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Reaction of Currencies to Trade War

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I. Introduction

The recent trade war between the United States and China has the great impact on the currencies of not only those nations, but also the rest of the world, especially East Asian countries. Since the first trading controversy between the United States and China in April 2017, East Asian currencies fluctuated significantly. In 2018, the trade war officially started and increased in tension, which made the East Asian currencies become more vulnerable. Therefore, this paper will focus on analyzing how the trade war between the two powerful nations has impacted the variability of some of East Asian currencies in 2018. The research will analyze the fluctuation of four East Asian currencies, which are the South Korean Won, the Japanese Yen, the Vietnamese Dong, and the Singapore Dollar, based on the following questions:

1. Why would the East Asian countries be impacted by the US-China Trade War?
2. How are the values of the Japanese Yen, the Korean Won, the Vietnamese Dong and the Singapore Dollar determined?
3. How are those currencies hypothesized to react to the trade war?
4. What were the exchange rate of those currencies compared to US Dollar and Chinese Yuan before the trade war?
5. How did those currencies fluctuate after each movement or related announcements during the trade-war period?
6. Compare the hypothesis of currencies' change with their real changes.

II. Why would the East Asian countries be impacted by the US-China Trade War?

The US-China trade war has significant influence, not only on the US Dollar and the Chinese Yuan but also on currencies of other countries, especially those of East

Asian. The trade creates a negative impact on the exports of China, which in turn creates more opportunities for other countries to trade with the United States, and have their currencies appreciate against the US Dollar. For example, Japan and Korea can be the trading beneficiaries in this trade war, as those countries are competitors of China in the United States market for machinery and equipment. The tariffs placed on China will limit the export volume of this country to the United States, which increases the opportunity for Japan and Korea to export a larger volume of their products. In that case, Japan and South Korea increase the inflow of the US Dollar, which makes the Yen and the Won increase in value. In addition, the tariff that the Trump administration put on China's export in the trade war makes the production cost in China increase. Therefore, some East Asian firms move their plants to Southeast Asian countries to reduce the production cost. For instance, Korean Samsung Electronics built several plants in Vietnam and invested billions of dollars in this country. Hence, Vietnam will gain more foreign currencies in its basket, which makes the Vietnamese Dong appreciated against the US Dollar.

Limited trading and significant changes in trading position between China and the United States in the trade war are also main factors that make the East Asian currencies depreciate against the US Dollar. In 2017, Asian industry was the most dynamic trading market with the fastest growth in trade volumes for both imports and exports, according to the World Trade Organization. In addition, both the United States and China have significant positions in the global supply chain; therefore, the trade dispute between the two countries will hit their partners. China has a significant position in the global supply chain with East Asian countries. Specifically, 30% of its exported products are incorporated with other countries' inputs and components; 40% of the mainland's electronics exported to America rely heavily on Asian creators[25], such as Japan, South Korea, or Singapore. Therefore, when the Trump administration applied the tariff on Chinese exports, China can pass the tax increases to its supply partners by cutting imported inputs and components. In that case, based on demand of lower prices, those partners need to suffer lower profits when trading with China, which makes their GDP and supply of Chinese Yuan decrease. Therefore, the East Asian currencies will weaken. For example, China is an important trading partner of Vietnam, which consists of roughly 35% of Vietnamese exports[9]. The trade war makes China cut off imported products from Vietnam, which will greatly affect the supply of Yuan to this country. Hence, the supply of Yuan in Vietnam decreases, which makes the Vietnamese Dong lose its value compared to the Chinese Yuan. The countries might also lose foreign investment, which is the significant supply of foreign money, and has its currency become weaker. Moreover, China decided to decrease the value of the Yuan in the response to the United States tariff to save its economy, which significantly affects other smaller countries' currencies. When the Yuan is low, China will export more and import less, which creates negative impact on the currencies of its smaller partners. Finally, as mentioned above, some firms of East Asian countries move their plants to other Southern Asian countries in order to decrease the cost of production and to avoid increasing taxes from the Chinese government as the response to the American tariff. However, the moving procedure is costly, which will still affect the profit and money supply of those Asian countries and weaken their currencies. For example, South Korea has its currency depreciate significantly, as the total export of this country was reduced 6.4% due to the trade war. The South Korean government negotiated with Russia to open free trade to solve this problem, but it is considered by analysts as a costly and time-consuming process. The trade war seems to make the East Asian currencies depreciate more than appreciate against the US Dollar, as the value of those currencies have reduced during the trade war.

III. How are the values of the Japanese Yen, Korean Won, Vietnamese Dong and Singapore Dollar determined?

Theoretically, the Japanese Yen, Korean Won, Vietnamese Dong and Singapore Dollar, like other currencies, are determined mainly by the demand of buying and selling those currencies in foreign exchange markets, which is measured by the exchange rate. In addition, the exchange rates are influenced by five factors: change in the relative inflation rate, change in the relative interest rate, change in the relative income level, change in government controls, and change in expectations of future exchange rates. Therefore, the value of those East Asian countries also depend on these factors. The exchange rate between two countries can be determined through the formula of the Interest Rate Parity as follows:

$$\frac{Forward\ exchange\ rate\ (F)}{Spot\ exchange\ rate\ (S)} = \frac{1 + \text{interest rate of one country}}{1 + \text{interest rate of the other country}}$$

Hence, the country that has higher interest rate will depreciate against the other country. The exchange rate can also be determined through the expected inflation rate as follows:

$$\frac{Forward\ exchange\ rate\ (F)}{Spot\ exchange\ rate\ (S)} = \frac{1 + \text{expected inflation rate of one country}}{1 + \text{expected inflation rate of the other country}}$$

Thus, the country with higher expected inflation rate will have its currency devalued against the other country's currency. In addition, the Fisher Effect theory states that the high interest rates reflect the high inflation, which decreases the demand of foreign currencies and investment, and thus lower the value of domestic currencies.

On the other hand, the higher level of income demands larger amount of foreign currencies, which makes the East Asian currencies stronger. However, the trade war reduces profits of many East Asian corporations and government, which decreases the income level of those countries. When the income level of those countries decreases, their currencies are also reduced in value. The government also can control the exchange rate through imposing foreign exchange barriers, intervening in the foreign exchange market or implementing QEs, and affecting macro variables such as inflation, interest rates, and income levels. In the case of Vietnam, the State Bank of Vietnam had to increase the interest rate to 1% more to maintain the value of the Vietnamese Dong against the US Dollar. The South Korean government tried to solve its difficult situation by finding another exports destination, as it negotiated free-trading with Russia in late June. In addition to exchange rates, the domestic currencies of Japan, Korea, Vietnam and Singapore are also determined by the Treasury Notes issued by the domestic government. The higher demand for the Treasury, the higher value of the domestic currencies. Lastly, East Asian currencies can be determined by the Foreign Exchange Reserve, which is the amount of foreign currencies held by the government. The more foreign currency that the government holds makes the supply of that currency weaker, which makes the domestic currency become stronger.

In the real life, East Asian currencies can be determined by those countries' administration based on the condition of market or by the weight basket of currencies. South Korea and Japan are the two countries that determine the value of their currencies based on the condition of the market. According to the Central Bank of Japan, the administration sets the interest rates for short-term and long-term treasury securities based on the moderate expansion of domestic economy and exports along with virtuous cycle of operation. Similarly, the South Korean Monetary Policy Board depends on the currently available information to decide their base rate. As the Korean Central Bank evaluated, the global economy robustly grew while the domestic market was generally stable, so the Korean administration decided to keep the base rate at 1.50%. On the other hand, Singapore and Vietnam have their currencies determined based on not only the market but also on a basket of currencies. Similar to Korea and Japan, the Monetary Authority of Singapore set those rates that affect the value of its currency. In addition, the Singaporean administration monitors the exchange rate of the Singapore Dollar to the US Dollar, one of its major trading partners, through the Singapore Dollar nominal effective exchange rate ($NEER). The value of the Singapore Dollar can be determined based on the slope of $NEER. Similar to Singapore, Vietnam is also a country that determines its currency based on not only the market but also the basket of currencies. In order to maintain the value of the Vietnamese Dong, the State Bank of Vietnam purchased more than 11 billion US Dollars in the first 6 months of the year, which increased its currencies basket to 63.5 billion US Dollars, which helps the Vietnamese Dong increase 1% of its value. Therefore, the Japanese Yen, the South Korean Won, the Vietnamese Dong or the Singapore Dollar can be determined by demand and supply of their currencies, or by those central banks' monetary policy based on market condition or their basket of currencies

IV. How are those currencies hypothesized to react to the trade war?

Theoretically, the exchange rate is influenced by the interest rate, the expected inflation rate, the level of income, the expected future exchange rate and the government control. Except Vietnam, Japan, South Korea, and Singapore have their nominal interest rates and the expected inflation rate relatively low to those rates of the United States[5]. Hence, the Vietnamese Dong are expected to be devalued greatly against the US Dollar. However, the pre-existing high inflation and trade barriers with China makes the living expenses in the United States increase and forces the FED to increase the interest rates. Therefore, the demand to invest in Asian markets of American will be reduced, leading to the decrease in value of the Yen, the Won, and the Singapore Dollar against the US Dollar. In addition, while Vietnam, South Korea and Japan have constant interest rates during 2018, Singapore has its nominal rate changed. Hence, the Singapore Dollar is expected to be more significantly vulnerable to the trade war. The expected inflation rate of Singapore, Vietnam, Japan and South Korea are generally lower in the second quarter, and started rising robustly in the third quarter. Therefore, the currencies of those countries are expected to be depreciated against the US Dollar by the third quarter of 2018.

As mentioned in the previous part, the exchange rate among East Asian currencies and the US Dollar can be based on the market prediction. If the East Asian currencies were more volatile before the announcements than they were after those statements, the market predicted the movement of currencies market accurately. In addition, in the reality, as mentioned above, the East Asian currencies are impacted by US-China trade war due to their leading position in the global supply chain. Most Asian countries are partners of China in producing exported products to the United States; therefore, the tariffs on China exports will negatively affect the economy and currencies of those countries. According to analysts, South Korea and Singapore are the two Asian countries, after Taiwan, that have the most risk in the US-China trade war[12]. Hence, the South Korean Won and the Singapore Dollar are expected to be depreciated greatly against the US Dollar. Additionally, China is the greatest partner of Singapore, who contributes 14.5% of Singapore exports, which is double the amount of exports to the United States[24]. Hence, the Singapore Dollar is expected to be more vulnerable to the movement of Chinese Yuan than the US Dollar. In addition, Neal Kimberley, a financial-market analyst, said that the intensification of the US-China trade war, combined with Federal Reserve monetary tightening, could be double trouble for currencies in the Asian region[13]. Kimberly, of the US firm Golden Sachs, also listed the “three main channels through which tariffs on China can affect foreign exchange markets”, and stated that the firm view “the Korean Won is susceptible to all three factors”. Therefore, investors were concerned that the Korean Won might suffer a worse outcome by US-China trade war than they had expected. As the result, the South Korean Won might be depreciated most significantly among the four analyzed currencies. The average exchange rate of the Korean Won before each trade war announcement are also expected to be increasingly high due to the long-lasting consequences that South Korea has to suffer after the previous trade war movement.

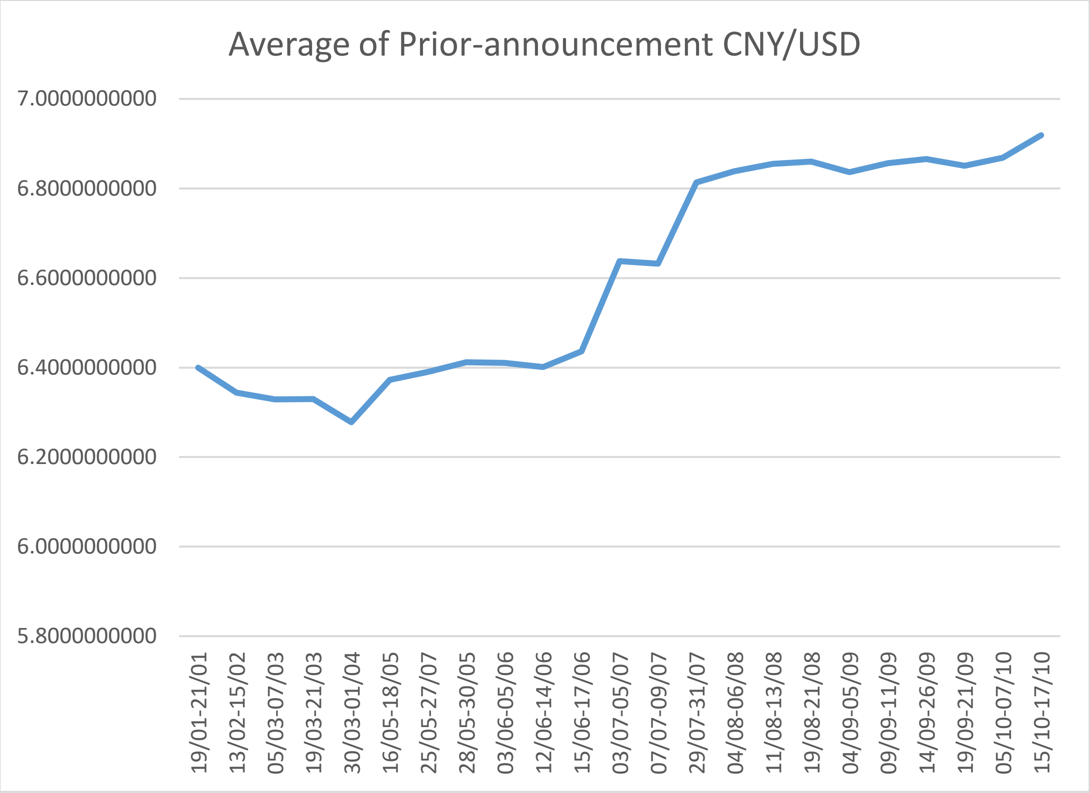
Kimberly also forecasted that the Japanese Yen might outperform other Asian currencies. He argues, “the fall in risk tolerance, deriving from a further worsening in US-China trade relations, could trigger “safe-haven” demand for the Yen that would offset any tendency for Japan’s currency to weaken if the Yuan did.” However, the outperformance of the Japanese Yen does not mean this currency can have its value increase during the trade war. Japan is the fourth largest trading partner of the United States, after Canada, Mexico and China. Therefore, the Yen are more susceptible to the change in prices of United States goods, which are fluctuated by the tariff China put on United States in the trade war. Another analyst, Credit Suisse trading strategist Alvise Marino, argued that Japanese Yen are “the clearest expression of the effect of trade war"[1]. He also believed that the Yen can be more vulnerable to the recent trade clashes, as China might reluctantly weaken the Chinese Yuan. Hence, the Japanese Yen might be most significantly volatile against the US Dollar after each movement of the trade war. Additionally, Marino also stated that the slump of the Japanese Yen also impacts value of other Asian currencies, such as the South Korean Won. Similarly, in the case of Vietnam, China, South Korea and United States are the three leading partners, composing almost 50% trading markets of this country[22], which might make the Vietnamese Dong, the most significant vulnerable currency to both the US Dollar and the Chinese Yuan during the trade war. In contrast to the Singapore Dollar, the Vietnamese Dong is expected to be more susceptible to the US's decision, as the United States contributes approximately 23% of Vietnamese trade value, which is almost three times greater than China does[22]. As an emerging country, Vietnam is subjected to the effect of FED's tightened monetary policy, as Kimberly stated in his article: "…, as those policy 'push the US Dollar funding costs up and further reduce the attractiveness of deploying capital into emerging market.'" Furthermore, according to Nicolas Chapman, Vietnam depends too much on the FDI, which makes the Dong become more susceptible to the fluctuated trading market[14]. In addition, the Vietnamese Dong has depreciated by 1.5% against the US Dollar since the beginning of the year. According to Vietnamese Banking expert Nguyen Tri Hieu, the Dong is expected to be devalued by 1.5% more in this year if the trade war continued, to offset the devaluation of the Chinese Yuan against the US Dollar[21]. On the other hand, as the Chinese government continued to devalue its currency to have competitive advantage over the United States in the trade war[15], the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar can be expected to appreciate against the Yuan.

Although the trade war between the United States and China may bring more opportunities for East Asian countries to replace China in some United States markets, this advantage cannot offset the negative effect of the trade war. Nonetheless, this advantage can slightly increase value of the East Asian currencies in the short term. Hence, the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar can have their value remained or decreased slightly at the beginning period. However, if the trade war continued with more intensity, those currencies may have to suffer the greater loss in value.

V. What were the exchange rate of those currencies compared to the United States and the Chinese Yuan before the trade war?

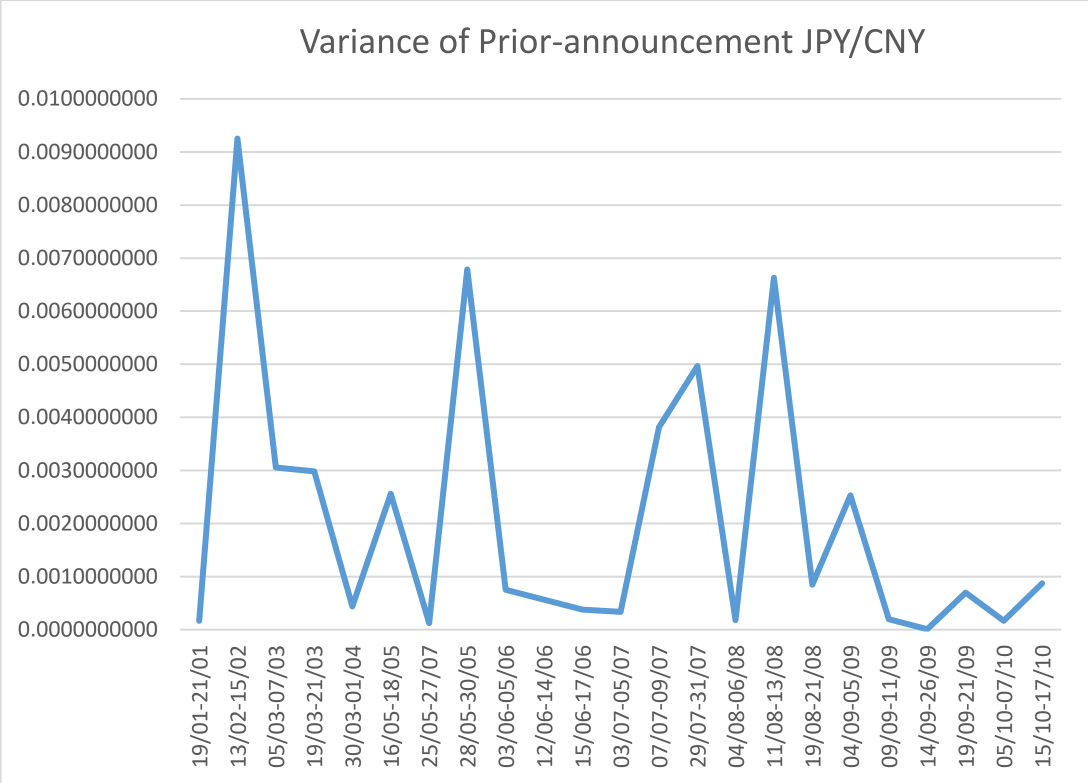
This paper uses descriptive analysis to compare their exchange rates of the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar to the US Dollar and the Chinese Yuan before each announcement in order to analyze their variability during the trade war in 2018. The analysis determining the maximum and minimum exchange rate and percentage change, along with the range, average and variance of exchange rate in three days prior to each trade-war announcement from the United States and China.

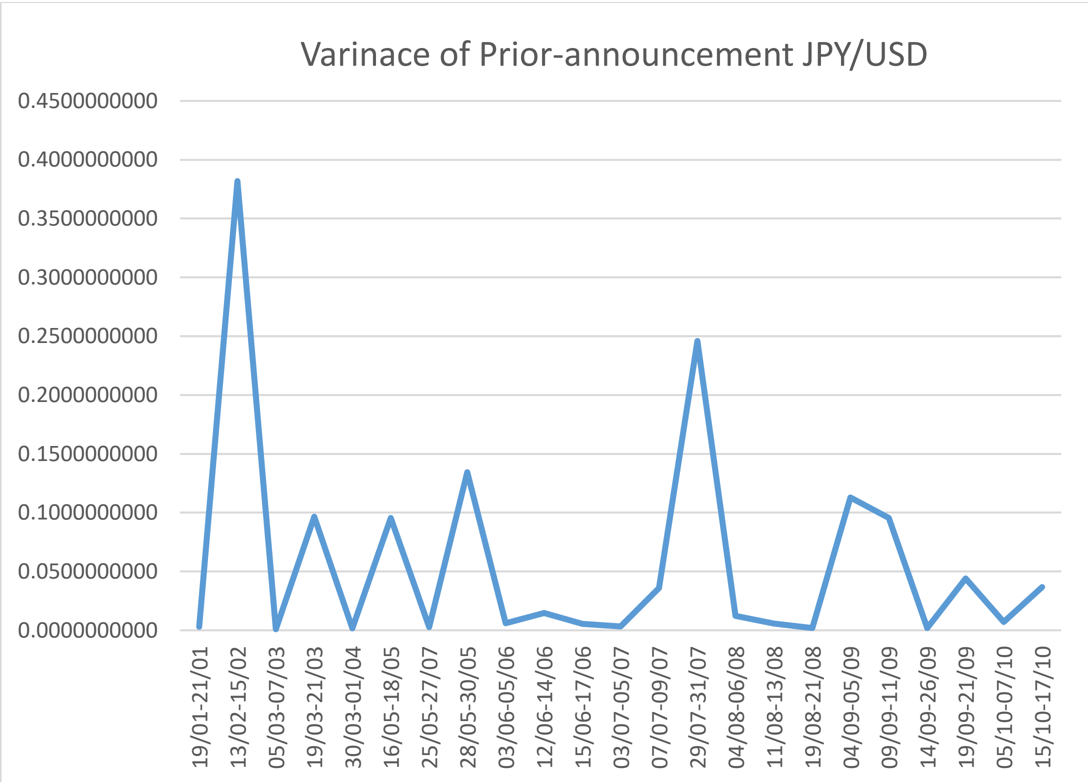
The trade war officially started on January 22nd 2018, when the Trump administration imposed tariffs on solar panels and washing machines, which heavily impacted China as the country produced most of the world's solar panels. During the trade war, the average prior-announcement exchange rate of Chinese Yuan per US Dollar is increased, as it is shown in the following chart.



In mid February and late July, China and the United States announced its intention to implement the new round of tariffs on each other. Therefore, the range and variance of prior-announcement exchange rate between the Chinese Yuan and the US Dollar are remarkably increased at the beginning of March and in the first half of August due to the long-lasting consequences of those previous decisions.

In general, the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar are depreciated against the US Dollar and appreciated against the Chinese Yuan during the trade war. Among the four analyzed currencies, the Japanese Yen is the most vulnerable currency to both the Chinese Yuan and the US Dollar, which is illustrated through the following graphs:





It is clear to see that the Japanese Yen is more susceptible to the Chinese Yuan than it is to the US Dollar. The Japanese Yen fluctuated most in mid February, before the US published its second announcement of implementing more tariffs on imported steel and aluminum. The variance of exchange rate of the Japanese Yen per US Dollar also rose significantly in late July, after the United States first released China-specific tariffs. The average of prior-announcement of the Japanese Yen per Chinese Yuan and per US Dollar are dropped at the beginning of the year, which means the Japanese Yen appreciated against the other currencies in this period. However, since mid May, the Japanese Yen has been devalued against the US Dollar and revalued against the Chinese Yuan. On the other hand, the variance of exchange rate of the Yen per Yuan increased greatly in late May and in mid August, before the United States and China entered a new round of tenser punishment.

The Singapore Dollar is more vulnerable to the Chinese Yuan more than to the US Dollar. However, the currency had a high variance of both exchange rate per US Dollar and per Chinese Yuan in mid February. While the variance of the exchange rate of the Singapore Dollar per US Dollar are generally low afterwards, the variance of the exchange rate between this East Asian currency and Chinese Yuan are increased more significantly, especially in late May and mid August. The average of the Singapore Dollar per US Dollar are increased continuously, while the average of the Singapore Dollar per Chinese Yuan reached peak in mid May and decreased remarkably since mid June, suggesting that the East Asian currency was appreciated against the Chinese Yuan at the beginning of the year and has been devalued in the second half of the year. The range of the Singapore Dollar per Chinese Yuan is more than the range of the Singapore Dollar per US Dollar, implying that the revaluation of the East Asian currency against the Chinese Yuan is greater than its devaluation against the US Dollar.

In contrast to the Japanese Yen and the Singapore Dollar, the South Korean Won has relatively low variance of exchange rate with the Chinese Yuan and the US Dollar. However, this East Asian currency had the highest average prior-announcement variance of exchange rate with both the Chinese Yuan and the US Dollar in mid February. Similarly, South Korea has relatively low prior-announcement ranges of exchange rate with both the Yuan and the Dollar and has them reaching a peak in mid February. The South Korean Won average depreciated against the US Dollar, while this East Asian currency was devalued against the Chinese Yuan in the first half of 2018 and revalued in the later half of the year.

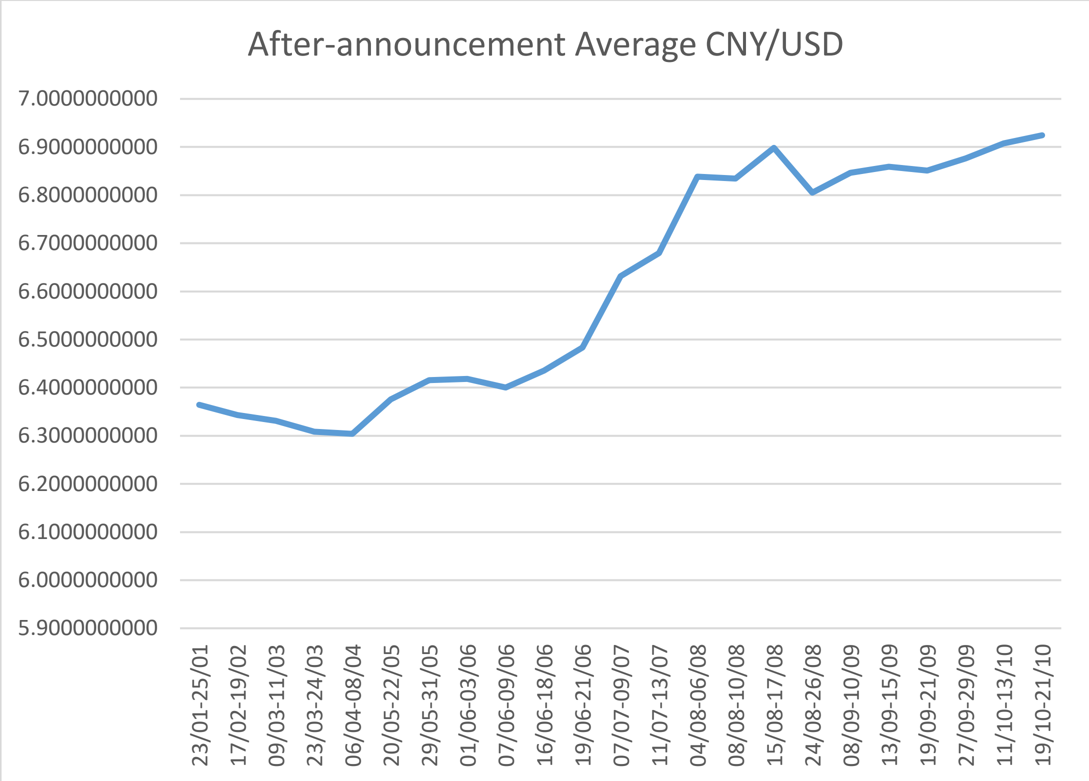
In contrast to the other analyzed currencies, the Vietnamese Dong per US Dollar has its variance dropped and remained at a low level at the beginning of the year until mid May. The variance of this prior-announcement exchange rate was highest in mid September, after the threatening of imposing additional tariffs on Chinese goods from the United States at the beginning of September. On the other hand, the variance of the Vietnamese Dong per Chinese Yuan slightly decreased in mid February and was generally low until the peak in mid August. This situation might be explained as Vietnam, at that time, might have not suffered the impact of trade war at the beginning period until it was impacted by the long-lasting consequences when the United States and China imposed additional tariffs as punishments. During the trade war, the Vietnamese Dong average depreciated against the US Dollar and appreciated against the Chinese Yuan.

In general, the ranges, averages, and variances of most exchange rates were relatively low in three days prior the first announcement. In addition, the variances and ranges of exchange rates between most East Asian currencies per US Dollar or per Chinese Yuan prior to trade-war announcement reached the peak in mid February. Therefore, this case might be explained as the consequences of the first announcement in January that continued to last until the second announcement. In order to let China gain the competitive advantage in the trade war, the Chinese Yuan has been devalued. Therefore, the East Asian currencies, prior to each announcement, on average appreciated against the the Chinese Yuan, especially in mid June, when the trade war became more intense again as the United States put additional tariffs and threatened to impose more tariffs on Chinese goods.

VI. How did those currencies fluctuate after each movement or related announcements during the trade-war period?

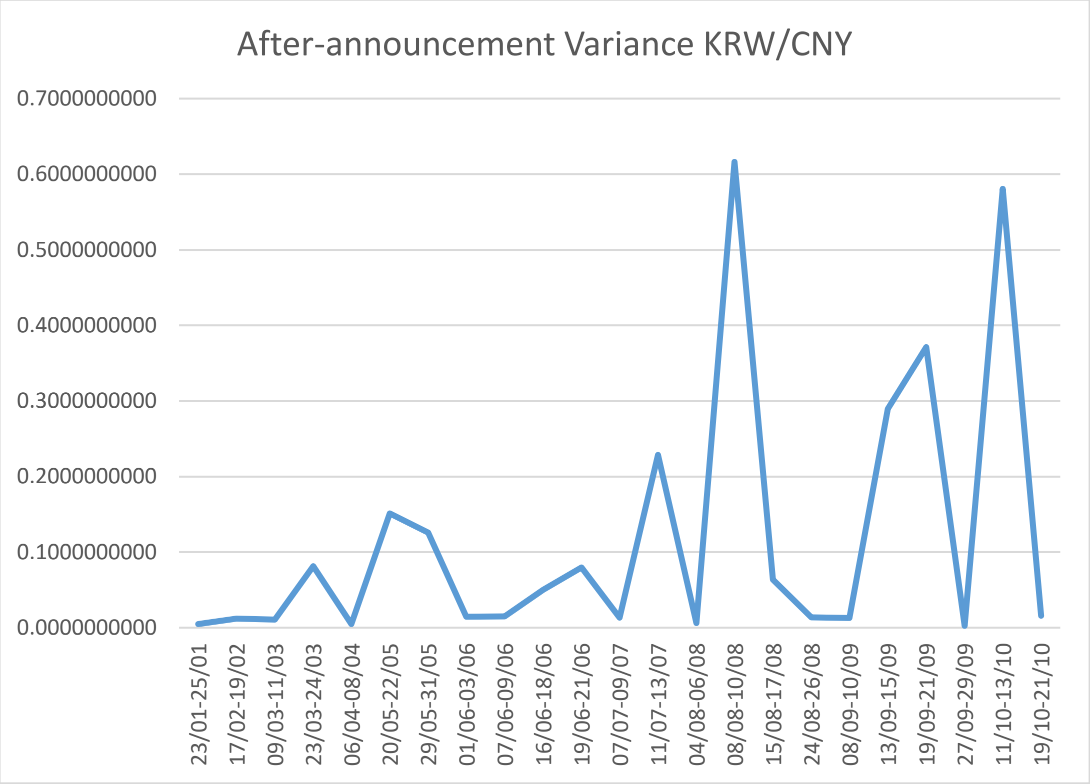
Similar to the previous part, the paper continues using descriptive analysis to compare their exchange rates of the Japanese Yen, the South Korean Won, the Vietnamese Dong and Singapore Dollar to the US Dollar and the Chinese Yuan after each announcement in order to analyze their variability during the trade war in 2018. The analysis is still composed of the aforementioned components in three days after each trade-war declarations from the United States and China.

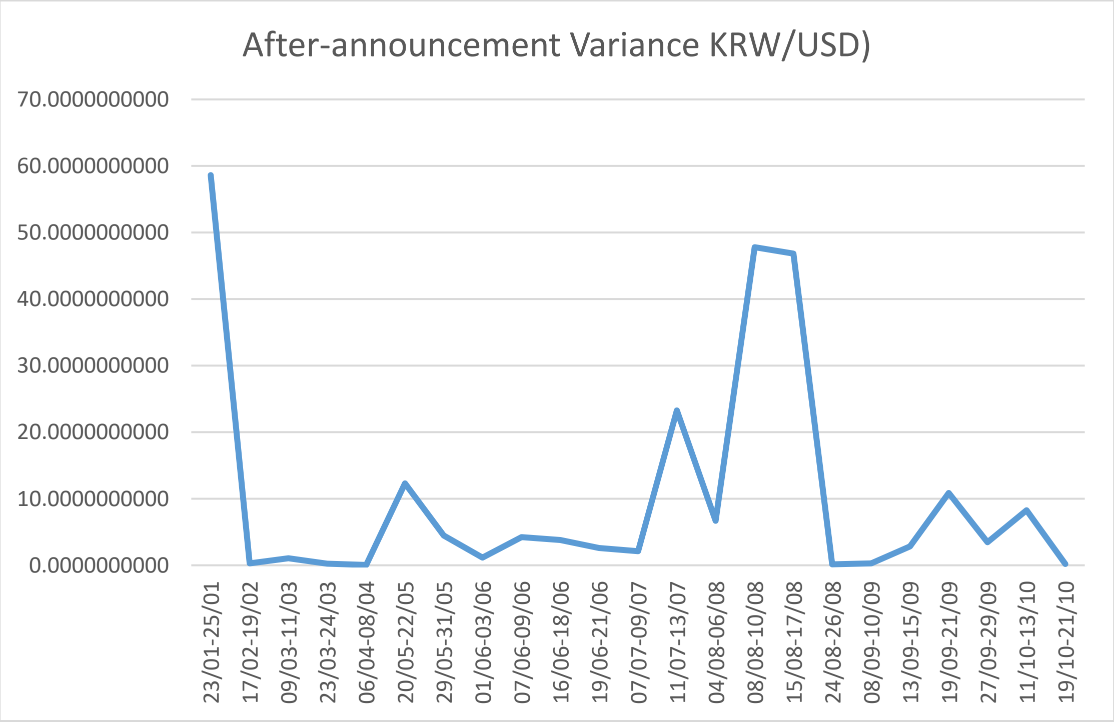
The after-announcement average of Chinese Yuan per US Dollar, similar to the prior-announcement rate, has increased continuously during the trade war as shown in the following chart:



On the other hand, the variance of the exchange rate between the two currencies was at the peak after the first announcement and also increased drastically in mid August, but not as significantly as in mid January, when China filed WTO claim against the United States. Similarly, the range of this exchange rate reached peak in mid January, suggesting that the Chinese Yuan was most significantly depreciated against the US Dollar after the first declaration of the trade war. The after-announcement range, variance, and average of the Chinese Yuan per US Dollar are higher than those rates in three days before trade-war statements were released.

Similar to the prior-announcement rate, the after-announcement average of the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar are decreased in the case of per US Dollar and increased in the case of per Chinese Yuan. However, while the Japanese Yen was the most vulnerable currency in the three days before trade-war statements were released, the South Korean Won was more susceptible than the other analyzed currencies in the three days after those trade-war announcements were published. The variance of South Korean Won per US Dollar and per Chinese Yuan are illustrated through the following graphs:





The South Korean Won was most vulnerable to the US Dollar when the trade war officially started as the highest variance of Won per Dollar was in mid January. The rate then dropped down and remained relatively low until the significant increase during August, when the trade war entered another tenser period with lots of punishment decisions. However, this increase is not as much as the increase in mid January. On the other hand, the Won was not as susceptible to the Chinese Yuan as the US Dollar in the first half of the year, until the peak at the beginning of August, after the second round of tariffs was finalized and released. Similarly, the range of the South Korean Won per US Dollar peaked after the first announcement of trade war, while the range of the South Korean Won per Chinese Yuan was highest at the beginning of August. The East Asian currency on average appreciated against the Chinese Yuan, but slightly depreciated against the Yuan after the first announcement until late March and in the first half of June, when China offered several modest-peace decisions. The average of both the South Korean Won per US Dollar and per Chinese Yuan in three days after the trade-war statements were released are greater than those rates in three days before.

Similar to the South Korean Won, the Japanese Yen was greatly susceptible to the Chinese Yuan, especially in the later half of the year, after the implementation and release of China-specific tariff decisions from the United States at the beginning of July. However, the Japanese Yen per Chinese Yuan has its variance relatively low during the year, after the significant peak in mid January. Similarly, the range of the Yen per Yuan was highest after the trade war officially started, and dropped down significantly afterwards. On the other hand, the range of the Yen per US Dollar are relatively higher during the year and peaked in the first half of July. The average Japanese Yen per US Dollar and per Chinese Yuan decreased from mid January until late March, and then increase in the later half of May, and decrease again in last ten days of May, suggesting that the Yen depreciated and appreciated against the US Dollar and the Chinese Yuan similarly. However, after the modest peace offering by Beijing on May 31st, the Japanese Yen was on average depreciated against the US Dollar while the East Asian currency was appreciated against the Chinese Yuan. In three days after the trade-war statements were released, the Japanese Yen per US Dollar had higher variance and range than it had in three days before, while the Japanese Yen per Chinese Yuan has after-announcement higher average its prior-announcement rate.

The Vietnamese Dong is not as susceptible to the US Dollar and to the Chinese Yuan as the South Korean Won and the Japanese Yen. The Vietnamese Dong per US Dollar was highest in mid August, after China file WTO claims against the United States. On the other hand, the variance of the Vietnamese Dong per Chinese Yuan peaked after the first trade-war announcement, then fell down remarkably and remained low. Similarly, the range of the Vietnamese Dong per Chinese Yuan was highest in mid January, then decreased significantly and remained relatively low, while the range of the Vietnamese Dong per US Dollar during the year is relatively higher and reached peak after China filed WTO claims against the United States. In three days after the trade-war announcements were published, the Vietnamese Dong per US Dollar had its variance, range and average greater than those rates in three days before, while the after-announcement variance and range of the Vietnamese Dong per Chinese Yuan are higher than its prior-announcement rates.

Similar to the Vietnamese Dong, the Singapore Dollar per Chinese Yuan had fairly low variance during the year unless the significant peak at the beginning of June, after the Trump administration prevented the struggling Chinese telecommunications giant

ZTE from buying American products. On the other hand, the Singapore Dollar per US Dollar had the highest variance after the trade war officially started, and then dropped down significantly. This rate also increased greatly, after China offered modest peace in late May and during the first half of August, but not as much as in mid January. Similarly, while the range of the Singapore Dollar per Chinese Yuan reached peak at the beginning of June, the range of the Singapore Dollar per Chinese Yuan was greatest in mid January. The Singapore Dollar was depreciated against the Chinese Yuan during the first half of 2018, then greatly appreciated against the Yuan after the United States imposed additional tariffs on more Chinese goods in the later half of June. Both the Singapore Dollar per US Dollar and per Chinese Yuan has the after-announcement variance and range than its prior-announcement rates.

VII. Compare the hypothesis of currencies' change with their real changes.

The following are remarkable announcements from the United States and China:

From the United States:

- 22/01/2018: US imposed tariffs on solar panels and washing machines, which affected Chinese exports significantly; trade war started
- 22/03/2018: US filed WTO claim against China and imposed first specific tariffs on Chinese products
- 10/07/2018: US released additional tariff lists on Chinese products
- 23/08/2018: US implemented the second round of tariffs on Chinese products
- 17/09/2018: US finalized the third round of tariffs on Chinese products
- 24/09/2018: US implemented the third round of tariffs on Chinese products

- 30/10/2018: US administration announced propose of imposing tariffs on remaining Chinese products

From China:

- 02/04/2018: China first imposed tariffs on American products as response to US tariffs
- 03/08/2018: China released the additional tariff lists
- 23/08/2018: China implemented the second round of tariffs on American exports and filed the second WTO claim against the US
- 18/09/2018: China announced more tariffs on American products as response to the third additional tariffs from the US
- 24/09/2018: China implemented the third round of tariffs on American exports

The following tables show how the exchange rate between the analyzed East Asian currencies per the US Dollar and per the Chinese Yuan before and after each remarkable announcements listed above:

Before the United States published its statements, the South Korean Won seemed to be the most vulnerable currency to the Chinese Yuan. This East Asian currency was also most susceptible to the Chinese Yuan before each statements from China. On the other hand, the Vietnamese Dong became the most susceptible currency to the Chinese Yuan after the United States released its announcements. The Japanese Yen became the second most susceptible currency with the variability as high as the Vietnamese Dong. After Chinese statements, the Yen became the most susceptible currency to the Chinese Yuan. Similarly, the South Korean Won was the most susceptible currency to the US Dollar both before Chinese and the US announcements. The Vietnamese Dong was still the most vulnerable currency to the US Dollar after the US announcements, while the Japanese Yen was most susceptible to the US Dollar after Chinese announcements.

Before China published its statements, the South Korean Won, the Vietnamese Dong and the Singapore Dollar had their exchange rate per US Dollar changed most significantly at the beginning of August. Except the Vietnamese Dong, all the analyzed East Asian currencies got the exchange rate with the US Dollar changed most significantly after the US announced the second additional tariffs at the beginning of July. The exchange rate of the currencies with the Chinese Yuan change most remarkably after the first announcement of China of imposing tariffs on American products at the beginning of April. The East Asian currencies had the exchange rate per Chinese Yuan changed least significantly after Chinese actions on August 23rd. Through the analysis of exchange rate before and after significant announcements, the East Asian currencies were on average most susceptible in the middle of the year, when the US and China continuously announced to impose additional tariffs and file claims against each other, which increases the intensity of the trade war.

VIII. Conclusion

In general, during the trade war, the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar depreciated against the US Dollar and appreciated against the Chinese Yuan. Those East Asian currencies were most volatile at the beginning of the year, when the trade war officially started, and in August, when the global trade war was intensified. In addition, the Yen, the Won, the Dong and the Singapore Dollar were more volatile to the US Dollar before announcements than they were after those announcements, suggesting that the market predicted the relative movement of the East Asian currencies toward the US Dollar accurately. On the other hand, those East Asian currencies were less vulnerable to the Chinese Yuan before announcements than they were after those announcements, indicating that the market failed in predicting the relative movements of those East Asian currencies toward the Chinese Yuan. Furthermore, the Japanese Yen, the South Korean Won, the Vietnamese Dong and the Singapore Dollar generally responded more significant to the US announcements than they did to the Chinese announcements, implying that the United States might be the aggressor in this trade war, while China tried to defend those attacks. The trade war between the United States and China devalued the East Asian currencies significantly in 2018, which made remarkable consequences in foreign investments, direct and indirect trades in those countries. Currently, the East Asian currencies have become more stable at the end of the year, when the United States and China agreed to have a conversation to reduce the tension of the trade war.

However, if the two powerful countries continue their trading conflict, there will be the worse scenario for the currency market and economy of those East Asian countries.

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