Role of gold in Russia's modern monetary system

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Abstract. The paper analyzes the reasons for the accelerated accumulation of gold in the structure of Russia's international reserves and the impact of this process on our country's monetary system. The purpose of the paper is to identify the prospects for increasing the role of gold as a collateral asset in the ruble money supply emission. The correlation and regression analysis of the most important macroeconomic variables of the money market, which should be influenced by gold quotations, was chosen as a method of research. The novelty of the paper is the justification of the pattern of accelerated gold accumulation in Russian international reserves. The review of foreign scientific literature has led to the conclusion that the increased role of gold in the international financial market is associated with an uncontrolled emission of currencies by the G7 countries in their pursuit of soft monetary policy. The paper presents the results of the calculation of the intrinsic value of gold and the impact of its stock in the Russian Central Bank vaults on the money supply in the country and the ruble exchange rate against the U.S. dollar. The authors conclude that the way out of the protracted global financial crisis may be a return of one or more major economies (not excluded, the U.S.) to the gold standard system.

Keywords: Gold standard · Intrinsic value of gold · Foreign exchange reserves · Monetary functions of gold.

1. Introduction

The relevance of this study is determined by the fact that the ruble emission in Russia is carried out mainly by increasing the volume of foreign exchange reserves with the purchase of foreign currency and gold by the Central Bank of Russia. Given that the share of gold in the structure of our country's international reserves has been growing rapidly in recent years, while a large part of Russia's gold reserves (about $300 billion), denominated in convertible currencies of foreign countries, has been blocked by unfriendly countries, with a high probability of full confiscation of this huge amount due to the events in Ukraine, the study of the possibility of restoring the monetary functions of gold seems timely for the Russian financial market. The purpose of this article is to find an answer to the question: whether in the current economic conditions Russia's gold reserve and global market prices for this noble metal have an impact on the monetary system of our country, on the exchange rate of the ruble against the US dollar, and on the stability and purchasing power of the national monetary unit.

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The "Big Dictionary of Economics" edited by A.N. Azriliyan provides a definition of the monetary system as "a form of organization of money circulation in the country, developed historically and fixed by national legislation; money functioning in the state, including: monetary unit, scale of prices, types of money, coinage, issue of money, monetary means, regulation of purchasing power of paper money and coins" (Azriliyan, 2008). Consequently, the acquisition of additional amounts of gold by the Central Bank should theoretically have an impact on the increase in the money supply in the country, on the exchange rate of the ruble, and on the inflation rate. However, many economists claim that gold lost its monetary functions in the modern economy, and since 1971, when President R. Nixon refused to exchange dollars for gold; it has had no impact on the monetary system of any country in the world. Furthermore, the market price of gold is so volatile and the value of commodities expressed in gold so volatile that gold has ceased to be even a safe haven for speculative capital in times of financial crisis. Is this really the case? Let us try to get to the bottom of this problem.

2. Materials and Methods

The devastating and prolonged financial crisis of 2008 has drawn the attention of researchers to a seemingly long-forgotten topic related to the commodity collateralisation of the money supply. Recent developments in the global economy, especially the surge in gold prices, changes in central bank bullion purchasing behaviour, and the decision of some clearing houses and financial institutions to accept gold as collateral have all contributed to an increase in the number of academic publications on the need to reform the international monetary system. A number of influential Western policymakers have begun to point out that gold could possibly play a useful role in international monetary circulation again (Astrow, 2012).

However, then the question arises, why is it that the US and German foreign exchange reserves have long consisted of more than 75% gold, rather than including the lion's share of the currencies of trading partner countries? Why should all other countries, especially developing countries, form their foreign exchange reserves from assets denominated in dollars and euros (Ivanchenko, 2017), while the US, Germany, France and Italy, despite certain disadvantages of gold as a reserve asset, do not reduce the share of gold in their reserves? Is there no double standard here, as in the objectives of the Fed and the Central Bank? (Ivanchenko, 2015). This question has become particularly relevant for Russia since February this year.

Having analyzed the foreign literature on the subject, one can conclude that gold has been and remains the monetary standard. Gold has always served well as a hedge against price fluctuations of those commodities that were pegged to this metal due to an automatic stabilizing mechanism, objectively embedded in the supply of gold relative to the demand for it (Capie et al., 2005).

Several recent studies have looked at gold as an investment asset, highlighting its role in portfolio diversification as a safe haven during shocks or crises in financial markets (O'Connor et al., 2015). The inclusion of gold in investment portfolios provides a reduction in portfolio volatility (Emmrich and McGroarty, 2013). Other studies have shown that gold acts as an effective safe haven during periods of oil market stress (Reboredo, 2013a) and during extreme fluctuations in the US dollar exchange rate (Reboredo, 2013b).

In recent years, there has been increased research interest in the possibility of restoring the gold standard in developed countries (Arthmar and McLure, 2016). Indeed, one of the consequences of the 2008 financial crisis and the associated expansion of central bank balance sheets has been the revival of serious research interest in commodity-backed monetary standards (Faria and McAdam, 2012). As a consequence, in 2010, World Bank President Robert Zelick proposed a Bretton Woods II system consisting of a return to gold currencies to ensure global economic stability. This article provides evidence that the gold standard era was the most stable price period, justifying a return to gold currency.

The surge in demand for gold by emerging market central banks after the 2008 financial crisis, as well as the decline in interest in G7 currencies in the post-crisis period should be seen in the broader context of the result of loose monetary policies pursued by advanced economies over the past few years (Gopalakrishnan and Mohapatra, 2018). The authors of this paper argue that the quantitative easing undertaken by central banks in advanced economies has led to the search for alternative safe assets such as gold, which may explain the continued accumulation of gold reserves even after the peak of the financial crisis.

The modern version of the Triffin dilemma suggests that global demand for safe assets will grow faster than the ability of issuers to meet this demand (Caballero et al., 2017). The modern version of the Triffin dilemma implies that governments in the core of the international monetary system will have to continue to increase public debt to meet demand for reserves from countries in the periphery (Obstfeld, 2013). An additional problem with this dilemma is that rising external debt of reserve currency issuing countries may undermine investor confidence in reserve assets and lead to higher gold prices (Lee, 2014).

Fiduciary money is viewed extremely negatively in Islamic countries. Islamic monetary economics refutes the notion of money as a political instrument. Fully convertible money into gold is consistent with Shariah (Krichene and Ghassan, 2019). The idea of a gold dinar as an alternative to the US dollar has been repeatedly revisited in Muslim countries (Yaacob et al., 2011). However, the vigorous resistance by Western countries to putting this idea into practice, up to and including the physical removal of Islamic political leaders has so far prevented the restoration of the gold standard in the Middle East.

The possibility and necessity of expanding the monetary functions of gold is discussed in the review "The Monetary Function of Gold - The Search for a New Paradigm", published in Gold and Technology 2018, no.4, pp.22-24. According to this review, the most heated debate about the need for a return to the gold standard is in the US, the country with the world's most sought-after currency and the largest gold reserves. For example, Alan Greenspan, the thirteenth Chairman of the Board of Governors of the U.S. Federal Reserve, has repeatedly stressed that the United States would not have had such a catastrophic external debt if the country had returned in the 80's to the gold standard of the dollar. Under a gold standard system, dollar issuance would be controlled by the market, not the Fed. Technically, switching to a gold standard system is not difficult. However, the return to a gold standard system is opposed by numerous beneficiaries of the uncontrolled dollar issue and the additional inflationary tax on all of humanity.

In Russian history the transition to the gold standard was carried out twice - during the time of Finance Minister of the Russian Empire Witte S.Y. and Sokolnikov G.Y. Both moves to a hard ruble backed by gold led to rapid economic growth and improved living standards for a significant part of the population. The renowned German economist O. Haupt called the Russian rouble, secured with gold after Witte's monetary reform, the ideal currency from the point of view of economic science. This raises the question, whether Russia should not make a third attempt to switch to the gold standard in the monetary circulation system, especially since all the external and internal conditions for such a switch have already been formed after the tightening of the sanctions on our country since February 2022?

3. Results

Having collected and analyzed daily statistics from 01.01.2014 to 01.02.2022, describing the dynamics of market prices for gold and the accumulation of gold (in tons) in international reserves of Russia, and having built regression equations, in which the dependent variables were the ruble-dollar exchange rate and the Russian money supply (aggregate M2), the authors found that neither the current value of gold reserves, nor its lagged values have an impact on the ruble exchange rate. However, the dynamics of the money supply is directly influenced by the accumulation of gold in the gold reserves. The equation turned out to be as follows:

$$M2_t = 5539.4 + 9.239 \cdot Q_{t-1} \quad (1),$$

where $M2_t$ – money supply (M2 aggregate) at a point in time t, Q_{t-1} –is the mass of gold in foreign reserves. The coefficient of determination of this equation is 0.98; the values of Student's statistics for each coefficient are given in parentheses. Consequently, over the past few years, the purchase of gold by the Central Bank of Russia has had a significant impact on the issue of money in our country.

Compare the returns and risks of investing in gold, dollars, euros and Sberbank shares. The analyzed time range was two years, from 18.05.2020 to 15.06.2022. The results of the calculation are shown in the table 1.

Table 1. The profit and risks of investing in four assets: gold, dollars, euros and Sberbank shares.

	Profit (in %)	Average market price	Standard deviation of price from its mean value (in roubles)	Coefficient of variation (in %)
Gold	5	1846.96 (US dollars per troy ounce)	74.14 (USD)	4
USD	- 22.3	75.09 (Rub.)	8.41 (Rub.)	11.2
Euro	- 25	86.9 (Rub.)	8.5 (Rub.)	9.8
Sberbank shares	- 36	259.09 (Rub.)	64.34 (Rub.)	25

Source: compiled by the authors.

As can be seen from the table, out of the four assets selected for analysis, only gold has positive returns. Furthermore, gold also has the lowest investment risk: the risk of investing in gold is six times lower than the risk of investing in Sberbank shares. Therefore, the assertion by some foreign authors that gold does not generate any returns is wrong, at least on the time horizon in question.

Why do many modern Western economists and politicians view the monetary and investment properties of gold so negatively? The answer to this question becomes obvious if we calculate the correlation coefficient between the development of the market price of gold and the exchange rate of the dollar against the Japanese yen, for example. The correlation coefficient turns out to be negative, which indicates that gold is a safe haven in times of crisis and volatility of the U.S. currency. For example, the statistical relationship between the monthly market price of one troy ounce of gold in US dollars and the exchange rate of the dollar against the Japanese yen (USD/JPY) from January 2010 to June 2022 was found to be minus 0.13. This relationship is quite stable: it is well known in the Federal Reserve and at the London Metal Exchange. Considering that the Rothschild family controls both the private American central bank (the Fed) and the London Metal Exchange, which forms the global price of gold, the American and European banks have been doing their best to keep gold prices at a very low level for decades. Otherwise the US dollar would depreciate considerably against all other world currencies and the shareholders of the Fed would lose a considerable amount of their income from the seigniorage of dollars.

Without further ado, let us calculate the intrinsic value of gold and compare it to the market value of this yellow metal. The Federal Reserve has a monetary base (the number of dollars in circulation) and the value of the gold held in the vaults of this central bank. It is worthwhile to compare these two values and determine the intrinsic value of gold. For example in June 2022 the USA gold reserve was 261 498 926.241 ounces of pure gold and the monetary base as of 01.04.2022 amounted to 5 885 200 million dollars. Our similar calculations in 2017 showed a result of $20,000, i.e. the dollar is depreciating quite rapidly (Ivanchenko, 2019). From this we can conclude that long-term investments in gold are virtually risk-free, and in the foreseeable future the economy of a major country, such as China, will switch to a gold standard system, such investments will also be very profitable.

4. Discussion

The results of this study provide additional information to the theoretical dispute between proponents and opponents of the transition of modern economies to a gold standard system: gold as money, with its positive yield and low risk, can better perform the function of savings and measure of value than fiduciary monetary units. Of the five monetary functions described by Marx in Capital, gold currently fulfils only one function perfectly - world money.

5. Conclusion

Market prices for gold and its volumes accumulated in Russia's foreign exchange reserves have a direct impact on the dynamics of the ruble money supply. We have found that gold, as an investment asset, is currently the most attractive in comparison with other assets on the Russian securities market and the FOREX market. In addition, the intrinsic value of gold is ten times higher than its current market price, so investing in gold can be characterized as an extremely promising investment. The analysis of the literature on the stated topic of the study leads to the conclusion that the accelerated accumulation of gold in international reserves in Russia and China could result in the transition of the monetary systems of these countries to the gold standard, which has proven itself in any country and at any time as a locomotive of economic growth.

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