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Currency Exchange rate risk: The devaluation case of Azerbaijan

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ABSTRACT

It is possible that the most dramatic and even painful measures of monetary strategy that any specific country may adopt is the depreciation of their currency. There is the potential for both good and negative effects to result from the depreciation of a currency in various nations. Resignation of governments is occurring more often as a result of severe currency depreciation. There are a number of reasons why governments are cautious to devalue their own national currencies. A currency devaluation is an official change in the value of a country's national currency in relation to the value of foreign currencies under a system that uses a fixed exchange rate. This is one of the better definitions of currency devaluation. The market forces are responsible for the changes in the value of the national currency that occur under a system with a floating exchange rate. These movements are sometimes referred to as currency appreciation or depreciation or currency appreciation. When it comes to the control of national currency, devaluation is one of the most important weapons that central banks have at their disposal. Increasing the trade balance of nations is another objective of the currency depreciation that is being carried out. Certain objectives of monetary policy include the maintenance of macroeconomic equilibrium, the maintenance of price stability, the maintenance of financial and banking stability, and the maintenance of continuous economic development.

The nation of Azerbaijan, which is located in the South Caucasus, has had a consistent growth throughout the course of the last seven decades. The official exchange conversion scale of the dollar to the manat, which is the national currency of Azerbaijan, had been set at 1.05 manat beginning on February 21, 2015. This was a 33.86 percent increase from the exchange rate that was established before to the beginning of the second cycle of the rate. It was the first time that Azerbaijani national currency has been weakened in comparison to the United States dollar since December of 2006. The purpose of this thesis is to carry out an investigation of the effects that currency devaluations that took place in 2015 had on the economy of Azerbaijan. Since the banking industry was the primary sector that experienced large losses as a result of the devaluation, the banking sector will be the primary focus of the investigation. Furthermore, any improvements or reductions in the other economic fields are strongly connected with the banking sector in the republic. During the period of 2013 to 2018, the thesis will investigate the performance of various financial institutions. By using the Panel Data Analysis Method, the importance of the research would be considerably enhanced.

INTRODUCTION

Azerbaijan regained its independence in 1991 with the disintegration of the USSR (Soviet Union). Since then, the country has made substantial preparations to swiftly establish its own currency. The dominance of the ruble ceased in 1992, leading to the circulation of the country's own currency. On August 7th, 1992, the currency "Manat" was officially recognized as the national currency of the country. Despite its formal declaration as an official currency, transactions involving Russia continued to be done using Russian rubles. The Manat was established as the only official currency of the country in 1994 and made necessary arrangements for its participation in the local currency market.

In 2008, the global financial crisis began in the US mortgage market. Every country in the globe experienced economic losses as a result. The European Union, along with Japan and China's commercial markets, experienced the repercussions of the collapse of the US financial system. The global decline in petroleum prices poses a significant risk to the macroeconomic stability of Azerbaijan, Russia, and Kazakhstan, which heavily rely on petroleum exports. Amidst a worldwide crisis, other nations around the Caspian Sea reduced the value of their currencies. However, Azerbaijan opted for a different approach and decided to implement its own plan by using its cash reserves. Before the conclusion of 2008 and the onset of the global crisis, the foreign currency reserves of the Central Bank saw a significant decrease from $6.1 billion to $5.2 billion by the end of 2009.

The objective of addressing the urgency at the furthest limit of 2014 has been elucidated by the worldwide decrease in oil prices. The price of Brent crude oil decreased nearly 50% in late 2014, down from $115 to $56. Several nations had contrasting reactions to a tangible decrease in oil prices. Countries heavily reliant on oil have experienced a financial crisis due to a decrease in oil earnings. Consequently, those nations were compelled to diminish the strength of their own monetary systems by using reserves to maintain both economic and currency stability. From one perspective, the rates of dollar foreign exchange rose as a result of an unexpected decrease in international earnings and, conversely, a rise in foreign currency inflows. As a result of a significant decrease in energy prices, the government, which previously shielded the local currency from the global financial crisis, was forced to devalue it by a factor of two. Azerbaijan successfully maintained its exchange rate stability for a decade till 2015. The central bank of the country declared a substantial devaluation of the domestic currency on February 21,

2015. Since 2006, there has been a 34% rise in the exchange rate from dollars to manats, with the rate changing from 0.78 manats to 1.05 manats. There was a limitation on loan availability as lenders began to remove their financial assets from banks. As a result, the central bank announced the devaluation of the domestic currency in December 2015. The exchange rate versus the dollar had a significant and quick increase of around 47%, rising from 1.05 manat to 1.55 manat.

After the devaluation, the value of the Manat continued to decrease, resulting in an exchange rate of 1.92 AZN/USD. The currency saw an initial devaluation of about 44%, followed by a further depreciation of 83%. The volatility in oil prices caused a decrease in the GDP growth rate from 2.2% to almost 4% in 2016. Inflation had a significant increase, reaching amounts in the double digits throughout this period. The average annual inflation rate was from 1.1% to 1.4% between 2012 and 2014. However, in 2016, it surged to 12.4%. To curb inflation and alleviate pressure on the manat, the Central Bank has systematically decreased the quantity of money in circulation. The degree of adaptation decreased from 16.2% to a range of 25.2-29.4% prior to the depreciation. Azerbaijan's informal adoption of the US dollar led to an increase in the proportion of foreign loans in the entire loan portfolio, rising from 31.2% to 53.8%.

Banks have a vital function in the monetary system. A bank is a financial institution that accepts deposits or similar assets from people and legal entities, provides credit for personal use, and facilitates money transfers and repayments on behalf of its clients. A financial institution of this kind generates deposits and facilitates debt repayments. Banks function as mediators between venture capital and reserve money from a financial perspective. In addition, they may provide financial services such as safe deposit boxes, currency exchange, and asset management. The term refers especially to the act of retaining or accumulating something. There are several categories of banks, including retail, corporate, commercial, and investment banks. The national entities alter banking activities in many nations. It is an authentic component in terms of its standing. The primary role of a bank is to facilitate the transfer of assets between buyers and sellers, as well as between creditors and debtors.

Considering the current state of economic arrangements, the banking system plays a vital role in maintaining and growing the total economy. This sector has a great ability to stimulate economic growth via the implementation of monetary regulation. It is becoming an essential enhancement in the market system that drives the expansion of the entire economy. This industry

plays a crucial role in preserving credit connections. Consequently, this area plays a pivotal role in the economic progress.

The thesis has five chapters and a conclusion. The first chapter of the study provides a comprehensive introduction to devaluation, the problem description, the study's purpose, the research queries, the research hypothesis, and the limitations. The second chapter presents a concise overview of comparative studies carried out on literature from both international and local sources. The third part offers a comprehensive examination of the economic landscape of the country, including a detailed assessment of the banking industry and its performance spanning from 2013 to 2018. The fourth chapter will address the study design and methodology, data collection techniques, sources of data, the importance of internal and external factors, and the process of model determination. The fifth section provides an assessment of the study findings and the results of the regression analysis. The last part synthesizes the examination results, conclusions, and recommendations.

Chapter 1: General information on Currency Devaluation

The concept of depreciation was defined in several ways. In floating regime, it refers to a decline in the value of local money relative to the foreign ones. It is a regarded decline in value of local currency relative to international rates by the governing institution. The value of a country's public funds decreases due to these two factors. There are two distinct motives incidentally. Devaluation is the purposeful act of a country's central bank adhering to controlled or pegged rate policies in order to lower the value of its local currency relative to international money forms. It is the decrease in the value of local money relative to other types of money. Supply and demand forces on cash lead to this consequence. Under a controlled floating rate regime, it may occur. Depreciation therefore only occurs in systems with freely floating currency rates. Imports and exports of that country are used to describe devaluation. Occasionally, the depreciation of public funds by the government of really dropping foreign currency is also perceived as a devaluation. More precisely, it is the process by which the value of a country's currency declines in relation to foreign ones or fiat money like dollar or pound. Consequently, travel costs and imports would rise, when nations' exports are going to be less expensive so export growth will coincide with devaluation phase. Tejvan Pettinger claims that figure 1 below illustrates the devaluation cycle and effects.

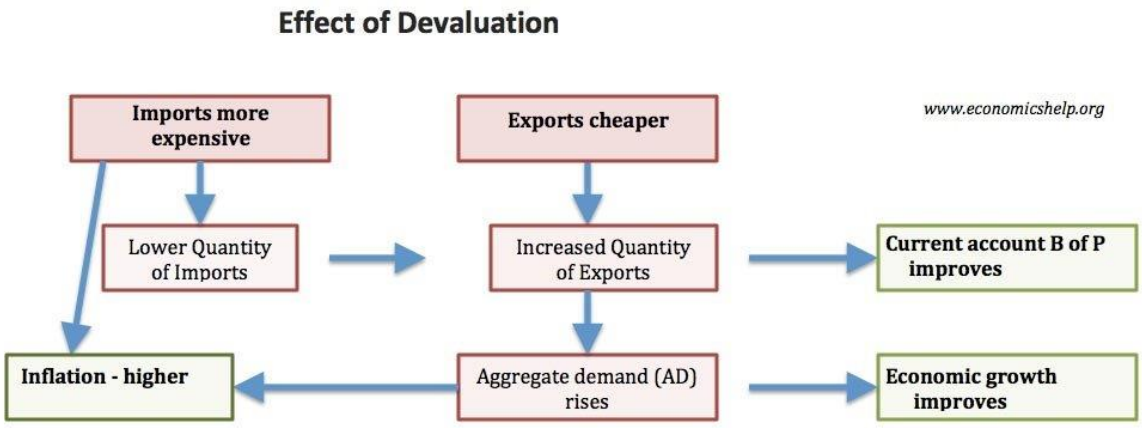


Figure 1. Effect of Devaluation

Looking at above-mentioned figure, I can simply conclude that depreciation causes imports to increase in price, when exports decrease in price. Consequently, the volume of imports declines inflation rises. Conversely, there exists a hike in aggregate demand and a jump in the volume of exports. Thus, depreciation leads to the growth in nations' economies.

Both in and out in trade for that nation characterizes depreciation. In certain instances, the country's depreciation of its actual dropping in foreign currency is regarded as a devaluation, too. In a floating rate system, depreciation happens on its own on a daily basis, and formal conversion of local currency into a foreign one is publicly recognized. It is essentially associated with certain factors such as decline of balance in relation to the foreign trade one and removal of pricing discrepancies between local and foreign markets.

1.1 Devaluation motives

Depreciation can occur for a number of reasons. This occurrence is typically attributed to many macroeconomic factors. These factors leading to depreciation of local money comprise payments shortfall, worsening trade balance while imports outpace exports elevated inflation. It initially hits nation's balance of payment. Other nations' demand and supply conditions affect this reality. Prices of local goods in foreign currencies become comparatively lower in this case. Because of the decline in export prices, the demand for that country's products go up. The desire for imports is limited because of growing import costs, even while this rise in demand drives up cost of export to a point before depreciation. The balance of international commerce is therefore guaranteed.

Depreciation can make the terms of international commerce hostile to the nation. Since it causes export costs to decline, which boosts import costs. In nations where exports outnumber imports, the condition is evident. Falling imports, on the other hand, are unable to lower prices, even when growing exporters are doing so. Furthermore, the nation that experiences the depreciation suffers from the terms of foreign commerce.

Eliminating the balance of payments shortfall is one of the objectives of depreciation. The trend of domestic pricing does not increase as a result. The export items' low cost will disappear if domestic prices rise. This means that the comparatively high price of imported items in comparison to local goods is not sustainable. Depreciation may be beneficial if local prices can be kept at a steady level. Certain quick justifications for depreciation such as nation's export promoting policies, requirement to increase the value of the home currency, a shortfall of gold and foreign savings, a sharp decline in global fuel costs, flight of capital as a result of volatile political environment in nation, attraction of foreign currency to national economy, wage reductions and a rise in general skepticism for financial organizations, which results in a decline within credit, penalties and adjustments to policies in those nations, government officials have implemented measures to guarantee that people buy local goods exist.

A number of financial problems that affect the country's economy, including wars, natural catastrophes, inflation, instability, a protracted balance of payments imbalance, and significant constructed calamities, can lead to depreciation. Being an event in economics, depreciation has pros and cons. There are several threats to the country's economy when depreciation emerges.

1.1.1 Pros, cons and consequences of Devaluation

The following detrimental effects of depreciation such as damage to company's brand where nation loses its appeal to outside investors leading to the noticeable decline in residents' living standards and buying power, certain social benefits have been cut, public confidence in local currency has declined and imports have decreased, imported products lose their competitiveness due to their high price, foreign investments and manufacturing resources are declined, foreign finances are withheld, accompanied depreciation by inflation, which takes the form of high costs for goods that are primarily purchased, a large scale shift in savings from local currency to stable ones present. Regarding the positive sides, enhancing nation's balance of payments, significant growth in earnings from foreign operations, rise in exports as it becomes disadvantageous to sell them for the declining local currency in the market, which progressively increases the amount of

tough money coming to the nation, decreases the need for foreign reserves, significant window of opportunity in the market for local and national goods.

Furthermore, depreciation can favorably impact the macroeconomic condition of the nation. It is not necessary for the nation to maintain the false exchange rate of local money despite the loss of reserves. For example, a nation may enhance its gold reserves. Depreciation causes a decrease in the amount of banking assets. Export growth contributes extra to GDP. They deteriorated and volume decreased as a result of the decline in deposits and credits. Banks' reliance on deposits is further accelerated by currency depreciation. It acknowledges the nation's increasing exports while simultaneously reducing imports. In case of depreciation, a few small banks withdraw from the market.

1.2 Currency Devaluation History

The terrible circumstances that arose in eastern Asia in the final days of 1997's spring were only the latest in a series of currency crisis that have periodically occurred in various countries over the past few centuries. According to a summary of cash emergency situations that were documented during that time, currency problems occurred while internal financial circumstances did not align with external criteria that were established for currency. Having said this, there are notable distinctions between developing and industrialized nations with regard to these kinds of practices.

Before the second world war, crises in industrialized countries typically occurred during wartime, as market analysts realized that states would have to halt converting capabilities of currency units in order to pursue the war effort. Banking fragility was inherently capable at times of calm. It is noteworthy that developing countries frequently stopped being convertible while market experts criticized their currency standards, believing that their states were pursuing irresponsible monetary policies.

Several well-known cases of these crisis that have been documented include the actions of John Law. Moreover, Bank of England suspended the usage of gold as a currency in 1797 following a decline in gold reserves to little more than 1 million pounds. Throughout the 1894-

1896 U.S dollar shortage, Treasury depleted its gold reserves and legal tender to cover the shortfall. The outbreak of the first world war in 1914 coincided with a financial crisis that caused significant disruptions to some countries' foreign trade markets, because they were no longer able to utilize London as a depository. Various currency crisis including the 1923-1926 French franc crisis, pound crisis in 1931, February 1933, dollar crisis and 1935-1936 gold collaboration crisis.

We may distinguish between financial emergencies, which occurred later 1973 and others occurred during Bretton Woods period following the second world war. Each nation declared an acceptable peg for its currency, which may be either dollar or gold under aforementioned agreement. To maintain trade rates within 1% of USD parity, nations have to intervene. Some countries who adhered to inconsistent budgetary and currency frameworks with pledge to peg encountered financial crisis. If significant trends had affected the actual convertibility rate and necessitated a variation in formal equality, other countries would have been affected as well. During the Bretton Woods period, several notable crises included dollar in 1960, French franc between 1968 and 1969, pound real both in 1947-1949 and in 1967 as well.

Numerous countries have had severe financial crises after the collapse of Bretton Woods in middle of 1970. These countries included members of the European Monetary System (EMS) in 1981-1982 and 1992-1993. Similar attacks were made on the currency systems of several South American countries, including Mexico, in the middle of 1980, in 1994-1995. Similarly, numerous Asian currency systems were targeted in 1997-1998.

Perhaps, the most damaging and destructive of these disasters occurred in Eastern Asia. The devaluation of Thailand baht on the second of July in 1997, led to a rapid cheapening of currency units of Malaysia, Indonesia and Philippines and eventually Singapore. Some emerging markets out of the region, such as Brazil, Russia, were negatively impacted while market analysts began to identify flaws in all emerging markets related to business environment. The excesses that occurred during Asian crisis were particularly destructive and extended well beyond currency and socioeconomic connections. The imbalance in education and emergence of financial connections across Asian economies seem to have contributed to urgency's global broadening.

The crisis had the most impact on three countries: Korea, Thailand and Indonesia. Those economies had prospered in the previous 10 years, with several of them engaging in noteworthy endeavors, bolstered by "easy" money from explosive purchases and steady foreign investment inflows. In addition, the explosive growth of bank lending contributed to the overestimation of real estate.

When export revenue of these countries began to decline, foreign exchange scarce. At that point, financial supporters were prepared to loosen several of their economic rules. While Thailand finally devalued July the second, in 1997, it was not long before other countries in the region did the same. There were several similarities between the Asian disaster and the 1994-1995 Mexican crises. In all situations, an influx of money, a quick rise in external debt, ready access to international economic sectors on favorable terms, and a greater receptivity to changes in rates and foreign exchange rates preceded the crises. Poorly controlled financial systems and weak monetary structures made the problems caused by viruses worse everywhere.

Still, some headlines coming from the Asian crises were decidedly different from those of the past. Economic efficiency was evaluated in terms of growth and great majority of those nations, inflation was generally low and fiscal and monetary regulations were seen as really stable in maintaining convertibility rates. As so, Asian crisis was largely unanticipated. By all indications, it appeared to be rooted in financial vulnerabilities that were particularly caused by inadequacies in corporate, financial and governmental spheres' management. Due to the rapid expansion of worldwide funding, the weaknesses found in these countries rendered them increasingly vulnerable to shifts in market dynamics, and unraveling external environment, and contagion.

Rather than setting stakes for converting rates that industry deemed flawless and dependable with short term necessities, professionals in some eastern Asian countries allowed exchange rates to continue floating. The decision to keep drifting opened the door for depreciation to happen. The fleeing of capital continued as economic condition worsened amid political instability. Deteriorating money coupled with capital outflow crippled the business and economic sectors. Indonesia had a sharp increase in inflation when each country saw a decline in growth and abrupt fluctuations in the external present record.

1.3 Issue description of the thesis

In Azerbaijan's banking industry, banks primarily function is financial intermediation. Every area of the economy was negatively impacted by the depreciation, particularly banking industry. Other industries, outside the financial industry, were also badly impacted by depreciation. Nonetheless, it stands to reason that country's other industries were also negatively impacted by the depreciation of banking one. Among the problems faced by Azerbaijani banks were bankruptcy, closures and nonpayment. A few research using different methodologies looked at how the depreciation of manat affected the banking industry. In first two chapters, I will provide examples of depreciation's fundamentals, benefits and drawbacks, and scholarly literature; in

empirical section, however, I will concentrate on banking industry. The significance of investigation has grown as a result. Later 2015, a thorough and exact study is important of banking industry. Depreciation can have an affect both directly and indirectly. The variation in asset and liability valuation expressed in foreign currencies can be used to determine the direct impact on bank's operation. While a native nation devalues, banks recognize bookkeeping gains and losses on investments and liabilities. Depreciation has a ripple effect mainly because of how currency fluctuations affects businesses generally and commerce specifically with regard to exports and imports. As a result, it is impossible to consistently characterize indirect impact of changes in exchange rates on earnings of banks. So, this study looks at how depreciation affected Azerbaijani banks' earnings between January 1,2013 and December 31,2018. Scholars who intend to carry out more research on changes of foreign rate of exchange will gain insight from the fresh data and suggestions provided by this study regarding the effects of currency depreciation on banking industry.

1.4 Purpose of the thesis with limitations, research question and hypotheses

Determining the current issues, valuation of profitability, macroeconomic assessment of Azerbaijani market and banking industry following the depreciation are crucial, given the economic downturn and hardships the nation has faced since 2014. Additionally, thesis aims to provide outcomes of present investigation as indicated here and explore how the depreciation of manat affected financial market and economic growth of Azerbaijan economy. The study aims to categorize: 1) to determine the effects of depreciation on national economy and 2) to assess the state of financial industry in Azerbaijan following two depreciations; 3) to gain from other nations' practice regulating the financial industry amid the global crisis; 4) to create suitable proposals to improve the issues that have emerged after the depreciation and effectiveness of Azerbaijani banks. The goal of this study is to examine and resolve the issues listed beneath. It outlines the organization and significance of this study: 1) How has Azerbaijan's economic and gains of financial industry been affected by the depreciation of its local currency between 2013 and 2018? In light of the goal, this study attempts to examine the following theories: H1.0: Currency depreciation may have a detrimental impact on Azerbaijani economy and financial market gains; H1.1: The country's economy and financial success of banks may benefit from currency depreciation. A few businesses that are affected by depreciation have been investigated

in this study. The third part contain details on these sectors. Furthermore, as information on closed and minor banks is not available on their websites or other related authority resources, I selected and studied 21 financial institutions of Azerbaijan. Considering the lack of information in certain bank's yearly reports from prior periods, this study will concentrate on the six years between 2013 and 2018. The analysis of impact of manat's depreciation on banking activities and country's economy is not fully done throughout the research period. When comparing independent factors to dependent variables, study over a longer time span is crucial.

Chapter 2: Review of scholarly works on Currency Depreciation

In order to implement transitional economic policies, a smaller number of emerging nations are devaluing their currencies, which could have both beneficial and bad effects on their national economies. Gylfason and Risager state that emerging nations implementing transition economies are the primary causes of currency depreciation. The banking industry plays a crucial role in managing transition economies, and the exchange rate is a major risk factor that affects the profitability of the banking sector. The financial progress heavily relies on the profitability of the banking sector. According to Osuagwu, the profitability of the banking sector is linked to the success of banking firms in maintaining macroeconomic stability. Multiple studies have been conducted on this subject. In the second chapter, I will examine the literature that discusses the overall economic effects of devaluation on developing nations. Additionally, I will provide information on the profitability of the banking industry in these countries. Furthermore, I will analyze how internal and external factors impact the profitability of the banking sector. Internal factors encompass elements such as net open position, shareholder equity, capital adequacy, bank size, liquidity, leverage or financial risk, credit risk, and loans. On the other hand, external factors encompass exchange rate, economic growth, interest rate, inflation, and money supply. It is important to acknowledge that the aforementioned external variables have a substantial impact

on the fluctuation of exchange rates. When selecting scholarly literature, I considered nations that had undergone comparable changes, such as Azerbaijan. Pre-research provided me with a basis to assert that the effects are up to debate.

2.1 The macroeconomic effects of currency depreciation in developing economies

The relationship on devaluation, oil prices, the economic crisis, and the effect of depreciation on the economy of Azerbaijan was investigated in a research that was meticulously planned and carried out by Shafag Abdullayeva. During the period of devaluation, the findings of the research suggested that there was an increase in the nation's exports, while there was a drop in the amount of goods that were imported into the country. Additionally, the country's trade imbalance was resolved once and for all. A further advantageous effect of the devaluation was a rise in the country's gross domestic product (GDP) as a result of an increase in exports. Konstantine Kintsurashvili and Ana Kresic conducted a study that analyzed the correlation between currency depreciation and the balance sheet, deposits, and asset quality in Azerbaijan. The assessment indicated a significant capital gap resulting from the depreciation of the country's currency. Between 2014 and 2018, the number of banks in Azerbaijan declined from 45 to 30.

In 1991, Pierre-Richard Agénor conducted a research that examines the negative impacts of currency devaluation on developing nations. The study focuses on factors such as production, devaluation, and the real exchange rate in emerging economies. The author conducted an analysis of 23 developing nations from 1978 to 1987. The research findings suggest that expected decreases in the actual exchange rate have a detrimental effect on output. Conversely, unanticipated devaluations have a favorable effect on output.

In a comprehensive research conducted by Jeffrey Frankel in 2011, titled "Monetary Policy in Emerging Markets: Survey," the significance of using appropriate models for developing nations was highlighted. The author highlights the significance of models in addressing issues arising from asymmetric information, illiquidity, default risk, moral hazard, and imperfect institutions. In the aftermath of the global crisis in 2008, the author seeks to elucidate the evolving conditions and significance of constructing models that may be used to comprehend unforeseen flaws and breakdowns in the financial markets of developed countries.

A significant analysis conducted by the Black Sea Trade and Development Bank analyzed the overall economic prospects of Azerbaijan from 2015 to 2020. The research primarily highlights a 3.1% contraction in the Azerbaijani GDP in 2016, attributed to devaluation. In addition, the GDP growth rate declined to -0.1% between 2015 and 2018, compared to a rate of 2.7% between 2011 and 2014. In 2015, there was a significant decrease in Azerbaijan's GDP, amounting to around 38 billion dollars. Magda Kandil conducted a comprehensive research that analyzed the correlation between variations in exchange rates and the actual production of twenty-two developing nations. The research aimed to determine the effects of supply and demand channels on the production of nations. Furthermore, the research analyzed how prices reacted to fluctuations in the exchange rate. The research findings indicated a negative correlation between exchange rate depreciation and real output growth.

Specifically, a rise in exchange rate depreciation was associated with a drop in real production growth. Moreover, the depreciation of currency rates led to an increase in the inflation rate in the nations. In general, there was a negative correlation between currency depreciation and economic success in the nations.

Bruno and Shin conducted a research that investigated the correlation between currency depreciation and developing markets. The analysis revealed that non-financial companies that take advantage of advantageous global financing conditions to issue US dollar bonds are the most susceptible corporations to local currency devaluations.

A research conducted by Yilkal Wassie Ayen investigated the immediate and long-term effects of devaluation on the expansion of production in Ethiopia from 1998 to 2010. The author used vector autoregression to determine that currency devaluations have a contractionary effect in the long term and a neutral effect in the near term. Furthermore, there was a direct correlation between monetary policy and the increase in production. Nevertheless, there was an inverse correlation between government spending and economic growth.

2.2 Effects of devaluation on the banking sector in relation to bank-related elements

A comprehensive research conducted by Halil Emre Akbas examined the effects of bank-specific, industry-specific, and macroeconomic factors on the profitability of 26 commercial banks in Turkey from 2005 to 2010. The author regarded Return on Assets (ROA) and Return on Equity (ROE) as indicators of profitability within the Turkish banking sector. Based on the study, the financial performance of banks is a crucial factor in ensuring and sustaining economic stability in emerging countries. This is because banks act as financial intermediaries, and any positive or negative changes in the banking industry have an impact on other economic sectors in emerging countries. The author discovered a negative correlation between the profitability of banks and credit risk, based on statistical findings. More specifically, the findings suggest that the correlation between the proportion of money set aside for potential loan losses compared to the total amount of loans (which represents credit risk) and the proportion of overall expenses compared to total revenue (which measures management efficiency) is statistically significant and negative in connection to return on assets (ROA). Additionally, the author said that credit risk and cost management tasks are essential elements in the profitability of the banking industry in developing nations.

Alper and Anbar (2011) conducted a research to investigate the factors that contribute to the profitability of the banking industry in Turkey from 2002 to 2010. The study focused on both bank-specific factors and macroeconomic factors. The authors saw ROA and ROE as crucial indicators of profitability in the banking industry. The findings suggest that there is an inverse correlation between the size of a bank's loan portfolio and its profitability in Turkey. The authors maintain that only real interest rates have a favorable influence on banks' profitability. The research suggests that banks may enhance their profitability by increasing their size and non-interest revenue. Additionally, it is important to mention that a decrease in the credit-to-asset ratio might lead to a substantial increase in the profitability of the banking industry in Turkey. Both a decrease in the credit/asset ratio and a rise in real interest rates may have a substantial impact on the profitability of the banking industry.

Capraru and Ihnatov conducted a research that examined the factors contributing to the profitability of the banking industry in Romania, Hungary, Poland, Czech Republic, and Bulgaria from 2004 to 2011. An investigation was conducted on 143 commercial banks in the aforementioned nations. The activities primarily focused on average assets, return on average

equity, and net interest margin. The findings indicate that the rise of managerial efficiency and capital adequacy has significant influence on the banking sector. Furthermore, credit risk plays a crucial role in calculating both return on assets (ROA) and return on equity (ROE). Moreover, the size of a bank has a detrimental impact on the net interest margin ratio (NIM). The research discovered that there was an inverse relationship between bank size and NIM ratio, meaning that larger banks had smaller NIM ratios. Credit risk and capital adequacy were suggested as effective measures to enhance the profitability of the banking industry.

Dietrich and Wanzenried conducted a research that analyzed the profitability of 372 commercial banks in Switzerland from 1999 to 2009. The profitability of the banking sector was studied by doing regression analysis on bank-specific, macroeconomic, and industry-specific factors. The findings demonstrated a positive correlation between capital adequacy, loans, and return on assets (ROA).Habtamu conducted a parallel research that examined the elements of commercial banks in Ethiopia between 2002 and 2011. The profitability of private commercial banks is determined by two crucial factors: capital sufficiency and the bank itself. The findings demonstrated that the aforementioned components had a beneficial influence on the profitability of the commercial banks.

Bolarinwa, Obembe, and Olaniyi conducted a research that examined the profitability characteristics of the banking industry from 2005 to 2015. The survey included a total of 15 commercial banks. The authors conducted a study to examine the influence of management cost efficiency on the profitability of the banking industry in the nation. The findings suggest that cost efficiency has a beneficial effect on the profitability of banks in developing nations such as Nigeria. Goddard, Molyneux, and Wilson conducted a research to assess the profitability of European banks throughout the 1990s. The survey included banks from Denmark, Spain, France, Germany, Italy, and the UK. One of the study's findings indicated a favorable correlation between bank profitability and the capital-assets ratio. There is a direct correlation between off-balance sheet activities and the profitability of banks in the United Kingdom.

In their research, Gyamerah and Amoah (2015) examined the relationship between the profitability of the banking industry and particular factors related to individual banks and the overall macroeconomic environment. An investigation was conducted among both international and local banks from 1999 to 2010. The findings demonstrated that the size of a bank and the level of credit risk positively influenced the profitability of the banking industry. Conversely, there was a negative relationship between cost management and profitability.

A separate research conducted by Yakubu examined the impact of corruption on the profitability of the banking industry in Ghana from 2008 to 2017. The author used the Generalized Method of Moments (GMM) technique. Based on the research findings, there was a negative correlation seen between corruption and the profitability of the banking system in Ghana. Furthermore, there was a direct correlation between the size of banks, their capital adequacy, and inflation, and the profitability of the banking sector in Ghana. Conversely, there was an inverse correlation between management efficiency and the profitability of banks, as well as between the monetary policy rate and bank profitability.

Hasanov, Bayramli, and Al-Musehel conducted a research that investigated the correlation between the size of banks and the macroeconomic factors that affect the profitability of the banking industry in Azerbaijan. The authors used the GMM approach and discovered a positive correlation between bank size, capital, loans, economic cycle, inflation expectation, and oil prices with the profitability of the banking business in the nation. Conversely, there was an inverse correlation between deposits, liquidity risks, and exchange rate depreciation and the profitability of the banking sector in the nation.

A comprehensive analysis conducted by Javaid, Anvar, Zaman, and Gafoor elucidated the correlation between assets, loans, equity, and deposits in the banking sector of Pakistan from 2004 to 2008. The research involved ten commercial banks, and the OLS technique (Ordinary Least Square) was used. The findings indicated a negative correlation between an increase in total assets and profitability in the banking industry of Pakistan. Additionally, there was a negative correlation between the influence of increased loans and profitability. Conversely, there was a direct correlation between the performance of Pakistani banks and the relationship between equities and deposits.

Mehdiyev conducted a research that analyzed important elements of the banking industry in Turkey and Azerbaijan from 2006 to 2012. The author used the CAMEL approach in the investigation. The findings demonstrated a direct correlation between the liquidity and profitability of the selected institutions. Nevertheless, there was a negative correlation between the capital adequacy and profitability of the banking industry in both nations.

A comprehensive research conducted by Ramadan, Kilani, and Kaddumi elucidated the correlation between internal and external variables and the profitability of the banking industry in Jordan from 2001 to 2010. The research employed a balanced panel data and comprised 10 commercial banks. The findings indicated a favorable correlation between banks with sufficient capital and efficient management, and the profitability of the banking industry in Jordan.

Nevertheless, there was an inverse correlation between credit risk and the profitability of Jordanian banks.

Rahman, Hamid, and Khan conducted a study that examined the correlation between various factors such as capital strength, ownership structure, credit risk, bank size, non-interest income, cost efficiency, off-balance-sheet activities, and liquidity, and the profitability of commercial banks in Bangladesh from 2006 to 2013. A total of twenty-five banks were involved in the analysis, and the study employed the metrics of Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). The findings revealed a favorable correlation between the financial robustness of banks and their lending activity, as well as the profitability of the banking industry in Bangladesh. Nevertheless, there was an inverse correlation seen between cost efficiency and off-balance sheet activity, and the profitability of the banking industry in Bangladesh.

Roman and Danuletiu conducted a comprehensive research analyzing the internal and external factors that impact the profitability of fifteen commercial banks in Romania from 2003 to 2011. The research findings indicate a favorable correlation between the quality of management and the percentage of liquid assets to total assets in the Romanian banking sector, which in turn affects profitability. Additionally, there was a direct correlation seen between the level of banking concentration and both the economic growth rate and the profitability of the banking industry in Romania.

The research conducted by Sufian and Chong investigated the correlation between bank-specific factors and the profitability of the banking industry in the Philippines from 1990 to 2005. The research found a negative correlation between the size, credit risk, and expenditure preference behavior and the profitability of the banking industry in the Philippines. Nevertheless, a direct correlation was seen between non-interest revenue and both capitalization and profitability within the banking sector of the nation. Moreover, there was an inverse correlation between inflation and profitability.

Vong and Chan conducted a research that analyzed the correlation between bank-specific, macroeconomic, and financial structural factors and the profitability of the banking industry in Macao from 1993 to 2007. The findings indicated a direct correlation between the financial robustness and the profitability of the banking industry in Macao. Furthermore, there was a negative correlation between a wide-reaching network for accepting deposits from retail customers and the level of profitability. A negative correlation was seen between the ratio of greater loans to total assets and the degree of profitability. Furthermore, the results demonstrated

a direct correlation between inflation and the profitability of the banking sector.

A research conducted by Athanasoglou, Delis, and Staikouras investigated the correlation between bank-specific, macroeconomic, and industry-related factors and the profitability of lending institutions in South Eastern Europe from 1998 to 2002. The findings indicated a positive correlation between all bank-specific factors and the profitability of the institutions, with the exception of liquidity. Furthermore, there was a direct correlation between bank concentration and profitability. Conversely, there was a negative correlation between banking reform and profitability.

Ahmed conducted research in 2015 to determine what factors contributed to the depreciation of Kenya's national currency. Commercial banks in Kenya were shown to be more profitable when interest rates were higher. On the other hand, banks' profitability was negatively correlated with their foreign currency exposure. In addition, the profitability of Kenya's banking business was inversely related to inflation.

During an interview with Turan Media, Member of Parliament Vahid Ahmedov discussed the terrible effects that devaluations in 2015 had on the economy of Azerbaijan. According to the claims of Azerbaijani Member of Parliament Vahid Ahmadov, the depreciation of the currency resulted in a noticeable reduction in lending, a rapid increase in the number of issue loans, and consistent negative failures in the banking sector of Azerbaijan. In other words, devaluations were the cause of the degradation of the balance sheets of the banks as well as the increase in the amount of obligations denominated in foreign currencies.

The essay that was authored by Bayramov in 2017 investigated the connection between severe inflation, the depreciation of the national currency, asymmetric exchange rate policy, and the forced dollarization of the financial sector. Bayramov's work was published in 2017. The weakening of the national currency and the considerable volatility in exchange rates both contributed to the significant increase in the amount of foreign currency deposits that were made. Additionally, the financial sector of Azerbaijan experienced dollarization of bank loans as a result of the country's consistently high inflation rate.

In 1996, Mizen and Pentecost conducted a second research in which they explored the relationship between dollarization, devaluation, and inflation. The findings indicated that there was a significant correlation between the depreciation of currencies and high and fluctuating rates of inflation in developing nations. One of the most important contributors to the rise in

inflation is the existence of fiscal imbalances. Banking institutions began to use dollars instead of other currencies due to the surge in demand for dollarization.

Among the 48 biggest US commercial banks from 1975 to 1987, Choi, Elyasiani, and Kopecky conducted an additional analysis that showed the correlation between interest rates and bank stock returns. All of the aforementioned factors were shown to be negatively related to one another. Additionally, banks' net open position in foreign currencies was positively correlated with the impact of the exchange rate. Lastly, the research showed that the returns and bank stock were negatively correlated with foreign currency depreciation.

The components of the banking industry from 2005 to 2009 were the subject of another research by Davydenko (2010). There were macroeconomic, industry-specific, and bank-specific factors examined in this analysis of Ukraine's banking sector profitability. The data show that low-quality loans are the main issue for Ukrainian banks. Additionally, revenue increased when the exchange rate depreciated. Bank managers' forecasts of future changes in exchange rates were positively correlated with their actual earnings from dealing with foreign money. Lastly, the profitability of Ukrainian banks was positively correlated with currency depreciation.

Between 2000 and 2014, Getachew examined the relationship between the Ethiopian birr exchange rate and the profitability of Ethiopian commercial banks. The effect on the expansion of bank loans was another target of the research. According to the findings, the profitability of the country's banking business was negatively correlated with the exchange rate. On the other hand, the sector's profitability and the growth rate of loans were positively correlated.
He, Fayman, and Arkansas conducted a thorough analysis that linked the profitability of 22 US commercial banks over a forty-year period to changes in foreign currency rates. A favorable correlation between US bank returns and dollar value relative to a basket of worldwide currencies was found in the regression analysis.

Horton, Samiei, Epstein, and Ross conducted an additional research that shed light on how the devaluation affected the financial sector in Caucasian and Central Asian nations. The study's results showed that in a highly dollarized economy, depreciation hurts bank accounts and financial stability. The study's findings suggest that foreign-currency borrowers have more difficulties in meeting their debt servicing obligations when the national currency debt load increases. Consequently, there may be less of an incentive to lend, more financial risks, and higher interest rates on non-performing loans (NPLs). In sum, the aforementioned factors correlated negatively with the profitability of these areas' banking sectors. In a well-done analysis, Kiganda uncovered the connection between macroeconomic variables and the

profitability of Kenya's banking industry from 2008 to 2012. The findings indicated a negative correlation between the country's banking sector profitability and macroeconomic variables. In addition, real GDP, inflation, and profitability were all positively correlated. Lastly, the profitability of the banking industry was inversely related to the exchange rate. A meticulously conducted research by Kohlscheen, Murcia, and Contreras analyzed the financial statements of 534 banks hailing from 19 market economies across various developing nations. A favorable correlation between higher long-term interest rates and developing nations' banking sector profitability was found in the study's results. Alternatively, banks' profitability was inversely related to short-term rates. Credit growth, GDP, and sector profitability were all positively correlated, to conclude.

Ibrahimov also conducted research between 2012 and 2015 that linked oil price fluctuations, currency depreciation, and the profitability of Azerbaijan's banking industry. The author demonstrated, using panel data analysis, that oil prices positively correlated with banking sector profitability. But the country's banking sector showed a negative correlation with devaluation. Using Bourke's technique, a well-prepared research conducted by Molyneux and Thornton in 1986–1989 looked at the components of the banking sector's profitability in 18 European nations. Interest rates, inflation, and return on equity (ROE) were shown to be positively correlated, according to the research. Nuriyeva conducted one of the few original research in this area when she examined the connection between macroeconomic variables and the profitability of Azerbaijan's banking industry prior to the devaluation phase. The research team used panel data analysis and Camel rating for this project. The findings demonstrated a negative correlation between GDP and Azerbaijani banks' profitability from 2006 to 2012. From 1980 to 2010, Osuagwu conducted research on the profitability of Nigeria's banking system. The study looked at the relationship between macroeconomic, bank-specific, and industry-related factors. The research found that credit risk and bank profitability are positively related. The country's banking industry was more profitable when there was a positive correlation between market concentration and profitability. In addition, the profitability of Nigerian banks was positively correlated with the exchange rate.

Olasibi, Afolabi, Kajola, and Ariyibi conducted a related research that used the Estimated Generalized Least Squares Method (EGLS) to analyze the connection between currency depreciation and the financial performance of deposit banks in Nigeria from 2008 to 2017. The research identified the following as critical components of currency depreciation: interest rate, inflation rate, and exchange rate. The analysis found a negative correlation between devaluation and banks that accept cash deposits. In addition, the naira's value fell when the US dollar

appreciated vs other currencies, such as inflation and interest rates. Using the Generalized Method of Moments (GMM), Yuksel, Mukhtarov, Mammadov, and Ozsari conducted a comprehensive research that analyzed the factors that contributed to the profitability of banking in Post-Soviet nations between the years 1996 and 2016. There was a favorable correlation between the number of loans, revenue from sources other than interest, and economic development, as well as the profitability of the banking industry in the nations, according to one of the findings of the research. Another consequence was the adverse effect that the financial crisis of 2008 had on the economies of post-Soviet countries, given that the majority of these nations are depending on natural resources for their economic functioning. Additionally, there was a positively correlated relationship between the non-interest revenue of the banks and the profitability of the institutions. There was also a strong correlation between the expansion of the economy and the gross domestic product, as well as the profitability of the banking sector in the affected area. On the other hand, there was an inverse relationship between the ratio of loans to gross domestic product and the profitability of the banks in the area.

Chapter 3: Azerbaijan's economic history, consequences of devaluation in different sectors, and reasons for currency depreciation in developing nations as seen via generational model analysis

3.1 Emerging nations' currency devaluations: a generation model study of the causes

It is becoming more difficult for developing countries pursuing independent and nonpartisan strategies to monitor the situation in their financial arrangements and pursue a free approach as a result of globalization. Thus, domestic business sectors worldwide are swiftly affected by sudden shifts in the prices of key products on global securities markets. One might therefore see a financial war whose goal is to render the opposing countries economically helpless by manipulating oil prices to reorganize the globe between powerful powers. Both the oil-trading countries and the importing nations will feel the effects of this, although indirectly. But it's not less of an impact on this area of study from international organizations and specialists who, using political decisions and quantitative analysis, prepare and report gauges on the different

conditions in the different countries of the globe. As a result, the inhabitants' subconscious is affected by the produced conjectures, which makes them more turbulently active and further complicates the situation.

We have seen a precipitous drop in oil prices in recent years due to political and monetary actions as well as the intractable global situation that demands a reorganization of the globe in the third millennium. Consequently, oil, which started at $110 in the first decade of June 2014, reached its most recent, astronomical price of up to $115. That was the beginning of the steep decline in price, which peaked in January 2015 at $48.58.A three percent drop in oil prices in six months caused the money supply and interest rates of the exporting countries to fall. The degradation was caused by the unequal installments of the exporter countries, which led to an increase in oil prices of up to $68 in 2015 and a subsequent decline of around $39 in adjustment. This interaction is ongoing. The value of the Russian ruble has been declining since July 2014 due to the global decline in oil prices. One ruble was worth 35 rubles in July and 60 rubles at the end of December. By the end of the year, the ruble had lost value and was worth 70 rubles for every $1, according to the oil price adjustment in June 2015. Partially undetected is the decline of Russia's national currency, but the trend indicates that the ruble's debasement has become safer. Taking a look at why the dollar is rising in Russia doesn't seem like a necessary step. The main reason for this is the fluctuation in oil prices. The Russian economy is highly dependent on oil exports, which means that the ruble rate is tightly tied to oil revenues. As an example, the price of oil fell sharply to $39 in December, and the dollar then rose to 70 rubles. If oil prices continue to decrease, the ruble will also collapse, according to the opinion of financial analysts. Also, in its quarterly report, the Russian Central Bank said that they do not anticipate a sudden shift in the ruble rate at this moment. According to the research, the main factor influencing the ruble rate would continue to be oil prices. The report on the ruble's increase is also silent at the moment since, as is obvious, the ruble's supporting parts are unavailable. The Central Bank should exercise caution when committing to promises under these circumstances. In times of extreme stress, this tool has proven effective in a number of countries, including the UK, Iceland, Turkey, and Hungary, where it was used to counteract the unchecked decline of public funds. Russia's rejection of this instrument might be attributed to the very precarious financial situation. Because of how unstable the situation is, increasing financing expenses would lead to a sharp spike in costs, which would set off a domino effect of bad things happening. Consequently, the ruble's and its conversion scale's ultimate fate is mostly unknown. Following a 15% drop in oil prices over the last several days and a statement from the Russian Central Bank that it would not

intervene in the conversion rate, the dollar to ruble increased by 2.4% and reached 80.6 RUB/USD. It is now possible to temporarily raise the rate of one dollar to one hundred rubles.

The first months of 2016 proved to be unproductive for the public finances of Kazakhstan. On January 22, the average exchange rate of the dollar against the tenge was 383.68, which increased by 8.52 tenge compared to the previous trading day. Following that, the exchange rate of the Kazakhstani tenge drastically declined to its lowest point, which once again drew attention to the ongoing economic fluctuations in Kazakhstan. It is important to mention that on February 10, 2014, due to the depreciation of the dollar, the exchange rate increased from 152.89 tenge to 182.60 tenge. The devaluation of the tenge was implemented in 2015. Starting on August 20, Kazakhstan implemented a floating exchange rate policy, causing the value of the dollar to increase from 188 tenge to 255 tenge within a day. At that juncture, there was a period of consistent and steady increase in the value of the currency. By the end of September, the exchange rate was 270 tenge, and by the end of October, it had risen to 279 tenge. However, in November, due to a further devaluation of the dollar, the conversion rate increased from 279 tenge to 307 tenge. It is important to mention that the leadership of the National Bank of Kazakhstan changed hands in early November. However, this transition did not contribute to the strengthening of the national currency, but instead resulted in a depreciation of the tenge. The cycles in Kazakhstan do not differ dependent on the events occurring in Russia. The depreciation of the tenge was linked to the deterioration of economic conditions due to the decline in oil prices. Therefore, the current economic situation in the country, including the strong demand for the dollar, is causing a decrease in the value of the national currency. The devaluation of the tenge in Kazakhstan is accompanied by increased demand for the dollar, which further exacerbates the situation. According to experts, there are now insufficient elements to sustain the tenge, thus, the depreciation of Kazakhstan's currency will continue. Thus, the intervention of the Central Bank may be the only constraining element. In November, the National Bank of Kazakhstan announced that it would reduce its presence in the cash market in order to protect the country's essential reserves. However, due to sudden fluctuations in the value of the tenge, if the situation becomes uncontrollable, the National Bank reserves the right to intervene in the market. Financial experts are reluctant to forecast the exchange rate of the Kazakhstani tenge. However, they suggest that if the price of oil reaches $40, the expected exchange rate for the US dollar would be between 350 and 360 tenge. If the price of oil decreases, it may lead to a drop in the interest rate.

Recently, the economic cycles in China have diverged significantly from those in Russia and Kazakhstan. If the devaluations of the national currencies of Russia and Kazakhstan occur as a result of external causes such as the decrease in oil prices, and proceed gradually and without government intervention, the devaluation of China's yuan is a deliberate and planned process. In August 2016, the National Bank of China implemented a significant reduction in scale, resulting in a rise in the dollar exchange rate from 6.12 yuan to 6.23 yuan during the last 20 years. Due to the devaluation implemented in December, the exchange rate of the US dollar was 6.42 yuan. In December, after a period of devaluation, the exchange rate reached 6.58 yuan at the beginning of January 2016. The primary impetus for the deceleration of the yuan's velocity was to counteract the adverse fluctuations in the economy to a certain extent. Therefore, we see a decrease in prices and domestic production in the Chinese economy, leading to a decline in economic growth. The decline in public cash points primarily serves to benefit exporters by artificially inflating the value of exported goods in the national currency. The operations of the National Bank of China may be seen as a response to the current state of the economy. Another rationale for carrying out the 'minor' downgrades is to prevent alarming situations from deteriorating, as was the case in August. It is important to note that China, unlike Russia and Kazakhstan, has a significant impact on the global economy. As a result, the measures adopted by China are highly respected by experts worldwide. It is important to note that in November, the International Monetary Fund has decided to include the yuan in the basket of reserve currencies, which indicates China's favorable foreign exchange policy. Nevertheless, it can be said that the National Bank of China is implementing minor devaluations as a means to monitor the market and determine the extent to which the depreciation of the yuan can support the economy without causing panic. Evidently, the decline in public funds is connected to tangible risks, such as the ability of Chinese companies to make payments on their dollar-denominated debts. Regardless, it is anticipated that the depreciation of the yuan would have mostly positive effects on the economy, outweighing any negative implications. Typically, there are two primary scenarios that might determine the future of China's currency policy. Firstly, the yuan's discharge rate is actively pursued via the implementation of a floating exchange rate system, and secondly, the speed of yuan depreciation is gradually reduced by using certain control mechanisms. The current scenario seems to be more favorable presently, since any economic shock that may occur in China would have a negative impact on the global economy. The cautious progression of the Chinese government's monetary policy is advantageous for all participants. As an example of the historical context of depreciation, we may demonstrate the sudden decline in the value of the pound in 1992. At that time, Soros had the opportunity to get a substantial income. He sold almost 10 billion pounds in a single day, which was a significant threshold. Following this

authentic transaction, there was a substantial influx of inexpensive currency on the market. Concurrently, the public authority deemed it impractical to safeguard the funds. The pound had a depreciation of 12% versus the German mark. During this era, the Italian lira also saw a devaluation and its value decreased by 7%.

Over the course of many years, many economies have experienced multiple severe financial and monetary crises. The notable crises include the European crisis of 1992–1993, the Latin American crisis of 1994–1995, the Asian crisis of 1997–1998, and the global financial crisis that took place from 2007 to 2009. The currency crisis is seen as the most perilous aspect of such a monetary collapse. Speculative attacks, along with poor monetary policies, are key factors in the onset of financial crises. Undoubtedly, currency crisis have become a widely discussed topic in both political and academic circles, generating many talks, meetings, and publications in recent times. Furthermore, it is worth mentioning that elucidating the concept of currency depreciation within generational models enhances the importance of the thesis.

The present literature base does not provide a precise definition of monetary emergency, which might lead to misunderstanding. This pertains not just to discussions on regular arrangements, but also to the theoretical and empirical efforts of many researchers. A succinct overview of hypothetical writing might motivate an expert to differentiate a currency crisis from a wider range of financial crises, as well as other related concepts such as a balance of payments crisis. The concept of a financial emergency seems to include the widest scope, including many forms of instability associated with monetary and financial systems. A balance of payment crisis refers to a significant discrepancy between a deficit in the current account and the capital and financial account. This discrepancy, when foreign reserves are depleted, leads to a crisis in the national currency. The majority of literature shows that these two ideas may be used interchangeably. Undoubtedly, several hypotheses have been put up to investigate the phenomenon of a financial crisis. Three distinct stages may be identified in hypothetical models of monetary crises. The first iterations of the models were developed in response to balance-of-installment crises that occurred in Argentina, Chile, and Mexico during the period from 1970 to 1980. The Exchange Rate Mechanism (ERM) crisis in 1992 and the Mexican crisis of 1994–1995 served as catalysts for the development of second-generation models. In conclusion, first efforts to construct third generation models were initiated during the Asian crisis that took place between 1997 and 1998.

3.1.1 Initial models of the first generation

Following a considerable amount of time during which speculative attacks were taking place in commodities markets, Salant and Henderson (1978) constructed the first unambiguous picture of instances of cash emergency. In their defense, they said that the administration's efforts to regulate the prices of gold were the impetus for such attacks. On top of that, they propose that defensive strategies that include the use of asset stores by experts in order to achieve cost equilibrium result in theoretical attacks that ultimately deplete asset stores. As a result, they make reference to the standard hypothesis of "Hotelling's model" and modify that model to include certain characteristics that are characteristic to the gold market. In this model, professionals anticipate the sale of a valued hold of gold at a predetermined period.

In 1979, Krugman modified the Salant-Henderson model for the foreign currency market to include the scenario where a government utilizes its supply of foreign exchange reserves to stabilize exchange rates. The model is applicable to a small open economy where the people make rational assumptions and consume just one tradable good from a fixed domestic inventory. In the absence of commercial banks, the total amount of credit provided by the central bank and the value of foreign reserves held by the central bank, which generate no income, are equal to the total money supply. According to the Krugman model, an economy facing a cash emergency problem has three stages: first, a time of progressively decreasing reserves; next, a rapid speculative assault; and lastly, a post-crisis era characterized by a steady depreciation of the currency. Krugman's analysis suggests that financial crises are an inevitable consequence of the speculative behavior shown by investors, which arises from balance of payment concerns in certain circumstances and involves massive speculative assaults.

The Krugman model was further refined and expanded upon by Flood and Garber. In 1984, a comprehensive analysis of Krugman's ideas was constructed, enabling a direct exploration of the balance of payment issue in many scenarios related to the underlying factors of the post-collapse exchange rate system. Flood and Garber discuss the potential of a floating exchange rate that is influenced by external factors and investigate whether the occurrence of this breakdown is solely determined by market fundamentals or influenced by arbitrary theoretical behavior. Subjective theoretical behavior may lead to the downfall of a fixed exchange rate system. The traditional belief that floating exchange rates can limit discretionary speculative variations is shown to be ineffective. Furthermore, establishing a fixed exchange rate effectively addresses but does not completely remove the financial impact of speculative behavior. This model has become the

standard model among the original models due to its enhanced assumptions and superior linearized structure.

3.1.2 Models of the second generation

First-generation models acknowledge that experts possess typical beliefs and exceptional foresight, whereas governmental behavior should remain completely unchanging. These doubts about the behavior of professionals and the government seem to be mostly unfounded. Therefore, due to the inadequacy of initial models, there was a need for another model that could effectively explain financial crises. The model was introduced by Obstfeld in 1994 as a second-generation model aimed at addressing the shortcomings of the previous versions. The Obstfeld model requires three elements: a compelling government rationale for abandoning its fixed exchange rate, a strong incentive to protect it, and the increasing cost of defending the present system as its collapse is expected or inevitable. In order for examiners to attack the exchange rate system, there must be a dangerously rigid element inside the domestic economy. A speculative assault may be successful even if the financial and monetary policy position does not contradict the exchange rate level. Thus, the public authority should deliberately reduce its financial resources in order to pursue a more expansionary domestic policy, notwithstanding the significant political costs involved. When examiners detect affectation and anticipate a potential shift in monetary policy, they will initiate an aggressive attack on the reserves. Therefore, the underlying principle of the second-generation model is based on the understanding that when the market acknowledges its eventual decline, maintaining exchange rate stability may be extremely costly (due to increased borrowing expenses). Therefore, either an anticipated decline in vital factors or an inevitable forewarning serves as a catalyst for a speculative assault on domestic currency to enhance its value.

3.1.3 Models of the third generation

The Asian financial crisis of 1997–1998 reignited research on the causes and effects of such crises. To be more specific, not even the first-and second-generation models were able to adequately describe them. This is how Corsetti, Pesenti, and Roubini came up with third-generation showing in 1998. While the present conversion standard systems are vulnerable to

speculation, the third-generation model primarily addresses microeconomic weaknesses like excellent danger and the over-acquisition that follows. Typically, moral hazards follow a sequence of events that begins with a credit development and concludes with unjustified flaws in current records. There is a strong correlation between monetary and financial emergencies, according to the emergency elements. The government is ready to protect the stake, but only if this arrangement complies with the dissolvability limit, which highlights the limited amount of resources allocated to security. Thus, the government must have assets ready to support its financial assistance programs in the event that they reach a critical point that leads to a financial emergency. In broad strokes, this model is an effort to ruminate on key elements in market behavior as well as a variety of harmonies.

3.2 The Azerbaijani Economy

Azerbaijan, often known as the Land of Fire, has a history that is very old. Azerbaijan, which has a population of almost 10 million people, is located in the South Caucasus region, on the border with Turkey, Russia, Iran, and Georgia. There are nine climatic zones out of eleven in Azerbaijan, which is located along the coast of the Caspian Sea. The crucial region on the Caspian Sea gives the authority to stake a claim to possible oil and gas resources. The main core of the Azerbaijani economy is represented by the energy assets. The country's hydrocarbon reserves placed it in third place among the Caspian region's largest reserves. The State Oil Fund of the Azerbaijan Republic is responsible for financing 46 percent of the country's expenditure plan. This is a significant amount when taking into account the country's oil and gas capabilities. Following the dissolution of the Soviet Union, Azerbaijan went through a period of significant economic transformation, which was characterized by a severe economic downturn. This period of time was further exacerbated by the military enmity and political harm that Armenia experienced in 1995. Over the course of the 20th century, Azerbaijan went through two distinct phases of growth. The transition from private business to communism, which occurred between the years 1920 and 1937, and the transition from communism to free enterprise, which occurred following the collapse of the communist framework in 1991, include two of these. Throughout the two stages of framework development, there have been a variety of challenges and intricate cycles that have been encountered. During the primary time period, the economy of Azerbaijan in the Caucasus region saw a modernization that was beneficial. The independence of Azerbaijan was officially declared on October 18, 1991. By remaining steadfast in its commitment to the free approach, the Republic of Azerbaijan began to exercise its sovereign rights within the community of monetary institutions. The requirements of this method included a financial

framework that was reliant on the various forms of ownership, the progression toward a showcase economy, and the incorporation into the global economy.

Azerbaijan engaged in extensive commerce with other post-Soviet Union states, effectively transitioning from a command to a market economy. The nation's vast hydrocarbon reserves contribute to its long-term prospects. Since achieving autonomy, the country's financial development may be categorized into two distinct periods: firstly, the economic turmoil or recession that occurred between 1991 and 1995; secondly, the era of macroeconomic stability and vigorous economic growth that has been ongoing since 1996. Following the restoration of state autonomy, despite the perplexing and challenging circumstances, significant progress has been achieved in the economic growth of our nation and its integration into the global economy. In 2001, the responsibility for overseeing and implementing financial transactions in Azerbaijan was given to the Ministry of Economic Development of the Azerbaijan Republic.
The economy of Azerbaijan primarily revolves on the sectors of industrial production, supply, and global market prices for petroleum products. The oil and gas industry had a crucial role in the development of several sectors of the economy. The oil and gas industry has played a crucial role in shaping the economic foundation of Azerbaijan. The energy-related techniques in Azerbaijan are heavily influenced by global issues, such as the price of petroleum.
Significant and forceful reforms have been initiated in all sectors of the economy, and some decisive measures have been made to improve the quality of life for the population. One notable feature of the monetary strategy at this time was the significant progress in entrepreneurship, attracting both domestic and foreign investments by establishing a favorable business and investment climate. During this connection, the class of business visionaries was established in Azerbaijan. The role of the private sector in the economic progress of the country has grown. The calculations implemented to ensure the growth of property in the economy had a positive impact on monetary development. After gaining independence, the Republic of Azerbaijan has established relationships with international monetary, credit, and financial institutions. Azerbaijan, one of the rapidly growing economies among the Soviet Republics, achieved regional leadership in a short span of time by attracting economic growth and foreign capital investments. Azerbaijan is a member of several prestigious international institutions, such as the International Monetary Fund, the World Bank, the European Bank for Reconstruction and Development, the Islamic Development Bank, and the Asian Development Bank.

Azerbaijan is strategically located in the nexus of the global transportation corridor connecting Europe and Asia. The ancient trade route known as the Silk Road, which was established prior to

the Great Silk Road era, had a crucial historical role in facilitating the interaction and economic exchange between the Eastern and Western civilizations, which were two major components of the global community. The Transport Corridor Europe Caucasus Asia (TRACECA) Program was established as the basis for the Silk Road initiative. It was first presented at a meeting in Brussels in May 1993, with the participation of 5 Central Asian and 3 Caucasian countries.
In 1996, the Baku-Novorossiysk pipeline, which connects Baku to the Russian Black Sea Port of Novorossiysk, and the Baku-Tbilisi-Supsa pipeline, which connects Baku to the Georgian Black Sea Port of Supsa, were put into operation. Additionally, plans were made to expand trade routes with the construction of the Baku-Tbilisi-Ceyhan oil pipeline, which connects Baku to the Turkish Mediterranean Port of Ceyhan. The State Oil Fund was established in 1999 by a Decree to effectively manage the revenues generated from the joint development of oil fields with foreign companies. Its purpose is to allocate these funds towards the development of priority areas and the implementation of social services and economic projects. The State Oil Fund is engaged in the exploration of oil and gas resources, as well as the production, processing, and transportation of oil, gas, and gas condensate. It also promotes petroleum and petrochemical products in both domestic and international markets.

Along with cotton, gaseous gasoline, and agricultural products, the oil industry clearly dominates Azerbaijan's economy. The country does a lot of spying in this region. There's no denying that the oil-gas trade has boosted government expenditure and revenue. This view eliminated rapid expansion in several economic sectors and outlined new commercial opportunities for financial institutions.

The agricultural potential of Azerbaijan is also enormous. Modern society's most basic necessities are petroleum and combustible gas, metals, chemicals, petrochemicals, concrete, building supplies, and staple foods. The sturgeon, one of the most important fish species, calls the Caspian Sea its home. Sturgeon and beluga populations in the Caspian Sea are crucial to Azerbaijan's fishing sector, which is the primary producer and exporter of caviar. There is enormous efficient profit for the nation from the sturgeon and its caviar product.
Launched in April 1999, the Baku-Supsa (Poti) oil pipeline has an annual flow of about 5.1 million tons. Opec reports a length of 837 kilometers.

The projected development in oil trade with new partners has been sparked by the Baku-Tbilisi-Ceyhan Pipeline. Through Turkey and Georgia, this pipeline carries oil from the Caspian Sea to the Mediterranean Sea. At this very moment, the most desirable location for undeveloped oil reserves worldwide is Azerbaijan. Primary fare pipeline project deployed in June 2006: Baku–Tbilisi–Ceyhan. The most significant benefits belong to Baku-Tbilisi-Ceyhan, the largest

project in the region so far. The preliminary agreements have been approved by Azerbaijan, Turkey, and Georgia. Azerbaijani oil may be transported to European markets via the Baku-Tbilisi-Ceyhan Pipeline (BTC). According to expert evaluations, the Azeri-Chirag-Guneshli oilfield are the only ones with 1,200,000,000 metric tons of oil. The present fields contain 1.5 trillion cubic meters of gas. The Baku-Tbilisi-Erzurum gas pipeline began transporting gas from the Shah Deniz field in Azerbaijan in the first three months of 2007. Experts estimate that there is 1,200,000,000 cubic meters of gas in the Shah Deniz field alone (SOCAR).
Marked on October 5, 2016, the Decree envisions the widespread promotion of non-oil domestic products in new economic areas under the Made in Azerbaijan brand.

There are nine distinct systems that make up the "Made in Azerbaijan" initiative, all of which contribute to the profile of the improved food. The Made in Azerbaijan label is applied to more than three thousand products. There is a growing number of trade houses overseas, which bodes well for the country's economic growth. Between 2010 and 2017, Azerbaijan's tourism industry region seen consistent growth. Each year, the number of enterprises in the travel industry in Azerbaijan increased by 4.5%, while the number of jobs in the travel industry sector increased by 6%. According to official estimates, the total revenue generated by the travel business in the United States in 2017 was close to $2.5 billion. The following table provides Azerbaijan's financial indicators from 2008 to 2018, derived from data provided by the World Bank and CBAR.

Table 1: Economic statistics of Azerbaijan from 2008 to 2018

Years	GDP(US $ bln)	GDP growth %	Inflation (%)	Unemployment
2008	48.52	10.59	20.8	6.05
2009	44.29	9.37	1.35	5.74
2010	52.93	4.79	5.66	5.63
2011	65.95	-1.57	7.75	5.42
2012	69.68	2.23	1.01	5.19
2013	74.16	5.9	2.42	4.97
2014	75.24	2.8	1.45	4.91
2015	69.30	1.1	4.05	4.96
2016	37.83	-3.1	12.44	5.0
2017	41.37	-0.28	12.84	5.0
2018	46.94	1.41	2.33	5.22
Average	**62.621**	**3.32**	**7.21**	**5.81**

Source:

https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2019&locations=AZ&start=2019&view=bar

In the year of 2016, the GDP of Azerbaijan saw a significant decrease, dropping from USD 69.30 billion in 2015 to USD 37.83 billion. From 2008 to 2018, the GDP of Azerbaijan averaged USD 62.621 billion and reached its highest point of USD 75.24 billion in 2014. The documented abatement in 2016 amounted to USD 37.83 billion, which was a twofold decrease. The World Bank Group calculated the gross domestic product rate of Azerbaijan. The Azerbaijan Manat's double devaluation and the erratic drop in gasoline prices caused the country's GDP growth to plummet to 1.1% in 2015 from 2.8% in 2014. From 2008 to 2018, Azerbaijan's GDP grew at a relatively detailed 3.32 percent per year, reaching a peak of 10.59% in 2008 and a base low of -3.1% in 2016. The State Statistical Committee of the Republic of Azerbaijan was responsible for accounting for the Annual GDP Growth Rate of Azerbaijan.

The depreciation of the national currency has exposed the import-dependent economy to significant inflationary pressures from imported goods. Although the pace of swelling was quite modest between 2012 and 2014, inflationary pressures increased starting from 2015, leading to double-digit inflation. In 2017, the growth rate in the Republic of Azerbaijan rose to 12.84%.The inflation rate in Azerbaijan averaged 3.32% between 2008 and 2018, with a peak of 20.8% in 2008 and a low of 1.01% in 2012. The State Factual Committee of the Republic of Azerbaijan accounted for the swelling rate in AR (Azerbaijan Republic). The increasing growth has resulted in a significant decline in the real incomes of the population and has impacted their social situation.

Unanticipated depreciations caused the unemployment rate in Azerbaijan to rise by 4.96 percent in 2015 and 5.22 percent in 2018. These figures are presented individually. In 2008, the unemployment rate reached its highest peak of 6.05 percent, and it remained at that level until 2018. From 2008 to 2018, the unemployment rate averaged 5.81%. A rate of 4.91 percent was observed in 2014, which was the lowest percentage of unemployment that has been recorded in a very long time. The State Statistical Committee of the Republic of Azerbaijan was responsible for calculating the unemployment rate in the region of Azerbaijan.

3.3 Historical context of the banking industry in Azerbaijan

The Azerbaijani banking sector has seen significant transformations since its inception. Prior to the nineteenth century, Azerbaijan lacked a centralized monetary regulatory institution. The establishment of regulations in the financial sector began in 1861 with the inauguration of the Baku branch of the State Bank of the Russian Empire. The primary objective of this branch was to enhance the credit framework and increase the volume of exchange transactions in the region. While in operation, the Baku branch addressed the matter of house loan credits, conducted discussions on the registration of promissory notes, and provided other financial services. A total of 135 small financial institutions, 28 divisions of commercial credit banks, 8 mutual credit societies, 7 mortgage banks, and 5 banking offices were included in the credit-banking framework.

Azerbaijan gained independence on May 28, 1918, and one year later, the new government's Financial Ministry approved the establishment of the National Central Bank. The Central Bank's entire assets amounted to 50,000,000 rubles. Between 1919 and 1923, the Central Bank introduced its own currency, known as the Manat. The main objective of the Central Bank was to facilitate trade, industry, agriculture, optimize currency circulation within the system, and enhance monetary policy. On April 28, 1920, the Bolsheviks, who were in power of Azerbaijan, completely destroyed the traditional monetary system of Russia (derived from "larger part" in Russian, bolshinstvo). Upon the request of the Bolshevists Committee, the State Bank of Azerbaijan underwent a name change and was renamed as the People's Bank of Azerbaijan. Afterwards, all banks and other financial institutions were taken over by the government and made subordinate to the People's Bank. Until 1991, the financial framework in the country was under the exclusive control of the state.

On October 18, 1991, Azerbaijan recovered its autonomy, and with that, the public financial framework was founded.Former Soviet institutions in Azerbaijan, such as the Gosbank (National Bank), Agrobrombank (Agricultural Bank), and Promstroibank (Industry Bank), merged to become CBA. Following its declaration of independence, Azerbaijan made contributions to the development of the financial sector, and the country's central bank has begun to establish new institutions.

Beginning in the 1990s with the interplay of autonomy, fundamental modifications were made to the whole monetary frameworks, including the financial framework. These changes were made all throughout the decade. Both the elimination of restrictions on unfamiliar trade prices and the elimination of borrowing costs had a key role in the speed with which these fundamental

adjustments were resolved. The turn of events and the growth of the monetary framework and banking area were both brought about by these fundamental modifications in the notion of the changes. However, throughout the 1990s, the expansion of the banking sector led to a significant decline in the number of financial institutions; banks had been operating under enlarged consideration for a considerable amount of time. The increasing need for acquisitions and the budgetary use of assets for the purpose of supporting state-owned banks have both contributed to the acceleration of this interaction over this time period. Since the beginning of the 2000s, the financial sector has been exposed to a serious threat. It is now impossible to avoid the need of reconstructing the banking sector and reorganizing the financial structure of banks. As a result, the Law on Banks of the Republic of Azerbaijan underwent a number of significant modifications, and the guidelines and administration of banks were rewritten to include a different approach.

Accompanying the efforts to reconstruct and integrate into international economic domains, significant alterations have been implemented in the institutional structure of Azerbaijani banks as well as in the services and products they provide. In this regard, the financial sector of Azerbaijan's economy is open to international competition and is led by the key sectors that are compatible with the European Union. After creating an uncontrolled economic system, it became necessary to once again develop the banking sector in Azerbaijan. When it comes to global applications, key elements of rebuilding the financial system include enhancing regulation and management, modifying the approach and timing of decision-making and risk management, recognizing and reducing problem assets, strengthening capital, and eliminating and effectively managing political interference in the financial system.

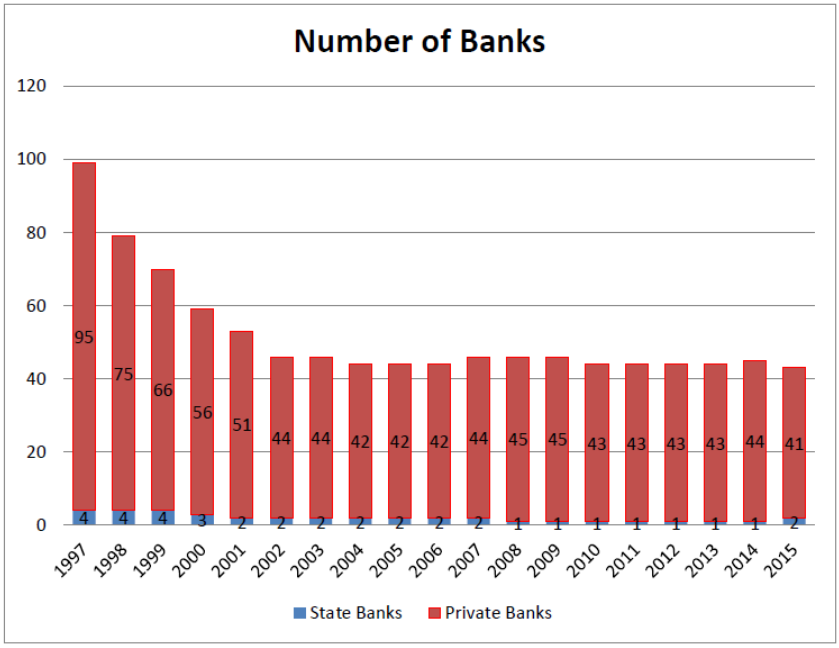
There are two fundamental approaches to the restructuring of banks. The primary strategy is enhancing and strengthening the monetary framework of banks to anticipate long-term value growth, as well as maximizing the profitability of financial climate initiatives. The following approach is a temporary strategy; it is necessary to quickly establish the value. Undoubtedly, each method's advantages and disadvantages depend on the states of the two approaches. When considering the methodology for organizing or restoring banks, it is evident that there are several methods that may be used, taking into account the circumstances in the banks and the financial framework. The most renowned methods for recovery include bolstering bank capital, implementing effective management practices, enhancing the structure of the bank's shareholders, improving the design of risk management, and providing a proprietary framework for liquidity support to the bank. The approaches for rebuilding include several applications such

as ensuring public assistance, including banks into policy management, consolidating, separating, reducing, restructuring, and privatizing loans.

In order to examine the global financial system, it is necessary to achieve harmonization with the international financial system. Therefore, in order to standardize Azerbaijani banking practices with international banks and to train Azerbaijani financiers, the support and expertise of other countries are required. Currently, the primary concern in the financial system is identified as education. Specifically, innovation, the nature of services, and data are necessary. The primary feature of Azerbaijan during the Soviet Union era was the full centralization of banking transactions and the operations of the financial system. Centrality is the key factor in the distribution of resources that contributes to the acceptance of scientific communism. Extensive evidence indicates that the banks' operations, established by the central government system, lack independent and fair regulation and management. The oversight of banking services is separate from other types of services. Between 1991 and 1997, the GDP of all Commonwealth of Independent States states saw a significant decline, and a severe economic crisis greatly impacted all former Soviet countries. Typically, this refers to the expression of cynicism via the financial structure of Azerbaijan. The dissolution of the Soviet Union also brought about significant challenges in Azerbaijan. Therefore, it is essential to establish a sound market economy and implement fundamental alterations to the financial system.

After obtaining its independence and meeting the necessary economic conditions, the market economy starts to flourish in the country, leading to technological advancements and significant economic and political reforms that reshape the cornerstone of the nation's financial system. Following the dissolution of the USSR, Azerbaijan had a total of 200 banks during the years 1992 and 1995. From 1994 to 2004, the number of banks decreased many times as a result of strict regulations, such as the minimum capital requirements set by the Central Bank of the country.

Figure 2. Variations in the number of Azerbaijani banks



Source: Central Bank of Azerbaijan – 2015 annual report

The current trend indicates a decrease in the number of banks in Azerbaijan. Over the last nineteen years, the number of private banks has decreased from 95 to 41, while the number of state banks has decreased from 4 to 1 due to the strong policies implemented by the Central Bank of the country.

3.4 The most recent developments in the performance of banks in Azerbaijan, as well as the effects of depreciation on the banking sector

Following the restoration of autonomy, the primary national currency, the Manat (AZN), was introduced into circulation. In order to provide a valid foundation for a robust and up-to-date financial system, two key laws were enacted in Azerbaijan on August 7, 1992, in accordance with the requirements of the market economy. The two laws in question are the "Law on the National Bank" and the "Law on Banks and Banking Activities," both of which have been ratified by the National Parliament of Azerbaijan (Milli Mejlis). The new "Law on the National Bank" and "Law on Banks and Banking Activities" came into effect in June 1996. This law

aligns the domestic banking framework with international standards in order to enhance the role of the banking system in the domestic economy. It aims to strengthen the rights of depositors and creditors, ensure the stable and secure functioning of the financial system, and establish principles for regulating and liquidating banks. According to Article 1 of the Law of the Azerbaijan Republic on Banks, a bank is a legal entity that collects deposits from individuals, legal entities, or other sources of income. It also provides loans using its own funds and carries out payment and money transfer operations upon customer request.

According to this legislation, the financial system in Azerbaijan is dualistic, consisting of the Central Bank of Azerbaijan (CBA) and credit institutions. The Central Bank, situated at the highest level, serves as the national bank of the state and is governed by the Constitution of the Azerbaijan Republic, the "Law on Azerbaijan Republic Central Bank," and other relevant legislation. In accordance with the legislation, the Central Bank grants licenses for financial activities, regulates, and conducts supervision over banking operations as prescribed by law.

The Central Bank is responsible for overseeing the operations of all banks operating in the country and regulating the monetary system nationwide. This bank primarily caters to other banks and government entities, engaging in collaborative operations with them, but does not directly service individual customers. Various banks provide services directly to their clientele. According to the official report from the Central Bank in 2015, there are a total of 41 functioning banks. across reference to the Central Bank's announcement, a total of 16 bank branches and 5 bank divisions were closed across the nation, as a comparison to previous years. A significant portion of the private banks, more precisely 21 of them, is owned by foreign capital. I would like to clarify that two unknown investment banks failed at the end of 2015.

In 2015, the return on assets was 1.07%, while the return on equity was 5.63%. The "oil emergency" that occurred in 2015 had a significant detrimental effect on the reduction of the payment systems. At the end of the day, 6.635 million bits of exchanges were assisted by means of automated teller machines and point-of-sale terminals, which is 11.53 percent less than in 2014. The absolute income that banks obtained prior to the payment of all charges was AZN 1021.1 million, while the absolute costs amounted to AZN 316.6 million.

The percentage of the absolute resource that contributes to GDP may be used as a measure to determine the level of development that has occurred in the financial sector. The amount of banking resources increased by 7.01 times during the course of the most recent ten years, reaching a total of 26.4 billion AZN in the year 2015. Within this framework, the level of banking sector entire resources for GDP in the year 2015 was 48.64 percent. During the period

of 2006-2015, the rate of development of the country's financial sector resources was faster than the rate of growth of the country's GDP. On the global market, the price of oil has been falling, which has led to a significant reduction in the amount of resources being developed. Azerbaijan has fallen behind the former Soviet Union and Eastern European countries in terms of this marker in recent times, despite the fact that banking resources for GDP percentage have been continuously developing. When compared to the countries that were once a part of the Soviet Union, Azerbaijan is only surpassed by Kyrgyzstan (29.5%) and Tajikistan (29.1%).
The percentages of bank assets in GDP according to Table 2 for the years 2006-2015:

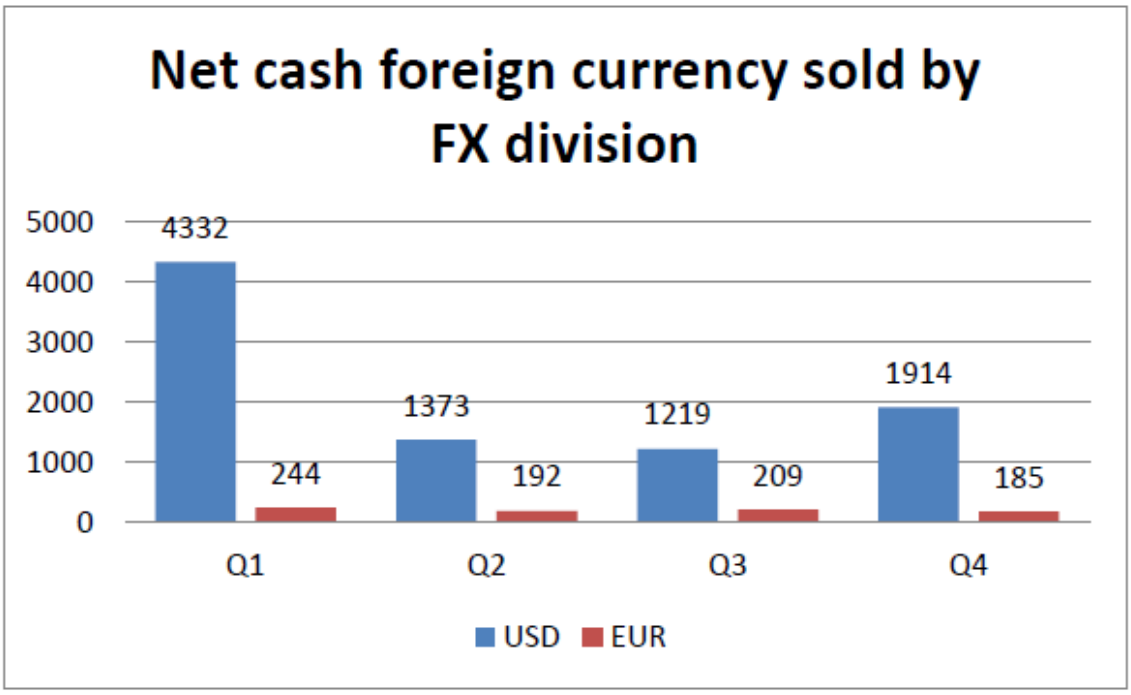
Source: The World Bank group, Central Bank of Azerbaijan – 2015 annual report

Years	GDP (billion AZN)	Volumes of assets (mln AZN)	Assets to GDP (%)[24]
2006	18.0	3778.0	20.99
2007	26.8	6725.7	25.10
2008	40.1	10273.5	25.62
2009	34.5	11665.2	33.81
2010	41.6	13290.8	31.95
2011	50.1	14259.2	28.46
2012	54.0	18037.7	33.40
2013	57.7	20385.1	35.33
2014	59.0	25182.3	42.68
2015	54.4	26462.6	48.64
Average	**43.6**	**15006.1**	**32.60**

In year of 2015, one of the primary objectives of the CBA was to develop and implement a foreign exchange (FX) policy. The FX policy of the CBA was focused on addressing the increasing global volatility and maintaining the country's macroeconomic stability, despite limited foreign exchange supply channels and a significant surge in demand for foreign currency in 2015. On the same period, there was a significant decrease in supply and a significant increase in demand in the FX market. The low level of foreign trade supplies mentioned above is due to a fall in foreign currency payments resulting from the decline in oil prices and the deteriorated economic situation in partner countries. Transfers from oil revenues, which are the main source of government spending, were significantly low due to a drop in the surplus of the balance of payments. The rapid increase in an unknown trade request is explained by a high level of dollarization. The decrease in oil prices in global commodity markets, together with the economic downturn in our main trading partners, led to expectations of a devaluation of the national currency, resulting in a significant increase in dollarization. The FX market saw a

significant increase in unusual transaction requests, which put a heavy stress on money and credit.

Figure 3 displays the total amount of foreign currency sold by banks' FX division in millions of currency units.



Source: Central Bank of Azerbaijan – 2015 annual report

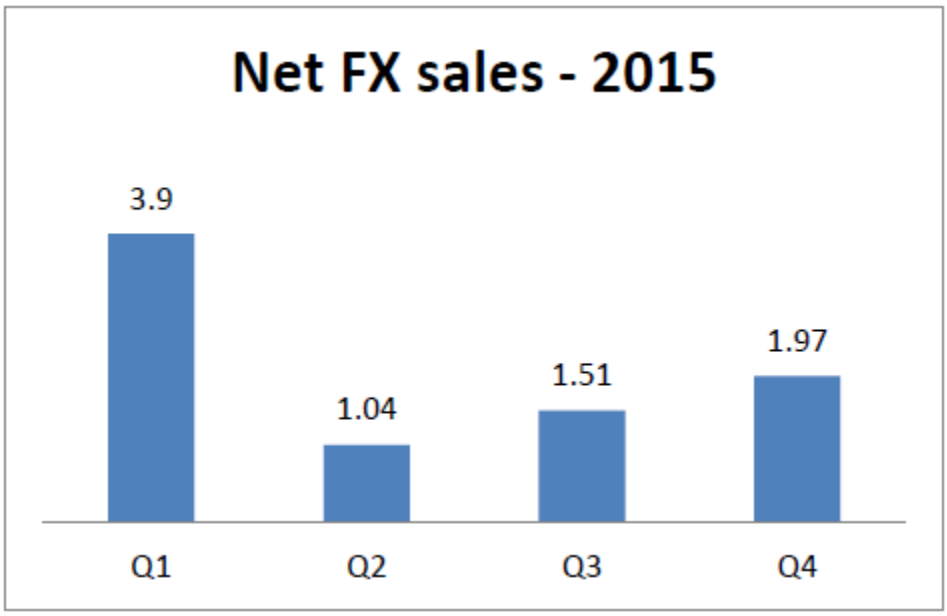
According to the CBA, the amount of unfamiliar currency offered by banks to the public in USD increased by 47.4% to reach USD 8.8 billion during the course of the year. In the first quarter of 2015, half of the net USD and 29% of the net EUR were sold.

The executive board of the CBA has decided to establish a conversion rate of 1.05 AZN per USD, effective from February 21, 2015. This decision was made in response to the significant volatility in the foreign exchange market and the exchange rate of AZN. CBA also implemented a measure to allocate public funds to a dual currency repository, including USD and EUR.

The foreign exchange market and the exchange rate of the Manat started to adapt to the oil price of USD 50-55 after the devaluation in February and the implementation of a new operating approach. However, starting at the end of July, a decrease in oil prices increased pressure on the foreign exchange market, leading to expectations of adjustments in the Manat exchange rate. The continuous downgrades in exchange partners have exacerbated the already bad impact on the worldwide strength of the national economy. The public currencies of some trading partner countries have depreciated by over 100% since the beginning of 2014. A changing environment necessitated adjustments in the FX market and the exchange rate of the Manat to reflect the new

oil prices. The Board of Directors of CBA made the decision to transition to a floating exchange rate system on 21 December 2015, which resulted in the establishment of the new exchange rate of Manat to the conjuncture in the FX market. It is important to mention that the implementation of the new conversion standard resulted in the discontinuation of the dual currency system for USD and EUR as part of the operational framework. With the drifting trading system in place, CBA saw a dramatic drop in foreign exchange market mediations. All things considered, CBA made $8.4 billion in net cash from 2015 sales.

Figure 4. Income from foreign exchange sales for CBA, shown in billions of dollars.



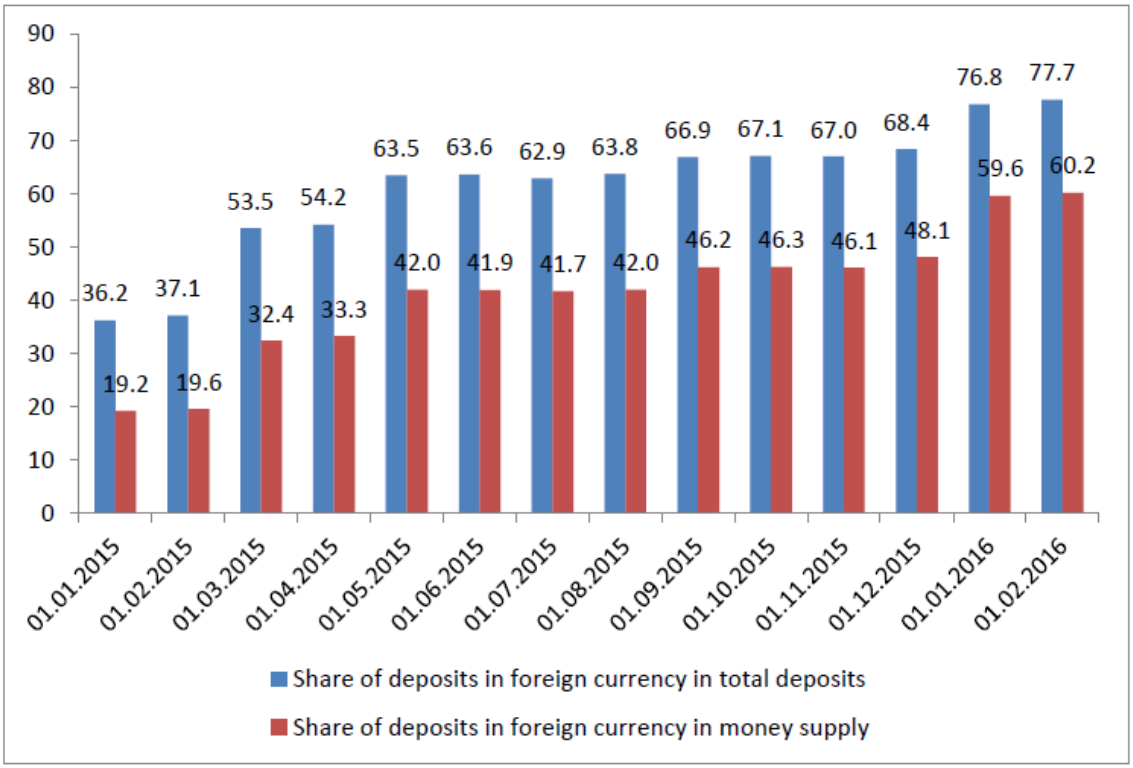
Source: Central Bank of Azerbaijan-2015 annual report

The total value of CBA's international trade savings amounted to USD 5 billion by the end of 2015. In 2015, the unknown trade reserves of CBA accounted up 90.3% of the total money supply in Manat, which is considered relatively low compared to the international average of 10-20%. The CBA's shifting scale strategy's operating system was adapted to the new conversion standard system in late 2015. Currently, CBA only engages in international commerce via barter transactions. Without prioritizing quantitative objectives connected to switching size, CBA just aims to mitigate rapid fluctuations in exchange rates. The standard conversion rate for interbank activity is established as the official exchange rate.

The primary advantage of the currency exchange rate system is that it allows for the preservation of the impact of global economic shocks on the economy. Furthermore, it promotes the development of the domestic financial market and the use of numerous innovative financial

instruments. Furthermore, the modification to the drifting mechanism enables the attainment of a balanced level of the exchange rate. The value of the Manat declined against most unfamiliar currencies in 2015. In 2015, the value of USD increased by 98.8% while the value of EUR increased by 79% versus AZN. In 2015, the amount of dollarization increased, with 76.8% of total savings and deposits in unknown currency designated establishments at the end of the year.

Figure 5: Dollarization as a proportion



Source: Central Bank of Azerbaijan-2015 annual report

At the end of the period, 59.6% of the cash supply consisted of unknown cash designated retailers. The increase in the proportion of foreign currency designated deposits in total deposits is mostly due to the increase in their value in Manat terms. Evidently, in 2015, the Azerbaijani government allocated a substantial amount of public funds to compensate for the low wages resulting from the decline in oil prices, with the anticipation that oil prices would rise in the near future. The event did not happen, and the government saw a significant decline in value in the beginning of 2015. Starting in 2015, the price of oil decreased, leading to a significant deficit in Azerbaijan's public budget. As a result, the government implemented a second substantial devaluation of the currency to address the disparity between oil revenue and public expenditure. According to the Central Bank, the financial resources of the Azerbaijan Republic's financial arrangement in 2015 amounted to AZN 26462.6 million, representing a 5.083% increase

compared to the 23.53% growth in 2014. The advances increased by about 2.65% and reached a total of AZN 21399.4 million. In 2015, the whole income of banks, including both premium and non-premium revenues, amounted to 1021.1 million AZN. Meanwhile, the total expenses of banks, including both premium and non-premium uses, amounted to 704.5 million AZN. The productivity measures, Return on Assets (ROA) and Return on Equity (ROE), were 1.07% and 5.63% respectively.

Table 3 presents the percentage growth rate of the main factors that influence the Azerbaijan Banking System.

	2011	**2012**	**2013**	**2014**	**2015**
Assets	7.3	26.5	23.3	23.5	5.12
Loans	8.1	24.3	26.0	20.2	-2.65
Deposits of legal entities	16.08	-0.18	0.54	40.77	-18.76
Deposits of population	36.0	24.1	25.1	12.4	-12.34
Aggregate capital	12.7	20.3	33.2	24.6	1.91

Source: Central Bank of Azerbaijan-2015 Annual report

Table 4: Earnings of Azerbaijani banks , AZN million

	2013	2014	2015	Change 2014-2015, %
Interest Income	1646.9	2255.7	835.2	-62.97
Interest expense	817.6	986.4	351.8	-64.33
Non-interest income	442.6	476.45	185.9	-60.98
Non-interest expense	759.8	909.14	352.7	-61.21
Total income[27]	2089.5	2732.2	1021.1	-62.63
Total expense[28]	1577.4	1895.5	704.5	-62.83
Net operation profit	512.1	836.61	316.6	-62.16

Source: Central Bank of Azerbaijan-2015 Annual report

Chapter 4: The Methodology of the Thesis

4.1 Measures for the Collection of Data, Methodology, and Analysis of Data Instrument

This section will examine a well-organized research undertaken by Ulfat Aliyeva in 2020 titled, The effect of currency depreciation on the banking industry of Azerbaijan. My goal in reviewing this research is to determine if devaluation has a beneficial or detrimental effect on Azerbaijan's banking industry between 2013 and 2018. If you could tell me when the Azerbaijani economy was positively or negatively affected by currency depreciation, that would be great. The effects of devaluation on Azerbaijan's banking sector are covered extensively in the report. This article covers the results of twenty-one commercial banks in the Republic from 2013 to 2018. This research looked at a variety of audited reports from commercial banks. The research also draws on the work of Drs. Fakhri Hasanov, Nigar Bayramli, and Nayef Al-Musehel in its dataset. The main aspects of the research are ROA, ROE, capital sufficiency, bank size, yearly exchange, inflation rate, and loans to total assets ratio. Participating financial institutions include the following: Accessbank, AFB bank, AG Bank, Amrahbank, Atabank, Azer Turk Bank, Bank of Baku, Bank BTB, Bank Eurasia, Bank Respublika, Expressbank, Gunay Bank, Kapital Bank, Muganbank, Pasha Bank, Premium Bank, Turanbank, Unibank, VTB bank Azerbaijan, Xalq Bank, and Yelo Bank. A total of 126 observations have been made.

For the purpose of doing multiple regression analysis, the author has adopted the Estimated Generalized Least Square method. For the purpose of panel data, both cross-sectional and time-series data have been employed. Within the scope of the investigation, there are both dependent and independent variables.

4.1.1. The variables that are dependent on the regression model

The return on total assets (ROA) and the return on equity (ROE) are the primary factors that determine the profitability of banks all over the globe. In the research, there are variables that are reliant on other factors, and these variables are a function of both internal and external determinants.

Table 5 displays the dependent variables that were examined in the research.

Dependent variables	ROA	ROE
	Profit from total assets	Revenue from shareholder's equity

Source: Author's own elaborations based on internet research

The Return on Assets is a key factor in determining the profitability of a bank based on its total assets. Furthermore, a high return on assets (ROA) indicates a correspondingly strong pace of growth in banks. The formula for Return on Assets (ROA) may be expressed as follows. Return on Assets (ROA) is calculated by dividing the Net Interest (Net Profit) by the Total Assets.

The Return on Equity (ROE) is a metric used to determine the profitability of banks by measuring the income generated from the shareholders' equity. Furthermore, a high return on equity (ROE) indicates a substantial use of the shareholders' money. The formula for Return on Equity (ROE) is calculated by dividing the Net Interest (Net Profit) by the Total Equity.

4.1.2. The regression model consists of independent variables

Additionally, the research includes independent factors. Independent variables may be categorized into two distinct groups: internal and external influences. The internal components refer to bank-specific and bank-size characteristics as shown in Table 6. Furthermore, external influences may be categorized as macroeconomic variables that have an impact on both the industry and economy of the nation.
Table 6 displays the independent factors that were examined in the research.

Internal factors	External factors
Net Open Position (NP)	Exchange Rate (ER)
Shareholder's Equity Ratio (SER)	Interest Rate (IR)
Loans to Total Assets (LTA)	Inflation Rate (INF)
Capital Adequacy Ratio (CAR)	Money Supply Growth Rate (MSG)

Leverage or Financial Risk (LEV)	
Bank Size (BS)	

Source: Author's own elaborations based on internet research

Net open position (NP), shareholder's equity ratio (SER), capital adequacy ratio (CAR), leverage or financial risk (LEV), bank size (BS), and other bank-specific and bank-size-related components are categorized as internal elements in the research. Exchange rate (ER), interest rate (IR), inflation rate (INF), and money supply growth rate (MSG) are all examples of macroeconomic components that are categorized as external factors. Details on the internal and external factors that contribute to a bank's profitability should be provided. Internal variables should be considered first.

Net position open: It is a technique that banks and financial institutions throughout the world use to estimate the risk of foreign exchange. The primary factors used to determine NP are assets denominated in foreign currency and liabilities denominated in foreign currency. Positions of NP might be either lengthy or short. Unanticipated shifts in the value of a currency's exchange rate are a key component of foreign exchange risk. A long position of NP occurs when a bank's assets exceed its liabilities. Instead, NP is in a deficit situation when its obligations exceed its assets. What follows is an explanation of the net open position formula. Numerical value equals assets denominated in foreign currency minus liabilities denominated in foreign currency. Equity ratio for shareholders: The shareholder equity ratio is primarily composed of shares and borrowings. A financial technique known as SER is used to ascertain the assets acquired by a bank via the issuance of shares as opposed to borrowings. The shareholder equity ratio is calculated by dividing the total equity of shareholders by the total assets of a bank. The amount of the ratio indicates the extent to which the bank used debt in relation to its assets. A higher SER indicates that the bank used a less amount of debt to cover its assets. The SER also serves to gauge the general financial well-being of the bank. What follows is an explanation of the SER formula. The whole equity divided by the total assets is the specified ratio (SER). One measure of a bank's financial health is its loan portfolio, while another is its total assets. These two pieces make up the loans to total assets ratio. It is a method for calculating the ratio of a bank's total assets to the amount of loans the bank has. Additionally, it is used for gauging the credit risk of financial institutions. Banks' bottom lines benefit from the ratio. A key function of LTA is the categorization of loan-related asset values. What follows is an explanation of the LTA formula. Customer loans divided by total assets is the LTA. The capital adequacy ratio is a popular metric for gauging a company's financial health by looking at its assets and capital. According to CAR, stress testing and capital sufficiency must be done. By dividing the bank's capital by its risk-

weighted assets, we may get the ratio. Detailed below is the CAR formula:
Total Asset Return (CAR)= (Tier 1 + Tier 2 capital) / Risk Weighted Assets

One measure of a bank's financial health that focuses on the proportion of its assets that are debt rather than equity is the leverage ratio. One of LEV's main functions is to show how much debt a bank has in relation to its assets and operations. Banks also utilize LEV to estimate their financial risk. Total liabilities divided by total assets gives us the LEV ratio. Banks with a lower LEV indicate lower ROE and greater ROA, whereas those with a higher LEV indicate lower ROE and higher ROA. Down down, you'll find the LEV formula. Leverage is total liabilities divided by total assets. Providing details on extraneous variables is also crucial. The size of a bank may be expressed as the natural logarithm of its entire asset value. The ownership of assets by banks is simply covered by BS. There will be more affordable banking services in the event of substantial asset ownership. What we call the "exchange rate" is really just the value of one currency relative to another. The average yearly exchange rate of USD to AZN was used as the ER metric in Azerbaijan. In this nation, the US dollar is the main trade currency.

Rate of interest: Important components here are borrowing and saving. The entire amount borrowed or saved is subject to an interest rate, which is expressed as a percentage. One popular way to express interest is as an annual percentage rate. The rate of inflation, defined as the annual percentage change in the consumer price index, is a key indicator of economic health. The rate of change in the level of prices over a period of time, expressed as a percentage. Another way that inflation rate is used to measure how macroeconomic factors impact bank performance is as a proxy for it. The profitability of banks is allegedly substantially affected by inflation, according to certain academics. As a result, banks may expect more profits and higher interest rates as a result of increasing inflation. The growth rate of a country's money supply is an important indicator of the health of that economy's monetary system. Currency, banknotes, liquid assets, and savings account funds are all examples of money in circulation.

4.1.3 Model

Model 1 (Table 6) ROA = α + β1(NP)+ β2(SER) + β3(LTA)+ β4(CAR)+ β5(BS) + β6(ER) +ε

Model 2 (Table 7) ROA = α + β1(NP)+ β2(LEV) + β3(LTA)+ β4(CAR)+ β5(BS) + β6(ER) +ε

Model 3 (Table 8) ROA = α + β1(SER)+β2(BS)+ β3(ER)+ β4(IR)+ β5(INF)+ β6(MSG)+ ε

Model 4 (Table 9) ROA = α + β1(LEV)+β2(BS)+ β3(ER)+ β4(IR)+ β5(INF)+ β6(MSG)+ ε

Model 5 (Table 10) ROE = α + β1 (LEV) + β 2(BS) + β3(ER) + β4(MSG) + ε

Model 6 (Table 11) ROE = α + β1(SER) + β2(BS) + β3(ER) + β4(MSG) + ε

4.2 Overall Statistics

Table 7: Overall statistics of variables

Variables	Observation	Mean	Std. Dev.	Min	Max
ROA	126	-0.013073	0.075662	-0.519135	0.091429
ROE	126	-0.144108	1.231004	-8.879918	2.169089
NP	126	52268.47	78432.74	-76076.00	379542.0
SER	126	0.167403	0.193791	-1.007107	0.721895
LTA	126	0.252567	0.190699	-0.075116	1.077910
CAR	126	0.639427	0.164438	0.291655	1.135520
LEV	126	0.832596	0.193793	0.278105	2.007107
BS	126	13.01844	0.872431	10.52380	15.46597
ER	126	1.268483	0.415194	0.784400	1.721000
IR	126	9.078333	0.863422	7.700000	10.28000
INF	126	5.921667	4.832611	1.450000	12.84000
MSG	126	21649.83	1496.782	19290.00	24061.00

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at

SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

Based on the data shown in Table 5, the largest standard deviation (SD) for NP is 78432.74, whereas the highest SD for MSG is 1496.782. Consumer Price Index (CPI) was the index that was used to assess the rate of inflation. The absolute lowest value is 1.45, and the absolute

highest value is 12.84. The mean value is 5.921667, and the minimum value is 1.45. The averages of the variables are; -0.013073, -0.144108, 52268.47, 0.167403, 0.639427, 0.832596, 13.01844, 1.268483, 9.078333, 5.921667 and 21649.83 for Return on Assets (ROA), Return on Equity (ROE), Net open position (NP), Shareholder equity ratio (SER), Loans to Total Assets Ratio (LTA), Capital Adequacy Ratio (CAR), Leverage or Financial Risk (LEV), Bank Size (BS), Exchange Rate (ER), Inflation Rate (INF), Interest Rate (IR) and Money Supply (MSG) in the order. According to the SD, NP was the most volatile of the series being discussed. After this comes MSG, then INF, then IR, and finally ROE.

4.3 Multicollinearity test

To set the stage for the author's test, I'd like to provide some background on correlation notions. The basic idea behind correlation is to find a straight line connecting two variables. Coefficients of correlation may take on values between -1 and +1. A negative linear connection exists between components when the correlation coefficient is negative one. A positive linear connection between components is shown by a correlation value of +1. A lack of linear relationship between components is shown by a correlation value of 0. Further, a weak positive link exists between components if the value of the correlation coefficient fluctuates between zero and half. Weak negative relationship between components is indicated by a correlation coefficient value that fluctuates between -0.5 and 0. There is a significant positive link between components if the value of the correlation coefficient fluctuates between 0.5 and 0.9. Strong negative relationship between variables is indicated by a correlation coefficient value that fluctuates between -0.9 and -0.5.

There is a positive perfect link between variables when the correlation coefficient relation varies between 0.9 and 1. In addition, a negative perfect relationship exists between components if the correlation coefficient fluctuates between -1 and -0.9.

Table 8: Matrix of Correlations

	ROA	ROE	NP	SER	LTA	CAR	LEV	BS	ER	IR	INF	MSG
ROA	1.0000											
ROE	0.3168	1.0000										
NP	0.2013	0.0412	1.0000									
SER	0.5370	0.0467	0.0802	1.0000								
LTA	0.0299	0.0770	-0.2047	0.2143	1.0000							
CAR	0.0610	0.0395	-0.0378	0.1905	-0.1184	1.0000						
LEV	-0.5370	-0.0467	-0.0802	-1.0000	-0.2143	-0.1904	1.0000					
BS	0.1229	0.0013	0.5985	-0.3210	-0.3162	-0.1442	0.3210	1.0000				
ER	-0.2513	-0.1018	-0.0540	-0.2646	-0.4304	-0.1611	0.2647	0.1656	1.0000			
IR	0.3481	0.2296	-0.0373	0.1594	0.1126	-0.0022	-0.1594	-0.0812	-0.3020	1.0000		
INF	-0.3401	-0.1994	-0.0022	-0.2479	-0.2730	-0.0914	0.2479	0.0923	0.6724	-0.8411	1.0000	
MSG	-0.0094	0.0524	-0.0138	-0.1362	-0.3340	-0.1019	0.1362	0.1758	0.6926	0.1716	0.0790	1.0000

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

The table's variables are going to be the focus of my analysis as I investigate their correlations. Going into it with NP is the way to go. Table 8 shows that NP has a modest positive relationship with ROE and ROA. Therefore, a higher NP rate indicates a more profitable ROA and ROE. All things considered, NP is weakly correlated negatively with LTA, CAR, LEV, ER, IR, INF, and MSG. The relationship between NP and SER, however, is weakly positive. Also, NP and BS are highly correlated positively. Regarding SER, the relationship between SER and ROA is positive and robust, whereas the relationship between SER and ROE is positive and weak. I can put it another way: I can claim that banks are more profitable when SER is lower. Similarly, SER, CAR, and IR all show a small but positive association with one another. Instead, SER is weakly correlated negatively with BS, ER, INF, and MSG.

There is a small but favorable association between LTA, ROA, and ROE when it comes to LTA. The variables LTA, CAR, LEV, BS, ER, INF, and MSG are weakly correlated negatively. Conversely, LTA and IR show a small but favorable association. There is a modest but favorable relationship between CAR, ROA, and ROE as they pertain to the Capital Adequacy Ratio. Conversely, CAR is inversely related to LEV, BS, ER, IR, INF, and MSG.There is a slight negative link between LEV and ROE, and a high negative correlation between LEV and ROA

when considering the leverage ratio. Similarly, LEV and IR have a modest negative connection. Having said that, LEV does have a modest positive association with BS, ER, INF, and MSG. There is a modest but favorable relationship between BS and ROA and ROE when looking at bank size. Consequently, large-sized banks see a rise in their profitability. Similarly, BS and ER, INF, and MSG all show a slight positive connection. Conversely, BS and IR have a modest negative association.

Chapter 5. Findings and outcomes

5.1 An examination of regression and its outcomes

Based on the findings shown in Table 9, the calculations of Return on Assets (ROA) indicate a negative correlation between Net Profit (NP), Long-Term Assets (LTA), Capital Adequacy Ratio (CAR), and the profitability of the banking industry in Azerbaijan. Furthermore, the performance of the aforementioned factors is negligible. To put it simply, a higher net open position, loans to total assets ratio, and capital adequacy ratio have a negative impact on the profitability metric ROA. In other words, an increase in these factors results in lower profitability measured by ROA. The study's calculations indicate a significance level of 5% for the Standard Error of Regression (SER). From a logical standpoint, I can assert that a good correlation between SER (Shareholders' Equity Ratio) and ROA (Return on Assets) confirms the use of less loans to finance a bank's assets. Moreover, I reject the null hypothesis based on the significance level (p-value) of the standard error of regression (SER). Furthermore, there is a direct correlation between the level of business sustainability (BS) and the return on assets (ROA). Based on my analysis, it can be inferred that banks in Azerbaijan have the potential to generate substantial profits via mergers. Ultimately, there exists a negative correlation between exchange rates (ER) and return on assets (ROA). An increase in exchange rates has a detrimental and noteworthy effect on ROA.

Table 9 presents the results of the regression analysis conducted for the variable Return on Assets (ROA) using Model 1.

Variables	Coefficient	t-Statistics	P-value
C	-0.424472	-3.086467	0.0025
NP	-1.14E-07	-1.141003	0.2562
SER	0.256906	7.659470	0.0000
LTA	-0.027430	-0.629182	0.5304
CAR	-0.025405	-0.812459	0.4182
BS	0.033865	3.446915	0.0008
ER	-0.033556	-2.248879	0.0264
R-squared			0.395894
Adj. R-squared			0.365435
S.E. of regression			0.055890
F-statistics			12.99755
Prob (F-statistics)			0.000000
Durbin-Watson stat			1.973212

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

Regarding the second model, there is a negative correlation between ROA and all bank-specific and macroeconomic factors, except for BA. On the other hand, there is a positive correlation between BS and ROA. The variables NP, LTA, and CAR do not have a significant impact on ROA. Regression analysis reveals that LEV, BS, and ER have a significant impact on ROA. Upon examining table 10, it is evident that the LEV value is negative. This indicates that more financial risks are associated with decreased ROA. There is a direct correlation between the level of business sustainability (BS) and the return on assets (ROA). Nevertheless, there exists a negative correlation between ER (earnings ratio) and ROA (return on assets). Furthermore, it is worth noting that ER has a considerable impact on ROA. Put simply, the importance of ER to ROA and its impact on ROA suggests negative effects of currency mismatches on the bank's

performance. Considering the lack of significance of NP, LTA, and CAD in the previous two models, we shall construct the subsequent models for ROA without include them. Emerging macroeconomic variables The variables IR, INF, and MSG were included in the third and subsequent regression models for predicting ROA.

Table 10 presents the results of the regression analysis for the Return on Assets (ROA) using Model 2.

Variables	Coefficient	t-Statistics	P-value
C	-0.167589	-1.283204	0.2019
NP	-1.14E-07	-1.141197	0.2561
LEV	-0.256913	-7.659617	0.0000
LTA	-0.027437	-0.629328	0.5303
CAR	-0.025405	-0.812444	0.4182
BS	0.033868	3.447154	0.0008
ER	-0.033556	-2.248909	0.0264
R-squared			0.395902
Adj. R-squared			0.365443
S.E. of regression			0.055890
F-statistics			12.99798
Prob (F-statistics)			0.000000
Durbin-Watson stat			1.973223

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

At the 1% and 2% significance levels, respectively, we find statistical significance between all bank-specific and macro-economic variables in Table 11. All components have a positive association with ROA, with the exception of ER. Additionally, IR, INF, MSG, and ROA all have a favorable relationship with one another. So, Azerbaijani banks become more profitable when inflation, money supply, and interest rates all rise. The profitability of Azerbaijani banks is negatively impacted by a decline in the value of the national currency.

Model 3's regression results are shown in Table 11.

Variables	Coefficient	t-Statistics	P-value
C	-1.262158	-5.651607	0.0000
SER	0.240016	7.947923	0.0000
BS	0.031205	4.078602	0.0001
ER	-0.126139	-3.371712	0.0010
IR	0.060696	4.396052	0.0000
INF	0.012568	3.291615	0.0013
MSG	1.56E-05	2.411658	0.0174
R-squared			0.500010
Adj. R-squared			0.474800
S.E. of regression			0.049960
F-statistics			19.83409
Prob (F-statistics)			0.000000
Durbin-Watson stat			2.025296

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at
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The p-value data shown in table 12 indicates that there is a statistically significant relationship between ROA and all of the components. The BS, IR, INF, and MSG, as well as ROA, all have a positive association with one another. Therefore, the association between these two factors results in an increase in the profitability of Azerbaijani banks. The LEV, ER, and ROA all have a modest negative association with one another; this link has a detrimental influence on the banks of Azerbaijan. The tiny amount of profits that Azerbaijani banks make may be attributed, in other words, to the fact that increasing financial risks and devaluation play a big influence.

Furthermore, the value of R squared is 0.500014, which indicates that independent variables are responsible for fifty percent of the variation in ROA. Calculations using the Durbin-Watson method indicate that there is no problem with autocorrelation. This is due to the fact that the value of the Durbin Watson is extraordinarily high, coming in at 2.025296.
The regression analysis for ROA, Model 4, is shown in Table 12.

Variables	Coefficient	t-Statistics	P-value
C	-1.022159	-4.638525	0.0000
LEV	-0.240020	-7.948015	0.0000
BS	0.031206	4.078755	0.0001
ER	-0.126139	-3.371747	0.0010
IR	0.060695	4.396023	0.0000
INF	0.012568	3.291627	0.0013
MSG	1.56E-05	2.411747	0.0174
R-squared			0.500014
Adj. R-squared			0.474805
S.E. of regression			0.049960
F-statistics			19.83444
Prob (F-statistics)			0.000000
Durbin-Watson stat			2.025296

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

Models 5 and 6 have been constructed to quantify the correlation between Return on Equity (ROE) and the variables: Stockholders' Equity Ratio (SER), Leverage (LEV), Balance Sheet (BS), Earnings Ratio (ER), and Market Share Growth (MSG). ER and MSG have been extracted from a set of macroeconomic indicators, whereas SER, LEV, and BS have been regarded as variables related to the size of the bank.

Table 13 presents the results of the regression analysis conducted for the ROE- Model 5.

Variables	Coefficient	t-Statistics	P-value
C	-3.266759	-1.334652	0.1845
LEV	0.006791	0.010585	0.9916
BS	-0.008003	-0.055083	0.9562
ER	-0.786411	-2.123669	0.0357
MSG	0.000195	1.941987	0.0545

R-squared			0.041052
Adj. R-squared			0.009351
S.E. of regression			1.200352
F-statistics			1.294988
Prob (F-statistics)			0.275825
Durbin-Watson stat			2.197236

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at

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Table 14: Regression analysis for ROE- Model 6

Variables	Coefficient	t-Statistics	P-value
C	-3.259959	-1.302551	0.1952
SER	-0.006802	-0.010602	0.9916
BS	-0.008004	-0.055088	0.9562
ER	-0.786413	-2.123673	0.0357
MSG	0.000195	1.941987	0.0545
R-squared			0.041052
Adj. R-squared			0.009351
S.E. of regression			1.200352
F-statistics			1.294988
Prob (F-statistics)			0.275824
Durbin-Watson stat			2.197235

Source: Aliyeva, Ulfat, The Impact of Currency Devaluation on The Banking Sector of Azerbaijan (July 31, 2020). Available at

SSRN: https://ssrn.com/abstract=3698650 or http://dx.doi.org/10.2139/ssrn.3698650

Table 13 indicates that there is no statistical significance between the variables ROE and LEV, as well as between BS and MSG. Therefore, the factors indicated have no effect on the profitability of banks. Nevertheless, there is a statistically significant relationship between Return on Equity (ROE) and Earnings Ratio (ER). Furthermore, there is a positive connection coefficient between Return on Equity (ROE) and both Leverage (LEV) and Message (MSG). There is a negative link with a coefficient between the return on equity (ROE) and both the balance sheet (BS) and the earnings ratio (ER). Therefore, an increase in the currency rate has a detrimental impact on the return on equity (ROE). Table 14 shows a lack of statistical significance in the relationship between bank profitability and the variables ROE, SER, and BS. However, there is a weak and unimportant correlation between MSG and ROE. Among the factors, ER is the only one that significantly affects ROE at a 5% level of significance. In general, the introduction of ER has had a detrimental effect on the profitability of Azerbaijani banks.

Conclusion

For a considerable amount of time, the banking sector in Azerbaijan has been confronted with a few challenges as a result of the enormous changes that have occurred in the global financial industry. Whatever the case may be, the majority of the work in the nation's banking sector has been completed over the course of the last several years. During the year 2015, the country had two instances of public money devaluation that were equivalent to monetary norms in other countries. Following that, the Azerbaijani monetary system and banks were subjected to a significant negative impact as a result of the twofold devaluation. After the two shocks caused by the devaluation, the bank's production began to undergo significant and diversified shifts, which began to become apparent. Following a devaluation of double digits, the banks of Azerbaijan experienced a variety of difficult disappointments across the country. After 2015 until 2018, the majority of banks have seen an increase in net losses, a fall in total assets and loans, a reduction in the size of the bank, and an increase in debts. All of these factors have contributed to the problem. Within the context of this particular condition, the investigation investigated the impact that the devaluation of the Azerbaijan Manat had on the representation of 21 banks in Azerbaijan over a fairly extended period of time (2013-2018). A number of regression models have been conducted in order to investigate the impact that the exchange rate has on the benefits that Azerbaijani banks get. ROA and ROE have been employed as dependent components in this application. Different groupings of independent variables have been established as a result of this separation. The inquiry into descriptive statistics, correlation, and regression has been directed for each and every variable. Through the use of the correlation matrix, the multicollinearity test has been applied. In a group setting, the results of the multi-collinearity test between SER and LEV were discovered. Following that, we employed these two components in regression models for ROA and ROE in a separate manner.

The thesis findings indicate a weak and non-significant correlation between Return on Assets (ROA) and Net Profit (NP), Long-Term Assets (LTA), and Capital Adequacy Ratio (CAR). Nevertheless, there exists a strong and meaningful correlation between SER, BS, and ROA. Furthermore, there exists a strong and negative correlation between the level of leverage (LEV) and the return on assets (ROA). Therefore, an increase in LEV has a detrimental effect on ROA. Moreover, there is a direct correlation between the level of business sustainability (BS) and the return on assets (ROA). The merger of banks in Azerbaijan may be inferred as a means to achieve greater profitability via economies of scale. Regarding return on equity (ROE), there exists a negative and statistically insignificant relationship between shareholder's equity ratio (SER), balance sheet (BS), and ROE. Nevertheless, there is a positive but negligible correlation

between LEV (Leverage) and ROE (Return on Equity). Moreover, there is a direct correlation between IR (Interest Rate), INF (Inflation), MSG (Money Supply Growth), and ROA (Return on Assets). Based on the results of the regression analysis, there was a positive but statistically insignificant relationship between Return on Equity (ROE) and the Market Share Growth (MSG). Curiously, there is a detrimental impact of employee turnover on return on assets (ROA) and return on equity (ROE).

The national currency had a significant decrease in value due to the negative effects on the banking sector, which included an increase in the value of foreign currency loans held by banks and a decrease in the quality of the credit portfolio denominated in foreign currency. The depreciation adversely affected the public's trust in deposits denominated in the national currency, the Manat. The reserves of foreign currency diminished due to the informal and rapid adoption of the US dollar as a substitute currency. Small-scale banks failed to resist adverse deteriorating shocks and ceased their operations. In 2016, FIMSA was established with the purpose of maintaining and regulating the financial stability of banks. However, it failed to meet CBAR's expectations in terms of overseeing the banking sector. On November 28, 2019, the formal declaration was made that FIMSA was invalidated and its experts were transferred to CBAR. The ongoing depreciation is having a significant impact on the financial sector of Azerbaijan. However, Atabank, Amrahbank, and Agbank OJSC were unable to resolve their financial problems after devaluation until 2020, leading to the cessation of their operations in the banking industry.

Taking everything into consideration, I am able to assert that there is a statistically significant negative relationship between the exchange rate and the profitability of the financial sector in Azerbaijan later the depreciation of the currency. This is in conformity with the findings of all models from all dimensions. I am able to demonstrate that the H1.0 hypothesis is correct and that the H1.1 hypothesis is incorrect.

In conclusion, I am able to assert that Azerbaijan was unable to prevent the depreciation of the manat because the Central Bank was unable to defend the manat owing to declines in both its reserves and the reserves managed by the State Oil Fund of Azerbaijan. Furthermore, the Azerbaijani government was compelled to weaken its currency due to international factors such as the persistent repercussions of global crises and the decline in the price of oil.

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