Causes and Impact of Sino-US Trade Confliction and US Inflation

Yiran He[1], Renhe Tang[2,*], Hanbin Wu[3]

[1]British Columbia Offshore School, Jiaxing, China

[2]The University of Warwick, Economics, Coventry, United Kingdom

[3]Harbin University of Commerce, Economics, Harbin, China

*Corresponding author: 1912100519@mail.sit.edu.cn

Abstract. One of the primary areas of ongoing research concerns the trade tensions between the United States and China, and the trend towards trade decoupling between these two nations. Scholars are increasingly examining the evolution of this trade dispute, its impact on the Chinese market, and the policy responses that the Chinese government should adopt. However, there remains a research gap with regards to the impact of trade tensions between the US and China on domestic inflation in the US, as well as the ability of the US government to take appropriate countermeasures. To examine the influence of US-China trade tensions on US inflation, this paper examines macroeconomic and microeconomic data from the last five years. It summarizes the local irrationalities stemming from the current inflation issue, looking at the government's, society's, and people's livelihoods' perspectives, and investigates viable measures from government, enterprise, and personal financial perspectives. It is hoped that this study will aid the expansion of Sino-US trade and the successful alleviation of the inflation crisis in the United States, while also broadening the perspectives of future scholars.

Keywords: Inflation issues and impact, trade conflict, government intervention.

1. Introduction

Following the breakdown of the Bretton Woods system, the US dollar was no longer restricted by its gold reserves and had monetary policy independence. In other words, the US began to have unlimited capacity for money production. Due to the introduction of "instant inventory management" and the pandemic has produced a decline in demand for products and services between 2019 and 2022, which has seriously harmed the US supply chain and created an imbalance in the process sector. The US national debt has now reached its limit as a result of the Black Swan occurrence and foreign inflation. To elevate the prestige of the US dollar, the Federal Reserve urgently needs to print a significant amount of money. A large amount of US dollars flooded into the currency market, causing the US dollar to depreciate and the RMB to appreciate. This was conducive to China's exports and foreign trade, intensified Sino-US trade conflicts, and exacerbated the domestic inflation crisis in the US.

In terms of the size of their economies, China and the United States are the two major nations. China's economy only made up a tiny fraction of the US Gross Domestic Product (GDP) in 2000. China's export-led boom, however, took off in the 2000s after it joined the World Trade Organization (WTO) in 2001, when its share of the US economy more than tripled from 12% in 2000 to over 40% in 2010. In 2017, they were each other's largest trading partners [1].

After a year of threats, the United States finally enacted 25% tariffs on $34 billion worth of Chinese imports on July 6, 2018. On August 23, another 25% tax is scheduled to be implemented on an additional $16 billion worth of Chinese imports. Additionally, Table 1 shows that the first round of 15% tariffs imposed by the US on $300 billion in Chinese imports went into effect on September 1, 2019 [2].

China retaliated by placing equivalent taxes on American goods. China hiked its duties on 128 product categories, including fruit, wine, pork, and others, from 15 to 25 percent between February and April 2018. Following the US initial implementation of a 25% tariff on Chinese imports valued

at $34 billion on July 6, 2018, China swiftly retaliated with a 25% tariff on US 545 items, also valued at $34 billion and comprising agricultural, automotive, and aquatic products [3]. Therefore, to understand the economic effects of Sino-US trade frictions, it is crucial to investigate domestic inflation pressure in the United States in the context of the ongoing trade conflict between the two countries. This will serve as a resource for domestic and foreign experts in the US, assisting them in developing appropriate policies to minimize friction in international trade as much as feasible. maintaining steady global economic expansion and growth, particularly for the US. Additionally, this will increase excitement for foreign investment and support the creation of the China-US free trade area.

Table 1. Section 301 tariffs on imports from China: actual and threatened tariff hikes

Date	Import Value	Tariff Hikes	China's Reaction
6 July 2018	$34 Billion	25%	Full retaliation
23 August 2018	$16 Billion	25%	Full retaliation
24 September 2018	$200 Billion	10% (increased to 25% on 1/1/2019)	5-10% tariff hikes on $60 billion worth of imports
After trade talks deadline	$267 Billion		
Total	$517 Billion		

2. Domestic Issues in the United States Arising from the Trade War

2.1. Domestic Economic Issues

By unilaterally increasing tariffs and placing investment restrictions on March 22, 2018, the United States sparked trade tension with China, and on March 23, 2018, China declared its resolve to forcefully defend its legitimate rights and interests. The stock markets of China and the United States opened low as a result of the financial markets being completely upended by the abrupt advent of a "black swan" occurrence. As shown in Figure 1, the Dow Jones Index of the United States showed a decrease of 2.93% on March 22 and a further decline of 1.77% on March 23, while the Shanghai Composite Index of A-shares showed a decline of 3.39% on March 23rd, 2018 [4].

In August 2022, the Inflation Reduction Act was signed into law by US President Joe Biden, along with several rounds of quantitative easing to mitigate the risk of a financial crisis and the associated economic contraction. As a result, a significant amount of liquidity was injected into the financial markets, leading to the fueling of asset price bubbles. The occurrence of the two crucial conditions necessary for the passage of the surge was evidenced: a sudden widening of the real economy gap and a significant easing of monetary conditions [4]. The GDP of the United States contracted by -1.6% and -0.6% on a year-over-year basis in the first and second quarters of 2022, respectively, demonstrating a decline for the second consecutive quarter. The balance sheet of the Federal Reserve grew from $4,175.85 billion to $8,584.57 billion at this juncture.

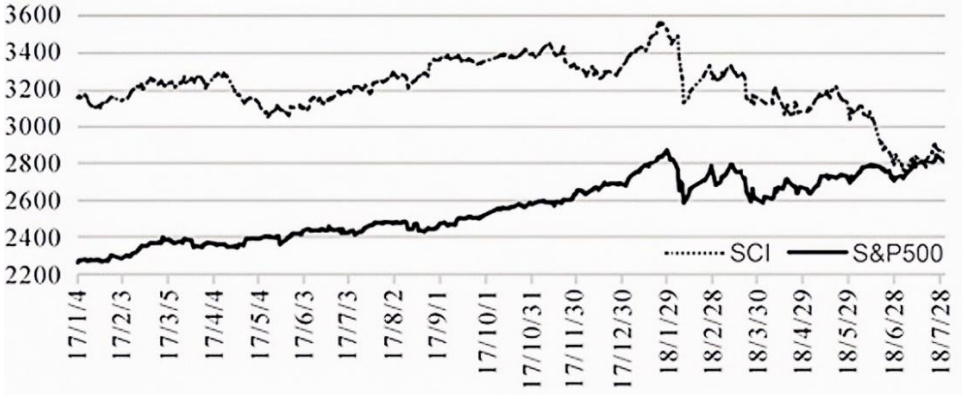


Fig. 1 SCI and S&P500 sample range daily close trend

2.2. Issue of People's Livelihood

During the first quarter of 2022, the United States experienced a significant increase in inflation. This increase broke all previous records and exceeded the average amount recorded by the Organization for Economic Co-operation and Development during the same period. Moreover, the inflation rate is anticipated to remain high for a substantial period of time. In September 2022, the Consumer Price Index in the US increased by 0.4% from the previous year and 8.2% from the year before, as stated by the statistics released by the U.S. Bureau of Labor Statistics. During the same time period, the food price index experienced an 11.2 percent year-on-year increase, while the energy price index increased by 19.8 percent. The considerable upsurge in energy prices has augmented the cost of living for the US population and triggered instability in the stock markets. The cost of living in the United States rose by 7.5% in January 2023 compared to the same month of the previous year, reaching its highest level in nearly four decades and as per a survey [5]. Moody's Analytics economists have reported that inflation has led to an increase of almost $276 in monthly expenses for an average American household.

2.3. Enterprise Import and Export Business Issues

The U.S. import and export trade of agricultural products is predominantly focused on six primary markets, namely Canada, Mexico, China, Japan, South Korea, and the EU. These markets account for over 60% of imports and exports combined. Table 1 displays the agricultural imports and exports of the U.S. between 2010 and 2020. As depicted in the figure, before the trade friction, the fluctuations in the U.S. foreign agricultural imports and exports were negligible. However, after the trade friction, China has experienced the largest decline in agricultural product imports and exports, almost 40%. In contrast, Canada, Mexico, India, and several other countries have experienced a slight increase in the import and export volumes of agricultural products during the same period. This suggests that trade friction will result in a transfer effect, where the inability of the United States to accommodate and export agricultural products from China will be transferred to other countries [6].

What's more, the agriculture of the United States has been severely affected by trade tensions with China. As Table 2 shown, although American agriculture is highly competitive due to the country's capacity for large-scale mechanized agricultural development and sparse population, it is also incurring losses from a net profit perspective. Following the 2018 trade dispute between the US and China, China opted to implement countervailing measures by increasing tariffs on American exports to China. The trade tensions between the US and China in 2018 led to China increasing tariffs on American exports to China in an effort to mitigate losses, which had a significant impact on the US agricultural products sector [7]. The initial listing of tariff increases by China in 2018 affected a total of 517 agricultural products, applying a 25 percent tariff increase. An additional 387 agricultural products were also included in the second catalog, reflecting a significant hike in the proportion of agricultural products that were impacted. The subsequent catalog of tariff increases impacted a total of 387 agricultural products, including many that were previously excluded in the first batch of tariff hikes.

Table 2. U.S. net profit for major agricultural products, 2013-2018

Year	Paddy	Wheat	Corn	Soya	Peanut	Cottonn
2013	343.58	42.31	44.93	74.08	80.83	-87.52
2014	241.21	-25.90	-86.71	22.43	-158.69	-148.37
2015	91.48	-98.07	-65.67	-68.59	-632.44	24.28
2016	-76.25	-100.60	-78.56	82.69	-689.70	59.52
2017	29.90	-110.38	-70.63	50.61	-22.25	31.61
2018	153.78	-85.39	-52.44	-5.20	-86.33	-76.60

3. Potential Impacts of the Issue of Inflation on the United States

3.1. Impact on the US Domestic Market

The fluctuation in inflation has a wide range of repercussions. It has a significant impact on both the domestic market and the global economy, particularly in the case of US inflation, which plays the role of a lobal leader. With respect to the domestic market, first of all, inflation is a major factor in rising costs for raw materials, labor wages and machinery rentals, as shown in Figure 2. The starting and total costs of the project are directly affected by modifications to the three components. For entrepreneurs, there is no other option except to postpone the project in order to avoid cost overruns. As the construction industry is one of the major engines of economic growth and development, the delay of the project could slightly slow down the rate of economic growth. Due to the ambiguity of inflation, clients must also pay a surcharge on building pricing in addition to the increase in construction costs [8].

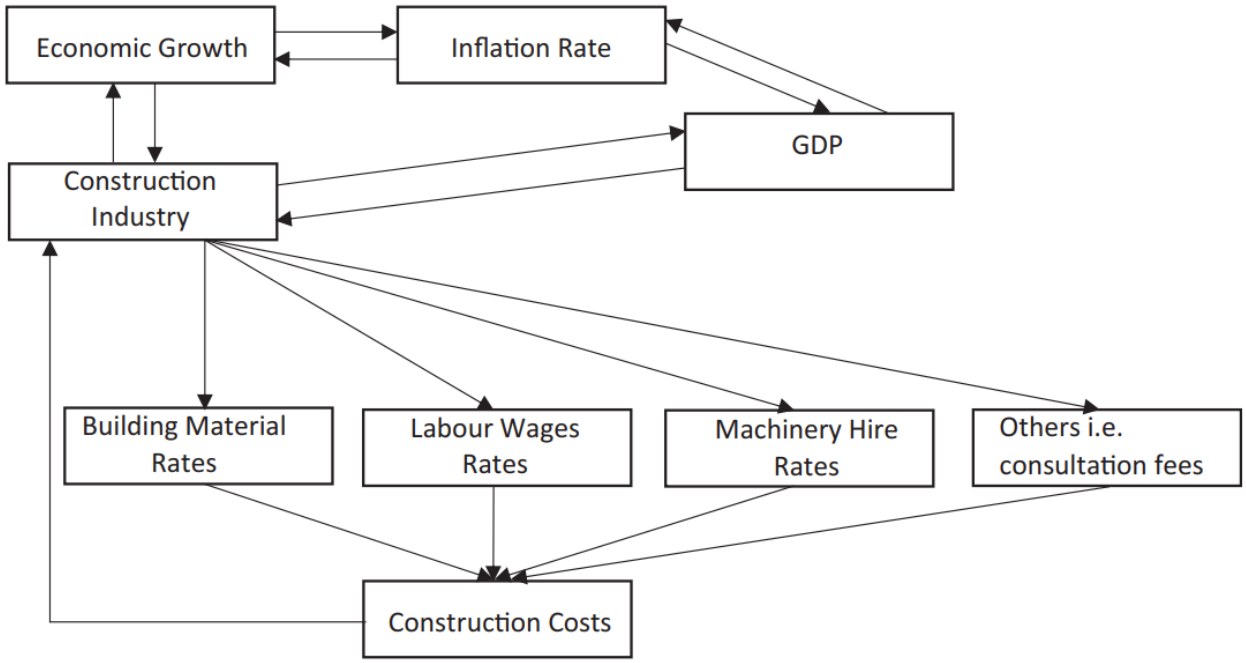
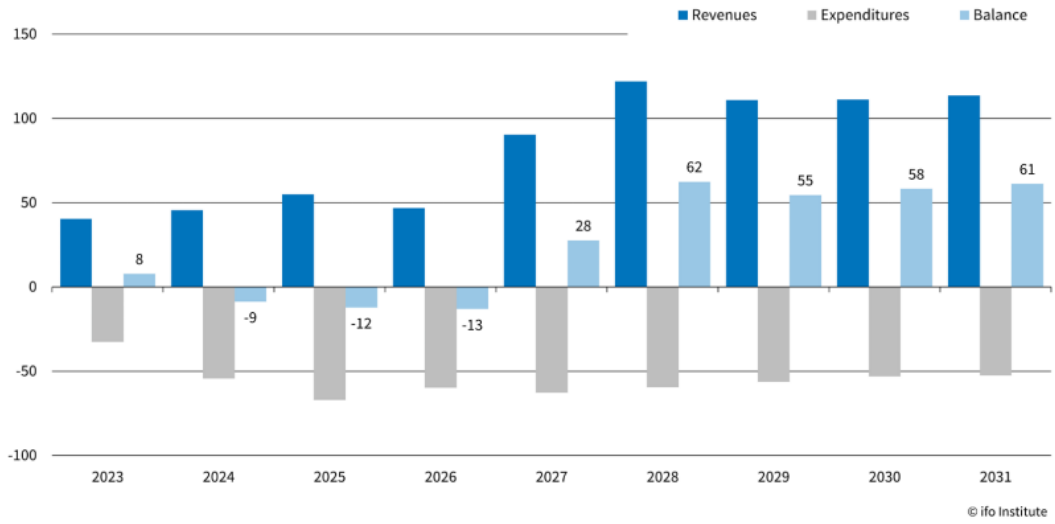


Fig. 2 how inflation affects construction projects

Second, if inflation changes are undertaken with a specific goal in mind, as in the August 2022-passed US Inflation Reduction Act. The US can become more appealing as a place for investment and production by establishing a number of industrial policy measures, such as subsidies to encourage the growth of renewable energy, which not only help the environment but also promote domestic productivity. The Inflation Reduction Act (IRA), according to the Congressional Budget Office (CBO), is expected to cut the budget deficit by $238 billion between 2022 and 2031. The patterns in spending and revenue during that time are shown in Figure 3. Through 2024, additional spending rises to approximately $50 billion annually and then stays roughly steady at that level through 2031. In 2026, revenues will total around $50 billion annually before rising substantially to $100 billion. Both demonstrate that the IRA results in a $50 to $60 billion annual reduction in the fiscal deficit [9].



Note: All figures in USD billion. Balance denotes the difference between revenues and expenditures.
Source: CBO, own presentation from Baur et al. (2023).

Fig. 3 CBO estimates of revenue and spending effects of the IRA in future years

Some academics then examine how inflation affects wage growth. Based on the Phillips curve, while taking into account inflation expectations, headline inflation, unemployment, wage growth and other factors. As shown in Figure 4, the significance that inflation expectations (red bars) play in the current wage increases is much more important. Prior to 2020, inflation expectations only made up about 0.3 percent of the total. After 2020, it contributed approximately 2 percent to wage inflation and grew over the ensuing few years. According to the experts, wage inflation in the earlier time passed through inflation expectations on average at a rate of about 12% but has soured up to 100% since COVID-19. The longer inflation and inflation expectations remain elevated, the stronger and more consistent the pressures on wage inflation tend to be [10].

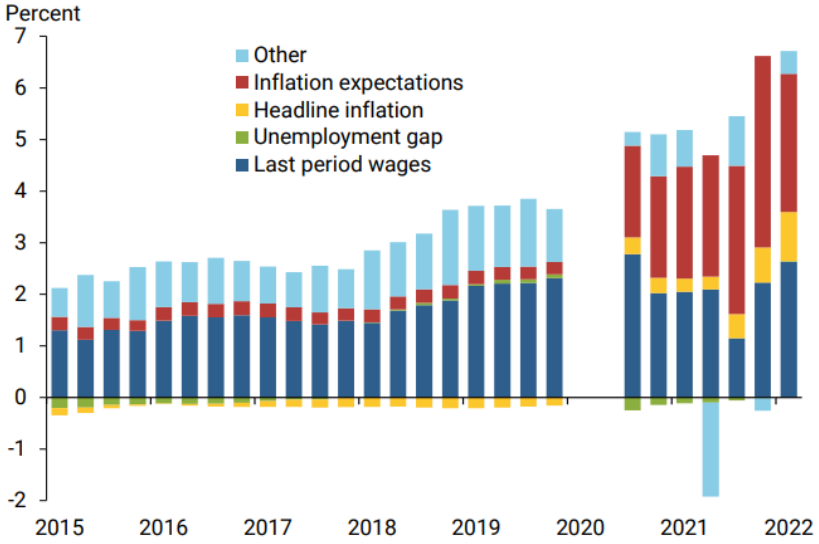


Fig. 4 changing components of wage inflation over time

Fourthly, it is more appropriate to set a nonlinear model due to the persistent growth of economic uncertainties and the issue of asymmetric information in financial markets. According to the nonlinear ARDL model, the test results support the idea that increases and decreases in the inflation rate have distinct effects on bond rates both in the long-run and the short-run. In the long-run, only Federal Funds rates are subject to partial Fisher effects because this rate's estimated coefficient is significantly positive and lower or higher than 1. The 10-year Treasury bond rate is the one that reacts the most to changes in inflation. Furthermore, there is a substantial body of evidence that suggests falling inflation rates, not rising ones, affect bond rates [11].

3.2. Impact on the World

The final results of all three methodologies, which were based on the VECM model, impulse response function and Granger causality, all revealed that there is both long-run and short-run causality from the US 10-year bond yield to the Indonesia 10-year bond yield. The 10-year bond yield in Indonesia responds permanently to changes in the 10-year bond yield in the US. The reason why this phenomenon happens is because Indonesian sovereign bonds are investment graded bonds. [8]

Last but not least, US inflation has a spillover effect on the world. Through introducing the VAR model, as Figure 5 shows, there is a significant and sustained effect on the Euro area from a shock to the US inflation rate, which demonstrates that the US has an important spillover into the Euro area price system. The price level in the Euro region has increased by more than 4 percentage points after 36 months. Additionally, as future times are included in VAR simulations, the standard error bands of VAR simulations climb steadily [12].

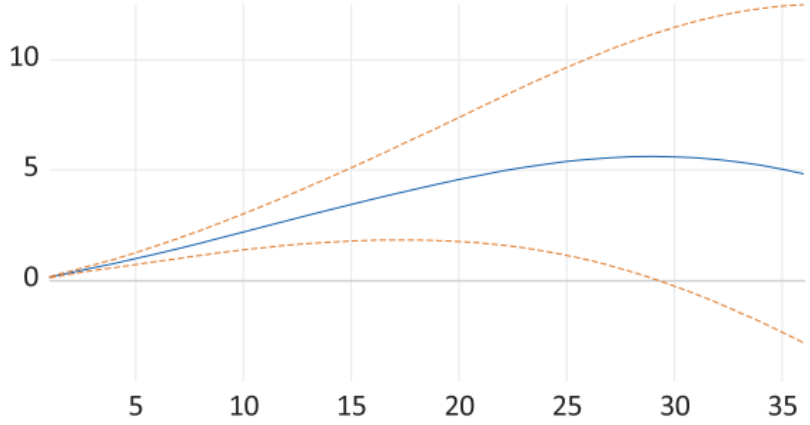


Fig. 5 response of a shock to US inflation on the EA prices

The Figure 6 demonstrates once more how a shock to US inflation has a dramatic effect on the UK price level, with the effect peaking at over 4 percent points after three years. At the conclusion of the simulation, the influence was significant over the entire course and kept increasing [13].

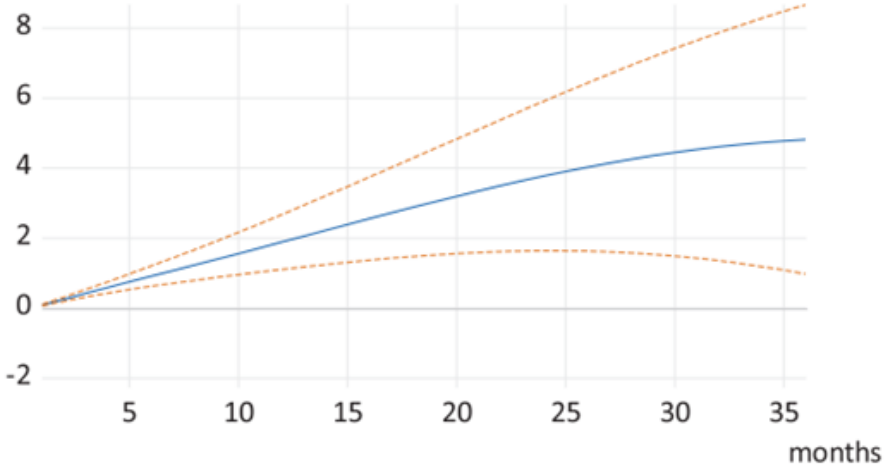


Fig. 6 response of a shock to inflation in the US on UK prices

Numerous factors account for this. Aside from the fact that a sizable portion of global exports are from the US, which can help explain some of the ways in which US inflation is transmitted to other regions, it is the case that just about half of global exports are invoiced in US dollars. Thus, a large and prolonged spike in US inflation may result in things like an increase in oil prices, which are dominated by US dollars [13].

4. How to Address or Mitigate Inflation

With the escalation of the trade war between the United States and China, inflation has become a serious problem for the United States. Inflation not only weakens the purchasing power of the yuan but also leads to price increases, posing a threat to the economic stability of the United States. Therefore, American companies and the government have passed a series of measures to alleviate inflation.

4.1. Corporate Response

First, American enterprises can reduce costs and offset the impact of inflation on profits by improving production efficiency. By introducing advanced production technology and equipment, enterprises can improve productivity and reduce labor costs and resource waste. In addition, optimizing supply chain management is also an important means of improving production efficiency. By establishing good cooperative relationships with suppliers and optimizing logistics and inventory management, enterprises can reduce the waste of time and resources in the production process, thus reducing costs and alleviating the impact of inflation on enterprises.

Secondly, under the research of some scholars [14]. American enterprises can increase the added value of their products by strengthening innovation, research, and development so as to offset the impact of inflation on product prices. By continuously launching innovative products and services, firms can improve the market competitiveness of their products, thus offsetting the impact of inflation on product prices to a certain extent. In addition, increased investment in R&D can also improve the technological level and competitiveness of enterprises, enabling them to better adapt to market changes and meet the challenges posed by inflation.

U.S. firms can also mitigate inflation by exploring new markets and reducing their dependence on Chinese imports. Tariffs and restrictions on Chinese imports as a result of the U.S.-China trade war could lead to higher commodity prices, which in turn could fuel inflation. Therefore, firms can look for suppliers in other countries or regions and reduce their reliance on Chinese imports to minimize the impact of inflation on the firm. At the same time, exploring new markets can also provide enterprises with more opportunities to grow and reduce their reliance on the domestic market, thereby reducing inflationary pressure. However, companies can also consider establishing more production bases in the country to reduce their dependence on imports. By diversifying the supply chain, firms can reduce the cost of purchasing raw materials and components, thus mitigating the impact of inflation on them.

4.2. Government Practice

With the escalation of the trade war between the US and China, the global economy is facing great uncertainty. As the world's largest economy, inflation has become a concern for the United States. Therefore, the U.S. government needs to take measures to alleviate the pressure of inflation.

Many scholars [15] have conducted in-depth research on how the Federal Reserve can control inflation through monetary policy. One of them is that by buying or selling Treasury bonds, the Fed can adjust the money supply and influence the level of interest rates in the market. If inflation is too high, the Fed can reduce the money supply through the sale of Treasury bonds, thereby curbing inflation. Conversely, if inflation is too low, the Fed can increase the money supply by purchasing Treasury bonds to stimulate economic growth [16].

The U.S. government can curb price increases by strengthening regulation. Against the backdrop of the US-China trade war, increased regulation can prevent undue price increases in the market, thereby reducing inflationary pressure. The government can strengthen the regulation of enterprises and financial institutions to ensure the reasonableness and stability of market prices. In addition, the government can also step up its efforts to combat price manipulation and monopolistic behavior to protect the fairness and transparency of market competition. Trade wars often lead to higher commodity prices, which in turn drive inflation. The U.S. government can lower commodity prices

by reducing tariffs or adopting other trade-restrictive measures. As a result, consumers' purchasing power will increase and demand will decrease, thus easing inflationary pressure.

The U.S. government can also alleviate inflation by increasing production efficiency. Increased production efficiency reduces the cost of production, which in turn reduces the increase in commodity prices. In order to achieve this goal, the US government can increase its investment in science and technology innovation, education, and training, and improve the quality of the labor force and the level of technology. As a result, the productivity of enterprises will increase, and the pressure of commodity price increases will be reduced.

Finally, the U.S. government can alleviate inflation through diplomatic means. Trade wars often lead to higher trade barriers, limiting the free and smooth flow of international trade [17]. In order to ease the pressure of inflation, the U.S. government can seek solutions to trade disputes by negotiating and cooperating with other countries. By reducing trade barriers and promoting international trade, the price of goods can be lowered and the effects of inflation mitigated.

5. Conclusion

The trade friction between China and the United States has been an important topic of concern in recent years, with far-reaching effects on the economies of both countries involved in the trade.

Firstly, the trade friction between China and the United States has led to an increase in the prices of imported goods in the United States, thus aggravating the inflationary pressure. As one of the world's largest importers, the US relies on cheap labor and low-cost goods from countries such as China. However, trade frictions have led to higher tariffs and trade barriers, which have increased the cost of importing Chinese goods. This rising cost not only burdens U.S. consumers but also puts inflationary pressure on the overall economy.

Second, U.S.-China trade frictions have also created instability in U.S. production and supply chains, further fueling inflation. The trade friction has led to higher tariffs and trade barriers between the two sides, which means higher costs for raw materials and components for U.S. firms. Such cost increases not only have a direct impact on firms' production costs but can also lead to disruptions and instability in supply chains. All of these factors can further drive inflation.

In addition, the trade friction between the US and China has also had an impact on US monetary policy, which in turn has had an indirect effect on inflation. The trade friction may lead the US government to adopt more protectionist economic policies, including tighter monetary policy and interest rate hike measures. The implementation of these policies may lead to an appreciation of the US dollar, thus further pushing up the prices of imported goods. This indirect effect will also give a certain boost to inflation.

In conclusion, the trade friction between the United States and China has had a direct impact on inflation in the United States, but we can mitigate this problem through measures such as strengthening dialogue and cooperation, enhancing domestic industrial development, and seeking to establish stable trade relations with other countries. Only through cooperation and joint efforts can we reduce the negative impact of trade disputes and achieve sustainable economic development.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

References

[1] Dan Steinbock. U.S.-China Trade War and Its Global Impacts. China Quarterly of International Strategic Studies, 2018, 4 (04), 515-542.

[2] Tao Liu, Wing Thye Woo. Understanding the U.S.-China Trade War. China Economic Journal, 2018, 11:3, 319-340.

[3] Larisa Kapustina, Ľudmila Lipková, Yakov Silin, et al. US-China Trade War: Causes and Outcomes. SHS Web Conf, 2020, 73, 01012.

[4] Yue Lu. Against the backdrop of trade friction, this study examines the spillover effects of risk in stock markets between China and the United States. Journal of Shanghai Lixin University of Accounting and Finance, 2020, 32(04), 48-59.

[5] Jinghong Zhou, Yijian Hu. Policy Background, Formation Process and Response Ideas of the Inflation Reduction Act in the US. Global Development in Taxation, 2023, 2095-6126, 03-0039-06.

[6] Jintong Xie. A Study of Agricultural Trade Issues between China and the United States in the Context of Trade Friction. Jilin University of Finance and Economics, 2022, 02.

[7] Jinquan Liu, Yongfu Liu, Shuai Guan. A research on the heterogeneous impact of US inflation on Chinese domestic market prices. International Economics and Trade Research, 2023, 39(06), 84-98.

[8] Muhammad Ali Musarat, Wesam Salah Alaloul, M.S Liew. Impact of inflation rate on construction projects budget: A review. Ain Shams Engineering Journal, 2020, 12, 407–414.

[9] Klaus Gründler, Philipp Heil, Potrafke Niklas, et al. The Global Impact of the U.S. Inflation Reduction Act: Evidence from an International Expert Survey. EconPol Policy Reports 41, ifo Institute - Leibniz Institute for Economic Research at the University of Munich, 2023.

[10] Òscar Jordà, Celeste Liu, Fernanda Nechio, et al. Wage Growth When Inflation Is High. FRBSF Economic Letter, Federal Reserve Bank of San Francisco, 2022, vol. 2022(25), 1-6.

[11] İsmet Göçer, Serdar Ongan. Asymmetric Impacts of Inflation on the US Bond Rates and FED's Pre-Emptive Policy. Econometric Research in Finance, 2020, vol.5, issue 2, 143-157.

[12] Achlanudin Yusuf, Ahmad Danu Prasetyo. The effect of inflation, US bond yield, and exchange rate on Indonesia bond yield. Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah, Jul 2019, vol.6, no.6, 649-656.

[13] Stephen G. Hall, George S, Tavlas, Yongli Wang. Drivers and spillover effects of inflation: The United States, the euro area, and the United Kingdom. Journal of International Money and Finance, 2022, vol.131, [102776].

[14] Zhoujing Kai. An Analysis of the Implementation Strategies of US Trade Politics with China. Journal of SUIBE, 2021, 28(03), 8-11.

[15] Zhang Ming, Zhong Wei. New Trends in the US Economy after the Trump Administration and The New Normal of China's Economy Before and After the 19th National Congress. International Economic Review, 2017, no.4, 3-4.

[16] Huang Qin, Wu Jiao. U.S. Inflation Status, Causes, Responses, and Prospects. Development Finance Research, 2022, 6(46), 9-10.

[17] Pablo Fajgelbaum, Amit Khandelwal. The Economic Impacts of the US-China Trade War. Working Paper, 2021, 29315, 17-21.