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Impact of economic sanctions on the sustainable financial health of banking sector in Russia

Case Companies: Sberbank of Russia, VTB, Gazprombank, Alfa Bank, UniCredit Bank, Raiffeisenbank

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In 2014 the first economic and financial sanctions were applied by the US and EU against the whole industries and dozens of companies in the Russian Federation. These measures were aimed at demonstrating disapproval of the Russian Government's policies on the status of Crimea and the Ukrainian civil war. Panic because of approaching crises, especially in the financial industry, appeared immediately. The exchange rates were no more predictable, and the trust in banks from the population became questionable. The imposition of sanctions seemed to have an impact on the economy. The motivation to study the case of sanctions against the banking industry can be explained, firstly, by the high importance of a healthy financial system for the economy, and, secondly, by the growing tendency to include sanctions in the "game."

The objectives were to discover and estimate the influence of sanctions on the banks of systemic importance and the banking system of Russia. This qualitative research included a multiple case-study and a comparison of six banks out of which half were under sanctions. The financial stability of the banks for the post-sanction period from 2014 to 2017 was assessed according to the methodology of CAMEL. The method included the assessment of the following components: capital adequacy, assets, management quality, earnings, and liquidity. We paid particular attention to the liquidity indicators since the most significant measure of the entire sanctions package was restricting access for banks to be financed from abroad.

There were no severe discrepancies between the results of the sanctioned and non-sanctioned banks. We did not find any significant deterioration in the financial situation of the sanctioned banks either. The study revealed that during the period under review, the Russian banking system showed resilience and adaptability to the sanctions. The sanctions were point-like and did not undermine the general condition of the banking sector and individual banks.

Keywords/tags

Financial sanctions, CAMEL, Banking system, Liquidity

Miscellaneous

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1 Introduction

War is no longer the appropriate method of protecting the interests of a country: the modern world can be characterized by the tendency of an increasing number of economic sanctions. First of all, the reasons for increasing the number of cases of economic sanctions are the globalization of international economic processes, internationalization of production, followed by an increasing degree of intensive integration on the markets of goods, services, and capital. The termination or limitation of economic relations in the context of globalization can have significant consequences for the normal functioning of any country. (Panova, 2016.)

Nowadays, sanctions are a legitimate way to pressure the government, public and population of the country. One of the last official cases of sanctions was carried out by the US and EU countries against Russia. The first sanctions against the Russian Federation were applied by the US on the 17 of March 2014 as a demonstration of disapproval of the Russian government's policies on the status of Crimea and the Ukrainian civil war. The sanctions included freezing the property of enterprises and individuals as well as sectorial sanctions applicable to the oil industry and the banking sector of Russia. Financial sanctions mostly included measures for restricting access to external financial markets by Russian banks, which could affect the state of the banking system of Russia as foreign financial markets were historically sources of cheap money. The effect was achieved: the banking sector plunged into a crisis. (Logendran, 2015, 48-51) Researchers, politicians, and journalists still cannot agree whether a slight deterioration of the banking sector is related to the sanctions or whether it is a stagnation caused by internal processes and inefficiency of the country's economy.

The imposition of sanctions proceeded to have an impact on the economy. The motivation for studying the case of sanctions against the banking industry can be explained, firstly, by the high importance of a healthy financial system for the economy, and, secondly, by the growing tendency to include sanctions in the game. If we want to learn how to predict the consequences of economic and financial sanctions, we have to start by analyzing certain industrial cases, so the case of the Russian banking industry becomes a fascinating field for analysis. Predicting the consequences of

sanctions can be an instrument for defining a successful strategy for bringing back the economy to a good state.

The purpose of the research was to discover and assess the influence of sanctions on the banks of systemic importance and the banking system of Russia by conducting a multiple case study of six banks. The banks were PJSC "Sberbank of Russia", PJSC "VTB", JSC Gazprombank, JSC "Alfa-Bank", JSC "UniCredit Bank", JSC "Raiffeisenbank" out of which half were under sanctions. Achieving this goal required answering the following research questions:

What is the effect of sanctions imposed on the Russian banking sector?

How can we measure this effect in the context of banking sector performance?

How does the performance of the sanctioned banks differ from the performance of regular banks? The following tasks were identified to help in answering the research questions:

- Defining the concept and types of sanctions;
- Identifying the leading publications regarding the effectiveness of the application of sanctions, characterizing the current scientific views regarding the effectiveness of sanctions;
- Identifying and discussing possible problems of the banking system before the sanctions were introduced;
- Studying the sanction list, paying particular attention to the financial sanctions and determining the overall consequences of the imposition of the sanctions;
- Studying and applying the CAMEL methodological approach to assess the liquidity, profitability ratios, and other financial ratios of the banking system as the key indicators of banking sector efficiency.

The importance of the investigated problem can be explained by the high financial costs that both sides (the country-initiator and the sanctioned country) bear when sanctions are included in the game. Sometimes the consequences of sanctions are unpleasant even for the country-initiator. “The country applying sanctions hurts its own businesses that trade with or invest in the target country."(Bhatia & Trenin, 2015) Secondly, the imposition of sanctions between states causes public outcry and

tensions between different nations, which slows down the processes of integration and the achievement of synergies between countries. A more informal and philosophical question is: Is it worth it? Are economic sanctions an effective way to influence a country's economic policy?

Chapter 2 introduces the concepts and definitions of sanctions followed by a cause analysis of the sanctions against Russia in 2014. The chapter also contains a brief analysis of the banking system state before the imposition of sanctions and observations of the methods of the banking sector stability analysis. The literature review is followed by the methodology chapter, which includes the research approach, information about the case companies, data collection, and analysis. Chapter 4 provides the results of the study arising from the analysis of data. The concluding chapter summarizes the findings and gives subjective suggestions and proposals regarding the nearest future of the Russian banking system as well as describes the issues of credibility, limitations, and practical implication of the thesis. The materials of the Bank of Russia, the official accounts of commercial banks, the resources of official web- sites, the data presented on the “banking analyst portal”, monographic studies of domestic and foreign scientists and research teams, banking analytical portals, as well as personal observations of the author served as an informational and empirical basis for the thesis.

2 Theoretical Fremework and Litarature Review

2.1 Economic and financial sanctions and the banking system

2.1.1 Historical and conceptual background of sanctions

Sanctions are prohibitive measures that are used by a country or group of countries concerning the object of sanctions in order to punish and force a change in political or economic course and force them to abandon similar actions in the future or even change political beliefs (Daoudi & Dajani 1983). An alternative definition of sanctions was expressed by Galtung (1967), Chan (2000) and Lindsey (1968). They characterized sanctions as a deterrent rather than an impact on the target country. Besides,

sanctions show to all the other subjects of international relations the disapproval of specific behaviour and actions, warning the future potential followers of this.

Regarding the concept, role, and effectiveness of sanctions, there is a significant number of international studies, but most of them were written in the 1990s or early 2000's. Over the past 30 years, both the policies and the economies of countries have changed by more than doubling the volume of international trade. Moreover, more countries are moving along the path of cooperation and the organization of united political and economic space. The subject of sanctions in Russian literature is very lightly covered; only Baluyev (2014, 23-33) and Zaernyuk (2015, 59-68) have dealt with this topic. As a result, after the introduction of the economic sanctions against Russia in 2014, domestic political and economic science was mainly not ready to provide either a theoretical basis or a practical tool for organizing the right response to sanctions.

Sanctions have existed for hundreds of years; the first case of applied economic sanctions was recorded in ancient Greece in the 4th century BC when Athens forbade merchants from visiting their markets and ports in the region of Megara. At the end of the 19th century, the British Empire first developed and applied a strategy of trade sanctions, since then such a measure was very often used by the country to put pressure on other states. In those days, the population of Great Britain was only 2% of the world's population, but the share in trade was significant - 54%. (Economic Portal N.D.). Trade sanctions very often led to bloody wars, and only a state with strong military power could afford to initiate sanctions since the response could be a protracted war. According to the American researcher John Smith, even the Second World War began mostly because the wealthiest and most powerful countries could not resolve their trade conflicts. (Davis & Engerman 2003.)

The question of the legality of certain types of sanctions was not raised by other countries until the establishment of the League of Nations and subsequently the United Nations. Therefore any state in case of a desire or the need to influence another country could organize a "peaceful blockade" and not receive any punishment for it. After the creation of the League of Nations and the United Nations, the practice of organizing sanctions was taken into account when writing the statutes of each

organization. Thus, the conditions under which a country could impose sanctions were legislatively prescribed; otherwise, a punishment followed. The process of legislatively defining conditions and penalties for sanctions means that all countries officially include sanctions in the list of instruments for political and economic impact. (U.N. Charter art. VII para. 39-43.)

The most active development of sanctions was after World War II. During the 1950s, 15 cases of sanctions were registered, in the 1960s — 20 cases, in the 1970s — 37 cases, in the 1980s — 23 cases and in the 1990s more than — 50 cases (Hufbauer, Schott & Elliott 1990.). With the growing number of sanction cases, their goals have become significantly more diverse: anticipating war, "implanting" various political views, fighting for the fulfilment of human rights and labour rights, nuclear weapons, economic deterrence as well as lobbying for the interests of a specific group of people interested in sanctions against the target country (Klinova & Sidirova 2014.).The results of applied sanctions could be as follows:

- Containment the aggressive policy of the target country, changing the course of policy;
- Increasing the costs for the government to continue the introduction of the former policy, which in consequence can lead to a change in the political course of the target country;
- Social impact — sanctions can affect both the government and people (the case of citizens' dissatisfaction and the change of policy under the pressure of public opinion);
- The introduction of countermeasures by the target country.

Official classification of sanctions types does not exist, but based on historical practice, the main types of economic sanctions are defined as commercial and financial. Commercial sanctions include embargos and technical restrictions to trade and financial systems, while financial sanctions can be followed by restrictions to the financial markets, termination of financial assistance, and freezing of assets. (Zaernyuk 2015.) This thesis mostly concentrated on the impact of financial sanctions and the sanctions against specific companies — the banks that are fully or partially owned by the government.

2.1.2. Past examples: what we can learn from “punished” countries

After we have learned the history of sanctions, its definition and classification let us concentrate more on the economic sanctions (trade and financial) and relevant examples from the past that can serve us as an empirical ground for the research. Economic sanctions are economic measures of a restrictive nature used by one country (or group of countries) against another country to force a change in policy (Bergeijk 1995.). Historically there were not so many examples of the application of economic sanctions; however, when they were applied, there was a definite result that can be analyzed.

We will examine in a more detailed way the example of sanctions against the countries of Iran. Yitzhak Gal and Yair Minzili (2011) in their paper “The Economic Impact of International Sanctions on Iran”, discussed the case of the country with an aggressive nuclear weapon policy. As we learned from the previous chapter, the most common response to such actions nowadays is the application of economic and financial restriction measures. The complex of sanctions for Iran was completed in 2010 within the United Nations Security Council Resolution while the first actions were taken in 1979 right after the revolution. It has four-circles structure, covering basic directions of the restricting measures: limitation of investments mostly in the strategic economic force of the state which is oil sector; restraint of international trade, restriction of financial transactions in the dollar and euro currency, services of banks and insurance companies. A considerable number of Iranian companies were banned, lots of partners refused to continue business relationships with the country under the pressure of the United States and European Union: United Arab Emirates, Japan, South Korea and considered not supporting the sanctions too risky for the reputation and relations with western strategic partners.

An effect of such isolation in terms of “connected” world seems catastrophic: authors define the following problems, that Iran is still facing:

- Destabilization of the banking system: increased credit risks and a significant increase in nonperforming assets, which at a certain, point jeopardized public confidence.

- Crisis in healthcare: increasing mortality because of the ban on medicine import
- The decline in oil exports by two times and, consequently, the deterioration of the main economic indicators: inflation and unemployment reached 40% and 26% respectively in the previous years, GDP declined by 1.5-2% annually, a significant reduction in revenues to the state budget. (Gal & Minzili 2011.)

If we look at the whole picture, we could say that sanctions did work in this case in the way they had to. The economy and society were stressed; business infrastructure was nearly destroyed. However, did they work in a way they supposed to? The peaceful blockade was aimed at changing the policy relative to nuclear weapons, but as we can see in decades, the sanctions caused mobilization and centralization of the economy, followed accent on the military industry. More than that, initiating countries also lost potential profit from the cooperation with Iranian companies, so the effectiveness of sanctions in terms of achieving the initial goal, in that case, can be estimated as "loose-loose."

In the case of sanctions against Iraq organized in 1990, the following measures were introduced: freezing the government's foreign assets and bans on trade and financial transactions. The result of the application of economic sanctions was their complete failure, and in order to achieve the original goal of the state's regime change, the displacement of Saddam Hussein, it was subsequently decided to use military forces. (Schott 2012.) Besides double financial costs (sanctions itself and military force usage after all), we cannot ignore the reputational costs : the USA is not considered as a country fighting for fair relations between states but the aggressor.

There are many examples of how not only sanctioned countries and companies face new challenges in a new condition, but the initiators and supporters face them too. Burell, Mitchell, and Savell (2012) discussed the problems of financial sanction compliance in their study. In December 2009 Credit Suisse agreed to pay $536 million for hiding the identity of the Iranian clients, in January 2009 under the U.S. criminal prosecution Lloyds TSB paid U.S.$350 million for processing prohibited payments through the non-affiliated correspondent bank. The list can be continued, but the evidence is already on the table: this type of punishment and isolation always work both ways.

Deutsche Bank paid a fine of US $ 258 million for doing business with enterprises and states included in the US sanctions list. This practice took place for violations of the sanctions regime regarding Sudan, Iran, and Cuba. The amount of penalties is significant even for large banks (Burell, Mitchell, and Savell 2012.). This example shows us that the negative consequences of sanctions often overtake not only the countries-initiators and the sanctioned countries but also the governments and companies that do business or have any relationship with one of those. A wrong choice or a wrong move can worth much.

Kahn and Tananbaum also discussed the dilemma of sanctions and their findings were close to our view: *"The cases of Cuba and Iran—often cited as examples of sanctions that inflicted pain—are illustrative. In both, sanctions took years to have a profound economic effect and failed to achieve the broader political change sought by their creators. The Russian economy is far more complex and integrated in the global economy than the economies of Cuba or Iran, which provides both opportunity and challenge. Greater integration means that Russian oligarchs and business leaders have significant stakes in the West—businesses, wealth, houses, and soccer teams—that are vulnerable to sanctions. If these leaders are influential on Russian decision-making, then a strong case can be made for sanctions. The converse to this vulnerability is a greater vulnerability in the West as well, both in terms of the costs to lost commerce with Russia and Russian elites, and the threat of potential retaliation."* (Kahn, Tananbaum 2014, 3)

The cases of Iran, Iraq, and Russia are united by the fact that they were all introduced against countries with an authoritarian political regime and a resource-oriented economy. We believe these examples are entirely applicable to the thesis context for the reason of many similarities in the political and economic system and the sectorial character of sanctions. The conclusion we can make is that the effectiveness of sanctions cannot be calculated in advance, and the result can be worse than expected. Basing on history, we can notice that sanctions are a long-lasting process, that gives us a ground for assuming that In the case of Russia the final potential effect can be

achieved much later than the period under review or not achieved at all. At the same time the fact that the countries-initiators did not meet the initial goals in considered cases, at least without adding very aggressive measures, they, especially financial sanctions, hurt the economies of the states and challenged even the countries- initiators and their businesses.

2.1.3. The effectiveness of sanctions: understanding the impact through numbers

The effectiveness of sanctions directly depends on the impact of economic and political measures applied by the initiating country; success usually means that the target country remains or significantly changes its political or economic behavior. Nowadays, it is not determined how effective the application of sanctions is. Disputes about the effectiveness of sanctions began after the First World War and continued to this day. The effectiveness of sanctions was investigated by Hufbauer, Drezner, Eaton and Engers, Pape, Elliott, Rogers, and other researchers. We summarized the main reasons for sanctions failure by the following:

- Disproportionate goals and efforts: too ambitious goals, insufficient efforts, too high costs, lack of support from other states;
- The effect of united population and government;
- Outside defenders of target-country willing to cooperate with the country and compensate the losses from sanctions. During the Cold War, such compensation occurred automatically in cases where the initiating country was either the U.S. or the USSR (American sanctions against Cuba, Soviet sanctions against Yugoslavia and Albania). At the same time it often turned out that the target countries did not incur any significant losses, but only gained economic benefits, concluding advantageous trade contracts;
- An unwillingness of the allies of the initiating country to support sanctions. The costs for the initiating country are one of the most critical parameters in assessing the effectiveness of sanctions since the notion of the effectiveness does not imply achieving the goal at any cost. Apparently, in the case of a complete lack of costs for the initiating country, each country would impose

> sanctions on its competitor, thereby trying to consolidate its position. However, knowing that the imposition of sanctions may entail retaliatory sanctions or the opposite effect, the initiating countries will once again weigh all the pros and cons of sanctions and may prefer to solve the problem issue in other diplomatic ways. (Zaernyuk, Alavivar 2015.)

Hufbauer, Schott and Elliott (1990) investigated 204 cases of economic sanctions since 1914 and determined that most of the imposed sanctions did not have a significant cost to the initiating countries, but less than a third of the cases brought the result. As part of their work, the authors developed the index of success and the cost index.

The success index included a comprehensive assessment of the effectiveness of sanctions, namely, the assessment of the direct and indirect costs of imposing sanctions on the initiating country, whether or not the purpose of imposing sanctions was achieved. The index of success took values from 1 to 16 (1 - completely ineffective sanctions, 16 - effective sanctions). The cost index was included in the calculation of the success index and characterized an estimation of costs from the introduction of sanctions. The index took values from 1 to 4: 1 — the absence or minimum costs; 2 — low costs; 3 — average costs; 4 — hight costs. The part of the results obtained by are presented in the table below.

Table 1. Effectiveness of Sanctions from 1914 to 1990 (Adapted from Hufbauer, Schott and Elliott 1990.)

Initiator and goal	Period	Cost index for initiator	Effective-ness of sanc-tions as % to GDP	Success index
United Kingdom - Germany	1914–1918	4	7.1%	12
United Kingdom- Russia	1918–1920	3	4.1%	1
United Kingdom, United Nations - Iran	1951–1953	1	14.3%	12
United Nations - Laos	1956–1962	1	4.2%	9
United Nations - Cuba	1960	3	4.4%	1
United Nations - Indonesia	1963–1966	1	2.0%	8
China - Albania	1978–1983	2	3.3%	1
United Nations - Iran	1979–1981	3	3.8%	12
United Nations - Panama	1987–1990	3	6.0%	4
South Africa - Lesotho	1982–1986	2	5.1%	16
India - Nepal	1989–1990	2	4.6%	9
Avarege		**2**	**6.6%**	**7**

According to the results presented above, both the cost index and the success index fluctuate from the minimum to the maximum value. The average value of the cost index for all 115 cases is 2 and the success index - 7, which characterizes the average effectiveness of sanctions. The effect of imposed sanctions as a percentage of GDP of the target country averages 6.6%. Thus, the authors concluded that the majority of sanctions are characterized by relatively low costs for the initiating countries and at the same time, do not bring fully desired results. Besides, the authors noted that

over time, the costs of sanctions for initiating countries were declining and the success rate of sanctions was also slightly reduced.

The explanation of this phenomenon is the globalization of the economy. Globalization leads to the fact that the economies of different countries are less dependent on each other, for example, with a ban on trade with one country, the target country can begin the trade with other countries that do not support the imposed sanctions. Thus, there is a decrease in the overall effectiveness of sanc
tions. The figure below shows the main objectives of imposing sanctions and the percentage of successful sanctions depending on the purpose. The authors determined the average percentage of sanctions effectiveness, and it amounted to 33% or one-third of all implemented sanctions. The most significant number of successful cases of sanctions was recorded for a reasonable modification of the target country's policy (51%), and the smallest for the goal of cessation of hostilities (21%).

Table 2. Number of successful sanctions (Adapted from Hufbauer, Schott and Elliott 1990.)

Goal	Number of cases	Success,%
Moderate modification of the policy	43	51%
Change of regime or democratization	80	31%
Cessation of hostilities	19	21%
Destruction of military potential	29	31%
Other significant policy changes	33	30%

Hufbauer, Schott, Elliott (1990) noted that sanctions were significantly more productive when they were directed against friendly or neutral countries: almost 50% of success in the case of friendly countries, 33% in the case of neutral countries, and only 19% in the case of hostile ones, that is called "the paradox of sanctions." As a consequence, the "The Sanction paradox" was explored by Drezner D. (1999) " and Hillebrand E. and Bervoets J. (2013, 44) in their studies.

One of the leading opponents of sanctions was Pape R. (1997,1998)., who expressed his opinion about the almost complete ineffectiveness of sanctions in his works "Why Economic Sanctions Do Not Work" and "Why Economic Sanctions Still Do Not Work" . Pape R. A. analyzed the cases of effective sanctions selected by Hufbauer, Schott, and Elliott (1990), and found that only 5 out of about 40 examples were effective. Thus, according to Pape data, less than 5% of all sanctions were effective, which generally allows concluding about their inefficiency.

One of the most common ways of investigating the impact of sanctions is to use the "Gravity Model" - a model that takes into account the mutual influence of various factors including the influence of sanction on the indicator characterizing the interaction of the analyzed countries (trade and migration) In their works Yang. J., Askari H., Forrer J., Teegen H. (2004, 23 – 62) explored the impact of sanctions on trade between the United States and the countries targeted by sanctions.

In the authors' study, there are cases of U.S. sanctions that were applied since the 1900s; a sample of sanctions was taken from the work of Hufbauer, Schott, Elliott (1990). The result of the study was the conclusion that there was no statistically significant influence of selective sanctions on the volume of trade between the US and the target country. Nevertheless, comprehensive sanctions showed a negative impact on the volume of trade between US and sanctioned countries, but, at the same time, there was an increase in import and export between these countries and EU. Thus, the authors concluded that there was a significant effect of sanctions on the trade flows between the initiating country and the target country (Caruso, Raul 2013.), but it did not mean sanctioned countries could not replace the US with a different trading partner in order to maintain sufficient trade level.

In the second part of the study, the author used the following variables: moderate sanctions, extensive sanctions and the number of countries initiating sanctions. Moderate sanctions meant the use of economic sanctions on a minimal range of companies, goods or directions. Extensive, on the contrary, characterized the sanctions that affect many aspects of the economy of the target country. The sample of authors included data on U.S. sanctions against other countries from 1960 to 2000. The study

concluded the positive impact of moderate sanctions on the volume of trade between the two countries and the negative impact of extensive sanctions on the number of initiating countries. Why did moderate sanctions show a positive impact? Surprisingly, the introduction of such sanctions has stimulated the target country to increase the volume of trade with the country initiating sanctions in the field of goods that are not on the sanctions list. (Caruso, Raul 2013) Perhaps this was due to the psychological aspect, and with the reorientation of the economy and the need to compensate losses from sanctions through other directions.

2.1.4 Before the storm: dynamics of the banking sector during the pre-sanction era

This subchapter introduces the trends of development of the banking sector in Russia for the past ten years before the Ukrainian crisis, mostly concentrating our attention at the national currency dynamic, Central Bank policies, some of the performance indicators and interest rates. Until mid-2013, Russia's banking system was characterized by dynamic growth due to the following factors:

- The underinvestment of the economy accumulated from the 1980s-1990s, when the growth of capital investments in the 2000s caused an increase in demand for the loans, especially for dynamically developing small and medium enterprises. This led to aggressive lending policy, where banks significantly increased their loan portfolio to the detriment of its quality;
- The inflow of capital leading to the strengthening of the ruble, the emergence of excess ruble liquidity in the system and the reduction of ruble exchange rates;
- Active development of consumer lending and mortgages. (Alekseev, 2013.)

However, by early 2014, these incentives and the banking sector, in general, were expected to weaken and slow down, and in 2014, the banking sector came to the brink of crisis. During 2014 the indicators of the banking sector began to decline on the backdrop of worsening macroeconomic indicators of the Russian economy, namely, a slowdown in GDP growth, a significant outflow of investment, a sharp decline in real wages of the population, a constant decrease in the money supply in economics.

One of the first signals of the beginning economic crisis was the decreasing rate of GDP growth every year, which began its decline from 2011 — immediately after the crisis. In 2011, Russia's GDP growth rate was 4.3% by 2010, in 2012 — 3.5%, in 2013, the GDP growth rate fell to 1.3%. A similar trend was shown by the growth rate of investments in fixed assets, which decreased from 6.1% in 2012 to 1.3% in 2013. (World Bank, N.D.) Supported by high oil prices from 2011 to 2014, the ruble exchange rate was relatively stable, however, since mid-2014, the fall in oil prices, followed by imposed sanctions led to the weakening of the ruble exchange rate.

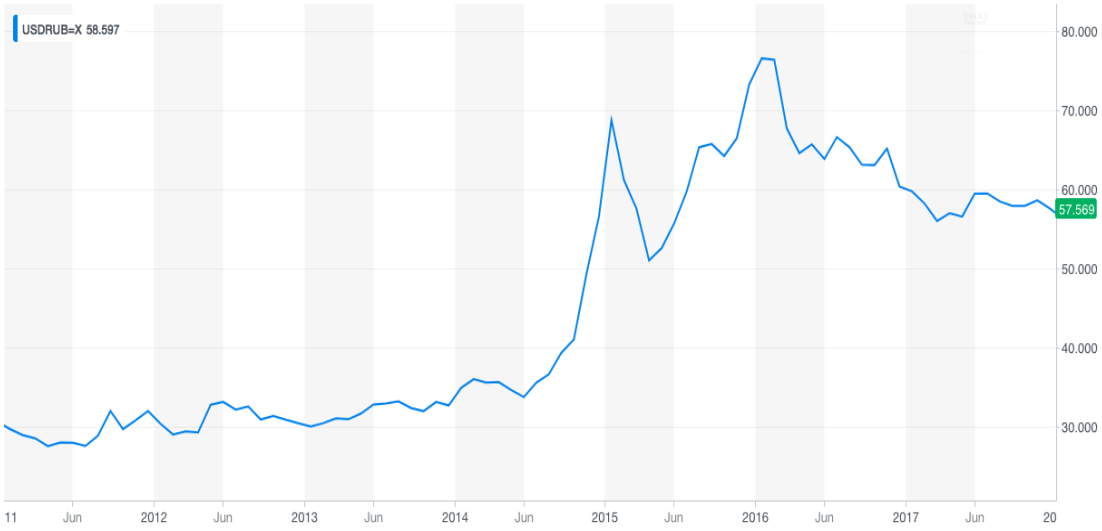

Figure 1. Dynamics of the ruble/dollar exchange rate (adapted from Yahoo! Finance N.D)

The Bank of Russia conducted a tight monetary policy, which resulted in a decrease in the number of credit institutions by more than 400 since 2003.

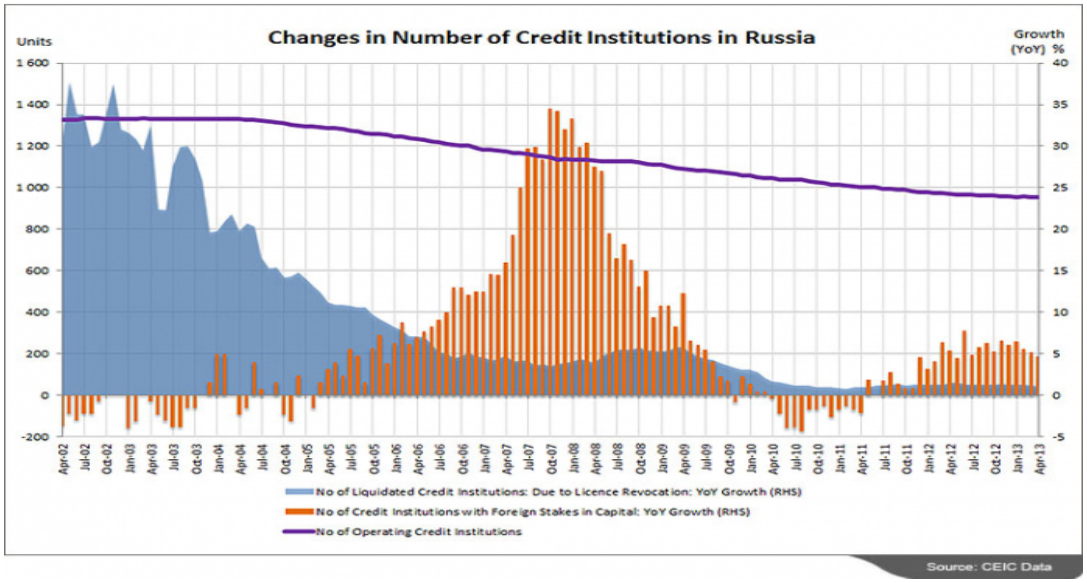

Figure 2. Evolution of Banking Sector in Russia (Adapted from Dembitski 2013)

At the same time, despite the decrease in the number of credit institutions in Russia, the ratio of assets of the banking sector as a percentage of Russia's GDP grew, increasing from 75.8% in 2009 to 80.6% in 2013. Nevertheless, this figure in Russia was much lower than in other countries in the considered period. Thus, in the Czech Republic and Brazil, the ratio of assets of the banking sector to the country's GDP is more than 120%, in Germany - more than 230%, in China - more than 160%. (International Monetary Fund Data N.D.)

For 2009-2013 years, the structure of assets and liabilities of the banking sector has practically not changed. There was a slight increase in the share of loans in the assets issued from 54.8% in 2009 to 56.5% in 2013, while liabilities increased in the share of funds raised from individuals and legal entities from 57.9% in 2009 to 60.5% in 2013.

Table 3. The ratio of performance indicators of the banking sector to the GDP of the Russian Federation and assets/liabilities of the banking sector in 2009-2013 (Adapted from The Central Bank of the Russian Federation N.D.)

Index	2009	2010	2011	2012	2013
Assets to GDP, %	75.8%	73.0%	74.4%	79.6%	80.6%
Capital to banking sector assets, %	15.7%	14.0%	12.6%	12.3%	12.3%
Volume of loans issued to banking sector assets, %	54.8%	53.6%	55.9%	56.0%	56.5%
The volume of attracted funds from individuals to liabilities of the banking sector, %	25.4%	29.0%	28.5%	28.8%	29.5%
The volume of attracted funds from legal entities to liabilities of the banking sector, %	32.5%	32.9%	33.6%	31.6%	31.0%

As a result of the decrease in the number of credit institutions in Russia, there was a gradual increase in the share of lending by the 30 largest banks in the total volume of lending in Russia.

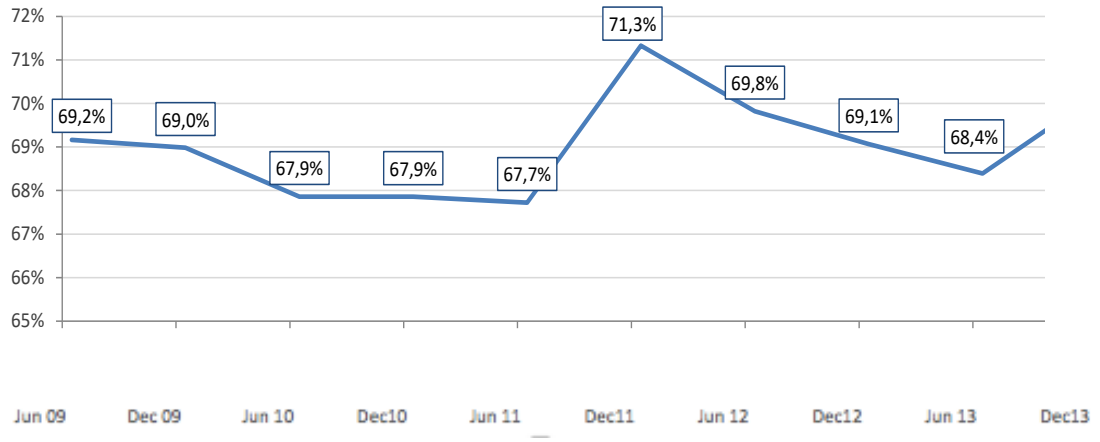

Figure 3. The share of lending by the 30 largest banks of Russia in 2009-2013. (Adapted from The Central Bank of the Russian Federation N.D.)

The concentration of the banking system on the top 30 banks was also in terms of the volume of deposits and other attracted funds from legal entities and individuals. The population and legal entities began to prefer keeping their funds in the largest banks of Russia as a measure to avoid the danger of the license cancellation. According to the Central Bank of Russia(N.D.), the share of deposits from the attributable to PJSC "Sberbank of Russia" in 2013 was 46.7% and 5 largest banks working with the population — 60.5%, while other 4 largest Bank except for PJSC "Sberbank of Russia" accounted for only 13.8% of all funds invested by the population.

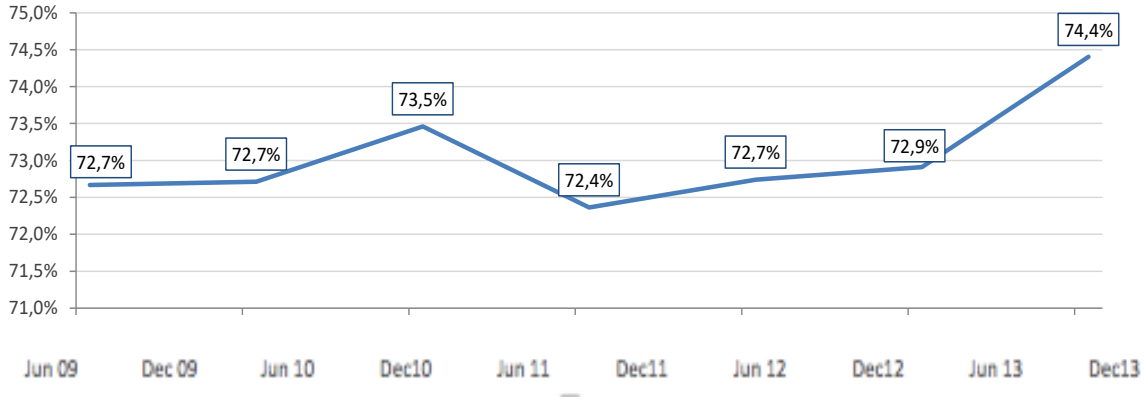

Figure 4. The share of deposits and other invested funds in the top 30 Russian banks in 2011-2013. (Adapted from The Central Bank of the Russian Federation N.D.)

During the analyzed period, the Central Bank of Russia had continuously strengthened control measures over the banking system, in particular in 2012, the Bank of Russia issued recommendations on the interest rate on deposits and set a maximum interest rate. Banks had the right to set interest rates not more than 3.5 points above the maximum interest rate, which was the average maximum rate of the ten largest Russian banks. (Leonova 2017.) Thus, the Central Bank of Russia further strengthened the influence of Russia's largest banks on the rest of Russia's banking sector and at the same time deprived small banks of the advantages of attracting deposits from the population under more favorable conditions.

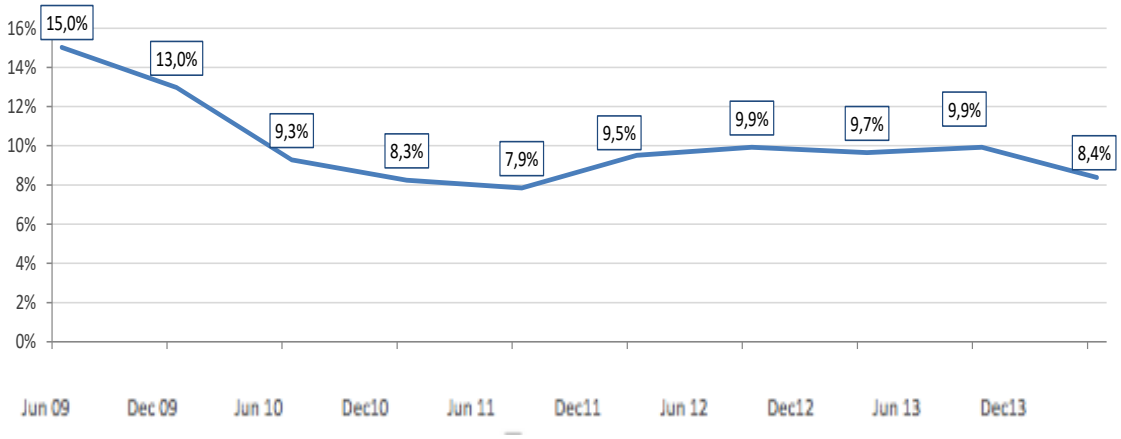

Figure 5. Dynamics of changes in the maximum interest rate in 2009-2013. (The Central Bank of the Russian Federation N.D.)

The Figure 5 shows that starting from 2010, the interest rate on deposits ceased, slight fluctuations in the interest rate remained, however, all this resulted in a reduction of funds raised from the population and an increase in the ratio between the volume of loans and deposits receivedThe key rate was the interest rate on liquidity provision operations on an auction basis for a period of 1 week. (Press Service of the Central Bank of Russian Federation 2013.) From 13.09.2013 to 2014, the key rate was 5.5%; however, due to economic instability, the Bank of Russia began to raise the key rate.

In the period from 2008 to 2013, the interbank market practically fell 2 times: from 14% at the beginning of 2008 to 8% by the beginning of 2014. The fall was explained by cheap foreign money and active interaction with the Central Bank of Russia and not with other commercial banks. The share of domestic interbank loans in 2012 accounted for 53% of all loans, deposits, and other funds, in 2013 the share increased to 55%. (Leonova 2017.)

The year 2013 was characterized by an increase in the share of the loan portfolio in the structure of assets of the banks. However, the structure of the loan portfolio changed compared with 2012. In 2013, the share of loans granted to non-resident banks was increased by 0.8% in the total assets structure, while the share of loans granted to resident banks, respectively, declined. The share of loans and other funds provided to individuals significantly increased — by 1.7%, due to the increase in consumer lending in 2013 by 2.3 trillion rubles in comparison with 2012. T0132he num-

ber of banks with a share of overdue loans in the loan portfolio of more than 8% increased almost two times, and banks with no overdue loans became less by 12.5%. The share of bad loans in the loan portfolio of banks increased by 0.1% and in 2013 amounted to 4.0%. (Zakirova 2018.)

Table 4. A detailed structure of assets of the banking system as of 01.01.2013 and 01.01.2014 (Adapted from The Central Bank of the Russian Federation N.D.)

Index	01.01.2013	01.01.2014
Cash	3.1%	2.8%
Accounts in the Bank of Russia	4,4%	3.9%
Correspondent accounts with credit institutions	3.0%	2.6%
Securities	14.2%	13.6%
Loans and other funds provided to resident banks	4.1%	3.6%
Loans and other funds provided to non-resident banks	4.5%	5.3%
Credits and other funds provided to individuals	15.6%	17.3%
Credits and other funds provided by legal entities. residents	36.5%	35.4%
Credits and other funds provided by legal entities. non-resident	3.8%	3.8%
Loans and other funds provided to other financial institutions	3.0%	3.5%
Fixed assets and intangible assets	2.0%	1.8%
Other assets	5.8%	6.4%

The value of the liquidity ratio was 63.2% in 2013, significantly above the standard value of 15 %, although in 2013 the standard was violated by seven credit institutions. The average value of the current liquidity was 84.8% compared with the norm of 50%. The average value of the long-term liquidity was 85.5%, where the maximum of the standard was 120%, and two credit institutions in 2013 violated this standard. The average indicator of capital adequacy was 13.5% in 2013 (with a norm of 10%), where the average capital adequacy of the first fine banks in terms of assets was

12.7%. The standard was broken by 15 banks, where 7 of them were deprived by the license, one bank was reorganized, remaining banks managed to bring their capital adequacy ratio to the standard. (Bitkov, Mainulov N.D.)

Russian credit institutions finished 2013 with a profit of 994 billion rubles, which is slightly lower than in 2012 — by 6 billion rubles. The share of profitable organizations decreased from 94.2% to 90.5%, and losses of credit organizations amounted to 19 billion rubles, in 2013 — by 10 billion rubles, higher than in 2012. Return on assets of credit organizations amounted to 1.9% in 2013, return on equity was 15.2%, with both figures below the values of 2012 The best margins were showed by state-controlled banks, the largest systemically important banks of Russia. Medium and small banks showed growth rather than a decline in profitability indicators for the results of 2013.

Table 5. Indicators of profitability by groups of banks (Adapted from The Central Bank of the Russian Federation N.D.)

Group of banks	ROA		ROE	
	2012	2013	2012	2013
State-owned banks	2.5%	2.2%	20.1%	18.3%
Banks, with the participation of foreign capital	2.5%	1.8%	18.8%	13.3%
Large private banks	1.9%	1.5%	16.0%	12.5%
Medium and small banks	1.6%	1.7%	9.6%	10.6%

Thus, 2013 turned out to be generally positive for Russian credit institutions; however, the main potential problems of the Russian banking system began to show up for the reason of the credit risks growth against the slowdown in economic growth, a rise in the concentration of the banking system on the most substantial banks performance, outflow of deposits and beginning stagnation of the banking system in general. (Barisitz 2015.) In this chapter, we had considered several modern researcher's works, that investigate the conditions of the last 3—5 years before the sanctions were introduced. The background will help us to understand the context of the banking sector state in the years of 2010-2015 and consider it when we will move to the discussion and results in chapters.

2.1.5 Sanctions against the banking system of Russia: restricting access to foreign financial markets

At the end of 2013, the political difficulties in Ukraine caused the referendum on the status of the Crimea, that resulted in the decision to join the Crimea to Russia as a subject of the federation. As a response to this action, the countries of Europe and the United States announced the illegality of this referendum and on March 6, 2014, the U.S. president signed a decree about sanctions against persons bearing responsibility for violating the sovereignty and territorial integrity of Ukraine. (The Guardian N.D.) We can divide all sanctions against Russia into following types:

- Sanctions against individuals and organizations: political, economic, social;
- Sanctions for export/import to Sevastopol and Crimea;
- Economic sectorial sanctions.

The timeline and detailed description of the sanctions are given in the Appendix chapter. (See Appendix 1)

According to the opinion of the initiating countries, the goals and types of sanctions imposed by the United States and European Union were chosen in a way that maximizes impact on Russia's political regime and minimizes the impact on the population. Besides, the preference was given more to the sectorial sanctions and sanctions against specific companies, since the trade embargo was deemed ineffective due to the complexity of monitoring and analysis of long-term consequences. (Klinova& Sidirova 2014.) In the context of our research problem, we will pay special attention to economic sectorial sanctions against the Russian banking system. The main idea of financial sanctions is that Russian banks have been denied access to medium and long-term funding in foreign markets. The banks had the opportunity to attract from foreign markets or invest into them; however, they were limited to investing only in instruments with a maturity of fewer than 30 days.(Barisitz 2015.)

In the first half of 2014, sanctions were imposed on a number of Russian banks: Sberbank, VTB, Gazprombank, Rosselkhozbank, Bank of Moscow, Vnesheconombank prohibiting the attraction of new loans and placement of bond issues in the markets of the United States and Europe. (Vsyakih & Bakaeva 2015.) The restriction of access to

external financial markets led to a rise in the cost of funding for Russian banks and organizations. Deterioration of the financial status of the enterprises and the quality of credit portfolios of banks that have been subjected to sanctions aggravated by the risk of increased volatility of exchange rate dynamics. (Zakirova, 2018.)

The first portion of pressure was addressed to Bank “Russia, Sobin Bank, SMP Bank, and InvestCapitalBank at the end of April. They fell under the first two periods of sanctions that blocked their property, located on the territory of the United States. These sanctions were full-scale - they included a ban on international transfers and the freezing of assets.
International payment systems Visa and MasterCard stopped servicing the cards issued by Russian banks affiliated with persons from the United States sanctions list. As a result, depositors of these banks did not always have access to their accounts, had problems with paying by cards. GazpromBank, Vnesheconombank, as well as the Bank of Moscow, VTB and RosSelkhozBank fell under the third period of US sanctions. New waves of sanctions restricted American investors from medium- and long-term debt instruments investments placed after the July 2014. This means that citizens and companies were prohibited from allocating loans and other foreign exchange market instruments for more than 90 days.

For banks controlled or owned by the state by more than 50% an access to the European debt market was limited: "Direct or indirect purchase, sale, provision of brokerage services or participation in an issue or other transactions with primary securities and foreign exchange instruments with a circulation period of more than 90 days is prohibited." (Council Regulation (EU) No 833/2014 of 31 July 2014) European investors were forbidden not only to purchase bonds and other securities listed in the blacklist of banks, but also to trade them on the stock exchanges. The consequences of European sanctions could be even more serious for Russian banking companies than American ones. The European Union is Russia's main trading partner, accounting for around 50% of Russia's trade turnover in 2014 (of which 70.6% was exported and 29.5% imported). The introduction of sanctions was dangerous in terms of a potential decrease in the market for Russia, which actually happened in 2016 as we can see on the graph below. (Viju, N.D.)

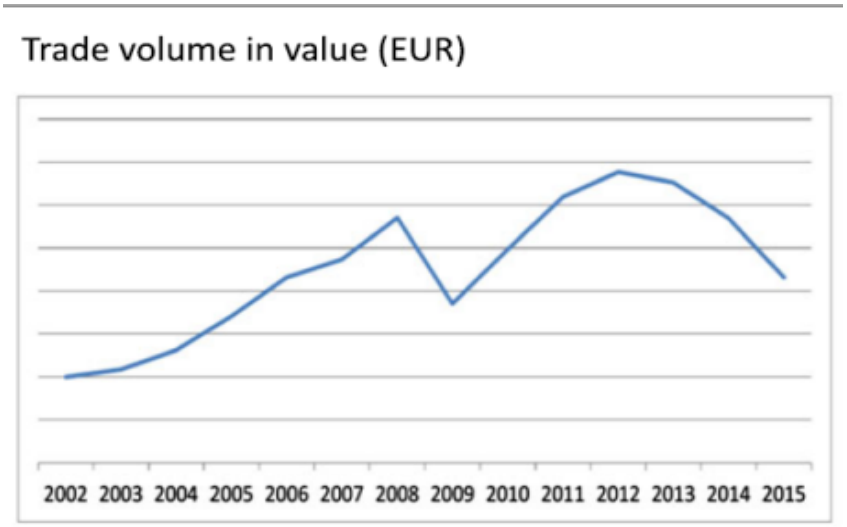

Figure 6. Trade volume between Russia and EU (Adapted from Giumelli, 2017)

In addition, Russian government financial institutions are highly dependent on the European securities market. According to the EU, between 2004 and 2012, they received 16 billion dollars by placing securities (IPOs) in the European market. Moreover, in 2013, it placed 47% of the debt obligations of state banks of Russia, which was approximately 7.5 billion euros. The ban on access to cheap credit resources on the foreign market forced Russian residents to repay their obligations using liquid ruble funds by converting them into currency. This circumstance led to a significant reduction in the ruble money supply in the economy. Accordingly, repaying external debts, banks and companies increased the outflow of foreign exchange capital from the Russian economy, which totaled $153 billion already in 2015. (Fritz, Christen, Sinabell & Hinz N.D.)

2.2 CAMEL: Evaluating banking sector financial sustainability

2.2.1 Introduction to CAMEL rating system

The main approaches for assessing the performance of commercial banks can be divided into two categories: the system of coefficients analysis and determination of stability of a commercial bank. There are various methods for determining the reliability of a commercial bank, for example, international methods include:

- rating systems (PATROL, ORAP, CAMELS);

- systems of coefficient analysis (BAKIS);
- comprehensive systems of assessing bank risks (RATE, RAST);
- Statistical Models (FIMS, SAABA).

As we are analyzing the impact of economic sanctions applicable to the Russian banking system, in particular, we also cannot ignore the practices developed in the country according to the reality of the Russian economy. The Russian methods include the methods used by the Central Bank, the methodology of VS. Kromonov, the methodology of the newspaper Kommersant, the methodology of the magazine Expert, the methodology of the RBC agency, the methodology of the Analytical Center for Financial Information, and the methodology of RusRating.
All the methods were studied and analyzed for applicability for our research in particular. In order to assess the dynamic of the sanction and non-sanctioned banks, we will use the U.S. Federal Reserve's CAMEL model. The method was chosen due to the combination of various financial indicators with a clear and understandable structure of analysis of these indicators, that can represent the assessment of the banking sector state. The main advantage of the CAMEL system is that it is a standardized method for assessing banks; "*the summary assessment expresses the degree of intervention necessity that should be made by the supervisory authorities; the ratings for each indicator relates to the areas of improvement*"(Tadgeddinova 2015.).

In 1978, the United States Federal Reserve System, the Currency Controller and the Federal Deposit Insurance Corporation agreed on the unification and standardization of their rating systems for analyzing the financial condition of a commercial bank. The acronym CAMEL is a combination of the initial letters of the analyzed components:
C - capital adequacy. The ratio determines which bank capital can be used to protect its creditors (depositors) financial interests and whether its value is sufficient;
A - asset quality. The ratio provides information on areas of increased credit risk, analyzes the composition of the loan portfolio, paying attention to the financial impact of problem loans and the structure of securities;

M –the quality of management. The methodology determines the quality of banking management based on the assessment of performance, compliance with laws and regulations, and the adopted control system (Babar 2011.);

E – earnings or profitability. The ratio evaluates the efficiency of the bank activities, determines the sources of profit and identifies its sufficiency for the future development of the bank (Sarker 2005.);

L - liquidity. The system determines the adequacy of the bank liquidity in terms of the timely fulfillment of its obligations.

S - sensitivity to risk. It allows determining how much the bank financial position will change with the change of interest rates, commodity price, exchange rates. This component has been introduced since 1996 as part of the methodology used by the U.S. supervisory authorities, but it won't be used in the context of the thesis due to the complexity and the priority given by the author to the components listed behind. Before 1996 the system was successfully used without the last component, so we believe it will not affect the results of the study. (Trautmann, 2006, p. 43).

Most of the indicators from American rating systems are determined "in absentia" on the basis of documents and reports submitted to the agencies of banking supervision on a quarterly basis according to the instructions of the Uniform Bank Performance Report, which includes the bank performance indicators at the reporting date, comparable to other banks of the group. If necessary, there are also on-site inspections, when supervisors can obtain additional information for the most comprehensive analysis. Therefore, the CAMELS methodology is used both for remote surveillance and for inspections. *To examine the Camels system, information is required from different sources such as financial statements, Funding sources, macroeconomic information, budget and cash flow projection, staffing/operation. This model assesses the overall condition of the Bank, its strengths and weakness.* (Sarker, 2005.)

The scale of evaluation for each indicator is from 1 to 5, where 1 receives a financially stable bank with only minor deviations in certain indicators for each element, that cannot lead to negative consequences of its activities. Rating 5 receives the bank, the volume and nature of shortcomings in the activities of which is critical and requires immediate intervention by the supervisory authorities and the management of the

bank. (National Credit Union Administration N. D.) Based on the results of each component evaluation, a composite rating is displayed: 1 – Strong; 2 – Satisfactory; 3 – Fair; 4 – Marginal; 5 – Unsatisfactory.

Rating 1 - the bank is "completely healthy" in all respects; there may be only minor deviations in a number of indicators; there is an appropriate management system; the bank is resistant to external economic and financial shocks; there is no need for the intervention of supervisory authorities.

Rating 2 - the bank is almost "completely healthy"; The critical data obtained is not significant; There are no critical shortcomings in the management system; the system is stable and can successfully overcome the fluctuations in the business world; the intervention of the banking supervisory authorities is limited and implemented in the amount necessary to correct the identified shortcomings.

Rating 3 - the presence of financial, operational or technical weaknesses, ranging from permissible levels to unsatisfactory; vulnerable to adverse changes in the economic situation; can easily be ruined if the measures taken to overcome weaknesses are ineffective; additional intervention by the banking supervisors is carried out in order to eliminate the shortcomings.

Rating 4 - serious financial problems; preservation of an unhealthy situation in the absence of due attention to financial problems; the current situation may lead to the undermining of viability in the future without taking corrective measures; high probability of being ruined; careful supervision and control are needed, as well as a specific plan to overcome the identified shortcomings.

Rating 5 - there is a possibility of being ruined in the nearest future; the identified shortcomings are so dangerous that urgent support is required from shareholders or other financial institutions; the bank is most likely to be liquidated or merged with other credit institutions without conducting corrective actions.(Tadgeddinova 2015.)

2.2.2 Capital Adequacy Ratio

The ratio shows whether the liabilities of the bank can be satisfied on the sufficient level so that the depositors do not carry losses and huge risks. The calculation of the ratio relies on specific Basel agreement standards for assessing the equity of the

bank. Basel capital accord set the rules for the Capital requirements. The Basel accord defines the Capital requirements and standards that are used in most of the rating systems for banks. According to Basel III, the capital includes two parts: Tier one, and Tier two (Chen, 2003, P. 21) «*The capital adequacy for banking institutions the ratio should be superior to 8% or we can say that the total capital must be over 8% of its risk-weighted assets*.» (Babar 2011.)

Practically the indicator helps to control the maintenance of commercial bank's own capital on the level that could compensate losses in critical situations. (Chen 2013.)

The capital adequacy assessment includes:

- set of key indicators: capital adequacy ratio and capital adequacy ratio of additional capital;
- set of additional indicators: a leverage indicator that characterizes the share of fixed capital in assets; the coefficient of the sufficiency of fixed capital; the ratio of risk assets; the volume and dynamics of critical and sub-standard assets. (Reserve bank of New Zeland 2007.)

The final conclusion about capital adequacy is based on, first of all, comparison of actual levels of coefficients of key indicators with the country's accepted criteria levels and, secondly, evaluation of the results of analyzis of asset quality. (Tadgeddinova 2015.)

2.2.3 Asset Quality Ratio

When analyzing the quality of the assets, the main criteria is the real risk that accompanies the operations of the bank. Asset quality is one of the most critical indicators, which determine the reliability of the bank according to the CAMEL rating system. (Jerome, 2008, p. 6). Asset quality assessment is carried out based on determining the risk level of certain asset groups and calculating several indicators. The primary indicator characterizing the quality of assets is the ratio of the total risk of assets to the capital of the bank. A number of factors influence the risk of a particular loan: the purpose, amount and term of the loan, the client's creditworthiness, the manner and quality of the loan, the industry belonging to the borrower. In the book FINANCIAL MARKETS &INSTITUTIONS the author describes 5 components that are used to assess the loan quality: Capacity (ability of the borrower to pay off the debt), Collateral (the

quality of back up assets), Condition (situation that causes the necessity of the loan) , Capital (distinction between assets and liabilities), Character(reputation of the borrower). (Madura, 2009, p.65)

The system assesses the degree of return on assets focused on the financial impact of problem loans. Further, the quality of assets that are revealed in the process of inspecting the bank is assessed. Its repayment status classify assets of the bank, more serious is the delay of repayment; the lower is the asset class from the quality point of view. (Jose 2016.) In order to calculate the value of the aggregate asset risk in the CAMEL rating, all risky assets are divided into five groups: standard assets, substandard assets, non-standard, doubtful assets and loss assets.

Standard assets are the assets that are protected by net value or high collateral, protected by pledge or guarantee. The risk attached to the standard asset is no more than usual for banking business, and this asset does not lead to any potential problem. Substandard are assets that are protected at the moment, but have potential weaknesses; in particular, they are placed with some deviation from the careful and reasonable policy of the bank. This category includes, for example, loans with some omissions arising from the loan agreement signed by the employee with an insufficient qualification or with negative trends in the financial condition of the borrower. "*A sub-standard asset is an asset classified as an NPA for less than 12 months*." (Kenton N.D.)

If the present value and collateral do not adequately protect assets, they can be classified as non-standard. They are characterized by a clear probability of the debt non-return. An asset that has been non-performing or remained in the substandard category for more than 12 months called a doubtful asset. Doubtful assets are assets with a high potential of loss, but due to certain circumstances, they cannot be classified as bad at present. Such circumstances may be an alleged merger, the right for additional collateral. Finally, loss assets are assets with such a low probability of return that it is not advisable to consider them as bank assets and which are non-performing for more than 36 months. This class of assets can be considered as uncollectable and should be written off or kept in the books in case if an outstanding is provided in the amount of 100 percent. (Kenton N.D.)

Asset quality assessment is a creative process, involving the most careful analysis of the bank's main active items and calculating the likely losses from the investment. When analyzing assets, it is required to perform an analysis of the loan portfolio carefully.

2.2.4 Management Quality

The management of the bank in the CAMELS system should be evaluated the last, as the quality of bank management is directly expressed by the level of liquidity and profitability of the bank, the state of its assets, capital adequacy and the way the risk is managed. (Baral 2005.) Therefore, the preliminary rating evaluation of management corresponds to the average rating of all other components of the bank's reliability. For the final conclusion about the level of management, we take the following factors into account:

- Competence of the Board, ability to lead the work of the bank's management, including qualification and experience of working in the bank managers, qualification and experience of middle and junior staff, quality of supervision of the bank's activities by management, the effectiveness of personnel training;
- Compliance with the rules of banking (compliance with laws and regulations of banking activities) (Russian Economic Academy 2018.);
- The ability to plan and be responsible for the risks assumed by the credit institution;
- Conformity to the recommendations of auditors and supervisors;
- Readiness to ensure the fulfillment of the objectives of the banking community;
- The adequacy of directors, including the representation by members of the Board of the interests of stakeholders; the Board of Directors attendance;
- The degree of participation of the members of the Management Board in the discussion of various issues, especially those of fundamental importance;
- The adequacy of internal and external audit completeness and reliability of reports, ensuring compliance with laws and regulations. (Russian Economic Academy 2018.)

Besides, there is a number of coefficients that can allow us to evaluate the quality of management quantitatively, but due to the limitations of the volume of the work we describe here only the most the most important in the context of the thesis.

2.2.5 Earnings

Revenues and profits characterize the effectiveness of the bank's activities, create conditions for increasing the bank's own capital and reserves, ensure payment of dividends to investors (Couto & Brasil 2002.).

As regards the earnings and profitability factors, Basel Committee on Banking Supervision highlights the aspects like a) return on assets compared to peer group averages and the bank's own trends, b) material components and income and expenses—compared to peers and the bank's own trends, c) adequacy of provisions for loan losses, d) quality of earnings, and e) dividend payout ratio in relation to the adequacy of bank capital (Sarker 2005.).

There are several variables that can be used to assess the earnings of the bank. Return on equity (ROE) is an indicator of the own funds' usage efficiency of a company or a bank. This indicator characterizes the profit attributable to $ 1 of own capital; it shows how efficient own capital is used. (Banerjee & Majumdar 2014.)

ROE = net profit/own capital.

Return on assets (ROA) shows whether the assets management is well organized in order to make a profit. It can also be described as the efficiency of the property usage, allowing to evaluate the quality of financial managers' work. ROA demonstrates how much net profit each currency unit of assets held by the company brings.

The profitability of banking activities is directly dependent on the performance of assets. The increase in profitability of assets remains the reserve for increasing profitability. (Saakova 2012.) This indicator takes into account both own and borrowed assets, such as loans, receivables.

ROA = Net profit/total assets.

Table 6. The scale of the bank's ROA assessment (Adapted from Kashapov 2016.)

Rating	Criteria
1 strong	The coefficient is above 1%; the bank has sufficient reserves to cover losses on loans; The profit did not depend on operations with securities and extraordinary incomes;
2 satisfactory	The profitability ratio is in the range from 0.75 to 1%; The income is static and sufficient to create provisions for covering losses on loans;
3 mediocre	The coefficient is between 0.5 and 0.75%; there was a negative trend of the ratio, a high level of dividend rates, an insufficient reserves for covering losses on loans;
4 critical	The profitability of assets is estimated in the range from 0.25 to 0.5%, unpredictable fluctuations in income are characteristic; the trend of the coefficient is negative; lack of provision for loan losses; The profit is insufficient for the growth of own capital;
5 unsatisfactory	Net loss or insignificant profit. The coefficient of profitability is below 0.25%. The current situation threatens the life of the bank.

2.2.6 Liquidity Ratio

The liquidity of the bank is an indispensable condition for its reliability, as it reflects the ability of the bank to fulfill its obligations to creditors fully and on time. According to Diamond & Dybvig (1983) discuss liquidity control should be the most important function of the banking system, which makes the relationship of the bank

with the creditor reliable and predictable. The main focus in the analysis and assessment of liquidity is paid to the adequacy of liquidity sources, that support current and future needs of the bank, the ability to quickly realize assets with the least losses, the structure and dynamics of deposits, the ability of managers to monitor liquidity.

Thus, in this chapter, we have described the basic components of the CAMEL rating system, studied the number of research papers dedicated to this topic, mentioned basic formulas, definitions, and principles of assessment, so this theoretical basis will help us in conducting research within chosen banks. We would like to pay attention of the readers on the fact that in this chapter we have described the concepts and approaches of different researches to analyzing the CAMELS components and application principles. The methodology that was used in this research will be presented in the following chapter.

3 Methodology

The purpose of this work was to to discover and estimate the influence of sanctions on the banks of systemic importance. Under the goal, the effectiveness of sanctions was studied in the context of countries and economic sectors. The state of the banking system in Russia during the pre-sanctions period was assessed, and the sanctions specifically against the banking sector were described in the previous chapters of the thesis. To empirically answer the question of whether the economic sanctions affect the Russian banking system, we believe it is necessary to take the following steps: first, to determine how the impact of sanctions will be assessed. Second, to identify the variables of the evaluation. Third, give a description of the selected variables and the chosen cases, that will assess the dynamics of the banking sector's financial health. Fourth, apply the assessment model and make all the necessary checks and observations to obtain the results. Due to the specific structure of the thesis and thorough literature review, some of the targets described below were achieved in the previous chapters. The first part of the work examined the theoretical concept of

sanctions, studied the works of a number of authors about the impact of the sanctions, described the dynamics of the Russian banking system before 2014, that is before the introduction of sanctions and the chronology of introducing sanctions against Russia.

In the results chapter, we will analyze changes in the Russian banking system after the introduction of sanctions from 2014 to 2017 in general and for sanctioned and selected non-sanctioned banks comparatively. CAMELS methodology will be applied to assess the dynamics of the banking system of Russia; the impact will be assessed through the liquidity, asset quality, capital adequacy and management quality indicators of the Russian banking sector. In the end, the calculations will be analyzed according to the CAMELS recommendations, and the conclusions about the dynamic of the banking system in the context of sanctions environment will be made.

3.1 Research Approach

The structure of the scientific work will be defined within the specific research design. The research design is defined as the set of procedures of analyzing and collecting the variables and the whole process of writing the report paper. (Creswell 1998.) A research philosophy refers to the set of beliefs concerning the nature of the reality being investigated (Bryman 2012.). In the scientific literature, there are no statements proving that one research philosophy can be better than others, and it can be molded into the context of a specific part of the research. Nevertheless, according to the nature of the phenomena being observed, we will confine the principles of interpretivism research philosophy. The inductive research approach thus might be considered particularly suited to the interpretivism approach, because it allows the formulation and explanation of hypothesis on the basis of observation. (M. Saunders, P. Lewis, A. Thornhill 2009.) The advantages of the inductive approach are that the structure of research is flexible and it is based mostly on qualitative analysis, which is very suitable in case when the number of objects that can be analyzed is limited.

Nevertheless, the nature of the topic and research questions demand a quantitative method to be used in order to get a complete understanding of the patterns and

make reasonable conclusions based on qualitative and statistical analysis. The main reason for using this research approach is connected with the nature of the objectives, that demand studying the financial data and examining the relationship between variables. (Creswell 2013.) Besides, there are always the limitations of the time and access to specific information, that cannot allow us to add a qualitative approach.

We can divide the research, that can be collected and used in the research, into two categories: primary and secondary data. We will use secondary data, and the justification of choice is presented in the subchapter “Data collection”. Within specifics of the topic, we define a case study of a number of banks that were or were not subject to the sanctions as the most suitable research strategy. A longitudinal time horizon is chosen for data collection. It refers to the collection of data repeatedly over an extended period and is used where an essential factor for the research is examining change over time (Goddard & Melville 2004.).

Overall, the research will be based on the analysis of financial indicators according to CAMEL rating system of selected banks trying to indicate any dynamics of changes in crucial banking indicators, basically liquidity and access to external sources of funding (the full methodology and the list of indicators are described in the previous chapter). The key reason for choosing these indicators can be explained by the main direction of sanctions: foreign banks providing the Russian banking system with inexpensive long money became no longer accessible for the sanctions banks. Thus, the main effect of sanctions lies in the problems of funding banks, and this effect can lead to liquidity problems in the banking system, so it was decided to assess the impact of sanctions on ratios that characterize the state of banks' liquidity, profitability. In order to systemize and simplify the analysis process but still cover all the necessary areas of the banks' performance, we are applying the CAMEL model.

To perform remote analysis using this method, which takes into account the impact of quality on financial reliability we access the official website of the Central Bank of Russia (turnover statements and quarterly reports), annual reports published on the

official websites of the banks as well as the popular in Russian banking sector analysis tool for financial indicators comparison “bank analyst portal”. Remote analysis of the bank's activities is carried out based on analytical balances, aggregating indicators of turnover statements of accounting published by the bank regularly.

3.2 Case Companies

The case sample for analysis consists of six banks In total, and 3 of them are included in the sanctions list, but 3 of them are not. All selected banks occupy a significant part of the Russian banking market and play key roles in shaping the financial and economic trends of this industry, so we believe the sample will allow us the complete assessment of sanctions influence. We believe that the financial data of sanctioned and non-sanctioned banks analyzed in the specific period can show us whether the influence of sanctions was sharp so that the banks from two groups demonstrate different dynamics in the indicators.

3.2.1 PJSC “Sberbank of Russia”

PJSC “Sberbank of Russia” is the largest Russian commercial bank partly owned by the government. PJSC “Sberbank of Russia” is a universal bank representing an extensive range of banking services: from public services to investment banking. As of 01.01.2016, the share of PJSC “Sberbank of Russia” in the total volume of assets of the Russian banking sector is almost 29%, the share of the loan portfolio is about 39%, and the share of deposits - 46%. PJSC “Sberbank of Russia” has a huge branch network throughout Russia, and it also owns subsidiaries in Kazakhstan, Ukraine, Belarus, Switzerland, Germany, Austria. The bank is included in the sanction list. (Sberbank N.D.)

3.2.2 PJSC "VTB"

PJSC “VTB” is the second-largest Russian commercial bank partly owned by the government. PJSC “VTB” is a key part of VTB’s banking group. PJSC “VTB” mainly works

with corporate clients and financial organizations, such as state structures and enterprises. The bank has a subsidiary company PJSC “VTB 24” that develops its retail business; PJSC “VTB 24” is a large Russian commercial bank, a subsidiary of PJSC “VTB.” The bank specializes in retail operations and lending to medium and small businesses. The branch network of the bank includes more than 1,000 offices. In terms of deposits and loans to individuals, the bank is ranked as second in Russia, and the second place belongs to the bank in terms of the mortgage loan issuance and auto loans. The bank is included in the sanction list. (VTB N.D.)

3.2.3 JSC “Gazprombank

JSC Gazprombank is a commercial bank of the oil and gas industry owned by PJSC Gazprom. The bank provides banking services to enterprises and employees of various industries, while the number of clients of the bank is about 3 million physical and 45 thousand legal entities. The regional network of the bank includes 43 branches, three subsidiary, and dependent banks. The bank is included in the sanction list. (Gazprombank N.D.)

3.2.4 Alfa-Bank

It is the largest investment commercial bank in Russia, successfully working for the benefit of its clients, one of the most reliable and diversified financial structure in Russia. The 1998 restructuring of the Bank’s business, its merger with Alfa Capital, was undertaken to transform Alfa Bank into a universal bank in order to be able to provide its customers with the broadest possible range of services.

The most crucial part of its development strategy is the application of Western technologies adapted to Russian conditions. Foreign specialists make a significant contribution to the success of the Bank with their rich experience in Western companies and international markets. The bank is not included in the sanction list. (Alfa Bank N.D.)

3.2.5 Raiffeisenbank

Raiffeisenbank is the 100th subsidiary of the Austrian Raiffeisen banking group. The Bank has been operating in Russia since 1996 and provides a full range of services to private and corporate customers, residents and non-residents, in rubles and foreign currency. Raiffeisenbank is one of the most reliable banks in Russia. Moody's Interfax Rating Agency assigned the Bank a long-term credit rating on the national scale at the level of AAA and short-term credit rating - at RUS-1 level. Investors Service has assigned ratings to ZAO Raiffeisenbank Austria D - financial stability rating, BAA2 long-term and Prime-2 short-term ratings of deposits in foreign currency. The bank is not included in the sanction list. (Raiffeisen Times N.D.)

3.2.6 UniCredit Bank

UniCredit Bank is a commercial bank operating in Russia since 1989. UniCredit Bank is the largest Russian bank with foreign participation, ranking 11th in the INTERFAX-100 rating by volume of assets according to the results of the first half of 2017. 100% of the voting shares belong to the UniCredit Group. UniCredit Bank takes a strong position in the Russian market of corporate banking services while entering the number of leading banks in the financial services market for private clients. UniCredit offers local expertise combined with international coverage supports to customers at the global level, providing cooperation with its leading banks from the group. The bank is not included in the sanction list. (UniCredit N.D.)

3.3 Data Collection

We find secondary data suitable for the author's research. The secondary data is the information collected by other researchers for other purposes other than the research objectives of the thesis author. (Chauvette, Schick-Makaroff, Molzahn 2019.) It is easier, faster, and cheaper to collect than primary data. The primary data collection demands much more effort, and experience; besides, in some cases and industries, it is even impossible to get access to it.

The advantage of secondary data is that they often allow a better understanding of reports containing primary data, and we used it in order to do necessary calculations and analysis. There are no disadvantages of using the secondary data for this research, that can be found. Some researchers face the problem when the accessible data does not match the purposes of specific research (Saunders 2009.) and in order to find a solution to the research problem they have to reconsider the approach to data and try to collect the primary data. As we are doing the financial analysis based on ratios that can be easily calculated with the use of secondary data, we can successfully avoid this problem.

The data was collected from the web-platform "the portal of the bank's analyst" aimed at providing the professionals in the sphere of finance with relevant information about the Russian banking industry. RAS accounting reports represent the secondary data for the research, the structure of assets and liabilities data, and annual financial results reports. The data was collected for the period from 01.01.2015 to 01.01.2017. We also would like to notice that sometimes we refer to it as "the end of 2014" and "the end of 2017" in the following chapters, so the reader is not confused. The research objectives and questions can support the justification for choosing this specific period: we would like to find any negative dynamics in banks' financial ratios and observe whether there were any changes in financial health after the introduction of sanctions. The study was started when there was no data for the year 2018; the sanctions were first imposed in 2014, so we found the 4-years period appropriate for conducting the analysis.

3.4 Data Analysis

The CAMEL Rating system is a flexible analytical instrument, that can be easily adapted according to the needs of the specific research process and its limitations. We have studied a number of research papers that use the common principles and recommendations of the CAMEL rating and found out that there are lots of ratios and financial indicators that can be used to define the main components of the rating system, which are capital adequacy, asset quality, management quality, earnings, and liquidity. The choice of indicators was made based on "banking analyst portal" recommendations and according to specifics of the Russian Accounting Standards.

Besides, we believe it is essential to take the practices of domestic analysts into consideration while analyzing the banks that operate in the conditions of the Russian economy, so we mostly looked at their experience. In the following subchapters, we will explain the formulas adapted for the analysis and their meanings and set the recommended values for each of them so the author can understand how we interpreted the calculations. Besides the calculation of each of the components, we will explain the methodology for calculation of the final composite CAMEL rating that will help us to evaluate the changes in the financial state of the banks as the impact of sanctions on the banking industry.

Capital Adequacy Ratio

The Capital Adequacy Ratio in our analysis determines the level of equity in the structure of all liabilities. Its recommended values are within 15% - 20%. The formula for calculating the ratio is represented below.

CAR= Total Own Capital (art. 13 in RAS) / Total Liabilities(art. 18C in RAS)

Asset Quality

The Asset Quality is used in the analysis as the determination of the protection from risk. It characterizes the marginal share of overdue debts in income-generating assets that a bank can cover with net profits and reserves, without jeopardizing the funds raised by its customers. Recommended value - more than 5%.

Asset Quality (Coefficient of the protection from risk) = (Retained Earnings from last periods(art. 133)+ Retained Earnings of reporting period(art. 134)+ Reserve Fund (art.136)) / Income-generating Assets

Management Quality

This component is defined by the “Refinancing Ratio” and characterizes the degree of use of the most expensive component of banking resources - loans received from other banks (interbank loans). The recommended value is 100%.

Management Quality (Refinancing Ratio)= Given Interbank Loans(art.211/ Attracted Interbank Loans(art.1512)

Earnings

The component is defined by Return on Equity and demonstrates the own funds' usage efficiency, the profitability of the bank's own capital. Bank can be considered as effective if the ratio is above 10%.

ROE= Net profit / Equity

Liquidity

Evaluates the ability of the bank to repay all its obligations simultaneously. The recommended value of the coefficient is 15-20%, for example, highly liquid assets should cover not less than 15% of attracted funds.

Liquidity (L4)= Cash / Total liabilities

CAMEL Composite Rating

The main idea of the analysis was not only in calculating the financial ratios but also in assigning a specific rating to each of it. The advantages of interpreting the data and assessing the financial health of banks with the CAMEL rating system were mentioned in the literature review chapter, as well as the justification for the choice. In order to calculate the final composite rating we had to, first of all, develop the methodology for assigning the banks with the rating for each of the components, and, secondly, define the weights for each component in order to calculate the final rating. The rating assignment methodology is represented in the table below, and it follows the common logic and the recommendations of the "banking analyst portal." The scales from 1 to 4 are represented in the table, the author found that the scale of 5 is not necessary due to the fact that the banks that are chosen as the cases are of importance systematic and likely are not in the catastrophic conditions.

Table 7. The scale of the CAMEL rating system for Russian banking industry

	1	2	3	4
Capital Adequacy	15% and more	10 - 15%	5-10%	Less than 5 %
Asset Quality	5% and more	3-4%	2-3%	Less than 2%
Management Quality	100% and more	75%-100%	50-75%	Less than 50%
Earnings	10% and more	5%-10%	2-5%	less than 2%
Liquidity	15% more than	9%-15%	5%-9%	less than 5%

Note. Composed by the author basing on the information from the Banking Analyst Portal N.D.

The finalizing step of the CAMEL rating system is calculating the weighted final rating. For this purpose, we addressed to the website of the Federal Deposit Insurance Corporation that uses the CAMEL principles for assessing the riskiness of financial institutions. “The weights applied to CAMELS components are as follows: 25 percent for Capital and Management; 20 percent for Asset quality; and 10 percent each for Earnings, Liquidity, and Sensitivity to market risk.” As we did not use the Component of Sensitivity to market risk, we adapted the weights according to our limitations, giving 15% each for Earnings and Liquidity.

CAMEL Composite Rating = 0,25CAR + 0,25MQ + 0,2AQ +0,15Earnings + 0,15Liquidity

4 Research results

In order to discover and estimate the influence of sanctions on the banking system of Russia, we have analyzed the main performance indicators of Russian banks for the period from January 1, 2015, to January 1, 2018. The sample of banks that are sanctioned includes the three most significant financial institutions, which have the greatest impact on the banking system of the Russian Federation: PJSC “Sberbank of Russia”, PJSC “Bank VTB” and PJSC “Gazprombank”. A similar approach was applied to the formation of a sample of banks that are not subjected to sanctions: they take a significant part in the banking industry. It includes three commercial banks: Alfa Bank, PJSC Moscow Credit Bank and Raiffeisenbank.

As it was mentioned before, the CAMEL rating system for assessing the reliability and financial health of banks was applied to answer the research questions. As criteria of the reliability of a commercial bank, we have measured 5 indicators: capital adequacy; earnings; quality of assets; quality of management; liquidity. The results of the assessment for each bank are represented below. The explanation and formulas for each component of the rating system was given in the Methodology chapter.

PJSC “Sberbank of Russia”

The calculated capital adequacy ratio in 2017 compared to 2014 increased by almost 5% and amounted to 14 % at the end of the year. When this ratio is compared with the normative level of the capital adequacy ratio, where the standard level of this coefficient should be more than 15%, we find the capital adequacy ratio did not fully comply with the recommended level of the CAMEL system over the analyzed period. The lowest value was 9% in 2014. Nevertheless, the average ratio calculated “2,25” and indicated the satisfactory adequacy of the capital of PJSC “Sberbank of Russia”.

It should be noted that the asset quality ratio corresponded to the normative value of more than 5% during the period, and it also tends to increase from 9.68% to 13.64%. The asset quality ratio is assigned a rating of “1” for every year of the analyzed period, and it seems to be on this level for many years.

Analyzing the profitability indicators, we could say that PJSC “Sberbank of Russia” applied an effective policy of managing revenues during the crisis. The indicator of ROE corresponded to the normative values. After the introduction of sanctions in 2014, the negative dynamic in annual return on assets occurred, so its value decreased from 18.43% to 11.32%, reaching the minimum in 2015. After 2016 this situation stabilized, and the return on assets increased to 23.51%. Nevertheless, the bank is awarded an average rating of “1”.

The liquidity indicators analysis showed a decrease from 9.8% as of January 20145, to 7.86% as of January 2018. Estimation of the liquidity also showed its satisfactory compliance with the normative value of 10% and can be rated as “2.5”. It should be noted that in 2015 and 2017, the liquidity of Sberbank was at an average level. There was also a decrease of the required level of highly liquid assets in the structure of the balance sheet, the reduction in the ability to pay for of its obligations simultaneously after the introduction of sanctions, as well as the violation of the optimal balance between active and passive bank’s policy.
In terms of the quality of management, the level of total lending activity hardly corresponds to the optimal value. It sharply decreased from almost 90% to not more than 14% with its optimum value of 100%. The average quality of management, defined by the level of “useful” loans from other banks could be assigned only with the rating “3”, showing that the position of the bank is almost critical.

We have looked at the changes in ratios in PJSC “Sberbank of Russia” over four years and can easily calculate that the CAMEL composite average rating for the period is 2.03, which demonstrates quite good financial health of the institution. Even though the sanctions were applied to this bank, it seems, except the liquidity, they did not damage much.

Table 8. Results of the adapted CAMEL composite methodology for PJSC "Sberbank of Russia"

Sberbank of Russia					
	01.01.15	01.01.16	01.01.17	01.01.18	**Average**
CAR	3	2	2	2	2.25
Asset Quality	1	1	1	1	1
Management Quality	2	2	4	4	3
Earnings	1	1	1	1	1
Liquidity	2	3	2	3	2.5
CAMEL Composite Rating	**1.9**	**1.8**	**2.15**	**2.3**	**2.0375**

Note.Composed by author based on the author's calculations

General overview

We continued the analysis of selected banks following the principles, described in the example of Sberbank. Each of the banks, that were subjected and not subjected to sanctions, was evaluated for the period from the end of 2014 to the end of 2017 based on the indicators proposed by the methodology. This approach allowed us, first of all, to compare the financial state in two groups of banks, and, secondly, to track whether a negative trend appeared among all banks at the system level.

With the help of the adapted CAMEL methodology, it was possible to identify the most stable banks and to determine whether an impact of sanctions on their activities was significant. We believe that further description of the analysis process of each bank is not necessary so we can move to the discussion of the rating results itself.

Table 9. Results of the adapted CAMEL methodology over six banks

Bank	Weighted rating			
	2014	2015	2016	2017
Unicredit bank	**2.7**	**2.85**	**1.9**	**2.05**
VTB	**2.8**	**2.25**	**2.05**	**2.05**
Gazprombank	**2.15**	**2.35**	**1.75**	**2**
Alfa bank	**1.8**	**1.6**	**2.3**	**2.1**
Raiffeisenbank	**1.4**	**1.8**	**1.8**	**2.3**
Sberbank	**1.9**	**1.8**	**2.15**	**2.3**

Note. Composed by author based on the author's calculations

Based on the results of the evaluation and looking at all the banks in the sample over the four years we can say that all analyzed banks have a strong or satisfactory rating (from 1.4 to 2.35). i.e., they are practically healthy. Only the Unicredit bank had a rating of 2.85 which is close to the level of mediocre. Some of the banks have shortcomings, but they are insignificant, the practices of risk management and liquidity control in banks are satisfactory. Nevertheless, an author assumes that the intervention of supervisory authorities could take place. Bailout is a common practice in Russia, when government supports the bank in order to avoid its bankruptcy, but when it comes to the banks of systematic importance, like Sberbank and Gazprombank, the attention of the country to them is even higher and more serious, so the support and protection can be carried out even in the case of minor risk exposure. The most financially sustainable banks were Alfa-bank, and Raiffeisenbank and the lowest results in this sample showed VTB and Unicredit bank.

Table 10. Banks' comparison on the basis of the adapted CAMEL methodology

Sanctioned banks (Group 1)	Weighted rating			
	2014	2015	2016	2017
Sberbank	**1.9**	**1.8**	**2.15**	**2.3**
VTB	**2.8**	**2.25**	**2.05**	**2.05**
Gazprombank	**2.15**	**2.35**	**1.75**	**2**
Non-sanctioned banks (Group 2)				
Alfa bank	**1.8**	**1.6**	**2.3**	**2.1**
Unicredit bank	**2.7**	**2.85**	**1.9**	**2.05**
Raiffeisenbank	**1.4**	**1.8**	**1.8**	**2.3**

Note.Composed by author based on the author's calculations

One of the most important tasks of the research was to compare the banks' ratings from two groups over for years and find any evidence that the financial health of sanctioned banks would deteriorate in comparison with others. Looking at the results, we cannot find such a correlation: the financial state of the banks in Group 1 is quite sustainable, no significant negative trend cannot be found, only fluctuations appear from year to year. Only Sberbank showed a minor weakening of its position but still stayed a leader. When we look at the dynamic in the Group 2 we can find that even though the banks supposed to operate in a more favorable conditions, they still faced some difficulties and showed minor decrease of the financial health, as we remember from the CAMEL rating description**:** higher is the rating, lower is the bank's reliability.

Going deeper into details

If we look at the CAMEL rating results in general, we definitely cannot claim that sanctions played their role in disturbing an ordinary functioning of the banking system and sanctioned banks in particular: the financial state of all the banks is healthy, and the correlation between financial disbalance and sanctions is not found. Nevertheless, having all the data in place, we decided to look at the liquidity in a more detailed way since one of the most strict measures was aimed at restricting access to foreign financial markets.

Analyzing the dynamic of liquidity indicators, we may conclude that the task of changing the long-term liquidity of the Russian banking sector was achieved. Most of the liquidity indicators, including long-term ones, were reduced in sanctioned banks. However, the reduction in the ratios of liquidity indicators occurred in 2015-2016 in non-sanctioned banks too, which was evidence that overall the deterioration of the economic situation, banking industry and the mood of physical persons**,** who did not seek to allocate their resources for long periods in the banks.
Another interesting observation was that the amount of funds raised was above the amount of funds placed. At the same time, the Central Bank of Russia was the primary source of financing commercial banks. The main reason for that may be limited access of sanction banks to foreign resources, and that is a direct impact of the sanctions. Unsanctioned banks in 2014, in contrast, increased the amount of placed funds compared to attracted, which is, to our opinion, caused by the increased demand for interbank loans from the sanction banks in the domestic market. At the same time, the liquidity o**f** the non-sanctioned banks was also at the level lower than satisfactory. Some interesting assumptions can be made, and even more questions can be asked when we look at the liquidity indicators and their dynamics, but they still do not give us enough ground to assert that sanctions were effective enough to cause a nor real banking sector unsustainability, either a real liquidity deficit.

5 Conclusions

The relevance of the study is defined by the fact that sanctions have become a common measure of influencing the political, economic, and social processes of many countries and applied for hundreds of years. In the context of globalization and world economic cooperation, it is very important, in our opinion, to develop methodologies and study the impact of sanctions not only on a particular country and industry but also on the world economy and global business. Many researchers are still wondering whether the desired and achieved effect of restrictive measures is justified in terms of the costs of the imposition of sanctions, as well as in terms of the sanctions' damage distribution among all the participants involved: those who are subject to

sanctions and those who initiate them. On the other hand, each individual case becomes an interesting ground for studying the effectiveness of sanctions, especially if it concerns a country possessing rich natural resources, economic potential and a strong influence on the international political arena.

The purpose of the study was to assess the impact of economic sanctions imposed by the United States and the European Union on the banking system of Russia, namely, to assess their effectiveness in terms of destabilizing the work of important financial institutions of the systemic importance. Discussing the topic and reviewing the literature, we have defined the conceptual criteria for the effectiveness of sanctions: the goal of the initiating country is always to show disapproval of the punished country's political or economic position and actions, as well as a change of the policy and actions of the punishable country in relation to a particular issue. The effectiveness of sanctions in this context can be related to the ability to achieve the goal and change the actions of the specific government.

The subject of the conflict between Russia and the United States (and EU) was the position of Russia on the Crimea - a whole region that previously belonged to Ukraine was joined to the territory of Russia during the protests and the civil war in Ukraine.

After examining the number of authors' work on the effectiveness of sanctions over the last century, we can conclude that sanctions are an incredibly complex process, their results can be expected decades later, but even this may not always lead to the achievement of their ultimate purpose.

However, the lack of a unified approach to the explanation of the economic meaning and result of sanctions does not prevent us from an attempt to assess the impact of a specific package of sanctions on a specific industry. Thinking of more applicable criteria for the effectiveness of economic sanctions, we decided to consider the impact of a number of sanctions on certain banks and on the financial stability of these banks. We assessed the financial stability of banks for the period from the beginning of 2014 to the end of 2017, being guided by the methodology of CAMEL, the rating system developed for banks in 1978 by the United States Federal Reserve System. The rating

system of CAMEL indicators includes a capital adequacy assessment, assets, management, earnings, and liquidity. While summing up the results of the assessment, we paid particular attention to the liquidity indicators since the most significant measure of the entire sanctions package was restricting access for banks to be financed from abroad.

In order to understand how the financial indicators changed under the influence of sanctions, we analyzed two groups of banks: three banks appeared on the sanctions list, three functioned without any restrictions and under normal conditions. Using the CAMEL methodology and analytical portal "analizbankov.ru," we have done a thorough assessment. We looked at the obtained results from different perspectives: first of all, evaluating the dynamics of ratios in groups of banks, comparing one group to another, and second of all, evaluating the dynamics of ratios within every bank from year to year.

There were no serious discrepancies between the results of the sanctioned and non-sanctioned banks, as well as no significant deterioration in the financial situation of the sanctioned banks. Consequently, the destabilization of the Russian banking system as a result of taken restrictive measures did not happen. The study revealed that during the period under review, the Russian banking system showed resilience and adaptability to the sanctions imposed by the United States and the European Union. The sanctions were point-like and did not undermine the general condition of the banking sector and certain banks.

At the same time, some negative consequences should be noted. In particular, the short-term deterioration of the long-term liquidity of sanction banks, the increase in their dependence on the domestic interbank market, the increase in the volume of funds received from the Bank of Russia. The remaining negative changes in indicators, if applicable, were due to the general economic stagnation, the internal inefficiency of banks and the policies of the Bank of Russia, rather than the impact of sanctions. The support of the banking system by the Russian authorities, which have made enormous investments in the banking sector, has allowed credit institutions,

influenced by sanctions, to adapt to the current situation and reorient themselves to the domestic market. At present, in our opinion, such large-scale investments in banks are no longer required, but in order to ensure a long-term result, it is necessary to develop the models of stabilization in order to increase banking stability.

5.1 Credibility and limitations

The data used for the calculations are valid because they were extracted from the official public source for the professional analysts, and it matches the data presented by the banks in their annual reports. The formulas that we used for the calculations were also used in academic studies and presented on the credible analytical sources. The limitations of the research will be described in this chapter. There were some adaptations of the CAMEL methodology, that can be explained, firstly, by the time limits for implementing the system in the most detailed way. The CAMEL rating system is time-consuming, and we had to ignore some of the indicators and interpretation methods that seemed to us less priority. Secondly, the access to some data and even to the quantitative approach, that could help us to estimate the behavior of the management of the banks, were also limited. The components(capital adequacy, asset quality, management quality, earnings, and liquidity) can include more than just one financial indicator, more than that, the management quality sometimes also include interviewing the board of directors and managers in the assessment. The management quality was defined by the quantitative ratio- the lending activity.

Thirdly, the specifics of the Russian Accounting standards demanded us to prefer some of the formulas better than others. Besides the limitations, in data collection and calculations, we had to interpret the findings using not the rating from 1 to 5, but from 1 to 4. The rating of 5 meant the catastrophic state of the financial institutions and was not necessary for assessing the strongest banks of the country that have systematic importance. The methodology of matching the results of the calculations with the specific rating was developed by the author on the basis of recommended values from the “bank analyst portal,” the nature of the research questions

and common logic, it also took into consideration the Russian context of the banking industry.

5.2 Recommendations and practical implications

The limitations of this research may become an example and opportunity for other authors to develop their specific analytical tools for assessing the financial institutions. We believe that in scientific works, it is vital to question the methodologies and always seek where the methodology can be improved or adapted to a specific context. It can also be interesting for the future researchers of the similar topic to implement variables different from ours or even to assess not only the six banks but a large sample of banks. We may also suggest to use the methodology for the regular customers of the banks in Russia, but not to assess the impact of sanction crises, for understanding the sustainability of the financial health of the provider of banking services.

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Appendices

Appendix 1: Sanctions Chronology (Adapted from EUR-lex European Union Law wesite)

Date	Sanction type	Description	Documents
European Union Sanctions			
17.03. 2014	Type1	Freezing of assets owned or controlled by political and military figures from the sanctions list (21 people). In addition, special visa restrictions have been imposed on these persons, a ban on business relations with persons on the sanctions list has been introduced. In addition to official sanctions, informal measures were also introduced, leading to the curtailment and restriction of cooperation with Russia and Russian organizations	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2014:078:0016:0021:EN:PDF
12.05. 2014	Type1	Expansion of the sanctions list for another 13 individuals and 2 companies. The first companies included in the sanctions list were GUP "Chernomorneftegaz" and the oil terminal "Feodosia"	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0265&from=EN
23.06. 2014	Type 2	The introduction of restrictions on the import of goods produced in Crimea and Sevastopol, the restriction does not apply to goods confirmed by Ukrainian certificates of authenticity	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0386&from=EN

11.07. 2014	Type1	Expansion of the sanctions list for another 11 individuals	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0455
25.07. 2014	Type1	Inclusion in the sanctions list of more than 15 people, as well as 9 companies and 9 organizations, "undermining the sovereignty and independence of the territory of Ukraine." The list of such organizations included - Luhansk People's Republic, the People's Republic of Donetsk, the Federated State of Novorossia, the International Union of Public Associations "The Great Don Army", "Sable", "Lugansk Guard", "Southeast Army.", "People's Militia of Donbass", "Vostok Battalions"	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0499&from=EN
30.07. 2014	Type1	Expansion of the sanctions list for 8 people and 3 companies. The list of sanctions companies included "Russian National Commercial Bank" and "Dobrolet". Dobrolet is a Russian budget airline, a 100% subsidiary of Aeroflot. The company got on the sanctions list for organizing flights to Simferopol, as a result of August 3, 2014 the company completely canceled all flights and in July 2015 the company was liquidated	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0508&from=EN
30.07. 2014	Type 2	The expansion of trade sanctions against Sevastopol and Crimea - the introduction of a ban on the export of technology, investment or lending to the	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/

		transport, telecommunications and energy industries, respectively, the rejection of business communications with companies operating in these industries	?uri=CELEX:32014D0507&from=EN
31.07.2014	Type 3	The first economic sectorial sanctions against Russia. The ban of 5 banks, namely Sberbank, VTB, Gazprombank, VEB and Rosselkhozbank, to directly or indirectly acquire, sell or otherwise conduct transactions with bonds, shares and other financial instruments with a maturity of more than 90 days issued after August 1, 2014. Formally in the text the document states that the ban applies to the list of banks listed above, to financial organizations with a stake of more than 50% owned by the above-listed banks and other legal entities. persons associated with these banks	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0512&from=EN
08.09.2014	Type 3	Prohibition of direct or indirect acquisition, sale or other actions with bonds, shares and other financial instruments with a maturity of more than 90 days issued from 01.08.2014 to 12.09.2014 or with a maturity of more than 30 days issued after 12/09/2014 In addition to financial organizations, companies that work in the oil and defense sectors were added to the list. Also, the list of financial instruments was extended - a ban was imposed on	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0659&from=SV

		the issuance of loans to the above-mentioned banks and companies with a maturity of more than 30 days. The list of sanctions organizations included Oboronprom, United Aircraft Corporation, Uralvagonzavod, Rosneft, Transneft, Gazprom Neft and 9 other companies operating in the military sector	
08.09. 2014	Type1	Expansion of the sanctions list for 24 more people.	http://hb.better-regulation.com/external/Council%20Decision%202014_658_CFSP.pdf
17.11. 2014	Type1	Inclusion in the sanction list of V.V. Zhirinovsky	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0801&from=EN
28.11. 2014	Type1	The inclusion in the sanctions list of another 13 people and 5 organizations: Donetsk Republic, Mir Lugansk, Free Donbass, People's Union, Lugansk Economic Union	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0855&from=EN
04.12. 2014	Type 3	Specification of separate articles of the sanction document, introduction of additional restrictions on the oil industry	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1290&from=EN

18.12. 2014	Type 2	Inclusion of oil and gas industries in the sanctions list, respectively, a ban on investing in this industry, a ban on trade with companies-representatives of this industry and so on. Expansion of the list of sanctions goods and technologies	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1351&from=EN
09.02. 2015	Type1	Expansion of the sanctions list for 18 individuals and 9 organizations	http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015D0241&from=EN
13.03. 2015		The decision to extend the sanctions until 15.09.2015	
22.06. 2015		The decision to extend the sanctions until 31.01.2016	
USA Sanctions			
16.03. 2014	Type1	Freezing of assets, visa restrictions for a number of individuals. The sanctions list included 7 people	https://www.gpo.gov/fdsys/pkg/FR-2014-03-19/pdf/2014-06141.pdf
20.03. 2014	Type1	The inclusion of 16 individuals and the bank of JSC "AB" Russia "in the list of sanctions. The result - the freezing of all assets of these individuals in the US and a complete ban on the implementation of transactions and transactions with these individuals in the United States or through US companies	https://www.treasury.gov/press-center/press-releases/Pages/jl23331.aspx

28.04. 2014	Type1	Expansion of the US sanctions list for another 7 people and 17 organizations. Such as "InvestCapitalBank", "SMP Bank", "Sobinbank" and others	https://www.treasury.gov/press-center/press-releases/Pages/jl2369.aspx
28.04. 2014	Type1	Introduction of export restrictions on the defense-industrial branch of Russia	http://www.state.gov/r/pa/prs/ps/2014/04/225241.htm
20.06. 2014	Type1	Expansion of the sanctions list for another 7 people	https://www.treasury.gov/press-center/press-releases/Pages/jl2438.aspx
16.07. 2014	Type 3	The ban on long-term funding the following banks and companies: Gazprombank, VEB, Novatek, Rosneft and 8 companies of the Russian defense industry complex	https://www.treasury.gov/press-center/press-releases/Pages/jl2572.aspx
29.07. 2014	Type 3	Inclusion in the list of sanctions banks - the Bank of Moscow, Rosselkhozbank, VTB and the imposition of sanctions on another company of the Russian defense industry complex	https://www.treasury.gov/press-center/press-releases/Pages/jl2590.aspx
04.11. 2014	Type1	Expansion of the sanctions list for 6 people	https://www.treasury.gov/press-center/press-releases/Pages/jl2355.aspx
09.12. 2014	Type 3	The imposition of sanctions on PJSC Sberbank of Russia, Gazprom, Gazprom	https://www.treasury.gov/press-cen-

		Neft, Lukoil, Surgutneftegaz, Rosneft and 5 other companies	ter/press-releases/Pages/jl2629.aspx
11.03.2015	Type1	Expansion of the US Sanctions List for another 14 people	
30.07.2015	Type1	The imposition of sanctions against 11 individuals and 15 companies	
02.09.2015	Type1	Sanctions against 5 Russian companies	
22.12.2015	Type1	A new block of shares against Russia, which includes 34 individuals and legal entities from Russia and Ukraine. In addition, the subsidiaries included subsidiaries of VTB and Sberbank abroad, NPF Sberbank, VTB24 and several other companies	