US-Chinese Trade War: Fluctuations in Economic Performance Metrics

Marc Edwards
MPE THINKERS INC.
December 2019

Table of Contents

Executive Summary

One of history's largest economic policies has been the implementation of tariffs by the United States on over 100 Chinese goods valuing over $50 billion in March 2018. The implementation of the tariffs were deemed necessary for a few different reasons. (1) President Trump wanted to spur domestic production of aluminum and steel, (2) he wanted to decrease the consumer prices of these commodities, and (3) President Trump wanted to assert the US economy as the world's most powerful and influential.

MPE THINKERS INC. has a strong history of economic reporting and will focus on several key economic performance metrics to tell the story of the United States and Chinese economies before and after the implementation of the President Trump's tariffs. The growth accounting decompositions of the United States and China represent the economic metrics that contribute to a country's economic success including detrended output, productivity term, capital, and labor. The effect of the tariffs on steel and aluminum on consumer pricing will show what the tariffs have done so far and will help predict what happens next.

The continued growth of China and their economic metrics in addition to the stagnant, still recovering US economy put China at an economic advantage moving forward versus the United States.

Overall, it is evident that the United States and China must end their ongoing trade war and move forward to a trade deal with fewer tariffs on fewer goods, that benefit both economies. This matter is only hurting the US economy by increasing the cost of saving domestic jobs. Policy makers need to realize the impact their decisions have had on the industries affected by the tariffs and make sound decisions based on those outcomes. Based on the recent growth of China, the growth accounting decompositions of both countries, and the effect on consumer prices, MPE THINKERS INC. recommends the United States negotiates an end to the current trade war with China to fix the industries it is most affecting.

Introduction

In March of 2018, President Trump announced a tariff on all steel and aluminum from China in response to the ongoing trade dispute with China. The dispute put domestic companies at a disadvantage to cheaper Chinese steel. Trump's tariffs would soon create a tariff and trade war between the United States and China. Trump argued that the tariffs are "necessary to protect U.S. national security," which he claims have been degraded by the decline of the domestic steel and aluminum industries (McBride, 2018). The primary purpose of a tariff is to penalize the import of materials, which would then cause those goods to be sold for more money, which, in theory, rewards the domestic production of that same good to be sold more because it would be cheaper. However, economists argue that such tariffs fail to revitalize domestic producers while imposing costs on the rest of the economy.

The Chinese responded to the United States' tariffs on aluminum and steel with a series of agricultural tariffs against the United States. According to Heeb and Bryan (2019), China imposed tariffs on nearly $50 billion on more than 100 US goods. This sparked more action by the United States and then more retaliatory actions by China. By the end of May 2018, the two countries 'settled' on a trade deal to hopefully calm the tensions. Details were not released at the time, but both economies hoped for the best while each country's leaders tried to settle the issue (Swanson, 2018).

The main points of MPE THINKERS INC.'s investigation will focus on the growth accounting decomposition for the United States and China. Growth accounting provides a nice overview of what is happening within a country regarding its output, labor, productivity, and capital. Mapping these factors for both the United States and China will lead us to finding the implications the tariffs on the country. Our main expectation is to see an increase in output and the productivity of domestic goods for the US and the opposite for China.

The empirical evidence found in the growth accounting decompositions suggest the US and China open trade up between the nations and limit the number of tariffs that exist on each other's goods. It is understood China responded with their own tariffs because of the ones imposed on them, therefore the United States needs to end their tariffs on China so prices will drop domestically and internationally, to encourage trade, and resolve political unrest.

Recent Chinese Growth

The United States and China are the world's two largest economies and have experienced unprecedented positive growth in the last forty years. The US average growth is approximately 2% and China was well in the double digits and is now settling around 7%. Their growth trends can be seen in the figures below.

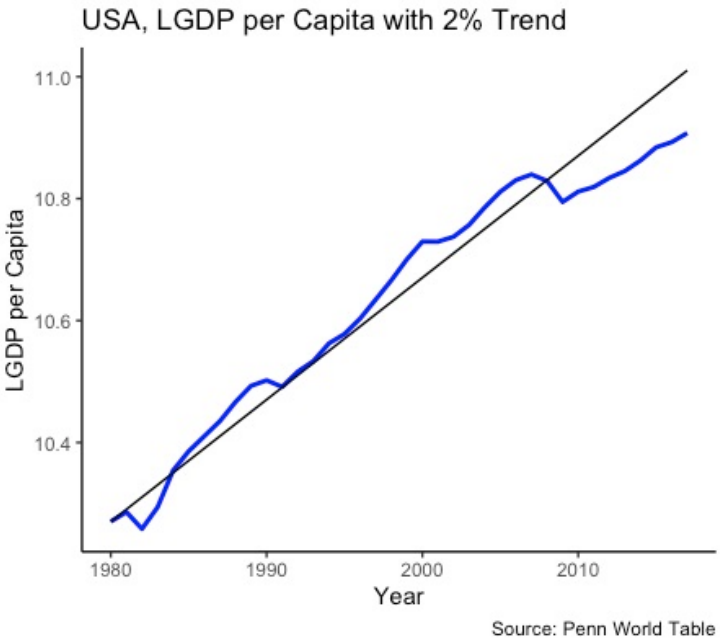

Figure 1: Shows the average log GDP per capita of the United States with a 2% growth trend line.

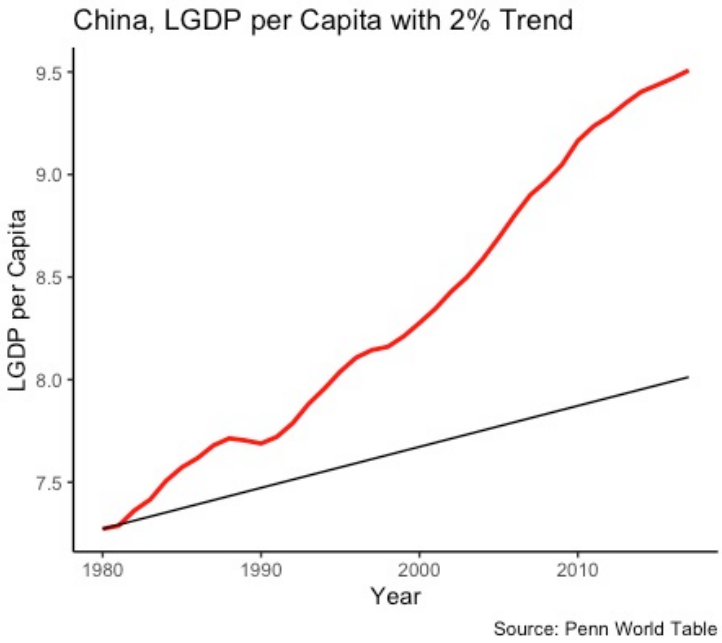

Figure 2: Shows the average log GDP per capita of China with a 2% growth trend line.

It can be seen that both countries are beginning to not have the same growth rate as they did in previous years. China is slowing down and US is trying to catch up after the 2008 recession. However, the ever-growing Chinese economy challenges United States policy. China's emergence as a major economic power and rapid economic growth have given Chinese leadership more confidence in their economy. The US believes "furthering economic and trade reforms are the surest way for China to grow and modernize its economy (Morrison, 2019)." Morrison (2019) also suggests "lowering trade and investment barriers would boost competition in China, lower costs for consumers, increase economic efficiency, and spur innovation." This shows the necessity that lies within removing tariffs and other trade barriers for the United States and China, as suggested by Congressional Research Services.

Growth Accounting

As previously mentioned, MPE THINKERS INC. want to provide reasoning and evidence for the negative consequences that President Trump's tariffs have introduced to the United States economy using growth accounting and by focusing on the detrended output and productivity terms for both economies. The figure below shows US growth accounting and the negative trend for output and productivity is clearly seen.

United States Growth Accounting

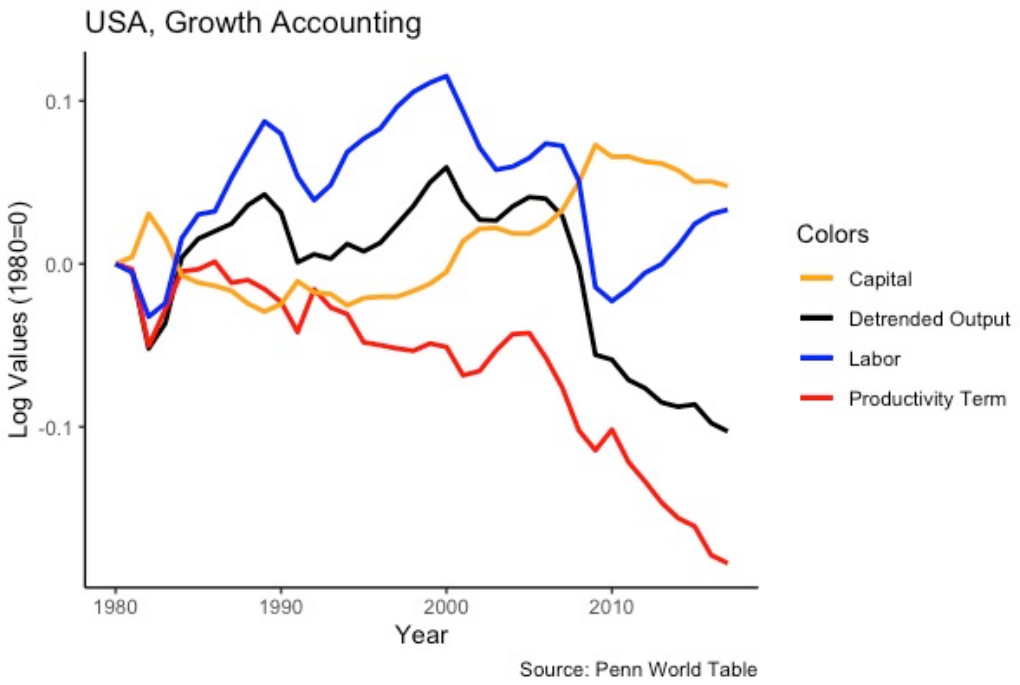

Figure 3: Growth accounting decomposition for the United States. Notice the decline in Capital, Output, and Productivity

There are a few cases to consider for this scenario: (1) Do the trends tell the story or explain the effects of the tariffs? (2) How do the tariffs appear in growth accounting? (3) What does it all mean? Simply put, the trends are following the same course with the tariffs in place. The primary purposes of tariffs are to penalize the import of materials, which would then cause those goods to be sold for more money, which, in theory, rewards the domestic production of that same good to be sold more because it would be cheaper. Based off the figure, productivity in the US in down and will continue to decrease (See Figure 6 in the Appendix for prediction model). It is expected for tariffs to show a visible increase in the domestic productivity of a

country's economy, but this is not seen. In addition to productivity, an increase in manufacturing brought on by the tariff would presumably create an increase in capital. Again, that has been decreasing since the 2008 recession. By nature, the tariffs are not working. Economists predicted this would happen, but politicians let themselves get in the way and put the United States economy in a tough situation.

Chinese Growth Accounting

The Chinese growth accounting decomposition tells a different story. The growth accounting tells the story and answer the same questions posed above.

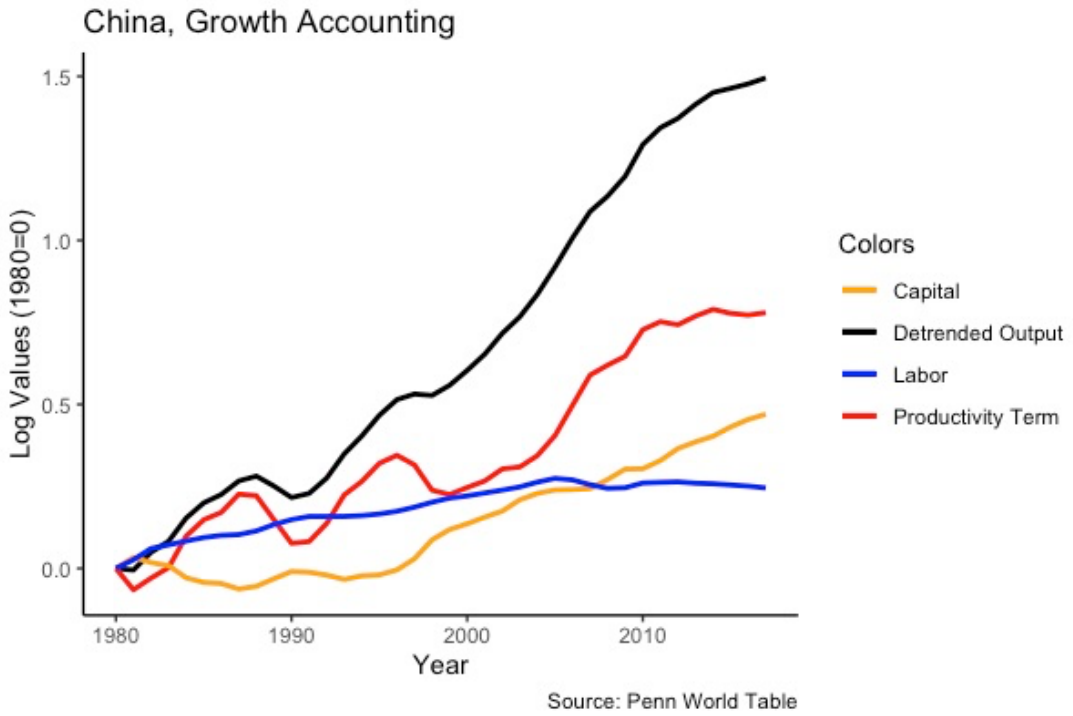

Figure 4: Growth accounting decomposition for China. Notice the rise in all the economic factors over the last 40 years.

Since 2013, productivity in China has seen little to no growth. As the main importer for the United States steel materials, they are still producing the materials but have focused their exports elsewhere and produce domestically. Capital continues to increase in China and is one of the main drivers of their economy. This evidence leads to one conclusion, the Chinese are winning the trade war. They are mostly unaffected by the tariffs as opposed to the United States. These trends can also be tied to the United States economy since the two are very closely related. As a result, slowdowns in China's growth will impact the U.S. economy a variety

of ways also. The United States' attempt to spur domestic growth has failed. A slowdown in Chinese exports will increase prices for U.S. consumers. A prediction model for the Chinese economy can also be found in Figure 7 in the Appendix.

What's Going on with Consumer Prices?

Another main goal of Trump's tariffs on China was to reduce prices for domestic producers. Again, this expectation proved to be incorrect. Economists from the Petersen Institute for International Economics analyzed industry price and found some shocking results. Long (2019) found U.S. consumers and businesses are paying more than $900,000 a year for every job saved or created by Trump's steel tariffs. The cost is more than 13 times the typical salary of a steelworker, according to Labor Department data, and it is similar to other economists' estimates that other tariffs on washing machines cost consumers $815,000 per job created or saved (Long, 2019).

Additionally, both steel and aluminum prices have not reduced since the implementation of the tariffs. Again, this reality was not the original intent of policymakers for steel and aluminum prices when the tariffs were not implemented. This is because many steelmakers primarily utilized the intermediate goods used in steel making to produce their steel. The intermediate goods that go into producing steel have declined in production rather than steel production itself across American steel firms. The trend of prices for steel and aluminum can be seen in the figure below, and it can be seen there has not been a significant decrease in the prices.

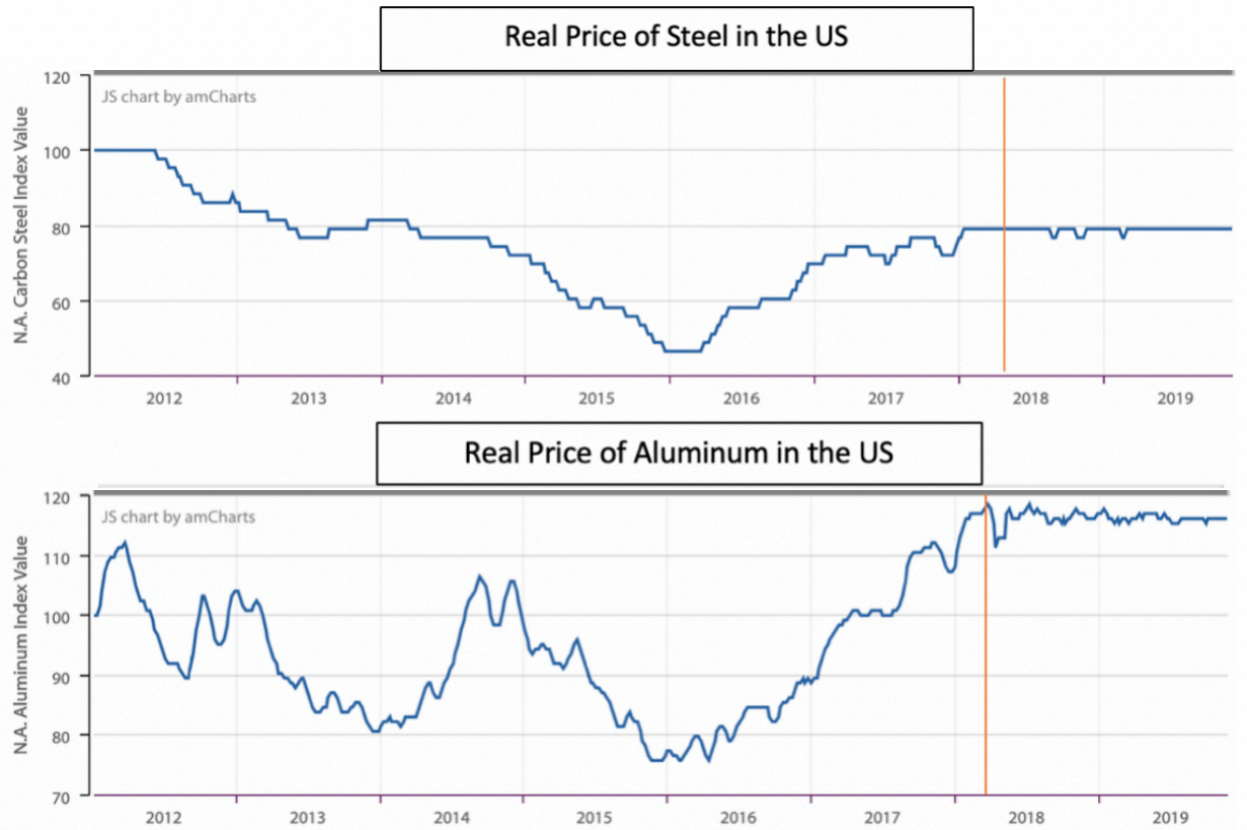

Figure 5: The real prices of steel and aluminum in the US. The red line indicates when the tariffs were enacted in March 2018. Prices reported 11/30/2019. (MetalMiner Prices, 2019)

Conclusion

With the evidence clearly stated, it is evident that the United States and China must end their ongoing trade war and move forward to a trade network with fewer tariffs on fewer goods, which benefit both economies. Based on the evidence of China's continued growth, the growth accounting decompositions for China and the US, and the tariffs effects on consumer prices, the only sensible solution is to come to a trade agreement and move forward. Policy makers need to realize the impact their decisions have had on the industries affected by the tariffs and make sound decisions based on those outcomes. Currently, MPE THINKERS INC. does not have any practices or measures in place to fix this issue. We do, however, encourage citizens to contact their elected officials about their issues with the current trade policy and continue to lobby for better trade conditions.

References

Feenstra, R., Inklaar, R., & Timmer, M. (2019, September 26). PWT 9.1. Retrieved from https://www.rug.nl/ggdc/productivity/pwt/.

Heeb, G., & Bryan, B. (2019, November 29). US-China trade talks are at a critical juncture. Here's a timeline of everything that's happened so far. Markets Insider. Retrieved from https://markets.businessinsider.com/news/stocks/trump-us-china-trade-war-timeline-of-everything-thats-happened-2019-8-1028474486#1.

Long, H. (2019, May 8). Trump's steel tariffs cost U.S. consumers $900,000 for every job created, experts say. Retrieved from https://www.washingtonpost.com/business/2019/05/07/trumps-steel-tariffs-cost-us-consumers-every-job-created-experts-say/.

McBride, J. (2018, March 8). The Risks of U.S. Steel and Aluminum Tariffs. Retrieved from https://www.cfr.org/backgrounder/risks-us-steel-and-aluminum-tariffs.

MetalMiner Prices: Aluminum Prices. (n.d.). Retrieved from https://agmetalminer.com/metal-prices/aluminum/.

MetalMiner Prices: Carbon Steel Prices. (n.d.). Retrieved from https://agmetalminer.com/metal-prices/carbon-steel/.

Morrison, W. M. (2019). China’s Economic Rise: History, Trends, Challenges, and Implications for the United States. *Congressional Research Services*. Retrieved from https://fas.org/sgp/crs/row/RL33534.pdf.

Swanson, A. (2018, May 19). U.S. and China Tout Trade Talks as Success, but Leave the Details for Later. Retrieved from https://www.nytimes.com/2018/05/19/us/politics/china-trade-deal.html.

Appendix

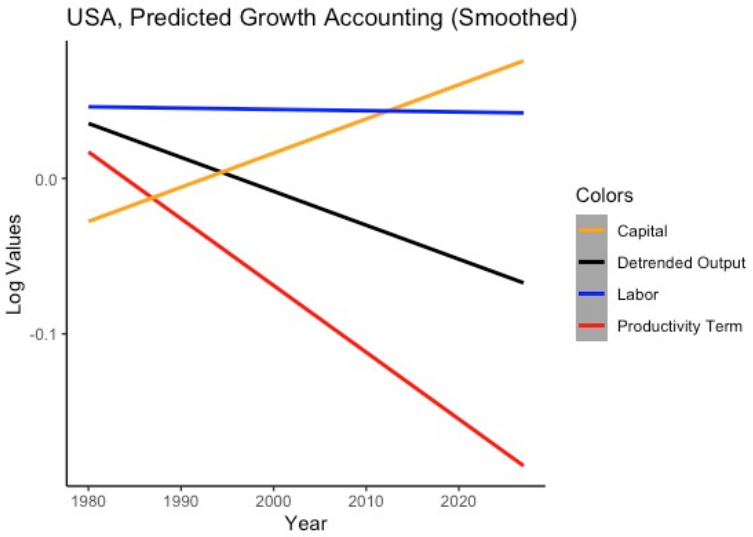

Figure 6: PREDICTED Growth accounting decomposition for the United States through 2027

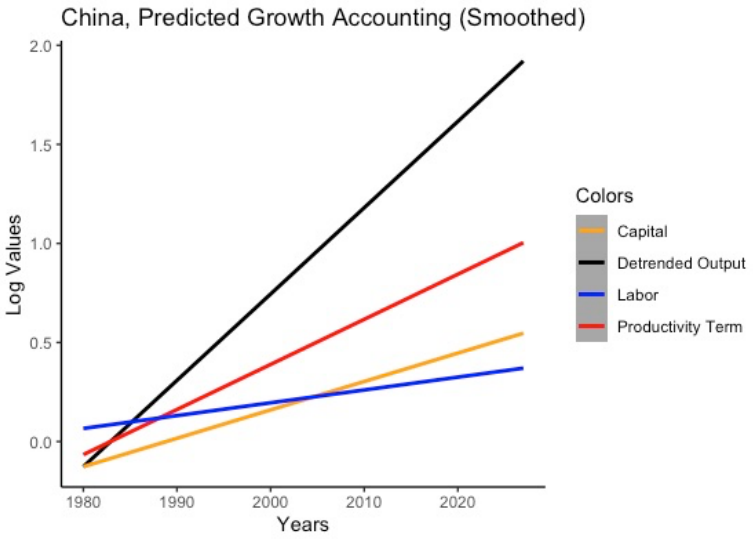

Figure 7: PREDICTED Growth accounting decomposition for the China through 2027