

The Role of the Monetary Policy of the US Federal Reserve in Regulating Global Oil Prices

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Abstract—The increasing role of the financial sector has become the objective reality of the modern world. The process of financialization has led to the transformation of commodity markets into financial ones. Pricing in the world of finance is based primarily on the volume of money supply and the availability of funds for investors and speculators, while the fundamental ratio of demand and supply of a particular product is fading into the background. Oil, like most commodity assets, has long become an exchange-traded financial instrument, and the volume of operations of hedge funds and investment banks with oil futures exceeds the turnover in the physical oil market by an order of magnitude. The regulator of operations with “paper” oil is the US Federal Reserve. The dynamics of oil quotes largely depend on the direction of movement of the Fed key rate in the direction of increasing or decreasing. The study allows us to identify factors and conditions for the formation of modern “oil reality”, to determine the main features of the paradigm of development of the world oil market, its transformation in the direction of increasing competition between the main trading players.

Keywords—*financialization; the US Federal Reserve; the global oil market; oil market entities; OPEC +; oil quotes; oil futures*

I. INTRODUCTION

The transformation of the world pricing structure from the physical oil market to the highly liquid “paper” oil market, as a result of which the oil price began to be determined on the stock exchanges, rather than by a specific group of trading players, for example, OPEC + countries, led to a significant change in the configuration of the entire commodity market and the emergence of a whole line of derivative financial instruments with their own rules and risks, such as futures and options, and fundamentally new players - hedge funds and investment banks, pension and the Investment Funds that are not related to the production and consumption of oil and oil products.

Oil and financial derivatives are priced in US dollars, the issue of which is controlled by the Fed. With rising world oil prices, the United States wins the “paper” oil market, being a financial operator of operations with financial derivatives. The United States also wins because today it is a major producer and exporter of shale oil.

Deepening the process of financialization of the global oil market is accompanied by the US desire to realize the strategic goal of absolute dominance in the global oil market. Today, the United States has become a country whose oil industry has become the driver of not only the development of the

American economy, but also the ongoing changes in the global oil market. At the same time, the monetary policy of the Federal Reserve plays an increasingly important role in regulating world oil prices.

II. THEORETICAL ASPECTS OF THE STUDY

According to the studies of Russian economists V.V.Bushuev, A.A. Konoplyanik, Ya.M. Mirkin, the factors determining the mechanism of formation and dynamics of world oil prices are the dependence of the world oil price on the ratio of supply and demand in the physical oil market, so on the price of financial instruments in the paper oil market; increased competition between participants in the oil market [1].

In his concept of the emergence of the “New Oil Economy”, the researcher S. Dale substantiates the need to develop new approaches to the analysis of the oil market, arguing that significant changes have occurred in the market over the past 10–15 years [2]. This is especially true of the pricing mechanism, the transformation of the paper oil market into an integral part of the financial market.

J.D. Colgan in his research pays attention to the role of OPEC as the main player in the physical oil market, an organization that acts as the largest international oil cartel and at the same time a political club generating political advantages for its members [3].

In his works, M.G. Salameh proved the growing influence of the shale revolution in the USA on the development prospects of the global oil market [4].

The purpose of this study is an attempt to identify the dependence of the price dynamics of the spot market of physical oil on the dynamics of prices in the market of paper oil.

The hypothesis is put forward that the key mechanisms of pricing in the oil market are in the hands of the US Federal Reserve.

III. MONETARY POLICY OF THE US FEDERAL RESERVE IN REGULATING GLOBAL OIL PRICES

The Federal Reserve is playing an increasingly prominent role in regulating world oil prices. Today, one can hardly deny that the key mechanisms of pricing in the oil market are in the hands of the American financial regulator. The dynamics of oil quotes largely depend on the direction of movement of the Fed key rate in the direction of increasing or decreasing.

Oil, like most commodity assets, in the context of the transformation of the structure and principles of commodity trading under the influence of financialization, has long become an exchange financial instrument, and the volumes of operations of hedge funds, pension funds and investment banks with oil futures are an order of magnitude greater than the turnover on the physical oil market [5]. Today, the global oil market exists at two interconnected levels. The initial level is the physical oil market, where the leading positions are held by OPEC countries, primarily Saudi Arabia. The derivative level is the financial market for oil contracts or the market for paper oil, the main player of which is the United States. At the same time, the cost of “physical” oil is formed in relation to the prices set during the exchange trading in “paper” oil, the turnover of which exceeds the sale of real oil.

The period on the eve of the Great Recession of 2008–2009 was considered a period of increasing the role of speculative capital in the exchange market for oil contracts, which led to an increase in oil prices and a reduction in the share of transactions with the actual supply of oil and oil products to 20% of all transactions made on the exchange. The remaining part or 80% of transactions made on the exchange are exchange transactions with fictitious goods, that is, hedging transactions and speculative operations with “paper” oil [6]. The increase in the volume of paper transactions in the speculative oil market was the result of significant cash injections. The regulator of operations with “paper” oil is the US Federal Reserve.

A feature of the post-crisis period was the growing dependence of the price dynamics of the spot market for physical oil on the dynamics of prices in the paper oil market. At the same time, the change in spot market prices in recent years is becoming less and less dependent on the ratio of supply and demand of physical oil and OPEC's actions. Oil gradually turned from a physical commodity into a stock exchange instrument that could bring a trading participant income without supplying physical oil. Thus, the key element of the oil pricing system is the futures contracts for oil of the BRENT and WTI marker grades. Not more than 5% of futures contracts concluded on exchanges reach physical delivery [7].

At the beginning of 2014, there was an oversupply of hydrocarbons in the world market, which could not but put pressure on oil quotes. However, despite the excess of supply over world demand by almost 1 million barrels per day, the volume of oil produced continued to grow. The apparent overproduction of oil did not affect the behavior of market players. The price of a barrel kept above \$ 100 until the beginning of September 2014. Hedge funds and financial investors from other non-oil sectors of the global sector played an increase in the conditions of continuing the policy of quantitative easing in the USA, keeping the interest rates of the Fed at zero level, expanding repo operations financial market. Large-scale investments in oil projects (including shale and offshore) had to be justified. And this was possible only with a noticeable excess of the market price over the cost of oil production. Meanwhile, the “stock market game” had a flip side. Financialization has put commodity markets in a certain dependence on the strengthening or weakening of the US dollar, the excess or deficit of dollar liquidity and the monetary policy of the Fed. That is why the Fed's management statement in September 2014 to terminate the asset buyback program from the end of October was

immediately reacted by falling stock and currency markets, followed by a collapse in oil prices.

Over the six years of the implementation of the quantitative easing policy (QE), a huge amount of dollars has been thrown into the US banking system, some of which went into investments and financial instruments, including the commodity market. The decrease in the yield of US treasury bonds below inflation in the face of an almost zero target interest rate and the implementation of the program of buyback of treasury bonds from the market led to the fact that part of the investment was transferred to more risky financial instruments, in particular to the oil market.

Given the Fed's intention in 2014 to abandon the policy of quantitative easing, financial players in the oil market quickly changed their positions, becoming net sellers. By the end of September 2014, the number of their futures contracts for sale increased 3.85 times compared with the summer 2014 and reached multi-year highs. Financialization helped oil companies insure their income with long-term futures and options contracts at 2014 prices, which allowed oil companies to continue to produce oil without decreasing volumes, despite a three-fold drop in spot prices for physical oil by the end of 2015. In the fourth quarter of 2015 oversupply of oil in the world reached its maximum values. As futures contracts were executed in 2015, oil companies increasingly felt the reality of low prices and prospects of zero, and possibly negative, profitability. The number of operating rigs in the United States and other countries has begun to decline. Investments in the oil and gas sector in 2015 decreased by \$ 200 billion and continued to decline in 2016, reaching a minimum value over a half-century period of time.

In November 2015, the oil trend was ready for a turn up, but in December of the same year, the Fed for the first time since 2008 raised its base rate to 0.25–0.5%. The increase in the key rate strengthened the US dollar and at the same time provoked a large-scale outflow of capital from developing countries, as well as another collapse of stock indices and prices on commodity markets.

The strengthening of the dollar leads to an increase in its purchasing power and, accordingly, to a decrease in the real value of goods nominated in it, including oil. Rising oil prices, in contrast, lead to dollar inflation and, consequently, to the depreciation of the US dollar. Meanwhile, the transformation of oil from an ordinary physical commodity into a financial asset has changed the forms of influence of the US dollar on oil quotes. Oil futures have become a tool to protect against dollar inflation. With real or expected high levels of dollar inflation, demand for oil futures is growing, leading to higher crude oil prices. At this time, the value of oil futures as alternative sources of investment is constantly increasing.

An increase in the Fed base rate in December 2016 to 0.5–0.75% led to another global sale of foreign currencies and risky assets, which was another confirmation that the distribution of cash and global capital flows is largely due to economic and monetary cycles in the United States with the relatively limited influence of other global financial centers, as well as the behavior of the American dollar, the issue of which is controlled by the Fed. In US dollars, the value of commodities, including oil, is traditionally calculated. The number of exchange-traded oil sales contracts opened by financial players at the end of 2016 reached five-year highs.

The increase in oil prices at the end of 2016 was caused not so much by OPEC's decision to "freeze" oil production by agreeing quotas and, accordingly, by increasing demand for physical oil, but by the actions of financial "speculators". The agreement to reduce oil production within OPEC caused an additional influx of speculative liquidity into the markets, which in turn was the driver of growth in oil prices, despite the data on the growth of stocks of oil in the USA. An excess of oil in the fourth quarter of 2016 was estimated at 750 thousand barrels per day, and the balance of supply and demand was reached only by March 2017.

In 2017, the average price of Brent crude oil was \$ 54.7 per barrel per day. By the end of the year, the oil price peaked at \$ 63 per barrel [8]. In 2018, the average price of Brent crude oil was \$ 69.8 per barrel per day. Oil quotes reached a maximum of \$ 85 per barrel in October 2018. The main reasons for the price increase were: the expectation of a decrease in oil exports by Iran due to US sanctions; signing of the OPEC + agreement on the reduction of oil production; and an increase in global oil demand of about 1.3%.

However, after the October peak, oil quotes began to fall, which lasted until the end of December, as a result of an excess supply of oil due to a boom in shale production in the United States and a slowdown in global economic growth. The "Iranian factor" continued to influence the oil market. The expected noticeable reduction in the export of Iranian oil did not happen. A number of countries, including Turkey, continued to buy Iranian oil bypassing the embargo. In 2018, Iran supplied Turkey with 25 million tons of oil [9].

The biggest impact on the decline in oil prices was made by an increase to 2.25–2.5% of the Fed's key rate in December 2018. At the end of December, the cost of Brent crude futures for delivery in February 2019 fell during trading on the ICE exchange in London to \$ 50 per barrel, updating the lows of July-August 2017. In the early days of 2019, a barrel of oil cost about \$ 54-56 [8]. Pursuing a policy of quantitative tightening and raising interest rates, the Fed reduced its balance sheet assets. Such actions led to the withdrawal of money from the speculative oil market. Leaving the oil market, dollars moved into profitable US securities and increased dollar assets.

In March 2019, the Federal Reserve decided to abandon the base rate increase this year. Moreover, it was suggested that it could decrease in the middle of the year. Financial markets immediately responded to the possibility of lowering the key rate by lowering the US dollar against world currencies and rising quotes on commodity and stock markets. U.S. Treasury bonds rose significantly in March 2019, which could not but affect their yield. The yield on ten-year Treasury bonds fell to 2.37% or 27 basis points since the beginning of 2019, becoming the most significant decline since March 2016. In April – June 2019, the emerging trend of falling yield on US Treasuries continued. Moreover, at the end of June, their yield fell below 2% per annum, which testified to the confidence of world speculators in reducing the base rate by the Federal Reserve by at least 0.25%. The confidence of financial players in changing the Fed's policies has led to a revival of the financial or "paper" oil market. At the end of June 2019, the price of futures for Brent crude oil rose to \$ 65.87 per barrel, the price of futures for WTI crude oil

amounted to \$ 58 per barrel in early July [10]. In just three days from June 22 to 26, 2019, oil quotes grew by 7% [11].

After the key rate was reduced in July 2019 by 0.25 percentage points to 1.75–2% and in September to 1.5–1.75%, oil quotes began to gradually grow [12]. The price of Brent crude oil increased in mid-November to \$ 63.6 per barrel against \$ 59.34 in September 2019; the price of WTI crude oil amounted to 57.95 dollars per barrel against 54.22 dollars in September this year [9.13]. The forecast for the price of Brent crude oil is expected before the end of 2019 in the range of 55–65 dollars per barrel [9]. According to Fed Chairman J. Powell, the regulator decided to lower the base rate in order to maintain the rate of economic growth and hedge against risks, with a rather favorable basic forecast for the economy [14].

Today, the oil market has one global regulator of world prices – the United States, which controls the oil "paper" market, which accounts for 90% of traded oil. Saudi Arabia and Russia, which control the physical oil market, are underperforming the US global market within OPEC +, capturing this market with growing exports. OPEC + countries in August 2019 reduced oil production by 36%. Russia, as one of the key OPEC + participants, in September 2019 reduced oil production by 4.6% compared to the same period in 2018 [9]. Currently, investors are waiting for the next OPEC + meeting, which will be held in early December. It is expected that oil exporting countries will extend the agreement on limiting its production.

It is expected that in 2020 the United States will become a net exporter of oil, and starting in 2024 - the world's largest exporter. Today, the United States is already producing 12 million barrels per day against 8.3 million at the end of 2016 at the time of signing the OPEC + agreement to reduce oil production [15]. The signing of the OPEC + agreement opened up opportunities for the United States to increase its share in the global oil market. Already at the end of 2017, the United States took third place in the world in oil production.

The United States has radically changed its position in the oil market, thanks to the development and application of innovative technologies for the extraction of unconventional oil - oil from tight formations or shale oil. According to the ACRA agency, with the commissioning of new oil pipelines delivering shale oil to the export terminals of the Gulf of Mexico, the US oil export potential for 2019–2020 grow by 4.7 million barrels per day [16]. The United States, already in 2020, intends to become a net exporter of oil. This means that the Americans will be able to control all sectors of the world oil market: exchange, production and export-import. At the same time, Americans will be quite careful in determining the price of oil, which should not be lower than the payback of shale oil, but at the same time should not rise higher so as not to fill the budgets of oil exporting countries, including Russia. In order for a business to be more or less profitable for American oil companies, oil quotes should not be lower than \$ 50–60 per barrel. And this largely depends on the monetary policy of the Fed.

There is a likelihood of a further cut in the Fed key rate. If this happens, we can expect a further weakening of the US dollar, rising commodity prices and, above all, oil. Rising oil prices will positively affect the state of the American shale sector. At high oil prices, the United States can increase the production of shale oil to plus infinity. According to the

International Energy Agency (IEA), shale oil production in the US by 2025 could reach 16.9 million barrels per day [17]. At the same time, the Fed will decide on its own, based on its status as an independent private financial institution, the shareholders of which are both American and European banks.

The transition to a new cycle of “easing” monetary policy will support business activity in the country, however, another period of low rates can significantly increase the risks of financial instability, given that investors were counting on a long-term strengthening of the US dollar.

IV. CONCLUSION

If the Federal Reserve nevertheless confirms its intentions and continue to follow the milder scenario of monetary policy, we can expect an increase in oil prices, regardless of the expected positive or negative consequences. At the same time, the initial effect of monetary incentives will form an impulse to support upward price dynamics. However, in the medium term, certain price fluctuations can be expected in view of the aggravation of current problems, for example, debt problems that have accumulated during the crisis and post-crisis periods in the economies of countries, including the US and EU countries. Apparently, the ECB will follow the example of the Fed. Following the Fed and the ECB, many central banks can move towards a quantitative easing policy in order to support national exporters. In the context of the new cycle of easing the monetary policy of the Fed and other central banks, there are risks of the transformation of trade wars into currency wars. Tariff restrictions may be replaced by processes of devaluation of national currencies, which will lead to currency confrontation between countries and will have a destructive effect on world markets [18].

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