

The Different Impacts of a Strong Dollar on Developed and Emerging Market Economies

Chang Cao^{1, *, †}, Xinyao Hou^{2, †}, Zhengming Liu^{3, †} and Wenxuan Zhang^{4, †}

¹School of Business Administration, Dongbei University of Finance and Economics, Dalian, China

²Faculty of Arts and Social Science, The University of Sydney, Sydney, Australia

³School of Mathematics and Statistics, Shandong University, Weihai, China

⁴Nanjing Foreign Language High School, Nanjing, China

*Corresponding author: loglesbymsn51234@student.napavalley.edu

[†]These authors contributed equally.

Abstract. The US dollar index has continued to rise and has reached its highest level since 2022. Based on the US dollar's status as the dominant international currency, this round of the dollar's significant and rapid appreciation has a significant impact on the global economic and financial situation. This study aims to examine how this round of dollar appreciation affects the major global economies and the extent of its impact. This paper analyzes the impact of a strong dollar on emerging economies and non-US developed economies and draws a comparison between the two impacts. The findings of this study reveal that the negative impact of the current round of strong dollar on the global economy outweighs the positive impact. This impact is evident in the form of hyperinflation, international foreign debt, and other adverse outcomes. Finally, this paper provides informative comments for emerging economies and non-US developed economies to better mitigate the challenges posed by the current round of dollar appreciation.

Keywords: Strong dollar, exchange rate, emerging market economies.

1. Introduction

Since the establishment of the Bretton Woods system in 1944, the US dollar has remained the dominant international currency for the majority of the time. According to the International Monetary Fund, as of the third quarter of 2022, the US dollar accounted for 59.79% of official global reserve foreign exchange assets. Additionally, it is involved in nearly 90% of all foreign exchange transactions. Around half of all cross-border loans and bond issuances globally are denominated in US dollars.

The US dollar's high international status often results in its appreciation having a significant impact on the world economy. Boris Hofmann and Taejin Park noted that dollar strength is followed by significantly weaker emerging market economies' growth on average and lower GaR and dollar affects emerging market economies through financial channels.

In 2022, the US dollar experienced significant appreciation due to various factors, including the Federal Reserve's rapid interest rate hikes and heightened global risk aversion. As a result of this appreciation, the US dollar reached its highest level since 2000. Specifically, it appreciated by 22 percent against the Japanese yen, 13 percent against the Euro, and 6 percent against emerging market currencies. Research by Zhang shows that compared to past rounds of dollar appreciation, this round of dollar appreciation will have a more significant and broader impact, affecting emerging and developed economies through various aspects such as exchange rates, capital flows, debt burdens, commodity prices, and trade structures [1].

This paper aims to analyze the impact of the US dollar's appreciation on the global economy. The analysis is organized into four sections. The first section examines the impact of a strong dollar on emerging economies, while the second section analyzes its effect on non-US developed countries. The third section compares the impact of a strong dollar on these two types of economies. Finally, the last section presents the conclusions of this study.

2. Literature Review

2.1. Dollar Trend

Numerous studies examine dollar trends, which provide direction for this paper's research. Bian analyzes the history of the first two major dollar cycles, followed by a reasoning on the logic of the significant strength of the dollar index since 2022, and concludes with a short- and long-term forward-looking view of the dollar. The logic is clear and well-reasoned from the past to the present to the future [2]. Xiang points out that it is difficult to turn to tight monetary policy in the US at the moment, while analyzing the impact of multiple variables on the dollar's trend and focusing on forecasting the future trend of the dollar [3]. Tang analyzes the reasons for the strong US dollar index in terms of monetary policy, market risk aversion, energy and food crises, mostly using expert opinions, while arguing that there is little room for the US dollar index to rise [4].

2.2. Exchange Rate

In previous studies on the exchange rate of the United States dollar, the factors that cause fluctuations in the exchange rate of the United States dollar have been widely discussed. Biswas (2023) examined the causal relationship between the international oil price and the real effective exchange rate of the US dollar, and proposed that the US dollar exchange rate depends on the driving force of supply and demand in the foreign exchange market [5]. Albulescu and Ajmi (2021) also believes that supply and demand channels link oil price fluctuations with high inflation. As a response to inflation pressure, the domestic interest rate will be adjusted accordingly, thus affecting the value of the domestic currency, and in line with the actual interest rate parity assumption [6]. However, when the US dollar exchange rate changes as an inducement, it will have an impact on the global foreign exchange market. Biswas (2023) believes that some macroeconomic factors of the US government affect the supply and demand of the foreign exchange market, such as inflation rate, interest rate, current account deficit, public debt, terms of trade and strong economic performance. These macroeconomic factors of the US economy are listed as the determinants of exchange rate fluctuations in the global foreign exchange market [5]. The above literature analyzes the factors that affect the trend of the US dollar and the impact of changes in the US dollar exchange rate on exchange rate fluctuations in the global foreign exchange market. Based on the above literature, this study will further refine the impact of changes in the US dollar exchange rate and focus on the impact of a stronger US dollar on emerging economies and non-US developed country economies.

3. Analysis of Strong Dollar's Different Impacts

3.1. The Impact on Emerging Economies

The study adopts data from 21 emerging market economies (EMEs) to analyze the impact of 1-percentage-point appreciation of the dollar. Not only does the shock reduce growth prospects by more than 0.3 percentage points, but also risk growth by 0.6 percentage points [7].

As shown in the left panel of Figure 1, the appreciation and depreciation of the dollar is essentially negatively correlated with the GDP of emerging economies. In the right panel, the original authors also demonstrate that the appreciation of the US dollar is a significant component of the factors influencing the GDP of emerging economies.

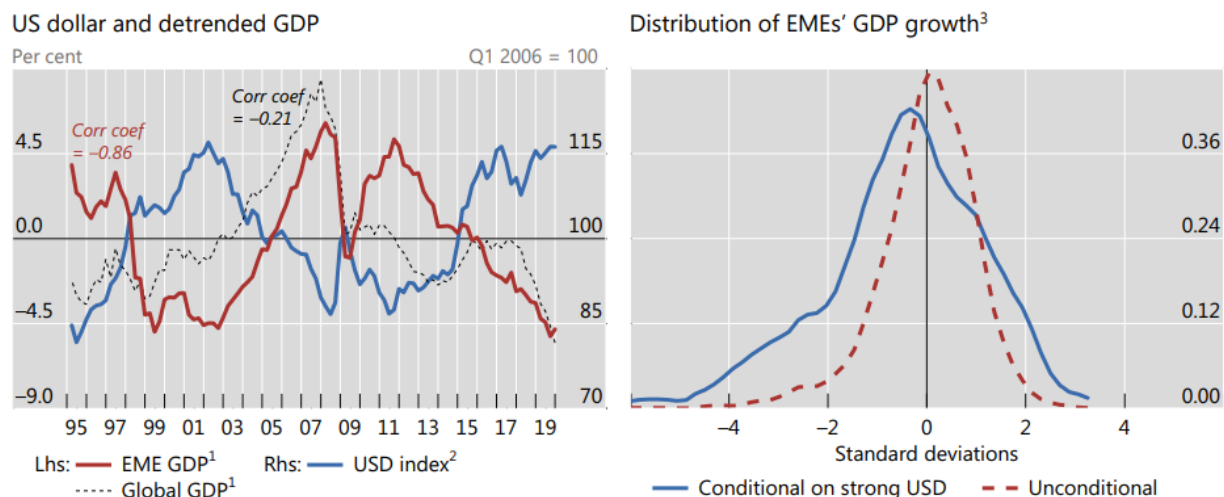


Fig. 1 US dollar and detrended GDP & Distribution of EMEs' GDP growth

Obviously, when the dollar appreciates, other currencies depreciate in relative terms. For this reason, emerging economies may need to implement a tight monetary policy to curb inflation and stabilize the currency exchange rate, which may have a negative impact on the country's economic growth. At the same time, the interest burden on dollar-denominated debt in emerging economies increases. The continued rise in debt interest rates lead to a reduction in debt sustainability, which increases the risk of global debt defaults and the likelihood of debt crises in emerging economies.

In addition, the appreciation of the dollar will affect the economic development of emerging economies in other ways. In terms of global liquidity, a 1% appreciation of the dollar against all other currencies, controlling for the global business cycle, predicts a 0.6% decline in total trade among the rest of the world in one year [8]. This would lead to a decrease in capital inflows to emerging economies and a slowdown in the growth of foreign exchange reserves.

According to recent data, it shows that EME's GDP significantly declined in 2022, dropping from 6.6% in 2021 to 3.7%. This indicates that EME's economic development prospects in 2022 are being impacted.

According to the data of real GDP in emerging market and Developing Economies, it demonstrates that the total external debt in US dollar terms for EMEs has been rising slowly between 2017 and 2022. The share of short-term external debt reached 28.21% in 2022, which is a six-year peak with a slight increase. It is important to note that the report was published in October 2022, and the data for that year is only a forecast but it is already very close to the real value. As a result, the surface EME repayment pressure is also increasing.

From the data of International Monetary Fund, it shows fingers related to variable rate external debt of emerging economies and emerging countries as a percentage of total external debt. Figure 2 shows that EME has taken on an increasing amount of variable rate debt as a share of their total debt — increasing their vulnerability to rate hikes.

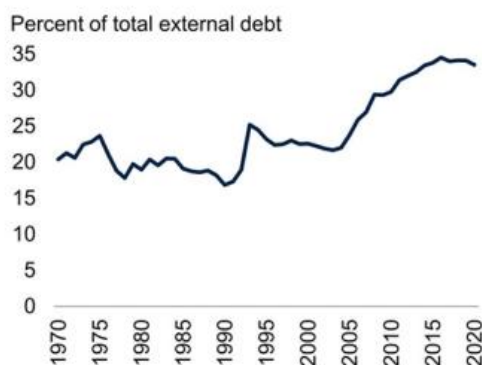


Fig. 2 Share of EME external debt subject to variable rates

3.2. The Impact on Non-US Developed Economies

The impact of the stronger US dollar on the non-US developed countries is reflected in the devaluation of currencies against the US dollar, which in the context of the Russia-Ukraine conflict has expanded the impact of the rise in energy and food prices on the non-US developed countries, and caused pressure on the economies of the developed countries, thus causing debt problems. Under the strong dollar, the currencies of major economies have depreciated significantly, and the decline of some developed economies has even exceeded that of emerging market economies [9]. By the end of September, the exchange rates of the yen, the pound and the euro in developed economies against the dollar had fallen below the lows of 20 or even 30 years. From the perspective of some developed economies, exogenous shocks, more fragile economic fundamentals and the slow process of interest rate increase are the reasons for the greater decline of exchange rates.

In addition, the strengthening of the US dollar has strengthened the impact of the rising energy and food prices in the Russia-Ukraine conflict on developed countries. Japan, Europe and other non-US developed countries rely on energy imports. The blocking of energy exports caused by the Russia-Ukraine conflict led to the growth of energy prices, which made the production costs of these developed countries increasingly high and plunged them into a resource crisis and economic recession. According to statistics, 27% of oil, 41% of natural gas and 47% of coal in the EU come from Russia, while nearly 88% of energy in Japan depends on imports; Therefore, driven by the rise of global energy prices, the trade deficit of non-US developed countries will become larger. Since 2022, the balance of trade of 19 EU countries has been in deficit, with a total deficit of 177.39 billion euros from January to July; In August 2022, Japan's trade deficit reached 2.8 trillion yen (about 20.35 billion dollars), a new high in 40 years. This obviously made the rate of currency appreciation of developed countries lower and lower, which was the trigger of economic depression.

The strong dollar has made more and more capital tend to flow into the United States, and the risk aversion of consumers in non-US developed countries has led to capital outflows, which will bring greater pressure to non-US economies. In October 2022, the manufacturing PMI in the euro area continued to decline to 47.3; The service sector purchasing managers' index also quickly fell to 48.6. Meanwhile, the economic prosperity index of the euro zone in October fell to 92.5, the lowest level since November 2020 [10]. The cumulative pressure on sovereign debt and fiscal deficits of highly indebted countries in the Eurozone is relatively higher than in the previous round. The rise in interest rates may further exacerbate the debt problems of developed countries.

3.3. Comparison of Emerging Economies and Non-US Developed Economies

3.3.1 Similarities

This part will compare the impact of a strong dollar on non-US developed and emerging countries. For similarities, first of all, a strong dollar will devalue the currencies of other countries relative to the dollar, leading to an increase in external demand and a decrease in domestic demand in other countries. The appreciation of the US dollar usually means a devaluation of the currencies of non-US economies, but domestic goods in non-US economies become cheaper in US dollars, leading to stronger external demand, which is often referred to as the expenditure conversion effect. However, a stronger dollar will weaken domestic demand in non-US economies. Domestic demand is the main driving force of economic activity, and it appears to be influenced by the purchasing power of the real effective exchange rate. With the appreciation of the US dollar, the prices of commodities denominated in US dollars tend to decline, resulting in a decline in the income of non-US economies, thereby slowing domestic demand growth [11]. Especially for emerging economies where most imported goods are denominated in US dollars, the impact will be more pronounced. Research shows that throughout the emerging market region, periods of dollar appreciation coincide with weak real GDP growth, but emerging market economies perform much better during periods of dollar depreciation.

In addition, the strengthening of the US dollar will have a more far-reaching impact on developed and emerging countries in the common context of the Russia-Ukraine conflict. The Russia-Ukraine

conflict has hindered the global supply of food and energy, leading to a sharp rise in global food and energy prices, thus exacerbating inflation and reducing purchasing power. This makes the challenges faced by developed countries and emerging economies that have already suffered from the devaluation of currencies due to the strengthening of the US dollar even more severe. For example, the cost of living in developed countries such as the United Kingdom and Japan is becoming increasingly high. Some emerging countries, such as Africa, are already mired in a famine crisis.

3.3.2 Differences

The impact of a strong dollar on developed and emerging countries is different in terms of debt. For emerging economies, because capital accumulation is not deep enough, the most basic way for the government to make up the deficit is to issue government bonds to domestic or foreign markets. For example, Argentina has accumulated 324 billion US dollars of public debt. Brazil's government debt ratio ranged from 2019 to 75.79%. Because the debt of emerging countries mainly comes from the fact that the debt is calculated in US dollars and purchasing too much foreign debt, it is likely to cause a debt crisis when the US dollar appreciates [12]. However, for developed countries, due to strong capital accumulation, the amount of their external debt is within a controllable range, so they have debt problems and have experience in solving them. And because developed countries such as Germany buy more European foreign debt, the strong dollar has little impact on its debt.

The second difference is that these two types of countries showed different impact on Foreign Exchange Reserves.

Emerging countries mostly use fixed interest rates and fixed prices are mostly determined in US dollars, so when the US dollar appreciates, their local currencies will depreciate, and the emerging countries need to use foreign exchange reserves to stop the currency devaluation, and the foreign exchange reserves are reduced.

The non-US developed countries mostly use floating interest rates and are not worried about foreign exchange reserves, their currencies are not only freely convertible, but also their currencies have been internationalized to varying degrees and have mostly become international currencies. These countries have reduced their need for foreign exchange reserves based on currency internationalization or ownership of international currencies, and even if they increase their foreign exchange reserves, their appetite for them is much less than that of emerging countries that have not internationalized their currencies.

Lastly, they were differently affected by the Russia-Ukraine War. After the Russia-Ukraine conflict escalated into February 2022, international food prices climbed and the food crisis intensified.

For emerging countries, the situation is exacerbated by rising food prices at a time when people's incomes are low. According to the Food and Agriculture Organization of the United Nations, in 2021, as many as 828 million people worldwide will face hunger, with the majority of hungry people in Africa, Asia, Latin America and the Caribbean. Recent report reveals that the Food and Agriculture Organization of the United Nations (FAO) noted that in 2022, food import expenditures in low-income countries will be almost the same as expected, but the volume of imports may be reduced by 10 percent, indicating the increasingly critical situation of food access in these countries.

For non-US developed countries, food purchases are more expensive, but there is not as much demanding for food as for poor people. Compared to food, the energy problem of non-US developed countries is more serious. In Germany, for example, which is a manufacturing country and is at the core of the European industrial chain, energy costs account for about 50% of the total energy costs [13]. The developed countries use more energy, so they are more energy-intensive and the energy issue is more important to them. This energy crisis will lead to a cost of living crisis, and the industrial base of developed countries may be severely weakened, and people's lives will be affected.

4. Conclusion

The double superposition of hyperinflation and consumer risk aversion has generated enormous economic pressure on the treasury bond repayment of other countries. This study reveals that the

withdrawal of foreign investment from the consumer side has made it even worse, making many other countries face debt crises. The citizens of other countries will also lose confidence in investment or consumption when facing a strong dollar. This will make more capital to outflow from the developing countries into the developed countries (regarding of US' strong dollar and European's energy crisis, the capital has more possibility to flow into the America), further increasing the debt pressure of developing countries, while the concern of food crisis in developing countries is also accumulating. International capital continued to increase its holdings of US assets, pushing up the US dollar index. Such a result will undoubtedly exert further pressure on the industrial chain and stock market of other countries, making these countries rapidly turn into vicious deflation after hyperinflation, and the currency exchange rate may further decline.

For developing countries, there may be no other ways than continuing to implement the loose fiscal policy to stimulate domestic demand, implement the prudent monetary policy to ensure production and export, reduce the impact of the decline in external demand caused by the global economic recession, avoid a sharp decline in the balance of payments, and fully support the stability of the domestic currency's exchange rate. For those developed countries or new emerging countries, updating cross-border capital flowing rules while seeking cooperation in global debt governance and make every effort to ensure the safety of overseas assets seem to be a plausible idea. Promoting market entities to use their own currencies in cross-border trade and reducing the risk of exchange rate fluctuations are also possibly needed.

References

- [1] Zhang Fan. The impact and countermeasures of the current strong US dollar cycle. *Financial Review*, 2023, (01): 56-57.
- [2] Bian Quanshui. Can the third great dollar cycle escape the end of the great ups and downs? *Tsinghua Financial Review*, 2022, (11): 64-66.
- [3] Xiang Mengxi. How does the expected Fed rate hike affect the dollar trend? *Financial Times*, 2022.
- [4] Tang Jing. After 20 years the euro fell below parity again against the dollar. *21st Century Business Herald*, 2022.
- [5] Biswas A, Uday IA, Rahat KM, et al. Forecasting the United State Dollar (USD)/Bangladeshi Taka (BDT) exchange rate with deep learning models: Inclusion of macroeconomic factors influencing the currency exchange rates. *PloS One* (Preprint), 2023.
- [6] Albulescu CT, Ajmi AN. Oil price and US dollar exchange rate: Change detection of bi-directional causal impact. *Energy Economics*, 2021, 100(C): 105385.
- [7] Hofmann B, Park T. The broad dollar exchange rate as an EME risk factor¹. *BIS Quarterly Review* [serial online], 2020.
- [8] Gopinath G, Boz E, Casas C, et al. Dominant Currency Paradigm. *The American Economic Review*, 2020, 110(3): 677-719.
- [9] Ni Shuhui, Xiong Aizong. The causes and effects of the new round of dollar appreciation. *World knowledge*, 2022.
- [10] Wang, Weibin, Wu HuaiGuang. The possibility of another debt crisis in the euro zone and China's response. *Fujian Finance*, 2022, (12): 23-27.
- [11] Druck P, Magud NE, Mariscal R. Collateral damage: A strong dollar is seldom good news for emerging market economies. *Finance & Development*, 2015.
- [12] Li Cuilan, Wang Fei, Zhu Mingfei. A study of government debt crisis in Latin America under the shock of the new crown pneumonia epidemic - A case study of Argentina and Brazil. *Contemporary Economics*, 2023, (02): 69-80.
- [13] Pan Jiahua, Dong P, Cui Hongjian, et al. Analysis of the European energy crisis and its impact, *International Economic Review*, 2023, 1: 9-37+4.