“Modeling of FinTech market development (on the example of Ukraine)”

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MODELING OF FINTECH MARKET DEVELOPMENT (ON THE EXAMPLE OF UKRAINE)

Abstract

FinTech startups and services are one of the most dynamic segments of the modern economy. New financial technologies have already attracted many investors and form millions of budgets. Changing the traditional financial services concept, FinTech companies formed a new niche within the financial services market, the dynamic development of which determines the relevance of the development and implementation of an effective regulatory and oversight system.

The purpose of the article is to develop an economic and mathematical model for forecasting the development of the FinTech market on the example of Ukraine. In order to study the development of the FinTech industry, a multiple regression model was presented. The model describes the dependence of the total investment value of FinTech from venture investments in financial technology, venture investments in other technologies and venture investments in online lending. Based on this model, the effect of attracting investments with new FinTech projects on the total volume of investments in the industry was clarified. According to the model, with a change in investments in FinTech by 1%, the total rate of venture investments decreases by 0.03, funds in new projects of other companies grow by 0.05, and venture investments in online lending increase by 0.89. According to the analysis of regulatory legislation in the foreign countries of the FinTech services sphere, it was found that the regulation of most of the risks associated with the development of FinTech services falls within the competence of different supervisory authorities, requiring cross-sectoral cooperation between public institutions.

Keywords financial technologies, FinTech, financial services market, financial supervision, InsurTech, digital finance, investment

JEL Classification G24, M31

INTRODUCTION

The current market offer should be based on the preferences of the consumer for which the product should be adapted. Meanwhile, in the sphere of FinTech innovations, there is an increase in consumer interest in the very fact of FinTech implementations, which provide a certain, but shallow detuning from competitive supply in the market. One of the most innovative areas of the financial market is financial technology. Starting its development in 2008 based on the global crisis, FinTech has grown rapidly and increased attention from investors. The availability of fast and wireless Internet, the development of social networks and the evolution of smartphones from ordinary means of communication to personal assistants with a personal set of special applications have contributed to the expansion of demand for modern financial services and products. At the same time, classical financial institutions, primarily banks, due to regulatory and legislative constraints introduced to overcome the effects of the crisis, as well as through certain conservatism, failed to respond quickly and adequately to the needs of consumers. Technology companies have used the new niche by

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presenting their financial products, which by their very nature were simpler, while more flexible, adaptive and accessible to customers at any time and in any place. The active development of FinTech companies and the growing competition with classical financial intermediaries have determined the relevance of the analysis of trends in the development of FinTech services in the financial services market.

1. LITERATURE REVIEW

Modern marketing identification of basic needs of clients is formed in the conditions of the unpredictable crisis transformation of the markets and their transition to the evolutionary phase of accelerated innovative transformation of the product-service offer.

In the context of high-tech products, the analysis of the development of financial technologies is undertaken by reputable global companies from different spheres of the market, such as Consumers International, KPMG, Kofax, Capgemini and others. However, most of the information provided in their reports is only grouped by statistical data or expert assessments of company employees.

Based on marketing aspect of the innovation communications development, relationship marketing acts as a tool for practical implementation of the concept of joint creation of value in modern institutional forms of interaction in the innovation system (innovation networks, virtual, international clusters, alliances, etc.).

Some authors considered the empirical features of modern evolution of market of payment services through the lens of FinTech marketing that allowed to rethink the basic needs of user and existing customer experience in wider key marketing, as well as generate additional arguments to justify the perspective of resulting trajectory of development of the market. That in future will be characterized by increasing competitive technology sector operators and weakening position of functional market positioning of banks, which will maintain its market inertia of status-quo in conjunction with traditional architecture of payment and ability to reduce industry risk of the entry for new operators (Kyznetsov & Shalahova, 2016).

Modern marketing identification of basic needs in the context of rapidly developing user experience in the markets of new high-tech products is also presented in publications (Kotler & Trias de Bes, 2015), reflecting the empirical features of building strategies for developing customer-oriented service, especially in conditions of unpredictable crisis transformation of markets or their entry into the evolutionary phase of accelerated innovative transformation of the product-service proposal (Kim & Moborn, 2016; Revo, 2016).

At the same time, a model that would allow estimating the further development of the sphere of FinTech is not included in any of the publications. This is a significant disadvantage as experts' forecasts are subjective and cannot reliably assess the market situation, and a large amount of information accumulated on the FinTech industry makes it difficult to distinguish the most significant indicators. Therefore, a mathematical model was developed that allows us to determine the further development of the FinTech market in Ukraine based on factors with the greatest influence on the volume of investments in FinTech market.

2. AIM

Modeling of an economic-mathematical model for forecasting the development of the FinTech market on the example of Ukraine.

3. METHODS

The article uses methods of economical and mathematical modeling, namely, regression analysis had allowed to determine the dependence of the main indicators that influence the development of the FinTech market in Ukraine. Methods of statistical synthesis and statistical analysis were used to synthesize the research material. Also, analysis and synthesis were used to select financial market valuation indices.

4. RESULTS

Modern retail is undergoing a FinTech revolution. Business is actively using the revolution in the field of financial technologies, which forms a new technological breakthrough, moving from lending to payment services, and in the future insurance and savings of the population.

There is a convergence of banks and retail, which have not previously been integrated in customer service, and today actively interact, forming a higher level of customer loyalty and expanding the consumer audience. At the same time, the most relevant component of the effect from the use of FinTech marketing is the expansion of the consumer audience.

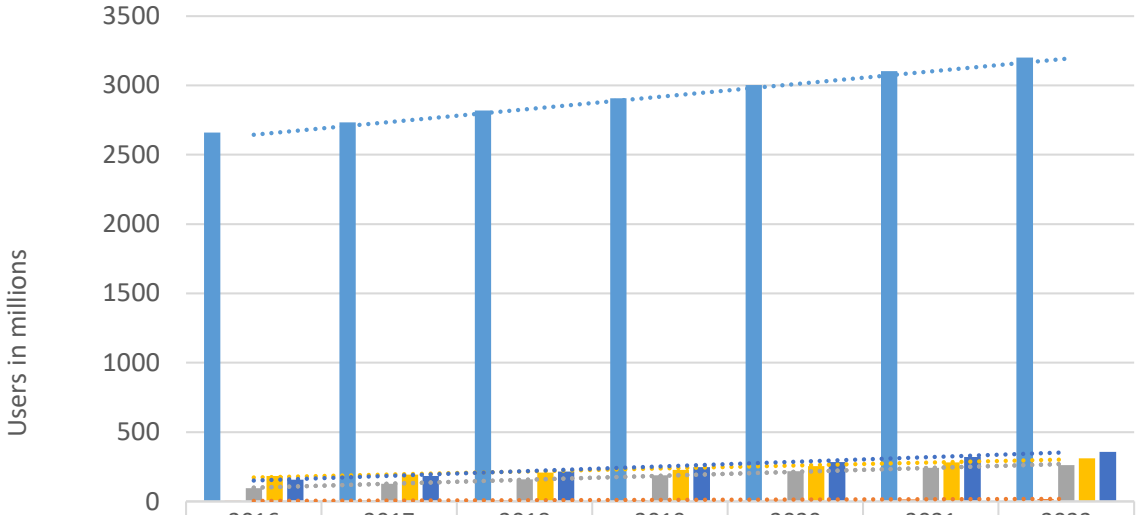
Figure 1 shows the forecasting of the number of users of the FinTech products for the period 2016–2022.

After analyzing the number of users of FinTech products, we can conclude that their number is dynamically increasing from year to year. Thus, according to forecast data, by the beginning of 2022, it will amount to more than 4.3 billion people, and the total value of transactions with the use of FinTech will reach the level of 3 trillion US dollars (Figure 2).

According to the Statistical Committee of the Republic of Armenia, the financial services and insurance market has recorded a steady growth over the past five years (CAGR 4.14%). In Armenia, several FinTech instruments are widely used such as:

- payment systems (Easypay, Idram, Telcell);
- banking online services and mobile applications (Inecobank, Evocabank, Acbabank);
- credit online services (varks.am).

Access to the financial services in Armenia has increased over the past decade thanks to the expansion and enhancement of the network of branches, as well as the introduction of service, the development of culture of access to financial services among the population and introduction of new technologies. The latter is closely linked to the latest developments in the ICT field of Armenia. It has retained its great potential for technology development, and was considered a hub for software development, in-



	2016	2017	2018	2019	2020	2021	2022
Digital Payments	2658,94	2734,2	2817,99	2908,35	3003,74	3103,38	3201,39
Alternative Financing	4,59	6,59	8,87	11,23	13,51	15,59	17,41
Alternative Lending	94,99	126,58	158,92	189,77	217,71	242,08	262,76
Personal Finance	183,19	192,42	207,36	228,68	254,79	282,82	309,95
Special InsurTech	155,65	184,09	214,89	247,92	282,96	319,74	357,95

Figure 1. Number of users of products of financial technologies for the period 2016–2022

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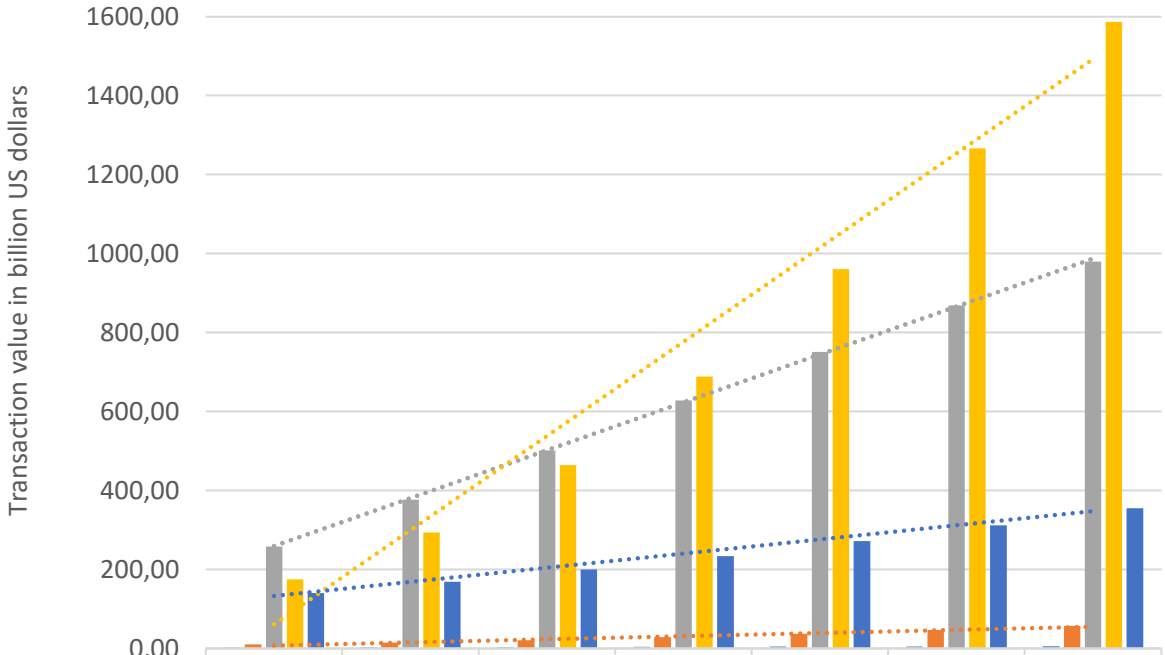

	2016	2017	2018	2019	2020	2021	2022
Digital Payments	2,48	2,91	3,40	3,95	4,53	5,13	5,73
Alternative Financing	9,86	14,45	20,52	28,05	36,85	46,58	56,81
Alternative Lending	257,42	376,26	501,25	627,22	750,34	868,13	978,96
Personal Finance	174,88	293,65	463,73	688,11	960,57	1266,41	1586,43
Special InsurTech	140,33	168,27	199,41	233,81	271,32	311,64	354,34

Figure 2. Cost of transactions in the FinTech Industry, billion US dollars

dustrial computing, electronics, and semiconductor production, even during the Soviet Union.

Software and service industry in Armenia is young: almost 90% of companies were established between 2000 and 2017. Currently, there are over 650 companies. The industry's total revenue, which consists of the software and services sector and the Internet service provider sector, reached 765.1 million US dollars in 2017, 37% increase over 2015.

A large percentage of the software packages sold on the domestic market are accounting and financial software for large enterprises and banks. For instance, 5.5% (3.9% – local companies, 1.6% – foreign branches) of ICT companies were involved in this field in 2017.

As for current tendencies in FinTech field of Armenia, the largest crypto currency mining farm must be mentioned. The first in Armenia mining farm has been established in 2018 under cooperation of Armenia's Multi Group Concern and Omnia Tech International Company in 2018, with over 50 million US dollars investment amount and 50 MW capacity (planned to reach 200 MW). Now 3,000 machines producing bitcoins and Ethereum operate in the mining farm. The number of machines is planned to be increased to 120,000. Armenian government intends to create a free economic zone that can become a high-tech center of technology. The newly created cluster can regulate the necessary infrastructures in Armenia for the development of blockchain technologies, as well as high-tech projects based on artificial intelligence, machine-based learning.

The overall structure and dynamics of the number of FinTech companies in Ukraine is presented in Table 1.

Table 1. Dynamics of the number of registered FinTech companies in the financial services market of Ukraine during 2013–2017

FinTech services	2013	2014	2015	2016	2017
Payments/transfers	2	4	8	18	23
Mobile purses	2	2	3	4	6
Terminal networks	1	1	1	2	3
Electronic money/ payment systems	2	2	2	5	4
Retail banking	2	2	3	3	4
Loans/financing	1	2	2	3	3
Crowdfunding	2	2	2	2	3
Blockchain/bitcoin	–	1	1	4	5

Thus, as of January 1, 2018, FinTech's ecosystem of financial services market in Ukraine was 51 FinTech company, which is 2 times more than in 2013.

Maintaining a trend on modern financial and technological services, domestic banks illustrate the potential desire to implement their elements in their activities. According to the study of the degree of use of the innovative vocabulary by the banks (mobility, big data, electronic money, bitcoin, cryptocurrency, block, FinTech and P2P) in the context of providing FinTech services by company Noks Fishes, it was found that the banks began to talk more about innovation in 2017 compared to the same period in 2016, although the percentage of texts in one form or another FinTech averaged only 7.98% of the total number of articles. PrivatBank was the most active in this sphere (the share of using FinTech amounted to 65%). Oschadbank which became the leader of the media space on the topic of contactless payments had 32% and OTP bank was more agile in promoting electronic money. In general, the most used words in 2017 in bank texts were: contactless payments, bitcoin, FinTech. This indicated a significant interest of banks in these technologies.

In order simulate the development of FinTech industry for the dependent variable (Y), the volume of investments invested in the FinTech industry was adopted. As the main factors influencing Y, there were selected general venture investments in FinTech (x_1), venture investments in other industries (x_2), venture investments in online lending (x_3), and income from lending of crypto exchanges (x_4). According to the latest reports from various analytical publications, these four factors will form the fastest pace of development of FinTech projects.

The largest part in the financial industry for 2018 is the blockchain system and the digital currency (cryptocurrency) built on this system. According to Ernst & Young (EY), from 2016 to 2022, investments in the Crypto Exchange and Block Check are expected to increase by 35%, while 65% of investors in the Singapore Investment Summit in Singapore have noted their interest in this subfactorial FinTech.

In 2017, the crypto markets were recorded record growth rates. According to the CoinMarketCap charts and Dynamics and Analysis of the ICO market in 2017–2018, the amount of curt exchange and other digital currency on exchanges increased by 216% and their market capitalization increased by 3.363%.

Due to the significant growth rates of the cryptocurrency, it occupies a leading position among the FinTech subsectors and was selected as a factor to be presented in the model. In order to reflect the real development of the industry, the revenue from the crypto lending was selected. This will give an idea of the amount of investments that are annually invested in the industry.

Another sub-sector that shows a rapid growth is online lending. Based on Deloitte's research, online loan investments have increased by about 11 billion US dollars in 2018 compared to 9.3 billion US dollars in 2017 and 9.4 billion US dollars in 2016. According to TransUnion, in 2017, the Fintech company accounted for 18% of loans in the United States compared to 1% in 2010.

The development of online lending is also taking place in Asia. Today's online landing is 26% of Asian FinTech projects.

In the FinTech forecast, published by KPMG in 2018, one of the trends that will be further developed is the InsurTech. Compared to other factors, the insurance industry is less developed.

Insurance lags other industries in the implementation of digital development through the emerging

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market, which is difficult to lure customers, needs a large amount of initial capital. It is also worth considering the advantage of insurance companies due to the accumulated basis of insurance cases, which allows for a qualitative underwriting assessment. These aspects explain less slowly the implementation of digital technologies in seniority. However, in recent years, the situation has changed and other companies like Lemonade, The zebra, Hippo, Leder and others appear on the market. In 2016, the value of other trade shops amounted to 1.7 billion US dollars, while in 2013, their value was only 0.3 billion US dollars and the number of deals increased from 63 in 2013 to 207 in 2016. Insurers are increasingly cooperating with financial companies, 45% of insurance companies in 2017 implemented innovative technologies in their activities against 28% in 2016.

The Pulse of FinTech 2018 reports that the development of the InsurTech in the second and third quarters of 2018 is expected to be at the level of Artificial Intelligence, Blockchain and RPA (Robotic Process Automation).

In addition to the leading industries in the model, market conditions are also to be considered, for this purpose, the factor of venture investments has been introduced, because the interest of investors in project implementation depends not only on their profitability, but also on the state of the market, the position of the states regarding the development of FinTech stratagems. In Europe, in 2017, a 25% down venture investment dropped due to the Brexit vote, while investment in Japan has grown to 271.7 billion yen, against 63.6 billion yen in 2012. Favorable conditions for increasing venture capital in the country were created through the recognition of crypto currency as an official means of payment, as well as the adoption of a new law on currency regulation.

Consequently, all factors have a significant impact on the functioning of the financial market and its further development.

For the construction of the model, data were taken for 8 years from 2010 to 2017 (Table 2). Determination with dependent variable was calculated for each factor using the Excel data analysis package.

From the results obtained, it can be argued about the significant impact of each of the selected factors on the level of investment in FinTech, since the ratio between y and x is higher than 0.5. The following conclusions can be drawn. The value of R^2 for x_1 and x_4 is in the range from 0.5 to 0.8 and indicates the average strength of the relationship between independent variable x and the dependent variable y. The results of x_2 and x_3 are between 0.8 and 1 and indicate strong linear relationship. Factors are adequate, there is a direct relationship between independent and dependent variables.

The next stage of the calculation was the verification of indicators for multicollinearity to determine the dependence of factors among themselves.

Table 2. Output data for constructing a regression model of FinTech market development

Years	Total amount of investments in FinTech (y), billion US dollars	Venture investments (x_1), billion US dollars	Venture investments in InsurTech (x_2), billion US dollars	Venture investments in online lending (x_3), billion US dollars	Total amount of investments in FinTech (y), billion US dollars
2010	9	0.8	200.00	0.1	0.0002
2011	6	1.4	296.00	0.2	0.019
2012	4	1.9	579.00	0.3	0.041
2013	12	2.9	1586.00	0.5	0.350
2014	29	6.7	1680.00	1.7	1.136
2015	47	12.7	2949.00	5.1	1.511
2016	25	13.6	1447.00	2.8	2.073
2017	38.1	12.2	1825.00	3.1	1.400
Total	170.1	52.2	10562.00	13.8	6.530
μ	21.26	6.52	1320.25	1.725	0.820
R^2	–	0.77	0.82	0.91	0.68

For this, we applied the Farrar-Globard algorithm. It was received the *Xi2* Chi-squared Pearson criterion in the size of 32.97, which is more than the tabular value of Chi-squared y ($X_{i\ tabl}$ = 14.07). Fischer's criterion was applied to confirm or refute the presence of multicollinearity. The real values of Fisher's criterion were compared with the table index.

F1 =	70.31515	>		
F2 =	6.263327	<	F tabl	9.12
F3 =	23.99975	>		
F4 =	36.23036	>		

It has been determined that multicollinearity is present in the factors x_1, x_3 and x_4, so the variables are dependent on each other and do not allow to evaluate the influence of each individual factor on the variable and reduce the reliability of the regression estimation.

We find out between what values there is multicollinearity to eliminate the factor, which reduces the reliability of the model. To do this, we will calculate the Student's *t*-test.

t_{12}	–0.82594	<		
t_{13}	2.405558	<		
t_{14}	5.292077	>	*t* tabl	3.18
t_{23}	2.142939	<		
t_{24}	0.715614	<		
t_{34}	–1,42689	<		

Values according to Student's criteria indicate the multicollinearity between the factors x_1 and x_4, since t_{14} is greater than the tabular value. To eliminate multicollinearity, you must exclude one of the variables. Since the R^2 factor x_4 is smaller than the R^2 factor x_1, we exclude the factor yielding from the crypto exchange from the model and rely on three factors.

However, when checking the three-factor model, multicollinearity of indicators was re-established. The calculated Pearson criterion was 18.00, while the table value was 14.07. The Fisher's criterion was calculated to refute or confirm the hypothesis of the relationship between factors.

*F*1 =	14.28942	>		
*F*2 =	10.12714	>	*F* tabl	6.59
*F*3 =	28.97745	>		

By Fisher's criterion, all factors are multicollinear, in order to determine the relationship between variables, we will calculate Student's criterion.

t_{12}	–0.4564	<		
t_{13}	2.825502	>	*t* tabl	2.77
t_{23}	2.182823	<		

According to Student's criterion, there is a close correlation between x_1 and x_3, but the Pearson criterion for three factors is closer to the tabular value. We apply another method for eliminating the multicollinearity in the model. We will use the method of natural normalization of variables for leveling a numerical series. In the application of the method, new indicators of the factors presented in Table 3 were obtained.

Table 3. Output data for the regression model corrected by the method of natural normalization

Years	Total amount of investments in FinTech (y), billion US dollars	Venture investments (x_1), billion US dollars	Venture investments in InsurTech (x_2), billion US dollars	Venture investments in online lending (x_3), billion US dollars
2010	0.12	0.00	0.00	0.00
2011	0.05	0.05	–0.97	0.02
2012	0.00	0.09	–3.63	0.04
2013	0.19	0.16	0.24	0.08
2014	0.58	0.46	0.13	0.32
2015	1.00	0.93	1.07	1.00
2016	0.49	1.00	0.53	0.54
2017	0.79	0.89	0.66	0.60
Minimum value	0.00	0.00	–3.63	0.00
Maximum value	1.00	1.00	1.07	1.00
Total	3.21	3.58	–1.96	2.60
σ	0.37	0.43	1.49	0.36
μ	0.40	0.45	–0.25	0.33

According to the new index X_i^2, the Pearson criterion was 12.12, which is less than the value of $X_{i\ tabl}^2$, which is equal to 14.07. Consequently, the new model lacks multicollinearity.

The next step i n verifying the reliability of the model is its verification for autocorrelation to de-

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Table 4. Data for calculation of autocorrelation

Observation	Predicted *Y*	Remnants	e^2	$(e_t - e_{t-1})^2$
1	5.46106	3.53894	–	–
2	6.626401	–0.6264	0.392378	17.35006
3	8.665725	–4.66572	21.76899	16.31614
4	14.86527	-2.86527	8.20975	3.241651
5	22.89913	6.100875	37.22067	80.39168
6	49.27533	–2.27533	5.177146	70.16088
7	29.59477	–4.59477	21.11188	5.379765
8	32.71232	5.387677	29.02707	99.64918
Total	–	–	122.9079	292.4893
The value of Durbin-Watson test	–	–		2.379745
Tablein values of Durbin-Watson test	dL		0.368	
	dU		2.287	

tect the relationship between sequential levels of the time series. To calculate, the remnants of the model (Table 4) were calculated, which were calculated using the Excel analysis package and the subsequent application of the Durbin-Watson test.

The resulting value for the model is not within the uncertainty zone ($0.368 < d < 2.287$), $d = 2.38$ and is higher critical value of the upper limit, thus confirming the hypothesis that there is no auto-correlation in the model. The balances of time series (errors) are random, with no trends and cyclical fluctuations.

When testing the model, it is also necessary to check it for the absence of heteroscedasticity. The test will help to determine whether the variance of the variables is constant. To detect heteroscedasticity, use the Breusch-Pagan test.

Values for calculations were obtained from regression indicators that were found using the Excel toolkit. The data are given in Table 5.

Based on the data in Table 4, the regression was calculated, where $R^2 = 0.33$. The value of X_i^2 according to the model is 2.61, while the tabular value is $X^2_{i\ tabl} = 7.81$. Hypothesis about heteroscedasticity is not confirmed, because $X_i^2 < X^2_{i\ tabl}$. The model is homoscedastic; hence the variance of values is minimal, all weighty factors are considered.

After checking and correcting the initial data, we can conclude about the reliability of the model, its adequacy and the accuracy of the values obtained, so by using the least squares method, we find constant values for *x*-factors and write down the resulting model:

$$y = 0.14 - 0.03x_1 + 0.05x_2 + 0,89x_3 + \varepsilon.$$

The resulting multiple regression model describes the dependence of the total investment value of FinTech from venture investments in financial technology, venture investments in other technologies and venture investments in online lending.

Thus, it is possible to follow the effect of attracting investment in new projects of FinTech on the total volume of investments in the industry. Thus, with a change in investment in FinTech by 1%, the to-

Table 5. Output data for calculating the Breusch-Pagan test

Years	Total amount of investments in FinTech (y), billion US dollars	Venture investments (x_1), billion US dollars	Venture investments in InsurTech (x_2), billion US dollars	Venture investments in online lending (x_3), billion US dollars	e^2
2010	0.12	0.00	0.00	0.00	12.52
2011	0.05	0.05	-0.97	0.02	0.39
2012	0.00	0.09	-3.63	0.04	21.77
2013	0.19	0.16	0.24	0.08	8.21
2014	0.58	0.46	0.13	0.32	37.22
2015	1.00	0.93	1.07	1.00	5.18
2016	0.49	1.00	0.53	0.54	21.11
2017	0.79	0.89	0.66	0.60	29.03

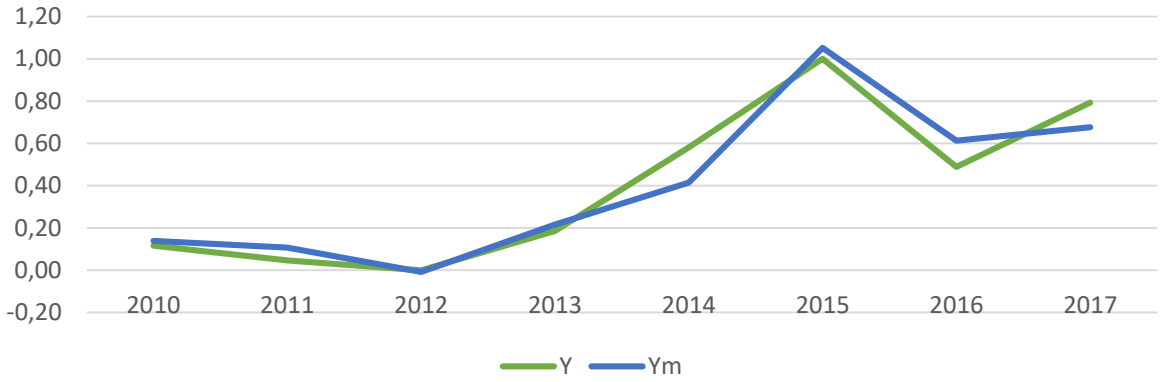

Figure 3. Comparison of actual and simulated model data

tal venture investment will decrease by 0.03, the funds for new projects in other sectors will grow by 0.05, while venture investments in online lending will increase by 0.89. The quality of the constructed model can be checked by calculating the difference between the real (Y) and the simulated value (Y_m), which is presented graphically in Figure 3.

On average, the actual values of Y do not have significant differences with the Y_m-modeled ones, we can assume that the resulting multiple regression model can be used in further studies.

Since the multiple regression model constructed adequately reflects the real state of investments in the financial sphere, it is possible to make a forecast of the level of the received branch of funds in the future, considering the influence of the selected factors. Thus, we use the forecasting function and get a value of 0.96 billion UAH for 2018 (Figure 4).

Considering the global trends and globalization of economic processes, FinTech's domestic financial services regulation system cannot develop without the experience of the most developed financial services markets, which necessitates investigating the world-wide experience of FinTech regulation based on the analysis of relevant regulatory acts, recommendations and initiatives of foreign regulators. We note that the FinTech services sector has become most widespread in countries such as China, the United Kingdom and the United States, which has led to appropriate regulatory and supervisory developments in these countries. In China, regulators in the FinTech services sector include: People's Bank of China, Chinese Banking Regulatory Commission, China Insurance Regulatory Commission, China's Internet Information Technology Office. The main regulatory documents are Guiding Opinions on Promoting the Healthy Development of Internet

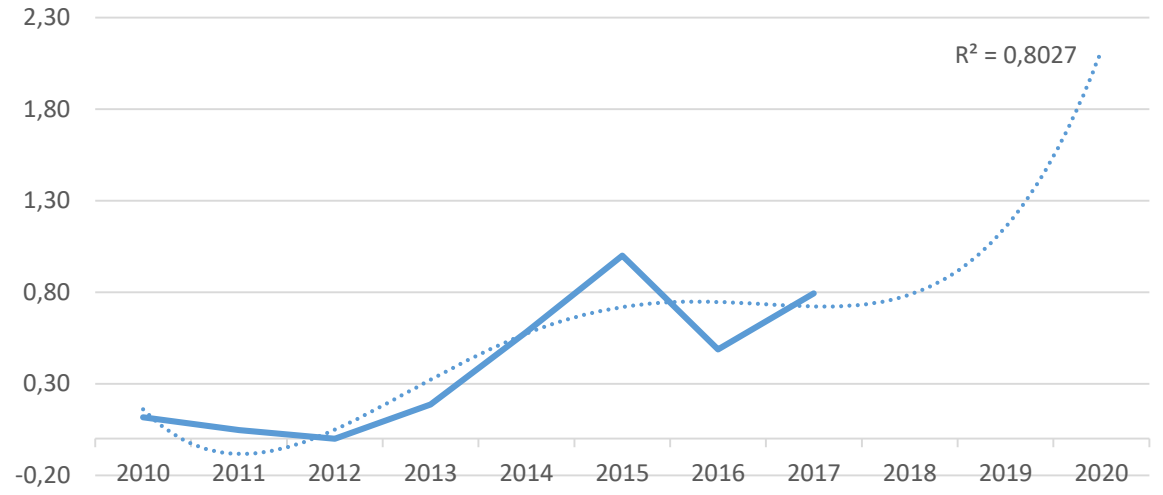

Figure 4. Forecasting the volume of investment in FinTech in Ukraine up to 2020, billion UAH

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Finance, Administrative Measures for the Online Payment Business of Non-Bank Payment Institutions.

In the UK, regulation is carried out by the Financial Controller and the Treasury of Her Majesty, which are governed by such recommendations as Project Innovate and the Regulatory Innovation Plan. At the same time, the most extensive regulatory system operates in the United States, where this area falls into the competence of The OCC's Responsible Innovation Framework and FinTech Bank Charters-Latest Developments, Marketplace Lending, Crowdfunding regulations, Vision 2020 for FinTech and Non-Bank Regulation, Prepaid Accounts Under the Electronic Fund Transfer Act (Regulation E) and the Truth in Lending Act (Regulation Z)), LabCFTC.

Thus, according to the analysis of regulatory legislation in the foreign countries of the FinTech services sphere, it was found that the regulation of most of the risks associated with the development of FinTech services falls within the competence of different supervisory bodies, requiring cross-sectoral cooperation between public institutions. In their activities, supervisors rely on innovative technologies such as: artificial intelligence; distributed registers; unstructured data analysis. Preferably, regulators use two approaches to regulating FinTech services: based on rules and based on principles. Among the analysis countries, the most widespread approach is based on open source regulation, namely the regulatory sandbox, whose main objective is to support innovation in the financial services market.

Regulatory sandbox, created in accordance with the structural recommendation model, will contribute to the achievement of sustainable results, which are part of a more comprehensive package of initiatives to stimulate innovation and address the major shortcomings that block beneficial innovations in the financial services market. These packs of initiatives may include: improving the regulatory framework; Periodic review and improvement of licensing processes for financial services and products; Measures aimed at increasing competition and stimulating innovation in the country as a whole; regular evaluation of regulatory impact; financial and legal support for FinTech accelerators and incubators.

CONCLUSION

In the last 10 years since the beginning of the global financial crisis, the financial services market has changed significantly. The availability of fast and wireless Internet, the development of social networks and the evolution of smartphones have contributed to the expansion of demand for modern financial services and products. However, the classic financial institutions, especially banks, due to regulatory and legal restrictions imposed to overcome the crisis could not quickly and adequately respond to the needs of consumers. Technology companies have used the new niche by presenting their financial products, which by their very nature were simpler, while more flexible, adaptive and accessible to customers at any time and in any place.

The active development of FinTech companies and the growing competition with classical financial intermediaries have determined the relevance of the analysis of trends in the development of FinTech services in the global financial services market.

The domestic sphere of FinTech services is at the stage of active development, which is manifested in increasing the number of FinTech companies and communities that support and ensure the development of the domestic FinTech market. In general, this trend is due to an increase in the number of Internet users and the degree of penetration of the Internet, an increase in the number of active users of smartphones, computers and tablets, the development of e-commerce, including mobile. The regression model of the dependence of the total value of investments in FinTech from venture investments in financial technology, venture investments in other technologies and venture investments in online lending in Ukraine testifies to the high financial potential of this segment of the market. The outlook predicts a deepening of FinTech's services to UAH 0.96 billion, already in the next year.

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