Royal Docks Business School

UEL University of East London

MKM227 Postgraduate Dissertation

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EXCHANGE RATE RISK AND IMPACT ON FOREIGN TRADE

A dissertation submitted in partial fulfilment of the requirements of the Royal Docks Business School, University of East London for the degree of **MSC FINANCIAL MANAGEMENT**

SEPTEMBER, 2014

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EXCHANGE RATE RISK AND IMPACT ON TRADE

DISSERTATION SUMITED AS PART OF THE REQUIREMENT OF THE DEGREE OF

MASTERS IN FINANCIAL MANAGEMENT

UNIVERSITY OF EAST LONDON

BY

SHEILA OMOFOMWAN – U1325199

IN THIS DISSERTATION ALL QUOTATION FROM OTHER AUTHORS HAVE BEEN ACKNOWLEDGED

ABSTRACT

This study investigated the impact of exchange rate on import and export of China for the period of 2005M1 to 2013M12. The main motive of this dissertation was to examine if exchange rate had significant or insignificant effect on Export, import and overall balance of trade of China within the given year. Using descriptive statistics and Co-integration analysis which is the strategic method used in investigating this problem. The cointegration results indicates that there is no relationship between exchange rate, export, import and balance of trade and also, Granger causality test was also carried out on the variables and the results shows that there is significant relationship between exchange rate and the four variables that were used. The overall result proved that with exchange rate movement, the volume of trade will also move in the same path but in the long run, exchange rate will move in opposite trend. But in the short run, when exchange rate moves, both export and import will move a little in the same path. Therefore, the study found a significant effect on china foreign trade.

ACKNOWLEDGEMENTS

Firstly, I will like to thank Almighty God who gave me strength despite all the challenges that came my way during the process of this dissertation. I will also like to thank my supervisor, Andreas Karthanasopoulous and my family for their patient and time.

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CHAPTER 1: INTRODUCTION

BACKGROUND INFORMATION

Economic prosperity is boosted when different countries with diverse currency engage in business transactions. Global trade has increased 100 times since after the Second World War and have affected world out -put positively. However, the eradication of trade and investment barriers, development of domestic markets and the tremendous growth in high-technology and information system has facilitated this trend.

According to the world trade organization (WTO), export of world goods have increased by 125% between 2000 and 2012 as shown in the graph below. This changes have led to the expansion foreign trade. (Yin and Sengupta, 2013)

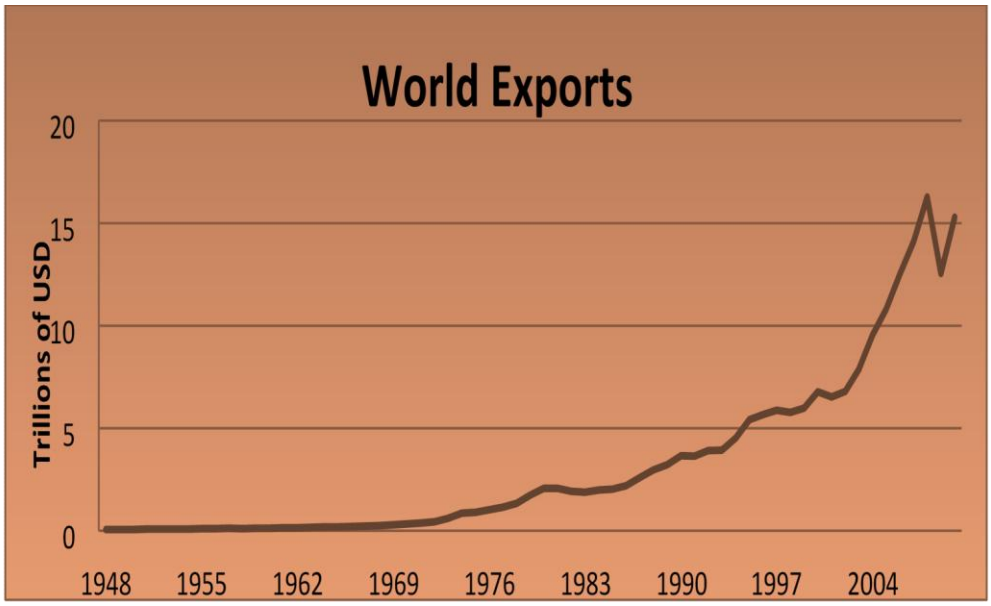

Figure 1:1 Source: WTO

In the world trade organisation (WTO), exchange rates is an important and a very sensitive subject. Exchange rate are endogenous variables that is caused by the complex interaction of macroeconomic, financial, and trade determinants. Since the currency of different countries varies, a method of

Exchange is very necessary in order to facilitate foreign or international trade and global operation require dealing with exchange rate and its risk. The role played by exchange rate movement on trade (import and export) activities has therefore been a great concern in both trade and academic sector.

1:1 PROBLEM OF STATEMENT

In the past, foreign trade or international trade and monetary relations have indeed suffered more than one period of tension. Exchange rate are alleged to be a transmission restraint of financial blow to the real economy since the recent financial crisis. In many ways, exchange rates can affect trade, real exchange rate have direct impact in allocating resources like capital and labour among tradable and non-tradable producing sectors in an economy as they are the relative prices of tradable and non-tradable produces. Since real exchange rate capture relative prices, costs and also productivity of a particular country as compared to the rest of the world.

Due to the huge significance of the possible impact of exchange rate risk on foreign trade, it is not shocking that the impact of exchange rate volatility has been a vital empirical and theoretical concern for economics. Since the collapse of the Bretton Wood system (fixed exchange rate system) in 1970 and the adoption of the floating exchange rate system(which gave rise to high currency fluctuation), there has been a vast amount of numerous literatures on influence of exchange rate risk on trade both theoretically and empirically.

In the wood system, countries were required to apply a monetary policy that will ensure a fixed value of its currency in regards to exchange rate. Many countries began floating their exchange rates after the failure of wood system and these countries due to floating of their exchange rate experienced a great deal of fluctuation.

Actually, these scholars thought that the world economy was not stable due to high exchange rate volatility as a result of the adoption of free floating system and significant relationship was found among exchange rate risk and foreign trade. (Baum et al, 2004). Basically, most of these literatures focused more on finding the adverse relationship concerning volatility and trade and this was not always the case. But, the findings of most empirical studies sometimes confirm positive relationship which were not proven to be wrong.

1:2 DEFINITION OF EXCHANGE RATE

Exchange rate is the amount at which one currency can be traded in terms of another. Its importance in foreign trade among countries or investors cannot be overemphasized as it is the most important price index in a countries international economic activity. Also, exchange rate play a significant role in pricing international activities.

In general, the value of the Currencies of various countries is based upon their monetary strength and real economy. These differences brought about foreign exchange. International trade might be affected by valuation of currencies (over or under value) and this can also affect an economy and exchange rate volatility can affect a countries balance of payments.

EXCHANGE RATE RISK

While the oxford dictionary define risk as a situation involving exposure to danger, the business dictionary, defined risk as probability of loss or any other negative event that is caused by either external or internal exposures and through preventive action, can be avoided and the institutes of chattered accountant in England and wales ICAEW (2002), define risk as the amount of uncertainty in respects to the achieved benefit of a particular business when following its objectives and strategies.

However, in the financial world, risk is the possibility that an actual return will be lesser than its expected return in an asset. Risk as the chance of

something happening and having impact on set objectives. Risk is the possibility of things happening. Uncertainty in exchange rate volatility when it's unable to be forecasted and make the profit to be realised from international unknown is referred to as exchange rate risk. (Keith, 1983)
From the above definitions of risk, it is therefore evident that risk result from uncertainty. Therefore, the probability that some unfavourable future will arise is known as risk. After looking at risk in general, we then concentrate on Exchange rate risk which also involve being related with uncertainty.

It is important to identify the types of risk that those who are involved in foreign or international trade are exposed to and also come across so as to quantify the impacts of exchange rate movement countries or individuals who deals on foreign trade and most especially firms that are involved in currency denominations.

Exchange rate risk as the risk related with the unexpected movement of exchange rate. The consequence of unexpected Exchange rate fluctuation and it effect on the worth of a firm, is related to exchange rate definition. Specifically, it is the direct or unforeseen loss in a business's cash flows, assets and obligations, net profit and stock market value as a result of an exchange rate movement.

TYPES OF FOREIGN EXCHANGE RISK

- Nominal foreign exchange risk

  This risk arise as a result of uncertainty in profit due unanticipated changes in nominal exchange rates. In a situation where the Chinese Yuan unexpectedly appreciate, this change will therefore make an importer profit to exceed expectation. Participating in the forward exchange market, will limit exposure to nominal exchange rate risk. However, the forward market does not ensure completely against nominal exchange risk because foreign trade contract vary in length and also because of the cost of such insurance. The reason is that

uncertainty in future spot price will make the risk bearer request for compensation known as risk premium.

- Real foreign exchange risk.

  This risk arise as a result of uncertainty in profit due to unforeseen fluctuations in real exchange rate. Unanticipated change in real exchange rate is influenced by nominal exchange rate and prices of goods and services. Real exchange rate is more important to firms than nominal exchange rate (Maskus, 1986).

Exchange rate risk is categorically divided into four as shown in the table below:

Table 1:1 Risk Description

Risk	Description
Transaction	Risk concerning changes in prescribed cash flows that Occur from daily transactions.
Translation	This risk occur due to the conversion of firms accounts To the useful currency of the parent country.
Economic	Risk concern when amount and time concerning future Cash flows in foreign currency are unidentified.
Indirect	This is as a result of exposure to foreign exchange rate Due to competition.

Exchange rate uncertainty according to past studies, decreases the volume of trade. Since most trade contract are future contracts, unanticipated fluctuation in exchange rate increases the risk involved in foreign transaction, and may lead to risk adverse traders to reduce trade.

Furthermore, Import and export activities are reduced by risk –adverse traders if exchange rates movement are not completely predicted because increase in exchange rate volatility increases risk. Production will then be reallocated in the direction of domestic markets and foreign trade between countries will be affected. A countries currency is exposed to high risk when exchange rate is volatile and foreign trade is affected in this situation directly (through uncertainty or adjustment cost) or indirectly. Most traders or investors are concerned with currency movement even though their portfolio allocation and risk decisions are not affected. (Amman, and Rommich1999)

1:3 RATIONALE OF STUDY AND RESEARCH OBJECTIVE

High volatility of exchange rates has been a great concern for policy makers and academics after the fall of Bretton wood agreement. Because the degree of exchange rate volatility is very high thereby increasing its risk, it has therefore been a concern as it impact the smooth functioning of the world economy and decrease the volume of foreign trade when the profit to be made is not certain. There have been several empirical and theoretical studies on how foreign trade have been impacted by exchange rate risk but these studies are yet to give conclusive evidence. Their main argument was whether exchange rate volatility have negative or positive impact on trade.

Therefore, I thought researching in-depth about exchange rate risk and impact on trade to try to shed more light by attempting to enumerate or analyse an answer to the main question under consideration which is the impact of exchange rate risk on foreign trade and also critically evaluate some managing and hedging strategies and finally, provide policy implication using the result. This paper will focus on china in terms of Chinese market because it is one of the world's largest exporter from the period 2005 -2013.

In recent time, China has experienced tremendous growth in its international trade. China's Export and import have grown more than the world trade. After China entry into the world trade organization, export of world goods increased by 125% between 2000 and 2010 and its trade with the rest of the world has deepened. In 1999, china's export of goods increased by 195million to 1.5 trillion in the year 2010 that is over 700% increase.

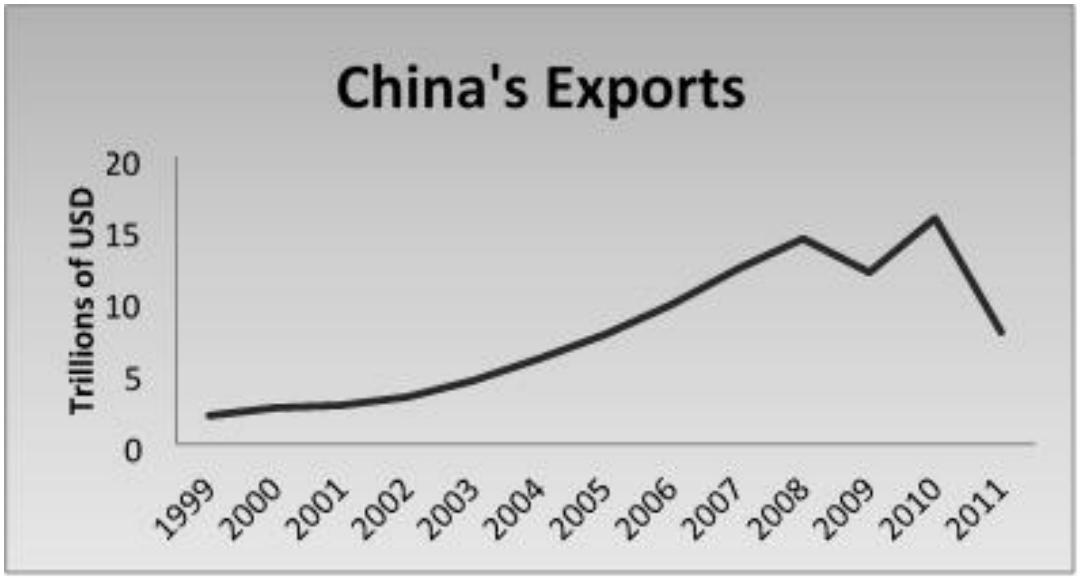

Figure 1:2 Source: WTO

Electronic components which are manufactured goods by china are its primary export. Its import are mainly industrial supplies and capital goods. In the year 2010, china became the world leading exporter.

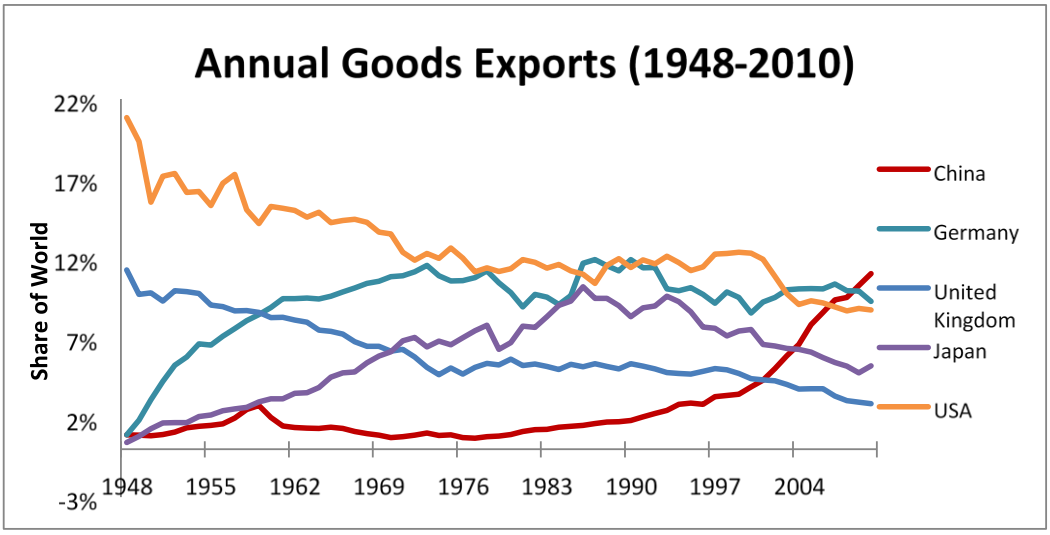

Figure 1:3 source WTO

Though in 2005 china abandoned its peg exchange rate policy which made the Yuan value to appreciate (it was formerly pegged to the dollar at 8.27 Yuan to USD) Thereby increasing higher pressure on import and export prices. In July 2005 and July 2008, the dollar depreciated against the Yuan by 17%. By the year 2008, china balance of payment of goods export increased more than 9.50% and by the year 2010, it was 10.28% even as its export price was rising.

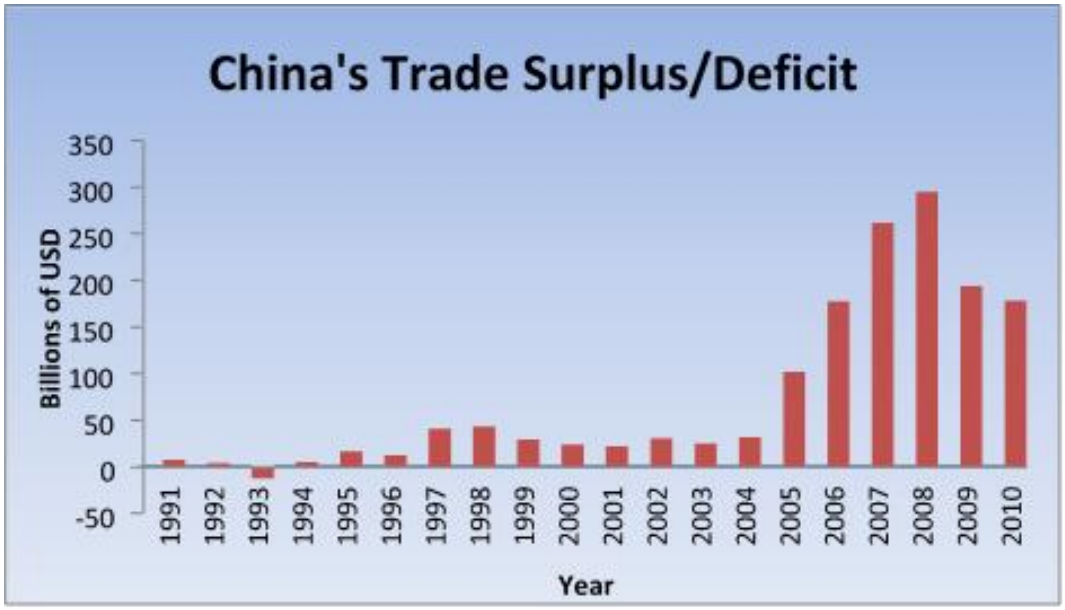

Figure 1:3 Source: WTO

The above chart shows that china trade surplus have greatly increased in recent years. By 2008 it raised to 360 billion USD. It decreased to 178 billion USD in 2010 due to the rise in consumer spending

1:4 RESEARCH QUESTION

As stated earlier that Exchange rate risk hinders foreign trade and the numerous literature on this study are still yet to give conclusive evidence as some studies have found negative or positive impact and others have found significance and insignificance impact of exchange rate volatility on trade. Therefore, the general aim and objective stated above were developed into detailed research question for this study through reviewing the relevant literature on exchange rate risk and impact on foreign trade. Based on the above research objective, the following research question have been developed

- What is the impact of exchange rate risk on trade?
- What is the Casual relationship between Exchange rate risk and Foreign Trade?
- What are the management of exchange rate risk and hedging strategies in reducing foreign exchange rate risk

RESEARCH HYPOTHESIS

H_0 Exchange rate have significant effect on trade

H_1 Exchange rate have insignificant effect on trade

In view of this possible problem, this research will look at the effect of exchange rate risk on china foreign trade during the year 2005 to 2013. Particularly, to evaluate the effect of nominal and real RMB exchange rate volatility on china foreign trade. Hence, to answer the above question, this

research will look at many studies that have previous been carried out on the impact of exchange rate risk on trade.

1:5 RESEARCH OUTLINE

This research is organized as follows: The first chapter gives an in-depth overview of the study which consists of the background information, rationale and objective of study and research questions and research outline. The second reviews the theoretical and empirical literature relating to exchange rate risk and impact on trade flows and also the management and hedging strategies of exchange rate risk. The third consists of the research methodology and the fourth chapter analysed the result on exchange rate risk and impact on foreign trade and last chapter consist of the conclusion and recommendation.

CHAPTER 2: LITRATURE REVIEW

INTRODUCTION

The prose of exchange rate risk or volatility and foreign trade is diverse. Theoretical and empirical studies have been conducted both internationally. It has been argued that exchange rate risk hinders foreign trade (negative or positive) but the numerous studies on this subject up till now has not yet given conclusive proof. Since the collapse of Bretton wood system in 1971 (fixed exchange rate system), there have been fluctuation in the real and nominal exchange rate and this gave room for different studies on exchange rate instability and trade flows. This chapter will review the theoretical and empirical literatures.

2:I EXCHANGE RATE RISK AND TRADE FLOWS

Economic fundamentals which became unstable in the 1980s and 1990s are considered as causes of exchange rate volatility and these economic fundamentals are inflation, interest rates and as well as balance of payment. Currently, cross- border flows have triggered exchange rate to fluctuate (Hook and Boon, 2000). Exchange rate fluctuation can affect trade flow directly which may be through uncertainly and adjustment cost or indirectly due to its impact on resource allocation and government policy. In addition, exchange rate volatility can indirectly impact trade through the structure of output and on government policy. (Cote, 1994).

However, the volatility of exchange rate can be linked to be the main basis of exchange rate risk and it has positive impact on the volume of foreign trade. Hooper and Kohlhagen (1978), as well as other economic scholars studied the theoretical analyses of the association between high level of exchange rate volatility and trade dealings. Therefore, exchange rate play a vital role in foreign trade both import and export level

So far, a lot of research has been made. Cushman (1988) and Thursby and Thursby (1987) in their empirical work found that exchange rate risk have negative effect on trade flow since exchange rate market has become vulnerable. Also Rube and Samatha (2003), found in their work that exchange rate volatility can affect trade flow positively due to uncertainty. However, Exchange rate volatility may also give rise to a greater volume of international trade. That is because with the awareness of some hedging techniques traders can be able to profit from trade and prevent the certain effect of volatility.

Furthermore, Since exchange rate is agreed on at the time of a trade contract and payment is not made until the delivery has taken place, Increase in exchange rate volatility will lead to less cost risk-adverse traders to foreign trade but high to risk-adverse traders. Hence, benefits of international trade are reduce when exchange rate cannot be predicted because this will actually cause uncertainty (Arize, Osang and Slottje, 2000).

2:1:1 THEORITICAL STUDIES

So far, several model have been used to investigation for the effect of exchange rate risk on trade and it has been proven to have adverse effect on trade flows. Uncertainty of profit from export trade in foreign currency will increased when there is increase in exchange rate volatility when risk-adverse traders decrease trade.

However, most theoretical models showed the positive impact of exchange rate risk on trade. The main focus of this models were on the profit opportunities that may arise due to higher exchange rate uncertainty. In these theoretical models exporting is view as “option” which are exercised in favourable condition.

In an earlier study, Clark (1973) developed a model of a firm that produces and export a homogenous commodity under a perfect competitive market or market. It expected that a firm does not have domestic market and also doesn’t use foreign inputs. The firm is paid in foreign currency for its export transaction and the earned amount is then convert in a forward market which is limited to one transaction. The firm will not be able to change its production position in response to exchange rate movement because of all production was done in advance. Clark showed that a firm marginal revenue exceeds its marginal cost and however concluded that the supply curve of risk adverse exporter will shift leftward and trade will be reduce. This simple model showed a negative impact of exchange rate risk on trade.

Then, Ethier (1973), examined the correlation between goods and forward market and effect of exchange rate uncertainty on risk adverse producer that import foreign good. He model the risk-averse firm that is responsible for making decision on the import quantity and as well as the amount of forward that is covered in an exchange rate uncertainty environment. If it is assumed that the firm will be able to see how exchange rate uncertainty

Will affect it future profit, then the firm will reduce the volume of its import.

In a bilateral framework, Hooper and Kohlhagen (1978) used an equation of export and demand to analysed the impact of exchange rate risk on equilibrium prices and volume of traded goods of Germany and US trade flow 1965-1975 and concluded that all things being equal, the volume of trade will be reduced by uncertainty in exchange rate. Although, depends on faces the risk, the price of the traded goods can change in either way.

Furthermore, Hooper and Kohlhagen since they found significant relationship between exchange rate and foreign trade. Using the different models and measures, they investigated the impact of exchange rate volatility on sixteen cases 1965-1975 in a both bilateral and multilateral framework which included the Germany and US. Significant relationship between exchange rate risk and trade was found. But in the case of the UK – US trade, they found significant negative effect.

Similar to this, Cushman (1983) assessed the influence of exchange rate uncertainty on trade using quarterly data for 1965-1977 for fourteen cases in a bilateral trade between the developed countries using bigger sample and real exchange rate instead of nominal exchange rate and a significant negative effect was found in six cases.

Akhtar and Hilton (1984) constructed the TARCH model and applied the OLS to examine the effect of exchange rate on Uncertainty on Iran real import 1959-2009 and this model was also used to measure Iran real exchange rate uncertainty. They found insignificant effect of the TARCH model on Iran exchange rate and revealed negative shock had higher impact on volatility. Furthermore, they emphasised that there are two channels whereby exchange rate volatility can affect trade flow.

In the first channel, which is the direct channel, since prices are not certain, the volume of goods will be affected by prices and profits that cannot be determined precisely. The second channel is that the influence of exchange rate volatility will depend on the decision of a firm.

Bailey, Tavlas and llhan (1986) argued that because of long term fundament, speculative and transitory influences, exchange rate varies. Therefore, since these influences are not predictable, they vary compare to others. Thus, the volatility of exchange rate itself is variable. Bailey, Tavlas and Ulan concluded that exchange rate variation though harmful, does not have significant influence on trade as well as direct investment

De Grauwe (1998) emphasised that even though trader is risk adverse, the correlation between uncertainty and trade can either have a negative or positive impact on trade and this will depend on the rand of higher exchange rate risk on revenue of export. But in a situation where the exporter is risk adverse, the anticipated marginal utility on export revenue will be raise by a higher exchange rate risk thereby increasing export activities.

Qian and Varangis (1992) studied the relationship amid exchange rate volatility and export volumes using the ARCH-M model on six countries and showed that the relationship between exchange rate and export volumes of Australia ,Canada and was negative but found a positive effect of exchange rate volatility on Nederland and united kingdom export volume. They also however found negative effect of exchange rate volatility on export involved in other than the domestic currency.

In a different study, a theoretical model was developed by Dellas and Zilberfarb (1993) so as to demonstrate the positive impact of exchange rate unpredictability on trade. With the use of a conventional asset portfolio model, they suggest a model with imperfect asset market and ex-ante trading decision whereby before the resolve of price, export is made.

The study went further to conclude that higher volatility of exchange rate will either increase or decrease investment and this depend on the risk parameter of the model

Also, the work of Ostfeld and Rogoff (2001), investigated the impact of exchange rate risk on expected output and trade by extending the new open macroeconomic framework by using a two model of stochastic environment where the exchange risk has an impact on the price setting decisions of individual producers and international trade flows. By so doing, Ostfeld and Rogoff show that exchange rate variability will reduce expected output and thereby making trade decline.

Wang and Barrett (2007) investigated how the conditional mean and also conditional mean of real exchange rate impacts Taiwan export using the GARCH-M model and found that Taiwan agricultural trade flow is negatively affected by high exchange rate volatility and it seems not to impact other segment significantly.

In the same view, Cho et la (2002) used gravity models for ten developed countries 1974-1995. They established that real exchange rate volatility affected trade negatively but other sectors seems not to be affected by exchange rate uncertainty.

In a further research Arize, Osang and Slottje (2005) using different cointegration techniques to find the effect of exchange rate volatility and its impact on G-7 and Latin America foreign trade using quarterly data and their result suggested a negative and insignificant relationship between trade flow and exchange rate volatility.

In the study of Bah and Amusi (2003) they observed the impact of real exchange rate instability on South Africa export to the US 1990-2000 used the ARCH AND GARCH models and found that export in both long and short run was impacted negatively

Krugman (1986), Arize (2000), Osang, Appuhamilage (2010), Broda and Romalis (2011), Mukherjee and Pozo (2011), Aubio (2012), Court and Poncet (2013), oskwee (2014), and IMF (2004) among others find conflicting evidence on how trade is affected by exchange rate volatility.

2:1:2 EMPIRICAL STUDIES

Theoretical models of exchange rate presumed volatility of exchange rate as the only variable that changes and assumed that other factors of the economy that might impact the level of trade in an economy remain constant. Also these theoretical models did not provide concluding evidence that exchange rate volatility has a negative impact on trade. These partial equilibrium models anticipated that exchange rate volatility is determined by exogenous shocks.

Due to the development of open- economy macroeconomics, Hooper and Kohlhagen (1978) on their empirical study of US and Germany multilateral and bilateral trade with Japan, France and UK with a sample period of 1965 to 1975 used the average total change between current spot rate and earlier forward rate so as to know the effect of nominal exchange rate volatility on trade but Hooper and Kohlhagen found that exchange rate volatility have no significant influence on volume of trade.

Rose and Yellen (1989) using thirty developing countries data including china and found that 28 countries does not exist significant relationship between real exchange and foreign trade through empirical research

Choudhury (2005) examined the impact of exchange rate risk on real export of US to Canada and japan 1974-1998 applying the Johansen multivariate co-integration and error correction methods. Nominal and real exchange rate was employed in this empirical investigation. There was a positive impact of

income on trade. However, relative prices differs depend on a countries real or nominal exchange rate.

Also, Chen (2009) empirically analysed the changes and volatility of china RMB exchange rate and its correlation with its agricultural export. It was investigated that due to the changes that was made on RMB, agricultural export was significantly impacted, but exchange rate volatility had a positive impact on export.

Wesseh and Liu (2012) in their study, using a co-integration approach and dataset disaggregated by export destination, empirically investigated how South Africa export to china in influenced by exchange rate volatility. An estimated seasonally adjusted monthly and quarterly data for the freely floating exchange rate period 1992M1 to 2002M7 and 1995Q1 TO 2010Q3. Evidence of a significant level of co-integrating correlation between export volume and the cases used was found. Furthermore, the result showed that South Africa export to china was not affected by short-term exchange rate volatility because it was commonly income rigid.

More recently, Hericourt and Poncet (2013) empirically investigate the effect of real exchange rate on 100,000 Chinese exporters 2000 2006. Their main purpose was to test if the effect depend on existing financial constraint. They found a trade-deterring effect but proposed the amount of the effect depend on the volume of financial constraint.

2:2 EXCHANGE RATE FLUCTUATION AND IMPACT ON TRADE FLOW

Since 1973 when most currencies of main industrial countries were permitted to float, foreign exchange has been extremely volatile. Most observers actually thought when fixed exchange rate was abandoned that exchange rate will reduce since most market observers gained knowledge in flexibly currency market.

If weakening the level world economy functions, then exchange rate volatility will become a great concern since it can be very disadvantageous in so many

ways to an economy as it can reduce the volume of foreign trade by creating doubt about the profit to be made from foreign trade, (Keith, 1986).

After the collapse of Bretton wood system in 1971, there have been little attention towards foreign currency fluctuation. Motivated by demand and supply in global markets, currencies were floating freely against each other during the Bretton era.

Marc and Michele (2011), showed that Currency movement are exogenous from the view of individual traders. The frustration of producers may be due to the uncertainty and cost connected with exchange rate fluctuation Cost are imposed on real economy that are unbalanced among diverse producers and economies due to exchange rates volatility extended imbalanced of currencies. There will be negative impact in effective allocation of resources among diverse activities because of unbalanced economy and this may distort international competition.

2:2:1 NEGATIVE IMPACT OF EXCHANGE RATE FLUCTUATION ON TRADE FLOW

Many early studies have provided evidence that increase in exchange rate fluctuation (volatility), will reduces foreign trade as predicted. It has been revealed in the work of Ethier (1973), Cushman (1983) and Thursby and Thursby (1987) that increased exchange rate fluctuations affects foreign trade negatively most especially export.

More also, Sercu and Uppal (2003), recognised the studies of Clark (1973), Baron (1973), Hooper and Kohlhagen (1978) and concluded that expected revenue form exports is lowered by high exchange rate risk and inventiveness to trade is therefore reduced. When exchange rate is volatile, which can lead to uncertainty in international trade, economic agents are unable predict the domestic value of foreign transaction but, Clark (1973), believes that firms are able to predict exchange rates which they can use in calculating the local value of foreign transactions.

In the study of Breda and Mendez (1988), they showed that unanticipated exchange rate fluctuation will expose exporters and importers to exchange rate risk. Way back in 1980s, there was loss in gross profit of about 10% among American manufacturers due to exchange rate fluctuation.

Furthermore, Baum, Caglayan and Ozkan (2004), analysed that optimal allocation of resources is affected by exchange rate volatility in a negative way. Forward and future market are not developed enough this will make firms not be able to predict the effect of volatility upon their foreign sales. However, the variability of profit that arise from exchange rate volatility can be reduced but not totally eradicated when if perfect market exists. (Ethier, 1973). If firms can hedge using forward contracts, volatility may not have impact on trade volume.

2:2:2 POSITIVE IMPACT OF EXCHANGE RATE FLUCTUATION ON TRADE FLOW

Bailey and Tavlas (1991) in their study, provided reason why the impact of exchange rate fluctuation might be positive. They argued that knowledge is gained by traders through trade, enabling them to foresee changes in exchange rate better than average participant in foreign exchange market, they can gain from this knowledge. By so doing, the profit gain from this knowledge will offset the risk represented by movement in exchange rate.

In line with this view, Hooper and Kohlhagen (1978) after analysing the impact of exchange rate fluctuation by standard errors of the nominal exchange rate, it was concluded that exchange rate can positively impact import. Similarly, De Grauwe (1988), investigated that when income effect has a substitute effect, exchange rate fluctuation can positively impact trade.

2:3 OVERVIEW OF CHINA EXCHANGE RATE SYSTEM AND FOREIGN TRADE

China was one of the Asian countries that adopted the pegged rate regime. Before the peg regime, china had a fixed exchange rate from 1955 to 1972.

In order to increase economic status, china changed its exchange rate policy to an open policy in 1978-1985. The official RMB exchange rate was later undervalued in the 1980s and export became financially unprofitable because the rate was lower than the domestic cost of earning foreign exchange.

However, this system failed to achieve its cause and also increase china's import because producers were not encourage in the area of export. When china undervalued its currency, it was expected that it will appreciate and boost economy growth. However, Undervaluation increased export but incurred cost in other sector of the economy (Wei, 1997). The people's bank of china has kept the renminbi stable against the dollar since 1994 despite global pressure to make it more flexible and appreciate against the dollar. It was unified at 8,28per dollar.

Numerous policy changes were made in 1999 in regards to it exchange rate system so as to eradicate deflation, increase GDP and to safeguard the RMB. These was done through monetary easing strategy coupled with reduction on interest rate, which could place downward pressure on the RMB. The exchange rate of the RMB was used as an accounting tool. Nevertheless, Chinese currency was devalued by the Chinese government so as to decrease the local currency losses to foreign trade and also encourage exporters. This was done by presenting an inner payment rate of RMB2.8 Yuan to the dollar in regards to trade dealings in 1981 and 1984.

However, in July 21 2005 a great deal of changes to its foreign exchange rate regime was announced. The RMB was then accepted to gradually rise against the dollar till 2008. Then in June 2010 China decide to shift to a flexible exchange rate system. Due to this changes, the literature on the pros and cons of china's exchange rate policy increased.

More recently, Together with Germany and the US, China has become one of the world largest exporters. It export has contributed to its GDP with over

20% since 2002. Among countries with highest trade surplus, China was ranked fourth in 2011. It trade surplus is about 155 billion. However, merchandise export is it main export and China has made up to 11.13% of global export while it main imports are electrical and other machinery etc. are it primary exports china vehicle export which is among its growing export goods increasing in 2002 by 5.2 billion US dollars to 12.9 billion US dollars in 2013.

It main imports are minerals fuels, oil etc. By 2013, china became the highest exporter worldwide with over 2.2 trillion dollars and China was also ranked with second position of country with largest GDP. It highest import destinations are Japan, South Korea, other Asian, United States and Germany. While its highest export destination are United States, Hong Kong, Japan, Germany and South Korea

2:3:1 IMPACT OF CHINA CNY EXCHANGE RATE VOLATILITY ON ITS FOREIGN TRADING

There have been a lot of focus on the issue of renminbi revaluation for a long time. Since 1994, china has managed a floating exchange rate system after numerous time reform in the RMB exchange rate. The RMB has appreciated since 2005 unlike in the 1990s where it depreciated. Since the time of global financial crisis in 2008, RMB has been appreciating and it has thus far have a good impact on china's trade and economy. (Xiagqian, 2003)

However, when a countries currency appreciate, import tend to benefit but have a negative impact on export thereby affecting a countries foreign trade. However, since economic condition of different country differs, appreciation may have diverse effect on a countries import and export.

Yue and Hua (2000) using the OLS, TSLS AND fixed effect panel estimated the effect of RMB depreciation on annual provincial trade 1980-2000 and they found that depreciation increased export and RMB had no significant effect on provincial trade.

In the same vain, Yue and Hua (2002), analysed the impact of RMB appreciation on trade when they researched China's 1990-1998 economic data of all region and concluded that the appreciation of the RMB reduced the export trade volume, alongside an increase trend on price elasticity towards China's export trade

However, Carra and saxena (2003) by using the quarterly data of china export from 1985 to 2001, Proved that export are not sensitive to exchange rate fluctuation, which means there is no significant relationship between exchange rate and foreign trade and they found price elasticity of export increased towards the end of period and concluded that exchange rate volatility those have significant impact and industry level result mixed

Lu and Dai (2005) analysed the correlation between real exchange rate and china trade by using the year 1994-2003 RMB real exchange rate and china's import and export data and also by using the VAR model. Their result showed a significant influence on china export and Marshall-Lerner was satisfied in china, exchange rate fluctuation, exist J-curve effect on china import and export trade.

Huhua and Xiaofeng (2006) analysed the relationship between real exchange rate and foreign trade volume based on the monthly data from 1992-2004, and established the model between of the relationship between exchange rate and import and export. After analysing the model, they found that the rise in RMB exchange rate will reduce import and export trade.

2:3:2 CONCLUSION

In the above section, we looked at various studies on exchange rate fluctuation, volatility, risk, and impact on trade that have been carried out by previous researchers and academics. A look at the review shows a diverse of opinions and findings on exchange rate risk and impact on trade. A close

look at those previous studies on exchange rate risk and impact on trade reveals that the years focused on are not recent enough and the most countries frequencies are too high. So in this study, we have chosen monthly data from 2005 when China change its exchange rate system and to 2013.

2:4 MANAGEMENT OF EXCHANGE RATE RISK

Managing exchange rate risk is managing business total risk which is one of the function of financial management of an investment. However, the main purpose of managing exchange rate risk is to minimize risk or loss and maximize returns or profit. Since exchange rate is an open system, it will require active management. Flexibility, predictions, arbitrage and hedging are the four methods that can be used in obtaining a level of certainty concerning the future in foreign trade. (Papaioannou, 2006)

- Flexibility: The ability to change as circumstances change is known as flexibility. Flexibility allows business to avoid risk or maybe reduce its impact on an investment when they are faced with risk. Currency of invoice leads and lads according to Correia et al (2003) have flexible behaviour and they can reduce foreign currency exposure. Foreign exchange risk can be eradicated if a firm have the ability of choosing its currency of invoice. This can only be done if it insist all transactions are done or denominated in local currency.

  Furthermore, If leads and lags is employed as it is capable of slowing down or advancing receipt payment, can decrease exchange rate risk when a currency is following a specific direction (i.e. when a foreign creditor currency is forecasted to weaken against local currency, payment can be delayed till a good exchange rate is obtained). Flexibility help in managing exchange rate risk but it is sometime not available.

- Prediction: When the future is known, risk and problem in the future can be avoided. Precise predictions of exchange rate movement will

benefit and simplify exchange rate risk. Predicting the future will require forecasting tools or techniques. Also, Forward rate are also quoted by banks as spot rate is quoted. It is determined by banks as part of their hedging strategies Forward rate are known to be poor predictions of spot rates according to Bansal and Dahlquist (2000) and as well as Fama (1984). Scientific and Non-Scientific model are the two forecasting techniques in forward market.

- Arbitrage based approaches: Arbitrage transaction in foreign exchange is money market transaction Exchange rate play a vital role because money market are in different currencies.
  The chance for profit making when a similar or the same commodity or an instrument is traded in a different market and priced differently. The arbitrageur will gain goods that are bought in one market and sell in another. Since negative cash flow is not involved in an arbitrage, then there is guaranteed profit at this junction.

  However, Arbitrage is functional when trading in financial tool like stocks, derivatives, bonds, commodities and currencies. Business often don't benefit form arbitrage due to the speed at which world market respond to new information.

2:5 HEDGING OF FOREIGN EXCHANGE RATE RISK

There have been a great argument the impact of exchange rate risk can be reduced if there is availability of capital market so as to hedge the foreign exchange risk. Previous studies like the work of Clark (1973) and Ethier (1973) it was concluded that when there is perfect hedging opportunity, then exchange rate uncertainty will have little no effect on trade.

Nevertheless, Taking out insurance cover against the occurrence of specified risk is a very effective way of managing risk. In this case, the risk is shifted to another party at a price. Insurance is called hedging in financial market

and is the buying or selling in one financial market and doing the opposite in another financial market. When there is loss in one market, there will be profit in another market. The other related market in hedging transaction is known as derivative. The derivative market derive its value form underlying instrument traded in the primary market

Hedging strategies

- Transactional risk are transactions where payment and receipts are likely to be established over the short run, this kind of risk can therefore be hedged tactically or strategically in order to preserve cash flows and earnings.

- Translational risk is a long term risk that can affects the presented values of assets and liabilities. The issue of hedging a company's debt outline is very important within the outline of hedging exchange rate risk on a merged balance sheet (Morrison, 2002)

Furthermore, it is important for a firm to use an optimisation model to develop hedging strategies in other to manage currency risk and decrease the impact of exchange rates on the volatility of earnings.

- Economic risk is a long term risk. This risk reflects Influence of exchange rate movement on the present worth of future cash flows. Daily cash flows and profit in an investment is not affected by this kind of risk. If inflation differentials (through Purchasing Power Parity) is followed by exchange rate changes and a firm has a subordinate that faces cost inflation overhead the over-all inflation rate, it might find it competitive and it value will deteriorate due to exchange rate adjustment that are not in streak with PPP. (Froot and Thaler, 1990). Hedging this type of risk will be difficult because it effect May happen

in the long run. The most effective hedging approach will be natural or passive.

2:6:1 HEDGING BENCHMARK AND PERFORMANCE

The main reason for hedging is to provide protection against the adverse effect of risk. For hedging to be successful it should be very effective and this effectiveness should be measured. According to Ronald and Herman (2000), hedging performance can be measured as a deviation from a specified benchmark rate. It can be stated as a given VaR figure that will be reliable with the performance measure. If it exposed to single currency exposure, hedging optimization models will help in finding an efficient hedge for individual exposure,

Hedging and budget rates

In terms of exchange rate risk management, forecasting is not an effective tool. Also, budget is not a forecast but it determines exchange rate suitable for a business in regards to its pricing and costing parameters. Budget exchange rate will offer firms with a reference exchange rate level. The necessary hedging instrument that will help in achieving the stated objecting will be selected after budget rate have been decided. (Madura, 1989)

When establishing budget exchange rate, different practices may be followed, most people use purchasing power rate on which budget is based According to Lam (2003) Budgeted exchange rate is important when a business import large portions of its inventory and sell its good at a set price. Setting budget rate in a firms pricing strategy is important. It is therefore important to hedge against deviation from the budgeted rate. (Papaioannou, 1986)

2:5:1 HEDGING INSTRUMENTS FOR MANAGING EXCHANGE RATE RISK IN FOREIGN TRADE

Hedging instrument that allows to manage currency risk should be specified inside the context of exchange rate risk management. The instrument used in managing risk are huge both in variability or difficulty. They includes over-the-counter and exchange-traded products. Natural hedging, futures and forwards, options and swaps are the basic instruments available for exchange rate risk. (Hakala and Wystup, 2002).

Natural hedging

According to Correia et al (2003), natural hedging occur when opposite positions are taken in the market through normal course of business. Natural hedging is suitable for translational risk. However it can natural hedge can provide hedging against transaction risk import and export are transacted in the same currency can also provide effective hedge against economic risk with foreign investment. To obtain natural risk, it is necessary to match currency inflows and outflows in same period and also offsetting payables and receivables.

Compare to other ways of hedging, natural hedging is cheaper because it is not transacted through a broker and exchange who charges transaction cost. Madura (1989 recommended that since currency hedging is costly, natural hedging should first be considered.

Future and forwards

There is similarity between a future and a forward contract except that future contracts is a standardised contract on a formal exchange agreement while a forward contract is not but often trade over-the-counter.

Future contracts doesn't require cash investment (except for a margin deposit). For speculation purposes, future contracts are very risky but suitable for hedging purposes. The risk of exchange rate stirring in the contradictory way and the high cost of forward contract is a serious

drawback in future contracts hedging. However, this will only be the case if future contracts are used for speculation rather than as hedge instrument.

Forward exchange contract is similar to future contract but it may be specified in any amount and currency. They are negotiated with commercial banks in business but are not traded on exchange, forward contracts are more flexible compared to future contract because the size .of the contract and delivery date depends on individuals.

However, Participating in the forward exchange market, will limit exposure to nominal exchange rate risk. However, the forward market does not ensure completely against nominal exchange risk because foreign trade contract vary in length and also because of the cost of such insurance.

Options

Options are similar to future contracts since an instrument is bought or sold at an agreed price for delivery at a specific future date or time. Both parties are required to honour agreement in future contracts but with option, one of the party may decide whether or not it want to exercise its option for this, a premium (additional transaction cost) is paid for deciding and this decision depends on actual movement in exchange rate. Option gives the holder the right to sell or buy an underlying asset or instrument at a specific price within a specified period of time. The right to buy is call an option while the right to sell is called a put option. However, option make good hedging instrument.

Swaps

Swaps contracts according to King (1999), is where two parties agrees to swap stream of future periodic statements. There are two types of swap; interest rate swap which is the utmost common type of swap is where one party that is paying interest rate at a fixed price swaps with interest payment with another party that interest at a variable rate. Foreign currency swap is different from interest rate swap because parties underlying asset and not

only interest payment is swapped. Cross-currency coupon swap, currency swap is accepted at the time interest at a fluctuating rate is paid in one currency and received in interest at a floating currency another currency. The value of value of a currency is determined by the combination of currency fluctuation and interest rate fluctuation. The effectiveness of using currency swap in exchange rate is therefore questionable. In translation risk, currency swap can be used in hedging currency and interest rate fluctuations but not in transaction risk. Currency swap is are negotiated traded over the counter in banks but are not traded in exchange

2:6 CONCLUSION

This section focused on the management of Exchange rate risk and Hedging Strategies in Foreign Exchange risk. And it was reveal that the main purpose of managing exchange rate risk is to minimize risk or loss and maximize returns or profit. Since exchange rate is an open system, it will require active management. We saw that Flexibility, predictions, arbitrage and hedging are the four methods that can be used in obtaining a level of certainty concerning the future in foreign trade. It was concluded that when there is perfect hedging opportunity, then exchange rate uncertainty will have little no effect on trade.

CHAPTER3: RESEARCH METHODOLOGY

In the first chapter, we focused on the subject of this study, aims and objectives and the second chapter focused on the literature reviews on the study and management of exchange rate risk. This chapter will concentration

on research method, design, data collection and analysis. The hypothesis will reveal if exchange rate risk have significant or no significant impact on trade.

3:1 RESEARCH DESIGN

Constructing a good variable and measuring variable is necessary in a good research. Research method is the approach selected to examine a research problem. The general plan relating to the above-mentioned research problem is known as research design. It gives evidence on the outline of a research, method used in gathering data, tool used in collection of data and the type of research in use (Vanderstoep and Johnson, 2008). Research method can either be descriptive, exploratory, quantitative, correlation, qualitative, cases study etc. The suitable research method employed for this study, is the quantitative and qualitative research method which involves collecting of data in numerical form. Quantitative research method is clarifying phenomenon by gathering statistical data used to examine mathematical based approaches (specifically, statistics). Quantitative research method and descriptive research method was found to be more suitable for this study and was employed to carry our investigation.

Since the impact of exchange rates risk on trade has been a great concern for policy makers and academics after the fall of Bretton wood agreement and since the degree of exchange rate volatility is very high thereby increasing its risk, it has therefore been a concern as it impact the smooth functioning of the world economy and cut the volume of foreign trade when the profit to be made is not certain. Empirical and theoretical studies on how foreign trade have been impacted by exchange rate volatility studies are yet to give conclusive evidence. Their main argument was whether exchange rate risk have negative or positive impact on trade.

Since the question under investigation is Exchange rate risk and impact on foreign trade to contribute or try to find an answer to the question under

consideration, though this study will employ some method used in previous studies but with a more recent date. Times series is widely used in economics studies. Most economics statistics are counted as day, week, month and year. All data used are time series. Most Empirical studies on exchange rate risk and impact on international trade abound literature. Theoretically, many of the researchers used the test of economic statistics.

3:2 MODEL SPECIFICATION

The Johasen test for cointegration is very useful in observing the long term correlation between macroeconomics variables. It is widely employed in empirical studies. Since we want to know the relation between exchange rate and foreign trade, we employed this simple model to carry out our investigation.

$$ER=\beta_0+\beta_1 EX_t+\beta_2 IM_t+\beta_3 BL_t+\varepsilon_t \quad (1)$$

Where

ER= is the CNY/USD exchange rate

$EX_{t=}$ represent export quantity

$IM_{t=}$ represent import quantity

$BL_{t=}$ represent overall balance of trade

ε_t = error term.

The model follows the ordinary least square regression used for examining for stationary or otherwise.

3:3 TEST STATISTICS

The first method in test statistics is testing if variable non-stationary or not. There is a unit root in sequence if the variable non-stationary. ADF (Augmented Dickey -Test) is the most common used method in this process.

Stationary Test (Unit Root Test)

When underlying variables are based on time in research, testing data for stationary is very mandatory. Deciding the appropriate form of tendency in the data is a vital econometric task. In the mean, most financial series exhibit trending non-stationary behaviour (Mushtaq, 2011). In order to avoid spurious result, since time series have shown to usually reveal a non-stationary approach. It is essential to observe if the variable is non-stationary or not. There are various methods evaluating the unit root test but this study considered the Augmented Dickey-Fuller (ADF) unit root test. This test was developed in 1979 by statisticians David-Dickey and Wayne Fuller. To test if a unit root is existing in an autoregressive model in statistics, it is appropriate to use the Dickey-Fuller test.

There are three core form of testing for this test: Test for a unit root, Test for a unit root with drift and Test for a unit root with drift and deterministic time trend. Depending on the size of the sample, each form of this test have its own critical value and respectively, the null hypothesis is that there is a unit root. This tests often can't differentiate amongst the true unit-root process and the near-root process because they have low statistical power this is known as the "near observation equivalence" problem. Among the three core form of testing, the one employed for this study is Test for unit – root.

$$Dy_t = +_{\rho}\hat{}\, y_{t-1} \sum_{i=1}{}_{\gamma}\hat{}_t\, Dy + {}_{t\,i-}\, v\hat{}_t \qquad (2)$$

H_0: ρ=0(y_t is non-stationary), H_1 p‹0 (y_t is stationary)

CO-INTERGRATION TEST

In examining the association among exchange rate instability and trade, numerous methodology have been used by scholars. In testing the presence of co integration among variables, the co-integration test is employed. It is normally used to know if the variables time series have stationary relationship in a linear integration. This approach was first introduced by Engle and Granger (1987), it was introduced as a new way of solving the problem of non-stationary variables. That is, data from linear integration of more than one non-stationary variable can be stationary. If outcome indicates that cointegration exists, that is, there is a long equilibrium relationship among variable. If there is no existence of cointegration among variable, it implies that the variables can roam apart in the long run. Basically, this approach or test is used in studying causal relationship among variables or series.

$$\boldsymbol{y_t} = \beta_1 + \beta_1 ERt + U_t \quad (3)$$

$$\boldsymbol{EX_t} = \beta_1 + \beta_1 ERt + U_t \quad (3:1)$$

$$\boldsymbol{IM_t} = \beta_1 + \beta_1 ERt + U_t \quad (3:2)$$

$$\boldsymbol{BL_t} = \beta_1 + \beta_1 ERt + U_t \quad (3:3)$$

Where ER_t is the CNY exchange rate against the USD it was used as our independent variable. EX_t the export quantity IM_t is the import quantity, BL_t the overall balance of trade $U_t$while is our error term

Error Correction Model

This model is an active scheme with a features that the nonconformity of the present form after its long-run association may be fed into its short-run subtleties. According to Granger Theorem, there must be error correction model existing if there are various co-integration existing among non-stationary variables. In this model, there are two forms one consists of one equation while the other consists of multiple equations. In this model, the multiple equation is set up from the basis of Vector Autoregressive Model popularly known as the Var. The benefit of the ECM model is that it consists of two parameters which describe the long term and short term relationship of variables in one calculation.

$$Dy_t = \beta_0 Dx_t \beta_1 ECM +_{t-1+} u_t \quad (4)$$

Granger Causality Wald Test

In studying the casual relationships, Granger Causality Wald Test is the best approach based on the assertion of Granger (1969). When computing an calculation that is regressed on k lagged worth of y and k lag worth of additional variable of x, its calculated the null hypothesis that x do not granger cause y. if more than one of lagged value of x is significant, we do not accept null hypothesis that x does not granger cause y. In a supplementary clear way, we can determine that the sign suggest that x granger y. However, the Granger causality test is a numerical hypothesis test used to decide if a time series is valuable in estimating another. This study examine the long and short connection between exchange rate risk and foreign trade by performing the Granger Causality Testing the Vector error correction (VEM) framework as in studies of Arize (1978).

$$\boldsymbol{U_t = \mu \sum_{i-1}^{p-1} ri + X_{t-k+} \varepsilon_t} \quad \textbf{(4)}$$

3:4 SOURCES OF DATA

To carry out our investigation, China export and import and overall balance of trade was used and exchange rate was measured in terms of US dollars. Due to the various exchange rate reforms in China, as mentioned in the background, monthly data that covers the period of January 2005 when China change it exchange rate reform to a more flexible system to December 2013 to allow us use sufficient quantity of observations within the partial period of time was chosen for this study. The import, export and over trade balance in goods was extracted from the Organisation for Economic Co-operation and Development (OECD) website form January 2005 to December 2013 while the data of its export and import was extracted from OANDA forex trading website.

3:5 LIMITATION OF STUDY:

The limitation of this study is that there is limited observation. The monthly sample data chosen for this study were just 108 samples which might make the regression properly not correct because sometimes, limited sample space could lead to wrong direction. The best is to increase the sample space. The scope of this study is limited to only China import and Export and studying exchange rate risk can be done using other risk measures as there are many measure that can be used in studying exchange rate risk but this study is however limited in its analysis.

3:6 CONCLUSION

This chapter analysed the proposed research methodology employed for this study and data collection and specification and the limitation of study.

CHAPTER 4: DATA ANALYSIS AND FINDINGS

INTRODUCTION

The methodology approach that was defined in chapter three, clarify the baseline of data gathering. Result will be presented according to the data that was gathered in the data analysis chapter. This chapter consists of 2 segments. The first segment will look at descriptive statistics to determine the impact of exchange rate risk on foreign trade where we will be calculating our mean, median, standard deviation, minimum, maximum, skewness and kurtosis for the monthly average import, export, monthly average exchange rate and overall balance of trade. The last chapter will be our Empirical result where will be testing the causal relationship between exchange rate risk and trade and find answer to our hypothesis :

H_0 Exchange rate have significant effect on foreign trade

H_1Exchange rate have insignificant effect on trade.

4:1 Measurement of used Variables

The monthly average exchange rate of CNY/USD, the monthly import variables, monthly Export variable where used in analysing the correlation. The mean, median, standard deviation, maximum, minimum, Skewness, Kurtosis are the parameters that were used for measuring exchange rate risk and impact on trade. The mean is used synonymously to refer one measure of the central tendency either of a probability or of a random variable which is characterized by that distribution in statistics. The mean has a lot of definition depending on the context. The median is used to measure extreme scores in a distribution and the standard deviation is the average degree to which scores deviate from the mean (variance). The maximum is the number in the data value that is greater than all other values in the data set is known as while the data value that is less than or equal to all other values in a data set is known as the minimum. The measure of how asymmetric a distribution can be is called skewness. Kurtosis, is the measure of a highest of distribution, and specifies how high the distribution is around the mean.

4:2 DESCRIPTIVE STATISTICS

Monthly average exchange rate of the CNY/USD

The monthly average exchange rate of the CNY/USD was obtained from OANDO statistics and used as an independent variable to test against import and export.

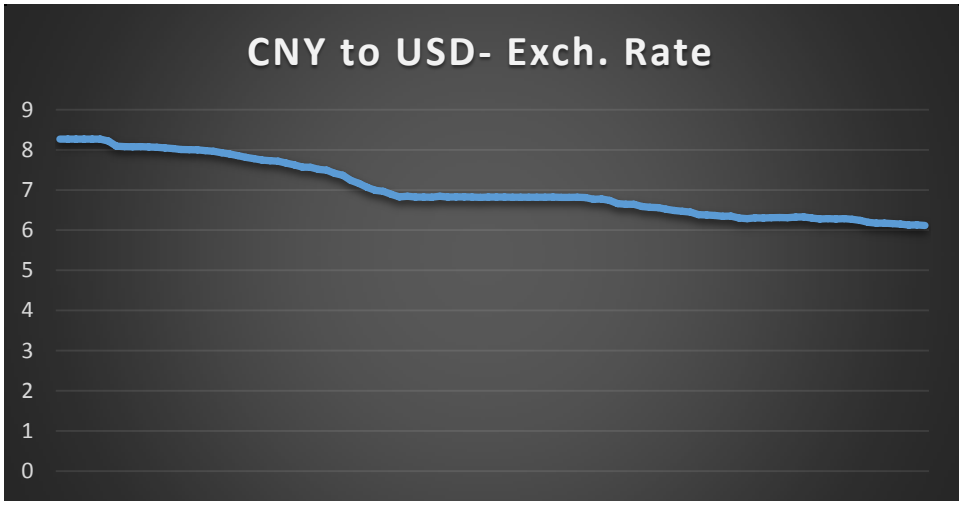

Figure 4:1 graph showing the CNY/USD exchange rate

Mean	7.024433
Median	6.821700
Maximum	8.266500
Minimum	6.115000
Std. Dev.	0.692941
Skewness	0.494153
Kurtosis	1.828056
Jarque-Bera	10.57592
Probability	0.005052
Sum	758.6388
Sum Sq. Dev.	51.37797
Observations	108

Table 4:1: Table showing the descriptive statistics of CNY/USD exchange rate.

Table above shows the summary statistics of CNY/USD exchange rate for the period 2005-2013. We can see the average exchange rate for CNY/USD is 7.024433. The minimum exchange rate was 6.115 and maximum was 8.266 and we can see the standard deviation was 0.692941 and kurtosis is 1.828% which indicates positive. The graph shows the trend in which the rates was moving and we can see a declining trend. It shows the stability of CNY/USD exchange rate in 2005 when it was pegged to the USD. The rate was at 8.27% and depreciated in October 2010 with about 8.08% then in March 2008 it was about 6.83% and was a little bit stable till 2010 and dropped to 6.30% in 2012 and went down to 6.13%. We can see CNY/USD exchange rate fluctuated through the period 2005-2013.

Monthly Import

The data on the monthly average import was obtained from Economic Cooperation and development (OECD) annual statistic from January 2005 to Dec 2013. To determine the monthly percentage.

Figure 4:2: Graph showing Import trade

Mean	105.9719
Median	96.89500
Maximum	176.0900
Minimum	50.10000
Std. Dev.	38.22537
Skewness	0.227375
Kurtosis	1.629431
Jarque-Bera	9.383656
Probability	0.009170
Sum	11444.97
Sum Sq. Dev.	156346.2
Observations	108

Table 4:2

Table showing descriptive statistics for import

Table 4:2, represent the summary statistics of China import from January 2005 to December 2013. From the above table, the skewed parameter of the import is 0.227375 which shows and confirm that it is averagely skewed. A skewed data of zero is a balanced circulation and not up to zero is adversely skewed circulation. Furthermore, the mean is 105.9719 which is more than the median 96.89500 shows and confirm positive skewness from the box above plot. Another factor for thought is the Kurtosis which processes the quickness of values round the mean. An extraordinary Kurtosis suggests an ultimate in the middle of data, a populace with an extraordinary kurtosis is known as leptokurtic. As an overall imperative of scan if the kurtosis worth or circulation is beyond three (3) can be referred to as leptokurtic and can't represent the nominal distribution. (Cruz, 2002). Since the kurtosis in my import is 1.629431 it serves to the general conclusion that the circulation of the number of measures has a positive kurtosis. From the given graph

above, we can see the trend in which import is moving up and down during the years it shows it was affected by exchange rate movement. The graph shows that in February 2005, import of goods was about 50% and as exchange rate wasn't stable, import in goods was fluctuating as shown in the graph then in 2008 it went up with about 104% and dropped to 56% in 2009 and increased 158% in 2011. In February 2013, it went up to 172% and in December 2013, it dropped with about 105% and has been fluctuating. The fluctuation from the import graph shows that exchange rate had negative impact on import.

Monthly Export

The data on the monthly average export data was obtained from Economic Cooperation and development (OECD) annual statistic from January 2005 to Dec 2013. To determine the monthly percentage.

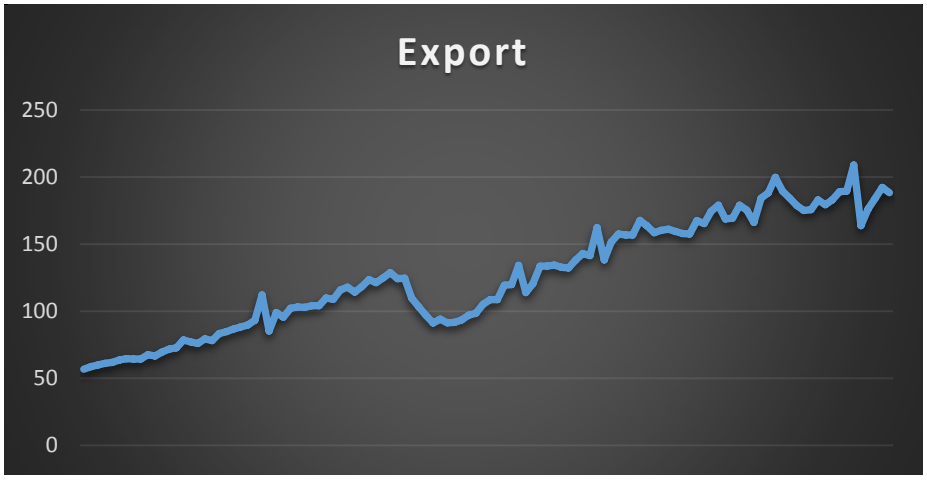

Figure 4:3 Graph showing China Export trade

Mean	123.1113
Median	118.7450
Maximum	199.7100
Minimum	56.74000
Std. Dev.	39.86039
Skewness	0.129618
Kurtosis	1.823281
Jarque-Bera	6.533421

Probability	0.038132
Sum	13296.02
Sum Sq. Dev.	170007.0
Observations	108

Table 4:3 Table showing descriptive statistics for export

Table 4:3, represent the summary statistics of China export from January 2005 to December 2013. From the above table, the skewed parameter of the is 0.129618 which shows and confirm that it is averagely skewed, the median is 118.7450, and mean is 123.1113 while the standard deviation which shows how tight the value in this data is married around the mean value is 39.86039 and it lower than the mean value which means were not much dispersed.

From the above graph you can see the trend wasn't stable after china change their exchange rate system. In 2005, it was 59% and export distribution appreciated to 152% followed by a sharp fall in 2007 to 85% it shows that as the exchange rate was not stable, export in goods wasn't stable.

Monthly Balance of Trade

The data on the monthly average balance of trade data was obtained from Economic Cooperation and development (OECD) annual statistic from January 2005 to Dec 2013. To determine the monthly percentage.

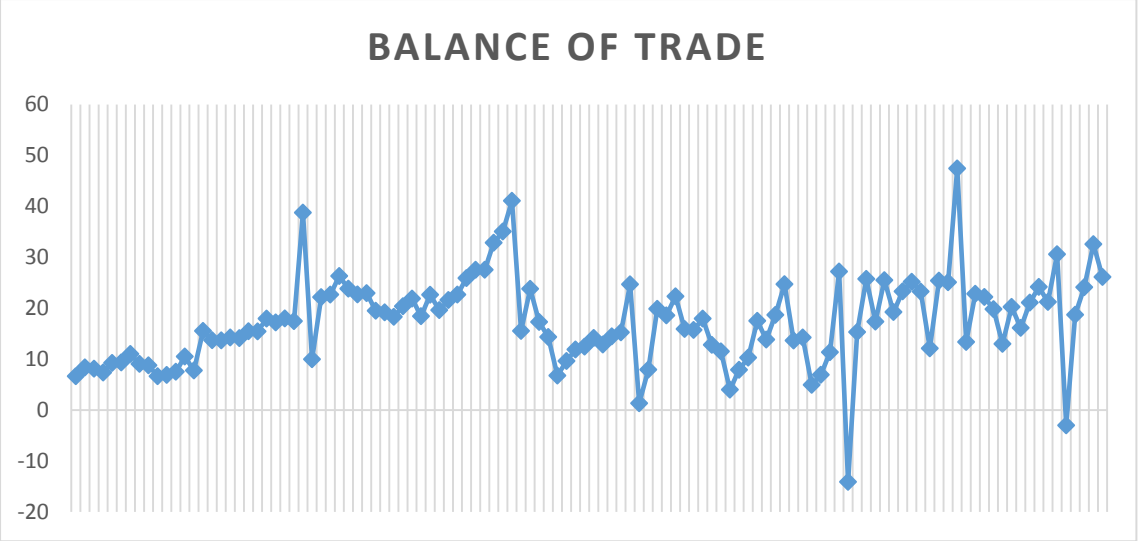

Figure 4:4 Graph showing overall China balance of Trade

Mean	17.13930
Median	17.25547
Maximum	47.42362
Minimum	-14.10551
Std. Dev.	8.422313
Skewness	0.286144
Kurtosis	5.362120
Jarque-Bera	26.58207
Probability	0.000002
Sum	1851.045
Sum Sq. Dev.	7590.083
Observations	108

Table 4:4 Table showing descriptive statistics for balance of trade

The study employed monthly data from the period 2005M1-2013M12. All the descriptive statistics tables above shows the characteristics of the full sample data set, ranging from the import and export trade, exchange rate of CNY/USD from 2005 to 2013 and the balance of the trade within the given year. Therefore there is a descriptive statistics stating the differences between both year ranging from the Mean, median, standard deviation, the minimum and maximum on both trade, skewness and kurtosis. Between the graph and descriptive statistic gives the figure of the balance trade. The CNY/US exchange rate also has its graph and descriptive statistic i.e. form the statistics that export was higher than import between 2005 and 2013 as the mean of export is 123.113 and the mean of import is 105.9719 which means that the exchange rate has more impact on export than export which result to the balance of 17.13930 stated in the balance of trade graph and summed up at the descriptive statistics and apply to the median, standard deviation, the minimum and maximum on both trade, skewness and kurtosis of the mentioned years. We see the mean of both the returns of the import and export and the CNY/USD exchange rate are both positive, i.e. the mean value of all variables are positive this shows that there are more increase than decrease in the changes in both of the variables. The standard deviation of the import and export are much higher than that of exchange rate which suggest that degree of variability of that of import and export are much higher than exchange rate. The kurtosis and Jarkue-Bera of all variables are not normally distributed and the minimum of overall balance of trade is negative the balance of trade graph and table, it displays that exchange rate risk have negative effect on overall trade balance within the given year.

4:3 EMPIRICAL ANALYSIS

UNIT ROOT TEST

Unit root test was accepted on the variables at level and first difference. To know if any particular variable got unit root or not. Also known as Augmented Dickey fuller test have 3 shapes. First shape is called the

intercept and the second shape is trend and intercept while the third shape is neither intercept nor trend. All three shapes must agree to one variable if it has unit root or not.

Below are tables of the of the unit root test carried out on variables accepted at level and first difference of exchange rate, export, import and balance of trade.

Test for Unit Root in Level

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EX)
Method: Least Squares
Date: 09/08/14 Time: 01:42
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EX(-1)	-0.010638	0.017111	-0.621692	0.5355
D(EX(-1))	-0.369749	0.091583	-4.037318	0.0001
C	3.005609	2.201428	1.365300	0.1751

Table 4:5 Test for Unit Root Export

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IM)
Method: Least Squares
Date: 09/08/14 Time: 00:45
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IM(-1)	-0.011559	0.020150	-0.573648	0.5675
D(IM(-1))	-0.440202	0.088712	-4.962166	0.0000
C	2.813997	2.253384	1.248787	0.2146

Table 4:6 Test for unit Root Test Import

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ER)
Method: Least Squares
Date: 09/08/14 Time: 01:45
Sample (adjusted): 2005M05 2013M12
Included observations: 104 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.

ER(-1)	-0.006594	0.003755	-1.755975	0.0822
D(ER(-1))	0.288262	0.098107	2.938243	0.0041
D(ER(-2))	0.113584	0.101748	1.116329	0.2670
D(ER(-3))	0.174633	0.097408	1.792793	0.0761
C	0.037272	0.026039	1.431397	0.1555

Table 4:7 Test for Unit Root Test Exchange rate

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(BL)
Method: Least Squares
Date: 09/08/14 Time: 01:48
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BL(-1)	-0.430443	0.103410	-4.162484	0.0001
D(BL(-1))	-0.314173	0.092946	-3.380182	0.0010
C	7.576776	1.912185	3.962365	0.0001

Table 4:8 Unit Root Test Balance of Trade

The tables above contains of the unit test for four variables used. The results shows that we do not accept null hypothesis of the series level because the test statistics is less than the critical value that shows, all variables are not stationary or it holds a unit root. ADF test statistics are larger than the critical values at significance level (1%, 5% and 10%) so we reject null hypothesis.

FIRST LEVEL DIFFERENCE

Since the first step failed, the next step is to test for first level difference

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EX,2)
Method: Least Squares
Date: 09/08/14 Time: 01:43
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EX(-1))	-1.375166	0.090898	-15.12866	0.0000
C	1.702707	0.671944	2.534003	0.0128

Table 4:9 Test for Level difference Export

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ER,2)
Method: Least Squares
Date: 09/08/14 Time: 01:46
Sample (adjusted): 2005M05 2013M12
Included observations: 104 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ER(-1))	-0.384759	0.112575	-3.417814	0.0009
D(ER(-1),2)	-0.304561	0.115614	-2.634298	0.0098
D(ER(-2),2)	-0.180878	0.098352	-1.839089	0.0689
C	-0.008073	0.003377	-2.390315	0.0187

Table 4:10 Test for level difference exchange rate

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IM,2)
Method: Least Squares
Date: 09/08/14 Time: 01:35
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IM(-1))	-1.446344	0.087778	-16.47722	0.0000
C	1.596438	0.754387	2.116205	0.0367

Table 4:11 Test for level difference import.

Dependent Variable: D(BL,2)
Method: Least Squares
Date: 09/08/14 69808Time: 01:49
Sample (adjusted): 2005M04 2013M12
Included observations: 105 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BL(-1))	-1.947331	0.166466	-11.	0.0000
D(BL(-1),2)	0.274533	0.095260	2.881926	0.0048
C	0.263987	0.759208	0.347713	0.7288

Table 4:12 Test for first difference balance of trade

The first level difference proves that the test statistics is below critical value that is, it is stationary and it doesn't contain a unit root, In the series level, the test reveals that export, import, balance of trade and exchange rate all partake unit root after tested at level whereas, it does not hold a unit root after tested at levels. Therefore, it proves that series are 1(1)

Johansen's Co-integration Test

Johansen's cointegration test was employed to test among the variables so as to examine the existence of integration among the variables. The Johansen's empirical test result are given below.

Table 4:13 Export and rate cointegration

Date: 09/08/14 Time: 02:00
Sample (adjusted): 2005M06 2013M12
Included observations: 103 after adjustments
Trend assumption: Linear deterministic trend
Series: EX ER
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.073960	8.606160	15.49471	0.4031
At most 1	0.006694	0.691806	3.841466	0.4055

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**

None	0.073960	7.914353	14.26460	0.3875
At most 1	0.006694	0.691806	3.841466	0.4055

The above table shows that there is no cointegration among the variable that is, export and rate. There are two test one is test statistics the other is max-Eigen statistics. “None” in the table means there is no co-integration among the variables. The probability is 0.403% which is less than 5% and once the probability is not up to 5%, we can discard the null hypothesis but when it’s more than 5%, we accept Null hypothesis but here we do not accept the null hypothesis since there is no cointegration. “At most 1” hypothesis in the table means there is at least one co-integration but the p-value is less than 5% so we do not accept null hypothesis. This means that there no cointegration among export and CNY/USD exchange rate and at the long run, they move together.

Table 4:14 Import and rate cointegration

Date: 09/08/14 Time: 02:24
Sample (adjusted): 2005M06 2013M12
Included observations: 103 after adjustments
Trend assumption: Linear deterministic trend
Series: IM ER
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.062954	7.596149	15.49471	0.5095
At most 1	0.008688	0.898797	3.841466	0.3431

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.062954	6.697352	14.26460	0.5255
At most 1	0.008688	0.898797	3.841466	0.3431

From the table above, there is no co-integration between import and rate. "None" hypothesis in the above table says there is no co-integration among import and rate but the probability is not less or more than 5% it is exactly 5% so, we do not reject null hypothesis rather we accept it. That means there is co-integration between import and exchange rate. Max-Egien "At most 1" indicates that there is co-integration among exchange rate and import but the probability is 0.3431% which is less than 5% so we do not accept Null hypothesis.

Table 4:15 balance of trade and rate cointegration

Date: 09/08/14 Time: 02:26
Sample (adjusted): 2005M06 2013M12
Included observations: 103 after adjustments
Trend assumption: Linear deterministic trend
Series: BL ER
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.085102	13.12967	15.49471	0.1101
At most 1 *	0.037797	3.968543	3.841466	0.0464

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.085102	9.161126	14.26460	0.2730

At most 1 *	0.037797	3.968543	3.841466	0.0464

From the table above it shows that there is no cointegration among exchange rate and balance of trade "None" hypothesis means there is no cointegration between the two variables but the p-value 0.1101% so is less than 5% so we reject none hypothesis and "At most 1" says there is cointegration between rate and balance of trade but the critical value is 0.0464% which is less than 5% so we reject null hypothesis and accept alternative hypothesis that there is cointegration between rate and balance of trade

ERROR CORRECTION MODEL

According to Granger, if there is an evidence of cointegration between variables, then a valid error correction model should exist between the two variables. Error correction model, has long run information as it derived from the long run cointegration relationship.

Table 4:16 Error correction model export

Dependent Variable: EX
Method: Least Squares
Date: 09/08/14 Time: 03:34
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	493.7343	15.70983	31.42836	0.0000
ER	-52.76198	2.225752	-23.70524	0.0000

R-squared	0.841303	Mean dependent var	123.1113
Adjusted R-squared	0.839806	S.D. dependent var	39.86039
S.E. of regression	15.95384	Akaike info criterion	8.395621
Sum squared resid	26979.64	Schwarz criterion	8.445290
Log likelihood	-451.3635	Hannan-Quinn criter.	8.415760
F-statistic	561.9384	Durbin-Watson stat	0.217227
Prob(F-statistic)	0.000000		

From the table above, the coefficient is greater than the t-statistics so it cannot be accepted. That shows there positive relationship between exchange rate and export

Table 4:17 Error correction model import

Dependent Variable: IM
Method: Least Squares
Date: 09/08/14 Time: 04:16
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	455.5145	16.32290	27.90646	0.0000
ER	-49.76095	2.312611	-21.51722	0.0000

R-squared	0.813705	Mean dependent var	105.9719
Adjusted R-squared	0.811948	S.D. dependent var	38.22537
S.E. of regression	16.57643	Akaike info criterion	8.472186
Sum squared resid	29126.48	Schwarz criterion	8.521855
Log likelihood	-455.4980	Hannan-Quinn criter.	8.492325
F-statistic	462.9906	Durbin-Watson stat	0.268998
Prob(F-statistic)	0.000000		

The table above shows that the t-statistics which is -21.51722 is less than the coefficient which is -49.76095 so we can reject the coefficient that means there positive relationship between import and exchange rate.

Table 4:17 Error correction model balance of trade

Dependent Variable: BL
Method: Least Squares
Date: 09/08/14 Time: 04:20
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	38.21970	8.074545	4.733357	0.0000
ER	-3.001011	1.143993	-2.623278	0.0100

R-squared	0.060963	Mean dependent var	17.13930
Adjusted R-squared	0.052104	S.D. dependent var	8.422313
S.E. of regression	8.199960	Akaike info criterion	7.064480
Sum squared resid	7127.370	Schwarz criterion	7.114150
Log likelihood	-379.4819	Hannan-Quinn criter.	7.084619
F-statistic	6.881588	Durbin-Watson stat	1.298302
Prob(F-statistic)	0.009993		

The balance of trade and exchange rate error correction model shows that the critical value is also less than the co-efficient so we do not accept that means there is negative relationship between exchange rate and balance of trade.

Granger Causality Test

During the short run, findings shows that all variables used are not negatively related to exchange rate which means that they are statistically insignificant.
Below are the Granger Causality test carried on our variables.

Table 4:18 Granger Causality Test Export and Rate

Pairwise Granger Causality Tests
Date: 09/08/14 Time: 04:30
Sample: 2005M01 2013M12
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
EX does not Granger Cause ER	106	2.27488	0.1081
ER does not Granger Cause EX		0.26769	0.7657

The table above denotes the Granger Causality test result of Export and rate and it can be seen that rate does not Granger export. Since probability 0.1081% and above 5%, we do not reject null hypothesis instead we take the null hypothesis and exchange rate does not granger export and the probability is more than 5% that suggest exchange rate does not granger export we accept null hypothesis.

Table 4:189Granger Causality Test Import and Rate

Pairwise Granger Causality Tests
Date: 09/08/14 Time: 04:33
Sample: 2005M01 2013M12
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ER does not Granger Caus IM	106	1.20515	0.3039
IM does not Granger Cause ER		1.12071	0.3301

The table above reveals the Granger Causality test carried on import and it shows that export does not granger exchange rate and relatively. But the probability is 0.3031% which is more than 5% so we accept null hypothesis that means exchange rate does not affect import. The test also shows that import does not granger exchange rate but the probability is more than 5%

so we accept null hypothesis that means also that import doesn't affect exchange rate.

Table 4:20 Granger Causality Test Balance of Trade and Rate.

Pairwise Granger Causality Tests Date: 09/08/14 Time: 04:34 Sample: 2005M01 2013M12 Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
ER does not Granger Cause BL	106	0.91167	0.4051
BL does not Granger Cause ER		0.69122	0.5033

The Granger Causality test in the table above indicates that exchange rate does not no Granger Balance of trade and the probability is more than 5% we cannot reject null hypothesis. Furthermore, balance of trade does not granger exchange rate as indicated in the table but the probability is 50.33% which is more than 5% so cannot reject null hypothesis of trade. Rather, we accept null hypothesis so exchange rate does not cause balance of trade. Since the probability is more than 5% so we do not accept null hypothesis and accept alternative hypothesis that exchange rate granger balance of trade.

CHAPTER 5: CONCLUSION AND RECOMMENDATION

This chapter is made up of two sections. The first section consists of the conclusion drawn from the study and the second section include policy implications and recommendation for further research.

5:1 CONCLUSION DRAWN FROM THE STUDY

The aim of this research was to provide a contribution to empirical debate on exchange rate risk and impact on foreign trade by studying trade performance of China. The research was done using descriptive statistics, Augmented Dickey Fuller Test (ADF), cointegration techniques, error correction model and the Granger causality test for monthly data over the

period 2005M-2013M. The Descriptive statistics showed that exchange rate fluctuation have impact on China export and import over the sample period used for our investigation. By applying these techniques, the Johansen cointegration test revealed that there is no cointegration among exchange rate and foreign trade and the Granger causality test conducted showed that there was no relationship between variables which was found to be statistically significant but error correction model showed that there is a short run relationship between exchange rate and foreign trade which was found to be insignificantly positive. Our findings showed that movement in exchange rate will always affect trade. The overall conclusion drawn from the study, is that exchange rate have significant effect on China foreign trading.

The impact of exchange rate risk on the volume of foreign trade have been studied deeply since late 1970s when countries changed their exchange rate system from fixed to more flexible exchange rate system which had made exchange rate to be more volatile. The theory says that the higher the volatility, the higher the uncertainty thereby leading to risk-adverse traders to reduce trade since profit to be made from international trade is not certain. Economic fundamentals which became unstable in the in the 1980s are considered as causes of exchange rate instability and these economic fundamentals are inflation, interest rates and as well as balance of payment. Currently, cross- border flows have also made exchange rate to fluctuate. Exchange rate fluctuation can affect trade flow directly which may be through uncertainly and adjustment cost or indirectly due to its impact on resource allocation and government policy. In addition, exchange rate volatility can indirectly impact trade through the structure of output and on government policy. (Cote, 1994).

And it was reveal that the main purpose of managing exchange rate risk is to minimize risk or loss and maximize returns or profit. Since exchange rate is an open system, it will require active management. We saw that Flexibility, predictions, arbitrage and hedging are the four methods that can be used in obtaining a level of certainty concerning the future in foreign trade. It was

concluded that when there is perfect hedging opportunity, then exchange rate uncertainty will have little no effect on trade.

Nevertheless, Taking out insurance cover against the occurrence of specified risk is a very effective way of managing risk. In this case, the risk is shifted to another party at a price. Insurance is called hedging in financial market and is the buying or selling in one financial market and doing the opposite in another financial market.
Also, Exchange rate risk can be hedged either by using financial hedging or natural hedging. Studies indicated that hedging exchange rate will reduce risk but most required hedging strategies are not available. The basic factor favouring china is the cost benefit of exports which is import for US.

5:2 RECOMEMDATION

The movement in export prices denominated in local currencies, and export subsidies should be carefully observed by policymakers. Synergy between trade policy and exchange rate policy should be created and also reducing exchange rate fluctuations and anti-export bias will be a necessary policy instrument. Since exchange rate risk factor do offset positive effects of depreciation, it is also necessary for policy makers to consider judicious foreign exchange market interventions.

Measures should be taken in streamlining technology development so as to enable exporting firms in upgrading and meeting international standards. Suitable tools or monetary policies that foster macroeconomic firmness should be employed by government. Another main caution to be taken by government or poly maker is to ensure that exchange rate is carefully managed so as to ensure a non-volatile behaviour that could reduce export growth of some products.

In the timing of policy change, the Chinese government need to be cautious and also since the recent economic situation of China, it still need to recollect the control of exchange rate in the near future. Though China

export market is dramatically diversified, the developed world still need still takes a huge account for its exports. China is faced with difficulties in the domestic market and European shaking economy has also put a strong shadow on Chinese exports. Chains of industries have been affected in the process of making policy to controlling real estate bubble and export sector may be worsen at a of exchange rate policy at this time and this will increase unemployment as domestic market will be unable to engross the jobless forces since it will be faced with difficult time.

More emphasis should be placed on the relationship between trade growth and exchange rate risk. A lot of studies on exchange rate risk and impact on trade focuses on estimating trade equations. Nevertheless, few had studied the relationship between export and import growth and exchange rate volatility.

Also, since hedging exchange rate can help reduce its risk, more emphases should be place on providing hedging instruments as most corporations or investors have found it important to hedge their exchange rate but these techniques are either not available or very expensive and full awareness should be given on how to hedge exchange rate since most traders don't know how to do it or how to use it properly. Fundamental conditions need to be put into consideration in ode to have full picture of exchange rate risk management. The Increase in CNY and USD over the Euro needs to be considered in both long and short run management of exchange rate risk. When also chasing advantages through natural hedging for example, cost advantages in china could be worn and should also be considered. Company's cash flows and market values can also be impacted by exchange rate risk. It is therefore very important for companies to acknowledge these implications and take appropriate action.

5:2:1 RECOMEMDATION FOR FURTHER RESEARCH

This study focused only on exchange rate, export, import and balance of trade not considering other macroeconomic parameters like inflation, unemployment which could also hinder foreign trade. These

macroeconomics parameters will be considered in further research between Nigeria and other West Africa regions.

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APPENDICES

Appendice A

Error correction model export

Dependent Variable: D(EX)

Method: Least Squares
Date: 09/08/14 Time: 04:10
Sample (adjusted): 2005M02 2013M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.978068	0.870837	1.123136	0.2640
D(ER)	-12.31006	25.71171	-0.478773	0.6331
U(-1)	-0.086121	0.045686	-1.885070	0.0622

R-squared	0.033044	Mean dependent var	1.240374
Adjusted R-squared	0.014448	S.D. dependent var	7.286599
S.E. of regression	7.233768	Akaike info criterion	6.823034
Sum squared resid	5442.049	Schwarz criterion	6.897973
Log likelihood	-362.0323	Hannan-Quinn criter.	6.853413
F-statistic	1.776986	Durbin-Watson stat	2.614015
Prob(F-statistic)	0.174244		

Appendice B

Breusch-Godfrey Serial Correlation LM Test:

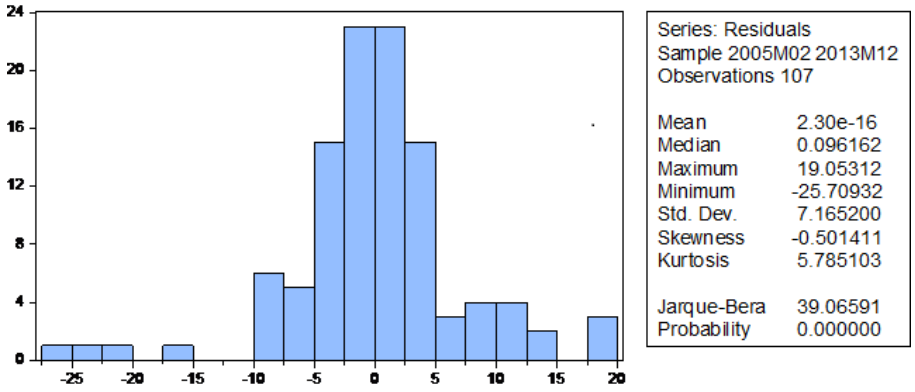
F-statistic	6.973454	Prob. F(2,102)	0.0015
Obs*R-squared	12.87071	Prob. Chi-Square(2)	0.0016

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/08/14 Time: 04:14
Sample: 2005M02 2013M12
Included observations: 107
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.009851	0.824789	-0.011944	0.9905
D(ER)	-0.912836	24.35859	-0.037475	0.9702
U(-1)	0.089654	0.054203	1.654040	0.1012
RESID(-1)	-0.412933	0.119497	-3.455583	0.0008
RESID(-2)	-0.051653	0.110763	-0.466337	0.6420

R-squared	0.120287	Mean dependent var	2.30E-16
Adjusted R-squared	0.085788	S.D. dependent var	7.165200
S.E. of regression	6.850963	Akaike info criterion	6.732258
Sum squared resid	4787.441	Schwarz criterion	6.857156
Log likelihood	-355.1758	Hannan-Quinn criter.	6.782890
F-statistic	3.486727	Durbin-Watson stat	1.991770
Prob(F-statistic)	0.010346		

Appendice C



ERROR CORRECTION MODEL ABOMALITY TEST

Appendice D

Error correction Import

Dependent Variable: D(IM)
Method: Least Squares
Date: 09/08/14 Time: 04:17
Sample (adjusted): 2005M02 2013M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.741888	1.030951	0.719615	0.4734
D(ER)	-17.54486	30.43914	-0.576391	0.5656
U(-1)	-0.054465	0.054086	-1.007015	0.3163

R-squared	0.010760	Mean dependent var	1.104019
Adjusted R-squared	-0.008264	S.D. dependent var	8.528626
S.E. of regression	8.563792	Akaike info criterion	7.160600
Sum squared resid	7627.208	Schwarz criterion	7.235539
Log likelihood	-380.0921	Hannan-Quinn criter.	7.190979
F-statistic	0.565617	Durbin-Watson stat	2.891303
Prob(F-statistic)	0.569747		

Appendice E

Error correction model balance of trade

Dependent Variable: D(BL)
Method: Least Squares
Date: 09/08/14 Time: 04:21

Sample (adjusted): 2005M02 2013M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.236556	1.133158	0.208758	0.8350
D(ER)	5.252692	33.45684	0.156999	0.8755
U(-1)	-0.031634	0.059448	-0.532130	0.5958

R-squared	0.003546	Mean dependent var	0.136367
Adjusted R-squared	-0.015616	S.D. dependent var	9.340148
S.E. of regression	9.412794	Akaike info criterion	7.349654
Sum squared resid	9214.472	Schwarz criterion	7.424593
Log likelihood	-390.2065	Hannan-Quinn criter.	7.380033
F-statistic	0.185072	Durbin-Watson stat	3.030379
Prob(F-statistic)	0.831317		