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The Driving Factors of China’s Foreign Trade under Macroeconomic Fluctuations: An Empirical Analysis Based on Bilateral Linkages

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Abstract

Since the launch of the reform and opening-up policy, China has steadily advanced its level of openness to the outside world, and its ties with the global economy have grown increasingly close. During this process, import and export trade has displayed the typical characteristics of market-oriented development. The country has reaped significant benefits from international trade, yet it has also faced adverse shocks from the external environment. With the deepening of global economic integration and China’s accession to the World Trade Organization, the interconnection between domestic and international markets has become stronger. This closer relationship has given rise to new conditions and contradictions, which are intertwined and exert multifaceted effects on national economic development. The specific manifestations include a persistent trade surplus, rising incidents of trade frictions, large inflows of international capital, and upward pressure on the renminbi exchange rate.

Keywords

Trade Surplus, Trade Frictions, International Capital Inflows, RMB Exchange Rate.

1. Theoretical Foundations

1.1. The Trajectory of Economic Growth Theory

Economic growth refers to the sustained expansion of a nation’s income over a given period, reflecting changes in the scale and pace of the economy. Systematic study of growth models began with the theories of Harrod and Domar. Their model, built on the assumption of constant production technology, emphasized investment as a decisive demand factor that drives economic growth [1]. By applying Keynesian short-term dynamic analysis to growth, the model introduced the core idea of the multiplier principle into the study of international trade and economic growth, treating exports as a key driver of demand expansion and arguing that export growth inevitably leads to an increase in total output.

Building on Harrod’s insights, the Keynesian school further developed the “foreign trade multiplier theory.” [2] Later Keynesian scholars refined and extended this framework, making it an important tool for analyzing the macroeconomic effects of exports. The central argument is that there exists a multiplier relationship between an increase in net exports and the rise in national income. In other words, the ultimate growth in income will be several times the initial value of the trade surplus. Net export expansion, like domestic investment, can effectively raise national income. As household welfare improves with higher income, consumption also increases, thereby stimulating other production sectors to expand output. This cycle generates more employment opportunities and raises aggregate social income, meaning that the total income gains will be a multiple of the export growth [3].

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In the late 1950s, Solow and Swan introduced the neoclassical growth model, shifting the perspective to long-term equilibrium. They argued that sustained growth must stem from technological progress. However, in their framework, technological progress was treated as an externally given variable, leaving the model unable to explain the fundamental source of growth. By the 1980s, scholars such as Paul Romer advanced endogenous growth theory on the theoretical and empirical basis of the neoclassical model [4]. This new approach highlighted the role of knowledge accumulation, arguing that continuous investment in knowledge can effectively raise a country's level of development. At the same time, Lucas integrated Schultz's concept of human capital into growth analysis, stressing that specialized knowledge, technological innovation, and skilled human capital constitute the deeper forces driving sustained economic expansion.

1.2. Theoretical Linkages between International Trade and Economic Growth

1.2.1. The Perspective of Classical Trade Theory

Classical trade theory primarily examines how international trade generates benefits for participating countries. Representative contributions include Adam Smith's theory of absolute advantage and David Ricardo's theory of comparative advantage. This theoretical framework posits that labor is the sole source of value creation, and its core propositions emphasize free trade and the principle of comparative advantage [5]. The motivation for trade among nations arises from differences in production costs, which reflect variations in labor productivity. These differences are seen as a major driver of national wealth accumulation and, by extension, economic growth.

Smith's absolute advantage theory argues that a country should specialize in producing and exporting goods in which it has an absolute productivity advantage. Ricardo's comparative advantage theory, however, demonstrated that trade can still take place—and benefit both sides—even when one country is less efficient in producing both goods. The essence of classical trade theory lies in the view that free trade allows resources to be allocated more efficiently on a broader scale, thereby fostering economic growth [6]. Under conditions of openness, stronger trade linkages among countries deepen economic interaction. According to Ricardo's principle of comparative advantage, foreign trade facilitates optimal resource allocation. This means that investment flows shift, and capital and labor gradually concentrate in industries where comparative advantage exists. Such reallocation of resources contributes to a more rational economic structure and ultimately raises overall productivity.

1.2.2. The Transmission Mechanism of Terms of Trade and Economic Growth

The terms of trade serve as an important indicator rather than a tangible variable. Fluctuations in this measure directly reflect how trade gains are distributed across nations. Essentially, the terms of trade refer to relative price levels in international trade, typically examined from three perspectives: price terms of trade, income terms of trade, and factorial terms of trade.

From the perspective of price terms of trade, short-term changes in export purchasing power directly influence a country's near-term growth performance. They also shape the country's position in the global distribution of trade gains, which in turn affects its long-term growth potential. Income terms of trade bear an even more direct link to short-term growth, while factorial terms of trade capture absolute productivity levels and relative competitiveness, influencing the benefits a nation derives from international trade and its ultimate impact on growth [7].

On the supply side, frequent price volatility increases uncertainty and risk for firms. Such conditions weaken investment confidence and reduce production expectations. Small and medium-sized enterprises face severe challenges, which can threaten their survival and hinder the entry of new competitors. Shifts in export and import prices also spill over into domestic

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markets, driving fluctuations in domestic prices. Firms, in adapting to such changes, face higher adjustment costs, which elevate overall operating expenses. As a result, investment activity tends to contract, and the social investment rate declines significantly [8]. Moreover, if a country's exports are overly concentrated in a few categories, the risks associated with price volatility are magnified, with stronger negative effects on investment and output. [9] On the demand side, price shifts influence consumer expectations and behavior. When export prices rise, foreign demand usually decreases, while domestic demand for import substitutes may increase, pushing their prices upward. If the price increase of imports outpaces that of exports, the terms of trade index deteriorate, signaling a worsening trade position.

The effects of terms-of-trade fluctuations also vary between developing and developed economies. Two factors drive this divergence. First, developing countries often rely on exports of primary commodities, while developed countries tend to export manufactured goods. Primary product markets are more vulnerable to external shocks and show greater price volatility, whereas manufactured goods markets often display monopolistic features that give producers stronger control over prices, resulting in lower volatility. Second, firms in developed economies typically possess greater market experience and stronger risk management capacities. With higher profit margins, they can absorb market shocks more effectively and sometimes even shift risks and costs onto their trading partners in developing countries.

2. Analysis of the Relationship Between Fluctuations in Import and Export Trade and China's Macroeconomic Volatility

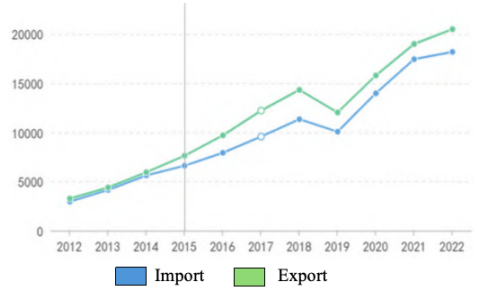
2.1. Current Situation of China's Import and Export Trade Fluctuations

In the process of globalization, the development of countries is closely interconnected. As the world's largest developing country, China's economy has been deeply integrated into the global economic system. In recent years, through continuous opening-up and trade system reforms, China's import and export trade has achieved steady growth. Over the past decade, the national economy has made remarkable progress. Although there have been fluctuations in some years, the overall trend has remained positive.

Since joining the World Trade Organization in 2002, China has overcome multiple difficulties and achieved a leap in trade scale from weakness to strength. During the period from 2012 to 2022, the scale of import and export trade did not shrink but continued to grow. According to Figure 1, between 2012 and 2018, China's import and export volume showed a steady upward trend. Although there was a temporary decline from 2018 to 2019, the economy rebounded from 2020 onwards, with import and export trade returning to a growth trajectory.

The underlying reason lies in the sustained growth of the global economy, which stimulated external demand. Between 2012 and 2022, despite challenges such as oil price volatility and the COVID-19 pandemic, the global economy still maintained annual growth above 3% for three consecutive years. Emerging economies contributed significantly to this growth [10].

Figure 1. Trends in Import and Export Trade of Ten Chinese Enterprises (Unit: 100 million RMB)



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2.2. Correlation Between Trade Fluctuations and Macroeconomic Volatility in China

With the deepening of reform and opening-up, China's import and export trade has grown rapidly, and its role in the national economy has become increasingly prominent. In 2022, the number of enterprises engaged in actual import and export business reached 598,000, an increase of 5.6% year-on-year. Among them, private enterprises numbered 510,000, up 7%, with a total trade value of 21.4 trillion RMB, a year-on-year increase of 12.9%, accounting for 50.9% of total imports and exports—an increase of 2.3 percentage points. At the same time, foreign-invested enterprises achieved 13.82 trillion RMB in trade, while state-owned enterprises reached 6.77 trillion RMB, accounting for 32.9% and 16.1%, respectively. These figures fully illustrate that healthy growth in import and export trade is a key factor in stabilizing macroeconomic performance.

As a crucial link between domestic and international markets, import and export trade is influenced by both internal and external factors, exhibiting cyclical fluctuations. Historical records show that by 1985, China's total imports and exports reached USD 59.21 billion, an increase of 19% over 1984 and 56.6% over 1980, with an average annual growth rate of 9.4%. From 1981 to 1985, total trade amounted to USD 229.37 billion, doubling compared with the previous five-year plan period. By 1994, trade fluctuations and macroeconomic fluctuations reached another peak, with a total trade volume of USD 97.6 billion, an increase of 25.4% over 1993.

In 1998, China experienced its first negative growth in foreign trade since reform and opening, while GDP growth fell to 6.9%. This decline was mainly due to the 1997 Asian financial crisis. China adhered to the policy of not devaluing the RMB, which exerted pressure on foreign trade. At the same time, enterprises adopted a cautious outlook on the economic future, jointly affecting macroeconomic stability. Data from 2012 to 2022 reveal two important phenomena. Rapid growth in listed companies: In 2012, there were fewer than 2,500 listed companies in China. By 2022, the number had nearly doubled to 4,800, making China second in the world in terms of listed companies. Significant rise in trade in services: Since 2012, the annual growth rate of China's trade in services has remained around 6%, about 3 percentage points higher than the global average. Both imports and total trade in services ranked second globally, with a total value reaching 5 trillion RMB—a historical high—demonstrating enhanced international competitiveness.

3. Empirical Analysis of the Impact of Trade Fluctuations on China's Macroeconomic Volatility

Based on the annual statistics and regional panel data of 2022, this study investigates the intrinsic relationship between foreign trade fluctuations and macroeconomic performance. Empirical analysis reveals that in the long term, a 1% fluctuation in exports leads to a 10.029% co-movement in the macroeconomy, whereas a 1% fluctuation in imports results in a 12.813% countermovement in the macroeconomy. Short-term data indicate that both export and import fluctuations move in the same direction as macroeconomic fluctuations, with exports exerting a more pronounced impact. Notably, China's total trade with countries along the "Belt and Road" initiative reached 7.55 trillion yuan, marking a year-on-year increase of 19.8%. This includes exports of 4.27 trillion yuan and imports of 3.28 trillion yuan, both growing by 19.8%. Under ceteris paribus conditions, a 1% fluctuation in exports induces a 1.373% co-movement in the macroeconomy, while a 1% fluctuation in imports corresponds to a 0.458% co-movement. In terms of causality, fluctuations in both exports and imports serve as Granger causes for fluctuations in macroeconomic policies. However, changes in macroeconomic policies only act as a Granger cause for export fluctuations, not for import fluctuations. The

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study also uncovers significant regional heterogeneity: the impact of export fluctuations on the macroeconomy is smaller in the western region compared to the eastern and central regions, with elasticity coefficients of 0.601 for the west, 0.302 for the east, and 0.546 for the central region. Regarding imports, fluctuations in the eastern region exert the most substantial influence, with specific import elasticity coefficients being 0.338 for the east, -0.065 for the central region, and 0.121 for the west. It is particularly important to note that import fluctuations in the central region did not pass the 10% significance level test, indicating that their impact on the macroeconomy is statistically insignificant.

4. Countermeasures and Recommendations

In recent years, China's import and export trade has maintained rapid growth, providing strong support for socioeconomic stability. However, current trade development also faces several pressing challenges. As global economic interdependence deepens, the synchronization between China's economic fluctuations and global business cycles has become increasingly apparent. Export trade, as a key transmission channel, is now subject to more complex challenges. In light of these conditions and considering the features of the current international economic environment, this paper proposes the following measures to promote the healthy development of China's foreign trade.

Against the backdrop of the global financial crisis extending into the real economy, the downturn in world economic growth has become unavoidable. Shrinking international demand has directly reduced China's external demand, making a declining trade surplus inevitable. In this special period, policy innovation plays a crucial role in the economic recovery process. As a core instrument of economic management, macroeconomic regulation through monetary and financial policies allows the government to effectively guide the direction of economic recovery.

4.1. Optimizing the Foreign Trade Policy System

Data from 2012 to 2022 show a significant interactive relationship between China's foreign trade and economic growth. On the one hand, foreign trade development strongly promoted economic growth; on the other, domestic economic fluctuations often triggered volatility in foreign trade. Particularly, the global financial turmoil caused by the U.S. subprime mortgage crisis weakened the growth-driving effect of exports.

Therefore, in post-crisis economic regulation, achieving stable economic performance requires a balanced use of consumption and investment policies, with careful attention to the role of foreign trade policy. The sustained development of China's foreign trade may be advanced in several ways. Enhancing the multiplier effect of exports. Given domestic realities, greater emphasis should be placed on the positive role of import and export trade. Expanding export demand can mobilize underutilized resources and combine with domestic demand to generate stronger growth. The priority is to optimize the export industrial structure by encouraging exports of high value-added and high-tech products. For a long time, labor-intensive exports have been China's comparative advantage, generating static benefits but failing to ensure industrial upgrading. By contrast, capital- and technology-intensive products create stronger industrial linkages and spillover effects, which can drive structural optimization and long-term growth.

Balancing exports and imports. While expanding exports can alleviate overcapacity and stabilize growth in the short term, long-term industrial upgrading requires simultaneously expanding imports, especially of advanced machinery and equipment. This enhances productivity and supports industrial transformation. Thus, import policy is directly linked to upgrading and sustainable growth. Improving trade conditions from the supply side. Although fluctuations in China's terms of trade have had a limited impact on growth due to strong

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domestic momentum, the long-term decline in price-based trade conditions since WTO accession may increasingly disadvantage China in global trade. Addressing this requires structural optimization, technological innovation, and enhanced enterprise competitiveness. Strengthening technological innovation. China's rapid growth has largely relied on expanding input of production factors. However, this model is unsustainable. Greater emphasis should be placed on raising labor productivity and total factor productivity (TFP). While expanding exports supports growth, empirical evidence shows that improvements in TFP are delayed and limited. Thus, trade policy must recognize TFP's role in efficiency gains and focus on transforming China from a large trading nation into a strong trading power.

4.2. Implementing Proactive Fiscal Policy, Expanding Domestic Demand, and Improving the Consumption Environment

The world economy primarily influences China through trade channels, reflecting a high reliance on external demand. This dependence poses significant risks to sustainable development. To fundamentally reduce this reliance, structural reforms must be pursued, with proactive fiscal policy playing a key role in expanding domestic demand and transforming the growth model.

By stimulating domestic demand, economic growth can increasingly rely on domestic investment and consumption, rather than external demand. Adjusting the balance between input and expenditure and gradually increasing the share of consumption in GDP. Optimizing consumption structures, fostering new areas of consumption growth, and enhancing the contribution of domestic consumption to economic growth. Integrating investment, consumption, and foreign trade policies, while ensuring coordination between fiscal and monetary policy. Actively applying counter-cyclical adjustments to mitigate the negative impact of global economic fluctuations on China's economy.

5. Conclusion

As international capital flows accelerate, China's domestic capital market faces growing uncertainty. In this context, ensuring sound foreign trade management is essential. In recent years, the global economic landscape has undergone profound change: many developing countries have gradually expanded their trade scale, while developed countries retain relative advantages. Foreign trade and domestic economic growth are closely interlinked, mutually dependent, and mutually reinforcing. Maintaining the stable and healthy development of foreign trade is therefore of great significance for promoting China's high-quality economic growth.

References

[1] Yang, Naiqian. China's Macroeconomic Instability [D]. Dalian: Dongbei University of Finance and Economics, 2019.

[2] Research Group on China's Macroeconomic Analysis and Forecast, Renmin University of China; Liu, Yuanchun; Liu, Xiaoguang, et al. "China's Macroeconomic Report 2018–2019: China's Macroeconomy on a New Journey of Reform and Opening-up." Economic Theory and Business Management, 2019(1): 4–26.

[3] Hua, Wei. The Dynamic Impact of Changes in Terms of Trade on China's Macroeconomic Cycle [D]. Jinan: Shandong University, 2018.

[4] Zhao, Genhong. Research on the Expectation Management of China's Macroeconomy [D]. Shenyang: Liaoning University, 2016.

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[5] Su, Fang; Zheng, Chuanhui; Ye, Fang. “International Trade Shocks, RMB Exchange Rate Fluctuations, and China’s Macroeconomic Volatility: An Empirical Analysis Based on the GVAR Model.” Inquiry into Economic Issues, 2015(9): 139–148.

[6] Wei, Jie. Imbalance in China’s Macroeconomic Structure: Theory and Empirical Research [D]. Xi’an: Northwest University, 2014.

[7] Liu, Jianping. Research on Macroeconomic Regulation in China during the Transition Period [D]. Wuhan: Wuhan University, 2014.

[8] Wang, Dandan; Xu, Jun; Zhang, Yinghuan. “Analysis of the Impact of Foreign Trade on China’s Economy and Policy Recommendations.” Modern Economic Information, 2013(13): 170–171.

[9] Li, Tianli. Analysis of the Impact of Foreign Trade on China’s Macroeconomic Fluctuations [D]. Ningbo: Ningbo University, 2011.

[10] Che, Weihang; Jia, Lijun. “The Impact of International Trade Shocks on China’s Macroeconomic Volatility: 1978–2005.” The Journal of World Economy, 2008(4): 25–36.