

# Modern Money, Central Bank Digital Currency, and Digital Assets.

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# Topics

1. Money Creation in a Modern Economy, why multiplier theory is not relevant.
2. Central Bank Digital Currency and the Banking System.
3. Ruble for International Payments
4. BRICS currency
3. Digital Financial Assets, and why they may become important in Russia.

# Money

What is the function of money in the economy?

What form money took in the past?

Who creates money?

What are the alternatives for money?

Why private money is not as widely used as government money?

## Gold, silver money and "gold standards"

Very popular until 20th century.

What are problems with such money?

What happens if the productivity in the economy grows?

Like when railroads were actively build in Europe?

## Paper money in Russia

Introduced in 1769 by Catherine the Great.

Earlier adoption was dismissed because "paper money is an unusual thing in Russia" (Russian CB, history of money booklet).

Gold, silver, and copper coins were used. In 1747 Lomonosov received a 2000 rubles award in copper coins, total weight 3200 kg.

Figure: 5-ruble assignation note 1794



Most paper money were banknotes backed by gold or silver, they were "stablecoins"

## Two-tier money system

Multiplier story: banks must hold  $x=10\%$  percent of their deposits as reserves in the central bank => can create  $M=\text{Reserves}/x$  as "money".

What is the reserve requirement in the US right now?

What is an interest rate?

How is it determined?

Who gets the interest rate?

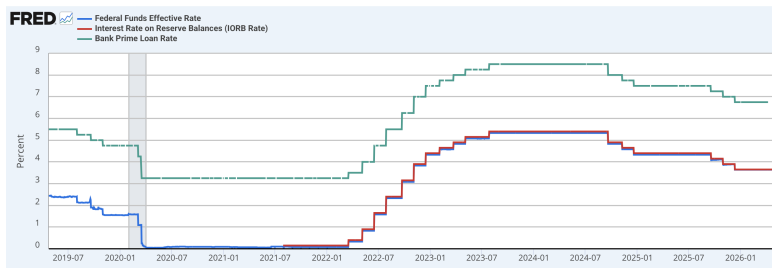
# Interest rates and Transmission of Monetary Policy

In Russia, US and other countries banks get interest on their reserves.

In theory central banks want this interest rate to be translated to the real economy.

Why and how can this transmission be hindered?

Figure: Source fred.stlouisfed.org



# Central Bank Digital Currency

If most of the money is already digital, why would one bother to create CBDC?

What would it imply for the two-tier monetary system?

What benefits can it bring to the banking system?

What are potential problems?

## Ruble for international payments

Paper money during gold standard were in fact stablecoins backed by gold

Modern stablecoins, like USDT, are backed by financial assets Bonds, dollars...

I had an idea of ruble stablecoin backed by Russian government bonds

A7A5 has implemented a similar idea of a ruble stablecoin backed by deposits in a russian bank

A7A5 can be used for transactions all over the world (some countries block it), so it is **the first version of a digital ruble for international payments!**

**Anyone** in the world can use it, and buy and sell it on crypto exchanges.

A7A5 mainly uses TRON blockchain network decentralized with only 27 nodes as validators! It is extremely cheap and efficient!

## CBDC and BRICS currency

**1 BIG question** to the Russian Central Bank: why not introduce CBDC ruble and let anyone in the world use it for payments?

**2 BIG question** to the Russian Central Bank: **why not pay interest on CBDC ruble**, in the same way as commercial banks (SBER, Alfa) are paid interest for holding extra money in the central bank?

**BRICS** currency idea is not new, people think of a basket of currencies

Blockchain makes it easy to implement **and hard to control by big players** making it reliable and expandable to new members:

- ▶ create a blockchain and make each Central Bank in BRICS a validating node (5 in total)
- ▶ create some rules about validation, say if 3 out of 5 Central Banks approve, the transaction is registered

It is even easier to implement if each BRICS country would have a CBDC, ideally available to foreigners and traded on exchanges

## Digital Financial Assets

Central Bank of Russia promotes and regulates **Digital Financial Assets**, that can be traded on several platforms (Sber, Moscow Exchange,..)

Idea: **tokenization** of the economy, i.e. creating digital tokens on a regulated Blockchain platform, i.e. regulated DeFi.

- ▶ Classic financial assets can be tokenized (debt/equity)
- ▶ Utility tokens: physical delivery of products/services in the future (metals, agricultural products, some services).
- ▶ Future profits from construction projects (real estate).
- ▶ Rights to content such as songs, videos, games, paintings.

Key advantages for issuers:

- ▶ Faster and less bureaucratic than classic bonds/stocks of exchanges
- ▶ larger variety and lower entry costs (cheaper for medium companies)

De facto this is a simplified **securitization**

## Potential Benefits for Russian companies and investors

In high interest rate environment, borrowing opportunities are limited and DFA can provide extra credit to business.

Greatly improves risk-sharing in the economy, when business and investors share risk by splitting future cash flows in small assets.

### Объем рынка, млрд. руб

