



ГАСАНОВ МАТИН ДЖЕЙХУН

Азербайджанський державний економічний університет

Докторант

Email: metinhesenov12@gmail.com

ORCID: 0000-0002-2374-2002

РОЛЬ ЦИФРОВИХ ПЛАТЕЖІВ ТА ВИВЧЕННЯ ПОТОЧНОЇ СИТУАЦІЇ У ЗМІЦНЕННІ ФІНАНСОВИХ РЕСУРСІВ БАНКІВ АЗЕРБАЙДЖАНУ

Актуальність. За останні десятиліття в інституційній архітектурі центральних банків у світі відбулися радикальні зміни, і сучасні центральні банки стали важливим інститутом макроекономічної стабільності. Найважливішим якорем макроекономічної стабільності є стабільність цін. Той факт, що ціни є низькими та менш волатильними, дозволяє бізнесу правильніше планувати інвестиційні рішення, оптимізувати заощадження та споживчі витрати населення. Важливим соціальним показником є також цінова стабільність. Зміна цін безпосередньо впливає на бюджет 2,1 мільйона сімей, які проживають в Азербайджані. В даний час з розвитком системи електронних платежів спостерігається висока активність кредитних організацій в напрямку скорочення паперових технологій.

Цей процес характерний: для цього процесу характерно збільшення емісії пластикових карток, зростання оборотів і залишків на карткових рахунках, розширення послуг з використанням банківських карток. В ході розвитку ринку пластику створюються різні види пластикових карток, які відрізняються за своїм призначенням і технічними характеристиками. Операції з банківськими пластиковими картками відкривають нові перспективи фінансового обслуговування клієнтів місцевих банків.

Мета і завдання. У зв'язку з розширенням цифрових платежів в Азербайджані, необхідно дослідити особливості фінансового менеджменту в банках і вивчити поточний і перспективний вплив цифрових платежів на формування фінансових ресурсів банків.

Результати досліджень. Під час дослідження вивчалися типи, характеристики та вплив системи цифрових платежів на економічні процеси.

Матеріал і методи. У дослідженні використано статистичні розрахунки, вибіркове спостереження, синтез, регресійний аналіз. Регресійний аналіз складається з таких етапів, як вибір типу моделі, обчислення параметрів, побудова моделі та оцінка її придатності та точності. Рівень точності моделі характеризує ступінь відхилення фактичних значень залежної змінної від значень, отриманих на регресійних моделях. Для оцінки рівня точності використовуються такі оцінки, як середня відносна похибка, середня абсолютна похибка, стандартна похибка.

Висновок. Важливо покращувати та розвивати інфраструктуру банків, щоб представити додатки банків у сфері цифрового банкінгу широкій громадськості.

Ключові слова: безготівковий розрахунок, банк, менеджмент

HASANOV MATIN JEYHUN

Azerbaijan State University of Economics

Doctoral student

Email: metinhesenov12@gmail.com

Orcid :0000-0002-2374-2002

THE ROLE OF DIGITAL PAYMENTS AND STUDYING THE CURRENT SITUATION IN STRENGTHENING THE FINANCIAL RESOURCES BANK OF BANKS IN AZERBAIJAN

Topicality. In recent decades, radical changes have taken place in the institutional architecture of central banking in the world, and modern central banks have become an important institution of macroeconomic stability. The most important anchor of macroeconomic stability is price stability. The fact that prices are low and less volatile allows business to plan investment decisions more correctly, and to optimize the savings and consumption costs of the population. Price stability is also an important social indicator. Price changes directly affect the budget of 2.1 million families living in Azerbaijan. Currently, with the development of the electronic payment system, high activity of credit organizations in the direction of reducing paper technologies is observed. This process is typical: an increase in the issuance of plastic cards, an increase in the turnover and balance in card accounts, and the expansion of services using bank cards are characteristic of this process. During the development of the plastic market, different types of plastic

cards are created, which differ in their purpose and technical characteristics. Transactions with bank plastic cards open up new perspectives for financial services to clients of local banks.

Aim and tasks. In connection with the expansion of digital payments in Azerbaijan, it is to investigate the features of financial management in banks and to study the current and prospective effects of digital payments in the formation of financial resources of banks.

Research results. During the study, the types, characteristics, and effects of the digital payment system on economic processes were studied.

Material and methods. Statistical calculations, sample observation, synthesis, regression analysis were used in the study. Regression analysis consists of steps such as selecting the model type, calculating the parameters, constructing the model, and assessing its suitability and accuracy. The level of accuracy of the model characterizes the degree of deviation of the actual values of the dependent variable from the values obtained on regression models. Estimates such as average relative error, average absolute error, standard error are used to estimate the level of accuracy.

Conclusion. It is important to improve and develop the infrastructure of banks in order to present the applications of banks in the field of digital banking to the wider public.

Keywords: non-cash payment, bank, management

Introduction

Electronic payments are widespread with the development of e-commerce and Internet banking. Plastic cards have traditionally been the main means of payment in e-commerce. The latest payment instruments, in addition to ensuring customer satisfaction, have strengthened security measures against possible intrusions by online fraudsters. The urgency of the research topic is to objectively determine the level of development of information technology in the conduct of payment procedures in the banking sector in the current situation and the emergence of new methods and mechanisms. Currently, with the development of electronic payment systems, there is a high activity of credit institutions to reduce paper technology. This process is typical: an increase in the issuance of plastic cards, an increase in turnover and balance in card accounts, The expansion of services using bank cards is typical for this process. During the development of the plastic market, various types of plastic cards are being created, which differ in their purpose and technical characteristics. Transactions with bank plastic cards open new prospects for financial services to customers of local banks. Various payment systems are being developed and accelerated in the country, and more and more citizens are participating in the cashless payment system based on the use of bank cards.

Problem statement and its connection with important scientific and practical tasks. Setting the problem and its relationship with important scientific and practical tasks importance from determining the existence of conditions for the active development of digitization in the country and as a result of its application in the future, both micro and macro of the country actions that will increase the impact of digitalization on economic growth at the level consists of the development of the complex. Results obtained during the study, proposed methods and practical recommendations

on the speed of information technology in Azerbaijan state aimed at improving the quality of economic growth aimed at improving the development of the policy. Research separately the results of competitiveness by companies and banks in new conditions can be used to develop a growth strategy.

Theoretical part of the research

Ensuring system integration in the digital economy is one of the main goals of the digital transformation process. System integration can be expressed as structural changes in the organization and management of physical objects and their interaction with information systems. System integration, consisting of horizontal and vertical integrations, analyzes the flow of the production system as a whole. Vertical integration is the support of the transformation of the underlying system by factors arising from the internal structure of the firm. The development and implementation of the company's activities, which include key elements such as the organizational structure of the company, the human factor, departmental relations, technology and management level, means vertical integration. Horizontal integration supplier and customer network integration,

Thanks to the recent revolutionary development in digital technology, big data has become a fundamental concept that is gaining importance in terms of economies. In the digital economy, big data has become the oil of the traditional era. One of the most important concepts in the digital age, big data is considered to be a collection of data that is too large to be processed by existing systems and difficult to maintain and analyze. Big data is high-volume data expressed in units such as petabytes, exabytes, and zettabytes. For example, one petabyte is equal to the text of about 20 million file folders, and an exabyte is equal to 1000 times that amount (McAfee, Brynjolfsson 2012, p.64).

There are mainly the following types of digital

payments:

- Payment cards
- Electronic money (E-cash)
- Electronic wallet (E-wallet)
- Smart cards
- Pay by finger
- Voice Pay
- Bitcoin
- Pay Pal

Analysis of recent publications on the problem.

Digital banking, also known as branchless banking, is considered to be a type of banking that is able to provide all types of banking services to customers without the need for branches and employees. Eliminating branch and staff costs, reducing operating costs and being easy to use are among the main advantages of digital banking (Zhao 2009, p.2). Digital banking means providing banking services to customers through a computer or television. Users can easily perform all banking operations at home, in the office or anywhere with internet access.

One of the alternative distribution channels developed to diversify financial services as a result of increasing competition is the electronic or online banking system (Daniel and Storey 2009: p.72). Electronic banking is used as a generic name for individual and small value banking operations carried out using electronic devices (Kurnia, 2010, p.1).

Digital banking is the provision of financial services by a bank to customers using a website without any time or space constraints. Thus, customers can use the website to carry out traditional banking operations using their bank account information, as well as the bank's mobile applications. Mobile banking means being able to conduct traditional banking operations without going to bank branches (Tapscott, 2008).

In a study by Pickens et al. (2009) of creating branchless banking scenarios, the following decisions were made regarding the real state of branchless banking services (Demiral 2017, p. 25-35):

- The financial system is growing and developing in many countries. However, this growth is provided by more branches and automatic ATMs.
- Growing using bricks and mortar (creating a physical branch) naturally requires a certain cost. This cost does not exist in branchless banking. It is a fact that in most countries, customers prefer to go to branches. However, the pandemic proved that banks are working to provide customers with many services at home. Some banks have provided

online card issuance and delivery services to customers. Rabitabank was the first to provide this service in Azerbaijan.

- The success of non-branch banking services depends on raising awareness of the material needs of the middle and low-income population. Because those who take loans from banks for personal use and starting a business are mainly middle and low-income groups.

The first digital banking application was introduced in 1981 in the US state of New York as "home banking" services (Osho, 2008). Home banking is the provision of a line connected to the banking system that allows bank customers to operate directly with their bank accounts. This line can be connected to TVs and computers used in homes and workplaces. Thanks to these lines, it is possible for customers to obtain information about their bank accounts and issue payment orders to the bank for money transfers between accounts. In home banking applications, customers connect to the bank's main computers using their personal computers and a modem device via telephone lines. At the same time, customers benefit from all the services offered by the bank. In this case, customers are not required to come to the bank to make payments, the user is required to have only components such as a personal computer, modem and software in working order (Horvitz, 2006). At present, banks provide customers with all the operations they are allowed to perform over the Internet. After completing online membership transactions, customers can open an account using special passwords, pay invoices, contact customer representatives, apply for a loan, make transfers between accounts and create their own portfolio (Karakas, 2009, p.459). Only 1.5 years after the opening of the first digital bank.

Allocation of previously unsolved parts of the general problem.

The main purpose of the study is to investigate the features of the expansion of digital payments in Azerbaijan and to study the current and prospective effects of digital payments in the formation of financial resources of banks.

Material and methods. Statistical calculations, sample observation, synthesis, regression analysis were used in the study. Regression analysis consists of steps such as selecting the model type, calculating the parameters, constructing the model, and assessing its suitability and accuracy. The level of accuracy of the model characterizes the degree of deviation of the actual values of the dependent variable from the values obtained on regression models. Estimates such as average relative error, average absolute error, standard error are used to

estimate the level of accuracy.

Formulation of research objectives (problem statement)

According to the Law of the Republic of Azerbaijan on the Central Bank, the Central Bank is entrusted with organizing, coordinating, regulating and supervising the activities of interbank centralized and other unlicensed payment systems.

It should be noted that in 1997, the Central Bank launched a qualitatively new direction in the formation of the National Payment System (NPS) based on best international practices within the framework of IMF technical assistance.

On February 16, 2001, the Central Bank introduced the SWIFT-based Real-Time National Interbank Settlement System (AZIPS) payment system within the framework of the World Bank's Technical Assistance to Institutional Building (OGPT) Project, focusing on the development of the EITI. Along with the use of the system, a regulatory center has been established to facilitate its management and a Reserve Center with the most modern technical equipment.

In 2002, as a continuation of the development of the CES, the Small Payments Settlement-Clearing System (CCPS) based on new technologies that meet international standards was established and banks were provided with the use of this system.

Then, in 2008, the Centralized Information

System for Mass Payments (KOMIS) was launched. This system was of great importance for the reforms in the utilities sector to be more effective. As a result of the commissioning of this system, which is based on the latest software and technology, subscribers have the opportunity to receive full information about utility debts at any payment service point and make payments through payment mechanisms.

In 2012, the Government Payment Platform (GPP) was formed as part of the KOMIS platform. The purpose of creating this platform is to make more efficient use of the infrastructure of KOMIS, to expand the process of cashless payments between the population and economic entities and to provide access to financial services in the regions. Thus, the portal provides a centralized process of collecting taxes, duties, rent and other budget payments, as well as payments for utilities, communications and other public services.

As a continuation of the reforms aimed at the development of the EITI, the Interbank Card Center (ICC) was launched in 2016 to increase the efficiency of transactions with payment cards issued by resident banks (<https://www.cbar.az/>). In general, there have been significant increases in the payment card infrastructure over the past 5 years. As of March 1, 2021, the number of payment cards issued by banks was 9.579 million. (Population by age group, 2021)

Table 1

Number of ATMs and POS terminals per 1,000 people of working age (2010-2020).

Indicator	Age of working age (thousand people)	Total number of payment cards, thousand, (end of period)	Number of payment cards per 1,000 able-bodied people
2015	6,616.4	5659	855,2989541
2016	6,677.8	5334	798,7660607
2017	6,705.5	5800	864,9615987
2018	6,771.6	6511	961,5157422
2019	6,842.5	7266	1061,892583
2020	6,894.5	9230	1338,748278

Source: Compiled by the author on the basis of information from the State Statistics Committee of the Republic of Azerbaijan and the Central Bank. (Population by age group, 2021).

By the end of 2020, there will be 1,338.7 payment cards per 1,000 people in the country. Pensions, pensions and social benefits, salaries of employees of budget organizations are paid by payment cards. Work on the payment of salaries to employees of private companies by card is nearing completion. As we can see from the table, the

population that can be a cardholder after 2019, in theory, all of them have a payment card.

The process of making payments in the digital banking system has become possible due to technological improvements. Digital transactions currently carried out in Azerbaijan are mainly carried out through ATMs and POS-terminals.

Table 2

ATMs and POS-terminals (at the end of the period)

History	ATMs	including:		POS terminals	including POS terminals in retail, catering and other service enterprises:		Total POS terminals	
		in Baku	In the regions		Total	including in Baku	in Baku	In the regions
2006	1080	655	425	2070	1576	1436	1719	351
2007	1317	820	497	5309	4653	4470	4871	438
2008	1515	867	648	8124	7367	6968	7397	727
2009	1694	959	735	8657	7854	7429	7871	786
2010	1892	1053	839	7872	6978	6554	7069	803
2011	2132	1179	953	13220	11714	11169	12153	1067
2012	2260	1263	997	36860	35035	32386	33629	3231
2013	2422	1366	1056	33285	31859	28090	28940	4345
2014	2608	1471	1137	73013	71553	49187	50050	22963
2015	2694	1502	1192	80301	78762	47985	48944	31357
2016	2454	1322	1132	71806	70913	39654	40518	31288
2017	2431	1308	1123	65471	64224	36414	37068	28403
2018	2502	1329	1173	66110	64715	38202	38962	27148
2019	2647	1421	1226	67468	65971	40095	40898	26570
2020	2715	1429	1286	57120	55796	36901	37627	19493

Compiled by the author: Central Bank of the Republic of Azerbaijan, (<https://www.cbar.az/>, 2021)

Looking at the table, we see that the number of ATMs in Baku in 2020 increased compared to 2018 and 2019, and in POS terminals decreased in 2020 compared to 2018 and 2019. In the table, the decrease in the total number of POS terminals and ATMs in 2016-2017 is due to the revocation of the licenses of some banks (Texnika Bank, Azerbaijan Credit Bank, Deka Bank, Qafqaz Inkishab Bank, Zamin Bank, Bank Standard, Bank of Azerbaijan, Atrabank, Kredo Bank, Demirbank and Parabank).

The increase in the number of ATMs by 68 in 2020 shows the importance of the banking system to digital banking.

The study included a regression analysis. Table 2 shows the number of banks whose licenses were revoked in 2015-2020, ATMs and POS terminals in the country as a whole, and Table 3 predicts the consequences of the reduction of ATMs and POS terminals of banks whose licenses were revoked.

Table 3

Number of banks whose licenses have been revoked by years and changes in the number of ATMs and POS terminals

Years	Number of liquidated banks	Number of ATMs	Number of POS terminals
2015	2	2694	80301
2016	8	2454	71806
2017	1	2431	65471
2018	0	2502	66110
2019	0	2647	67468
2020	4	2715	57120

Compiled by the author based on the indicators of the Deposit Insurance Fund and the Central Bank. <https://www.cbar.az/page-45/payment-system-indicators>, 2021. <https://www.adif.az/page/elan-v-bildirislr>, 2021.

During the regression relationship, we encounter two conditions. If $F(x, y) = 0$, there is no relationship between the quantities x and y . However, if $f(x, y) = 1$, it is said that there is a linear functional dependence between the

quantities and that they are related. Regression analysis allows us to determine the relationship between banks whose licenses have been revoked and the factors affected by this process. The main variable was the number of banks whose licenses

were revoked, and the dependent variables were the number of ATMs and POS terminals.

The values of the regression equation are presented in the table 4.

Table 4

Regression analysis results

Regression Statistics								
Multiple R	0.846068							
R Square	0.715832							
Adjusted R Square	0.526386							
Standard Error	2.121162							
Observations	6							
Dispersion								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	2	34,00201	17,001	3,778563	0.151483			
Residual	3	13,49799	4,49933					
Total	5	47.5						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 98.0%	Upper 98.0%
Intercept	-2,59568	1,022284	-2,5391	0.084746	-5,84905	0.657682	-5,84905	0.657682
ATMs	0.016616	0.008352	1,989496	0.140753	-0.00996	0.043196	-0.00996	0.043196
POS terminals	7,57E-05	0.000168	0.450459	0.682943	-0.00046	0.000611	-0.00046	0.000611

In this case, the ratio $R^2 = 0.715832$ is an indicator of the above-average impact of bank closures. The analysis shows that 71.58% of the changes are due to the influence of the main variable.

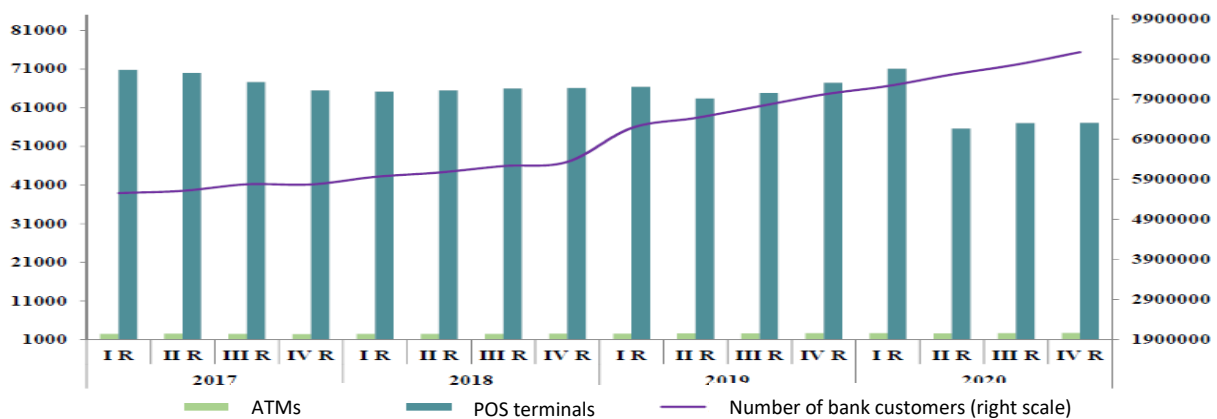


Fig. 1 ATMs and POS-terminals

Compiled by the author: Central Bank of the Republic of Azerbaijan <https://www.cbar.az/>

As we can see from the analysis of the diagram, although the number of bank customers increased in 2019 and 2020, the number of POS terminals

decreased. This is due to the fact that banks prefer the electronic banking system and all operations are carried out electronically.

Table 5

Debit and credit card transactions

Year, month	Total number of payment cards, thousand, (end of period)	From the total number of payment cards in circulation:				Debit and credit card transactions		Debit card transactions		Credit card transactions	
		Debit cards			Credit cards	Number, thousand operations	Volume, million manat	Number, thousand operations	Volume, million manat	Number, thousand operations	Volume, million manat
		Social cards	Salary cards	other							
2010	4231	2427	1260	410	134	46502	6056	44218	5430	2286	626
2011	4580	2522	1330	547	181	50954	7230	48129	6457	2824	773
2012	5008	2560	1361	679	408	57169	8827	52976	7760	4193	1067
2013	5673	2505	1437	788	942	67810	10297	57326	8565	10484	1732
2014	5965	2426	1444	794	1302	79228	11870	62011	9524	17217	2347
2015	5659	2451	1467	732	1010	85218	12472	67739	10185	17479	2287
2016	5334	2552	1521	630	631	83383	12781	72713	11028	10670	1752
2017	5800	2535	1827	815	623	96770	14729	87182	13262	9588	1467
2018	6511	2522	2040	1089	860	117644	17773	103931	15835	13703	1940
2019	7266	2383	2316	1769	797	162285	23241	143440	21641	18846	1600
2020	9230	3443	2501	2193	1093	226455	28951	194726	27098	31730	1852
01	7713	2707	2355	1822	829	15523	1887	13182	1727	2341	160
02	7832	2723	2347	1872	890	16028	2216	13842	2069	2185	147
03	7855	2754	2334	1837	930	18537	2673	16134	2512	2403	161
04	8069	3024	2333	1835	877	15668	1939	13697	1832	1971	107
05	8471	3430	2324	1805	912	18177	2325	15790	2192	2387	133
06	8664	3505	2397	1813	949	18565	2309	15906	2169	2659	140
07	8793	3501	2427	1880	985	19274	2682	16848	2553	2426	129
08	8761	3379	2432	1932	1018	20650	2484	17902	2325	2749	159
09	8967	3408	2473	2029	1057	20549	2425	17441	2246	3109	179
10	9126	3424	2480	2156	1066	19097	2379	16263	2222	2834	156
11	9140	3425	2496	2146	1073	20436	2474	17290	2295	3146	179
12	9230	3443	2501	2193	1093	23951	3158	20431	2956	3520	202

Compiled by the author: Central Bank of the Republic of Azerbaijan <https://www.cbar.az/>

We can clearly see from the table that the total number of payment cards in 2012 was 7266, while in the last month of 2020 it was 9230. The increase in the number of cards has naturally affected electronic payments, as well as debit and credit card transactions. Thus, if in 2019 there were a total of 162,285 card transactions, in 2020 this figure increased significantly to 226,455.

As we know, during the pandemic in 2020, the number of electronic payments increased. People made their needs such as food, clothing, etc. through electronic orders and payments. However,

the increase in the number of digital payments has not increased their volume. One of the reasons for the non-increase in payments is the fact that citizens will be able to make payments electronically through POS terminals in 2020, the economic downturn due to the pandemic, the decline in wages in 2020 (or temporary job losses) will reduce people's spending. The decline in wages was mainly due to the pandemic in tourism, entertainment and a number of other service sectors. However, as a result of targeted measures, the number of labor contracts in the private sector

as of January 1, 2021 has not only decreased, but also increased by 24.0% or 154,000 compared to the beginning of 2020, and 794,000 labor contracts were registered. Another main reason for non-increase of payments is when examining the types of cards. A number of pandemic-related jobs have

been closed or suspended. Here, the issue of state support comes to mind. Thus, the increase in the number of social cards by 1,060,000 in 2020 compared to 2019 is mainly due to social payments made by citizens to the government during the pandemic.

Table 6:

Year, month	Fast money transfers					
	Fast money transfer systems					
	Bank entries			Transfers outside the bank		
	Number, thousand units	Amount, mln. Manat	Amount of one payment, manat	Number, thousand units	Amount, mln. Manat	Amount of one payment, manat
2009	1295.3	722.2	557.5	326.9	149.1	456.0
2010	1627.9	876.9	538.7	447.9	306.6	684.6
2011	1834.7	1046.2	570.2	464.8	416.4	895.9
2012	2082.3	1245.8	598.3	695.6	542.5	779.9
2013	2526.1	1565.5	619.7	985.9	779.6	790.8
2014	2626.8	1634.2	622.1	1306.9	979.7	749.6
2015	2280.2	1251.2	548.7	1278.4	800.8	626.4
2016	2284.8	1455.1	636.9	974.8	618.4	634.4
2017	2568.7	1812.3	705.5	982.0	627.7	639.2
2018	2918.9	1952.6	669.0	1068.5	662.5	620.0
2019	3251.9	2092.1	643.4	1320.9	927.7	702.3
2020	2223.7	1636.6	736.0	981.6	803.7	818.8
01	229.4	154.7	674.5	122.3	70.4	575.7
02	220.4	157.3	713.7	100.5	87.6	872.1
03	185.6	112.7	607.1	86.7	67.9	783.8
04	101.4	73.7	726.9	53.6	46.4	864.6
05	124.1	94.0	757.6	61.3	51.4	839.0
06	190.4	155.8	818.5	79.3	66.4	837.2
07	197.4	154.4	782.3	78.8	65.8	835.0
08	198.9	148.1	744.4	82.3	71.0	862.6
09	207.9	154.1	741.0	87.3	74.8	857.5
10	192.0	140.2	730.1	75.4	67.8	899.4
11	178.5	142.5	798.4	73.3	68.3	932.2
12	197.6	149.0	754.0	81.0	66.0	814.4

Source: Central Bank of the Republic of Azerbaijan <https://www.cbar.az/>

As can be seen from Table 6 and Figure 3, we observe the impact of the devaluation of the manat and the problems it creates on the expenditure of the population's income on the number of fast money transfers in banks, both inbound and outbound. Also, the revocation of the licenses of some banks can be seen as an explanation for the decline in the number of POS terminals and ATMs in some years. The number of express money transfers (included in the bank) was 3251.9 in 2019, and 2223.7 in 2020. This decrease was also reflected in the total amount of payments. Thus,

the total amount of transfers in 2019 will be 927.7 million. manat, and in 2020 - 803.7 million. manat. We can note that the reason for this decline is the economic recession that manifested itself in 2020.

One of the main objectives of the Central Bank in the "State Program for the Expansion of Digital Payments in the Republic of Azerbaijan" approved by the Decree of the President of the Republic of Azerbaijan No. 508 dated September 26, 2018 is to create a digital ecosystem that includes innovative payment solutions.

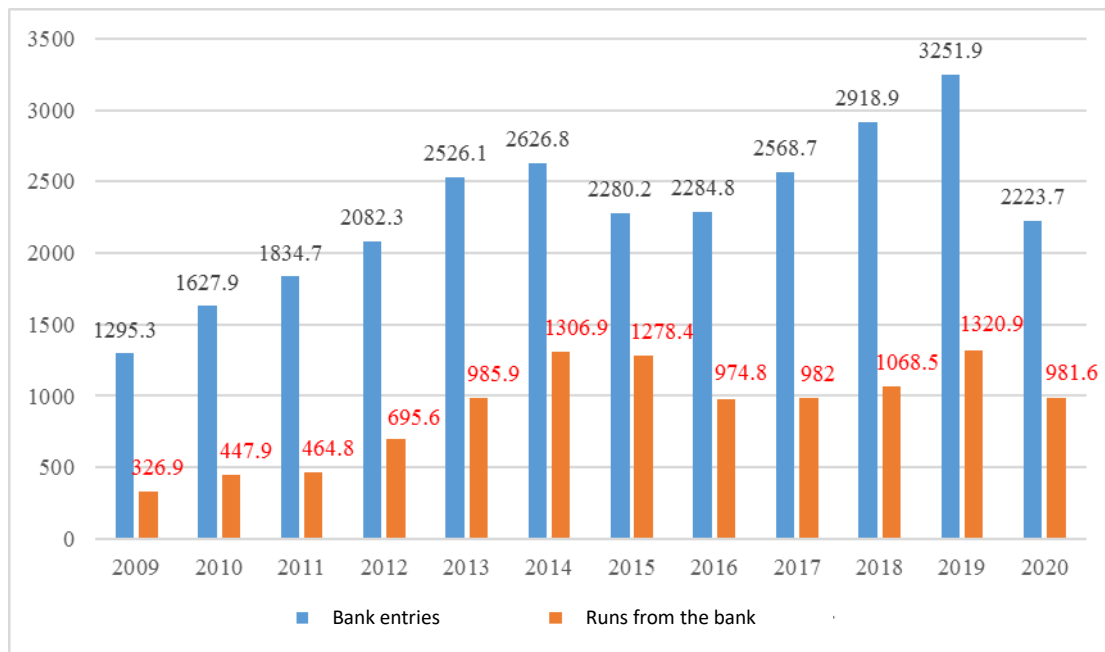


Fig. 2 Number of fast money transfers

Source: Central Bank of the Republic of Azerbaijan <https://www.cbar.az/> compiled by the author on the basis of.

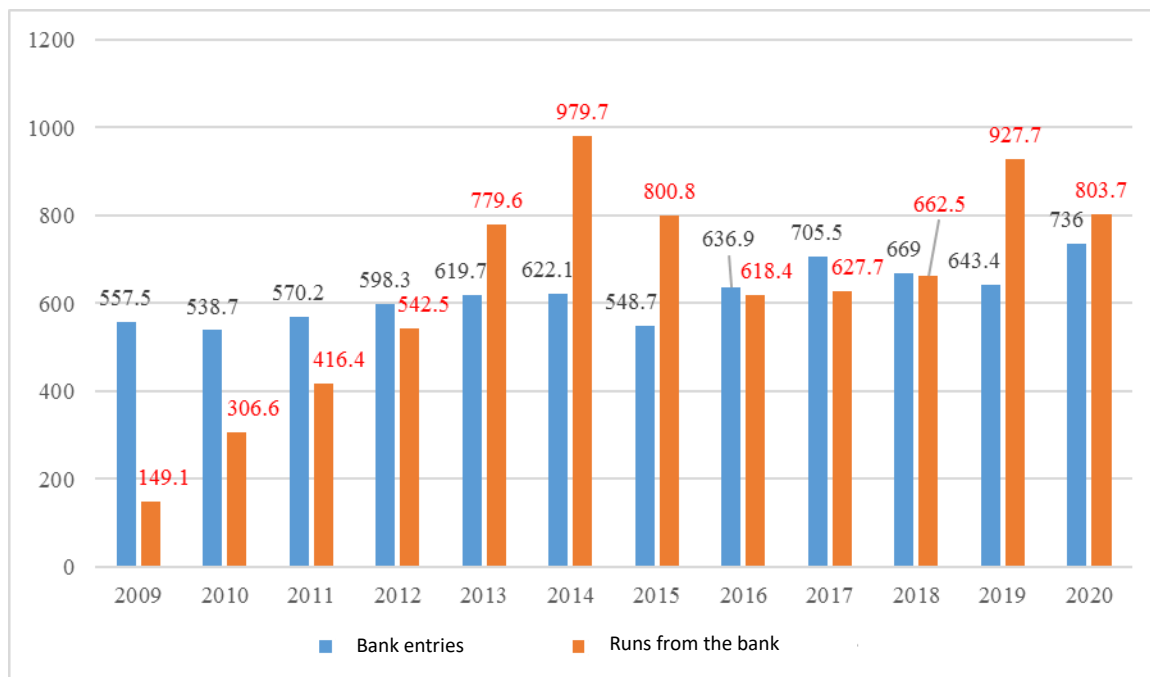


Fig. 3 Amount of instant money transfers

Source: Central Bank of the Republic of Azerbaijan

Conclusions and perspectives of further research. As a result of the work done in recent years to create an ecosystem of digital payments in the country, significant progress has been made in the infrastructure of contactless payments. Thus, in 2020, 26% of payment cards in circulation (2.3 million units) and 53% of POS-terminals (29.5 thousand units) support contactless payments (“The limit of contactless transactions with payment cards has been increased”, 2020). For

comparison, during the same period in 2018, these figures were 7% (409 thousand units) and 32% (21 thousand units), respectively.

As in all countries, the demand for digitalization, contactless payments, e-commerce, e-banking services in the pandemic has become relevant in Azerbaijan. The spread of the virus by touching the surface during a pandemic has led the population to prefer contactless payments without touching the POS-terminal. In order to increase the

ability of the population to make contactless payments during a pandemic, in many countries around the world have increased the limits for cashless transactions with contactless cards without entering a PIN-code. Using a similar experience, the Central Bank in 2020 increased the limit of contactless payments on cards without entering a PIN-code from 50 (fifty) to 100 (one hundred) manats and expanded the opportunities for consumers to make daily contactless payments more easily, quickly and securely.

In accordance with the strategy of expanding the contactless card infrastructure in the country, the Central Bank is working to ensure support for contactless payments on all bank cards and POS-terminals in the near future. ("The limit of contactless transactions with payment cards has been increased", 2020).

Another key issue in digital banking is the number of age groups in which the population has the right to operate in the bank and their access to ATMs and POS terminals. In order to assess this possibility, it is necessary to determine the number of ATMs and POS terminals per 1,000 people of working age. The result will provide information on the access of this group of people to ATMs and POS terminals.

Traditionally, since the beginning of banking, customer services are provided through physical contact in bank branches. During the active development of remote banking services, telephone banking, terminal banking, internet banking, television banking and mobile banking emerged. As part of these payment services, payments and transfers are made from one person to another

using a smartphone. However, digital banking no longer offers digital communication channels with just one customer, but digital products that meet the needs of customers around the clock. Digital banking is banking without a physical document. Leading actors provide new and improved customer experiences and provide faster and more efficient services (Lipton, 2017).

At present, the development of digital banking and digital payments within it is one of the main indicators of the development of the country's financial system. One of the first steps to determine the direction of development trends in digital payments in Azerbaijan and to choose strategic goals is to pay attention to the experience of developed countries.

The following measures are proposed for the effective operation of digital banking:

1) Based on the information obtained, banks should accelerate their activities to improve the quality of services in this area, with the forecast that the use of Internet banking will increase in the coming years.

2) Banks need to increase their investment in information technology and improve their websites in terms of security and convenience.

3) Banks should inform their customers more about internet banking, help raise awareness and strengthen their work by taking incentive measures.

4) Systematic meetings should be organized where all banks can discuss international experience in digital banking, security systems and legal regulations.

REFERENCES

- Aliyeva A.S, Abbasova V.A, Tusai AA (2011). "Innovative features of Internet banking are technology. International Conference on "Corporate Governance and Innovative Economic Development". Center of Scientific Innovations of ANAS. Baku, March 31, pp.177-180.
- Arnaboldi F, Claeys P. (2008). Internet Banking in Europe: a comparative analysis. Research Institute of Applied Economics, Working Papers 2008 / 11.
- Ashlyüksek M.K (2016). Information Technologies and Digitalization Reflection in the Knowledge Literature in Turkey: Example of Information World Magazine (2000-2014). World of Information, 17 (1), pp.87-103.
- Ban Ü., Ercan M.K (2005). "Value-Based Operating Finance Financial Management". Gazi Kitapevi. Ankara, 321s.
- Demiral A.C (2017) Digital banking and analysis of the current situation in Turkey. TC Başkent University Institute of Social Sciences Higher Licensing Program in Banking and Finance. High license thesis. Ankara.
- Gubbi J., Buyya R., Marusic S., Palaniswami M. (2013). Internet of things (IoT): A vision, architectural elements, and future directions. Future Generation Computer Systems, 29 (7).
- Horvitz P.M (2006). Preserving Competition in Electronic Home Banking. Journal of Money, Credit and Banking, 28 (4), Part 2: Payment Systems Research and Public Policy Risk, Efficiency, and Innovation, p.971-974.
- Karakas S., Rukancı F., Anameriç H. (2009). Dictionary of Document Management and Archive Terms.

Ankara: General Directorate of State Archives, 321p.

Kurnia S., Peng F. and Liu YR (2010). Understanding the Adoption of Electronic Banking in China. Proceedings of the 43rd Hawaii International Conference on System Sciences, p.1-10.

Lara MP, Martinez JA, Saucedo JA, Fierro TE, Vasant P. (2019). VerticalandhorizontalintegrationsystemsInIndustry4.0.WirelessNetworks, p.1- 9.

Lipton A. (2017), Digital Banking Manifesto: The End of Banks? / A. Lipton, D. Shrier, A. Pentland // Massachusetts Institute of Technology “Electronic resource”, - Mode of Access: https://www.getsmarter.com/blog/wp-content/uploads/2017/07/mit_digital_bank_manifesto_report.pdf.

McAfee A, and Brynjolfsson E. (2012). Big data: The management revolution. Harvard Business Review (90), p.60-68.

NIST. (2013). NIST cloud computing standards roadmap. USA: National Institute of Standards and Technology (NIST).

OECD. (2018). Achieving Inclusive Growth In The Face Of Digital Transformation And The Future Of Work.OECD.

Osho GS (2008). How technology is breaking traditional barriers in the banking industry: Evidence from financial management perspective. European Journal of Economics, Finance and Administrative Sciences, (11): 15-21.

Pickens M., Porteous D. and Rothman S. (2009), Scenarios for Branchless Banking in 2020? CGAP & DFID, №57.

Population by age group (to the beginning of year), 2021, https://azstat.org/statHtml/statHtml.do?orgId=994&tblId=DT_AA_002&vw_cd=MT_ATITLE&list_id=&scriptId=&seqNo=&language=en&obj_var_id=Icon2path;https://uploads.cbar.az/assets/69744a62000d89f5272f05560.pdf

Rustamov T.H, Tagiyev X.R, Mahmudov R.M, Guliyev S.R Direct debit instrument, application mechanism and features, analysis of the current situation in our country // Journal of Qafqaz University, №2,2016, p.155-166.

Tagiyev X.R Electronic banking services in Azerbaijan - current situation and development perspectives // Tax Journal of Azerbaijan, №3.2013, pp.179-194.

Tapscott D. (2008). Digital Economy. (E. Koç, Çev.) İstanbul: Koç System Publications, 374p.

The limit of contactless transactions with payment cards has been increased, 2020, <https://www.cbar.az/press-release-2707/odnis-kartlari-il-aparilan-tmassiz-mliyyatlarin-limiti->

Zhao, Q. (2009). A survey on virtual reality. Science in China Series F: Information Sciences, 52 (3).