CAUSES OF THE GLOBAL FINANCIAL CRISIS: POTENTIAL IMPACTS ON THE WORLD AND TURKISH ECONOMY

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Review Article

ABSTRACT

The global-scale crisis originated in the U.S and quickly spread worldwide, was precipitated by issuance of housing loans to a broad range of individuals without regard for their repayment capacity. This surge in demand led to a dramatic increase in home prices. As the Federal Reserve raised interest rates, low-income individuals who had taken mortgages with variable interest rates found themselves unable to meet their repayment obligations, causing these issues to spiral out of control. These defaulted loans, also referred to as toxic assets, were securitized and based on derivative financial instruments, with multiple banks trading these contracts among themselves. As a result, distressed shares and derivative contracts experienced severe devaluations, triggering a significant global crisis. Banking sector serves as the milestone of financial markets worldwide, the crisis originating in the banking sector rapidly affected banks around the globe, impacting not only the economies of emerging countries but also developed nations with a domino effect. This study aims to analyze the global financial crisis, which originated based on the U.S. mortgage market, by examining its causes and consequences, as well as its impact on various countries worldwide, Türkiye's economy, and its banking sector.

Keywords: Global Financial Crisis, Mortgage Loan, Financial Markets, Causes and Effects of the Crisis

Legal Permissions: This study falls under the category of research not requiring ethics committee approval, as it utilizes publicly available information and does not involve the collection of human data for any purpose.

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KÜRESEL FİNANSAL KRİZİN NEDENLERİ: KRİZİN DÜNYA VE TÜRKİYE EKONOMİSİNE OLASI ETKİLERİ

Derleme Makalesi

ÖZ

Tüm dünyayı kısa sürede etkisi altına alan ve ABD'de başlayan küresel ölçekli krizin konut kredilerinin ödeme gücü dikkate alınmadan geniş kitlelere verilmesi neticesinde ev fiyatları talep artışı nedeniyle dramatik bir şekilde yükselmiştir. Bunun üzerine FED'in faiz oranlarını artırmasıyla beraber değişken faiz oranı ile konut kredisi kullanan düşük gelirli bireylerin söz konusu kredileri ödeyememelerinden kaynaklı oluşan problemler önü alınamaz bir hale gelmiştir. Daha sonra batık krediler olarak da adlandırabileceğimiz bu kredilerin menkulleştirilerek türev finansal araçlara dayandırılması çok sayıda bankaların da bu sözleşmeleri el değiştirerek birbirlerine devretmeleri sonucu sorunlu hisse senetleri ve türev sözleşmeler aşırı değer kayıplarından dolayı ciddi şekilde küresel krizin başlamasına sebep olmuştur. Bankacılık sektörü tüm dünyada finans piyasalarının temel taşını oluşturdukları için bankacılık sektöründe başlayan kriz kısa sürede tüm dünya bankalarını ve hatta yalnızca gelişmekte olan ülke ekonomilerini değil, aynı zamanda gelişmiş ülke ekonomilerini de kısa sürede domino taşı etkisiyle olumsuz şekilde etkilediği görülmektedir. Bu çalışma dünyada yaşanan küresel krizin ABD mortgage piyasası baz alınarak ortaya çıkış nedenleri ve sonuçlarıyla beraber çeşitli dünya ülkeleri ile Türkiye ekonomisi ve bankacılık sektörü üzerinde etkilerini analiz etmeyi amaçlamaktadır.

Anahtar Kelimeler: Küresel Finansal Kriz, Konut Kredisi (Mortgage), Finansal Piyasalar, Krizin Nedenleri ve Etkileri

Yasal İzinler: Çalışmada kamuya arz edilen bilgiler kullanılması ve herhangi bir amaçla insandan veri toplanılmaması nedeniyle etik kurul izni gerektirmeyen çalışmalar arasında yer almaktadır.

1. INTRODUCTION

The U.S.-based housing (mortgage) market crisis, which emerged in 2008 and rapidly impacted the entire world, initially involved loans issued to high-income individuals (prime mortgages) in the United States. However, as banks' risk appetite and desire for increased profits grew, they began extending mortgage loans to lower-income individuals (subprime mortgage loans) at high rates to achieve greater returns. Over time, the provision of these loans to lower-income individuals led to repayment difficulties, ultimately creating significant threats for the lending banks.

Initially fueled by the Federal Reserve’s low-interest rate policy, which aimed to shift individuals from saving to increased spending to stimulate the economy, this situation gradually heightened consumer interest in housing—traditionally viewed as a safe investment. Due to the low-interest environment, individual borrowers gained access to credit under more favorable conditions, leading to a sharp rise in demand for real estate, which in turn triggered a housing price bubble marked by unsustainable price increases. Derivative financial products—considered highly risky instruments—were introduced into the housing market, further intensifying this effect. The ease of access to mortgage loans and the resulting surge in demand pushed derivative products and real estate prices well above their intrinsic value, ultimately contributing to the formation of a market bubble.

In 2004, the Federal Reserve’s interest rate hikes aimed at combating inflation significantly impacted low-income individuals who had borrowed with adjustable-rate mortgages, leading to widespread repayment difficulties. Consequently, as the housing bubble burst, property prices began to plummet rapidly. For banks providing mortgage loans to individuals, as well as the investment banks financially backing them, this situation ceased to be profitable, instead bringing severe challenges such as liquidity issues.

This study has been prepared to interpret the effects of global financial crises, particularly focusing on the structural problems of the U.S. mortgage market, and their potential impacts on the Turkish banking sector and the global economy. The contribution of this study to the literature lies in evaluating the effects of the global crisis in relation to the relevant periods, while also providing a general assessment and commentary on the banks and the banking sector currently operating in Türkiye. Accordingly, the study is based on the theories of globalization and financial crises, given the subject under consideration. From this perspective, it is crucial to understand the impact of each crisis on the banking sector and to address the negative consequences that the sector may experience in the face of crises, both for the banking industry and for the economy.

This study also evaluates, within a theoretical framework, the annual changes in unemployment rates in our country between 2000 and 2023 based on World Bank data, the ratio of non-performing loans to total loans in the Turkish banking sector and its implications for the sector, as well as the ratio of banks' liquid reserves to total assets during crisis and non-crisis periods, alongside the influence of the central bank on this ratio, with an emphasis on ethical considerations. Within the scope of globalization and financial crises, the study demonstrates that mortgage loans, issued without sufficient consideration of individuals' credit scores, first lead to credit risks and later to liquidity risks. Moreover, due to the integration of the banking sector with global financial systems across countries, the transfer of risky derivative financial products between banks and the widespread circulation of these instruments in the markets also bring about significant risks. Additionally, it is observed that weaknesses in risk management analysis and supervision have contributed to the global-scale nature of the crisis.

2. LITERATURE

Boeri and Guiso (2007), found that the rising demand for securities backed by risky subprime loans traded in secondary markets, combined with mortgage lenders issuing loans without adequately assessing individuals' credit histories or income levels, led to an increase in borrowers with poor credit histories. This phenomenon not only revealed the root cause of the crisis but also contributed to its rapid and widespread dissemination.

Kaya and Gülhan (2010), analyzed the potential impacts of the U.S.-originated financial crisis on companies listed on the Istanbul Stock Exchange operating in the metal goods and machinery sector. Using Data Envelopment Analysis (DEA) and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), they measured the efficiency and performance of 25 companies in this sector. According to the DEA results, firms utilized their resources more efficiently compared to the pre-crisis period. Meanwhile, the TOPSIS results indicated no significant difference in performance rankings among firms.

Kibritçioğlu (2010), analyzed the impacts of the financial crisis on Türkiye's economy during 2008 and 2009. The study focused on how the U.S. real estate crisis, which emerged in 2006–2007, affected not only the American and global economies but also Türkiye’s economy. Finally, the study examined crisis indicators that became prominent in 2008–2009 and highlighted potential risks Türkiye's economy may face in the future.

Öztürk and Gövdere (2010), examined the effects of the global financial crisis, which originated in the U.S. housing sector and later caused significant global economic challenges, on both the world economy and Türkiye's economy.

Stiglitz (2012), argued that a financial market saturated with excessive liquidity and low interest rates fueled the issuance of high-risk subprime loans to low-income individuals, creating a global real estate bubble that ultimately led to the global financial crisis.

Kuttner (2013), concluded that the 2008 global crisis was influenced by several factors, including the allowance of speculative activities in mortgage lending, permission for unregulated credit rating agencies like Moody’s Investor Services and Standard & Poor’s Global Rating to rate bonds, weaknesses in the supervision of subprime loans, the failure to restrict excessively leveraged products, and shortcomings in the regulation of hedge funds and venture capital.

Bayri (2014), analyzed the development of efficiency and productivity in the Turkish banking sector for the period 2003–2012 using the Data Envelopment Analysis (DEA) method, the Malmquist index, and non-parametric data. The primary aim of the study was to examine the impact of the 2001 crisis on the production volume of the Turkish banking sector. The findings revealed that, during the period including the crisis, private banks outperformed foreign banks in terms of efficiency. Additionally, the annual production growth rate of the Turkish banking sector, calculated as 0.10 per year, was noted to be a relatively low figure for the banking industry. The study also analyzed the effects of the 2008 global financial crisis, concluding that this crisis significantly impacted the banking sector. The findings contribute to a deeper understanding of how economic crises influence banking performance and efficiency.

Engin and Göllüce (2016), noted that the U.S.-originated financial crisis spread globally through the de facto impacts of globalization. In their study, they stated that the measures taken to alleviate the crisis contributed to recovery over time and positively impacted not only developed economies but also emerging economies.

Polat (2018), highlighted that the primary impact of the global crisis, which began in the U.S. and quickly spread to other countries, was the bubble in the real estate market and the reckless issuance of mortgage loans. Additionally, the study emphasized that the crisis stemmed not only from the housing bubble and loan repayment issues but also from the influence of derivative financial products based on mortgage loans. The author argued that the presence of distressed stocks and derivative products in U.S. financial markets and the resulting depreciation of these troubled financial assets triggered the crisis.

Alvan (2021), highlights in their study that the financial bubble in the markets trading investment instruments such as stocks, bonds, and real estate, which reached $1 quadrillion during the crisis of 2020, represents only one-third of the actual production value. They emphasize that, due to the dynamic nature of global financial markets, these markets are inherently susceptible to potential financial crises. The author further underscores the importance of governments adopting necessary measures in response to rapidly advancing technology, ensuring stability and alignment with ethical values in the process.

Alvan and Güryay (2022), in their study where they evaluate the foundation of virtual currencies in Türkiye, where the economic structure and the nature of money are changing on a global scale, have stated that the crisis will lead countries to issue their own virtual currencies and move away from the U.S. dollar, which serves as the global reserve currency. Additionally, the authors predict that with the development of the information economy, the new form of money will have an impact on the economic order and will change the economy.

Ateş and Şen (2024) aimed to analyze the impact of the 2008 global financial crisis on Türkiye's foreign trade in their study. Based on their research findings, the authors concluded that the year 2009 had a negative impact across all examined criteria. However, they noted that, despite some fluctuations in the subsequent years, a generally positive trend emerged due to the effects of recovery.

Bozdereli-Alvan et al. (2024), analyzing the effects of the COVID-19 pandemic on the Borsa Istanbul Banking Index, it was identified that there exists a long-term relationship between gold prices, repos, exchange rates, and the COVID-19 pandemic concerning the banking sector. Additionally, the pandemic was found to have adverse impacts on the banking index.

Sarsıcı (2024), analyzed the impacts of the financial crises of 2001 and 2008 on the Turkish banking sector. The study revealed significant differences in crisis management approaches and their effects on the sector. According to the author, while the 2001 crisis was domestic in nature, the 2008 crisis, despite being global, had a less severe impact on the Turkish banking sector compared to the 2001 crisis. This was primarily attributed to the positive effects of robust reforms implemented after the 2001 crisis, which aimed to enhance the sustainability of the banking sector and stabilize financial markets.

Yiğit (2024), in his study who examines the crises of the 19th and 20th centuries from a financial and historical perspective. According to the author, the crises had negative effects on the dynamics of the economy, and he discusses how these crises led to economic downturns, increases in unemployment rates, as well as the importance of financial regulation and supervision, highlighting the necessity of state intervention.

3. THE HISTORICAL DEVELOPMENT OF FINANCIAL CRISES WORLDWIDE

Before examining the global crises, it is essential to understand the meaning of the term "crisis." Although a relative concept, in the context of social sciences, a crisis is often associated with

terms such as depression or turmoil. A review of the literature reveals various types of crises, including economic crises, financial crises, fiscal crises, currency crises, and banking crises (Engin & Göllüce, 2016), (Öztürk & Gövdere, 2010).

Our world has faced numerous financial and economic crises from the past to the present. While some crises have profoundly affected certain countries, others have been mitigated by economic and political measures, passing with minimal impact. However, certain crises have had a global reach, influencing the entire world. When examining crises throughout history, the 1929 Great Depression is widely recognized as the most significant. By the 1930s, global economic contraction had set in, the U.S. stock market had collapsed, banks declared bankruptcy, and unemployment reached unprecedented levels. This depression did not remain confined to the United States; rather, it triggered severe economic issues and financial turbulence worldwide. The Great Depression, which began in 1929, extended its effects until the period of World War II. During this time, unemployment rates continued to rise in many countries, poverty escalated rapidly, and economic uncertainty led to considerable challenges.

By 1990, the concept of crisis had become an integral part of daily life. With the gradual influence of technological advancements, innovations in financial instruments and markets led to crises manifesting in new ways. During this period, the widespread use of computers accelerated capital flows, and while technological development was initially seen as a means to facilitate life, it ultimately played a significant role in the broader spread of crises over time (Öztürk & Gövdere, 2010).

When examining economic crises experienced globally from past to present, it is observed that, although there are common features such as the causes and outcomes of crises, no financial crisis is exactly the same as another (Perelman, 2008). However, it is seen that all financial crises result in significant economic and political damage, which strain national economies and existing financial structures, requiring long-term fiscal, economic, and political measures to mitigate their effects.

Between 1992 and 1993, the debt crisis known as the European Exchange Rate Mechanism (ERM) Crisis emerged, affecting the member countries of the European Union. Initially, the goal was to create a stable exchange rate environment by linking European currencies. However, pressures on the British Pound and the Italian Lira, particularly in 1992, led to the collapse of this system and caused devaluations. This crisis eventually resulted in the British Pound's withdrawal from the system. Shortly after, this situation caused high volatility in the foreign exchange market and weakened the European Monetary System. As a result of the crisis, the European Union signed the Maastricht Treaty, establishing a fundamental document that defined the Euro as the single currency for EU member countries.

The crisis that occurred in Mexico between 1994 and 1995 resulted in the dramatic devaluation of the Mexican currency, the Peso. Due to efforts to close the high current account deficit and support economic growth, foreign capital inflows to the country accelerated. However, as most of the debt was short-term and in foreign currency, this led to foreign exchange shortages due to increased trade imbalances and current account deficits in the country. In 1994, rising interest rates in the United States, combined with internal turmoil and uncertainties in Mexico, caused investors to withdraw capital from the country. After the Central Bank tried to support the peso with its reserves, the government eventually had to allow the Mexican Peso to free-fall as this situation became unsustainable. Devaluation and financial difficulties led to financial instability and economic contraction in the country, resulting in the Mexican crisis. Between 1997 and 1998, the Asian Financial Crisis emerged as a crisis of overinvestment and other contributing factors (Öztürk & Gövdere, 2010).

The crisis began in Thailand, and during this period, the banking sector in many Asian countries faced significant challenges, primarily dealing with credit issues. Some countries maintained fixed or quasi-fixed exchange rates linked to the U.S. dollar, a strategy that became unsustainable amid rising external debt and economic instability. Speculators, who had made substantial investments in certain Asian countries, began to withdraw their capital in search of higher returns elsewhere, leading to sharp declines in exchange rates. This, in turn, inflicted severe damage on financial markets across the region.

Despite the differences observed in each of these crises, certain common features stand out. All three crises were characterized by exchange rate systems linked to fixed, semi-fixed, or shared currencies, and they were driven by factors such as excessive real exchange rate appreciation, liquidity shortages, and sudden shifts in capital flows. Each crisis had a unique origin and varied in severity. Notably, the impacts of the Mexican Crisis and the Asian Crisis were amplified in their respective countries, likely due to weak regulatory mechanisms within the banking sectors (Öztürk & Gövdere, 2010).

In 1999, an economic crisis erupted in Brazil. Following this crisis, while a significant recession was observed in the Brazilian economy, the devaluation of the Brazilian currency, the 'real,' and its loss of value against the US dollar resulted in financial uncertainty and rising inflation. In response to this situation, the Brazilian government began seeking various measures to restore economic stability and bring financial crises under control. The government reached an agreement with the International Monetary Fund (IMF) to secure financial support. This crisis in Brazil, like others, persisted for a long time, resulting in increased unemployment, rising poverty, and numerous social issues.

By the year 2000, an economic crisis emerged in Türkiye. This crisis brought financial instability and economic issues to the country. During this period, high inflation affected all segments of society, while the increase in public debt and a weak financial structure began to adversely affect budgetary imbalances. Türkiye's external debt significantly increased during this time, triggering a widening trade deficit. In particular, fluctuations in international capital markets negatively impacted Türkiye's external financing. Additionally, political instability and negative developments in government changes contributed to the escalation of the crisis. In 2000, the Turkish Lira began to experience severe devaluation, which not only led to a decrease in the Central Bank of Türkiye's foreign exchange reserves but also caused an increase in policy interest rates.

By 2001, the weaknesses in Türkiye's financial system, issues in the banking sector, high inflation rates, and increases in exchange rates had plunged the country into a serious economic crisis. This crisis adversely affected many financial and non-financial sectors, particularly the banking sector, which is a key component of the financial structure, as well as households. Alongside this crisis, the country experienced economic contraction, rising unemployment rates, and social unrest. Ultimately, Türkiye sought to overcome the crisis by obtaining financial support from the International Monetary Fund (IMF) and the World Bank, aiming to enhance the country's economic resilience.

The economic or financial crises mentioned above typically result in increased unemployment rates, rising inflation, and a decline in the standard of living in society. As a result of these crises, uncertainties arise in financial markets, leading to losses in the stock prices of companies traded on stock exchanges, which are often referred to as the barometers of countries. Within the framework of economic discipline, financial crises are revealed by the possibility of bubbles in certain financial products, especially as uncertainties increase in financial markets. A historical example of this is the movements seen in the stock market during the Great

Depression of 1929, which were influenced by bubble effects. Looking at more recent history, the global crisis of 2008 was exacerbated by the ease of access to housing loans provided by banks, leading to an increase in demand in the housing sector, which eventually inflated housing prices and caused a new crisis (Eğilmez, 2014).

4. CAUSES OF THE GLOBAL FINANCIAL CRISIS

The global crisis that began in the United States and quickly spread its effects worldwide has been interpreted and defined in various ways by many researchers. Starting in 1991, the Federal Reserve Chairman Alan Greenspan's policy of keeping interest rates low led to an excess of capital in the markets, which resulted in increased spending, particularly within American society. Additionally, the banking sector's growing appetite for risk, driven by the desire to earn more income, coupled with weaknesses in regulatory mechanisms, gradually created a situation that became increasingly difficult to navigate. Taking advantage of the benefits of low interest rates, many investors applied for housing loans, and banks facilitated access to loans by mortgaging real estate, resulting in rapid increases in home prices. Furthermore, banks' willingness to lend to middle- and low-income individuals without thoroughly investigating their financial histories further complicated this situation.

The use of derivative financial products, which are among the highly risky financial instruments, increasingly tied to the rising home prices during this period led these instruments to trade at values significantly above their intended worth. The Federal Reserve's long-standing policy of maintaining low interest rates, eventually increased in the context of combating inflation, particularly resulted in irregularities in payments and ultimately payment difficulties for borrowers from low- and middle-income groups who did not borrow at fixed interest rates. This situation, coupled with serious liquidity problems in banks, caused the housing price bubble to burst, leading to a decline in home prices and consequently significant losses in the value of derivative financial products based on the real estate sector (Savaş, 2012), (Altunöz, 2013).

The crisis that occurred in 2008 was a financial crisis. During this period, the increase in banks' improper use of credit, coupled with the lack of an active mechanism to monitor and limit these practices or weaknesses in the regulatory framework, led to demand-driven price fluctuations in the housing sector, resulting in repayment issues for loans. This situation caused liquidity shortfalls for banks and signaled the looming crisis accompanied by significant problems (Özatay, 2009).

Derivative financial products are known as instruments whose value is directly linked to the value of another financial asset or commodity, allowing for the transfer of associated rights and obligations without changing ownership of the financial asset. When used for hedging purposes due to their structures, derivative financial products offer many advantages; however, when used for trading (speculation) purposes, they also carry significant risks. Therefore, it is crucial to exercise caution in the use of these products (Bayri, 2023).

The banks' creation of derivative financial products, particularly in the real estate sector during the mentioned period, contributed to the formation of a bubble in housing prices and increasingly posed risks for banks. The trading of these instruments by both corporations and individual customers played a significant role in triggering the crisis. One of the main reasons for the spread of this housing loan-related crisis, which began in the United States, to European countries was that European banks had purchased these instruments, which, along with various economic problems, affected the European economy with its developed financial markets (Engin & Göllüce, 2016).

Between 1997 and 1998, the most notable situation that captured the attention of individuals living in the United States was the rise in stock prices and the substantial profits being made by stockholders. Those who recognized this trend began to show intense demand for stocks, leading to a bubble-like inflation in stock prices. During this period, there was a significant influx of funds into the stock market. The peak of the rise in stock prices corresponded to the mid-2000s (Stiglitz, 2012).

Following the increase in stock prices due to high demand, housing prices also began to rise steadily. Federal Reserve Chairman Greenspan emphasized the importance of a free-market economy and did not want to intervene in the markets while advocating for a low-interest-rate policy. His approach during his tenure made access to the housing market easier than ever, playing a significant role in the formation of the housing bubble. As banks' appetite for risk grew, individuals were able to obtain loans without much consideration of their financial histories and repayment capabilities, leading to daily increases in housing prices. This situation, of course, is not sustainable. The belief among banks was that, due to the policies pursued by the Fed chairman, they would receive necessary support and facilitation in the event of a downturn. Similarly, traders believed that the Fed would rescue them from difficult situations when things turned against them. This phenomenon, known as the 'Greenspan Put,' creates moral hazard in financial markets (Bocutoğlu, 2014).

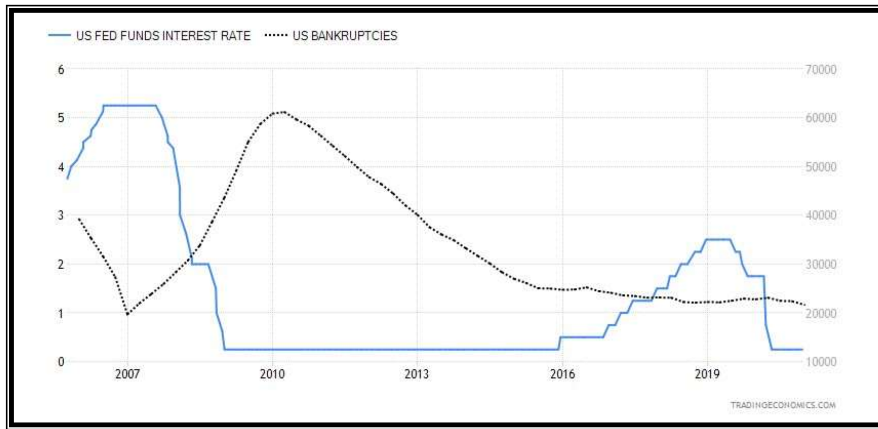

Figure 1. U.S. Federal Reserve Interest Rates and Bankruptcy Rates from 2007 to 2019 (Trading Economics, 2023)

Figure 1 illustrates a comparison between the Federal Reserve's (FED) interest rate policies from 2007 to 2019 and the bankruptcy rates in the United States. The graph highlights two primary variables. The blue line represents the U.S. Federal Funds rate, while the black dashed line depicts U.S. bankruptcy rates. The blue line reflects how the FED adjusted its policy interest rate over the years in response to economic conditions, aiming to steer the economy. The black dashed line shows the bankruptcy rates in the United States during the corresponding years. Periods of economic turbulence, marked by increased bankruptcies or financially distressed companies and individuals, indicate financial instability and economic crises.

The Fed chairman of the time, Greenspan, emphasized the need to take risks and even stated in a speech in 2004, *"If homeowners had taken adjustable-rate mortgages instead of fixed-rate mortgages over the past 10 years, they would have made tens of thousands of dollars."* In this context, individuals took out high mortgage loans at variable interest rates, significantly exceeding their income and repayment capacities. This situation ultimately resulted in repayment difficulties for individuals, particularly those in the low-income group, leading them

to attempt to sell their mortgaged homes, which suddenly caused housing prices to decline. Homeowners eventually became unable to pay their loans (Stiglitz, 2012).

As seen in Figure 1, the Fed Chairman continued to keep interest rates at low levels, believing this was a positive development for the financial markets. Notably, the dramatic decline in interest rates during the 2008-2009 crisis years is striking on the graph. Additionally, looking at the relevant periods, the rapid rise in bankruptcy rates in the U.S. up until 2010, influenced by the crisis, is noteworthy, and the markets reacted suddenly to this situation. Many bankruptcies led to increases in unemployment and a decrease in the standard of living.

Between 2016 and 2019, the FED implemented a gradual and steady increase in interest rates after a prolonged period of low rates. During the same period, bankruptcy rates continued to show a downward trend, which is noteworthy. This trend not only signals economic recovery but also suggests that companies were in a relatively better position to meet their financial obligations. In contrast, following 2019, as the global economy faced the impact of the Covid-19 pandemic, the FED swiftly reduced interest rates to counter the resulting economic downturn. Interestingly, no significant upward trend in bankruptcy rates was observed during this period. This outcome is likely attributable to the financial support and stimulus programs implemented by governments and states to aid individuals and, particularly, companies, effectively mitigating the potential for widespread bankruptcies.

At the time, no one realized that the decision made by the Fed Chairman to stimulate the markets would later lead to a global financial crisis. Increased consumption and demand led to rising prices for goods and financial instruments. This situation was similar across all countries. Providing easier access to and purchase of a product caused its price to rise due to demand, which, after a certain period, resulted in a decrease in individuals' purchasing power and subsequently an increase in inflation. Indeed, this situation that began in America exhibited similar results in Europe and Türkiye. The bubble that emerged in housing prices eventually caused artificial increases in the prices of financial instruments tied to housing prices and stocks. When these artificial increases eventually reversed, it led to significant problems in financial markets that were difficult to control.

5. EFFECTS OF THE GLOBAL FINANCIAL CRISIS ON TÜRKİYE AND TURKISH BANKING INDUSTRY

The absence of subprime loans, which are provided to the lower-middle-income group in the United States, has contributed to preventing the severe housing sector issues observed in the United States from being experienced in our country. However, after the banking crisis in 2001, which can be referred to as a financial crisis in our country, the Basel criteria were implemented with great diligence, leading to a stronger and healthier functioning of the banking sector. Nevertheless, it is not possible to assert that the global crisis, which has had effects worldwide, did not impact our country at all (Apak & Aytaç, 2009).

Although significant steps have been taken to ensure financial stability in the banking sector in Türkiye, unfortunately, the Turkish economy has been affected by the global crisis. The decline in the standard of living, the increase in unemployment rates, and the contraction in production activities, which are common characteristics of crises worldwide, have also been experienced in our country. Türkiye is classified as a developing country and has always been in need of external resources. If potential crises observed globally lead investors to adopt a more cautious approach, the possible decrease in capital inflows into our country could cause certain difficulties (Engin & Göllüce, 2016).

The steps taken to mitigate potential risks in the Turkish banking sector and enhance profitability through the Banking Sector Restructuring Programs implemented in 2001 to address the sector's risks in a permanent and definitive manner have yielded positive results. The impact of the global financial crisis on the Turkish banking sector was observed through a decline in credit channels and returns on loans. However, as a result of the reforms and strict supervisory measures undertaken within the banking sector in Türkiye, the sector was able to navigate the global financial crisis with relative ease. Even in 2009, when the financial crisis was at its peak, the Turkish banking sector demonstrated resilience by achieving increases in net profits and revenues, supported by a notable rise in interest margins (Artar & Sarıdoğan, 2011).

The significant banking reforms implemented in our country, particularly in the banking sector, play a crucial role in ensuring strong regulatory mechanisms and preventing potential issues within the banking sector. The Turkish banking sector holds a substantial share in the country's economy in terms of transaction volume. A potential crisis in the banking sector could negatively impact many institutions and organizations operating in the country, as well as households. In this regard, it is possible to state that the banks operating in Türkiye possess a robust regulatory framework and that proactive measures have been taken in response to the potential effects of banking crises in contemporary times.

The crisis that began in the United States has spread to European Union countries, particularly due to investments in financial instruments linked to housing prices in European countries. Although these countries have not been affected as severely as the United States, they have nonetheless experienced significant impacts from the crisis. Considering that a substantial portion of Türkiye's exports is directed toward European Union countries, it has been observed that the global economic crisis affecting the EU has led to a decline in Türkiye's exports, consequently impacting Türkiye's economic structure as well. During this period, a series of monetary and fiscal policy tools were implemented to stimulate the national economy and find pathways for recovery from the crisis (Engin & Göllüce, 2016).

It has been observed that the steadfast and stringent policies implemented in the banking sector in our country have yielded positive results over time. Among these positive outcomes, trust in the banking sector has been restored.

Table 1. Unemployment Rates in Türkiye Between 2000 and 2010

Years	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
2010	18,8	23,5	14,9	10,3	9,6	8,5	8,6	8,3	6,7	4,4	1,5
2009	23,6	26,3	17,5	12,6	11,2	10,2	9,5	9,2	7,7	4,1	1,4
2008	19,6	21,0	13,2	9,7	8,2	7,7	7,6	6,8	6,0	3,7	1,0
2007	19,7	20,1	12,4	8,7	7,4	6,8	7,0	6,2	5,0	3,2	0,8
2006	17,4	20,1	12,9	8,6	7,4	6,9	6,6	6,8	5,3	2,8	0,8
2005	18,2	20,9	13,2	9,3	7,7	6,9	6,9	6,9	4,6	2,9	0,8
2004	17,7	22,2	13,9	9,3	7,8	6,8	6,3	6,5	4,0	2,9	1,1
2003	17,9	22,1	12,7	9,0	7,4	6,5	6,5	6,0	4,5	2,5	0,7
2002	16,7	20,8	11,9	8,6	8,1	7,3	6,6	5,8	4,8	1,6	0,8
2001	14,6	17,3	9,6	6,7	6,5	4,9	5,1	4,1	2,9	1,5	0,8
2000	10,7	14,8	7,2	5,0	4,5	3,5	3,0	3,8	2,2	2,0	0,5

Source: Turkish Statistical Institute (TURKSTAT) Labor Force Statistics Database (TURKSTAT, 2023).

As can be seen in Table 1, there is a notable increase in unemployment rates in Türkiye during periods affected by the global crisis. The rise in unemployment rates is particularly striking

between 2008 and 2009 across all age groups. Especially in developing countries like Türkiye, the occurrence of an economic crisis directly leads to an increase in unemployment rates.

The rise in unemployment rates contributes to a decrease in the welfare levels of individuals living in the country and leads to an increase in anxiety levels within society. Türkiye's reliance on an import-based growth strategy leads to rapid susceptibility to crises. The necessity of importing raw materials to produce exportable goods increases production rates in the country and consequently amplifies the impact of crises. The rise in commodity and oil prices during periods of global crisis is felt even more acutely in a country like Türkiye, which is heavily dependent on external energy sources.

The increase in prices of imported commodities and oil negatively affects the country's current account balance and also contributes to the rising prices of commodities and oil-based products. This situation significantly reduces individuals' purchasing power in the face of increasing prices alongside rising unemployment, leading to inflation in the country. As long as Türkiye does not reduce its dependency on external sources for most raw materials, it remains vulnerable to indirect effects from any crises occurring abroad. The most important way to overcome this situation is to reduce dependency on imported production and related commodities and to increase production levels.

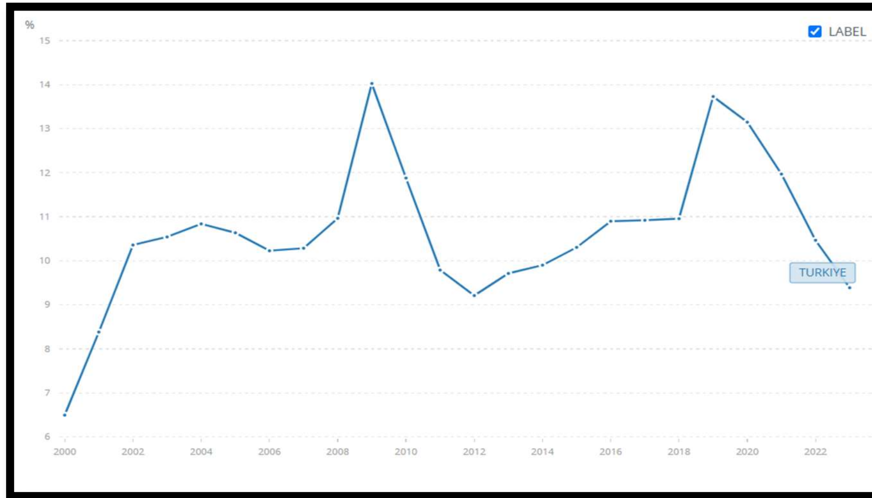

Figure 2. Türkiye’s Unemployment Rates 2000-2023 (% of Labor Force, National Estimate) (World Bank, 2024a)

When Figure 2 is examined, dramatic fluctuations in Türkiye's unemployment rates between 2000 and 2023 become evident. First, during the period between 2000 and 2001, the significant rise in unemployment rates can be attributed to the financial crisis in Türkiye, which deeply affected numerous sectors, particularly the banking sector. Later, in the years 2008 and 2009, the global economic crisis appears to have negatively impacted unemployment rates in Türkiye, as it did in many other economies worldwide. This phenomenon can be explained by the demand and subsequently supply-side declines resulting from the widespread effects of economic crises across various sectors, leading to increased unemployment rates. However, lessons learned from the 2001 crisis enabled the government and regulatory bodies to implement stringent fiscal policies, particularly in the banking and financial markets. As a result, the impacts of the global financial crisis were mitigated relatively quickly, leading to a positive downward trend in unemployment rates.

Between 2016 and 2018, unemployment rates in Türkiye remained relatively stable at a steady level. However, with the onset of the Covid-19 pandemic, the economic slowdown led to widespread unemployment across various sectors, delays in loan repayments, and ultimately a dramatic rise in unemployment rates. By 2021, as the impact of the pandemic began to diminish worldwide, Türkiye also experienced a recovery. This was largely supported by the introduction of stimulus and support packages, including low-interest loans and deferred loan repayments provided by state banks, which positively influenced the economy and facilitated a sharp decline in unemployment rates. It is crucial for governments to maintain consistency and continuity in the labor force by ensuring that economic policies are managed effectively. at both national and international levels.

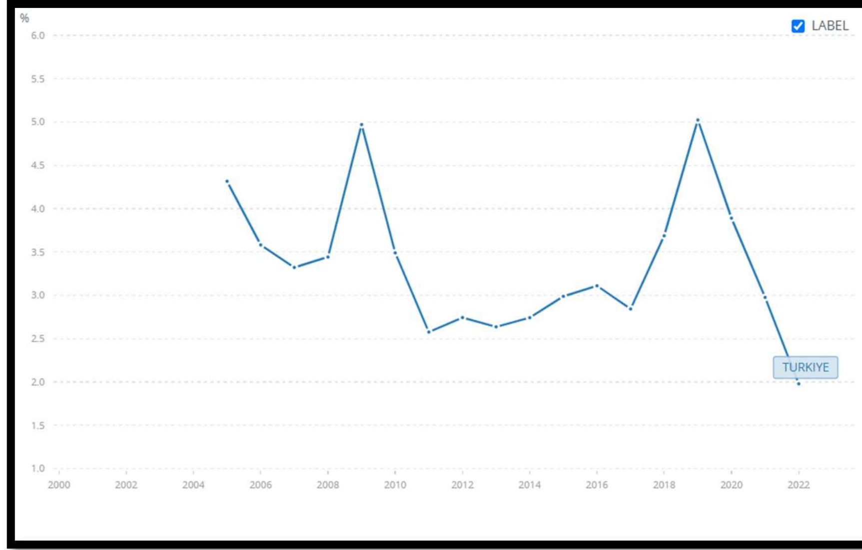

Figure 3. Türkiye's Bank Non-Performing Loans to Total Gross Loans (%) (World Bank, 2024b)

The ratio of non-performing loans (NPLs) to total loans, which serves as a critical indicator for assessing the risks, vulnerabilities, and resilience of the banking and financial sector. Figure 3 above evaulates the period between 2000 and 2023, the trends in Türkiye's banking sector reveal how economic fluctuations and regulatory policies have influenced the NPL ratio, as evidenced by the notable shifts in the graph. The sharp and abrupt fluctuations observed in the early 2000s reflect the impact of the financial crisis experienced in Türkiye in 2001. However, subsequent implementation of robust banking reforms helped mitigate systemic risks, resulting in positive effects on the sector. During the global financial crisis, despite Türkiye's banking sector benefiting from earlier reforms, the crisis nonetheless had a visible impact on loan performance within the sector. Furthermore, during the Covid-19 pandemic, the steep rise in NPL ratios can be linked to the depreciation of the Turkish lira, rising inflation, and currency-related debt crises, all of which significantly affected borrowers' ability to meet financial obligations.

The sharp decline in NPL ratios post-2020, however, is thought to be influenced by widespread government support and stimulus programs, including deferred loan payments and increased regulatory flexibility. These measures likely contributed to the observed reduction in NPLs during this period. While such interventions had positive short-term effects, their long-term sustainability and impact on the overall stability of the financial sector warrant further investigation.

During the post-covid 19 period Turkish bank has faced many challenges of non-performing loans. In this situation regulators, borrowers and the banks must work collaboratively. And also Turkish banks must take a proactive action against the impact of the this kind of risks (Bozdereli, Kırıkkaleli, & Umarbeyli, 2024).

Moreover, academic studies have shown that the increase in the ratio of non-performing loans (NPLs) to total loans between 2008 and 2019 did not negatively impact the profitability of banks operating in the Turkish banking sector during this period. The primary reason for this is believed to be the role of asset management companies operating under the supervision of the Banking Regulation and Supervision Agency (BRSA). These companies took over non-performing loans, thereby preventing potential losses and mitigating adverse effects that could have arisen within the sector (Bayri, 2023).

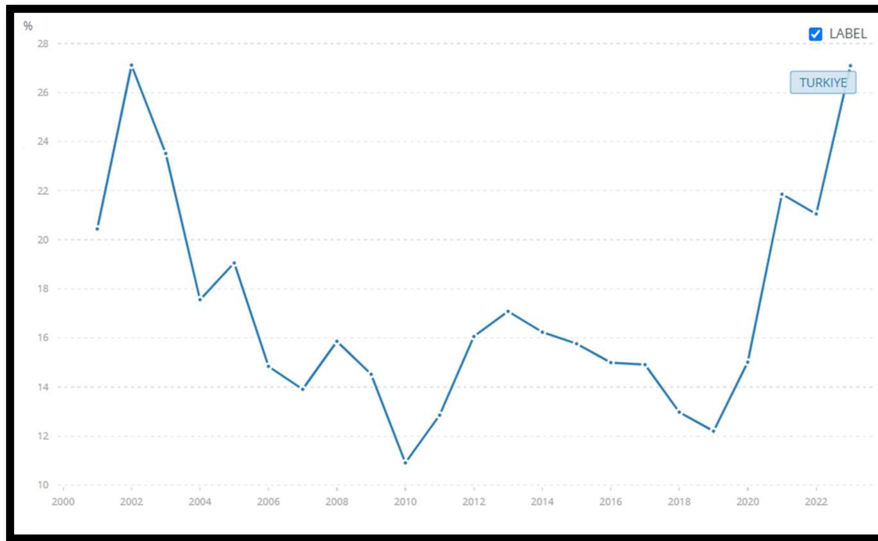

Figure 4. Bank liquid reserves to bank assets ratio (%) – Türkiye (World Bank, 2024c)

The ratio representing the proportion of banks' liquid reserves to total reserves indicates the extent to which banks hold liquid (cash-convertible) reserves relative to their total assets. These reserves consist of cash, deposits held at central banks, or short-term assets that can quickly be converted into cash. This ratio is calculated as a critical indicator of banks’ ability to meet short-term operational and other obligations, as well as their resilience against potential liquidity risks and crises. A high ratio suggests that banks are taking precautions against liquidity crises and are likely to remain resilient; however, it may also lead to a contraction in loan volumes and a relative decline in profitability.

Central banks are required to update this ratio at optimal levels to ensure the banking sector mechanism operates efficiently and robustly. During periods of economic turmoil, banks increase this ratio as a precaution against liquidity problems, whereas during times of economic stability and strength, relaxing this ratio can lead to an increase in loan volumes, thereby enhancing banks’ profitability. It can be argued that one of the primary reasons for the 2008 global financial crisis, which began in the United States and had a destructive global impact, was the increased risk appetite of banks, leading them to prioritize excessive lending, combined with the regulatory weaknesses of central banks and supervisory authorities in the sector. Conducting stress tests on banks during different periods would help optimize this ratio to prepare for potential crises. At this point, the supervisory responsibility of central banks is critical for ensuring the healthy functioning of the banking sector.

When examining Figure 4, it is evident that the ratio of liquid reserves to total reserves for Turkish banks fluctuated sharply between 2000 and 2022. Following the financial crisis experienced in Türkiye in 2001, banks increased this ratio to levels between 27% and 28%, creating higher reserves to mitigate potential risks. This step played a significant role in ensuring the proper functioning of the banking mechanism and protecting the assets of market participants. After the banking crisis of 2001, the implementation of stricter regulatory mechanisms and robust measures to protect financial markets facilitated a recovery in the markets. This recovery is reflected in the graph, showing a gradual decrease in the liquid reserve ratios of banks.

By 2010, banks had reduced their liquid reserve ratios to below 12%, which indicates that they prioritized expanding their loan volumes by decreasing their liquid assets. With the global financial crisis being felt worldwide, banks began increasing their liquid reserves once again in 2010, taking a significant position against potential credit risks. By 2019, as a systematic risk, both economic indicators and the impact of the COVID-19 pandemic on the banking sector led to a dramatic increase in liquid reserves by the sector. This was a crucial response to ensure the stability of the banking system amidst heightened uncertainties.

By 2022, banks operating in the Turkish banking sector had increased their liquid reserves to approximately 28%, similar to the levels observed during the 2001 crisis, positioning themselves to safeguard against potential crises. This move is a critical step in ensuring the sustainability of the sector and the secure handling of depositors' assets by utilizing liquid reserves as a buffer during times of uncertainty. Optimizing liquid reserves in line with market conditions is not only vital for the banking sector itself but also significantly impacts the confidence in the sector and foreign investors' perspectives on the national economy. Therefore, it is essential for central banks and government authorities to maintain strict oversight and adhere to crucial frameworks, such as the Basel criteria, to preserve the sector's dynamic structure and ensure its continuity without compromising on key regulatory practices. In this regard, it can be asserted that Türkiye's banking sector possesses the potential to compete with the banking sectors of developed countries.

Trust in the banking sector in our country is increasing steadily, and the sector's share within the economy continues to grow. This demonstrates the confidence of market participants in the banking industry. However, it is believed that further steps are necessary to attract more foreign investors to the country. The foreign currency deposits that foreign investors would channel into the Turkish banking sector would not only enhance banks' ability to conduct transactions in foreign currencies but also help alleviate the valuation pressure on the Turkish lira. At this point, it is essential to emphasize on international platforms that Türkiye's banking sector has a robust mechanism, particularly due to the reforms implemented following the 2001 crisis. Promoting this strength more effectively is critical for attracting foreign investors to the country.

Similarly to the banking sector, channeling foreign investors into the Turkish stock exchange is highly significant for enhancing the valuation of companies and fostering the development of our economy. The entry of foreign investors into our stock markets will lead to increased liquidity in financial markets, contributing to the further growth and deepening of our stock exchange. This process will result in more competitive and transparent price formation, while also positively influencing corporate accountability. Furthermore, investments by foreign investors in our country will promote financial stability, providing the necessary capital flows to companies through increased cash inflows. This will be regarded positively from the perspective of our real sector. The financial resources transferred to companies will signify economic growth. An increase in foreign exchange reserves will provide critical advantages in

repaying external debts and will significantly contribute to closing the current account deficit. In the long term, the development of both the banking and real sectors is crucial for the sustainability of our country and for reinforcing confidence in our economy. When the stock exchange is viewed as a barometer of the nation, its development will serve as a positive step toward the production of higher value-added goods and facilitate the ability of companies to adapt more swiftly and effectively to international markets.

6. CONCLUSIONS

With the impact of globalization, financial markets around the world are rapidly affected by crises and adverse conditions in terms of both trading volume and ease of access to markets. This situation is more clearly observed in the crisis that started in the U.S. and quickly affected the world economies. After the global crisis, economists have come to agree that crises can deeply affect not only developing countries but also the economies of developed countries.

The irregular and widespread granting of mortgage loans in the U.S., taking advantage of the weaknesses in the banking supervision mechanism and the desire to earn more income without considering individuals' financial histories and payment statuses, gradually created a bubble effect in housing prices, causing them to exceed their appropriate market values. Additionally, the fact that derivative financial instruments, which offer attractive advantages and hedging opportunities to investors when used appropriately and based on accurate future forecasts, were tied to the housing sector during these periods had a significant impact on triggering the crisis.

The significant increase in housing prices has also caused the prices of derivative financial products, which are directly linked to the value of other financial assets, to rise excessively. Subsequently, the Federal Reserve's interest rate hikes led to borrowers with adjustable-rate mortgages failing to make their payments, which in turn resulted in the crisis being deeply felt. Following this situation, banks faced severe liquidity issues, and the prices of housing and derivative products based on real estate experienced significant depreciation. The crisis spread to European Union countries, particularly after banks operating in Europe purchased derivative products tied to the real estate and construction sectors. During this period, many banks and financial institutions went bankrupt due to losses in liquidity and capital, resulting in widespread unemployment.

Although Türkiye was not as affected by this crisis as the United States and European Union countries, it was still among the countries impacted. Due to the disadvantages of being dependent on foreign sources, the inadequacy of raw material imports and the decline in production activities led to stagnation in the real sector, particularly resulting in an increase in unemployment rates in the country between 2008 and 2009. This situation negatively affected the social and economic activities of individuals living in the country while also giving rise to political issues.

One of Türkiye's greatest advantages is the valuable experience gained from the crisis experienced in the banking sector in 2001. In the following years, the implementation of strict oversight and penalties on banks, along with the banking sector's full compliance with Basel criteria, helped to prevent the global crisis felt around the world from significantly impacting the banking sector in our country. Considering the share and importance of the Turkish banking sector within the country, the fact that this crisis did not affect the banks is quite significant for Türkiye.

In conclusion, to prevent the recurrence of this and similar crises, which began in the U.S. and soon impacted the entire world, it is crucial to implement timely and appropriate financial

policies. Keeping banks under rigorous regulatory oversight and ensuring that banking policies remain uncompromised is essential not only for the financial sector but also for the healthy functioning of all sectors. We must remember that the lessons learned from these crises serve as a guide for the steps we should take in the future. Furthermore, countries should continuously implement policies to reduce foreign dependency, produce value-added products through domestic production, and, most importantly, keep in mind that financial markets are inherently dynamic.

When analyze the state of the Turkish banking sector, which constitutes the largest share of our country's financial markets, between 2000 and 2024, it is evident that crisis management, structural and banking reforms, and measures taken to enhance resilience have significantly influenced sector dynamics. The impact of the Banking Regulation and Supervision Agency (BRSA) and the Central Bank on the Turkish banking sector became particularly critical following the 2001 financial crisis. During this period, banks' capital structures were strengthened, supervisory mechanisms were developed, and necessary precautions against potential crises were implemented through banking reforms. By 2019, as in other global economies, Türkiye faced the adverse impacts of the Covid-19 pandemic. During this time, government support extended to the real sector actors which includes small businesses and individuals, through incentive and support packages, creating a stabilizing effect on the markets. The banking sector focused heavily on digital transformation during this period, and the measures taken allowed it to develop a more dynamic and successful crisis management framework.

Today, the Turkish banking sector, as a key driver of the national economy, has the capability to compete with banks in developed economies. However, in emerging economies like Türkiye, sectors reliant on foreign inputs remain vulnerable to exchange rate fluctuations. Sudden changes in exchange rates can increase input costs, reduce output, and lead to diminished demand, potentially triggering a decline in production volumes and higher unemployment rates. In this context, the banking sector plays a critical role by supporting the real sector through low-interest policies and incentives, contributing to the continuity of value-adding industries and fostering financial growth. Such measures can also positively influence unemployment rates. Looking ahead, proactive steps taken today to address potential future crises will be crucial for the sustainability of both the national economy and the banking sector, which serves as the cornerstone of economic stability.

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