Advances in Economics, Business and Management Research, volume 165
Proceedings of the 6th International Conference on Economics, Management, Law and Education (EMLE 2020)

Russian Monetary Policy Adjustment Under Financial Crisis in 2014

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ABSTRACT
In the second half of 2014, a serious financial crisis broke out in Russia. Based on CNKI, China's country report website and other relevant literature about Russia around 2014, this paper summarizes the sanctions, oil price drop, and internal economic structure imbalance and other factors as reasons to the financial crisis. The crisis triggered serious consequences such as plummeted ruble exchange rate and capital outflow. Subsequently, in order to deal with the crisis, Russia implemented a series of policies. This paper lists the reform of monetary policy of the Central Bank of Russia and sorts out its adjustment logic. By comparing the data of ruble exchange rate, Russian domestic interest rate, target inflation rate and actual inflation rate, the author analyzes the role of the Central Bank of Russia's monetary policy reform in isolating external risks and stabilizing domestic economic market. Finally, combined with the past cases, the advantages of the floating exchange rate system, the matters in the adjustment of monetary policy, and prediction of Russia after the crisis can be summarized.

Keywords: *RUB, economy, crisis, monetary, policy, adjustment*

I. INTRODUCTION

From 2009 to 2014, Russia maintained a high-speed economic growth [8]. However, from 2014, the growth rate declined significantly, and even showed negative in 2015. The reasons behind that deserve attention. At the end of 2014, RUB devalued twice [9]. Russia seemed to repeat the tragedy in 1998 and 2009. But the impact of devaluation on domestic market is far less than that in the previous crisis. The reform of monetary policies has played a crucial role. To figure out how the Central Bank of Russia ensured the security of domestic market under various adverse pressure and where Russia's economy will go, this paper focuses on the adjustments and effects of monetary policies. In the process of analyzing the crisis, enlightenment on monetary policy and economic development can also be attained.

II. CAUSES OF FINANCIAL CRISIS

There are many reasons for the financial crisis in Russia in 2014. Oil price dropped sharply and the lopsided structure of Russian economy was defected. Western sanctions and Russia's lack of key technology also played a role.

A. Western sanctions

Since the Crimean crisis broke out in 2013, western countries, including the United States and the European Union, have launched six rounds of economic sanctions against Russia [3]. In March 2014, Europe and the United States launched the first round of sanctions. The United States has listed seven senior government officials, including the chairman of the Russian Federation Council Valentina Ivanovna Matviyenko, Vice Prime Minister of the Russian government Dmitry Olegovich Rogozin, and the rich businessmen such as the Rothenberg brothers, as well as institutions such as SMP bank on the SDN list. The sanctions include freezing assets and prohibiting entry into the country. It has no obvious impact on Russia's economy. In July 2014, due to the deterioration of the situation in Ukraine, the United States increased its sanctions, including Vnesheconombank (VEB), Gazprom Bank, Rosneft Oil, Kalashnikov Concern and other giant enterprises in the military, energy and financial industries on the SSI list. The United States or individuals and entities in the United States were not allowed to give new rights and interests to the sanctioned entities for new debts with a maturity of more than 90 days. The European Union stopped the financing business of European Investment Bank and European Bank for Reconstruction and Development in Russia, imposed sanctions on Sberbank of Russia, Gazprom Bank, VTB Bank, Vnesheconombank and Russian Agricultural Bank, which included banning the purchase and sale of the above-mentioned financial institutions for more than ninety-days convertible securities or money market instruments, as well as providing brokerage, underwriting and trading services to these negotiable securities and money market instruments. From the second round the sanctions began to show effects. It blocked the financing and capital flow of Russian giant enterprises in Europe and the United States. Their access to western market and cheap currency were also banned. In September 2014, the United States announced that Russia's domestic financial, energy and military industries, such as Sberbank, Gazprom and Rostec, were included in the SSI list. Moreover, providing Russian enterprises with key technical equipment for the development of oil and gas was forbidden, and the European Union has reduced the financing maturity to 30 days. The subsequent rounds of sanctions were expanded on the basis of the first three rounds, including sanctions against Russian intelligence agencies, energy pipeline network, mining and other industries, and blockade of advanced technologies as well as equipment in underwater operations and other fields. European and American sanctions against Russia have greatly blocked the financing routes of Russia's energy, military industry, finance and other industries, laying the groundwork for their financing difficulties in the financial crisis. The blockade of equipment and technology has seriously disrupted Russia's plans, including the development of oil and gas in the Arctic region. In general, it has disrupted the operation and capital flow of Russian enterprises and reduced its cooperative partners' confidence, playing an important role in further interfering with Russia's domestic economic market.

B. Great fall of oil price

Russia is extremely dependent on oil exports. As shown in "Table I", mineral exports accounted for a very high proportion of Russia's exports, among which oil was the first to bear the brunt. It revealed the somehow unhealthy structure of Russia.

TABLE I. YEARLY PROPORTION OF MINERAL EXPORT [5]

Year	2011	2012	2013	2014	2015	2016	2017
Proportion of mineral export/%	70.3	68.7	65.7	68.8	61.7	57.3	58.3

In 2014, oil price plunged after years of high position, which indicated the crisis of Russia. In addition, due to the United States, Canada and more other countries being strengthening the development of shale oil, it has been difficult for the oil price to return to the previous price. ("Fig. 1")

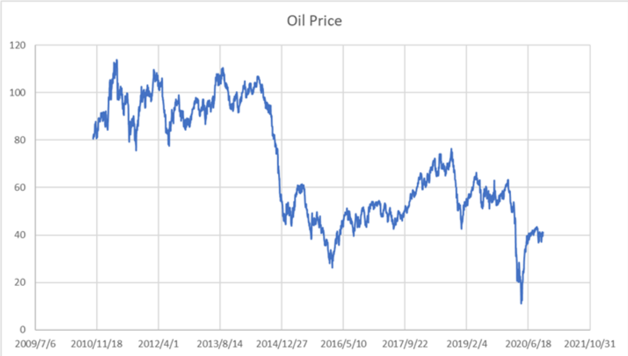

Fig. 1. Oil price change in past ten years [4].

C. Lack of independent equipment and technology

Russia relied on foreign imports in many fields. "Table II" showed the import proportion of various industries in Russia in 2014.

TABLE II. IMPORT PROPORTION [5]

Industry	Machine-tool	Heavy machinery	Light industry	Electronic	Pharmacy and medicine	Food processing and machine manufacturing
Proportion/%	90	69-80	70-90	80-90	70-80	60-80

The high import proportion means that once the ruble exchange rate fluctuates, it will also have a great impact on the domestic market and living consumption of residents.

While in the oil and gas development projects in the Black Sea, Kara Sea, West Siberia and Arctic waters, most technologies and equipment were offered by western companies like Schlumberger, Baker Hughes and Halliburton of the United States before sanctions. Therefore, after the outbreak of sanctions, Russia's development projects for several oil and gas fields have been blocked, including the Arctic oil and gas development which Russia has always had great ambitions on [3]. All above also became a reason for the outside world to look down on Russia's economy after it was being subjected to sanctions.

III. IMPACT OF FINANCIAL CRISIS

Under the pressure of multiple factors, Russia finally broke out a serious financial crisis in the third quarter of 2014. International capital investment fell sharply and internal capital flight intensified. The exchange rate of ruble collapsed at the end of the year, the GDP growth rate dropped sharply, and imported inflation made prices and interest rates soar. Russian economy inflicted heavy losses.

A. Sharp decrease in export

As shown in the "Table III", from 2014 to 2016, Russia's annual total export volume and trade surplus had a huge decline, and the trade surplus in 2016 was even less than half of that in 2013.

TABLE III. RUSSIAN EXPORT DATA FROM 2013 TO 2016 [5]

Year	2013	2014	2015	2016
Export/Billion Dollars	527.5	496.9	343.4	285.4
Surplus/Billion Dollars	212.2	211.0	161.0	103.2
Increase of Export	0.3%	-5.8%	-31.0%	-16.9%
Increase of Surplus/%	0.5%	-0.5%	-23.7%	-35.8%

Moreover, even now as the oil price is difficult to return to the high level, Russia's export volume and trade surplus, which is highly dependent on the export of mineral products, will also be difficult to return to the level before the crisis. The sharp decrease of export volume also indicated the coming downturn cycle of Russia's economy.

B. Capital flight

After 2009, the strong ruble and a booming Russian market used to be attractive to foreign investors [1]. However, since the second half of 2014, due to sanctions, Russian enterprises were facing a lot of debt pressure and financing difficulties. Coupled with the sharp drop in oil prices, the confidence of investors at home and abroad has dropped sharply. As shown in "Fig. 2", Russia's net capital outflow in 2014 reached 151.5 billion dollars. Foreign investment has declined sharply and domestic capital outflow has intensified. This process led to the stagnation of Russian economic growth and the further strengthening of ruble devaluation, thus forming a vicious circle.

Fig. 2. Net capital flow of Russia (million dollars) [7].

C. Collapsed ruble and high inflation

The deterioration of Russia's current account and capital account made ruble face great pressure of devaluation. However, the Central Bank of Russia was obviously lack of confidence in maintaining the ruble exchange rate due to its fear of exchange rate kidnapping under multiple adverse circumstances. As a result, ruble collapsed completely at the end of 2014, and the nominal exchange rate of ruble against the US dollar reached more than twice that of the beginning of the year. Due to Russia's dependence on imports for many life-related goods, the inflation, which was below 8% in 2012-2014, approached 17% in early 2015 [10]. Meanwhile, because of sanctions high interest rate reduced the consumption desire of Russian residents, and total retail sales fell by 10% in 2015 [6]. Under the pressure of repayment and poor international financing under sanctions, enterprises were forced to expand the scale of loans and reduce investment as much as possible, which in turn increased the operational risk of enterprises and forced credit institutions to raise interest rates again, forming a vicious circle. Under the superposition of multiple pressure, the real growth rate of Russia's GDP dropped sharply and the economy was seriously damaged, which can be clearly seen in "Table IV".

TABLE IV. REAL GDP GROWTH RATE SINCE 2013 [8]

Year	2013	2014	2015	2016
Real GDP growth rate	1.76%	0.74%	-1.97%	0.33%

IV. ADJUSTMENT OF RUSSIAN MONETARY POLICY

Under several unfavorable factors, the Central Bank of Russia has made a series of orderly and targeted adjustments of monetary policy, including the transition to floating exchange rate system, vigorously implementing inflation targeting system, and launching key interest rate and interest rate corridor. This series of adjustments ensured the safety and stability of Russia's domestic financial market.

A. Implemented floating exchange rate system

From 1998 to 2014, Russia has been in the transition from controlled floating exchange rate system to floating exchange rate system [2]. The outbreak of the financial crisis did not change the thinking of the Central Bank of Russia. On November 10, 2014, the Central Bank of Russia officially announced the implementation of the floating exchange rate system, giving up intervention in the foreign exchange market, which also made the nominal exchange rate of the ruble plummet in a short time. That was the "ruble collapse" at the end of the year. In fact, due to the double deterioration of the current account and capital account, maintaining the ruble exchange rate would only lose huge foreign exchange reserves. Although Russia had chosen to keep the exchange rate during the crisis of 1998 and 2009. At this time, the international oil price fell sharply. Both the outside world and the Central Bank of Russia were not so confident like before. In other words, the devaluation of the ruble was a foregone conclusion. Spending foreign exchange intervention was only to prolong the depreciation expectation of ruble and got a buffer period of impact on the domestic market instead of restore investors' confidence. After the announcement the nominal interest rate plunked and it caused difficulties for domestic consumption and import. But as long as inflation could be further controlled it would be good for exports and attracting investment. Even during the crisis of 2014-2016, Russia was able to maintain a current-account surplus [5]. This is due to the sharp contraction of Russia's imports and less decline in exports.

Another benefit was that domestic interest rates would no longer be bound with the exchange rate, which laying the foundation for lowering domestic inflation and interest rates. As shown in "Fig. 3", before 2014, the change of Russian domestic interest rate curve was basically consistent with the change of ruble exchange rate. In order to ensure that the exchange rate was within a certain range, the Central Bank of Russia must sacrifice a certain extent of freedom to adjust monetary policy [2]. However, after the implementation of the floating exchange rate system, the ruble exchange rate is decoupled from the domestic interest rate. The Central Bank of Russia can adjust the interest rate according to the domestic situation and lower the inflation without considering the exchange rate problem.

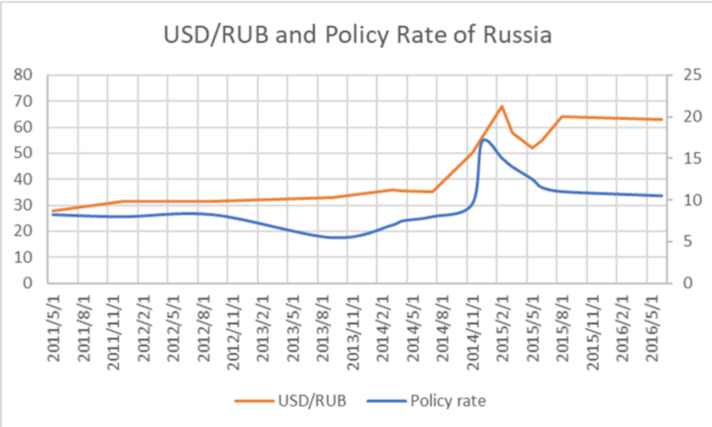

Fig. 3. Change tendency of USD/RUB and Policy rate of Russia [9].

In 2015, the real exchange rate of ruble against the U.S. dollar depreciated by 15% [1], the asset price of ruble valuation was very low. There was also a strong expectation of appreciation of ruble, which eased the plight of capital flight to a certain extent in the crisis. The serious situation of capital flight in Russia lasted only one year. Although the total capital outflow in 2015 was 58.1 billion US dollars, the net capital flow recovered to positive value from the third quarter of 2015 [7]. This showed that investors' confidence of ruble was recovering after this currency fell to the bottom, which meant much to Russia's economic recovery.

The implementation of the floating exchange rate system also avoided the rapid consumption of foreign exchange reserves. Russia's international reserves reached the lowest value at the beginning of 2015, but still maintained more than 350 billion US dollars, and foreign exchange reserves also maintained more than 300 billion US dollars, which exceeded Russia's import volume for one year [9]. After 2015, reserves increased steadily to the level before the crisis.

B. Implemented inflation targeting system

Before ruble was announced to be floated, the Central Bank of Russia tried to achieve three goals simultaneously, which are balancing capital flow, maintaining exchange rate stability and ensuring the independence of monetary policy [1]. However, the classical trinity is doomed to be hard to achieve. The wish to achieve these three objectives at the same time made the Central Bank of Russia vacillate in the choice. So the direction of regulation was not clear, which weakened the credibility of the Central Bank of Russia and its ability to intervene. Fortunately, after the foreign exchange system reform, the Central Bank of Russia was able to virtually set the inflation rate as its anchor. As early as September 2013, Elvira Nabiullina, President of the Central Bank of Russia, clearly put forward the goal of medium and long-term inflation control in her monetary policy guidelines, and launched a number of policy control tools including key interest rates and interest rate corridors [1]. The Central Bank of Russia set the key interest rate as the 7-day liquidity supply and absorption interest rate in the open market, while the interest rate corridor was based on the key interest rate and fluctuates by 100 basis points. The corridor included the interest rates of various monetary instruments, such as the standing loan facility interest rate, overnight deposit convenience rate. With other monetary instruments related to liquidity adjustment, key interest rate and interest rate corridor were made to ensure that the market interest rate was within the scope of the interest rate corridor, so as to control inflation. When the ruble crisis occurred at the end of 2014 and the imported inflation was high, the Central Bank of Russia decisively raised the key interest rate to 17% [9] and announced at the beginning of 2015 that the medium-term inflation target was 4% in 2017 [6]. This behavior clearly conveyed the determination of the Central Bank of Russia to control inflation.

The real interest rate and inflation rate in Russia were quickly controlled. Although the data showed that Russia's overall inflation rate was as high as 13% in 2015 [10], it was more due to the ruble exchange rate crash at the end of 2014 which left aside the price rise factors caused by exchange rate changes. In fact the month-on-month inflation rate was declined and under 1% in the second half [9]. After the period of high inflation in early 2015, the Central Bank of Russia began to cut interest rates, but still maintained the key interest rate at about 10% to make sure the inflation rate below the target [9]. In 2016 and 2017, after the exchange rate stabilized, Russia's yearly inflation rate was 7.04% and 3.68% respectively (the data can be seen in "Table V"), which fulfilled the target set 2015 and fully proved the success of target inflation system. Compared with the data before crisis, the low inflation rate also marked a new period of Russian economic development.

TABLE V. RUSSIAN YEARLY INFLATION RATE [10]

Year	2013	2014	2015	2016	2017	2018
Inflation rate	6.75%	7.82%	15.53%	7.04%	3.68%	2.88%

C. Expanded loan channels for enterprises

Russia once suffered two economic crises in 1998 and 2009. However, the difference between the two previous financial crises in 2014 was that this crisis occurred under the background of sanctions. Russian enterprises could not integrate cheap strong currency from the international market to repay debts. So they had to use domestic financing to offset the debt and were forced to expand the scale of borrowing, but this in turn increased the risk of enterprise operation, which made credit institutions have to raise interest rates after evaluation and a bad circulation was formed. To change the situation, with the credit interest rate constrained in a certain range by the interest rate corridor the Central Bank of Russia injected liquidity into the market and expanded credit supply by continuously carrying out open market operation and relaxing loan restrictions. It was meant to broaden the channels of Russian enterprise loans and partially compensated for the loss of liquidity due to foreign exchange intervention and sanctions [1]. From 2014 to 2016, a variety of standing loan facilities, including nonmarket-oriented mortgage loans, increased significantly compared with those before the crisis [1]. With these policies Russian enterprises were able to get out of the most difficult months with shortage of fund. After early 2015 both the operational risk of Russian enterprises and the inflation rate gradually decreased, so did the assessment of risk by credit institutions. At this time, the Central Bank of Russia announced to cut the key interest rate, Russia's real credit interest rate should also be reduced. It was the best time for Russian enterprises to begin their deleveraging and run again.

V. Discussion

The Russian financial crisis in 2014 and the adjustment policies of the Central Bank of Russia can bring valuable inspiration to many countries in the world. The development trend of Russia after the crisis is also worth exploring.

A. Advantages of floating exchange rate system

The floating exchange rate system is the mainstream in the world. Compared with the fixed exchange rate system, its most important advantages is to reserve foreign exchange reserves for the country, which is related to the role of the two in the economic system. Fixed exchange rate system acts as an "indicator", and investors' confidence largely depends on whether the exchange rate can maintain stability. When the fundamental situation is unfavorable, such as the trade deficit increases, there will be a decline tendency of exchange rate. Then the central bank must invest a large amount of foreign exchange reserves to intervene. However, the great consumption of foreign exchange reserves cannot fundamentally solve the problem of adverse exports, and the loss of foreign exchange reserves will also bring risks. It shows a fake stability to maintain confidence. While the floating exchange rate system serves as a "buffer", and investors' confidence is more dependent on the fundamental situation itself. When the trade deficit increases and the nominal exchange rate falls, as long as the inflation rate is reasonable, exports will gain advantages. And it will bring more trade surplus in theory, thus reversing the form of exchange rate decline. From the early collapse of the Breton forest system to the forced adoption of floating exchange rate system by South Korea, Thailand and other countries, it can be seen that the defects of the fixed exchange rate system itself make it difficult to maintain for a long time. During the Russian financial crisis in 2014, if the Central Bank of Russia chose to stick to the fixed exchange rate system, it was likely that the foreign exchange reserve will be depleted and then it would be forced to announce the free floating in the case of extremely unfavorable basic situation. The announcement of free floating not only saved Russia precious foreign exchange reserves, but also indirectly strengthened exports and capital return.

In addition, the floating exchange rate system is also the basis for a currency to become a regional and even international settlement currency. Under the fixed exchange rate system, in order to ensure the stability of the exchange rate, the issue of currency should be limited. The Central Bank of Russia will have to repurchase the overseas local currency, which indirectly reduces the liquidity of the currency and is not conducive to the circulation. The major international settlement currencies in the world, such as USD, JPY, GBP and CNY, have adopted floating exchange rate system to different extent. Many countries with the fixed exchange rate system should learn from it and be prepared for the possible transition to the floating exchange rate system.

B. Clear and open reform

In the whole process of monetary policy reform, the Central Bank of Russia kept a clear logic and open policies, which is also worth learning. First of all, it is a must to have a comprehensive understanding of the country's economic operation, and then a plausible goal can be set. In the 2014 financial crisis, the Central Bank of Russia recognized that the devaluation of ruble and the slowdown of economic growth were inevitable. Therefore, the goal of reform has been based on ensuring stability rather than promoting growth. Secondly, in the reform, it's important that policies are open and objectives are consistent so that the market can fully understand the direction of adjustment. A series of operations such as increasing interest rate increase and announcing target inflation rate fully demonstrated its adjustment idea of giving priority to domestic inflation rate. For those emerging countries lack of reform experience, when carrying out monetary policy reform, they should keep in touch with the market and make adjustments based on the actual situation, instead of pursuing a too ideal or comprehensive goal.

C. Prediction of future

Although the financial crisis has ended, the impact of many factors still exists. Sanctions continue, and it is still difficult for oil prices to return. Russia's trade volume cannot reach the level before 2014 in a short period of time. The exchange rate of ruble fluctuates greatly, but has not exceeded 55RUB/USD [9]. Weak Ruble has brought difficulties to Russia's imports. But the Central Bank of Russia has been keeping the inflation rate below 4% [10]. The low real exchange rate of the ruble has kept Russia's positive surplus and attracted foreign investment. With export advantages and versus sanctions, Russia's implemented "import substitution" policy. Although mineral products exports have been gradually declining the economic structure of Russia cannot be changed in a short period of time since its light industry is limited by geographical location and historical reason [5]. It is better for Russia to take advantage of its rich raw materials to drive the development of related industries such as manufacturing and export more high value-added products to improve the economic structure. The independence of manufacturing can in turn promote the energy development, especially for the oil and gas related technology.

In 2020, new coronavirus epidemic broke out and oil price fell again. The unemployment rate broke through 6% [11] for the first time in recent years and ruble once devalued to 80RUB/USD [9]. The Central Bank of Russia had to change the plan and cut interest rates to stimulate the economy. After lowering the unemployment rate Russia is more likely to stick to maintaining low inflation, low imports and stable growth. But it will take more years to accumulate capital and make the industrial transformation after the pandemic. In about 5 years Russia's economic and ruble will keep the relatively weak situation. Arctic oil and gas development and technology breakthroughs may be the key to Russia's next prosperity.

VI. CONCLUSION

Since the crisis occurred in 2014, the Central Bank of Russia first liberated domestic monetary policy from the binding of exchange rate through floating exchange rate system and retained foreign exchange reserves. Under the premise of free monetary policy, the inflation targeting system was implemented then. Key interest rate and interest rate corridor were used to convey determination to control the inflation rate to the market. Meanwhile, some loose loan and mortgage restrictions were supplemented to inject liquidity into the market and create loan space for Russian enterprises which were in risks of bankrupt for poor capital flow. Thanks to those adjustments, at the beginning of 2016, Russia's year-on-year inflation rate was less than 8%, about half of that in the crisis. The Central Bank of Russia timely decreased the key interest rate. Subsequently, the market responded and the real interest rate of credit was lowered accordingly. In the case of low inflation and low interest rates, the real exchange rate of the ruble also declined. So enterprises could deleverage and Russian export products and assets also maintained a certain competitiveness and attractiveness. With comparatively low but stable surplus and capital inflow, Russian economy has been growing steadily and trying to transform for the next prosperity. However, because of the weak light industry and lack of labor, Russia still needs to rely on energy export which may more focus on high added value products and technology creativity. Independent manufacturing as well as the development oil and gas in Arctic may play an essential role in the next rise of Russia.

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