

Investigation of the effects of present economic crisis on marketing sector (import, export and transshipment) of Spence Shipping (Pvt) Ltd

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ABSTRACT

Present economic crisis has had a significant impact on the marketing sector of Spence Shipping (Pvt) Ltd. Due to this, annual sales (import, export and transshipment) which mainly depend on containers, has dropped down significantly causing losses to the company. In this work the effects on import, export and Transshipment due to economic crises was investigated and change in the seasonal pattern of sales was observed by performing a time series analysis.

This survey is mainly based on secondary data. Secondary data before the economic crises and during the economic crises have been used, because these data is essential to measure the effect of the economic crises. After that, according to the results of the analysis, solutions were suggested and find out the best solution for each cause was found out by calculating the possible profit based on the suggested solutions.

In this Research, alternative ways were found to avoid or minimize the effect of economic crises on the marketing sector. The research helps to minimize the loss to the business due to the economic crises.

The best feasible solution is to provide Multi Country Consolidation Operation by the Spence Shipping (Pvt) Ltd. This MCC Operation grant more commission to the shipping agent. Because Sri Lankan Shipping industry gets more income from transshipment than from import and export, this Operation can increase the export market, and minimize the effect of present economic crises for Spence Shipping (Pvt) Ltd.

KEYWORDS: Economic crisis, Shipping Industry, Export, Import, Multi Country Consolidation, Transshipment

INTRODUCTION

Aitken Spence PLC (Est. 1868) is a Powerful combination which underscores continuing reputation for being a leader and one of the premier blue chip companies in Sri Lanka. The Company commenced business activities in 1868 in Galle. The company is diversified in to five main sectors as Tourism sector, Cargo and Logistic sector, Services sector, Strategic investment sector and Maritime sector.

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Aitken Spence is presently the largest container ship owning company in Sri Lanka with all its vessels being on time charter.

Spence shipping (Pvt) Ltd is controlled under Aitken Spence Maritime which was established in October 15th 2006, and acquired the agency for Hapag Lloyd (HL) Container Line GmbH. It acts as the Sri Lankan agent for Hapag Lloyd Shipping line whose head quarters situated in Hamburg Germany, which has presence in more than 100 countries. The main responsibility is to carry out the operations on Behalf of Hapag-Lloyd Spence Shipping (Pvt) Ltd mainly handles container ships.

There are many types of containers available in the shipping industries that are designed for specific purposes. They are Standard Containers, Special Containers and Refrigerated Containers. Spence Shipping

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(Pvt) Ltd has about sixty staff member in six Departments.

and Operation department of Spence Shipping (Pvt) Ltd.

Background and Rationale for the Research

Present economic crisis has caused a significant impact on the marketing sector of Spence Shipping (Pvt) Ltd. Due to this the annual sales(import, export and Transshipment) dropped down significantly causing losses to the company. In this work I investigate and measured the effect due to economic crises on the import, export and Transshipment and change in the seasonal pattern of sales by performing a time series analysis. Then from my research I identify possible ways to minimize the effect of the present economic crisis on marketing sector of Spence Shipping (Pvt) Ltd.

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Research Objectives

The objective of this research was to Investigate the effect of present economic crises on marketing sector for import, export and Transshipment department of Spence Shipping (Pvt) Ltd, Identify solutions to minimize the effect of present economic crises on marketing sector for import, export

LITERATURE REVIEW

Starting from September 2008 the leading actors of the world economy and main international economic institutions have prepared studies on the world economy and have announced what actions they are going to take with regard to the global economic crises.

The continuing global economic downturn and the uncertainly associated with it has its roots in the USA property market crises. It has evolved since then as credit crises, liquidity crises, financial crises, and economic crises, which moreover has spread to countries and regions and around the globe. The service requires minimal infrastructure and in this respect it resembles a taxi service whereby the contractual relation between passenger and driver (cargo owner and ship owner) expires upon the completion of the trip

Shipping managers and ship owners, hoping to allay fears, argue that phases of substantial booms followed by sharp declines are typical for the industry. Nevertheless, the talk behind the scenes revolves around the concept of a "perfect storm," in which everything that can go wrong does go wrong, culminating in the worst possible disaster. "The negative conditions we are seeing in the market place are unprecedented in our industry's history," says Ron Widdows, the CEO of NOL, a shipping company. Bertram Rickmers, a German ship owner.

Theories of Time Series Analysis

In this study techniques for analyzing time series data, that is, sequences of measurements that follow non-random orders. Unlike the analyses of random samples of observations that are discussed in the context of most other statistics, the analysis of time series is based on the

assumption that successive values in the data file represent consecutive measurements taken at equally spaced time intervals.

RESEARCH METHODOLOGY

This research aims to identify current issues of economic crises and develop solutions to overcome those identified issues. Since this research investigates practical issues that have implication for everyday work it is “Applied Research”. So the best research technique would be a Survey. Survey mainly based on secondary data. Secondary data before the economic crises and under the economic crises used, because these data is essential to measure the effect of economic crises. After fitting the three Models to import, export, transshipment, results will be used to predict the future values of the above data of the Spence shipping (Pvt) Ltd.

DATA COLLECTION & ANALYSIS

Secondary data for the volume of import, export and transshipment containers were used. Then the bar chart was plotted and checked how to variation from the bars according to the time. Bar chart was plotted using the monthly wise volume of containers. Time Series plot for using weekly wise number of import, export and transshipment containers and fit the 3 model for import, export and transshipment containers and forecast the data to predict the future values.

- 1) Fitting the model for transshipment containers.

According to figure 1 there is a positive linear trend. Therefore $d=1$. There is no seasonal variation. Model is like ARIMA (p, d, q).

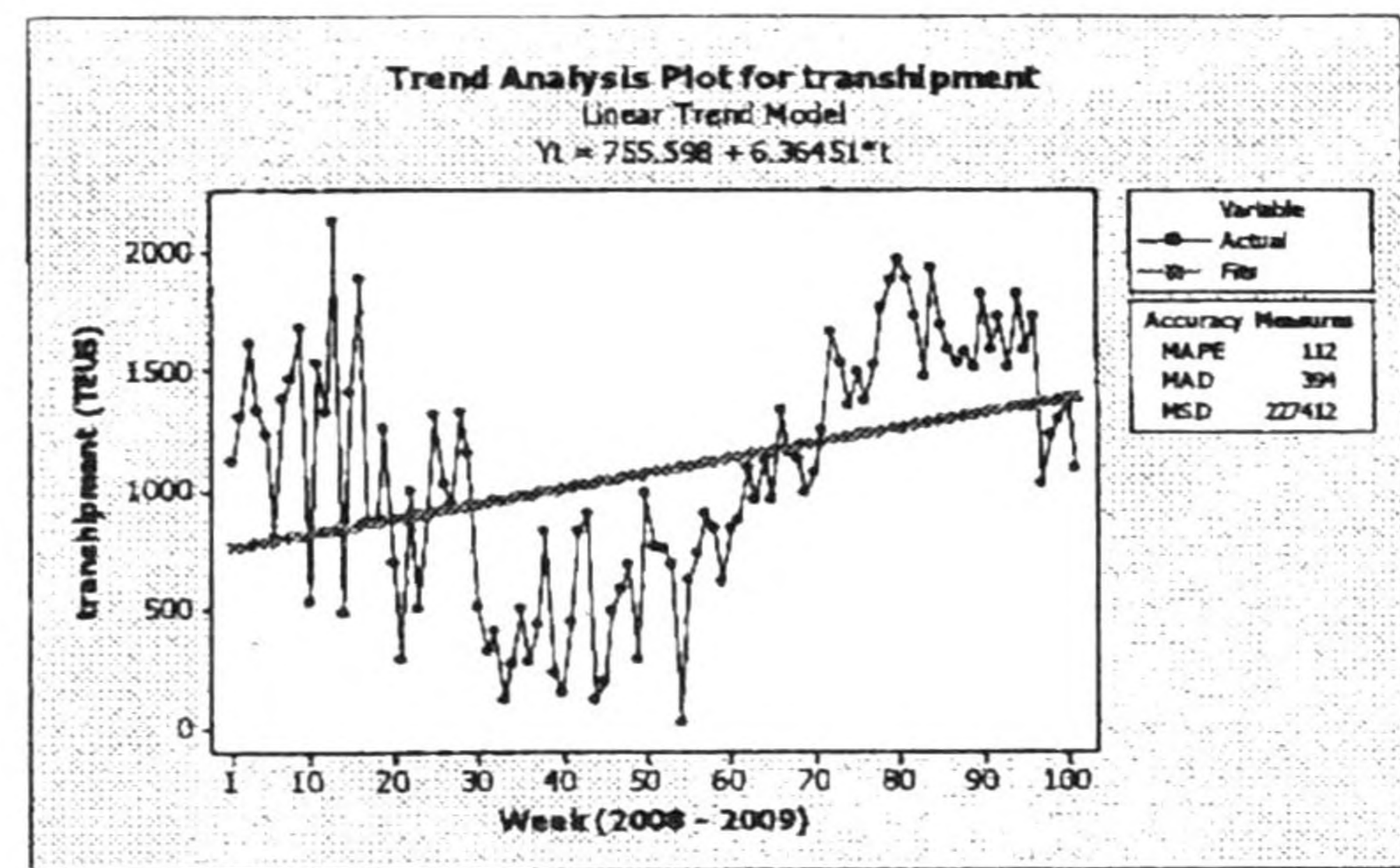


Figure 1. Trend Analysis plot for transshipment containers.

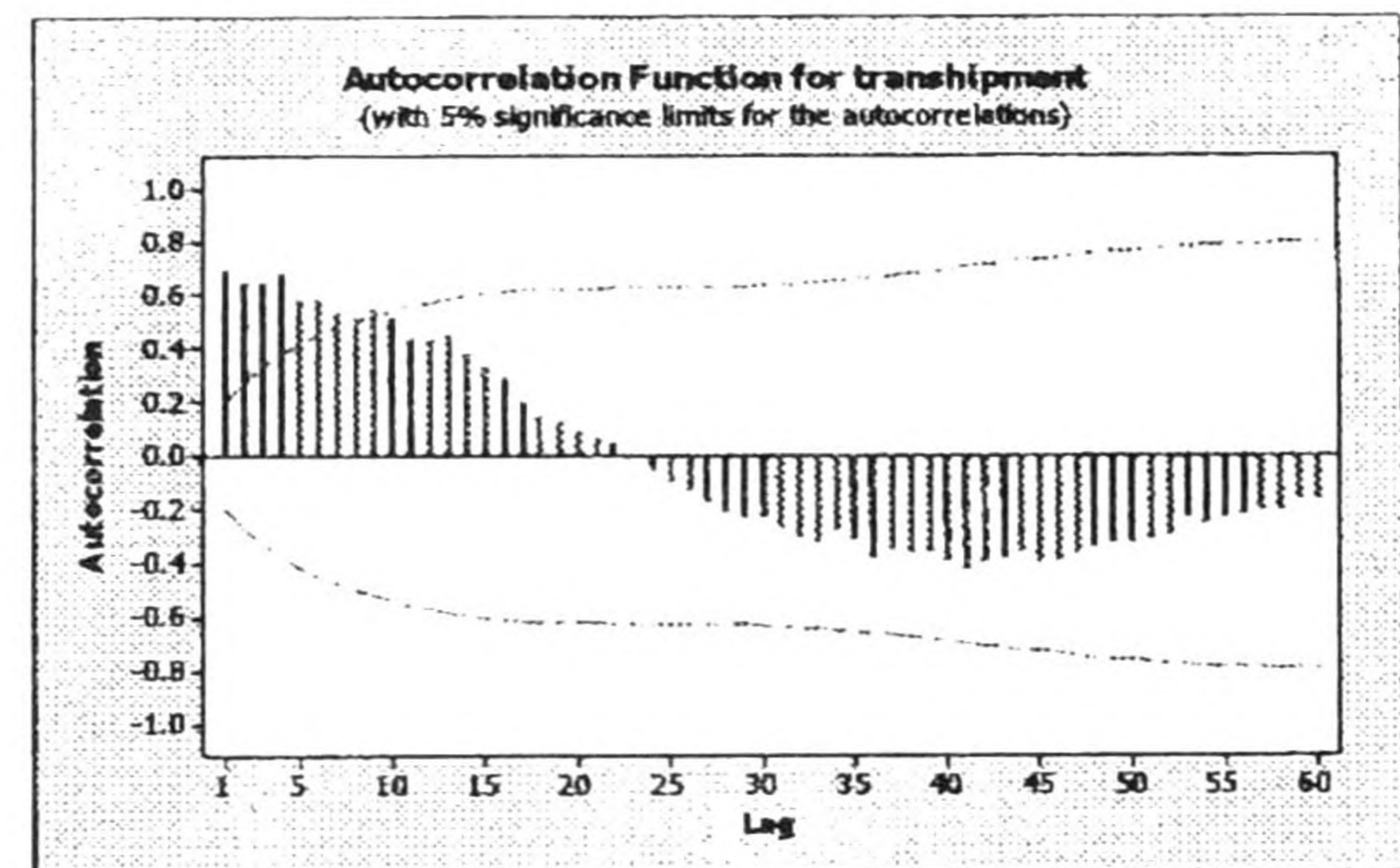


Figure 2. Autocorrelation Function for transshipment containers

The autocorrelation function (ACF) plot shows a dies down. ACF was plotted again for the differenced data to find the MA terms.

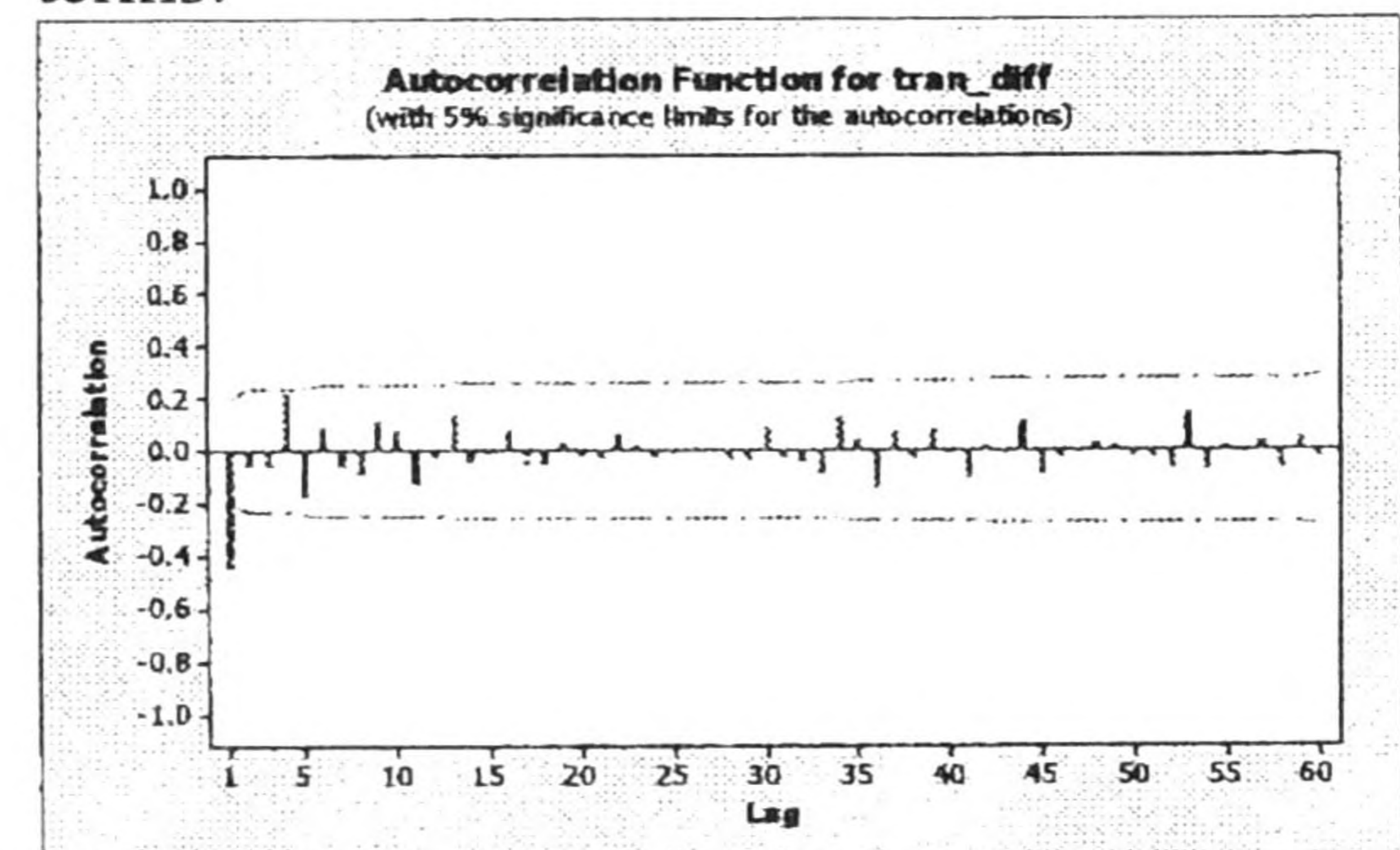


Figure 3. Autocorrelation Function for First difference transshipment containers.

Cut off after the first lag. Therefore $q = 1$.

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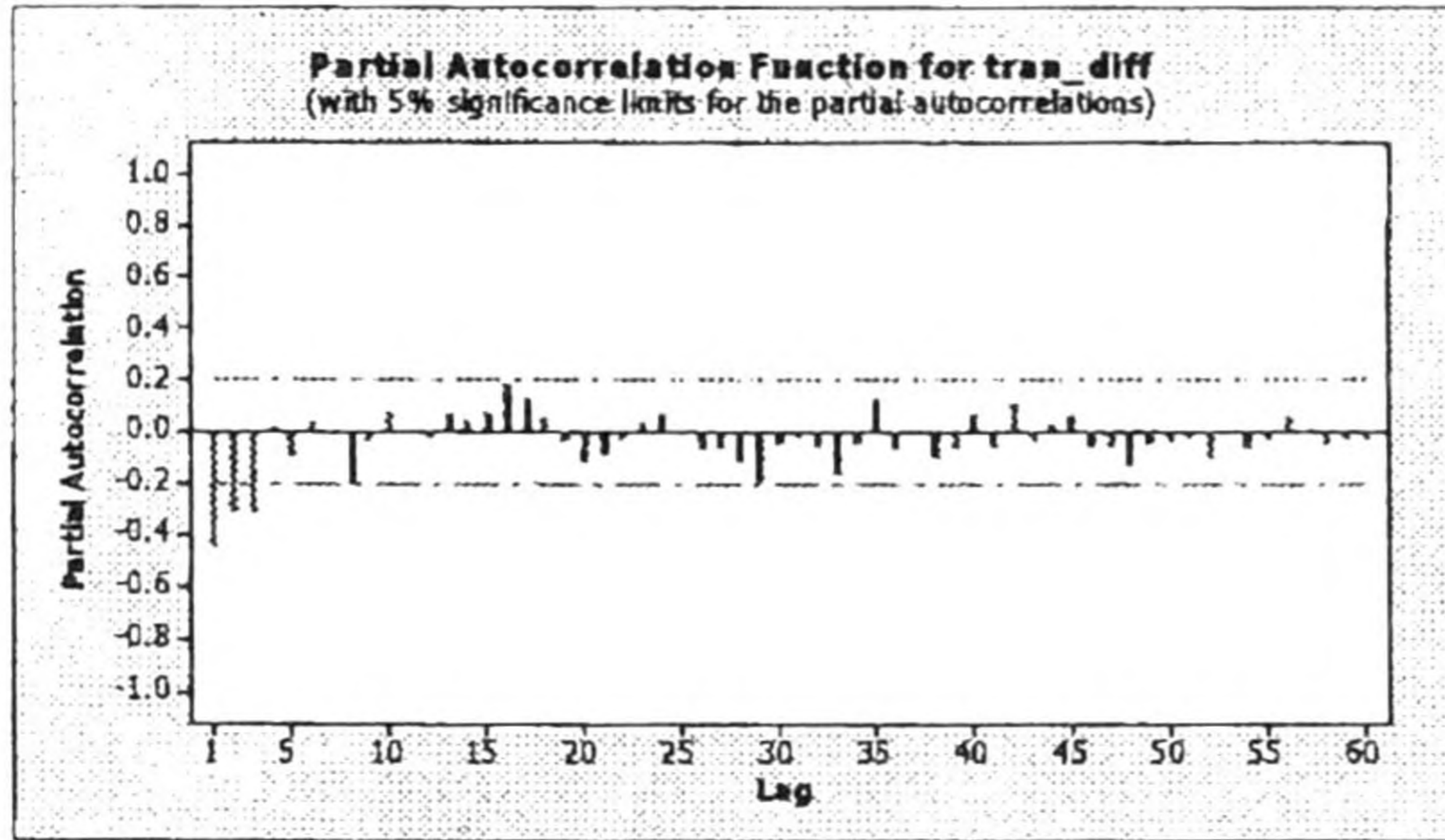


Figure 4. Partial Autocorrelation Function for First difference transshipment containers.

Cut off after the 3rd lag. Therefore $p = 3$.

Check the final estimator of Parameter of model ARIMA (3,1, 1). MA1 not Significant. Therefore ARIMA (3,1, 1) is not a good Model.

Assume that $q=0$. Then model is ARIMA (3,1, 0)

Table 1. Final Estimator of Parameters of Model ARIMA (3,1, 0)

Type	Coaf	SE Coef	T	P
AR 1	-0.6832	0.0962	-7.1	0.000
AR 2	-0.5048	0.1070	-4.72	0.000
AR 3	-0.3215	0.0963	-3.34	0.001

Therefore ARIMA (3, 1, 0) is a good Model for Transshipment container.

2) Fitting the model for import containers.

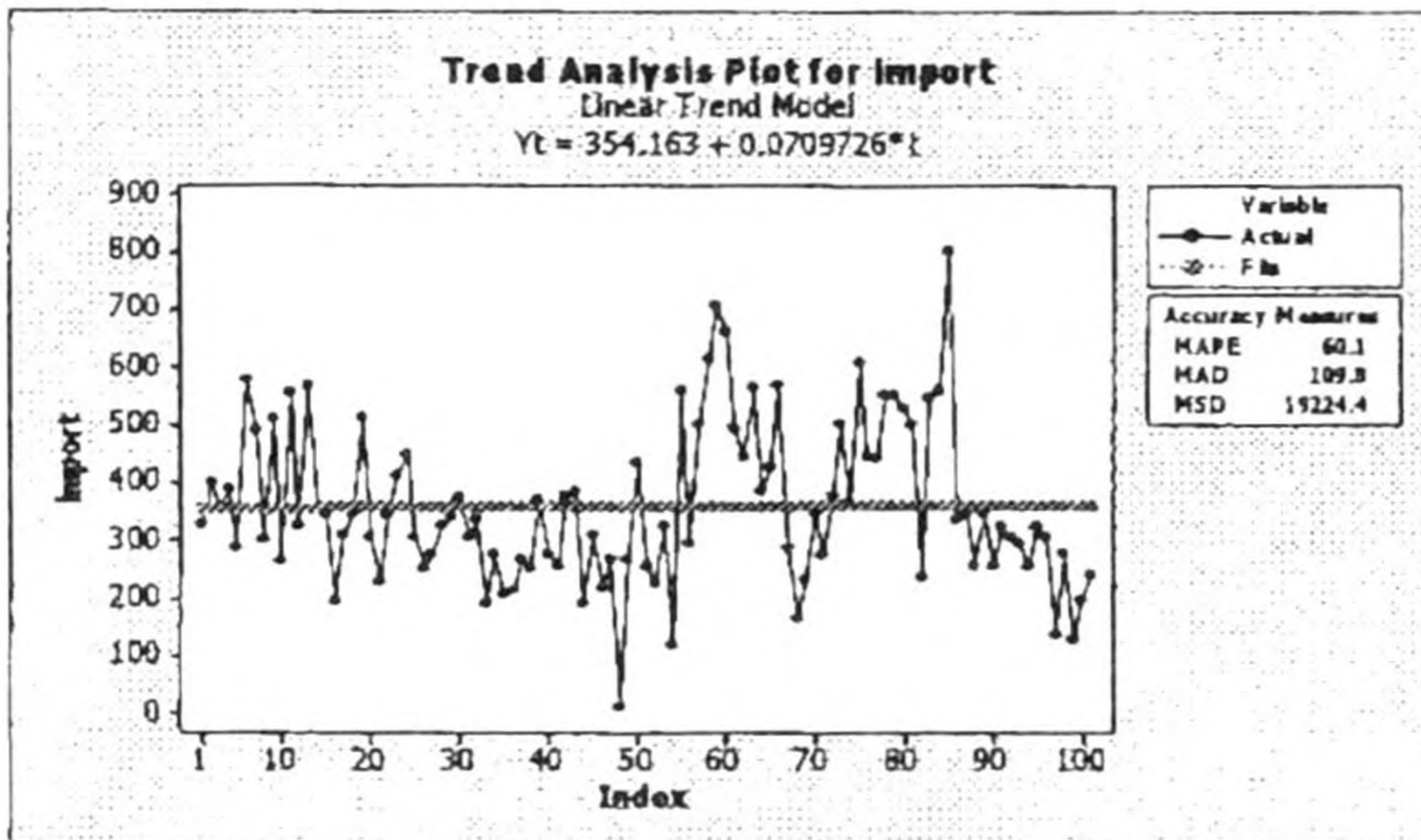


Figure 5. Trend analysis Plot for import containers.

Therefore $d=0$. There is no seasonal variation.

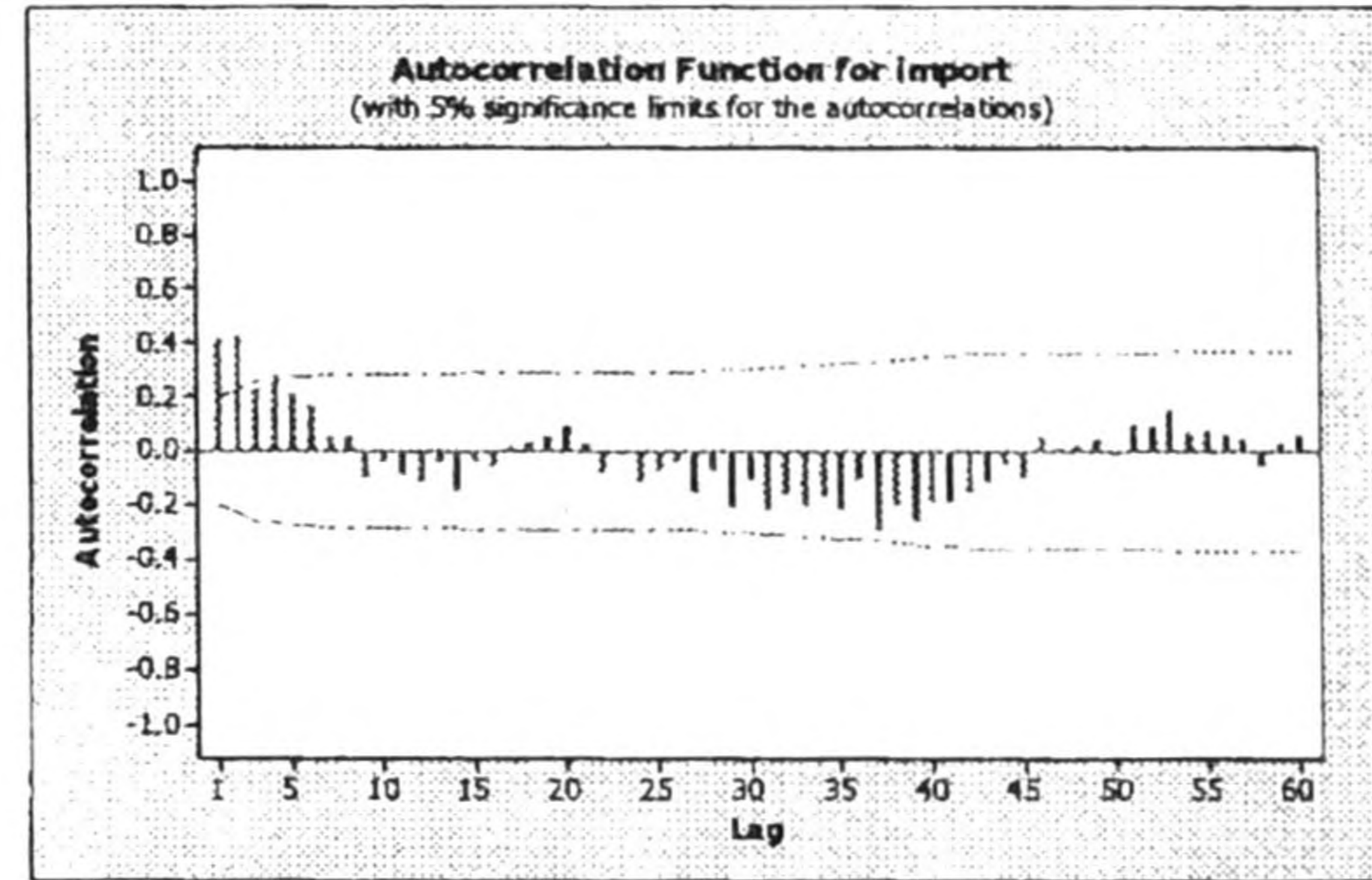


Figure 6. Autocorrelation Function for import containers.

ACF plot cut off at lag 2. Therefore $q = 2$.

Cut off after the lag 2. Therefore $p = 2$. Model is ARMA (2, 2). Check the final estimator of Parameter of model ARMA (2, 2). AR1, MA1 and MA2 are not Significant. Therefore ARMA (2, 2) is not a good Model. Assume that $p=2$ and $q=0$. Model is AR (2).

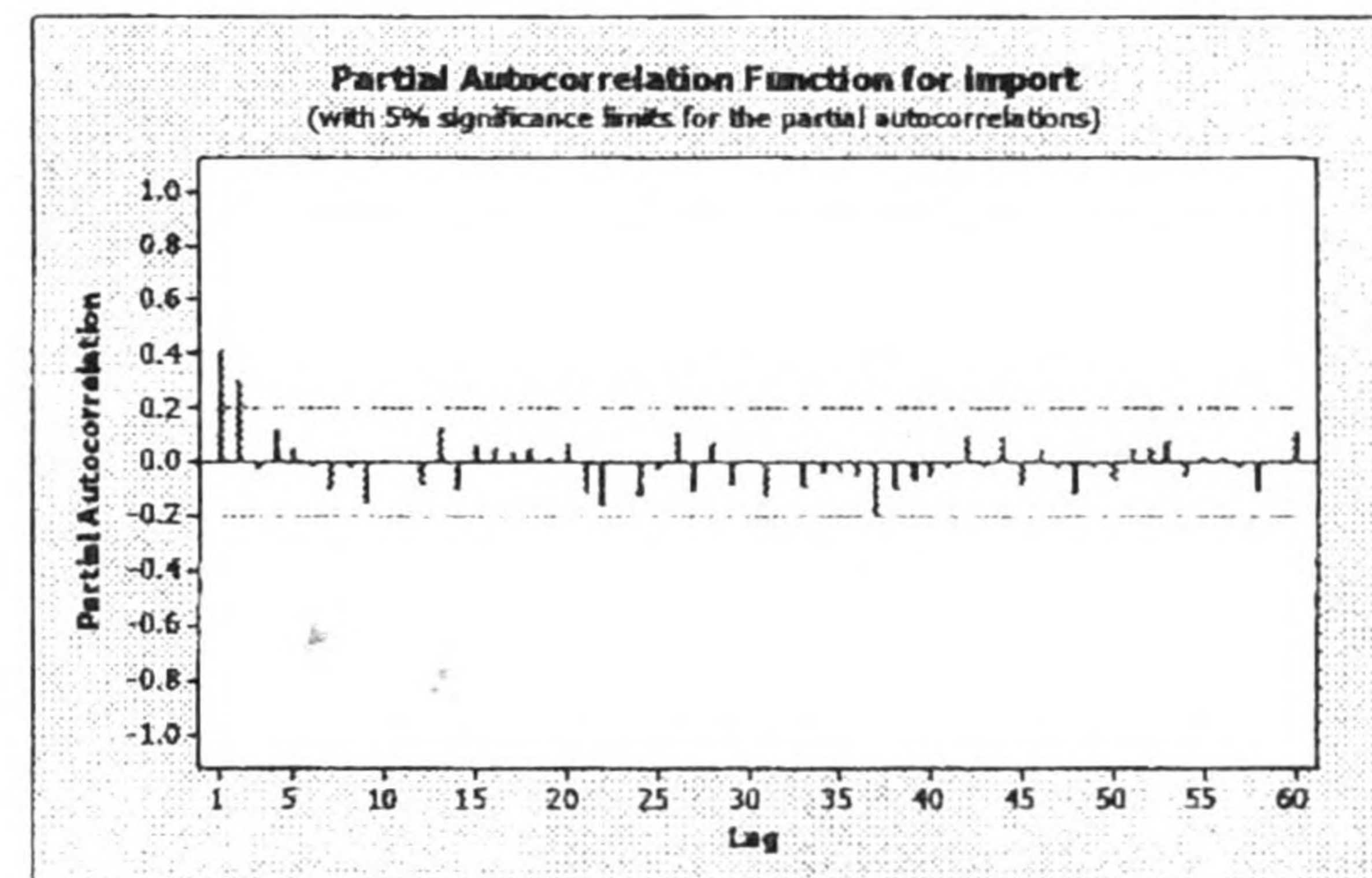


Figure 7. Partial Autocorrelation Function for import containers.

Table 2: Final Estimator of Parameters of Model AR (2).

Type	Coefficient	SE Coef.	t value	P value
AR 1	0.2856	0.0963	2.97	0.004
AR 2	0.3080	0.0969	3.18	0.002
Constant	144.22	12.19	11.83	0.000

AR 1, AR 2 and Constant are significant. Therefore AR (2) is a good Model for import containers.

3) Fitting the model for export containers.

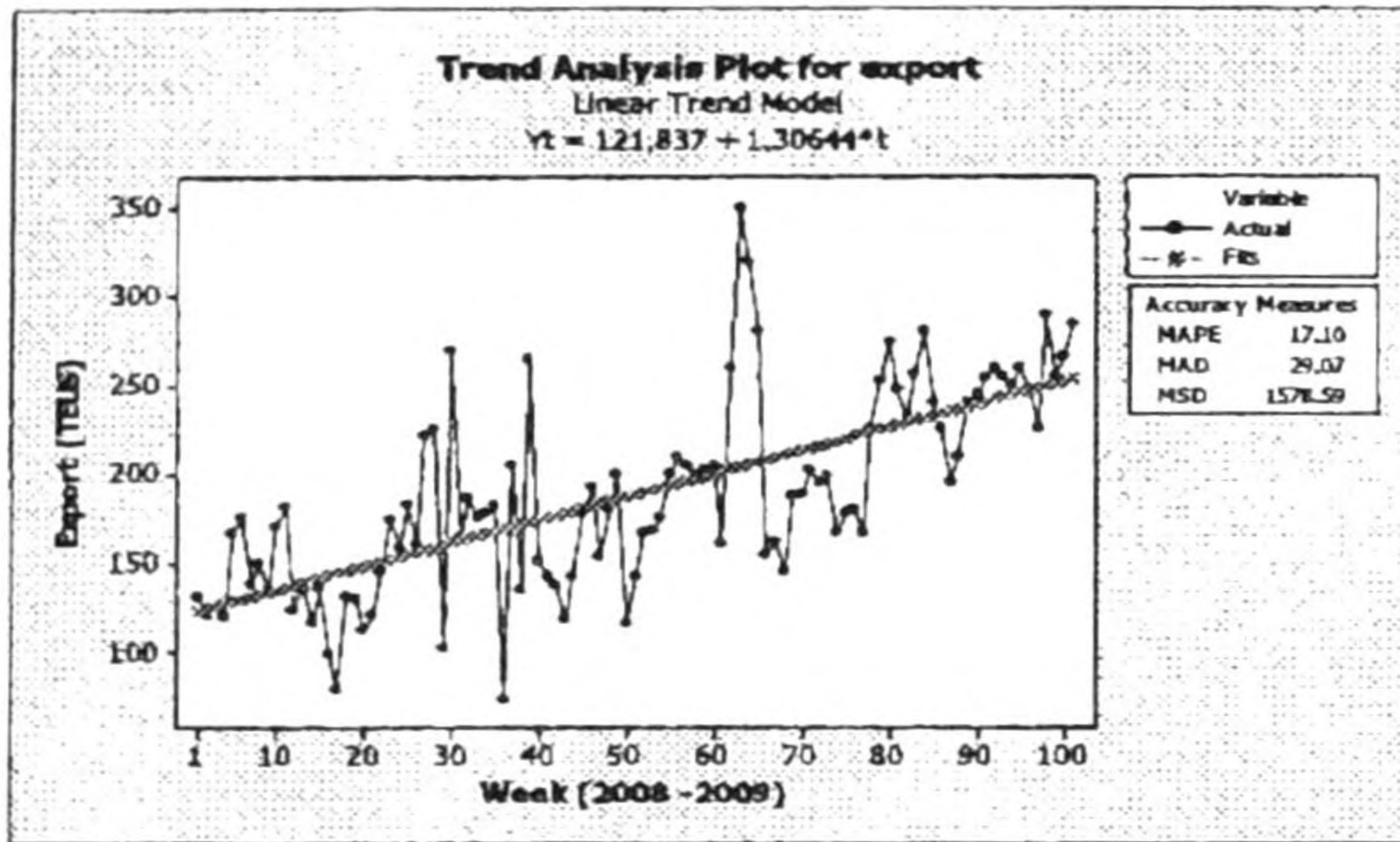


Figure 8. Trend Analysis Plot for export containers.

There is a positive gradual increase. Therefore $d=1$. There is no seasonal variation.

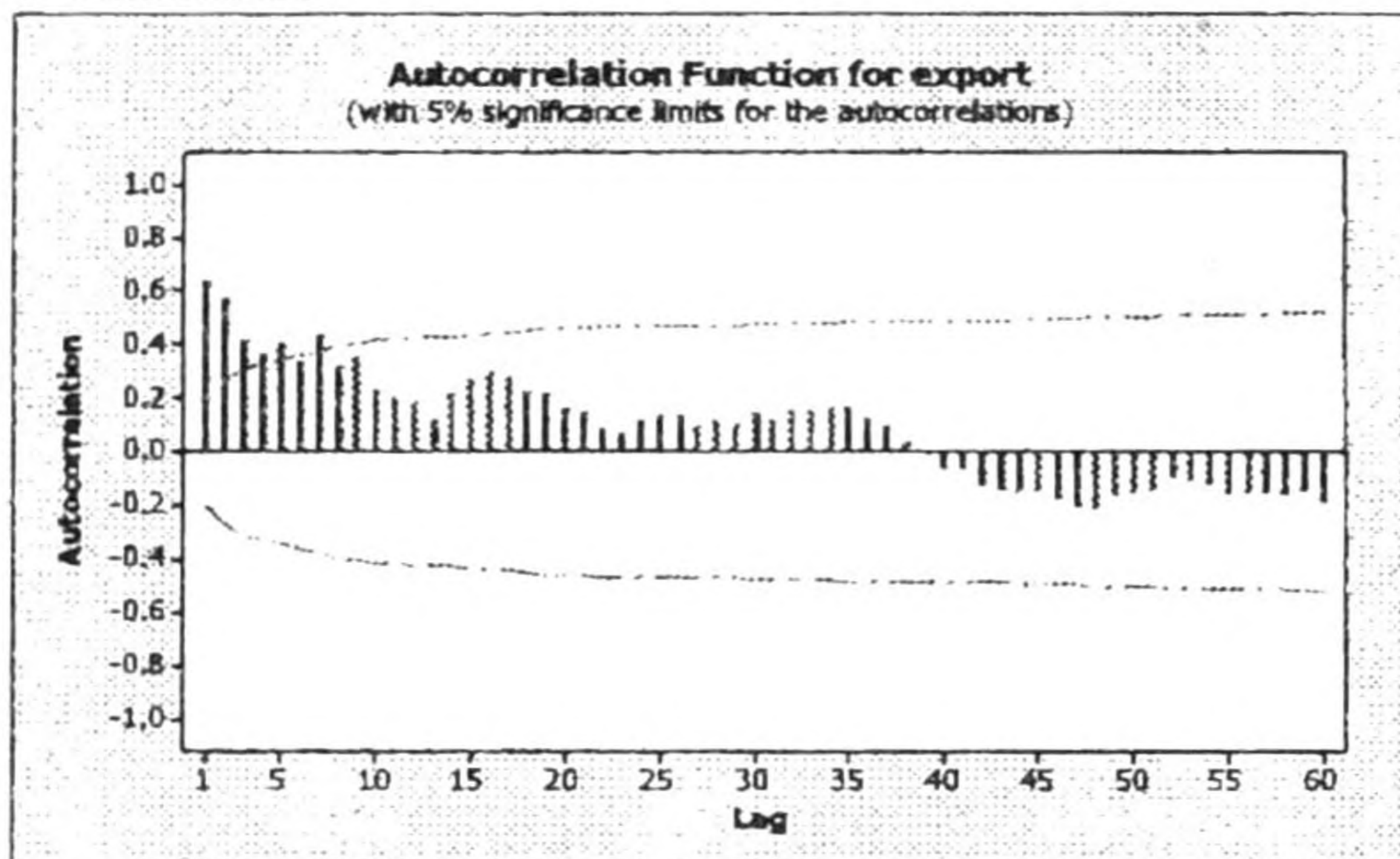


Figure 9. Autocorrelation Function for export containers.

ACF plot shows a die down. the data set was once differenced. ACF was plotted again for the differenced data find the MA terms.

First difference data for the export containers ACF plot has a cut off after the second lag. Therefore $q = 2$.

PACF plot has a cut off after the second lag. Therefore $p = 2$. Model is ARIMA (2, 1, 2)

Check the final estimator of Parameter of model ARIMA (2,1,2). AR1 and AR2 p values are not significant. Therefore ARIMA (2, 1, 2) is not a good Model. Assume that $p=1$ and $q=1$. Model is ARIMA (1, 1, 1).

Table 3. Final Estimator of Parameters of Model ARIMA (1,1,1)

Type	Coefficient	SE Coef.	t value	P value
AR 1	0.3439	0.0974	3.53	0.001
MA 1	0.9974	0.0126	79.17	0.000
Constant	0.8925	0.1284	6.95	0.000

AR 1, MA 1 and Constant are significant. Therefore ARIMA (1, 1, 1) is a good Model for export containers.

RESULTS AND DISCUSSION

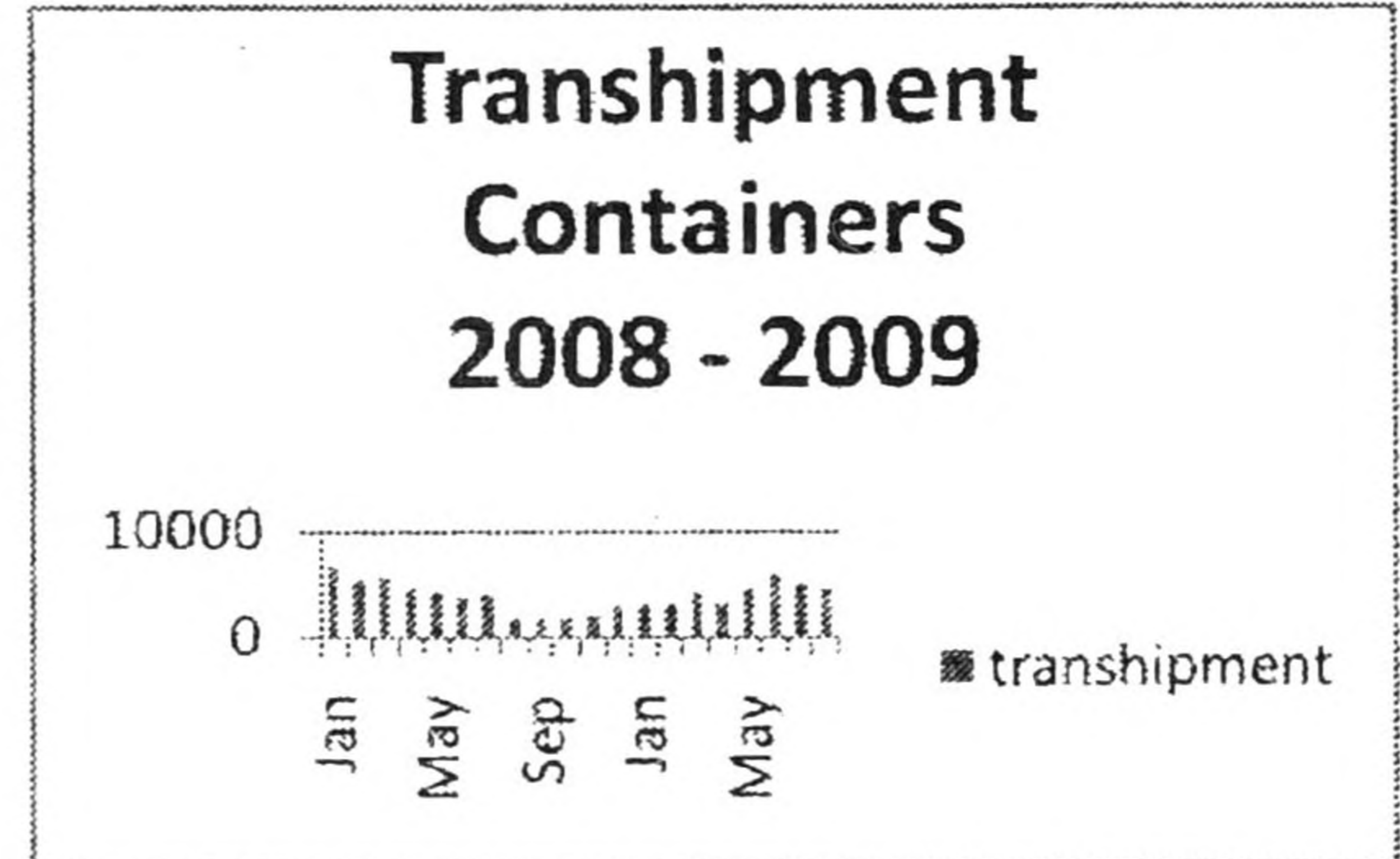


Figure 10. Bar Chart of Transshipment Containers.

Transshipment containers dropped down from August 2008 to December 2008. But from January 2009 to June 2009 little bit increased in the volume of transshipment containers. From July 2009 volume of transshipment containers decreased little bit.

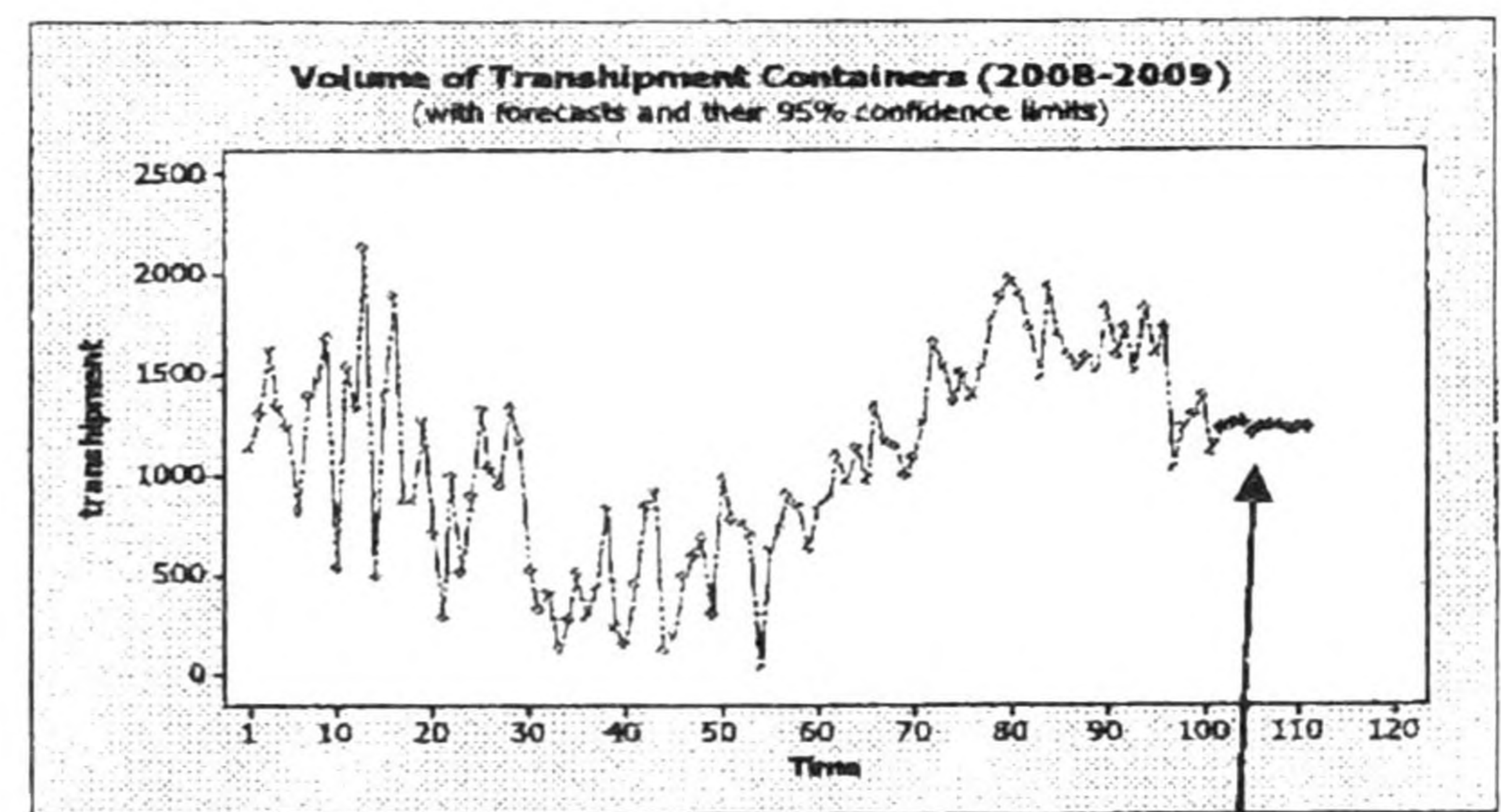


Figure 11. ARIMA (3, 1, 0) Model of Transshipment Containers

Predicted Values

Volume of transshipment containers leveled off for the future values from 44th week of 2009.

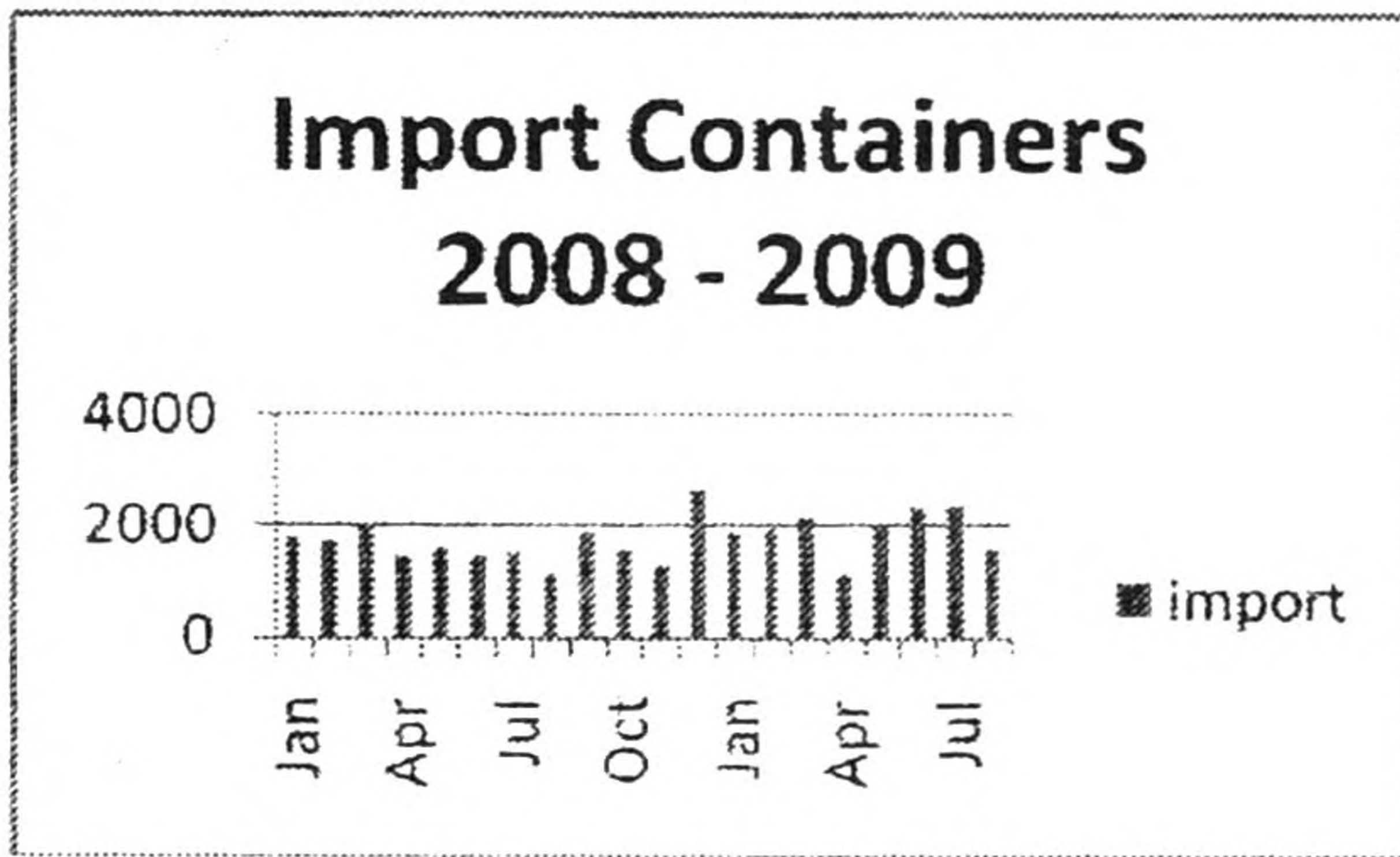


Figure 12. Bar Chart of import Containers

Total Monthly wise TEUS of import containers were stable according to the month from 2008 to 2009.

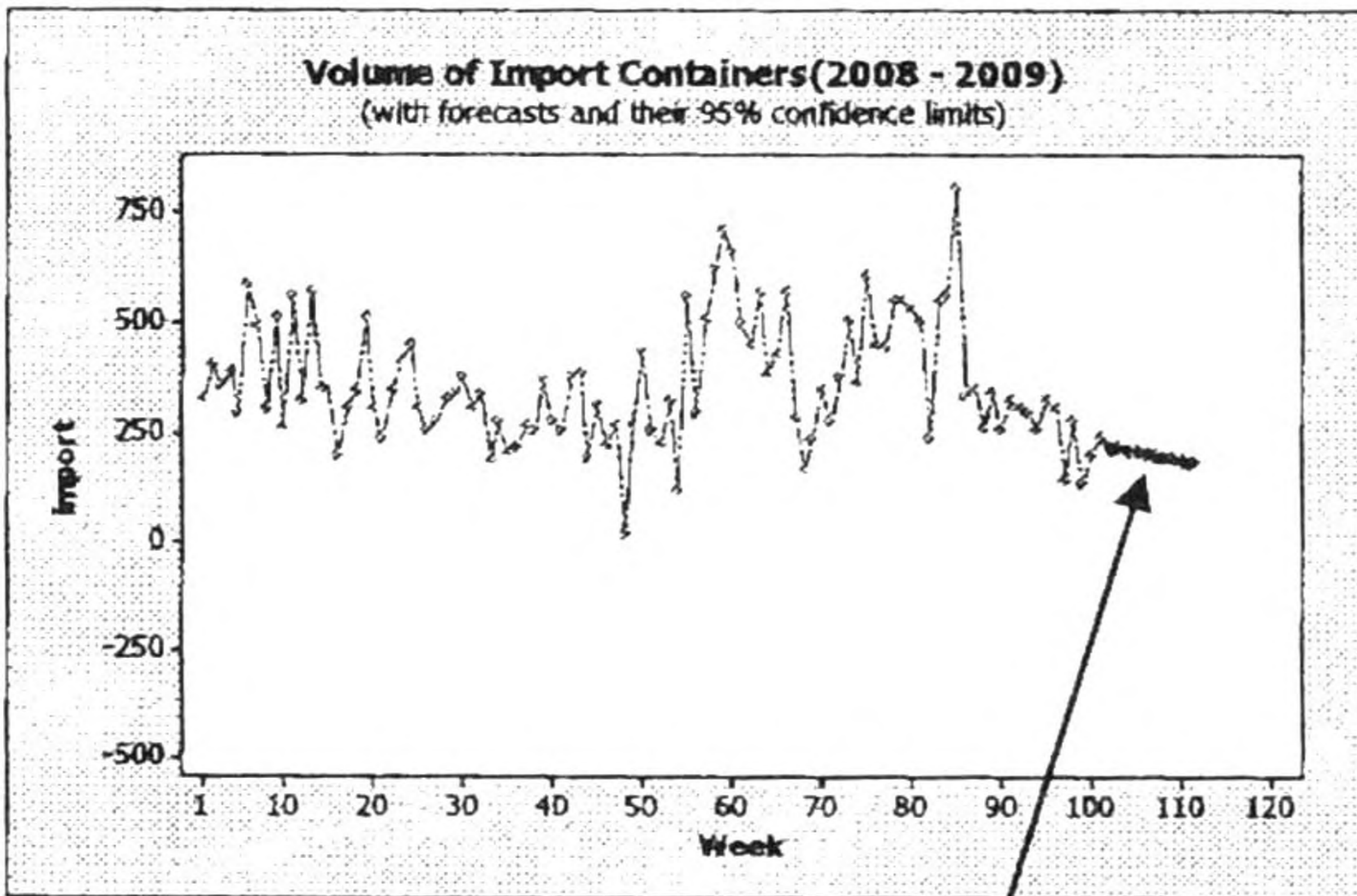


Figure 13. AR (2) Model of Import Containers

Predicted values

Volume of import containers dropped for the future values from 44th week of 2009.

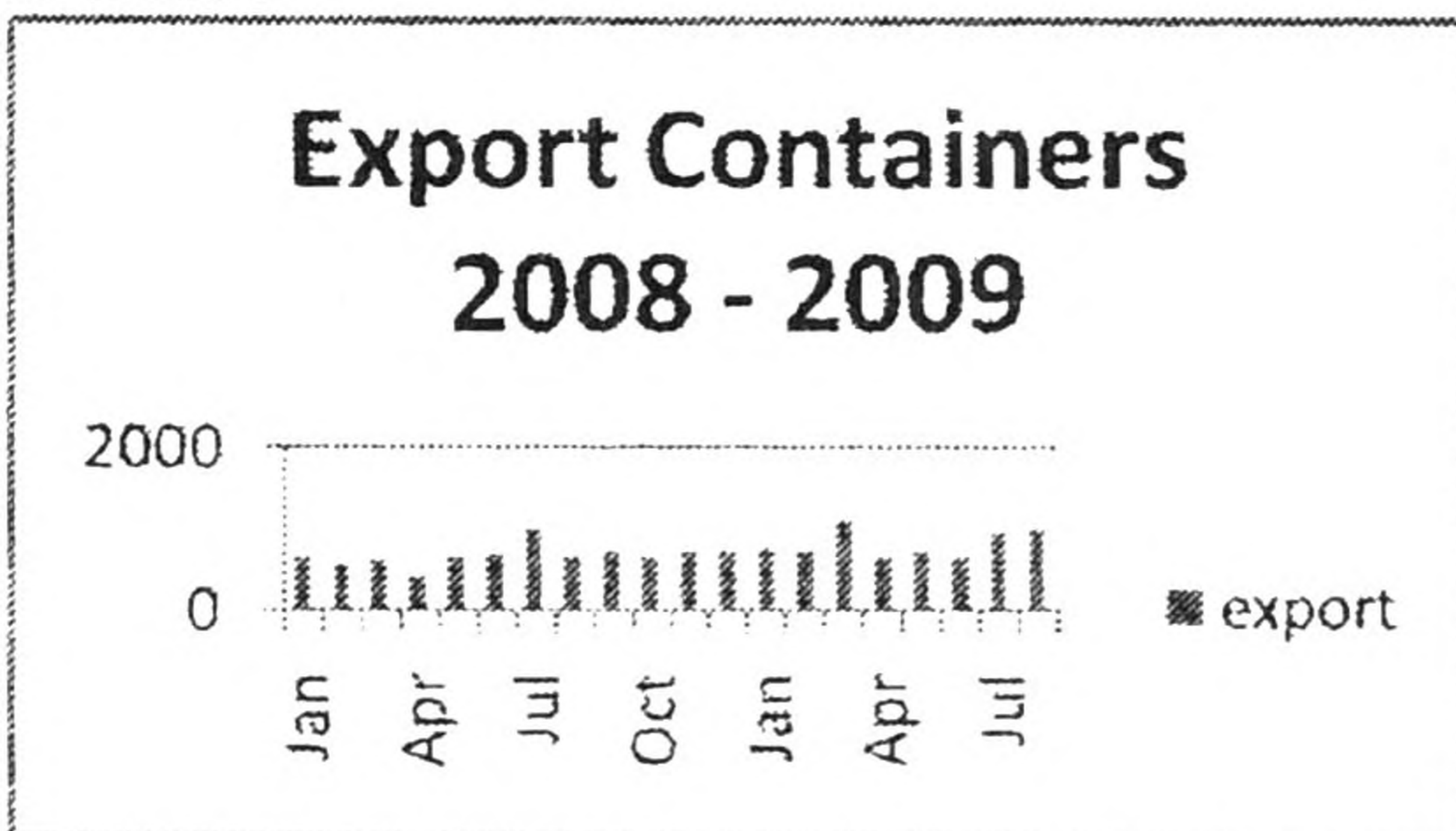


Figure 14. Bar Chart of Export Containers

Total Monthly wise TEUS of export containers were stable according to the month from 2008 to 2009.

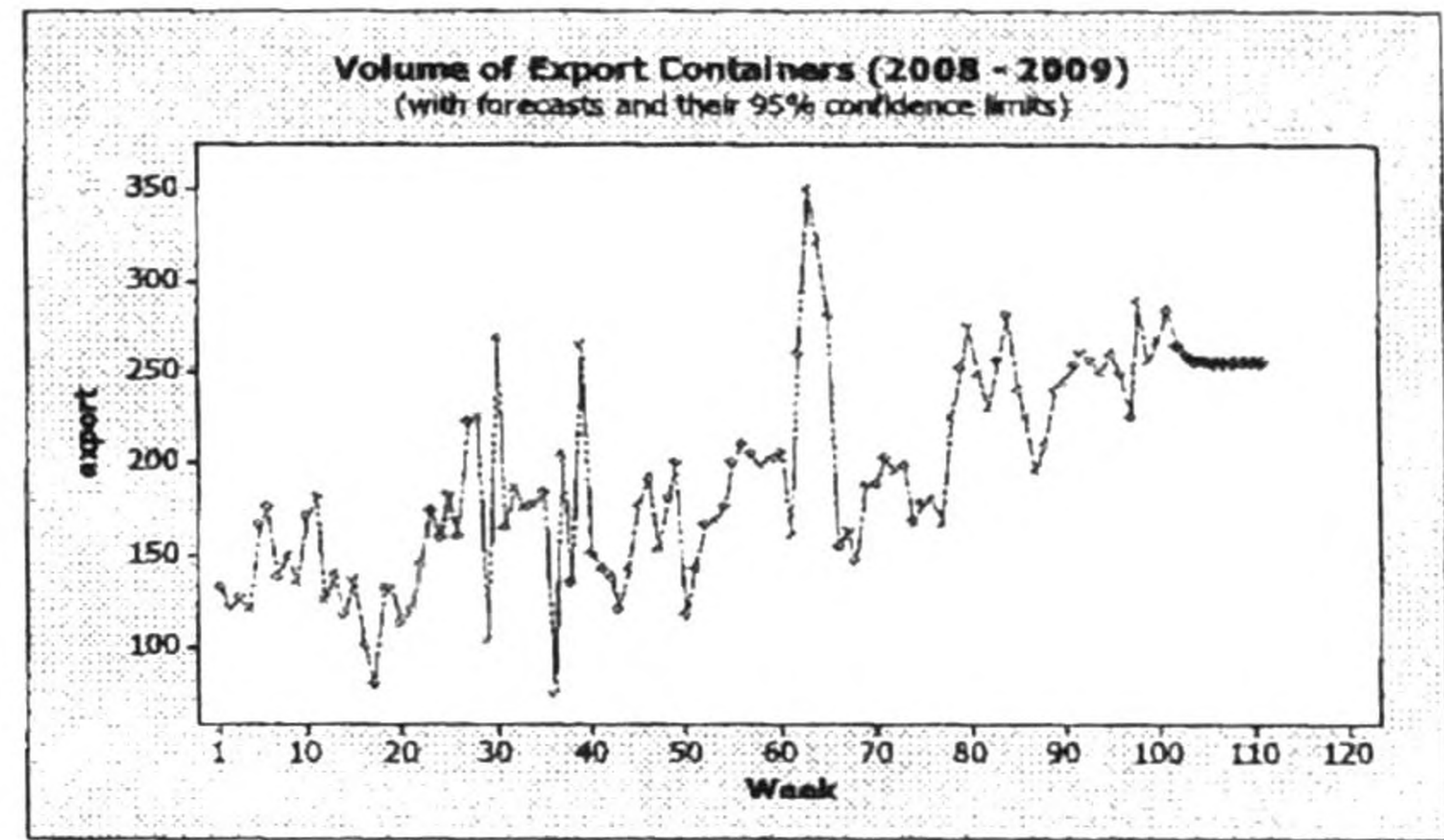


Figure 15. ARIMA (1, 1, 1) Model of Export Containers.

Model of export containers did drop according to the month from 2008 to 2009. Charter ship for the time period is called the time charter. Time Charter is appointed by the owner. Voyage charter is only for travelling from one port to another. If the ship reached the port where it has to reach then charter is over. This Charter is appointed and directed by the owner. One Customer imports several Cargos from several countries. Then Spence Shipping (Pvt) Ltd as an agent they can collect all cargos from other country. After that Agent could be able to stuffing to the containers and export to the relevant Consignee. This Operation is called Multi Country Consolidation. This is the best feasible solution for the minimize the economic crises.

CONCLUSION

Sri Lankan Shipping industry is mainly based on transshipments. Therefore economic crises effect on the transshipment is more than on import and export. Volume of transshipment containers leveled off for the future values. Volume of import containers dropped for the future values. The global economic crisis has significantly influenced the dry bulk market. Time charter rates and freight rates have dropped drastically. Furthermore, these droppings were quicker than the declination of global exports, meaning that at some point the elements of negative expectations

arising from the global economic crisis had also an effect on the dry bulk market. The same effect influenced the fuel prices as well.

Data analysis indicated that the Figure 10, Figure 11, Figure 12, Figure 13, Figure 14, Figure 15, MCC Operation is suitable to minimize the effect of economic crises on the Spence Shipping (Pvt) Ltd.

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