

REPUBLIC OF AZERBAIJAN

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DIRECTIONS OF THE EFFECTIVE USE OF THE FINANCIAL INSTRUMENTS IN THE STOCK EXCHANGE

Speciality: 5301.01 Internal fiscal policy and public finance

Field of science: Economic sciences

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

BAKU 2021

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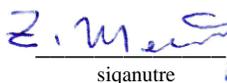
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GENERAL CHARACTERISTICS OF DISSERTATION

Relevance of the topic: The stock market's efficient operation is critical for attracting financial resources for investment objectives and forming modern economic linkages. The stock market, which has evolved into an important sector of the market economy, now handles 70-80 percent of all trading transactions. In most countries, the stock exchange outperforms all other forms of trading. The stock exchange regulates the broadcast of relevant information about securities, the study of supply and demand for securities, and the resolution of issues of measuring market prices because the stock market is based on securities. In this regard, the study of the stock market's method of operation, particularly stock exchanges, as well as its efficacy in the economy of a country, is especially essential in current times. The stock market also regulates efforts to promote investment, establish circumstances for small and medium-sized firms and the general public to invest in the economy, and expand chances for the country's economically engaged population to expand into the middle class. Prices and the national currency's exchange rate have recently been liberalized, privatization has taken place, attractive business circumstances have been created, and the country's macroeconomic stability has been ensured. The country's GDP has expanded 3.4 times in the last decade, exports have climbed 2.5 times, foreign exchange reserves have doubled, and inflation has reduced. The population's deposits climbed 2.9 times as a result of the reforms, while the volume of investments in the country's economy increased 2.2 times. The present expansion in the securities market has outpaced the country's overall economic growth over the last five years, with the Baku Stock Exchange's trade turnover to GDP (non-oil) now at 12.1% [10, 171]. In the securities market, the volume of trade in government bonds climbed threefold, while corporate bonds increased ninefold. The securities market has grown significantly over the past five years. In general, the volume of transactions on the Baku Stock Exchange in 2020 amounted to about 13 billion manat.

The financial sector's stability, stability, high capitalization rate,

and liquidity in the country's economy have all been secured as a result of the economic policy implemented.

Despite recent work on the formulation of the stock market's regulatory framework, regulatory mechanism, and contemporary infrastructure in the Republic of Azerbaijan, the global economic crisis in the world economy makes it imperative to optimize the stock market's organization and development. Despite the fact that the recent developments achieved in the growth of Azerbaijan's stock market and the work done has established conditions for the market's development, there are still some issues that prevent it from fully integrating into the global stock market. As a result, the stock market of our republic's investment attractiveness is still low when compared to other countries' market capitalization levels. Important steps to open Azerbaijan's stock market to worldwide markets and expand foreign investor participation are necessary for the market's integration into global stock markets. The use of logistics in stock market operations, the elimination of liquidity in the stock market at the level of liquidity, and the enhancement of the protection of attracted investors' rights through international regulations can all contribute to the market's growth. Large business enterprises in Azerbaijan are still in the early stages of development, and they face numerous challenges. One of the most pressing issues is obtaining funding for their investing activity. The lack of private money, as well as the banking sector's and Baku Stock Exchange's weak development make it difficult for these organizations to invest. As a result, they are unable to make the necessary investments for long-term development. The topic of the chosen research is devoted to the solution of an urgent problem, as the development of the stock market is crucial in attracting investment for the proper operation of significant commercial units. The dissertation work is relevant in terms of researching the issues that hinder the development of Azerbaijan's stock market and how to improve its efficiency.

The level of study of the problem. The works of the classical figures of economic theory A. Smith and K.Marx as well as foreign economist scholars such as Ksenikov V.I., Tarkanovski B.S., Jukov E.F., Nikifirova B.D., Zolotarev B.M., Cheskidov B.M., Bir C.,

Aljokhin B.I., Berdnikova T.B., Bulatov T.I., Rubchov B.B., David Kokhen, Frennd Dj. Fabochin., Lovenchev H.H, Iqonina L.L, Kostyunina Q.M., Rodjers K.A., Yakob Mirkin, Saymon Bayn., Ken Volf and other have played a great role in the systematic study of the features of the stock exchange, development tendency directions and problems.

From economists of our republic, A.J.Muradov, A.A.Alakbarov, Z.F.Mammadov, A.F.Musayev, E.M.Sadigov, Z.H.Ibrahimov, A.H.Abbasov, A.Sh.Quliyev, A.E.Karimov, M.N.Valiyev, D.A.Baghiro, I.M.Mahmudov, N.Muzəffarli (Imanov), F.A.Ganbarov, T.Sh.Zeynalov, N.M.Ismayilov, M.M.Sadiqov, F.F.Murshudlu, H.I.Namazaliyev, A.M.Asadov, Y.A.Mammadov, A.A.Aliyev, A.Q.Isgandarova, R.S.Hajiyev, R.O.Sadikhov, Z.S.Mammadova, A.M.Maharramov, Z.M.Qafarova and others has played an essential role in the study of the issues on the stock market's position in Azerbaijan's national economy, its economic efficiency, current development issues, and possibilities for the stock market's development and reform in a market economy as a whole.

Along with praising the results of the mentioned scholars' scientific research, the development dynamics and current problems of the stock exchange in Azerbaijan- minimization of the state's financial needs through securities, directing large shares to the development of production in the country's economy, strengthening the legal framework of the stock market, and creating a stock market, development a stock market model to increase the state's role in the stock market, identification of key development prospects of modern securities market as well as scientific investigation of the solution of the existing problem have created a need for this study. Along with addressing the broad scope of the mentioned scientists' work, it has been determined that the impact of the aforementioned problems associated with the stock market on macroeconomic indicators, the development of relations and large economic entities in the Republic of Azerbaijan, and finding solutions to the problems that constantly arise in connection with large business entity investment activities necessitates further research. As a result, substantial research in this field is required. All of these issues form the basis for choosing a research topic and need the continuation of research in this sector.

Goal and objectives of the research. The study's goal is to look into the stock market's role in the development of various sectors of the country's economy, as well as the optimization of its modern state, the stock market's requirements in the development of economic entities and the increase of investment flows, and an analysis of the current state of financial instruments in the stock market based on the dynamics of the development of the stock market of the Republic of Azerbaijan by studying the impact of global financial problems on the volume of world trade, research ways to increase the efficiency of its work, development of scientifically substantiated proposals of theoretical and practical nature for a more comprehensive study of the characteristics of the investment needs of large business structures in modern economic conditions.

The research objectives were as follows in order to attain the desired goal:

- Apply and generalize the stock market's theoretical and methodological foundations and principles, the established normative-legal framework;
- Study the development trends of the use of financial instruments in the stock markets;
- Learn the impact of the consequences of globalization and liberalization on the stock market;
- Analyze and evaluate the current state of the stock markets;
- Assess the level of capitalization of the stock market;
- Assessment of the impact of financial instruments on the stock market and the activities of joint-stock companies;
- Determination of the influence of stock market capitalization on budget income and expenditures, as well as its optimal limit;
- Using economic-mathematical methodologies, produce proposals and recommendations for measuring the impact of stock market capitalisation on GDP and the effectiveness of the usage of financial instruments in stock markets.

The object of research is financial instruments in the stock market.

The subject of the study is to discover the best practices for using financial instruments in stock markets, as well as to adapt and

evaluate its actions based on the experience of the developed countries.

The theoretical and methodological basis of the research includes decrees and orders of the President of the Republic of Azerbaijan, relevant decisions of the National Assembly, the Cabinet of Ministers, laws, normative-legal documents on securities, international normative-legal acts, economists' scientific works, and research works. Analysis, logic, comparison, statistical grouping, mathematical calculation, observation, and other methods have been used in the dissertation work.

Research's data base includes reports of the State Statistics Committee, bulletins of the ANAS Institute of Economics, works of local and foreign researchers on the stock market and the use of financial instruments in these markets, reports of the Central Bank and Baku Stock Exchange, and information from the Ministry of Economy and other agencies.

Scientific novelty of the research:

-The association between stock market capitalisation and GDP was determined using economic-mathematical approaches, and a relationship equation suited for forecasting any period was constructed.

-The necessity to create a reserve trading platform on the Baku Stock Exchange to support the financing of projects in this field from the capital markets and increase its potential in this direction is justified in order to secure the development of small and medium companies.

-It is necessary to present securities used in commercial activities in international stock markets in the Azerbaijani market, as well as local securities in world markets, in order to expand the range of investment instruments offered on the stock exchange and to ensure the interest of individual investors in the market.

- The level of influence on fixed capital investments in the Republic of Azerbaijan, foreign investments, deposits drawn by banks, state budget income, and state budget expenditures was determined, as well as the relationship between capital investment goals and stock market capitalization.

- It was discovered that an increase in the level of capitalization of the stock market in Azerbaijan resulted in an increase in GDP, based

on the equation of relationship between the level of capitalization of the stock market and GDP, which was constructed using economic-mathematical methods.

Practical significance of the research. The Central Bank, Baku Stock Exchange, Ministry of Finance, Ministry of Taxes, public or private companies, and banks issuing securities can use the practical recommendations and proposals prepared in the regulation of the use of financial instruments in stock markets, targeted programs, and economic reform projects.

Approbation of research and application of results. The author presented the dissertation's key provisions, theoretical and methodological results, and scientifically validated suggestions in 13 scholarly journals and conferences between 2015 and 2020 (including 6 in foreign editions). The dissertation which has an introduction (12738), three chapters (I chapter – 68939 characters, II chapter – 56546 characters, and III chapter – 78583 characters), and results and recommendations (9897) has used 182 references. The 151-page word-typed work includes 18 tables, 30 graphs, 7 illustrations, and 3 schemes.

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MAIN CONTENT OF THE STUDY

1. Theoretical and methodological bases and principles of formation of stock markets. The conceptual generalization of the theoretical underpinnings of securities market activity was carried out in the dissertation work, and the existing theoretical methods in this subject were considered, as well as the concepts put up. The most important ideas in this area belonged to the Marxists, according to a review of the methods of members of the classical school of economics on theoretical and methodological concerns of stock markets. In the current circumstances, the development of the securities market necessitates a micro and macro level examination of both economic and legal elements.

The primary function of stock markets is to ensure price stability and long-term economic growth through regular monetary policy regulation. The study of the association between money and prices in circulation is one of the concerns that many scientists and researchers have attempted to investigate in this approach. As a result, it is widely accepted that product prices are strongly tied to the amount of money at the macro level.

Classical economists characterized securities transactions in terms of money and credit, according to research. Due to the demands of the period, this was the case.

Based on the theoretical considerations and general concepts examined, it can be concluded that monetary policy is important for the functioning and development of global financial markets, and that government intervention in the money supply is stable at the macro level due to the constant maintenance and regulation of money supply by states. As we all know, monetary policy is more flexible and effective than fiscal policy when it comes to price regulation.

The stock market is a "barometer" of the economy and is directly related to macro and micro economic development processes [33]. Although the stock market affects the rate of accumulation, it should not be evaluated only in this regard. Risk diversification is achievable as a result of stock market activity, according to P. Mauro, and allows individuals to gain additional revenue at the expense of businesses and

corporations. According to some studies, stock markets have a stimulating effect on the development of the real sector through the accumulation mechanism and risk distribution. [33, 25] N. Bowes notes that stock market participants (creditors) increase business efficiency by creating an additional financing system [29, 30].

The existence of a stable link between the expansion of the stock market and economic development has also been identified. However, when speculative transactions in the stock markets increase excessively, there are serious risks for the economy [33].

According to P. Russo and P. Wachtel, there is a positive correlation between stock market activity and economic growth (Rousseau and Wachtel, 2000). Vögler identified that the stock market is one of the main factors that improves and stimulates the distribution of capital by industry (Wurgler, 2000). In developed countries, stock markets are a means of removing capital from stagnant areas and directing it to promising areas. In countries where stock markets are poorly developed and operate under tight government regulation, there is a reversal: these countries are more inclined to invest in stagnant areas. Stock markets provide a substantial impetus to attract investment to the economy and its efficient use. This dependence is more severe in developed countries than in developing countries (Durham, 2002).

Securities played an important role in the economy of capitalist countries in the 19th century. According to Marx's theoretical and methodological ideas on the study of securities, it can be concluded that securities, as a form of capital, have a market value due to their legal basis. The market price of securities is closely related to real capital. That is, changes in real capital affect the value of securities. Securities become commodities with different prices.

Although numerous conceptual viewpoints on the regulation and development of the stock market exist, they all agree on the need for this market to develop in terms of economic development. Such an approach may already be proposed as an incontrovertible truth in terms of growing economic development in Azerbaijan, the development of the non-oil sector, increasing the attractiveness of international and domestic investment, and the development of the real sector.

2. Development trends in the use of financial instruments in stock markets and the level of capitalization of world stock markets

As part of the financial market, the stock market provides a mechanism for the redistribution of money among all sectors of the economy via financial instruments. The process of capital redistribution between firms and all sectors of the economy is carried out through the use of financial instruments on the stock market.

In terms of trading volume and stock market capitalisation, Western European stock exchanges trail behind those in the United States and Japan. The United States has a capitalization rate of 35 percent, Japan 32.4 percent, Western Europe 26.5 percent, England 10.2 percent, Germany 3.6 percent, and France 3.5 percent [166; 175].

New York, Tokyo and London stock exchanges lead the world stock exchanges.

Table 1

Global stock exchanges by market capitalization for 2020 (trln. in US dollar)

Stock Exchanges	2020
New York Stock Exchange	25.62
NASDAQ	19.51
Hong Kong Stock Exchange	6.75
Shanghai Stock Exchange	6.56
Japanese stock exchange	6.56
Euronex stock exchange	5.08

Source: (166, 167, 168, 172) Compiled by the author based on the information

In the world practice, the stock market in the stock market can be divided into 3 main models. These models include the non-banking model (US non-banking model), which includes non-banking organizations acting as securities intermediaries, the banking model in which banks act as intermediaries (German banking model), and a mixed model (Japan) the role of both banks and non-banking organizations as intermediaries.

In the American model of development of the securities market, the source of investment is foreign investors that regulate themselves according to the regulatory mechanism; from the issuer's perspective, the market structure is primarily government securities; from the perspective of private sector financing, the market structure is

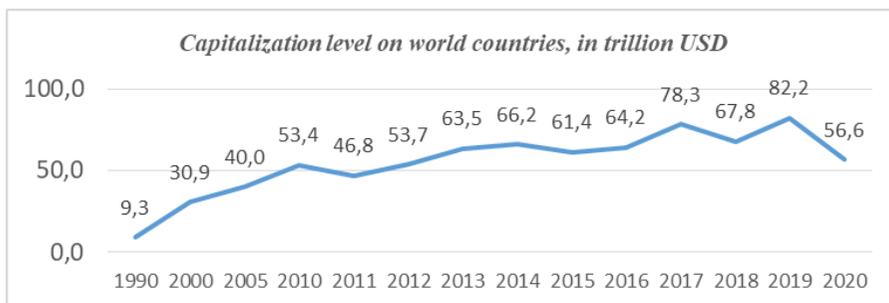
primarily share securities; the major developed investment banks and funds, non-state pension funds, and so on are all taken into account.

In the German development model, on the contrary, the source of investment is domestic investors mainly regulated by the state, and the structure of the market is mainly corporate securities, and from the point of view of private sector financing, the structure of the market is debt securities, the main developing banks are commercial banks.

Because the European model includes credit institutions and other organizations engaged in limited banking activities in the market, the German model is well suitable for Azerbaijan.

The high level of liquidity of securities ensures the attractiveness of the market and the acceleration of economic development. This metric is linked to the effective use of financial instruments in the stock market, economic and investment activity, effective security placement, and increased market turnover. In accordance with the estimates of the International Federation of Stock Exchanges, the volume of securities transactions increased by 38.8% in 2015.

U.S. stock indexes for 2018 showed the deepest decline since the 2008 crisis. Thus, the S&P 500 index managed to rise to its maximum historical value in September and reached 15%, but by the end of the year lost more than 10% of this achievement, the Dow Jones fell to 5.6% and the NASDAQ to 3.9%. This situation observed in the stock market changed for the better in 2019, and the stock market began to develop rapidly. The NASDAQ grew 34.8%, the S&P500 28% and the Dow Jones 22%. In 2020, there was a decline in all leading exchanges. The stock market did not ignore the effects of the global pandemic. The amount of liquidity of securities in global stock markets, mostly stocks, has remained unchanged in 2020. Despite the epidemic, stock markets in South Korea (37.9%), Taiwan (30%), and China (27.3%) rose, while stock exchanges in the Netherlands (21%), Finland (22%), Ireland (15.4%), and Sweden (24.4%) performed well in 2020. Stock markets in Brazil (22%), Hungary (19%), Greece (10%), the United Kingdom (10%), Russia (15%), and Turkey (15%) have been volatile [166, 168, 172, 176].



Graph 1. Dynamics of development of the level of capitalization of the domestic stock markets of the world countries

Source: (10,166, 168, 169, 172) Compiled by the author based on the information

Improving the efficiency of the use of financial instruments to increase the level of capitalization in the stock markets is a priority. The acceleration of economic development, the development of the stock market is mainly closely linked with the liquidity of securities traded. The turnover rate of the stock market depends on the optimal placement of securities and the growth of investment activity. All this requires optimizing the use of financial instruments in the stock markets.

3. Analysis of the impact of globalization and liberalization on the stock market

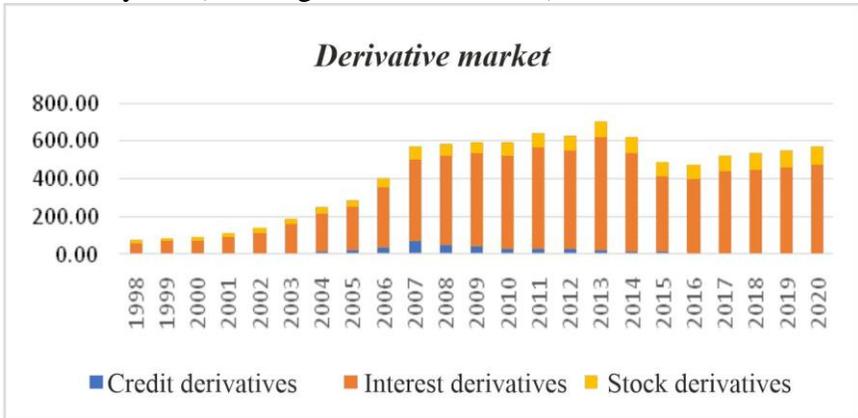
The process of financial market globalization began with the global movement of debt money and foreign loans. Intergovernmental debt is expected to reach \$ 281 trillion by the end of 2020, according to Bloomberg [179]. The second form of the process of globalization of financial markets is related to foreign portfolio investments. At present, the volume of portfolio investments exceeds the volume of international securities transactions by several times, and even exceeds the volume of foreign direct investment by several times [33, p.18-20]. In 2020, the annual turnover of Eurobonds was 2.034 trillion US dollars. The United States and Japan currently lead the international bond market with 46% and 17%, respectively. [172]

In recent years, the globalization of the financial industry has also been marked by the issue of new types of securities. Financial derivatives are the name for several types of derivative financial

instruments. Futures, options, swaps, and forwards are examples of derivatives (contracts).

Derivatives as a derivative financial instruments limit the ability to execute high-yield speculative transactions by insuring against risks connected to changes in currency rates, interest rates, and securities rates, lowering trans-equity costs, and developing new, more profitable types of financial instruments.

In recent years, there has been a significant increase in the market of derivative financial instruments. Thus, compared to 2018, there was a 9.4% increase in trading volume, and in 2019, a record number of 32.89 billion derivative contracts (14.76 billion options and 18.13 billion futures) were sold. This means an increase of 61.5% over the last 10 years (annual growth rate of 7.6%).



Graph 2. Dynamics of derivative market

Source: [181] Compiled by the author based on the information.

The speed and volume of movement of financial resources through the single international market is growing every year. This process has both advantages and disadvantages. On the one hand, capital is more profitable, promises good prospects for business development, and promotes economic development; on the other hand, the investor observes instability in the country's political and economic life, where there is no confidence, and situations that can lead to financial resource migration.

In general, financial sector liberalization boosts savings rates,

increases investment and innovation efficiency, and creates circumstances for a true distribution of risks, investments, and savings when employing foreign sources of money. The integration of developing countries into the global financial system allows them to attract additional resources from abroad to finance investments. This contributes to the development of domestic financial institutions and markets in those countries, as well as the development of financial management. However, the risks associated with the financial crisis in these countries are not excluded. The growing influence of globalization on financial markets leads to the emergence and implementation of democratic projects.

At the global level, the interdependence of financial markets is the result of five key factors. The first factor is the liberalization of financial markets and foreign transfers, the second factor is the development of technological infrastructure, the third factor is the development of new financial instruments, including derivatives - options, futures, forwards, etc. related to the activity. [63, 65] The fourth factor is the international integration of financial markets. [169, 172] The fifth factor is the performance of firms that assess market conditions. These companies try to confirm and dictate the general rules of the game in the market by determining the rating of securities.

4. Analysis and assessment of the current state of the stock market in Azerbaijan

In recent years, significant progress has been made in the development of the country's stock market. The chart below shows the level of development of the stock market for the period covering 2010-2020. Compared to 2010 the securities market increased by 6.1 times in 2020 including government securities by 5.7 times and corporate securities by 4.2 times.



Graph 3. Development dynamics of the stock market in Azerbaijan

Source: (6, 10, 170, 176) Compiled by the author based on the information.

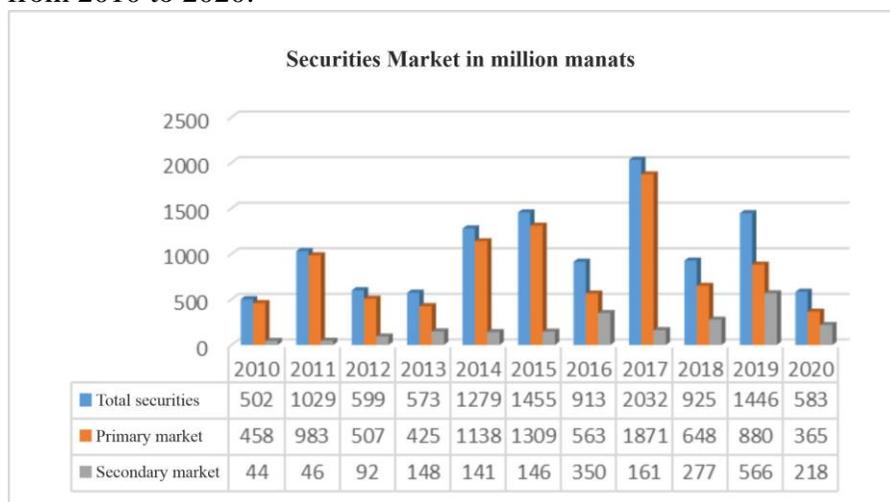
In 2016, the Central Bank issued notes worth 567 million manat, with a yield of 14.9%. [6, 173] Regarding government securities transactions, it should be noted that since 2010, the volume of government bonds has been declining. As a result, compared to 2010, the volume of government bonds surged sixfold in 2019 to 2.8 billion manat, and 1.6 billion manat on 872 transactions in 2020. The Central Bank's notes were the largest increase in 2019.

The volume of repo / counter-repo transactions in government securities in the stock markets also increased. In 2020, repo / counter-repo transactions with corporate bonds doubled compared to 2017 and amounted to 36 million manat. In 2020, 90% of repo / counter-repo transactions fell on government bonds.

During 2018, trading operations were conducted on the Baku Stock Exchange's derivative financial instruments platform using currency-based and commodity-based derivative financing products worth a total of 7.4 billion manat and 1.03 billion manat, respectively. In 2020, the total volume of securities transactions on the BSE amounted to 12.9 billion manat. [170, 173]

The main characteristics of the stock market in Azerbaijan are characterized by the level of development of primary and secondary

markets. According to the level of development, the second stock market is relatively weak. The development of the primary market in Azerbaijan has increased due to measures taken under the privatization program. Currently, the primary market accounts for 90% of the country's stock market. All of this may be seen in the graph below, which shows the stock market's degree of development from 2010 to 2020:



Graph 4. The level of development of the stock market in Azerbaijan

Source (6, 10, 170, 176) Compiled by the author based on the information

The stock market has consistently increased from 2010 to 2017. The stock market fell in the following years, and in 2020, the main market was worth 365 million manats, while the secondary market was worth 218 million manats. In comparison to 2017, the stock market in 2020 plummeted by 3.5 times and reached 2010 levels.

As a result of the study of the current state of the stock market in the Republic of Azerbaijan, it was determined that there is a close relationship between the level of development of corporate securities and government securities. The volumes of government securities have developed due to the Central Bank's notes and repo / reverse repo transactions. The study found that the stock market, especially the secondary stock market, is very weak. The expansion and development of the securities market leads to the creation of a favorable investment

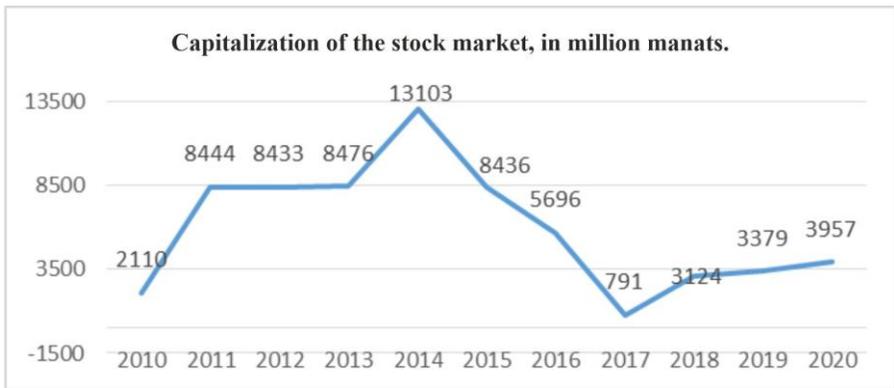
climate in the country and the rapid realization of the above mentioned point.

The stock market's primary goal is to increase the country's standing in the global investment market, which encourages investment by attracting and successfully redistributing funds. To achieve these objectives, appropriate measures should be taken to expand the government securities market, optimize the mechanism for attracting additional funds to the corporate securities market and securities market management, improve investor protection legislation and stock market financial instruments, reduce long-term and medium-term investment risks, and trade on stock exchanges, build new mechanisms for the development of the stock market system, expand stock market infrastructure to minimize capital inflows and investment sources, and improve the stock market mechanism's regulation.

5. Analysis and assessment of the level of capitalization of the stock market in Azerbaijan

Raising stock market capitalization is critical for regulating economic development in our country. It should be mentioned that the level of capitalization of the stock market is determined by the number of securities transactions.

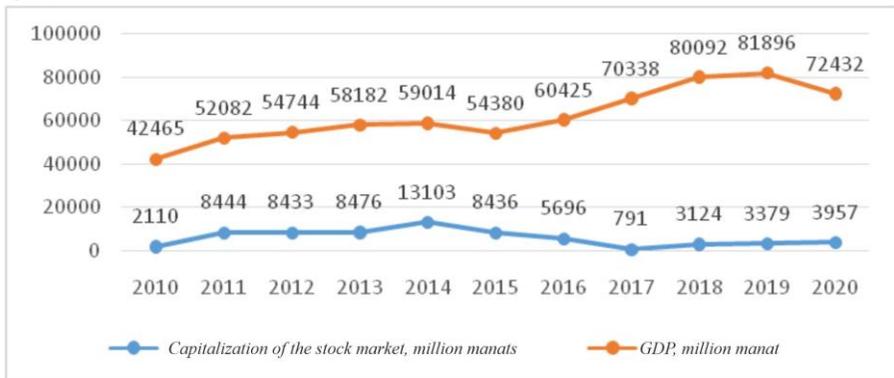
The level of capitalization of the stock markets of Azerbaijan in 2016 increased by 2.7 times compared to 2010 and amounted to 5.7 billion manat. [6, 176] Although the main development of the stock market in our country started in 2010, the level of market development was low in those years. In 2014, the Azerbaijani stock market reached the pinnacle of its development. Despite the fact that the stock market's value was 13.0 billion manat at the time, growth slowed in the following years. This figure is expected to reach 3.9 billion manat in 2020. All of this may be seen in the graph below, which depicts the capitalisation of the Azerbaijani stock market from 2010 to 2020.



Graph 5. Stock market capitalization level

Source: (10,176). Compiled by the author based on the information

Despite the fact that the country's stock market's major phase of development overlaps with the last five years, market capitalization as a percentage of GDP in 2020 was 5.46 percent. This indicates that Azerbaijan's stock market capitalization as a percentage of GDP is low in comparison to many other countries. The figure below depicts the stock market's capitalization and the volume of GDP.



Graph 6. GDP and stock market capitalization level (million manat)

Source. (6, 10, 170, 172, 176) Compiled by the author based on the information.

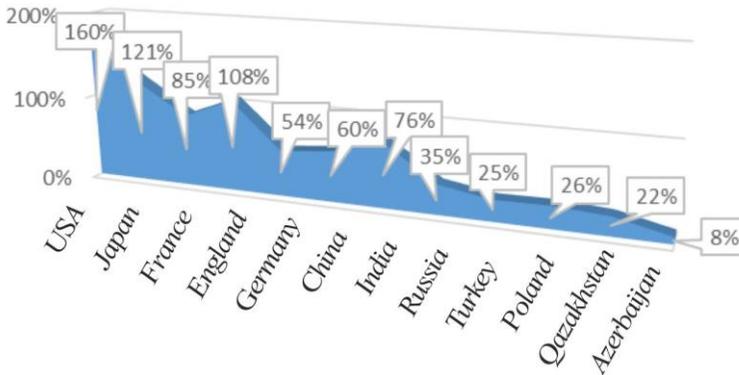
Fixed-asset investments also have a significant impact on the stock market's capitalisation. The stock market in Azerbaijan has a

modest capitalization compared to fixed asset investments in the country. Although fixed asset investments climbed by 1.8 times in 2014 to 17.6 billion manat, they declined by 2.7 billion manat in 2016 due to decreasing oil prices as a result of the global financial crisis. The value of fixed asset investments is expected to reach 17.0 billion manat in 2020. While the volume of fixed asset investments in the country was 4.7 times higher in 2010 than the overall capitalization level of the stock market, the difference was 4.3 times higher in 2020.

In recent years, the amount of development of the debt instruments market has also slowed. The primary stage of development of the debt instruments market was from 2010 to 2014, and while the level of development of the existing market increased by 4.9 times in 2014 compared to 2010, there was a decreasing tendency in subsequent years (172). Nevertheless, the purchase and sale of SOCAR bonds is growing. SOCAR bonds were initially issued in US dollars. The number of bonds issued was 100,000 (one hundred thousand) and the nominal value of each bond was 1,000 (thousand) US dollars. The maturity of the bonds is set at 5 years. It should be mentioned that SOCAR's long-term credit rating has been affirmed at "BB" by Fitch and "Standard & Poors," while another international credit rating agency, Moody's, has affirmed it at "Ba1".

The stock market in Azerbaijan has a lesser capitalisation than in other countries. In 2020, our country's stock market capitalization was 3.9 billion manat, which was lower than the rest of the globe, including the CIS countries, and lower than Russia and Kazakhstan. As a result, Russia's stock market capitalization was \$694,7 billion at the time, while Kazakhstan's was \$45.5 billion. In the graph below, the weight of the level of capitalization of countries by GDP for 2020 is more clearly indicated.

Weight of capitalization level in the GDP, 2020



Graph 7. Weight of capitalization level by GDP by countries

Source: (10, 169, 170, 172, 176) compiled based on the data.

The capitalization level of the stock market in Azerbaijan in 2020 was 3.9 billion, and amounted to 8% of GDP.

The stock market's poor performance in our country indicates that our country's position on this indication is weak. For comparison, the countries' stock markets are fundamentally different from ours due to their potential to considerably impact markets and high stock market levels, and they are ahead of Azerbaijan.

6. Assessment of the impact on stock market capitalization in Azerbaijan based on econometric models.

One of the main indicators determining the scale of stock markets is the level of capitalization of this market. The growth of stock markets raises the weight of national enterprises' capitalization in the GDP. Increases in the unique weight of national enterprises' capitalization levels in the GDP have a substantial impact on their shares' part in the GDP sold on stock markets.

The correlation between capital investment and the level of capitalization of the stock market is higher. Table 2 has been compiled to determine the dependency between investments in main assets affecting the level of capitalization of the Republic of

Azerbaijan's stock market for 2014-2020, foreign investments involved in the country, deposits attracted by banks from the population, state budget revenues, and state budget expenditures in order to determine this relationship.

Table 2.
A set of variables that affect the stock market (mln manat)

Years	Investments in main assets, (X1)	Foreign investments involved in the country, (X2)	Deposits attracted by banks from the population, (X3)	State budget revenues, (X4)	State budget expenditures, (X5)	Capitalization level of the stock market (Y)
2013	17871	8269	6396	19496	19144	8476
2014	17618	9176	7188	18401	18709	13103
2015	15957	10999	9474	17498	17785	8436
2016	15772	16216	7449	17506	17751	5696
2017	17430	15697	7561	16517	17595	791
2018	17238	14002	8375	22509	22732	3124
2019	17900	12120	8638	23168	25190	3379
2020	17028	6100	8178	24124	27492	3957

Source: Compiled by the author on the basis of SSC data.

In order to conduct regression analysis to evaluate dependency between variables reported in table 2 in the dissertation work, EViews, MatLab, MS Excel, MathCad, and other mathematical computer packages were utilized. Based on the analysis and regression analysis, the following correlation equation has been obtained.

$$y = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \alpha_4 x_4 + \alpha_5 x_5$$

$$= 12847,8 - 0,600 x_1 - 0,791 x_2 + 0,886 x_3 - 2,505 x_4 + 3,180 x_5$$

From the relationship equation, it can be concluded that a single increase in fixed capital investment leads to a 0.600 unit decrease in the stock market capitalization in Azerbaijan, a single increase in deposits attracted by banks increases the capital market capitalization by 0.886 units, a single increase in state budget revenues a decrease of 2,505 units in the level of capitalization, a single increase in state budget expenditures leads to an increase in the

level of capitalization of the stock market by 3,180 units.

The level of capitalization of the stock market in Azerbaijan is low compared to other countries. Thus, in 2020, this value was 3.9 billion manat, which is significantly lower than the 2010-2020 figures for Russia and Kazakhstan. Russia's capitalisation is currently 694.7 billion dollars, whereas Kazakhstan's is 45.5 billion dollars.

GDP and capitalization are inextricably related. The relationship between these indicators is based on mathematical approaches, and the relationship equation shows that a 1 billion manat increase in stock market capitalization will result in an average increase in GDP of 2.68 billion manat.

Let us anticipate changes in the level of capitalization of the stock market in Azerbaijan for the period 2021-2025, depending on the time factor, using the method of analysis of dynamic series.

Table 3
Dependence of the level of capitalization of the stock market on the time factor

Years (t)	Capitalization level billion. man. (y)	t ²	ty
2015	8,44	1	8,44
2016	5,70	4	11,4
2017	0,79	9	2,37
2018	3,12	16	12,48
2019	3,38	25	16,9
2020	3,96	36	23,96
$\sum t = 15$	25,39	$\sum t^2 = 91$	$\sum ty = 75,55$

Source: (170, 172) Compiled by the author based on the information

Using the least squares method, the following linear equation is obtained,

$$25,39 = 6\alpha_0 + 15\alpha_1$$

$$75,55 = 15\alpha_0 + 91\alpha_1$$

The analytical expression for forecasting the level of capitalization of the stock market, consisting of the coefficients of the regression equation, depending on the time factor, will be as follows.

$$y = \alpha_0 + \alpha_1 t = 3.6 + 0,22t$$

The studied forecast indicators of the economic system - the level of capitalization of the stock market for 2021-2025 will be assessed as follows.

$$y_{2021} = 3.6 + 0,22 \times 7 = 5,4 \text{ billion manat}$$

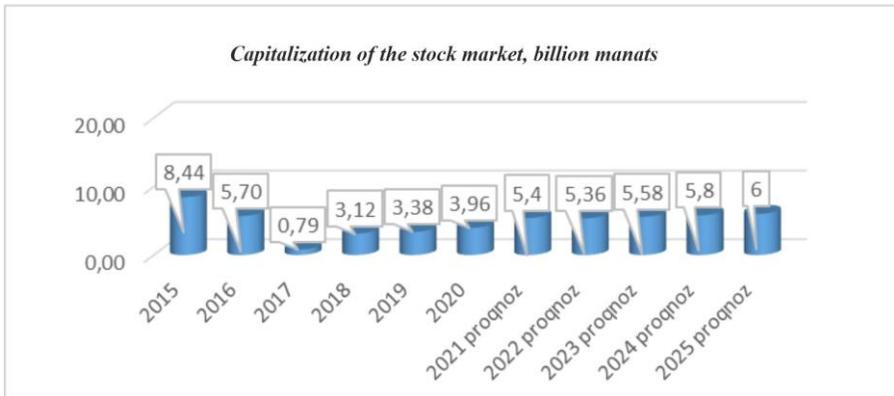
$$y_{2022} = 3.6 + 0,22 \times 8 = 5,36 \text{ billion manat}$$

$$y_{2023} = 3.6 + 0,22 \times 9 = 5,58 \text{ billion manat}$$

$$y_{2024} = 3.6 + 0,22 \times 10 = 5,8 \text{ billion manat}$$

$$y_{2025} = 3.6 + 0,22 \times 10 = 6 \text{ billion manat}$$

As a result of the foregoing estimates, the Republic of Azerbaijan's stock market capitalization is predicted to be in the volume given in the table below for the period 2021-2025.



Graph 8. Forecast of stock market capitalization in Azerbaijan

Source: Based on an assessment by the author.

7. Improving the price mechanism to increase the effectiveness of the use of financial instruments in joint stock company development

The stock market's increased capitalisation has had a significant impact on the regulation of joint-stock firms in Azerbaijan. Enterprise regulation is influenced by the structure and cost of capital. Management is built on a system of specific principles and ways of producing management decisions connected to its optimal creation from various optimal sources, depending on the stock market and political situation in general.

The structure and value of capital can be regulated using a variety of approaches and technologies. For instance, a planned increase or fall in the actual value of equity, an increase in equity through the issuance of shares or bonds, or the acquisition of loans are all examples of planned increases or decreases in equity.

When looking for a way to increase the value of capital, the corporation should aim to keep the cost of purchase as low as possible. The cost of capital is a barometer of the market value of the company. [33] The price of an enterprise's stock is inversely related to the cost of borrowing money. When the stock price of a joint stock business changes in the stock market, this dependence is most obvious.

Based on the findings, several arguments may be made for the utility of improvements in the theory and practice of calculating a company's market value, which alleviate the flaws of traditional stock valuation methodologies. The firm's shares are frequently appraised on the stock exchange when the cost approach is employed, and these shares have a definite value, whereas the worth of the company estimated using the net assets technique is regarded negative. This disparity is attributable in part to the net asset method's inadequacies, as it does not account for the impact of individual elements on the company's worth, such as the value of management decisions.

In terms of investment, the income approach to valuing a company is more acceptable because any investor receives a set of future income, not the total of the enterprise's assets. In addition, this approach can be used to evaluate any operating entity. The income technique can be used to evaluate a business that has a long history of economic activity and is in a growing or stable stage of development. This strategy, on the other hand, is less suitable for enterprises that operate at a loss on a regular basis, as well as for new organizations with unclear returns.

DDM (dividend discount model) models are used in international practice when valuing securities. The application of these methods requires the prediction of dividends over an indefinite period of time.

The DDM model with a constant rate of dividend growth can be written as follows:

$$\frac{P}{E} = \frac{\frac{D}{E}}{1 - d}$$

As can be seen from this equation, a high P/E ratio may be the result of the following events:

1. If the company does not attract further sources of debt financing, the high P/E ratio, or rather, a substantial portion of the company's profits is dedicated to dividend payments, indicating a low investment activity of the company.

3. The high value of d indicates a high growth rate of the company's dividends.

Sometimes the DDM model is associated with an enterprise's investment policy:

$$D = (1 - K) \text{EPS},$$

Here K - share of profits reinvested in the company's real projects. This provides rate of return - IRR - . EPS - earnings per share. (Earnings Per Share) D - dividend per share:

In this case, the growth rate of the company's future income (d) will be calculated as follows:

$$D = K * iRR,$$

Here, iRR - is the company's investment return.

It should be noted that if $i < iRR$, more specifically the return on investment is higher than the level required by investors, then the growth of derivative financial instruments will lead to an increase in the firm's value. Conversely, in the case of $i < iRR$, the firm's stock price will fall as the share of reinvested earnings increases.

The interpretation of the result is very simple. If the profitability of the company's investment projects is higher than the average level ($i < iRR$) at the mid-range risk, then it is more convenient for shareholders to invest within the company without receiving dividends.

We believe that companies will be able to uncover investment attractiveness and estimate the development potential of a specific issuer's stock market by performing a thorough examination using such models, according to our perspective.

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The defense will be held *on “29” September 2021* at ED 2.10. Dissertation council of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at Azerbaijan State University of Economics.

Address: AZ 1001, Baku, Istiglaliyat street 6

The dissertation is accessible at the Azerbaijan State University of Economics Library.

Electron versions of dissertation and its abstract are available on the official website of the Azerbaijan State University of Economics.

Abstract was sent to the required addresses on *“27” august 2021*.

Signed for print: 27.08.2021
Paper format: 60x84 ^{1/16}.
Volume: 07/06. Number of hard copies: 20

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