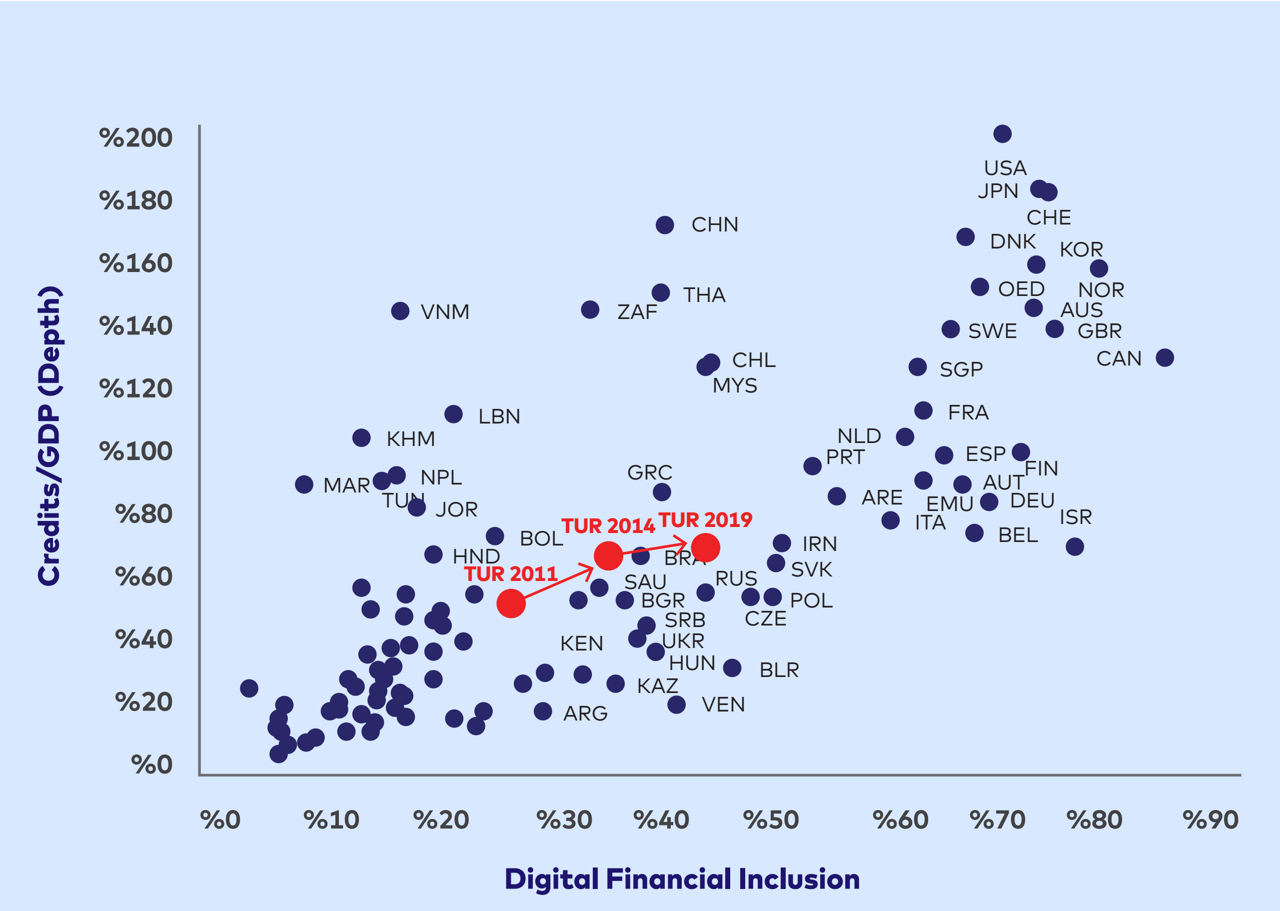
- The ratio of credits to GDP

Digital Financial Inclusion Indicators:

- Account ownership rate (overall, female, poorest 40%)
- Borrowing rate from a financial institution (overall, female, poorest 40%)
- Percentage of digital payment users (general, female, poorest 40%)
- Credit card ownership rate (overall, female, poorest 40%)

In the 2011-2019 financial period, financial depth reached from 49% to 66% in Turkey. In the same period, digital financial inclusion grew 1.6-fold from 28% to 46%. The examination of these data shows that digital financial inclusion in Turkey is more pronounced in terms of progress while it moves in a positive direction for both indicators compared to the past period. The financial system developed in two directions from 2011-2014, while the increase in depth remained limited from 2014-2017 bringing increased inclusion to the fore **(Figure 23)**.

Figure 23: financial depth and financial inclusion by countries, Turkey and other countries



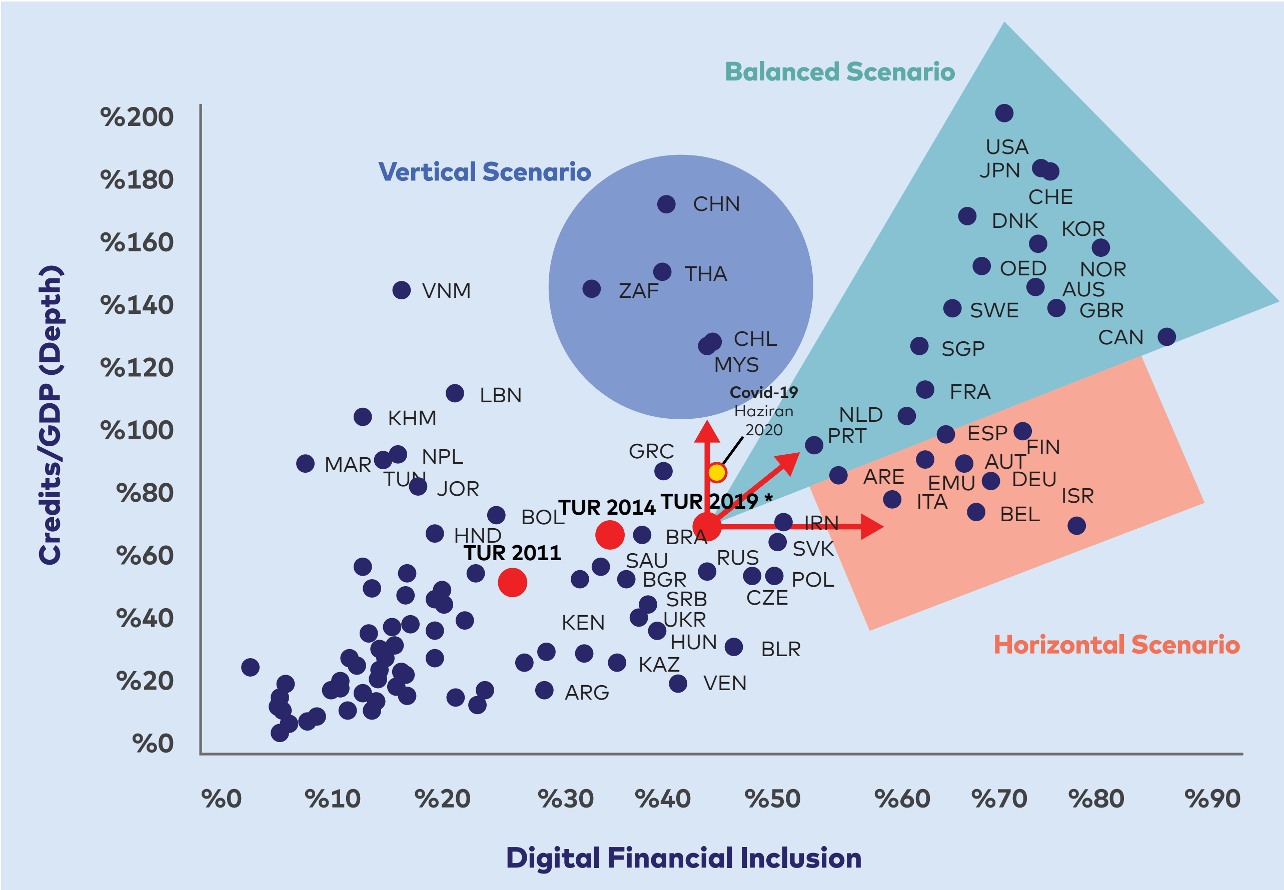
	Credits/GDP	Digital Financial Inclusion
Turkey 2019*	%66	%46
Turkey 2014	%64	%37
Turkey 2011	%49	%28

*Financial depth 2019, Digital Financial inclusion 2017 data **Source:** World Bank Global Findex Database

Note: For country codes, see http://www.mfa.gov.tr/data/Terminoloji/ulke-isimleri-listesi2019.pdf

The introduction of fintechs for the development of financial inclusion and depth is critical as the current financial system reaches its natural limits. One of the main determinants of how the financial system will change and evolve in the coming years will be the roles to be assumed by fintechs. It is possible to ensure financial inclusion through fintechs and increase depth through groups that benefit less from the financial services. Turkey's current position indicates that it can take one of the three directions. The first one means that Turkey moves in the vertical direction as inclusion remains constant and financial depth increases **(Vertical Scenario)**. The second scenario is the horizontal move meaning a limited growth in financial depth and increased inclusion. **(Horizontal Scenario)**. When Turkey's growth model is also considered, the scenario that may bring the highest gain **(Balanced Scenario)** is ensuring these moves materialize in a balanced manner **(Figure 24)**.

Figure 24: Financial depth and financial inclusion by country, scenarios



*Financial depth 2019, Digital Financial Inclusion 2017 data **Source:** World Bank Findex Database

Vertical Scenario:

Focusing only on credit growth (financial inclusion is not a priority)

- Existing beneficiaries use higher amounts of credit, but inclusion does not increase.
- Democratization of the financial system remains limited with increased inequalities in the economy.
- There is an increase in GDP, but its fragility remains high and its sustainability remains low.
- Turkey converges to the group that includes countries such as Malaysia, Thailand, China, and Chile.

Horizontal Scenario:

Focusing only on inclusion (fintech's failure to improve themselves in the credit services)

- It is especially the case where disadvantaged groups meet with financial services through payments. This can also have an indirect impact on credits and savings.
- Its most important gain may be easier use of big data in financial services.
- There may be an increase of up to 2.1% in GDP. 10 million people may start to use digital payment and 538,000 SMEs may start to use digital finance tools.
- Turkey converges to a group of countries such as Italy, Spain, Belgium, and Austria.

Balanced Scenario:

Balanced increase in inclusion and depth by paving the way for fintechs with a new vision

- Fintechs increase inclusion and ensure more efficient resource allocation in the economy.
- Providing faster and more efficient service to the existing beneficiaries is the main impact channel in addition to reaching grouops whose credit needs cannot be met. The most important tool is fintechs' ability to manage risk and use data in a better way.
- There may be a 2.1%-3.5% GDP increase. In addition to the horizontal scenario gains, the credit deficit of 640,000 SMEs will be covered in part or in whole.
- Turkey converges to the Korean and OECD average.

It is possible to say that credit supports provided in the fight with the Covid-19 pandemic caused Turkey to perform a relatively vertical spike in the specified axis.

A severe credit expansion has taken place in Turkey to combat the negative impact of the pandemic process. It is also known that new groups have met with digital services as physical contacts decreased in the same process. Although it is difficult to determine Turkey's exact spot in the 2020 scenario map as the data has not yet matured, it can be said that the Covid-19 process has caused it to move on a path close to the vertical scenario. If Fintechs had been put into use as in the USA and England (See Box 1) in this process and small and micro enterprises had been reached efficiently, the inclusion would have increased and it would have also been possible for Turkey to experience a spike in the horizontal axis.

3 Policy framework for fintech inclusion

In line with global trends, the importance of fintechs in Turkey gradually increases.

Fintechs have become important actors in the innovation of financial services with their software and data usage capabilities. Fintechs that find a place in the payment market in Turkey also offer various financial services such as asset management, insurance, and credit across the world. [38] Diversification of Fintechs' activity fields and business models creates examples for Turkey, too. The introduction of Fintechs is expected to lead to an increased financial inclusion, more efficient allocation of economic resources, and the emergence of global players from Turkey's various fintech fields. On the other hand, it should not be overlooked that the development of aforesaid services may lead to systemic problems in the economy without the necessary arrangements [39] and risk control. If these developments are possible, the most likely beneficiaries will be the groups with relatively the most limited access to the financial system. These groups consist of women, low-income households, and SMEs. As mentioned in the second part of the report, fintechs have the potential to meet the credit deficits of 640,000 SMEs in whole or in part.

There are certain constraints despite the efforts of traditional financial institutions and public actors to reach wider groups in meeting the needs of financial services. The technological solutions developed by banks provide ease of use, but risk concerns for groups with limited access to the financial system, opportunity cost, and productivity concerns for actors who may be deemed too small in terms of financial returns restrict the increase in financial inclusion. On the other hand, public actors provide support tools (e.g. KOSGEB, credit cooperatives, etc.) for the groups with limited access to credits. Here, the public institutions have two options to use their restricted sources most efficiently: transferring resource to a narrow group with a higher probability of success very selectively and strictly or aiming to enable wider groups to benefit from supports. A highly selective approach leads to a narrow beneficiary base, while lower selectivity causes the efficiency of the resource allocation to decline.

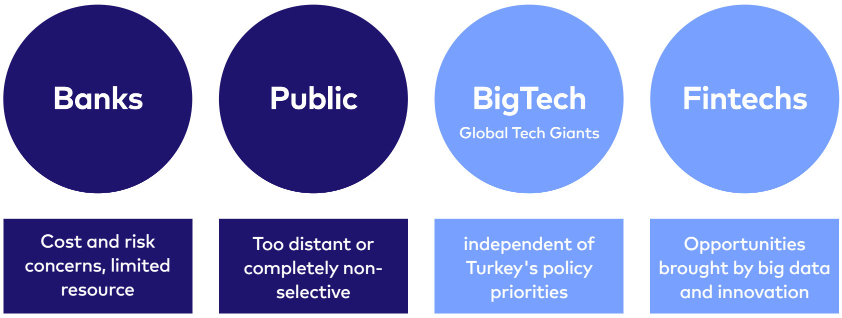
It is foreseen by the public that technology-based economy and therefore fintech industry will grow quickly and be supported during the periods ahead. As mentioned in the Eleventh Development Plan Financial Services Development SCR Report (2018), the future of the financial industry in Turkey will be shaped by investments and supports that will be provided for digital technologies. The public is expected to support entrepreneurs and investors who take care of the needs of the industry and are open to cooperation. In this context, factors such as protection of competition, preliminary regulations, strategy determination, and providing coordination come to the fore beyond tax-based incentives in support management. A financial ecosystem that can offer new opportunities for Fintech practices will make it possible to gain a competitive advantage and increase the contributions to the real economy by changing traditional financial services in terms of content, delivery, and access, developing innovative services, or offering efficient services to existing financial institutions.

[38] KPMG's annual 2019 Fintech 100 Global Fintech Report listing the top 100 fintech companies include 27 of the 100 companies in the payments category, 19 in the asset management, 17 in the insurance category, 15 in the credit category, 13 in various fields, whereas nine in the category of new banks which offer basic banking services with customer interaction occurring only through a digital channel.

[39] For example, Seru (2019) suggested that the tightening of regulations in the financial system and the development trend of financial technologies after the 2008 global crisis were the main reasons for the shadow banking risk in the US, China, and Europe and that it changed especially the credit market globally.

In the near future, it is important to define the roles of the new actors to increase financial development in a "balanced way" in a way to expand both depth and inclusion. It is quite possible to include new players in addition to the traditional financial industry in meeting the financing needs in Turkey **(Figure 25)**. The market needs lead to the emergence of two new players in addition to traditional systems: "BigTechs" (Alibaba, Amazon, Google, Facebook, etc.) and financial technology companies. Although BigTechs try to come up with new solutions, the issues they will prioritize over time may naturally be different from Turkey's national policy priorities. [40] Fintechs can strengthen big data and innovation infrastructure, produce solutions for Turkey's priorities by operating according to local regulations, and develop collaborations with different local and national stakeholders.

Figure 25: Prominent actors in meeting financing needs



Source: PAL

To expand the financial system by increasing financial inclusion, there is a need for regulations that provide movement space for new actors to be able to develop financial services by innovating. As mentioned in the Development Plan, in recent years, especially in developed countries, changing consumer expectations and needs, investor interest, technological advances, support from governments and regulators have been important in the development of the fintech sector. [41] Where regulations can not reach these without creating an alternative to the traditional financial sector, it is possible to enable the development of fintechs by supporting innovations such as big data, data analytics, artificial intelligence, robo counseling, encryption, and machine learning. In this way, innovative products can be developed to cover regions and individuals that are considered more impossible to provide services within the traditional financial sector. [42]

[40] The Competition Authority's Google Shopping investigation process and banning of Libra by the European Union because of Facebook's concerns that the digital currency of Libra might disrupt the global financial system, restraining of Libra in the USA and other countries are examples of such differences.
[41] Eleventh Development Plan Development of Financial Services SC Report (2018)
[42] Erel (2020)

Interventions that will ensure the development of fintechs will bring inclusive effects by transforming the system instead of isolated effects for a limited group. Fintechs' successfully offering new products and services and reaching new groups will also attract new players to the market and further increase productivity and competition. In this respect, fintech services are among the "market-creating innovations." Market-creating innovations have impacts that not only develop a sustainable market but also transform other markets. In addition to economic growth, fintech can create multidimensional development effects such as combating poverty, ensuring equality of opportunity, and strengthening women's social status. [44] Some aspects of how digital financial services can contribute to development are given below [45] by making references to the United Nations Sustainable Development Goals.

- It can contribute to low-income households to benefit from economic opportunities by providing access to convenient and useful tools and increase the ability of low-income groups to fight risks and shocks, it can provide low-cost services to the group who can not access financial services by allocating more efficient resources.
  (Goal 1: End Poverty)

- It can improve gender equality by contributing to women's financial empowerment.
  (Goal 5: Gender Equality)

- By digitizing the salary and trade payments of businesses, it can provide a direct channel to its employees and business partners on financial inclusion, it can facilitate the creation of the data that can be used for credit scoring and decision-making regarding access to finance, it can reduce informality in supply chains and increase efficiency **(Goal 8 Decent Work and Economic Growth, and Goal 9: Industry, Innovation, and Infrastructure)**

- It can provide new tools to increase the incomes of low-income households, access new economic and social opportunities, it can contribute to bringing rural households' productivity and income together with economic opportunities, help households better manage their health, education, and public service costs through credit and micro-insurance services, and contribute to providing equal conditions by lowering transaction costs.
  (Goal 10: Reducing Inequalities) [46]

44 For some examples of the contribution of fintechs to development, see Deng et al. (2019), Haddad et al. (2019)
45 https://www.kureselamaclar.org/ The goals mentioned in the text: Goal 1: End Poverty, Goal 5: Gender Equality, Goal 8: Decent Work and Economic Growth, Goal 9: Industry, Innovation, and Infrastructure, Goal 10: Reducing Inequalities
46 UNSGSA et al. (2018)

Within the scope of the study, four policy proposals that will increase financial inclusion and solve the deficiencies of the financial system come to the fore;

1. **Implementation of the legal infrastructure prepared for the development of fintech.** With amendment [47] of Law No.6493 in 2019 [48], the permission that would be given by the customer to share data from one payment service provider (e.g. bank) with another payment service provider (e.g. fintech) has become sufficient. In this way, fintechs can manage accounts in banks through application programming interfaces (APIs) that enable software to connect with each other and can diversify the payment intermediation service they offer. Thus, an important step was taken towards open banking practices. The next critical issue is how to open these APIs. It is foreseen that the RTCB will make a regulation in this area within a year. One of the most important steps that must be taken with secondary legislation is to ensure that APIs are made accessible with the standards of security, customer verification, and certification by ensuring competition with general rules parallel to the European Union regulations. In the process of opening APIs, structures distributed within these standards should be the basis instead of central structures in whose governance localized players participate. It is also possible to assign an independent team appointed by the regulator to oversee the process, as in the UK example. Similarly, it is important to implement legal regulation in the E-KYC field. Besides, it is critical for electronic money institutions to become a member of the EFT system operated by the Central Bank, to generate an IBAN number, and to become immediately a member of the new fast payment system ("FAST") that will be newly established.

2. **Including the development of financial inclusion with fintechs in the agenda as a policy priority for Turkey.** The role of fintech needs to be improved in strategy and action plans to cover groups with limited access to financial instruments. Thus, contributions can be made to development goals, fintech players from Turkey will be able to take place in the global market. It is beneficial that data sharing, which will become possible by opening APIs between banks and fintechs to introduce new products in the field of financial technology and inclusion includes aspects other than payment service. For example; the development of fintech services in our country such as providing consumer financing in the form of micro-credit, providing electronic invoice and check financing to merchants, providing mutual authentication services, which are standard in many parts of the world, will only be possible in this way. In addition, to establish effective competition, the banks should be obliged to not only to "give access to data", but also to "provide services" such as a pos device as in the infrastructure providers in the energy and telecom sectors.

[47] Law on Payment and Securities Settlement Systems, Payment Services and Electronic Money Institutions
[48] Law No. 7192 on Payment and Securities Settlement Systems, Payment Services and Electronic Money Institutions and Law Related to Making Amendments on Some Laws

As part of financial inclusion, two pilot studies can be applied in the first phase;

(i) Micro-credit opportunities for women entrepreneurs: Fintechs can help women develop economically by encouraging them to have more accounts, enabling them to control their own financing, and providing micro-credit opportunities to female account-holders. It might contribute to collect comprehensive information about women entrepreneurs and make credit assessments through micro-credit. With these data, it may encourage policymakers to create women-friendly entrepreneurial policies and develop more comprehensive financial services.

(ii) Support packages for crises such as Covid-19 for entrepreneurs and micro-firms: it is important to provide relief packages/credit programs to micro-businesses and enterprises which are affected by the crises such as Covid-19 and not being able to reach available support packages. Especially in times of crisis, compared to traditional financial organizations, faster allocation of resources can be critical to maintaining economic activities by protecting employment.

3. **Opening up an application area for new credit evaluation systems with fintechs' agile structure and ability to transforming technology into digital financial products.** Crediting processes in the banks generally progress in a guarantee-oriented way that minimizes the risk of the bank. This is a factor that restricts especially SMEs and newly established enterprises from accessing finance. In Turkey, fintech experiences in payment services; can contribute to more efficient and inclusive decision-making processes in the credits by combining them with the ability to use innovations such as big data, data analytics, artificial intelligence, algorithms, and machine learning. In this context, it will be critical for fintechs to take part in the credit side as well as in payment infrastructures and to encourage cooperation with banks, for increasing financial inclusion and turning credits into investments.

4. **Establishing a Regulation-Innovation Center by placing the fintechs in the focus of Istanbul Financial Center.** The inability to reach regulatory agencies or to come together on issues that fall under the jurisdiction of more than one regulatory agency lies at the root of problems faced by fintechs in most countries. In order to overcome this problem, Regulatory Sandboxes are established in more than 30 countries around the world that allow fintechs or in some cases, other financial institutions to try new products of the financial institutions with a limited number of users by exempting them from certain regulations. It is possible to establish a "Regulation-Innovation Center", examples of which are also seen in other countries, in Istanbul Finance Center. [49] It is important to work with a national and international network of technical consultants in the capacity-building process of this center, especially in order to complete the technical expertise in regulators. The Regulation-Innovation Center can carry out activities to resolve these issues for fintechs, just as the Foreign Investment Office does for large foreign investors. After the Fintech ecosystem develops, it will be possible to establish a Regulation Testing Area.

[49] For detailed discussion: Buckley R. P., Douglas Arner, Robin Veidt, Dirk Zetzsche (2019).

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This report was prepared by the Policy Analysis Laboratory (PAL) with the support of TÖDEB and sponsored by iyzico.

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