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## THE EFFECT OF US-CHINA TRADE WARS ON SHANGHAI STOCK EXCHANGE COMPOSITE INDEX

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### ABSTRACT

The aim of this paper is to investigate the effect of US import tariffs on Chinese goods and China import tariffs on US goods on Shanghai Stock Exchange Composite Index for the period from 1991 to 2016. It is selected Chinese main macroeconomic variables as control variables. For this purpose, it is used ARDL boundary testing approach in this study. Empirical results suggest that an increase in tariffs rate applied by US affect negatively to Shanghai stock index in the long term. In addition, broad money supply and inflation rate, which are two of the macroeconomic variables used in the analysis, has a positive impact on it. Consequently, the US-China trade war, which based on US import tariffs on Chinese goods, damages for China stock market. With these results we cannot say whether the US is a winner or loser, but we can say that China is definitely the loser.

**Keywords:** Tariffs, Stock Returns, ARDL

**JEL Codes:** E44, B17, B23

## ABD-ÇİN TİCARET SAVAŞLARININ ŞANGAY MENKUL KIYMETLER BORSASI KOMPOZİT ENDEKSİ ÜZERİNE ETKİSİ

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### ÖZ

Bu çalışmanın amacı, ABD'nin Çin mallarına uyguladığı ithalat tarifeleri ile Çin'in ABD'den ithal ettiği mallar üzerine uyguladığı ithalat tarifelerinin Şangay Menkul Kıymetler Borsası Kompozit Endeksi'ne etkisinin 1991-2016 dönemi için incelenmesidir. Çin'in ana makroekonomik değişkenleri kontrol değişken olarak seçilmiştir. Bu amaçla, çalışmada ARDL sınır testi yaklaşımından faydalanılmıştır. Ampirik sonuçlar, ABD tarafından uygulanan tarife oranlarındaki artışın uzun vadede Şangay hisse senedi endeksini olumsuz yönde etkilediğini göstermiştir. Ayrıca analizde kullanılan makroekonomik değişkenlerin ikisi olan M2 para arzı ve enflasyon oranının borsa endeksi üzerinde pozitif yönlü bir etkisi olduğu tespit edilmiştir. Sonuç olarak, ABD'nin Çin mallarına uyguladığı ithalat tarifelerine dayanan ABD-Çin ticaret savaşının Çin borsasına zarar verdiği söylenebilir. Elde edilen sonuçlarla ABD'nin bu savaşın kazanamı yoksa kaybedeni mi olduğu söylenememekle birlikte, Çin'in kesinlikle kaybeden taraf olduğu söylenebilir.

**Anahtar Kelimeler:** Tarife Oranları, Hisse Senedi Getirileri, ARDL

**JEL Kodları:** E44, B17, B23

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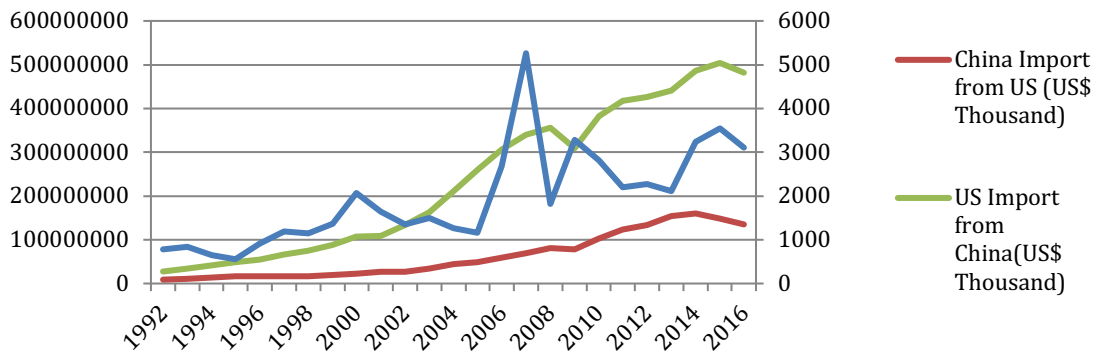
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## INTRODUCTION

It has proven by many studies that stock prices are affected by both the national and international economic developments (Cauchie et. al., 2004; Haque and Sarwar, 2012; Ariff et. al., 2012; Chakraborty et. al., 2008; i.e.). Along with the globalization tendency that started in the mid-1980s and continues until today, the interdependence among the economic structures and the sensitivity towards external developments have increased. Especially, trade between countries is an important element that increases this dependence. It is also closely related to trading companies and thus stock prices of these firms. Therefore, the policies followed by countries, which have mutual intense trade relations will have an impact on the markets of each other.

The trade relationship between the United States and China has a very old history and today China is among the top five trade partners of the United States (according to World Integrated Trade Solution, these are China, Mexico, Canada, Japan and Germany, respectively). However, Trump, decided to implement conservative policies on the grounds that the regular trade system since the Second World War no longer served US interest. Thus, on 8 March 2018, the United States made the first move and decided to impose additional customs tariffs on some import items. US-China trade wars started from this date and the mutual moves continued. After these developments, China's loss of title to become the world's second biggest stock exchange is explained by the negative impact of tension between the US and China, on the China stock returns. All this constitutes the starting point of the study and it is decided whether the tariffs will be included in the determinants of the stock prices, which is a topic frequently discussed in the literature.

**Figure 1.** The value of imports between the US and China, and Shanghai Composite Index



**Source:** World Integrated Trade Solution and Investing.com.

When it is taken consideration to Figure 1, which includes the mutual import amounts between the US and China, the importance of the issue becomes clearer. This graph that 1992 is adopted as the starting point, illustrate that the US imports from China are at very high levels. This trend, while proving that Chinese markets are highly sensitive to US demand, implies that US protectionist policies will have an inevitable effect on these markets. In addition, today, although US imports are about 3.5 times higher than Chinese imports, retaliation policies for China's tariffs on US goods may shift balances in Chinese markets. Consequently, the main purpose of this study is to investigate the impact of these two countries' mutual tariffs on China's stock market. Because this graph also shows that the most important stock exchange of China, the Shanghai Composite Index, fluctuates in the same direction as trade between the two countries.

The contributions of this paper to the literature are as follows: Firstly, although there are numerous studies in the current literature aiming to determine the determinants of stock returns, the potential impact of protectionist policies in international trade has been neglected. However, it is inevitable that tariffs, which are an important protectionist policy instrument in the direction of outward opening and recent developments, are included in analyzes. Thus, this gap is attempted to be filled with this paper and a comment is made on whether the decline in Chinese stock markets is due to US tariffs. In addition, China's customs duties on goods imported from the US are included in the analysis. Thus, both sides of the trade war are evaluated in terms of their effects. Secondly, a contribution is made to the current literature by including China's basic macroeconomic indicators in the analysis and a comparison is made between the impacts of these indicators and tariffs. Finally, the use of the ARDL method in the study is important in terms of it has the up-to-date methodology and presents reliable evidence for the long run.

In the direction of aims and contributions to be provided, the rest parts of the study are designed as follow: Firstly, current theoretical and empirical literature review relevant to the subject is made. In the analysis section of the study, the data set used is introduced, methodology is written, and the results obtained from

the analysis are reported respectively. Finally, some suggestions are made in the conclusion section and policy recommendations are presented.

## **1. THEORETICAL AND EMPIRICAL LITERATURE REVIEW**

### **1.1. Theoretical Framework**

The interaction mechanism between various macroeconomic variables and stock returns has been the subject of research from past to present. Firstly, Fama (1981) explained the channel which has the impact of inflation rate on stock prices. Since the stock price reflects the future earnings potential of the firms, the expected economic downturn due to the increase in the inflation will reduce stock prices and hence stock returns. Also, the relationship between inflation rate and stock returns is discussed by Modigliani and Cohn (1979). According to them, the negative relationship between the two variables is the result of the investors' tendency towards from stocks to other assets with interest income.

Another issue that does not have a consensus on the interaction between them is the relationship among the stock returns and the exchange rate. There are two main approaches as traditional and portfolio balance, which explain to the relationship between them. According to the traditional view, fluctuations of the exchange rate are mainly the results of changes in money demand and money supply. In this model, volatility of exchange rate affects the trade balance, international competition, and thus the real income level. The change in real income affects the current and future cash flows, and stock prices of firms (Dornbusch and Fischer, 1980). According to this approach, there is a positive and unidirectional causality relationship among the two variables from exchange rate to stock returns. Portfolio equilibrium approach implies that a causal relationship between the stock returns and the exchange rate is expected to be negative and from the stock price to the exchange rate (Branson, 1983). The mechanism starts with a decline in stock prices; this decline reduces the wealth of domestic investors. Domestic investors, whose wealth decreases, demand less money, and the decrease in money demand reduces interest rates. These developments lead to capital outflows, and hence the increase in exchange rates.

Another macroeconomic factor that may have an impact on stock returns is the money supply. Theoretically, while the money supply is increasing, it is also expected that the inflation will rise, and so, stock prices decrease. Therefore, the money supply has a negative impact on the stock returns. However, an increase in money supply stimulates the economy and increase business gains. This effect will probably result in an increase cash flows and stock prices in future (Gan et. al., 2006). After all, in the literature, two opposite views are found for the relationship among money supply and stock returns.

On the other hand, an increase in interest rates, the investor's dividend or capital it reduces the present value of future cash flows that it expects to obtain as revenue. Furthermore, the rise in interest rates reduces bond prices. Thus, an increase in interest rates leads to an increase in bond purchases and a decrease in demand for stocks (Hashamzadeh and Taylor, 1988). Because the most important one of the factors that drives the stock investor to invest is that the return expected from the stock is higher than the interest rate.

Apart from the basic macroeconomic variables, international trade policies inevitably affect the stock markets. In particular, free trade agreements are considered as a determinant of the stock returns. Trade agreements affect main variables such as exchange rates and stock prices between member countries through the real sector. For example, advantages may arise from increased commercial opportunities and greater competition (Daelemans et. al. (2018). In addition, these agreements provide an increase in trade with the removal of customs tariffs among the parties. Thus, both international capital flows and the stock returns of the exporting firms will increase. The benefits of international trade are a matter of constant debate among economists. However, in addition to the resulting net benefit, winners and losers emerge among certain economic sectors, and between producers and consumers. While firms operating in protected industries are in the group of losers, exporters gain from this outward opening (Hanson and Song, 1998). These gains and losses directly affect the stock prices of the firms.

### **1.2. Empirical Literature Survey**

There are many studies researching the determinants of stock returns in literature. The results of the studies vary according to the differences in the models used, the types of variable used, the periods covered and the countries involved. As the tariffs are not included in the analysis as a determinant of stock prices in the literature, the selected studies focusing on the relationship between the basic macroeconomic variables and stock prices have been reviewed in this section. The review of these empirical studies investigating the linkage of stock returns and various macroeconomic dynamic forms the infrastructure of this paper.

Davidson and Froyen (1982) investigated the relationship among monetary policy and New York stock exchange returns for the period from 1971 to 1976, and they reached that the expectation of an increase in

monetary aggregate reduces stock returns. Maghayereh (2002) analyzed the long term relationship between the Jordanian stock prices and macroeconomic indicators such as export, foreign reserve, M1 money supply, interest rate, inflation and industrial production index, for 1987-2000 data period, using Johansen cointegration analysis. Results showed the existing of cointegration relationship between all variables. Cauchie et. al. (2004) investigated the determinants of Swiss stock exchange returns by using an APT framework for the period from 1986 to 2002. They found that stock returns are influenced by both global and local economic situation. However, in contrast to Cauchie et. al. (2004), the relationship between domestic macro conditions and stock returns has been widely discussed in the literature.

Maysami et. al. (2004) examined the effects of macroeconomic variables on Singapore stock market index. The paper concluded that there is a cointegration relationship between changes in the short and long run basic macroeconomic indicators and stock returns. Humpe and Macmillan (2007) is another study that analyzes the same relationship with similar variables. This study comparing United States and Japan, suggested that stock exchange returns are positively related to industrial production and negatively effect on both the inflation and a long run interest rate in US. In addition, they found out that there is a positive, but insignificant relationship between US stock prices and the money supply. However, Japanese stock prices are affected positively by industrial production, but are affected by the money supply negatively. Hsing (2011) investigated the macroeconomic determinants of Hungary's stock index, using GARCH model. Empirical results indicated that although real GDP, government debt, exchange rate and German stock market index have positive impact on Hungary's stock market index, real interest rate, expected inflation rate and government bond yield in the euro area negatively affect on dependent variable. Kasman et. al. (2011) analyzed the effect of interest rate and exchange rate on banks' stock returns and volatility in Turkey by using OLS and GARCH methods. Their findings implied that the changes in interest rate and exchange rate have a negative impact on banks' stock returns.

Alagidede and Panagiotidis (2012) presented the nexus between stock returns and consumer prices in G7 countries for the period from 1970:01 to 2008:04, using OLS and GARCH methods, and they reached a positive relationship for Italy and UK. Ariff et. al. (2012) investigated the nexus between monetary supply, interest rate, liquidity and stock prices. According to their results, liquidity has a positive impact on share prices. Haque and Sarwar (2012) researched the macro determinants of stock returns in Pakistan over the period of 1998-2009. Findings implied that volatility and GDP has a positive impact on individual equity return, but, inflation, interest rate, money supply and budget deficit has a negative impact on it. Another study for Pakistan was made by Alam et. al. (2014), and revealed that inflation rate, money supply, exchange rate and interest rate has a negative impact on stock prices, while industrial production index affect on it positively. Sirucek (2013) searched the impact of money supply on stock bubbles in US. Empirical results confirmed the effect of money supply on stock bubbles from year 2007.

Kirui et. al. (2014) indicated the reaction of the stock returns to a change in each of the macroeconomic variables in Kenya. Analysis results suggested that an increase in depreciation of a domestic currency lead to decrease of stock returns by 1.4 per cent. Norfeldt (2014) investigated the effect of interest rates, investor sentiment and M2 money supply on returns S&P500 and Dow Jones, and found that there is a significant relationship between an expected change in the FED fun target rate and stock returns. Moya-Martinez et. al. (2015) studied for Spain by using wavelet analysis. Their results proved that the Spanish stock market is linked with the development of long term interest rates. Bissoon et. al. (2016) examined the impact of money supply and interest rate on stock returns in five countries for the period from 2004 to 2014, using panel regression model. The results revealed a negative relation between interest rate and stock returns and a direct connect between money supply and stock market returns. Assefa et. al. (2017) investigated the relationship among stock returns and interest rates in 21 developed and 19 developing countries over the period 1999-2013. Analysis results suggested that interest rates have a negative impact on stock returns in the 21 developed countries. Bahloul et. al. (2017) studied the effect of domestic stock market return and its volatility, and some macroeconomic variables such as inflation rate, interest rate, the slope of the yield curve and money supply on Islamic stock returns in developed and emerging markets, applying Markov switching model.

In articles mentioned so far, trade indicators are excluded from the explanatory variables. However, studies that include import and export variables as a determinant of stock returns are included in the literature. For instance, Chakraborty et. al. (2008) investigated the nexus between import, export, dollar exposure and stock returns. Analysis results suggested that the dollar exposure increases with imports but decreases with exports. Therefore, they suggested that the stock market performance of importer companies moves positively with the performance of the dollar, but the stock performance of exporter companies tends to move against the dollar. Başçı and Karaca (2013) found out the relationship between Turkish stock market and some domestic economic indicators such as gold prices, import, export and exchange rate, using VAR model for the period from 1996 to 2011. According to results, as a result of the shock given to the import,

shares first reacted towards increase and then have decreased incrementally. Hasanujzman (2016) analyzed the effects of export growth to the Dhaka stock market index for the period 2004:06-2013:07, using VAR model. Results showed that a positive export shock result in react of negative exchange rate. Tiryaki et. al. (2017) investigated the linkage among stock returns and selected macroeconomic variables in Turkey for the period 2003:01-2016:12. The paper proved that the basic determinants of Turkish stock returns are the changes in industrial production index, inflation rate, export, exchange rate, S&P's 500 index, world oil price index and the interest difference between Turkish Central Bank policy rate and the Federal Funds Rate of the USA in the long term. Daelemans et. al. (2018) investigated the effect of the Canada-US Free Trade Agreement and NAFTA on the volatility on stock returns. Their results suggested that NAFTA decrease the stock market's volatility.

## 2. DATA, MODEL SPECIFICATION, AND METHODOLOGY

### 2.1. Data

Table 1 presents the variables used in this paper. We obtained annual data for China economic indicators, for China tariffs on import from US, and for US tariffs on import from China, cover data period 1991-2016. AHS dutiable tariff lines share, which is the indicator representing the protectionist policies of both countries, refers to the effectively applied dutiable tariff lines share in percentage. The Shanghai Composite Index is used in the study because it is in the first place among Chinese indices. This index is the stock index of all shares in the Shanghai Stock Exchange. Also, China's Shanghai Composite Index is considered the most popular benchmark for the country's economy and stock market performance. While the tariff rates used in the study are the main explanatory variables, China's domestic macroeconomic indicators are considered as control variables.

Table 1. Data describes

Variable	Describe	Measure	Source
log_tarf	AHS dutiable tariff lines share for import of all products (Reporter: US, Partner: China)	%	World Integrated Trade Solution
log_tarfc	AHS dutiable tariff lines share for import of all products (Reporter: China, Partner: US)	%	World Integrated Trade Solution
log_inf	Inflation, consumer prices	Annual %	WDI
log_exch	Real effective exchange rate index	2010 = 100	WDI
log_m2	Broad money	% of GDP	WDI
log_int	Interest rates	Annual %	Federal Reserve Economic Data
log_stock	Shanghai Composite (SSEC)	Price	www.investing.com

### 2.2. Model

The model specification to investigate the linkage between US import tariffs on China, main macroeconomic variables, and Shanghai Stock Exchange Composite Index is based on simple multivariate framework as follows:

$$\log\_stock_t = \alpha + \beta_1 \log\_tarf_t + \beta_2 \log\_tarfc_t + \beta_3 \log\_inf_t + \beta_4 \log\_exch_t + \beta_5 \log\_m2_t + \beta_6 \log\_int_t + \mu_t \quad (1)$$

The variables that used in the model are the annually Shanghai stock exchange (*log\_stock*), US dutiable tariff lines share for import of all products (*log\_tarf*), China dutiable tariff lines share for import of all products (*log\_tarfc*), consumer prices index (*log\_inf*), real exchange rate (*log\_exch*), board money supply (*log\_m2*), interest rates (*log\_int*). All variables are included logarithmically to the model.

In the light of the theoretical explanations in the previous section, it is expected that primarily the protectionist policies will decrease the return of the stocks by damaging the trade and thus the profitability of firms. Thus, additional customs on imports are expected to reduce the Shanghai stock market index. The increase in the inflation rate causes an increase in interest rates in the long run, and the rising interest rates cause of the decrease in stock prices. Thus, a negative relationship is expected between the two variables. Besides, the coefficients of the exchange rate, money supply, and interest rate are expected to be negative. Because the increase in the exchange rate and money supply cause an increase in cost by creating an inflationary effect. Lastly, the rise in interest rates will decrease the demand for stock by increasing the tendency to bond demand.

### 2.3. Methodology

The first stage of time series analysis is to investigate whether the series are stationary. Because stability is important to providing more reliable and consistent results, the stability of the series is tested by the ADF unit root test. The basic regression equation of the method developed by Dickey and Fuller (1979) is shown as:

$$\Delta Y_t = \alpha + \delta Y_{t-1} + \sum_{i=1}^z \theta_i \Delta Y_{t-i} + \mu_t \quad t=1, \dots, T \quad (2)$$

$\Delta$  is the first difference,  $Y_t$  is the series used,  $t$  is a time period,  $\mu_t$  is the error term and  $z$  measures the lag of the dependent variable. The lag length is determined by the Akaike Information Criteria. For the ADF unit root test, the null hypothesis shows that series are not stationary and the alternative hypothesis is that the series are stationary. Hypothesis testing is deal with the estimator and  $t$  statistic value of the  $\delta$  parameter.

The second step of time series analysis is to decide which method to use. Econometric analysis of long run relationship has been the focus of theoretical and empirical studies in economics literature. For this purpose several cointegration tests (Engle and Granger, 1987; Johansen, 1988; Johansen and Juselius, 1990) have been developed. The proposed methods have been accepted as a solution to the problem of the loss of some information due to the difference of the series in order to prevent false regression in analyzes made with non-stationary series. However, these cointegration test find application areas if the series are stable at the same level. ARDL bounding test approach by developed Paseran et. al. (1996), Paseran and Shin (1997) and Paseran et. al. (2001) has emerged as an analytical method that provides consistent estimates of asymptotically normal long run coefficient regardless of whether the baseline estimator are  $I(0)$  or  $I(1)$ . The ARDL bounding test equation is mainly formulated as follows (Paseran and Shin, 1997):

$$\begin{aligned} \Delta \log\_stock_t = & \alpha + \sum_{i=1}^z \beta_{1i} \Delta(\log\_stock)_{t-i} + \sum_{i=0}^z \beta_{2i} \Delta(\log\_tarf)_{t-i} + \\ & \sum_{i=0}^z \beta_{3i} \Delta(\log\_tarfc)_{t-i} + \sum_{i=0}^z \beta_{4i} \Delta(\log\_inf)_{t-i} + \sum_{i=0}^z \beta_{5i} \Delta(\log\_exch)_{t-i} + \\ & \sum_{i=0}^z \beta_{6i} \Delta(\log\_m2)_{t-i} + \sum_{i=0}^z \beta_{7i} \Delta(\log\_int)_{t-i} + \beta_8 \log\_stock_{t-1} + \beta_9 \log\_tarf_{t-1} + \\ & \beta_{10} \log\_tarfc_{t-1} + \beta_{11} \log\_inf_{t-1} + \beta_{12} \log\_exch_{t-1} + \beta_{13} \log\_m2_{t-1} + \\ & \beta_{14} \log\_int_{t-1} + \varepsilon_t \end{aligned} \quad (3)$$

$\Delta$  is the difference between lags of dependent and independent variables. The difference between each lag in dependent and independent variables indicates short run dynamics. The changes may occur in dependent variables the ratio of the coefficient of each lag value to the coefficient of the dependent variable show the long run dynamics.

The term of error correction is defined to obtain short-run dynamics as follows:

$$\begin{aligned} \Delta \log\_stock_t = & \alpha + \sum_{i=1}^z \beta_{1i} \Delta(\log\_stock)_{t-i} + \sum_{i=0}^z \beta_{2i} \Delta(\log\_tarf)_{t-i} + \sum_{i=0}^z \beta_{3i} \Delta(\log\_tarfc)_{t-i} + \\ & \sum_{i=0}^z \beta_{4i} \Delta(\log\_inf)_{t-i} + \sum_{i=0}^z \beta_{5i} \Delta(\log\_exch)_{t-i} + \sum_{i=0}^z \beta_{6i} \Delta(\log\_m2)_{t-i} + \\ & \sum_{i=0}^z \beta_{7i} \Delta(\log\_int)_{t-i} + \beta_8 ECT_{t-1} + \vartheta_t \end{aligned} \quad (4)$$

A negative and significant  $ECT_{t-1}$  coefficient means that the short run imbalance among the dependent and explanatory variables will return to the long run equilibrium relationship.

### 3. ANALYSIS RESULTS

In this study, stationary analysis is performed for the eight time series. The Augmented Dickey-Fuller unit root test is used and the test results are presented Table 2 below:

**Table 2.** ADF unit root test results

Variable	Level t-statistics(Prob.)	First Difference t-statistics(Prob.)
log_stock	1.410(0.955)	-5.501(0.000)*
log_tarf	-2.030(0.272)	-5.094(0.000)*
log_tarfc	-3.301(0.026)**	-4.531(0.000)*
log_inf	-3.902(0.007)*	-4.878(0.000)*
log_exch	-0.358(0.901)	-5.438(0.000)*
log_m2	-1.411(0.506)	-5.101(0.000)*
log_int	-1.012(0.732)	-3.050(0.044)**

\*, \*\*, and \*\*\* denotes %1, %5 and %10 statistically significant level, respectively.

Table 2 contains both level and difference values for all variables. When the results are examined, it is understood that the series of  $\log\_tarfc$  and  $\log\_inf$  are stationary at the level. The other series are stationary

at the first difference. In this case, regardless of whether the series are  $I(0)$  or  $I(1)$ , the ARDL method is the most appropriate method for presenting the long term cointegration relationship and coefficient estimates between variables. Firstly, the criteria used in the selection of the most appropriate ARDL model as shown in Figure 2:

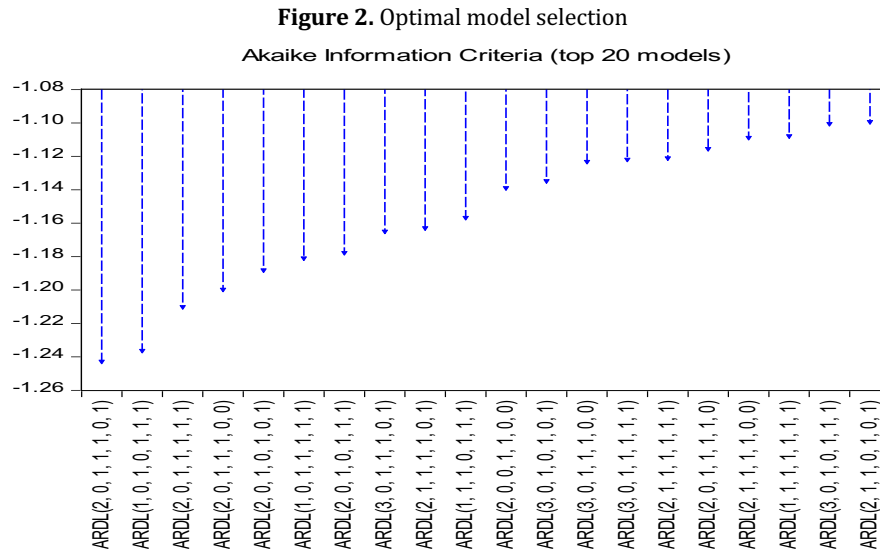


Figure 2 show that ARDL (2, 0, 1, 1, 1, 0, 1) is the optimal model for testing long run cointegration relationship, coefficient and short run effects. The results of the analysis using this model are given in Table 3.

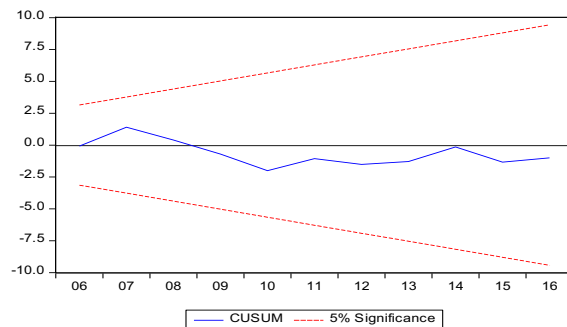
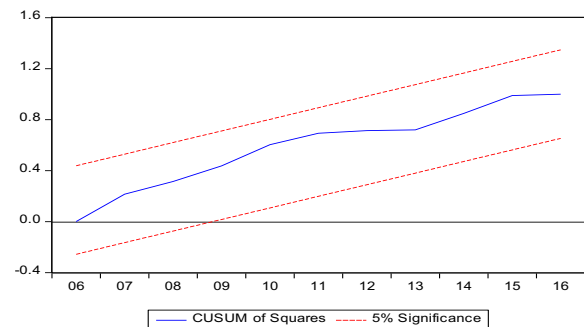
Boundary test results indicate a strong cointegration relationship between variables in the long run. Long run coefficient estimation results suggest that tariffs rate has a negative effect on stock market index. In other words, an increase in the tariffs rate of US to products imported from China reduces the Shanghai stock index. In contrast, an increase in broad money supply and inflation rate increases the stock prices (see in Davidson and Froyen, 1982; Alagidede and Paragiotidis, 2012). Coefficient of China’s tariffs on import from US and exchange rate are statistically insignificant. Also, an increase in interest rates, as expected, reduces stock returns in the long run (see in Humpe and Macmillan, 20017; Kasman et. Al., 2011). Short run estimation results are in line with the long run results. Accordingly, a negative relationship is found between Shanghai stock index and additional customs tariffs of the USA, whereas a positive relationship is found with the broad money supply and inflation rate.

**Table 3.** ARDL (2, 0, 1, 1, 1, 0, 1) test results

<b>Cointegration</b>	<b>F-statistic</b>	<b>[I(0) - I(1)]</b>
ARDL(2, 0, 1, 1, 1, 0, 1)	4.078	2.88-3.99*
<b>Short run results</b>		
<b>Coefficient</b>	<b>t-statistic(Prob.)</b>	
C	2.595	1.213(0.250)
log_stock(-1)	-1.281	-4.864(0.000)*
log_tarf	-0.438	-2.281(0.043)**
log_tarfc(-1)	0.037	0.495(0.629)
log_m2(-1)	2.624	1.995(0.071)***
log_int(-1)	-1.444	-1.780(0.102)
log_inf	0.463	1.960(0.075)***
log_exch(-1)	-1.387	-1.028(0.325)
d(log_stock(-1))	0.586	2.441(0.032)**
d(log_tarfc(-1))	-0.053	-0.866(0.404)
d(log_m2)	4.997	1.976(0.073)***
d(log_int)	-5.041	-2.803(0.017)**
d(log_exch)	4.015	1.786(0.101)
<b>Long run results</b>		
C	2.026	2.026(0.227)
log_tarf	-0.342	-2.573(0.025)**
log_tarfc	0.029	0.485(0.636)
log_m2	2.048	1.901(0.083)***
log_int	-1.127	-1.968(0.074)***
log_inf	0.361	0.361(0.081)***
log_exch	-1.083	-1.083(0.347)
<b>Error correction result</b>		
ECM (-1)	-1.281	-7.306(0.000)*
<b>Diagnostic test results</b>		
	<b>F-statistic</b>	<b>Prob.</b>
Breusch-Godfrey LM Test	2.478	0.138
Heteroskedasticity Test	1.598	0.211
Ramsey Reset Test	0.250	0.627
Jarque-Bera Normality Test	0.334	0.845

\*, \*\* and \*\*\* denotes 1%, 5% and 10% statistically significance level, respectively.  
Note: According to Akaike Information Criteria, Maximum lag is 2.

The results of the error correction model applied in order to determine the short run effects prove that the error correction coefficient is negative and statistically significant. According to Narayan and Smyth (2006), the ECM(-1), which has a value between -1 and -2, indicates that the system is balanced by fluctuating. The diagnostic test results show that there is no econometric problem in the analysis.

**Figure 3: CUSUM test results****Figure 4: CUSUMQ test results**



## CONCLUSION

In this paper, we explored the effect of US-China trade wars on the China's stock market for the period from 1991 to 2016. Thus, based on historical data, we have put forward an idea of whether the current US-China trade war will have an impact on the Chinese capital market. However, while we have done this research, we have included the main indicators of China, as the main macroeconomic indicators have proven to be a determinant of stock returns in the current theoretical and empirical literature. In this context, we applied ARDL analysis.

Analysis results indicated that US tariff rates have a negative impact on stock returns. Thus, an increase in the tariffs reduces stock returns. China's position as a major exporter for the United States shows that US protectionist policies will greatly harm China. On the other hand, the coefficient of the variable representing China's tariffs for US goods is positive but statistically insignificant. This result implies that China's position as an exporter against the US is more crucial than its importer position. In addition, money supply, which is one of the macroeconomic indicators, has a positive outcome on stock returns in both long and short run. This effect is in line with the view that an increase in money supply would boost business gains by stimulating the economy and thus positively affect stock prices. Also, an increase in interest rates, as expected, reduces stock returns in the long run. Short run estimation results are in line with the long run results. Accordingly, a negative relationship is found between Shanghai stock index and additional customs tariffs of the USA, whereas a positive relationship is found with the broad money supply and inflation rate.

Finally, the financial markets of countries are affected by a number of internal macroeconomic indicators as well as their relations with trade partners. This paper gives a new perspective to the literature in terms of revealing this argument. It has once again is proved that globalization has increased the interdependencies and in fact brought the countries to a more sensitive position. Thus, a new argument has been added to the debate whether it is protectionism or openness. At this point, what is actually important is that political conflicts of interest and the policies implemented with the efforts to retain world leadership do not ignore the welfare of the world.

Today, the effects of this war on the financial and real markets are discussed intensively, and the results show that the Shanghai Composite Index in Hong Kong approximately decreased by 28 percent in 2018. The findings obtained with this paper are to prove that China will be the losing party in the trade war. However, studying this relationship by the United States may indicate whether the US is a winner or a loser. So, this is a question mark and can be an idea for future studies.

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