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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

**COMPARATIVE STUDY OF THE DEVELOPMENT OF
AZERBAIJANI-TURKISH COMMERCIAL BANKS**

Speciality: 5310.01 – The world economy

Field of science: 53 – Economic sciences

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The work carried out, at the Institute of Oriental Studies named after Academician Ziya Bunyadov, East-West department.

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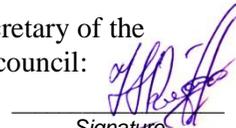
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GENERAL FEATURES OF WORK:

Relevance of the topic.

Turkey and Azerbaijan's history, the policy of neighboring statehood, religion, language, and common interest have created conditions for the expansion of economic relations year by year.

The development of economic relations between the two countries, especially in recent times, is clearly visible. Considering that in our modern era, the main part of settlement forms of these relations is carried out through banks. In this regard, the similarities and differences in the banking system between the Republic of Azerbaijan and the Republic of Turkey have been analyzed. Identification and detection of problems in this area are important in terms of further strengthening economic development.

On the other hand, one of the main directions of ensuring stability in the financial sector is the banking sector. Since the domino effect in the banking sector is very sensitive, every country tries to achieve stability in the financial and banking system. In this regard, one of the main problems of the financial markets is the study of the problems of banking activity and the determination of ways out. Digital banks that are innovative in this field and the practical application of world experience to local banks is a must. The development and improvement of operations in the service and sales areas of commercial banks are always relevant.

The study of the banking sector of the Republic of Turkey at the modern stage and the application of the positive aspects of this field to the commercial banks operating in the Republic of Azerbaijan are of great relevance today.

Comparative research and study of two states' banking sectors - Turkey and Azerbaijan - among financial institutions in the European and international world, development of pro-cyclical behavior in terms of efficiency and modernity in this sector, modernization of innovative changes, renewal of corporate standards. Commercial banks are defined as a vehicle or bridge that transmits money from the economy to the financial markets.

Research work level:

This, in turn, summarizes the methodological provisions and creates great opportunities for the study of the crediting system of commercial banks at the modern stage, for the formation of its economic essence and content as the central link of the credit policy. Another goal is to determine the liquidity for the attraction of free resources, to increase the efficiency of their use by properly managing unexpected risks, to improve the quality of the transformation of the bank's liabilities into assets, to prevent non-performing assets, to form targeted reserves created to compensate for possible losses on non-standard assets, proper human resource management, labor productivity improvement, and financial stability. It consists of investigating the modern state of the enterprises, revealing the existing shortcomings, and making concrete proposals to improve and develop cooperation in the banking field between Azerbaijan and Turkey.

Modern problems of banking are carefully examined in the works of E. Dolan, J. Matuk, E. Reed, E. Rode, P. Poyz, M. Friedman, etc. scientists.

Characterization and research of the characteristics of banks by Azerbaijani scientists and professors: Abbasov A., Mammadov Z., Rzayev R., Ganbarov F., Shamsaliyeva Sh., Researches on banking and digital banking: Abdullayev Sh., Banking system and management of bank resources in Azerbaijan: Bagirov M.M., Banks and banking operations have made great contributions to innovations. Economic thinkers and scientists of Azerbaijan: Z.A.Samadzade, A.B.Sariyev, I.H.Aliyev, D.A.Valiyev, G.A.Ganciyev, Y.Hasanli, M.G.Gulaliyev. T.N. Aliyev, Sh.H. Hajiyev, B.C. Ahmadova, R.R. Guliyev, F.A. Gambarov, A.A. Eyvazov, Y.H. Hasanli, A.I. Karimli, S.V. Farzaliyeva, S. Abbasova, A. Rustambayov, H.B. Rustambayov. I. Karimli, R. Guliyev, I.H. Yuzbaşıyev, N.M. Imanov, R.T. Hasanov, M.Kh.Hasanli, A.G. Alizayev, M.Kh. Meybullayev and others investigated the aspects of the banking sector's impact on the economy in Azerbaijan.

In the Republic of Turkey, Unamun R. Coastal Banking, Kibritçioğlu, A., Acar. M. U., Apak Sudi, Alaybeyoglu Yalchin, Çankaya F., Ekren Nazim, Eryurek Shenay, Ferman Cumhuri, Geylan

Ramazan, Gunday Lale, Hakyemez Cem, Karacan Ali Ihsan, Takan Mehmet, Manisali Erol, Yıldız Ayanoğlu, Aydın Karapınar, Figen Zaif, Metin The researches of doctors of economics, thinkers and many economists such as Sarachoglu, Ridvan Bayirli, Adem Altay, Hasan Bal, Pekcan Erdoğan have led to great achievements.

The theoretical and practical concerns of commercial bank establishment, operation, and improvement in Turkey and Azerbaijan have received little attention in Russian economists and scientists' study. This is a sufficient instance. Economic contacts with foreign countries outside the Soviet Union were non-existent under the Soviet Union. Following the demise of the Soviet Union, Turkish-Azerbaijani relations were reinforced further, and new projects were successfully inked. The significance of the works published in this sector is enormous; the integration of mutual economic contacts and processes between Turkey and Azerbaijan plays a significant role in market relations. However, numerous theoretical and methodological, scientific-practical processes have yet to be thoroughly researched.

Analyzing the results of the integration of Turkish banking into the economy of Azerbaijan, Azerbaijani scientists achieved great scientific results.

The level of study of the problem.

Our economist professionals in this field are Z. A. Samadzade, A. B. Sariyev, I. H. Aliyev, D. A. Valiyev, G. A. Ganciyev, M. G. Gulaliyev. T.N. Aliyev, Sh.H. Hajiyev, B.C. Ahmadova, R.R. Guliyev, F.A. Gambarov, A.A. Eyvazov, Y.H.Hasanli, A.I. Karimli, S.V. Farzaliyeva, S. Abbasova, A. Rustambayov, H.B. Rustambayov. I. Karimli, R. Guliyev, I.H. It was investigated by Yuzbaşıyev, N.M. Imanov, R.T. Hasanov, M.Kh. Hasanli, A.G. Alizayev, M.Kh. Meybullayev and others. International professionals and thinkers such as M. Freedman, V. V. Lapytev, C. M. Keynes, J. A. Gobson, J. Frankel, S. Peterson, Russian scientists K. A. Semyonov, V. D. Prilyuk, E. T. Rulko, E. L. Yakovleva, S. I. Tyulpanov, E. E. Smirnova, N. V. Khvalinskaya., A.V. Engibaev, V.L. Malkevich, L.A. Zubchenko, V.G. Butkevicha, Turkish scientists Kibritchioglu, A., Acar. M. U., Apak Sudi, Alaybeyoğlu Yalçın, Çankaya F., Ekren

Nazim, Eryürek Şenay, Ferman Cumhuri, Geylan Ramazan, Günday Lale, Hakyemez Cem, Karacan Ali İhsan, Takan Mehmet, Manisali Erol, Yıldız Ayanoğlu, Aydın Karapınar, Figen Zaif did research on this matter.

In the dissertation work, the economic relations between Azerbaijan and Turkey in the modern situation were analyzed, bilateral protocols and memorandums concluded for cooperation, national thinking and aspirations, and their development and improvement based on the principle of one nation, two states were analyzed.

The main purpose of the dissertation:

In the process of researching the sphere of banking services in Turkey and Azerbaijan, it is to examine the economic potential of commercial banks and prepare proposals and recommendations to strengthen economic cooperation in this direction.

In order to achieve the set goal, the following tasks were defined and solved in a logical sequence:

- Summarize and systematize theoretical views on the development of the banking system.
- To study the international experience related to the development of the banking system in modern times.
- Investigating the characteristics of the banking system in the Republic of Turkey.
- Systematization of bank risks.
- Investigating the features of banking system management in the Republic of Turkey.

The object of the research is the commercial banks of financial institutions operating in Turkey and Azerbaijan.

Items of research: is the characteristics of commercial banks operating in Turkey and Azerbaijan.

The theoretical-methodological basis of the research Analytical analysis, generalization statistical analysis, analysis and synthesis, and mathematical calculation methods were used during the research.

Republic of Azerbaijan's State Statistics Committee, Ministry of Economic Development, Central Bank, Ministry of Finance, Chamber of Accounts, Chamber of Auditors, Institute of Economics of ANAS,

researches of scientists of the State University of Economics, relevant reports of the Republic of Turkey, legislative acts of the Republic of Azerbaijan, legislative acts of the Republic of Turkey. Internet news information, research of Azerbaijani and Turkish scientists, scientific works and studies, etc. contained.

Scientific novelty of the dissertation:

- Maintaining customer satisfaction and creating new banking products, identifying ways of innovative improvement using international experience. The author proposed to propose a new type of credit transfer system and apply credit scoring.

- In the comparative study of the development of the commercial banks of Turkey and Azerbaijan at the modern stage, the content of their economic potential in the service sphere was considered as a set of resources that enable the banks to operate freely, stably and efficiently by performing the following three main mandatory functions. The contribution of the characteristics of the experience of commercial banks in the Republic of Turkey to the banks of Azerbaijan was investigated, and the possibilities of using the positive experience of commercial banks in the Republic of Turkey in Azerbaijan were determined.

- The importance of Turkey's experience in improving banking legislation in the Republic of Azerbaijan has been revealed. Correct setting of risk targets and correct calculation of value at risk. Determination of risk appetite for risk factors. Analysis of accountability processes for keeping risk indicators under constant control has been investigated.

- The renewal of service functions in the field of banking, the creation of products that meet modern requirements of banking services for new products, as well as the proposal of new service and control mechanisms offered by me are reflected. The possibilities of applying digital banking according to the characteristics of commercial banks in the Republic of Turkey have been investigated.

- The author made calculations on the probability of bankruptcy of Azerbaijani and Turkish banks according to the Merton model.

- Based on the Altman-Z model, the rating of Azerbaijani and Turkish banks according to the size of their assets was determined by the author.

- In order to assess the state of the current level of monopoly in the banks of Azerbaijan and Turkey, calculations were made by the author on the Hircman Herfindal Index.

- The diversification factor in banks was calculated by the author. Interbank correspondent, daily (FX, Nostro, Loro, Daily, Intraday, Overnight), short-term up to one year, one-to-three-year period and long-term limit over a three-year period of significant financial importance ratio and adequacy analysis of coefficients, as well as scoring, was prepared.

- In order to determine the sensitivity of banks in Turkey and Azerbaijan, the author determined the degree of sensitivity of total bank assets and liabilities.

Practical significance of the study:

The results of the analysis on the strengthening of the banking system between the two countries can be used.

Approval of work and application of results:

The provisions of the dissertation were presented at scientific-practical conferences, and he wrote many articles in scientific journals on this topic:

-Journal of the Silk Road of Azerbaijan University/-N1./-2017/Methodological basis of improving the management of commercial banks/A.N.Ayvazli/-21.01 -2017;

-Odlar Yurdu University /Scientific and pedagogical news magazine/ -N46.-2017/Experience of leading countries in the field of improving the management of commercial banks at the modern stage/A.N.Ayvazli/-26.06. -2017;

-Azerbaijan State University of Economics /Scientific News /journal ISSN2306-8426 /Organizational-economic aspects of the management of commercial banks/A.N.Ayvazli/year 5, volume 5, July-September. -2017.

- Azerbaijan University /Silk Road/ magazine N3.- 2017 /Features of commercial banks in the Republic of Turkey, /A.N.Ayvazli/ 10.11- 2017;

-Azerbaijan State University of Economics /Scientific News/ magazine ISSN2306-8426 /Theoretical views on the aspect of improving the activity of commercial banks/A.N.Ayvazli/- year 5, volume 5, Oct-Dec. -2017;

-II International Scientific Conference of young researchers /In the direction of the management of Commercial banks operating in Azerbaijan, the role of information technologies and directions for increasing innovative operating systems/A.N.Ayvazli/ - April 27-28, 2018;

- ADIU: /Reforms and problems in the higher education system /Problems formed in the aspect of economics and financing of the higher education system/A.N.Ayvazli/ - May 3, 2018;

- Издательство Ставролит / Журнал КАНТ/- №3(32) 09,- 2019 (p.246-249),/Сравнительное истроство комментарии банков в TURKEY и Азербария/A.H. Ayvazli/ - 15.09 -2019;

Reports were made in the above-mentioned scientific publications and conferences, and the results were published in journals and scientific materials.

Publication of articles:

The main provisions of the dissertation work were published as 7 different scientific articles in scientific journals, and in 7 different theses at international and scientific conferences.

The structure and scope of the dissertation.

My research work consists of an introduction, three chapters, nine paragraphs, a conclusion, and literature. In total, 140 pages, 8 pictures, 55 tables are presented. Introduction is 12434 characters, chapter 1 is 71093 characters, chapter 2 is 67355 characters, chapter 3 is 79688 characters, conclusion and conclusions are 15483 characters.

More than 120 literature, legislative acts, internet database were used in the writing of the scientific work.

55 local, 60 Turkish and 10 foreign literatures, 21 local and foreign articles, and 31 internet links were used in the writing of the scientific research work.

MAIN CONTENT OF THE RESEARCH

In the **introduction** of the dissertation, the relevance of the topic, the subject of the research work, the main goals and tasks are covered, the scientific, theoretical, methodological approaches of the research work, the analysis of scientific innovation, problems and solutions, the empirical significance of the research work are explained.

As a result of Ilham Aliyev's successful policy, the country's economy became internationally recognized and many big projects were launched. Great results and achievements have also been achieved in the efficient integration of the world economic system into our country. Recently, this process has been further strengthened, cooperation relations with the Turkish state have turned into two brothers, this unity speaks for itself during the liberation of our lands from occupation.

Important steps have been taken in the direction of the creation of joint companies and the development of cooperation in the form of commercial relations formed in the corporate environment.

In the first chapter of **the dissertation entitled "Theoretical-methodological foundations of the development of the banking sector"**, the theoretical views on the development of the banking system, the methodological foundations of improving the activity of banks, and the international experience in the field of the development of banks were studied. Since its inception, the first banking services have been formed on the basis of many theoretical and methodological changes. Keeping this sector in constant focus has played a leading role in meeting the integral needs and demands of the social society.

The economic development of countries on the world scale is not only measured by economic and scientific-technical progress, but also by people's lifestyles and minimum living standards. The main influencing role for economic growth is assumed by the internal and foreign policy of the state. Economic growth can be further activated if reforms are carried out in a timely manner to improve the welfare of each organization and society in general. The banking sectors have been exposed to economic crises on a global scale, and as a result of these effects, they have gone through many difficult stages and have

manifested their effects in many areas of the economy on a global scale.

The improvement of the banking sector in our country is one of the areas that developed rapidly and underwent many changes during the reforms carried out in the national economy of Azerbaijan. Commercial banks have expanded their service areas in accordance with certain requirements and increased the internal competition environment in the banking products market for modern services. The reforms carried out by the state were mainly intended for the development of the private sector, in the field of free entrepreneurial activity, and were manifested in the direction of increasing the incomes and living standards of the population, and the development of the service level and activity of commercial banks. In practice, taking advantage of the practice of improvement in developed countries provides a basis for carrying out practical and prudential reforms in this field in comparison with transnational banks.

Commercial banks are extremely sensitive to imbalances in the economy. Banks bear responsibility and risk in their own way in multiplying deposits. For this reason, general economic conditions and reforms should be properly carried out in order to heal the banking sector. Otherwise, one or more banks will quickly lead to a crisis in other banks, as well as the subjects of the financial and real sectors, and finally the economy as a whole. Commercial banks are for-profit institutions like other commercial enterprises. Banks operate safely on the one hand to maximize their profits and on the other hand to develop the market. Banks think to give more loans, invest more to get more profit. Due to this, they have to collect more deposits. They reduce the deposit cost and dividend cost so that the banks can achieve their goals of making more profit. Because loans that lose the ability to return will cause the bank both losses and liquidity problems.

If we observe the recent periods, we can determine that the incomes of commercial banks in the world banking experience are derived from non-traditional commissions and mediation operations, especially in the field of underwriting, factoring, and leasing.

The most obvious manifestation of credit risk is default, which is the borrower's inability or unwillingness to fulfill the terms of the

loan agreement. Therefore, the category of credit risk primarily includes losses due to the declaration of default by the counterparty. In the conditions of market economy, the lowering of the borrower's credit rating is also added to the credit risk. Because such a situation usually leads to a decrease in the market value of liabilities and profit losses.

Over the past 30 years, Western economists and banks have developed various methods to assess the potential quality of borrowers using various types of statistical models. The purpose here is to prepare a single (standard) methodological approach, taking into account the objective characteristics of the borrower, and to determine whether future customers are reliable or unreliable based on those criteria. One such model is the Z-score model used in credit analysis by banks in the 1970s. That model (Z - score) is as follows:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.64X_4 + 0.999X_5$$

Here:

X1=Working Capital/Total Assets

X2=Retained Earnings/Total Assets

X3=Earnings Before Interests and Taxes

Total Assets

X4=Market Value of Equity/Total liabilities (Total Liabilities)

X5= Sales/Total Assets

Differentiation zones can be considered as "Safe" Zone, "Grey" Zone and "Distress" Zone. However, it can also be approached as per the table below:

Table: 1

Zones of differentiation

Z-quantity	The possibility of bank failure
$Z < 1.81$	80-100%
$1.81 \leq Z < 2.77$	35-50%
$2.77 \leq Z < 2.99$	15-20%
$2.99 \leq Z$	According to 0

Table: 2
Parameters of differentiation zones

F -statistics for Z-model parameters			
<i>Parameters</i>	<i>Average value for defaulting companies</i>	<i>Average value for non-defaulting companies</i>	<i>F -statistics</i>
Working capital/total assets	-6.10%	41.40%	32.6
X ₂ = Retained earnings / total assets	-62.60%	35.50%	58.86
X ₃ = EBIT/Total Assets	-31.80%	15.40%	26.56
X ₄ =MVE (Market Value of Equity)/Total Liabilities	41.10%	247,70%	33.26
X ₅ = Sales / Total assets	1.5	1.9	2.84

[Source: author's research based on statistics].

Interest income and interest expenses significantly affect the financial results of commercial banks. When assessing the interest rate risk in commercial banks, it traditionally assesses the sensitivity of assets and liabilities to interest rates. GAP analysis continues to be the most common method for assessing interest rate risk. GAP-analysis is based on the distribution of the bank's interest-sensitive assets and liabilities.

Quantitatively, GAP is calculated as follows:

GAP= (RSA- Risk sensitive Assets) – (RSL- Risk sensitive liabilities)

Table: 3
Estimation of interest discrepancy

(GAP) inconsistency	Market interest rates	Net interest income
Positive (bank liabilities are interest sensitive)	Increases	Increases
Positive	Decreases	Decreases
Negative (in terms of bank liabilities, interest is positive)	Increases	Decreases
Negative	Increases	Increases

In the second chapter entitled "**Modern Development Features of Turkish Banks**", the characteristic features of banking activity in Turkey, determination of the RISK map for the identification of bank

risks, RISK targets, scientific and practical views on the direction of risk diversification were analyzed and researched. Risk measurement: Hirschman-Herfindahl method to determine the concentration level, risk assessment; Determination of risk appetite; The use of Var RISK models, Variance Covariance method, Historical simulation method, Monte Carlo method, Bachktesting method for measuring value at risk and tolerance are covered.

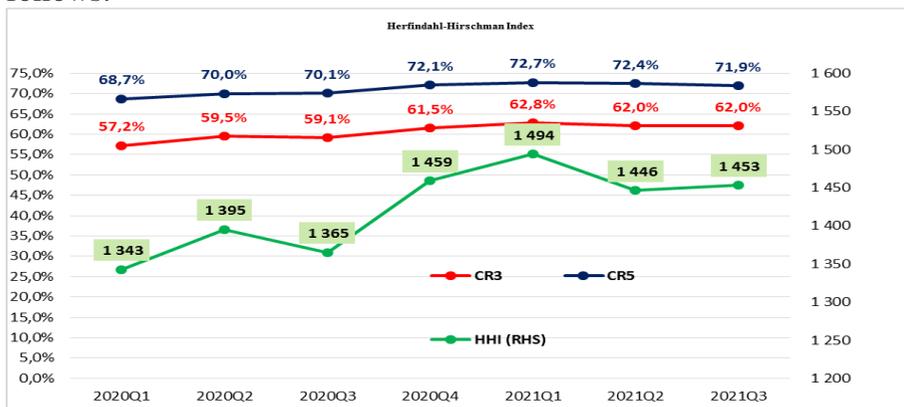
The Herfindahl-Hirschman Index is widely used to determine the level of competition during the analysis and research of scientific and practical perspectives on RISK targets, risk diversification. This index is an indicator of the extent of competition. Increases in the Herfindahl index generally indicate decreased competition and increased market power, while decreases indicate the opposite. The HHI index is calculated by taking into account the square of each bank's share of assets in the total banking sector.

HHI < 1,500 Competitive marketplace

1500 <= HHI < 2500 Moderately concentrated

HHI >= 2500 Highly concentrated

Based on the comparison of the results of 2020 (4th quarter) and 2021 (3rd quarter) according to the volume of assets of Azerbaijan, if we use the HHI method, the correction on the schedule will be as follows:



Picture: 1. Concentration analysis of banks according to assets according to HHI

CR3 - indicators for the 3 largest banks IBA, PASHA, Kapital bank.

CR5 - indicators for the 5 largest Banks IBA, PASHA, Kapital, Xalq, Bank Respublika.

According to the Herfindahl-Hirschman Index, the market competition of Azerbaijani banks has increased over time. [Source: Azerbaijan Banks Association.]

In the third paragraph of the second chapter, the management experience of Turkish banks is analyzed.

A lot of strategic work is being done with the aim of analyzing the financial markets with new banking services and operations being formed. It is formed according to the marketing strategy created by the bank to enter the competition. An internal strategy and a long-term bank policy based on the information and material base of service evaluation should be developed.

Research of Turkish and Azerbaijani Banks in the modern era, creation and development of the reproduction base in accordance with modern requirements. Forming new service areas according to consumer demand, presenting new forms of online banking services as a result of marketing research, conducting instalment transactions on favourable terms, giving preference to non-interest income over interest income, and efficient use of existing resources for the production of low-risk but profitable products and services consists of.

It includes about 100 types of services in the field provided by developed commercial banks operating in the Republic of Turkey. It should be noted that commercial banks, credit institutions, and banks operating in Turkey and Azerbaijan freely determine the interest rate on deposits and the number of transaction commissions based on competition criteria. However, despite this, certain internal and external factors also affect the interest rate on deposit operations of commercial banks. This is a clear example of the competition between domestic and foreign commercial banks developed at the modern stage.

The conditions of competition in the banking sector, the structure of competition, the situation of state banks in the sector, technological developments, economic developments, monetary policy, financial

policy, reactions from society, society's opinions and developments in financial markets can be counted among the external environment elements. The balance sheet must comply with the rules set by the accounting standards for the valuation of objects.

The third chapter of **the thesis entitled "The importance of the positive experience in the development of Turkish banks for Azerbaijan"** examines the similarities and differences in the activities of Azerbaijani and Turkish banks, the importance of Turkish experience in improving the banking system of Azerbaijan, and directions for increasing the role of information technologies in the activities of banks.

In modern times, one of the priority areas in the direction of expanding the activity of commercial banks is the introduction of non-traditional services and innovative operations.

At the modern stage, in the process of researching the sphere of banking services in Turkey and Azerbaijan, the economic potential of commercial banks is examined and financial indicators are determined in this direction. The goal is to restore the stability of financial institutions and develop banks according to modern requirements. This, in turn, summarizes the methodological provisions and creates great opportunities for the study of the crediting system of commercial banks at the modern stage, for the formation of its economic essence and content as the central link of the credit policy. It is important to determine the economic potential of commercial banks, to involve their resources in a wide reproduction. Another of the set goals is to determine the liquidity for the attraction of free resources, to increase the efficiency of their use by properly managing unexpected risks, to increase the quality of the transformation of the bank's liabilities into assets, the prevention of non-performing assets, the formation of special reserves created for the compensation of possible losses on non-standard assets, proper management of human resources, improvement of labour productivity and financial status as an innovative service area that meets modern requirements. It consists of investigating the modern state of the enterprises, revealing the existing shortcomings, and making concrete proposals to improve and develop the banking cooperation between Azerbaijan and Turkey.

According to the final reports of Azerbaijani banks for 2021, the average interest rate basket of consumer loans offered by 21 banks was 1.66% monthly and 20% annually.

As of September 2021, the total number of people using consumer loans and mortgage loans in the Republic of Turkey was 25 million 657 thousand people, and the loan amount was about 682 billion TL. In the period of July-September 2021, 4 million 299 thousand people were given consumer loans and housing loans in the amount of 111 billion TL. In July-September 2021, the number of credit users increased by 19 percent compared to the corresponding period of 2020, and by 25 percent compared to the period of April-June 2021.

Researching the economic relations between Azerbaijan and Turkey and the directions of development of joint projects determines the general and different principles of commercial banks for financial institutions operating in Turkey and Azerbaijan.

The importance of Turkey's experience in improving banking legislation in the Republic of Azerbaijan has been revealed.

Banks operating in Azerbaijan and Turkey were comparatively analyzed in the thesis, similarities and differences were revealed. With the results and proposals obtained as a result of the research, the development of modern banking in both countries in the future and the creation of conditions according to international standards were justified.

The tangible and intangible assets of Azerbaijan Banks were analyzed and diversified (in millions of manats) by comparative analysis for periods, the information is given in the following table:

Table 4
Tangible and intangible assets of Azerbaijani banks

Date	Cash	correspondent remainings	Non-current remainings	Deposits	Securities	Loans	Reserves	fixed assets	Intangible assets	Other assets	Total assets
2019	1531.5	260.7	326.6	5538.2	3261.3	1520.5	1449.7	987.4	167.8	163.0	32722.8
2020	1532.2	307.1	349.3	4155.7	4335.0	1441.6	1136.6	741.4	146.4	131.4	32055.3
2021	1803.2	721.3	460.5	1879.3	4890.1	1698.2	1145.8	774.8	154.9	132.4	38462.2

[Source: <https://www.cbar.az>]

The composition of tangible and intangible assets of Turkish Banks was analyzed by period, and the overview of balance sheet diversification (in million YTL) based on the comparison of the results is given in the following table:

Table 5.

Tangible and intangible assets of Turkish banks in million YTL.

Date	Cash	correspondent remainings	Notes receivables	Deposits	Securities	Loans	Reserves	fixed assets	Intangible assets	Other assets	Total assets
2019	831	1743	645	1474	385	204	1018	1785	503	127	8715
2020	1159	2158	803	1830	426	255	1130	2075	618	142	10596

Source: [Statistical reports on Turkish banks].

Banks mostly benefit from "deposit" and "interbank money market operations" in order to ensure liquidity. Although the cost of deposits is generally higher than other resources, they have preferred resources by banks due to the fact that they are a healthy and volatile source of funds. The deposit portfolio is secured by a large number of small deposit holders, it also reduces the risk of one-time outflow of large amounts of funds.

Until 2000, Bank communications were collected only from the Norton Comador database, but since 2000, communications have been developed in the form of systems in the IES by developing processes based on more powerful PYTHON, Anaconda, MS-SQL, Software Foundation, C#, Java programming tools. Bank operating systems recommended by recent times for their reliability and functionality have been analyzed by me, these companies include Soft Club, GNI, M-bank, Temenos software, the analysis is given in tables 6 and 7 below:

Table 6
Soft Club, GNI, M-bang, Temenos - financial indicators

Financial figures for 2019: in US dollars				
	M BANQ	GNI	Soft Club	Temenos
Sales	5 041 099	906 766	6 431 720	971 970 000
Net income	171 994	10 244	2 175 999	181 121 000
Current assets	414 220	14 935	3 159 072	2 322 401 000
Total Assets	10 425 590	21 461	5 121 081	2 322 401 000
Obligations	11 119 238	11 456	2 406 536	1 877 321 000
Equity	- 693 648	10 004	2 714 545	445 080 000

[Source: <https://mbank.pl>; <https://soft.club.com>; <https://temenos.com>;
<https://gnisoft.az>]

Table 7
Soft Club, GNI, M-bang, Temenos - financial ratios

Maliyyə Əmsalları - 2019				
	M BANQ	GNI	Soft Club	Temenos
Current liquidity	0,04	1,3	1,3	3,3
Instant liquidity	0,04	1,3	1,3	0,85
Working capital	- 10 705 018	3 478	752 536	1 619 647
Financial Leverage	-1603%	115%	89%	422%
Profitable sales margin	4 869 105	827 756	2 102 006	540 265
Breakeven to Sales ratio	96,6%	91,3%	32,7%	55,6%

[Source: <https://mbank.pl>; <https://soft.club.com>; <https://temenos.com>;
<https://gnisoft.az>]

CONCLUSIONS AND OFFERS

The research shows that there have been positive changes in the field of economic relations between Azerbaijan and Turkey. We must take into account that the global changes manifested in the world in terms of the processes taking place have led to important innovative changes in financial institutions, which are one of the main mechanisms in the information economy, and have had a significant impact on the rapid development of the banking sector and its specialization according to modern requirements.

The proper regulation of market relations has always been the focus of the private and public sectors. In particular, the investigation of the processes arising in the conditions of globalization and the study of the problems that arise as a result of the activities carried out in the banking sector is always on the agenda. The economic reforms carried out in modern times serve to further improve banking activity in both Turkey and Azerbaijan. Time demands adaptation of this sector to new conditions that meet new principles. Comparative research and study of the banking sectors of two countries, Turkey and Azerbaijan, among financial institutions in Europe and the international world in general, development of pro-cyclical behaviour in terms of efficiency and modernity in this sector, modernization of innovative changes, renewal of corporate standards, examination of guidelines on a legal and legislative basis, prudential management is relevant in terms of improving new types of services.

Research level: At the modern stage, the level of development of banks in Turkey and Azerbaijan has been comparatively studied. In our opinion, the comparative study of the development of commercial banks in Turkey and Azerbaijan and the conclusions drawn will guide the sustainable development of banks in accordance with the common interests and welfare of both states. Because the transparent and efficient operation of banks, which are the main core of the financial system, has been studied in detail. Commercial banks operating in the Republic of Turkey include about 50 types of services. Commercial banks operating in Turkey and Azerbaijan determine the tariff and commission costs in accordance with the internal policies of the state.

Commercial banks make independent decisions in determining the interest rates in accordance with the demand and supply of deposits, as well as market competition, as well as the tariff rates of commission fees to be charged for services and operations.

Conclusion: The importance of information resources, which is considered an important factor in the economy, is always considered a priority issue. Numerous modern studies are being conducted in the study of this field and the application of innovations. The work done by the commercial banks operating in Turkey and Azerbaijan in this field, their place in the field of scientific and technical progress that meets modern requirements should be specially noted. The positive results of these processes should be widely applied to the work of commercial banks operating in Azerbaijan.

The conducted observations and analyzes show the possibility of a daily increase in credit and deposit operations in commercial banks. The strengthening of savings and deposit resources of Commercial Banks creates favourable conditions for increasing the size of the credit base as a result. Full transition of accounting required in banking activities to international standards (MBS) should be completed nationwide. The improvement of internal communication tools and the creation of a single base network will help the effective management of bank risks with the help of the Internet. It will also support the significant reduction of costs arising from credit risks and the increase in efficient business coordination.

The importance of information According to the latest analysis, experts believe that the banking sector in Turkey is headed for the growth stage and that this growth will continue in a stable manner. The increasing role of information technologies in commercial banks serves to provide better quality banking services and maintain customer satisfaction. The creation of new banking products directly makes the use of services more accessible to customers. If you used to use plastic cards to make transactions only through ATMs, now you can make post-terminal or online purchases in all catering facilities, restaurants, shops, and tourist services. Even the evolution of the cards is carried out by means of a touch screen, i.e. the customer touches the plastic card to a special device on the card reader and carries out the

ordered operation within two or three seconds. With the card-to-card service, a person at one end of the world can transfer money to the plastic card of a person in a completely distant country within 2-3 minutes. With the Cash by code service, the customer approaches an ATM located in the territory of the republic and obtains funds by dialling the code to the ATM in order to cash the funds sent to him. Citizens can convert funds in foreign currency into any currency through Exchange Machine, which provides 24/7 service. [Source: Azerbaijan University /Silk Road Journal/- N3.-2017/Features of Commercial Banks in the Republic of Turkey/ scientific article pp. 12-17 /-10.11. -2017, -Baku: Ayvazli, A. N.] resources, which is considered an important factor in the economy, is always considered a priority issue. Numerous modern studies are being conducted in the study of this field and the application of innovations. The work done by the commercial banks operating in Turkey and Azerbaijan in this field, their place in the field of scientific and technical progress that meets modern requirements should be specially noted. The positive results of these processes should be widely applied to the work of commercial banks operating in Azerbaijan. The conducted observations and analyzes show the possibility of a daily increase in credit and deposit operations in commercial banks. The strengthening of savings and deposit resources of Commercial Banks creates favourable conditions for increasing the size of the credit base as a result. Full transition of accounting required in banking activities to international standards (MBS) should be completed nationwide. The improvement of internal communication tools and the creation of a single base network will help the effective management of bank risks with the help of the Internet. It will also support the significant reduction of costs arising from credit risks and the increase in efficient business coordination.

The activities of commercial banks of Turkey and Azerbaijan were specially analyzed in the conducted studies. Inventions Invented by me for the purpose of effective management of processes in the banking sector and developing of the service level (applied by me to the Intellectual Property agency for patenting the invention on 02.03.2022).

My suggestions:

1) Expanding the range of products and services in banks and shaping the quality of service based on international experience: customer satisfaction at the first level, improvement of service to citizens with physical disabilities, improvement of the Internet and online banking.

2) Evaluation process of banks' service quality by citizens and customers.

3) When preparing a strategic policy, reducing credit interest rates according to the requirements of society, simplifying conditions, and preparing a credit policy according to the specificity of business and activity type.

4) Preparation of a quick and high-quality service process for the purpose of correct financial analysis when granting loans. Preparation of the lending program in the shortest period of time by conducting scoring and electronic analysis. After applying the ratings to customers by the automatic system, giving discounts on interest and other banking services to customers with high ratings.

5) The improvement of the banking transaction system, the quality of the network and browser application should be ensured. Banks should invest more in innovation and develop a quality bank guarantee program. Bank operations should be more secure and the system of setting self-defence parameters of the system against cyber-attacks should be improved.

6) In order to increase the transparency of the credit policy, it is important to conduct an honest analysis (financial analysis) and correctly state the conditions during the initial application. Citizen's FIFD (from the actual annual phase rate) - in addition, advance notification of costs and commissions that may arise in the future (offering services such as conversion, assessment of collateral, insurance, monitoring fee, transfer, plastic card program for salary project, state registration of documents, etc. making).

7) Benefiting from world experience in savings: efficiency and indexation of interest rates, convenient use of interest on international transactions for citizens, protection of the bank's profit as well as the

customer's profit in marketing research on savings products, consideration of concessions in deposit contracts that are terminated prematurely, providing motivational offers to deposit holders.

8) Proper implementation of the human resources management policy, which is considered the main stimulating capital of the bank, the fair establishment of additional motivation and bonus programs from the 3 R principles (right person - right time - right position). Preparation of self-development programs for employees, enabling them to participate in internal and international training. Team building, preparation of programs to strengthen the team spirit.

9) In order to prevent operational risks, professional staff should be created, highly specialized employees should be involved, and a division of work based on innovative safety principles should be established. It is important to conduct collegial meetings and accounting and strengthen internal control mechanisms in order to prevent conflicts of interest and abuse of official powers.

10) Application of the inventions proposed by me in the banking sector. I believe that the dissertation I prepared and submitted for defence - a comparative study of the development of commercial banks in Azerbaijan and Turkey and making proposals in this field will be of particular importance for the development of the national economy.

The main content of the dissertation work is reflected in the following published works of the author:

1. Ayvazli A.N., Journal of the Azerbaijan University "Silk Road" //Methodological foundations for improving the management of commercial banks// No. 1.2017 , 01.21.2017; Baku (p.77-82)
2. Ayvazli A.N., Journal "Scientific and Pedagogical News" of "Odlar Yurdu" University //Experience of the leading countries of the world in improving the management of commercial banks at the present stage// No. 46.2017, on 26.06.2017; Baku (p.162-167)
3. Ayvazli A.N., Journal "Scientific News" of the Azerbaijan State Economic University// Organizational and economic aspects of managing commercial banks// ISSN2306-8426, 5 y. July-September 2017. Baku (p.326-333)

4. Ayvazli A.N., Union of Economists of Azerbaijan and the Audit Chamber of the Republic of Azerbaijan "Strategic Roadmap of Azerbaijan's Economy: Problems of Accountability and Transparency", - UNEC, Baku. International Scientific and Practical Conference SECTION II. //The role of accountability and transparency in the implementation of strategic goals Strategic roadmap of Azerbaijan's economy: improving the management of commercial banks, problems of accountability and transparency// 21-23 / 09/2017; Baku (p376-377)
5. Ayvazli A.N., Journal of the Azerbaijan University "Silk Road" No. 3.2017 //"Features of the activities of commercial banks in the Republic of Turkey",// 10.11.2017; Baku ,(p.12-17)
6. Ayvazli A.N., Journal "Scientific News" of the UNEC //Theoretical views from the point of view of improving the activities of commercial banks // ISSN2306-8426, y.5, October-December 2017; Baku,(p.208-215)
7. Ayvazli A.N., II International Scientific Conference of Young Researchers, dedicated to the 95th anniversary of national leader Haydar Aliyev at the Baku Engineering University,// "The role of information technology in the management of commercial banks operating in Azerbaijan, and the direction of increasing innovative operating systems", //April 27-28, 2018; Baku (p.771-773)
8. Ayvazli A.N., KANT, 2019, 3 (32) Publishing house "Stavrolit" Russia // LLC "Publishing house Stavrolit"//"Comparative study of commercial banks in Turkey and Azerbaijan",// 09/15/2019; Stavrolit (p.246-249)
9. Ayvazli A.N.,Publishing House LLC "Academy of Knowledge" International journal EGI-25 (3) UDC 339, Higher Attestation Commission of the Russian Federation scientific journals International Journal of Natural and Humanitarian Research EGI-25. //"Scientific research on the improvement of commercial banks and the application of innovations"//(ISSN 2309-4788) 20.10.19. Address: Russia, Krasnodar. (p.8-11)
10. Ayvazli A.N., // Presidium of the Azerbaijan National Academy of Sciences // Scientific conference dedicated to academician Ziyad Samadzadeh's 75th anniversary// National economic development

model of Azerbaijan: formation and features, // Dual perspectives of financial business and banking sector // - 10, №4, -Baku: -2019, (p. 417-423)

11. Ayvazlı A.N., V international scientific conference // Theory and practice of science: key aspects // section 3, International economy and international relations // The experience of the worlds leading countries in improving the management of commercial banks at the present stage, contributions of this experience to the banking system of Azerbaijan // № 84, 7-8 november, -2021, Dana (Rome, Italy), (p.54-61)

A handwritten signature in blue ink, appearing to read 'S. Ayvazly', is located on the right side of the page.

The defense of the dissertation will be held at the meeting of the FD 1.11 Dissertation Council operating at the Scientific Research Institute of Economic Studies under the Azerbaijan State University of Economics on "07" october 2022 at 14:00.

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