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CONTACTS

Phone: **+998 50 737 87 88**

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EXPERIENCES OF FOREIGN COUNTRIES IN ENSURING THE BALANCE BETWEEN PRODUCTION AND MONEY SUPPLY

Uskenbaeva Dilnoza Bokhodir kizi

Doctoral Researcher, Department of Economic Theory, Faculty of Economics, National University of Uzbekistan named after Mirzo Ulugbek

ORCID ID: 0000-0002-9229-1604

E-mail: uskenbaeva_d@nuu.uz

Abstract: This article examines the issue of maintaining equilibrium between production volume and money supply through the lens of foreign experiences. The monetary policy frameworks of the USA, Germany (euro area), China, and Japan are analyzed with regard to balancing inflation stability and economic growth. The study highlights how adjustments in the money supply relative to output affect price stability and overall macroeconomic balance. Drawing on international practices, practical policy recommendations tailored to Uzbekistan's economic context are proposed.

Key words: production, monetary policy, money supply, inflation, central bank, gross domestic product (gdp), economic growth, macroeconomic stability, inflation targeting, foreign experience, uzbek economy, investments.

Annotatsiya: Ushbu maqolada ishlab chiqarish hajmi va pul massasi o'rtasidagi muvozanatni saqlash masalasi xorijiy tajribalar nuqtai nazaridan ko'rib chiqiladi. AQSh, Germaniya (yevro hududi), Xitoy va Yaponiyaning pul-kredit siyosati asoslari inflyatsiya barqarorligi va iqtisodiy o'sishni muvozanatlash nuqtai nazaridan tahlil qilingan. Tadqiqot ishlab chiqarish hajmiga nisbatan pul taklifidagi tuzatishlar narx barqarorligiga va umumiy makroiqtisodiy muvozanatga qanday ta'sir ko'rsatadi. Xalqaro amaliyotga tayangan holda, O'zbekistonning iqtisodiy sharoitiga moslashtirilgan amaliy siyosat tavsiyalari taklif etiladi.

Kalit so'zlar: ishlab chiqarish, pul-kredit siyosati, pul massasi, inflyatsiya, markaziy bank, yalpi ichki mahsulot (yalpi ichki mahsulot), iqtisodiy o'sish, makroiqtisodiy barqarorlik, inflyatsiyani maqsadlilashtirish, xorijiy tajriba, o'zbekiston iqtisodiyoti, investitsiyalar.

Аннотация: В статье рассматривается вопрос поддержания равновесия между объемом производства и денежной массой с учётом зарубежного опыта. Анализируются механизмы денежно-кредитной политики США, Германии (зона евро), Китая и Японии с точки зрения баланса между стабильностью инфляции и экономическим ростом. В исследовании рассматривается, как корректировка денежной массы относительно выпуска влияет на стабильность цен и общую макроэкономическую сбалансированность. Опираясь на международный опыт, предлагаются практические рекомендации по экономической политике, адаптированные к экономическому контексту Узбекистана.

Ключевые слова: производство, денежно-кредитная политика, денежная масса, инфляция, центральный банк, валовой внутренний продукт (ВВП), экономический рост, макроэкономическая стабильность, таргетирование инфляции, зарубежный опыт, экономика Узбекистана, инвестиции.

INTRODUCTION

In the context of the modern global economy, ensuring sustainable economic growth requires striking an optimal balance between the volume of production and the money supply. A disproportion between these two key indicators generates macroeconomic instability: an excessive expansion of the money supply relative to the growth of real output fuels inflationary pressures, while a shortage of liquidity may trigger deflationary tendencies and underutilization of productive capacity. Hence, the harmony between production and money supply is recognized as a fundamental prerequisite for achieving long-term economic stability and growth.

International experience convincingly illustrates the significance of this interrelation. Major institutions such as the U.S. Federal Reserve System, the European Central Bank, and the People's Bank of China design and implement monetary policy by carefully aligning the dynamics of money supply with the pace of economic growth. This approach enables them to effectively limit inflationary risks, safeguard investment stability, and promote the well-being of the population. Moreover, such practices demonstrate the crucial role of monetary authorities in coordinating fiscal and structural reforms to sustain competitiveness in the global marketplace.

At the same time, the experience of various countries shows that the balance between production and money supply can be maintained through a diverse set of instruments. Among these are the adjustment of the key policy interest rate, the establishment of reserve requirements, targeted credit programs, and the use of market-based mechanisms. The integration of these tools into comprehensive monetary frameworks highlights not only the theoretical and scientific relevance of the issue but also its practical applicability for policymakers. For transition economies such as Uzbekistan, the analysis of foreign experience provides valuable insights and creates opportunities to derive context-specific recommendations aimed at strengthening macroeconomic stability and fostering inclusive economic development.

LITERATURE REVIEW

Various theoretical and applied scholars have conducted research on the issue of ensuring proportionality between production and the money supply. Among them, Fisher in his work "The Purchasing Power of Money" put forward the quantity theory of money.

Milton Friedman, the founder of the monetarist school, in his seminal works "A Monetary History of the United States" and "The Optimum Quantity of Money" argued that stable growth of the money supply is a prerequisite for economic growth. According to him, excessive expansion of money supply leads to inflation; however, if properly regulated, it can stimulate economic development.

Drawing on the experience of developed countries, B. Bernanke and M. Gertler analyzed the effectiveness of monetary policy under the framework of inflation targeting, and examined how monetary measures affect GDP growth through financial markets and investment activity.

Among Uzbek scholars, the works of A. Arifov, B. Khodieva, and S. Gulyamov have explored the role of monetary policy in promoting economic growth and ensuring the stability of the national currency. In addition, the studies of I. Muminov and Kh. Khamidov have examined the impact of Uzbekistan's monetary policy on inflation targeting and its influence on economic growth.

RESEARCH METHODOLOGY

In this study, a combination of methods was employed, including statistical analysis, comparative analysis, grouping, analysis and synthesis, economic analysis, abstract-logical analysis, analytical review, and econometric techniques. The collected data were comparatively assessed in order to provide a clearer and more comprehensive understanding of the proportionality between production and the money supply.

Through this approach, existing problems were identified more promptly, and scientifically grounded proposals were developed. On the basis of critical reflection, corresponding academic conclusions were drawn.

As the object of research, the analysis covered a range of macroeconomic indicators of developed and developing countries, including GDP volume, key policy interest rate, inflation rate, and the growth rate of the money supply.

ANALYSIS AND RESULTS

The experience of foreign countries in maintaining proportionality between production and the money supply differs depending on the level of economic development and the priorities of macroeconomic policy. Developed economies such as the United States, Japan, Germany, and China possess extensive theoretical, methodological, and practical experience in designing, forecasting, implementing, and improving monetary

policy instruments, mechanisms, and market-based tools to regulate the relationship between production and money supply. Moreover, the advanced practices of these countries demonstrate that monetary policy has been consistently refined under the influence of innovative ideas.

The globalization of the world economy has profoundly transformed the relationship between production, money circulation, banking, finance, currency and securities markets, as well as the overall architecture of monetary policy. It should be emphasized that throughout economic history, the world has witnessed various challenges and crises that manifested at both the macro- and microeconomic levels with economic and financial implications. In response, countries have developed and implemented macroeconomic stabilization programs tailored to their specific circumstances.

The U.S. economy, being one of the most advanced mixed economies in the world, has the largest nominal GDP globally and also ranks among the leaders in terms of purchasing power parity. As a major driver of the global economy, the U.S. possesses unique experience in ensuring macroeconomic stability through maintaining a balance between production and money supply. However, the financial crisis of 2007–2008 stands as a notable exception in this regard.

The global financial crisis, which initially emerged in U.S. mortgage markets, was largely the result of the rapid expansion of lending to borrowers with insufficient creditworthiness and doubtful repayment capacity. Although mortgage loans are traditionally secured by real estate, the oversaturation of the U.S. housing market led to a sharp decline in property prices. As lending costs rose, demand for mortgages declined, and the ability of borrowers to service their debts diminished.

Additionally, the rise in global food and energy prices further constrained households' financial capacity to repay loans. Between 2000 and 2007, global food prices doubled on average, while gasoline prices increased by a factor of 3.5. Oil prices reached record highs, surpassing \$147 per barrel. Consequently, by early 2007, mortgage repayment difficulties among U.S. households had intensified significantly.

The foreclosure of properties belonging to insolvent borrowers, followed by their resale by banks, increased supply in the real estate market, causing a sharp decline in housing prices. Many experts argue that one of the fundamental causes of the financial crisis was the excessive liberalization of economies in developed countries, which promoted the concept of a "self-regulating market" and significantly limited government intervention in national economies, particularly in financial markets.

One of the main reasons for the emergence of the global financial crisis was the sharp disruption of proportionality between financial resources and the volume of real production. According to data, in the United States the money supply in circulation (cash, credit money, and various payment instruments) was almost ten times greater than the real volume of goods and services produced; if the velocity of money circulation is also taken into account, this indicates that the volume of money exceeded the actual demand for money by several dozen times.

At the same time, the following negative circumstances, observed mainly in leading developed countries, were also considered among the main causes of the global financial crisis:

- irrational monetary policy and the chronic maintenance of refinancing rates at persistently low levels, which turned borrowing into a routine and everyday phenomenon;

- a sharp imbalance between the obligations of financial institutions and their authorized capital;

- the issuance of false conclusions by rating agencies with respect to securities;

- violations of the principles of financial auditing and professional ethics, along with the presentation of falsified audit reports;

- the system of financial incentives being based not on qualitative indicators but on quantitative measures;

- the emergence of highly risky and complex derivative financial instruments; and so on.

In subsequent years, while developing countries observed growth in positive balances of their foreign trade accounts, some developed countries faced chronic budget deficits and negative trade balances, which became one of the main factors in the emergence of the global financial crisis.

In developed countries—especially the United States—the growth of public external debt and the increase in its share relative to GDP became one of the major factors intensifying the crisis. At the time the crisis began, the ratio of external debt to GDP was increasing both in the United States and in certain Commonwealth of Independent States (CIS) countries. Specifically, in 2008, the ratio of U.S. external debt to GDP reached nearly 90 percent. This indicator was 37 percent in Russia, 102 percent in Kazakhstan, 64 percent in Ukraine, and 81 percent in Kyrgyzstan. In the same year, global inflows of foreign direct investment fell by up to 20 percent, which was accompanied by a significant decline in global GDP and a contraction in international trade volumes. This process also coincided with rising unemployment rates in developed countries.

According to international experts, one of the reasons why the crisis, which began in the U.S. mortgage market, escalated into a global financial and subsequently economic crisis was the fact that the United States was the principal consumer of global GDP. While the U.S. share in global GDP production was about 20

percent, its share in global consumption was nearly 40 percent. Due to the irrational monetary policy pursued by the Federal Reserve System, along with the chronic maintenance of refinancing rates at excessively low levels, the scale of lending by banks expanded sharply. As a result, demand for real estate increased, and housing prices rose dramatically within a short period of time.

At present, many countries have not been able to find effective scientific and practical solutions to a number of macroeconomic and monetary problems. In particular, these include the contraction of production, the decline in export potential, the growth of unemployment, external debt, state budget deficits, and balance of payments deficits. The resolution of these interrelated and complex problems depends largely on the specific measures developed and the quality of economic stabilization programs implemented by the governments of all countries.

The economy of the European Union is composed of mixed economies based on free market principles and advanced social models, incorporating a single internal market with the free movement of goods, services, capital, and labor.

The European Union (EU) applies a set of principles and mechanisms to ensure proportionality between production and monetary circulation. The main principles and mechanisms include:

- A single currency (Euro)
- The European Central Bank (ECB)
- Economic and financial union
- Fiscal discipline and budgetary control
- Coordination of economic and financial policies
- The single market
- Harmonization of tax and financial policy

In the European Union, the coordination of economic policy holds significant importance. In the Eurozone, the relationship between production and monetary circulation is a broad and complex process. It encompasses economic growth, inflation, employment, production volume, and a range of other factors. Below, some of the main points regarding their analysis are presented. (Figure 1)

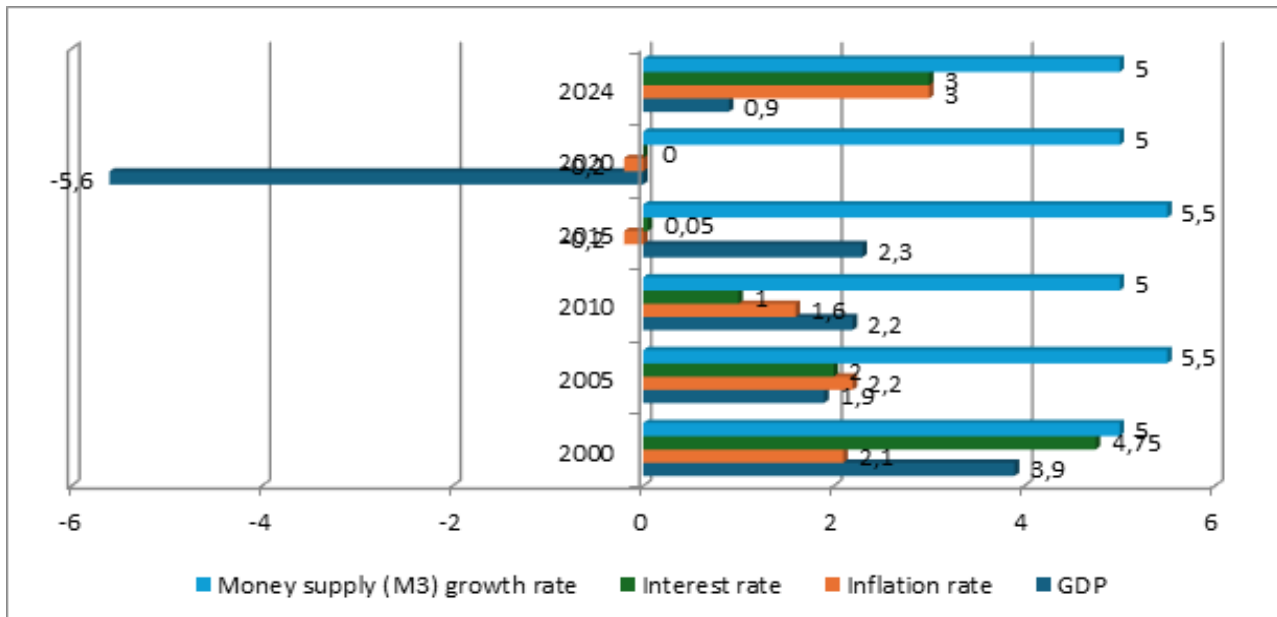


Figure 1. Macroeconomic indicators of the European Union

The above statistical data reflect the macroeconomic situation in the Eurozone. Of particular note are the differences in economic indicators during the pandemic and the post-pandemic period.

The European Central Bank implements a unified monetary policy for all member states of the Eurozone. Its primary objective is to maintain inflation around 2 percent.

In general, taking into account the economic differences among member states, economic stability, innovation, monetary policy, and global interconnectedness are mutually influential factors that shape the growth and prosperity of the European economy. The current strategy of the European Union may serve as a model for other unions.

Referring to Germany's economic experience in developing production and maintaining stability in the money supply, it becomes clear that the foundation of this success lies in the model of the social market economy (Soziale Marktwirtschaft) and a consistent monetary policy.

The social market economy principle combines free market policies with a socially balanced model of labor protection and production stimulation. It especially emphasizes the support of small and medium-sized enterprises in export-oriented industries. In 2023, Germany ranked third in the world in terms of export potential.

The stability of monetary policy is reflected in factors such as the central bank's anti-inflation measures and the strict control of monetary aggregates M0 and M3. During the post-war period of 1940–1970, Germany managed to keep inflation below 5 percent by implementing monetary reforms, reconstructing industry, and increasing production.

From the 2000s up to the post-pandemic years, the main characteristics of Germany's economy can be analyzed based on the data presented in the following figure. (Figure 2).

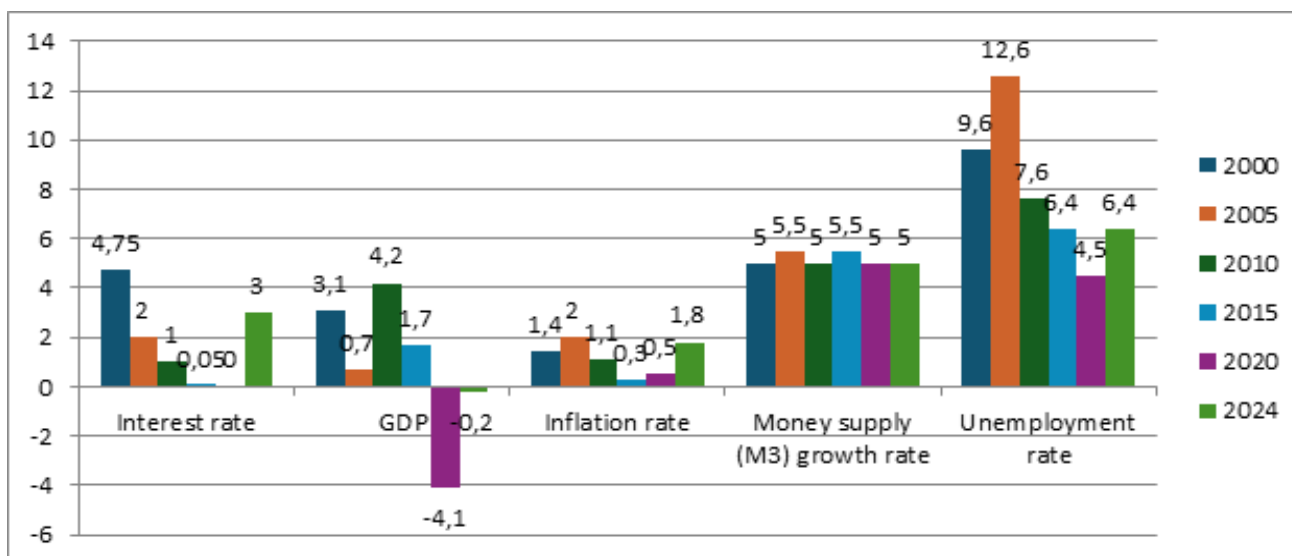


Figure 2. Germany's key macroeconomic indicators

Since 2002, Germany has sought to maintain inflation at around 2 percent; however, due to the global crisis, this figure rose to as high as 6 percent in 2023. In recent years, the growth rate of the German economy has slowed because of global economic downturns, the energy crisis, and disruptions in supply chains. For 2023, the economic growth rate was estimated at around 1 percent.

Germany's experience in maintaining the balance between production and the money supply is based on the following principles:

- Stability of the money supply: the money supply should grow in proportion to production volumes.
- Inflation control: inflation must remain low and stable.
- Independence of the central bank: monetary policy must be independent of political pressure. This is one of the main principles of the Bundesbank and the ECB.
- Stimulation of production: achieved through the promotion of investment and innovation.

Overall, Germany's macroeconomic indicators reflect its economic stability, innovative potential, and global influence. However, challenges such as an aging population, the energy crisis, and global economic uncertainty represent serious tests for the country. Germany is developing innovative solutions and long-term strategies to address these issues.

In China's experience, the model of the relationship between production and money supply has been shaped by export-oriented production and the strategic management of money supply. Beginning with the economic reforms introduced by Deng Xiaoping in 1978, China has achieved high economic growth rates by expanding production based on cheap labor and technology imports. In recent years, however, investment in electric vehicles and high-tech manufacturing has grown significantly. Yet these reforms have also led to problems of inequality: about 60 percent of production is concentrated in coastal regions, while around 40 percent of the population still lives at the poverty line. In addition, the growth of domestic debt and the trade war with the United States have left negative effects on China's economy.

Table 1. Basic principles of proportionality between production and money supply in China

“Two-step” monetary policy	Macroeconomic regulation
- The People’s Bank of China adjusts the money supply (M2) in line with production dynamics.	- Introduction of targeted credit, e.g., cheap loans for production and infrastructure; restrictions in real estate activity.
Stabilization of the exchange rate	- Artificially maintaining a weak yuan; enhancing export competitiveness; increasing market attractiveness.
Export model	- “World’s factory” strategy: cheap labor, expansion of production through technopoles. - Dependence on U.S. and European markets; 40% of production directed toward exports.
Active state involvement	- Strategic sectors under state control. - Hybrid model of market mechanisms and planning.

Based on the information in Table 1, it can be concluded that China’s experience demonstrates how export-oriented production and targeted management of the money supply can drive rapid growth rates. However, the sustainability of this model depends on technological innovation, strengthening domestic demand, and fiscal discipline.

China’s macroeconomic indicators reflect the country’s rapid economic development, leadership in global trade, and achievements in industrial production. The data presented in Figure 3 serve as evidence of this progress.

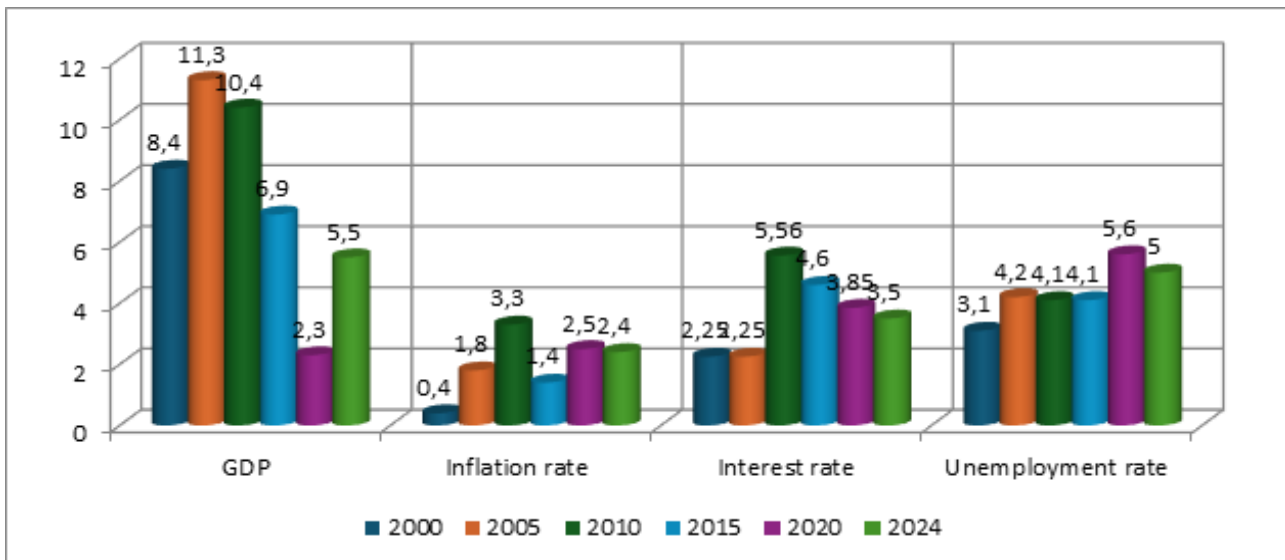


Figure 3. China’s key macroeconomic indicators

China’s economic growth is primarily based on industry and exports, although the services sector has also been expanding. Monetary policy, inflation rates, and employment issues occupy an important place, while ecological and social factors are expected to have a significant impact on China’s economy in the future.

Japan’s economic experience—particularly in terms of combating deflation and restoring production—can be more deeply interpreted through the examples of the “bubble” crisis of the 1980s, the “lost decade” crisis of the 1990s–2000s, and the “Abenomics” policy launched in 2012.

In the 1980s, Japan experienced a sharp increase in the money supply driven by instability in the real estate and stock markets. By 1990, market value had fallen by 60 percent, leading to a banking credit crisis. Between 1991 and 2001, production and investment declined, and deflation began.

During the period of 2012–2020, under Prime Minister Shinzo Abe’s “three arrows” strategy, Japan increased the money supply by up to 80 trillion yen per year, created a budget of 20 trillion yen to modernize infrastructure and production, and implemented other systemic reforms.

The main principles of Japan’s economic model can be summarized as follows:

High-technology production model – relying on robotics and automation to compensate for labor shortages. In addition, Japan maintained global dominance in the export of automobiles, electronics, and components.

Public-private sector cooperation – the establishment of programs supporting reconstruction and innovation.

For example, following the 2011 tsunami, state subsidies were allocated to restore production, and in 2023, 3.5 percent of GDP was spent on innovation.

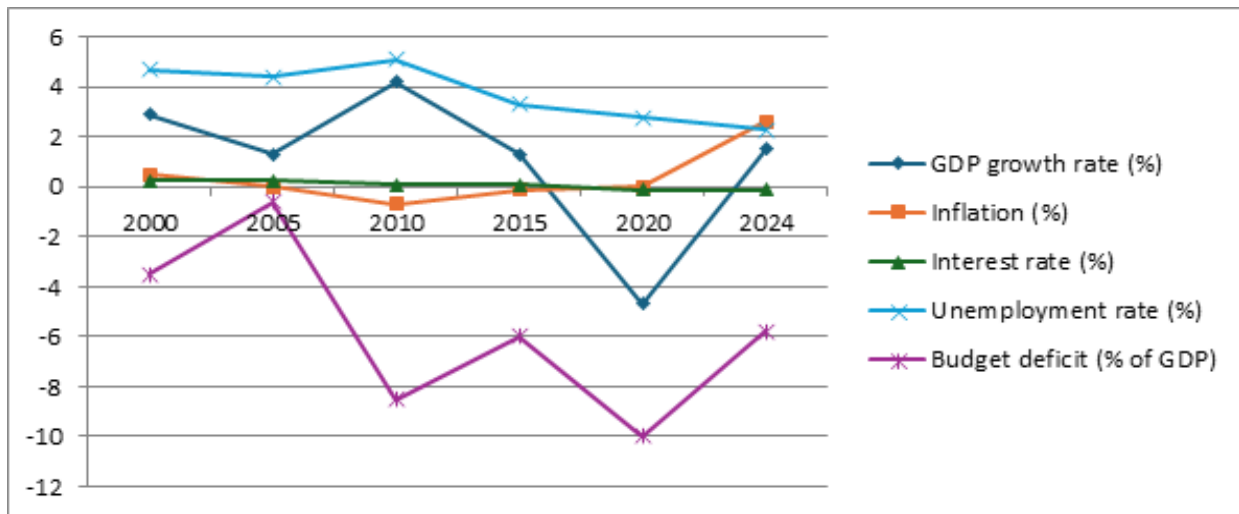


Figure 4. Japan's macroeconomic indicators

Based on the data in Figure 4, a brief analysis of the overall economic situation in Japan from the 2000s to 2024 can be conducted. Noteworthy are the stable refinancing rate and the inflation levels prior to the pandemic. GDP growth in 2023 amounted to 1.4 percent. Japan has one of the lowest unemployment rates in the world, reaching 2.6 percent in 2023. Consumption and exports remain the main driving forces of the Japanese economy.

In short, Japan's experience demonstrates that under conditions of deflation and economic stagnation, it is possible to achieve moderate growth by expanding the money supply and basing production on technological innovations. However, for the sustainability of this model, it is essential to address demographic challenges and to increase domestic consumption.

Thus, in the country, ensuring proportionality among such indicators as GDP, production, money supply, inflation, and the refinancing rate represents a crucial aspect of the economy. The experiences of foreign countries illustrate not only successful but also unsuccessful practices in this regard.

High or volatile inflation, conversely, can reduce consumer purchasing power, increase uncertainty, and, through higher interest rates, halt economic growth. In severe cases, as seen in Zimbabwe and Venezuela, hyperinflation can lead to currency collapse. To manage inflation, central banks and governments employ various tactics such as setting interest rates, regulating the money supply, and adopting fiscal policies. On the other hand, finding the right balance between preventing inflation and stimulating economic development remains a difficult challenge.

The experiences of countries that failed to maintain proportionality between production (economic growth) and the money supply demonstrate how essential it is to preserve economic stability. In these countries, mismanagement of the money supply, rising inflation, and the emergence of economic barriers have occurred. Some past and present examples are provided below:

Table 2. Description of the experiences of countries that failed to maintain proportionality between production and money supply

Countries	Problem	Causes	Result
Zimbabwe (2000s)	Hyperinflation caused by excessive money issuance	Government policy of agricultural nationalization led to a sharp decline in production; money supply increased to cover budget deficits.	By 2008, inflation reached 89.7 sextillion percent; the Zimbabwean dollar collapsed, and the population was forced to switch to foreign currencies; proportionality between production and money supply was destroyed, the economic system collapsed.
Venezuela (since 2010s)	Hyperinflation and economic crisis due to excessive money issuance and declining production	Fall in oil prices; increase of money supply to cover budget deficit; contraction of production	In 2018, inflation exceeded 1,000,000%; the bolivar collapsed, the population was forced to switch to foreign currencies; proportionality between production and money supply was destroyed; the economic system collapsed.

Argentina (1980s)	High inflation and economic crisis due to rising money supply and declining production	Government increased money supply to cover budget deficit; reduction in production (lack of economic reforms and corruption).	In 1989, inflation exceeded 3,000%; proportionality between production and money supply was destroyed, the economic system collapsed.
Weimar Germany (1920s)	Hyperinflation due to excessive money issuance	Post-World War I reparations payments covered by money issuance; decline in production (destruction of infrastructure and economy due to war).	By 1923, inflation exceeded 1,000,000,000%; the mark collapsed, people were forced to barter goods instead of using money; proportionality between production and money supply was destroyed, the economic system collapsed.
Turkey (2020s)	High inflation and economic crisis due to rising money supply and declining production	Government increased money supply to cover budget deficit; contraction of production (decline in investment and corruption).	In 2022, inflation exceeded 80%; the lira collapsed, the population was forced to switch to foreign currencies; proportionality between production and money supply was destroyed, the economic system collapsed.

These examples (Table 2) demonstrate that excessive money issuance without adequate production leads to inflation and economic crisis. The main causes of these problems are mismanagement of the money supply, reduction in production, insufficient infrastructure and investment, and political and economic instability. The key lesson to be learned from these experiences is that ensuring proportionality between money supply and production is a fundamental condition for maintaining economic stability.

CONCLUSION AND RECOMMENDATIONS

The results of the research show that ensuring proportionality between production and the money supply is a decisive factor for economic stability and long-term growth. The experience of foreign countries demonstrates that when central banks conduct monetary policy in harmony with production volume, inflation levels, and employment indicators, it becomes possible to effectively regulate economic processes. In the United States, the focus is on maintaining a balance between economic growth and inflation; in Germany and the European Union, attention is placed on ensuring proportionality between money supply and production through inflation targeting. In China, the money supply is directed toward expanding production capacity, and economic growth rates are achieved through sector-based targeted lending. Japan's experience, meanwhile, shows that under conditions of deflation and stagnation, economic recovery can be achieved by expanding the money supply and stimulating innovative production.

At the same time, the findings also demonstrate that high inflation rates or disorderly expansion of the money supply can lead to production stagnation, economic disruption, and financial crises. The cases of hyperinflation in Venezuela, Zimbabwe, and Turkey clearly illustrate how dangerous the breakdown of balance between money supply and production volumes can be.

Under the conditions of Uzbekistan's economy, it is possible to achieve economic stability and long-term growth through targeted management of the money supply, inflation targeting, and expanding investments directed toward the real sector. This, in turn, can be accomplished by drawing scientific-theoretical conclusions from foreign experiences and implementing practices adapted to the specific features of the national economy.

List of used literature

1. Friedman M. The Role of Monetary Policy. *American Economic Review*, 58 (1), 1-17
2. Keynes J.M. *The General Theory of Employment, Interest and Money*. London/Macmillan
3. Bernanke. B.S., Gertler.M. Inside the Black Box: The Credit Channel of Monetary Policy Transmission. *Journal of Economic Perspectives*, 9 (4), 27-48
4. Mathai K. *Monetary Policy: Stabilizing Prices and Output // Finance & Development*. 2018.
5. Federal Reserve Bank of St. Louis. *The Fed and the Dual Mandate* <https://www.stlouisfed.org/in-plain-english/the-fed-and-the-dual-mandate>
6. Schnabel I. Die Geldmenge lieber nicht ausblenden // *Frankfurter Allgemeine Zeitung*
7. Zheng I.J. *Monetary Policy Reloaded: Towards a New Growth Path in // CEP (Council on Economic Policies) Blog*,
8. International Monetary Fund. *Executive Board Concludes 2025 Article IV Consultation with the Republic of Uzbekistan [Пресс-релиз No.25/206]. Вашингтон, 18.06.2025.*
9. Sun L. *China's central bank vows to boost money supply, cut borrowing costs in growth push // South China Morning Post, 02.08.2025*
10. Арифов А. *Макроиктисодий барқарорлик ва пул-кредит сиёсати – Тошкент. Иқтисодиёт 2020*
11. Ходиев Б. *Иқтисодий ўсиш назариялари ва амалиёти – Тошкент. Молия 2018*

12. Гулямов С. Ўзбекистонда иқтисодий ислохотлар ва монетар сиёсат – Тошкент. ТФИ 2021
13. Муминов И. Инфляцияни таргетлаш шароитида пул-кредит сиёсати самарадорлигини ошириш масалалари. Иқтисодиёт ва таълим №3. Тошкент 2022
14. Economic Growth and Development: A Dynamic Dual Economy Approach. · 2018
15. www.cer.uz - Иқтисодий тадқиқотлар ва ислохотлар маркази расмий сайти.
16. www.stat.uz- Ўзбекистон Республикаси Давлат статистика қўмитаси расмий сайти.
17. <https://minesconomy.uz/>- Ўзбекистон Республикаси Иқтисодий тараққиёт ва камбағалликни қисқартириш вазирлиги расмий сайти
18. <https://cbi.uz/>- Ўзбекистон Республикаси Марказий банки расмий сайти.
19. <https://mf.uz/uz> - Ўзбекистон Республикаси Молия вазирлиги расмий сайти.
20. www.lex.uz - Ўзбекистон Республикаси миллий қонунчилик базаси.

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