



温州肯恩大学  
WENZHOU-KEAN UNIVERSITY

**How does Sino-US trade dispute influence major electronics exporters in China?**

In Partial Fulfillment of the Requirements  
for the Bachelor of Science in Finance

by

YUAN Wenqi

1025965

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## **ABSTRACT**

This study seeks for the way to determine the relationship between Sino-US trade dispute and the stock price of major electronics exporters in China. It considered major Chinese exporters of US that have been on the Chinese market as main research observations, and their stock price changing during the trade dispute as moderator variables. The study mainly focusses on whether there is a clear relationship between the trade dispute and stock price changes of exporters, if there is a clear relation, how to describe it. Also, the research will search those export companies' action towards the trade dispute and analyze whether their action help or harm the companies' stock price from dispute policies. The study was an observational research, using descriptive-correlational design. Descriptive and inferential statistics were used to analyze the data. Usage of "Stock Price Changes" during the trade dispute as the variable to determine whether the Sino-US trade dispute influence the exporters' business, and the analysis of "Reactions by Exporters" to determine whether those on the market export companies take right actions during the trade dispute.

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## INTRODUCTION

### **Brief Introduction**

The Sino-US trade dispute is the conflict between China and United States on tariffs and other trade barriers, so theoretically speaking, those international public companies are influenced most by this trade dispute. From some Chinese articles and reports, I think that electronic industry is the biggest exporter among all the industries in China, so this research is focus on how electronic industry preforms during Sino-US trade dispute.

This research will focus on target companies' stock price change and their operating strategy change during this trade dispute and analyze whether those companies deal well with the influence of trade dispute and how this help them stable stock price. The data will be found by using Bloomberg and Internet, and to test my hypothesis, I will choose several companies as example for this research and analyze the data horizontally and Longitudinally to get a more accurate result.

To do horizontal comparison, I want to choose two companies that went public in China and two companies registered on US stock market for the horizontal comparison, all the four companies must have business between China and United States. By doing horizontal comparison, I want to find out whether the Sino-US trade dispute only influences one part or both and how the degree of influence shows on two stock market. As for the longitudinally comparison, I will find the ten years stock price data of the four chosen companies and compare the changes in the five years to see how the impact of Sino-US trade dispute changes the their stock price and whether this impact is a decided factor for the price change.

By doing this research, I hope I could find some impact of Sino-US trade dispute on Chinese Stock Market, and how those impacts change the target sample companies or the whole market. After the data analysis and conclusion making, I will also analyze why those influences came out and how to deal with them as the company or individual shareholders. I expect that

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finishing this research can have some contributions on clarify today's Chinese stock market situation and my understanding about economic and equity market.

As for my hypothesis, the trade dispute began with US government decided to restrict output goods from China to United States by increasing the tariffs between two countries and my research focus on electronic industry, so my hypothesis is that "major electronics exporters that had IPO on Chinese Stock Market may have a stock price decrease".

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## LITERATURE REVIEW

### a. Background: Sino-US trade dispute

Sino-US trade disputes represent a several political actions between China and United States on China's exporters and tariffs between the two countries. In several journals and books, writers all discuss this trade war between China and US, such as Liew, Hughes, Moosa. They talk about the trade dispute in different view.

In Liew's research, he analyses trade war and relation between US and China. He mentions that the trade imbalance of America is caused by China and America wants to use export restriction to make this imbalance better (Liew, 2010). In Hughes's journal, he also mentions how America regards China as a threat of America on economy (Hughes, 2005). As for Moosa's book, he talks about the US trade dispute and how this influence America on their leverage, savings and economic structure (Moosa, 2012).

Those information helps me to full fill my research's background part. In those researches, I see the reasons of previous trade disputes between America and China happened and how those disputes went on and ended up. Although those researches don't have direct or indirect connection with my research body or methodology, them give me a brief knowledge about previous or today's Sino-US trade war on the beginning and their result.

### b. Methodology and Case Study

In Harper and Huth's research journal *Japanese Equity Market Response to U.S. Administered Protection Decisions*, it studies the capital market case of US government's restriction on Japanese dumping goods to US and use this case to measure how export restriction influence Japanese equity market (Harper & Huth, 1997). One major purpose of this research is to see whether another country's import policy would influence stock price of export companies

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of the policy targeted country. In Harper and Huth's research, they chose to focus on steel industry and used data from ITC and DoC database to get data. This report used sample from 34 different companies from 1985 to 1992 (Harper & Huth, 1997).

As for methodology, the abnormal return on equity received by Japanese shareholders and the abnormal return on equity received by Japanese shareholders. In the literature review I only shows a part of whole equations this journal used. By reviewing Harper and Huth's research, I think their methodology is useful for my research to learn from.

In Niederhoffer's article, he has a more general view on the relationship of stock price and world events and focus his research on how stock price changes with world events by time. In the journal summary, it mentions that for events that cause large price change, the first or second day of the event, the change of stock price usually is large and goes to the same way for different kinds of events. For extreme bad event, the stock market usually shows its overreaction to the event at later two to five days after the event disclosed (Niederhoffer, 1971).

From this research, I learned that stock price can still be influenced by a world event days after the event is announced. By reviewing this, when I collect my research data, I will not only focus on data at certain time point but also after the event (In my case it is Sino-US trade dispute announcement) how did the stock price changes.

### **c. Case Sample Chosen**

Since I want to learn from methodology of Harper and Huth's paper, I will choose one most famous industry of China's export area as my research target industry. To achieve this goal, several articles are reviewed to help me learn more about China's recent export situation.

In Lu's research paper *Exceptional exporter performance? Evidence from Chinese manufacturing firms*, it talks about the distribution of China's exporters and export goods. For



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example, the export intensity exhibits a U-shape, which means about half of the exporters output most of the goods (Lu, 2010).

From Workman's article about Top 10 export industry in China, the percentage of different industry export count show that electrical machinery of equipment and computers are most welcomed as export good. Electrical machinery of equipment counts one fourth of the whole export area and machineries like computer are counts about 17% (Workman, 2019). Because of those findings, I decided to choose electrical machinery accessories (i.e. chip or screen) and goods (i.e. computers or cellphone) industries as my research targets.

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## **RESEARCH APPROACH**

### **a. Methodology**

In the study, descriptive-correlation design is applied in the study, which is designed to examine the relationship of the two variables. The correlational design is the most suitable to be applied since the study is aimed to ascertain how does the Sino-US trade dispute influence the stock price of selected major electronics exporters.

This study focuses on two major parts of Sino-US trade dispute, one is how stock market reacts towards the trade dispute policies, include market itself and target companies price, the other one is about how do the managers in exporters deal with the influences of the trade dispute and whether their actions help the companies in a good way. The first part of study bases on data and relationship. Cross-sectional study design is proposed to be used in the study. To determine the relationship between the trade dispute policy announced time and target companies' stock price changes. According to Kumar (2015), cross-sectional design is the most appropriate method to be used to find out the prevalence of a phenomenon, situation, problem or attitude. As for the second part of study, the analysis is the best way to combine it with information about major exporters' stock price.

As for detail research design, the study first focuses on the first part, which is the stock price changes during the trade dispute. To achieve the primary research, study will select several electronics export companies on the Chinese market as observations, and because some studies show that electronic industry is one of the major export industries. Then, about data collection, because the Sino-US trade dispute happened in 2018 and only consists about 2 years, the study determined to focus on stock price in recent 5 years at first to seek the relation between stock price and the trade dispute situation changes.

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Besides data of stock price, annual reports of target companies are also used for study's data collection, financial reports give the study another view to analyze the situation of companies during the trade dispute. Also, from annual report and some companies' announcements, we can find the strategies they used as reactions of the trade dispute. The research will combine data collected from annual reports, stock market and companies' announcements to analyze how do those electronics exporters perform during the trade dispute.

To get the information about stock price, the study uses data from Yahoo Finance mainly, and other financial information from annual reports. As for companies' announcements, the study will try to find them on companies' official websites.

As for companies selected as observations, because some other studies show that electronics industry is a major export industry in China, so the study determines to choose about five to seven exporters in electronics industry as primary observations in the study. Besides, those samples are divided into two parts, one is electronics components industry, the other one is electronic product industry.

After searching from some other studies, the timeline of Sino-US trade dispute can be seen clearly. From the beginning of 2018 until now, the United States government has made several announcements that would consider increasing tariff between USA and China.

To do the statistics of relation between stock price data and the trade dispute policy, the study basically wants to show whether the stock price change with the new policy announced. If so, the statistics would find out the relationship is and if not, the study also want to analyze reasons that let this happen. Two basic hypothesizes are no relation between those two variables and companies' quick reaction eliminates the influences.

As for analyze, the study will have a simple graph comparison between the stock prices and policy announcement timeline to determine whether there is a relation. If so, to get a more detail conclusion, the research will use some functions to show the relationship. According to

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Harper and Huth's similar research in 1997, which studied Japanese stock market changes and the restriction of exports to the United States, this research got some ideas about formula used in this study.

This research used an equation  $AR_{it} = R_{it} - ER_{it}$  to measure the influence of companies' value changes during the Sino-US trade dispute, which was the formula used in Harper and Huth's research.  $AR_{it}$  stands for abnormal return of a company at a certain time, and  $ER_{it}$  represents the expected return of a company at a certain time. By using this formula, the study can write the relationship between company value of change and trade dispute policy from the United States in function.

### **b. Data Collection**

For the primary research of this topic, the majority efforts are worked on data and information collection, instead of relation conformation. Those findings can be divided into four parts: information about the trade dispute, target exporters determination, stock price information from Yahoo Finance. In some other researches, they describe the timeline of Sino-US trade dispute, which is useful for relationship determination. Here is the timeline of Sino-US trade dispute from 2018 to 2019, for this study, because it mainly focuses on the stock market changes in China, so the timeline only has announcements of the United States government that useful for this study.

1. March 22<sup>nd</sup>, 2018, America planned to have a tax on 600 billion dollars of exports from China.
2. April 5<sup>th</sup>, America planned to have a tax on 1000 billion dollars of exports from China.
3. May 29<sup>th</sup>, America planned to have a 25% tax on 500 billion dollars of exports from China.
4. June 15<sup>th</sup>, America announced tariff list of 500 billion dollars of exports from China.
5. July 10<sup>th</sup>, America planned to have a 10% tax on 2000 billion dollars of exports from China.
6. July 26<sup>th</sup>, America agreed to decrease tax of exports from China.

7. August 7<sup>th</sup>, USTR planned to have a 25% tax on 160 billion dollars of exports from China.
8. September 18<sup>th</sup>, America announced to have a 10% tax on 2000 billion dollars of exports from China, and this rate will increase to 25% at January 1<sup>st</sup>, 2019.
9. February 24<sup>th</sup>, 2019, America delayed the time of increasing tax of exports from China.
10. May 8<sup>th</sup>, USTR announced to increase the export tax from 10% to 25% on 2000 billion dollars of exports from China.
11. May 10<sup>th</sup>, American government announced to increase the export tax from 10% to 25% for exports from China.

During the time of finding suitable companies as the observation for the study, the part of observations that are used as electronic products (e.g. phone, computer, etc.) exporters on the market are easier to find. For this part of work, study choose three companies, Xiaomi, ZTE corporation and Huawei, because electronic product exporters require high reputation and technology for their products to be sold in America, and all of those three major electronic product producers in China. Also, Xiaomi and ZTE Corporations are on the market in China but Huawei is not, so selecting those three can also observe the potential difference of listed company and non-listed company's value change during the trade dispute.

My data for formula testing and regression are collected from Yahoo Finance, and the whole research studies the time period from July 2018 to March 2019, total nine months. The stock price data about Xiaomi Corporation and ZTE Corporation are collected from Yahoo Finance and shown in weekly and return of equity are calculated with formula.

Because the target company Xiaomi corporation was listed on the Hong Kong market at July 8, 2018, so the event used in the research is US policy announced at September 18<sup>th</sup>, which reported the US government decided to increase import tax of goods from China to 10%.

Because the Sino-US trade dispute continue more than one year and several announcements

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about the change on tariff are reported by US government, so the event happened at February 2019. In that month, China and US had several high-level Sino-US Economic and Trade Consultations, then at February 24<sup>th</sup>, the US government delayed the tariff increase action toward Chinese goods.

#### 1. Stock Price changes of Xiaomi

Because Xiaomi got IPO at July 9<sup>th</sup>, 2018, so there only one and a half years stock price changes for Xiaomi. From the graph, the study found that the stock price of Xiaomi tends to decrease since its IPO and has a general decrease tendency till now. However, there were still several times that the stock price performs to increase, which are happened during August 2018, February 2019 to May. Those times are also the times that the America delayed its plan of increase tariff on Chinese product, but this doesn't prove a strong relation between stock price and trade dispute policies.

#### 2. Stock Price changes of ZTE corporation

Unlike Xiaomi, ZTE corporation had its IPO at 1997. If focusing on price changes in 5 years, the stock price remains a relative high value from September 2017 to June 2018 but had a cliff down at the beginning of June in 2018, which may happen because America's increasing of tariff or inside problem of ZTE corporation.

## ANALYSIS AND FINDINGS

### Linear Result

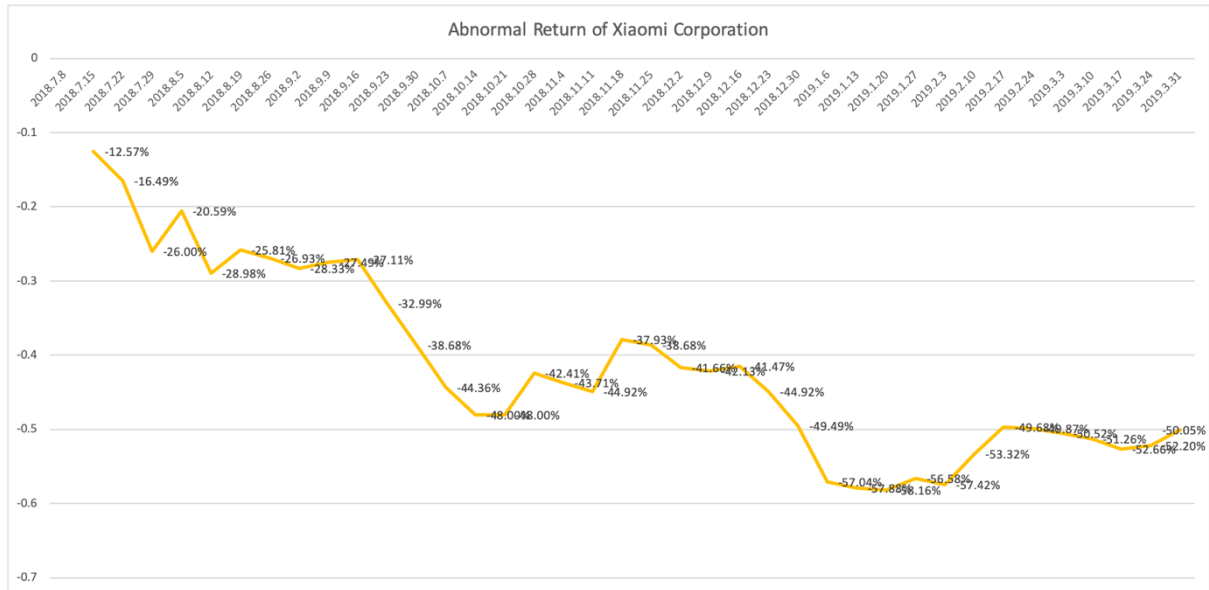
By using formula  $Abnormal\ Return = Actual\ Return - Expected\ Return$  as basic function to study the changes of abnormal return by time and find the relation between Sino-US trade dispute and equity market of electronic industry. Referencing from Happer and Huth's research, this study uses similar function for calculation of abnormal return, with Expected return written in form of  $risk-free\ rate + beta \times (market\ return - risk-free\ rate)$ .

As for data used in calculation, the study collects most of its data from *Yahoo Finance* for stock price and some ratios. The risk-free rate is government bond rate, which is 4% in 2019, market return is 5.25 and beta is 1.22 for ZTE corporation and 1 for Xiaomi.

- Xiaomi Corporation

XIAOMI CORPORATION														
Three month before the event					Three month at the event					Three month after the event				
Date	Price	%change of ipo	ER	AR	Date	Price	%change of ipo	ER	AR	Date	Price	%change of ipo	ER	AR
2018.7.8	21.45				2018.10.7	13.06	-39.11%	5.25%	-44.36%	2019.1.6	10.34	-51.79%	5.25%	-57.04%
2018.7.15	19.88	-7.32%	5.25%	-12.57%	2018.10.14	12.28	-42.75%	5.25%	-48.00%	2019.1.13	10.16	-52.63%	5.25%	-57.88%
2018.7.22	19.04	-11.24%	5.25%	-16.49%	2018.10.21	12.28	-42.75%	5.25%	-48.00%	2019.1.20	10.1	-52.91%	5.25%	-58.16%
2018.7.29	17	-20.75%	5.25%	-26.00%	2018.10.28	13.48	-37.16%	5.25%	-42.41%	2019.1.27	10.44	-51.33%	5.25%	-56.58%
2018.8.5	18.16	-15.34%	5.25%	-20.59%	2018.11.4	13.2	-38.46%	5.25%	-43.71%	2019.2.3	10.26	-52.17%	5.25%	-57.42%
2018.8.12	16.36	-23.73%	5.25%	-28.98%	2018.11.11	12.94	-39.67%	5.25%	-44.92%	2019.2.10	11.14	-48.07%	5.25%	-53.32%
2018.8.19	17.04	-20.56%	5.25%	-25.81%	2018.11.18	14.44	-32.68%	5.25%	-37.93%	2019.2.17	11.92	-44.43%	5.25%	-49.68%
2018.8.26	16.8	-21.68%	5.25%	-26.93%	2018.11.25	14.28	-33.43%	5.25%	-38.68%	2019.2.24	11.88	-44.62%	5.25%	-49.87%
2018.9.2	16.5	-23.08%	5.25%	-28.33%	2018.12.2	13.64	-36.41%	5.25%	-41.66%	2019.3.3	11.74	-45.27%	5.25%	-50.52%
2018.9.9	16.68	-22.24%	5.25%	-27.49%	2018.12.9	13.54	-36.88%	5.25%	-42.13%	2019.3.10	11.58	-46.01%	5.25%	-51.26%
2018.9.16	16.76	-21.86%	5.25%	-27.11%	2018.12.16	13.68	-36.22%	5.25%	-41.47%	2019.3.17	11.28	-47.41%	5.25%	-52.66%
2018.9.23	15.5	-27.74%	5.25%	-32.99%	2018.12.23	12.94	-39.67%	5.25%	-44.92%	2019.3.24	11.38	-46.95%	5.25%	-52.20%
2018.9.30	14.28	-33.43%	5.25%	-38.68%	2018.12.30	11.96	-44.24%	5.25%	-49.49%	2019.3.31	11.84	-44.80%	5.25%	-50.05%
<b>MAR</b>	<b>-41.48%</b>													

Above table shows the stock price, percentage changes of it, expected return and abnormal return of Xiaomi corporation from July 2018 to March 2019. Referencing from Happer and Huth, when calculation those data about Xiaomi corporation, the study divides the whole time period into three parts and defines October 2018 to December 2018 as event (the study focus time of Sino-US trade dispute) period, the previous three months are time before the event, and the later three months are time after the event.



From the table and chart about the change of the abnormal return for Xiaomi Corporation, we can see that at the first three month (7-9 in 2018) before the event, even though there is a return decreasing, it still has period that the return is stable. However, after October 2018, the abnormal return of Xiaomi corporation on stock was decreasing rapidly in the first month and showing a tendency of decreasing in the later six months. After February 2019, the return had a tendency of increasing and became generally stable for the after two months.

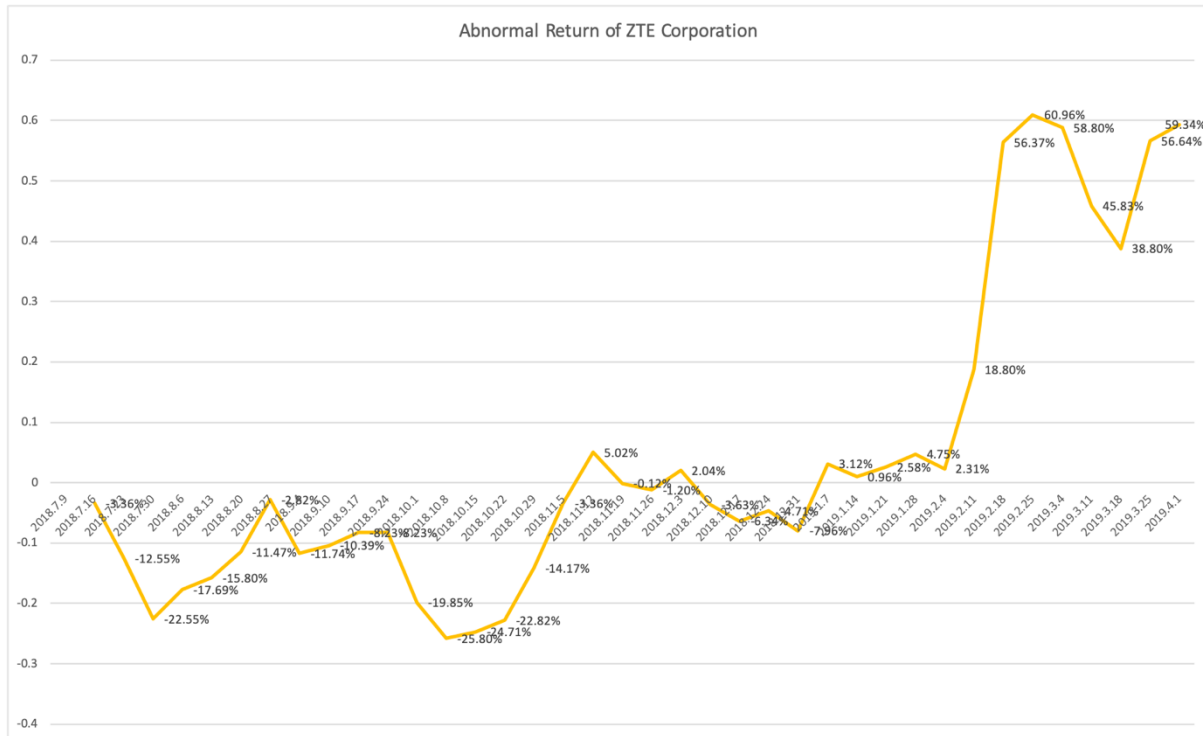
- ZTE Corporation

ZTE CORPORATION														
Three month before the event					Three month at the event					Three month after the event				
Date	Price	%change of ipo	ER	AR	Date	Price	%change of ipo	ER	AR	Date	Price	%change of ipo	ER	AR
2018.7.9	3.7				2018.10.1	3.17	-14.32%	5.53%	-19.85%	2019.1.7	4.02	8.65%	5.53%	3.12%
2018.7.16	3.78	2.16%	5.53%	-3.36%	2018.10.8	2.95	-20.27%	5.53%	-25.80%	2019.1.14	3.94	6.49%	5.53%	0.96%
2018.7.23	3.44	-7.03%	5.53%	-12.55%	2018.10.15	2.99	-19.19%	5.53%	-24.71%	2019.1.21	4	8.11%	5.53%	2.58%
2018.7.30	3.07	-17.03%	5.53%	-22.55%	2018.10.22	3.06	-17.30%	5.53%	-22.82%	2019.1.28	4.08	10.27%	5.53%	4.75%
2018.8.6	3.25	-12.16%	5.53%	-17.69%	2018.10.29	3.38	-8.65%	5.53%	-14.17%	2019.2.4	3.99	7.84%	5.53%	2.31%
2018.8.13	3.32	-10.27%	5.53%	-15.80%	2018.11.5	3.78	2.16%	5.53%	-3.36%	2019.2.11	4.6	24.32%	5.53%	18.80%
2018.8.20	3.48	-5.95%	5.53%	-11.47%	2018.11.12	4.09	10.54%	5.53%	5.02%	2019.2.18	5.99	61.89%	5.53%	56.37%
2018.8.27	3.8	2.70%	5.53%	-2.82%	2018.11.19	3.9	5.41%	5.53%	-0.12%	2019.2.25	6.16	66.49%	5.53%	60.96%
2018.9.4	3.47	-6.22%	5.53%	-11.74%	2018.11.26	3.86	4.32%	5.53%	-1.20%	2019.3.4	6.08	64.32%	5.53%	58.80%
2018.9.10	3.52	-4.86%	5.53%	-10.39%	2018.12.3	3.98	7.57%	5.53%	2.04%	2019.3.11	5.6	51.35%	5.53%	45.83%
2018.9.17	3.6	-2.70%	5.53%	-8.23%	2018.12.10	3.77	1.89%	5.53%	-3.63%	2019.3.18	5.34	44.32%	5.53%	38.80%
2018.9.24	3.6	-2.70%	5.53%	-8.23%	2018.12.17	3.67	-0.81%	5.53%	-6.34%	2019.3.25	6	62.16%	5.53%	56.64%
					2018.12.24	3.73	0.81%	5.53%	-4.71%	2019.4.1	6.1	64.86%	5.53%	59.34%
					2018.12.31	3.61	-2.43%	5.53%	-7.96%					
<b>MAR</b>		<b>4.13%</b>												

Above table shows the stock price, percentage changes of it, expected return and abnormal return of ZTE corporation from July 2018 to March 2019. Referencing from Happer and Huth, when calculation those data about ZTE corporation, the study divides the whole time period into three parts and defines October 2018 to December 2018 as event (the study focus



time of Sino-US trade dispute) period, the previous three months are time before the event, and the later three months are time after the event.



From the table and chart data about the change of the abnormal return for ZTE Corporation, the abnormal return had a rapidly decrease after October 1<sup>st</sup>, and the volatility of abnormal return rate is unstable for the October 2018. During November 2018 to January 2019, the abnormal return rate is fluctuating around 0.

After February 4<sup>th</sup>, 2019, the abnormal return had a rapid increase to about 60%. Although it had a decrease later, the abnormal return rate was stable at a high level that never took place in the previous seven months. This happened may because the consultations held during February 2019, which have high possibility that lead to the delay of increasing tariff between US and China.

After having linear comparison of abnormal return changes between Xiaomi corporation and ZTE corporation, the study finds that the change direction and degree of two abnormal return lines are quite different, which looks like that there is no correlation between Sino-US

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trade dispute. To find the result and reason for it, the research tries to use in-depth analysis to test the correlation between companies and trade dispute.

### **In-Depth Analysis**

- Xiaomi Corporation

As a big smartphone producer in China, Xiaomi developed not only in Chinses market, but also try to promote its products over the sea, and United States is one of its targets. During past years, Xiaomi took advantages of social media to increase its popularity in China and generally become a successful representation of co-creating market content with fans and brand. Because of Xiaomi's succeed, Shih and Luarn tried to develop a framework that building the power of fan base and propose a new fan-centric social media business model (Shih & Luarn, 2014).

The in-depth analysis of Xiaomi is focus on analysis its abnormal changes regulation during Sino-US trade dispute. From the timeline of trade dispute and abnormal return changes, the study finds that each time there is a huge decrease in Xiaomi corporation's abnormal return, there is a newly announced policy from US government to increase tariff between China and United States. For example, Xiaomi corporation has three times large decrease in its abnormal return: July 22, 2018, September 23, 2018 and December 30, 2018. From the timeline of Sino-US trade dispute, the study finds two events happened about one to two weeks before the Xiaomi corporation's abnormal return decrease.

- July 10<sup>th</sup>, America planned to have a 10% tax on 2000 billion dollars of exports from China.
- September 18<sup>th</sup>, America announced to have a 10% tax on 2000 billion dollars of exports from China, and this rate will increase to 25% at January 1<sup>st</sup>, 2019.

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As for December 30, 2018, Xiaomi planned to enter US market at the end of 2018, however this plan failed because of Sino-US trade dispute. Under the circumstance that Chinese goods are not welcomed in United States market, and this may be one important explanation of the decreasing in December 2018 of Xiaomi corporation's abnormal return.

- ZTE Corporation

As the world's leading integrated communications solutions provider and China's largest listed communications equipment company, ZTE corporation faced one of the biggest crises in United States in 2018. On April 16, 2018, the U.S. Department of Commerce issued a statement saying that the U.S. government will ban ZTE from purchasing sensitive products from U.S. companies within the next 7 years. In May 2018, ZTE announced that due to the refusal order, the company's main operating activities could no longer be carried out. On May 22, the United States will lift ZTE's sales ban and maintain its business in accordance with the agreement discussed. At the point of Sino-US trade dispute, ZTE corporation was banned for exporting any of its products to United States market, this result caused a long-time downturn of ZTE corporation's stock price. Until October 2018, the stock price and abnormal return of ZTE corporation began to increase from negative. At that time ZTE corporation has been lifted from the ban for almost three months, which is also the time period the abnormal return of ZTE corporation fluctuated mostly.

As for the huge increase of abnormal return happened around February 4, 2019, from the timeline of trade dispute, the study finds that a consultation held during February 2019, which have high possibility that lead to the delay of increasing tariff between US and China.

By using in-depth analysis to research about the abnormal return changes of Xiaomi and ZTE corporations, the research finds that each time there is an obvious change on the abnormal

return of two companies, there is a Sino-US trade dispute policy happened few times before and it seems clear that those announced trade dispute policies influence the stock price and return of two target companies.

Then the study will show regression analysis to test whether there is a correlation for Xiaomi and ZTE's abnormal return. The test of this correlation is aimed at finding linear result among Sino-US trade dispute industry. In other words, regression analysis helps to find whether Sino-US trade dispute influence different corporations in a similar way.

### Regression of Two Variables

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.470387322							
R Square	0.221264233							
Adjusted R Square	0.199632684							
Standard Error	0.110587229							
Observations	38							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.125093156	0.12509316	10.2287743	0.002880832			
Residual	36	0.440263271	0.01222954					
Total	37	0.565356427						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.405538121	0.01817242	-22.316131	1.1289E-22	-0.442393498	-0.3686827	-0.4423935	-0.3686827
X Variable 1	-0.224724736	0.070265005	-3.1982455	0.00288083	-0.367228772	-0.0822207	-0.3672288	-0.0822207

This is the regression result of the change of abnormal return for two companies. From the result, it is easy to find from the Significance F that the test model is reliable, and from the t stat and p value, we can find that the linear regression test for Xiaomi corporation and ZTE corporation doesn't show a strong correlation, which means that even though Sino-US trade dispute has influence on these two companies, the time and result of its influence don't show the some reaction. In other words, the Sino-US trade dispute influence Xiaomi and ZTE in the different way at different time.

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## CONCLUSION

In conclusion, my study focusses on how Sino-US trade dispute influence major exporters of China, and after referencing Harper and Huth's work about the influence of US dumping policy to Japanese equity market, the study focus on two major companies, Xiaomi and ZTE as the research target. After drawing graph about stock price and return changes of Xiaomi and ZTE during July 2018 to March 2019, the study finds that there is a influence of Sino-US trade dispute on two companies' stock price, but the timing and degree of this effect don't fit the regression model. In other words, the Sino-US trade dispute deed has influence on exporters and data testing also prove Xiaomi and ZTE Corporations are affected but due to the particularity of Sino-US trade dispute, the time and degree that two companies are influenced is different. After analyzing the reasons, the study find that this special result happens because the frequent policies announced during the research target period and the equity market has its timeliness in reaction, so may be the equity market doesn't react the influence of Sino-US trade dispute completely.

### Limitations

**Observation Selection:** During the time of determining target companies used in the study, there is a problem that for electronic component export, majority of the companies are off the market, for now the researcher doesn't find suitable electronics components exporters that are on the market to be observations. So, for this part of the data collection, the study mainly focusses on the data from annual reports and compare the changes in the proportion of export in the net income. By comparing this data from the report, the study can make basic analysis on whether those electronics components exporters are influenced by trade dispute policies.

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**Data Usage:** In my methodology, the study is expected to test abnormal return and make regression to find out the correlation between trade dispute and abnormal return. However, while doing the testing, I find out that the function that Harper and Huth use is too complicated and their research is difficult in regression part for me to understand and I can't make regression referring their study. As a result, I only make linear test to find the changes of stock price and abnormal return during trade dispute and use easy regression to find out that the changes of Xiaomi and ZTE do not have a linear similarity in data. Also, because the lack of data that I could find online, some of the testing results are not accurate enough.

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## REFERENCES

- Workman, D. (2019, September 18). China's Top 10 Exports.
- Harper, R. K., & Huth, W. L. (1997). Japanese equity market response to US administered protection decisions. *Managerial and Decision Economics*, 18(1), 11-26.
- Niederhoffer, V. (1971). The analysis of world events and stock prices. *The Journal of Business*, 44(2), 193-219.
- Neary, P. (1988). Tarrifs, Quotas, and Voluntary Export Restraints with and without Internationally Mobile Capital. *Canadian Journal of Economics*, 714-735.
- Liew, L. H. (2010). US trade deficits and Sino-US relations. *Journal of Contemporary Asia*, 40(4), 656-673.
- Lu, D. (2010). Exceptional exporter performance? Evidence from Chinese manufacturing firms. *manuscript, University of Chicago*.
- Hughes, N. C. (2005). A trade war with China. *Foreign Aff.*, 84, 94.
- Guan, J., & Ma, N. (2003). Innovative capability and export performance of Chinese firms. *Technovation*, 23(9), 737-747.
- Moosa, I. (2012). *The US-China trade dispute: facts, figures and myths*. Edward Elgar Publishing.
- Miller, R. E., & Blair, P. D. (2009). *Input-output analysis: foundations and extensions*. Cambridge university press.
- Bown, C. P., & McCulloch, R. (2009). *US-Japan and US-China trade conflict: Export growth, reciprocity, and the international trading system*. The World Bank.
- Wanqiang, L. (2016). *The Xiaomi Way: Customer Engagement Strategies That Built One of the Largest Smartphone Companies in the World*. McGraw-Hill Education Group.
- Shih, C. C., Lin, T. M., & Luarn, P. (2014). Fan-centric social media: The Xiaomi phenomenon in China. *Business Horizons*, 57(3), 349-358.