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Analysis of Exchange Rate Volatility and its Impacts on Global Transition Economy: An Empirical test of Purchasing Power Parity

A dissertation submitted in partial fulfillment of the requirements of the School of
Business and Law, University of East London for the degree of **MSc Financial
Management.**

May 2016

Total word count
14,067

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MSC FINANCIAL MANAGEMENT

POST-GRADUATE DISSERTATION 2016

Analysis of Exchange Rate Volatility and its Impacts on Global Transition Economy: An Empirical test of Purchasing Power Parity

SUBMITTED

BY

1445202



Submitted
To
Dr. Baoying Lai

ROYAL DOCK SCHOOL OF BUSINESS AND LAW
10th of May 2016

Abstract

This paper reviews the literature and current empirical evidence of foreign exchange rate volatility and its impacts of global transition economy. The paper reviews the determinant of exchange rate fluctuation in the current market. There are many assumptions and models by which businesses predict the exchange rate risk (Viera and MacDonald, 2016). However, those high standard modelling still cannot purely forecast the volatility rate (e.g. ARCH, GARCH models) (Deniz et al. 2012). There are many reasons for this, which are agreed by many economists, but some find controversial. The general confirmation is greatest categorised as the diverse outcomes in different perceptive of the selections of trial stage, concept design, representations for the Exchange Rate instability and nations deliberated through the world. In this report various empirical findings have been conducted to examine whether Exchange Rate Volatility influences trades and economy. It is extensively considered that amplified Exchange rate volatility prevents the development of foreign trade and the economic growth.

Key words: Exchange rate volatility, Purchasing Power Parity (PPP), Global macro-economy, Economical impacts, Structural factors of exchange rate volatility.

Dedicated

To
My Mother

‘Kohinur Begum’

Acknowledgements

First of all, I would like to thank my professor and supervisor Dr. Baoying Lai for her continuous observation during this Master's Dissertation. During my Master's, she supported me to understand the theoretical background of exchange rate and its economic impacts. Studying many literatures about this topic inspired me and I feel interested in pursuing further research in this area. I would like to thank the head of our Finance Department Dr. Shampa Roy- Mukherjee for her departmental educational support. I would like to thank Mrs. Fauzia Chowdhury and Md. Salman Sajan for their support during my research period. I would also like to thank my parents for their inspiration for me to pursue my Master's degree. I am confident that the knowledge I have achieved during my MSc in Financial Management is reflected on this dissertation paper.

I would like to thank all of my Professors Dr. Tat Chan, Dr. M Iqbal Asaria, Dr. Carmela D'Avino, Dr. Aidan Kelly, Dr. Rula Abdulrazak, Dr. Peiyi Yu for their advice and support in our academic studies. I am very thankful to all of my academic committee members for their cooperation and also thankful to our library and Bloomberg Terminal Support during my dissertation research.

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1 Chapter One: Introduction

We exist in a very globalised and combined circle of the economy (Pilbeam, 2013). The debate throughout globalisation considered as dynamic and fanatical during the previous years and this has remained correlated with extraordinary reactions and occasionally even powerful disagreements. However, 'globalisation' is an unclear term under the continuing tendency near an extremely integrated world of finance through all its economic, political, technical and cultural measurements have been incorporated (Wagner, 2005).

Universal Finance figures out the central role of a nation's macro and micro financial strategy in foreign exchange (FOREX), expended opportunity set, market imperfection and political risk (Eun & Resnick, 2009). The Exchange rate is basically a value of a currency to one nation to another (Copeland, 2000). For example: In the Foreign exchange market GBP £1=USD\$1.4422 (OANDA, 2016). If the price of a good in the UK is £1, that particular good in the US will be \$1.44. However, these rates vary nation-to-nation depending on their financial circumstance (National Import, Export & GDP growth). Additionally, Exchange rates are changing in according to the marketplace's movements, demand, and some other economic and political factors. This paper also points the real situation in the economy such as political leader sentiment and its impact on trade situation. For example: Panama paper issues, recent terrorist activities, Donald Trump's (US presidential candidate) statements against Muslim communities etc. all played a big role in the world of trading, which is correlated with the exchange rate.

It is commonly approved that Exchange rate ambiguity develops vital effects for global trade, well-organized reserve allowance, and international economic procedures. Academically, the influence of Exchange rate instability on the economy and trades could be uncertain. However, Gagnon (1993) established an active enhancing exemplary of risk-averse dealers that was categorised by variation rates and balanced expectancies. It has been discovered that ambiguity decreases business profits with numerous

parameter ethics of the model. Viaene & De-Vries (1992) recommended that the straight supposition of an adverse connection might not be applicable. They submitted that the continuation of a forward exchange market is essential to hedge the exchange rate dangers in the onward marketplace. When an advancing market is unlikely, a greater exchange threat would lead to a drop in the size of business and economy. However, at the present well-developed advance markets, the impacts of exchange risk could be positive and the symbol of the collision varies on existing account situation of the nation. The determination of the matter has significant statement propositions; since if the bad result is statistically important and huge cost-effectively, strategies to edge exchange rate variability for example-exchange rate control (from a target zone) might be considered to be crucial (Du & Zhu, 2001).

In this paper, I critically explain some central influences of exchange rate drive with the actual market circumstances, and investigate an empirical test between UK's and USA's inflation and exchange rate changes, which effect in short and long-term economic stability in the global transition economy.

1.1 Background and Rationale of the Research of Study

International finance varies usually from the local business in three modes. They are used to foreign exchange and governmental risk extent, opportunity set, and market limitations. All nations have these key magnitudes of global finance to the corporate economic system inside the country by adjusting capital measure, imports and exports, impose tax etc. Trade from one country to another all over the world is depending on the peoples' choice, utilisation, manufacture, and speculation criteria. Investors in various nations capitalise worldwide for their commodities and facilities. Also, money varies from each state to another, and they rely on exchange rates. In July of 1944, 44 countries met in Bretton Woods, which was titled 'Bretton Woods System'. The arrangement in this scheme was to build a backup global asset among associate's countries called 'Bancor', where all worldwide transaction undertakes in an equal rate. Every state founded a Par Rate in according to US dollar; also this is called dollar-based 'Gold-Exchange

Standard' (Eun and Resnick, 2004). But the system went breakdown in 1970, while exchange value starts to float.

1.2 The Purpose and Objective of the Research

Does this world of the economy managed by policy or highly computerised technology where variations are seen virtually? Are the identified factors enough to predict volatility? If everyone makes profits then who is going to make the loss? Some hypothetical assumptions are not calculated by data or by the computer. We can call this sometimes 'black swan' activities in the economy, which are never predictable (Taleb et al. 2008).

The Economic model came last after the issue investigated, not before sometimes. There is no answer for everything. However, in the global economic market, the dollar has started to devalue from the time when the Bretton Wood system collapsed during 1970. The Latin American Liability exploited due to a destructive macroeconomic plan group with the EU and Japanese economy in August 1982. In the declaration of the Mexican suspension, there are main modifications has been appropriated in the finance system due to a maintain disaster and financial permanence. In the last three decades, the Asian economy was increasing swiftly (e.g. China, Japan, South Korea etc.) and making momentous support in the world of finance. However, deflation is in the Thai currency marked as 'Asian miracle' known by 'Asian financial crises'. The reason is due to the unparalleled confusion in financial and stock market's substantial fall, which later made a doubtful policy in Asian financial system.

Later, there are numerous investigations, which occupied to justify the economic crisis. After defining many key issues connected to financial constancy, they made a decision since now in which trade ratio (exchange rate) parity in worldwide market is one of them (Pilbeam, 2013).

The determination of this dissertation is to empirically research the functions of actual **Exchange Rate Volatility** (REER) on trade capacity and also to investigate the impacts on the economy followed by literature and

experiments to address the effect of the global economic disaster of 2007-2008.

1.3 Main Finding of the Dissertation

Since 1973, the exchange rate has been more volatile made unspecified effects on worldwide import and export flows. Though it is considered that increasing risk can be lead to a decrease in financial movement and the academic literature specifies justifications for progressive or inconsequential outcomes as well. Comparable results have been discovered in experimental analyses. While modelling procedures have developed over periods to encompass new improvements in the econometric investigation, no specific measure of Exchange rate instability has controlled the literature.

1.3.1 Hypotheses

Research on the connection with Exchange rate volatility and global trade movements discloses that this matter is the attention of numerous findings throughout the previous four decades. Primary studies showed that complex exchange rate unpredictability is related with superior budgets for traders, which were risk averse and eventually to worse overseas business (Ethier, 1973). The awareness is that if exchange rate movements remain unpredictable, it creates further uncertainty in the domestic and foreign business and slows the economic growth. The experimental findings have not extended consent on a bad impact of Exchange rate volatility on business movements and economic growth.

Some of the experimental findings forming doubt on the bad result of greater Exchange rate instability in the economic growth and trade (Grauwe, 1988) who argued that if the revenue result controls the exchange rates the last result could be a positive connection. Clark (1973) argued that whilst risk aversion between brokers may obligate an unconstructive effect on trades, the presence of complete forward marketplaces could play a function in dropping this adverse influence.

Broll & Eckwert (1999), Dellas & Zilberfarb (1993), Grauwe (1988) are all additional findings demonstrating the necessity to shoot into deliberation the two dissimilar results in determining the impacts of exchange rate

instability on businesses and growing economy. The disagreement is that greater uncertainty decreases the country's economic growth and business profits, therefore the peoples' income level drop significantly, which then creates more unemployment.

The key experiential outcome from Bahmari-Oskooee & Hegerty (2007), recommended that there was no agreement on the results of floating Exchange rate before the breakdown of the Breton Wood System. Other findings have concentrated in underdeveloped nations to research the effect of 'real effective exchange rate' (REER) instability on the exchange. For example, Arize et al. (2000) investigated the effect on trade streams (1973-1996) within 13 developing countries using Co-integration Analysis and established that negative effect on economy is correlated with the devaluing of exchange rates in the small and long run.

In this paper, I investigated the factors of volatile exchange rate and how devalued currency rate impact the economy. I ran an empirical test between two developed countries, which are the UK and the USA to see how the fluctuation of exchange rates impact on inflation in according to current literature. The test is examined here about two countries purchasing power parity (CPI inflation rate). This is a secondary quantitative analysis incorporate with other findings.

1.4 Chapter Summary

The paper inspects the outcomes of Exchange Rate Volatility in the global economy. The experiential analysis used by selection of specifications, judgment methods and robustness experiments recommends that Exchange rate instability have economic impacts, which reduces the growth of industrial businesses. The first chapter discusses about the introduction of the dissertation topic and the second chapter discusses the relevant literature and the third chapter discusses the research methodology and finally the conclusion.

2 Chapter Two: Literature Review

Critical Discussion of Exchange Rate Volatility and Its Impact on Global Transition Economy

Money represents purchasing power (Eun & Resnick, 2004), which means producing domestic money giving the power of purchase of goods from another country. But to do that one country's money need to convert to another currency where the goods and services are being provided. However, it is not the same value of currency between two countries because value of money is not the same. For example: \$100 in USA can buy a basket of goods where \$100 in UK will not buy the same goods. It could be less, because GBP has the higher value than USD. Foreign exchange rate came into there for a solution to fix the rate of exchange goods. In this example, less GBP will apply to buy \$100 goods (\$100= £69.74, XE, 2016). This is happening in all over the world.

But what is the exchange rate? And why it is volatile from time to time? How does it impact on the global economy? In this literature, I am going to explain the theory behind exchange rate volatility and its impact on global economy.

According to Pilbeam (2013), the exchange rate is the price of a currency of one country to another. One standard price level of a commodity basket price \$150 in the USA and £104.5 in the UK (XE, 2016), therefore exchange rate dollar vs. pound is \$1= £ 0.70.

2.1 The Market for Foreign Exchange

By virtual and standard, foreign exchange (FOREX) is the biggest economic marketplace in the planet. The Commercial banker is one of the primary functions in the FOREX market structure. In the 'FOREX' marketplace, mostly known as the OTC (over-the-counter) and spot market where FX brokers, non-bank dealers and bank currency traders are connected to each other in 24/7 via Internet, telephone etc. for worldwide trading. The majority of the international banks make up the biggest market for the foreign trade. According to BIS (2016), the gross market value of

OTC Foreign exchange contracts is \$2,547 billion out of \$15,521 billion in all other contracts.

Forecasting foreign exchange rate has become very volatile and erratic since the Breton Wood System collapsed in 1973, though many business decisions and government foreign policies based on finance is depending on the future exchange rate. The main participants of FOREX market are Retail clients, Commercial banks, Exchange brokers, Central Banks etc. (Pilbeam, 2013). The technique of forecasting Forex rate is independent to the organisations and they use three distinct approaches to calculating the rate. These are: fundamental approach, efficient market approach $\{S_t = E(S_{t+1})\}$, (here S_t = spot exchange rate and E = expected exchange rate) and technical approach (ECB, 2003).

Many organisations calculate spot and forward exchange rate to determine foreign transaction volatility. Economists and policy-makers are concerned about the implication of FOREX rate changes in the global market and take action on their balance of payment based on real, nominal and effective exchange rate (Pilbeam, 2013). However our question is that, is this actually a realistic rate we calculate in theory? The empirical test will be given in the next chapter. In here we will look at the reasons behind the exchange rate instability in worldwide. There are three types of Exchange rate regimes in the economy and these are fixed, fluctuating and managed (partly fixed and partly float). However, fixed and managed exchange rate are not seen in the current financial market because supply and demand are not the same from one country to another (Economics, 2016). There are many reasons of exchange rate volatility, where it could appreciate or depreciate depending on demand and supply, which create more unpredictability.

2.2 Structural factors of Exchange rate volatility

It is hard to find the factors that are affecting the exchange rate volatility in the literature. There is some strong correlation between determinants of exchange rate volatility and other financial variables.

A mutual theory is that unstable exchange rates decrease universal businesses. The experimental indication on this subject is diverse, but numerous additional current reports have found momentous argumentative possessions on trade. Other findings in the literature have established that asset and effectiveness have been unfavourably unnatural by exchange rate unpredictability in various unindustrialized countries (IMF, 2004).

First, low inflation countries and in the short-time horizons, the macroeconomic fundamental model of exchange rate do not complete well than an arbitrary sample estimating (Rogoff, 1999).

Second, the macroeconomic basics play a significant part in explanation of the performance of exchange amounts. But some writers believe that these fundamentals are essentials in the long run changes but for the short time changes, there are some more factors effective in the macroeconomic policy (McDonald, 1999).

Third, not only macroeconomic fundamentals or the arbitrary gait model sufficiently justify for the exchange rate performance at small horizons. Relatively, inventory administration and report accumulation by external exchange traders are also responsible for the short-run exchange rate oscillations (Lyons, 1995). Rogoff (1999) argued that countries of low inflation and major currencies, the model were not overturned by current empirical work. He similarly argued that the complications in linking economic variables to fundamentals have additional wide-ranging difficulties and not one limited completely to exchange rates.

In the current analysis of the macroeconomic fundamentals, there are several factors affecting exchange rate volatility in the global transition economy. These are Inflation, Political stability and Economic growth, Interest rate, Current account deficits (GDP percentile), Terms of trade, Public debt (Investopedia, Bloomberg, 2016).

2.2.1 Inflation

An Inflation rate of a nation extremely influences on its exchange value and its overseas investments. The nation with minor inflation rate represent higher money rate, therefore, that country increases purchasing

power against other currencies. At the last part of 20th century, there is some country (e.g. Japan, USA, Switzerland, Canada, Germany) signified as a low inflation rate. Countries with high inflation represent the depreciation of currency value; therefore, the goods and services cost are significantly higher than lower inflation rate counties (Investopedia, 2016).

Sachs (1985) quantified that, a bi-directional connection among inflation and exchange rate, where these Two Variables powerfully counter to one another movements (Rehman & Aftab, 2015).

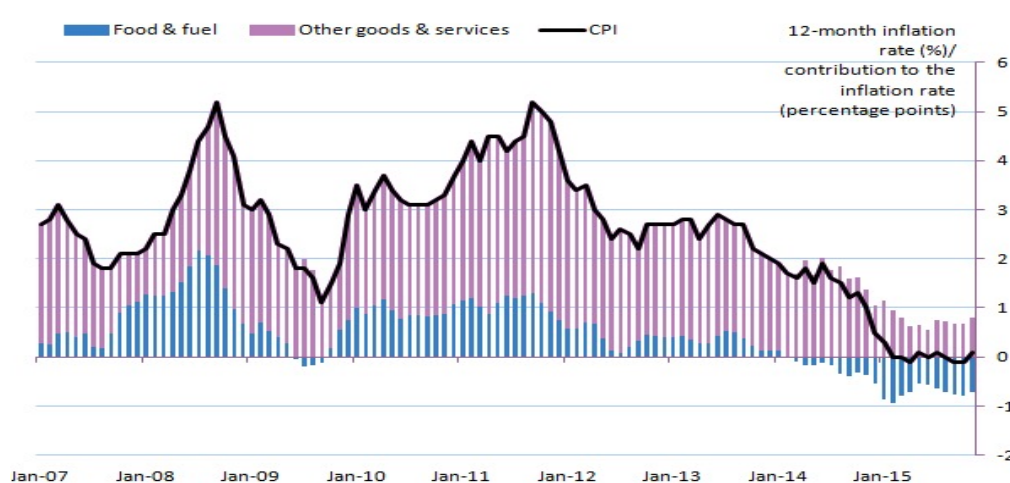


Figure 1: Involvement of food and motor-powered energy of CPI inflation rate: January 2007 toward November 2015, Source: ONS, 2015.

From the above figure I can represent an example: In conferring to ONS (2015), in November 2015 the changes of all commodities decreased from 122.00 (approx.) to 120.00 (approx.) and all service industries increased from 137.00 to 140.2 (approx.) due to the UK CPI inflation rate was increased by 1% (from 2010 index capped at 100). According to these data, there is a correlation between price pressure and inflation where inflation increased as well as the price increased (Appendix 3, for example- UK retail sales figure).

However, it is claimed that there were negligible changes of inflation rate seen due to 0.1% fall of CPI in August to September 2015 (ONS, 2015). From an empirical evidence:

In conferring to FOREX (2015), GBP/USD was 1.60 in 31st of October 2014 and GBP/USD was 1.54 in 31st of October 2015. This shows that GBP devalued in contradiction of USD because of downward inflation level (0.1%) change (The chart displays below).



Figure 2: Exchange rates during 25th of January 2014 to 25th of December 2015 (Exchange rates, 2015).

On the other hand, USD escalates in contradiction of GBP because of devaluation from 0.2% to 0.0% throughout the year of October 2014 to September 2015 (Bureau of Labor Statistics, 2015). There is a solid connection between the interest rate and inflation, which is very intricate to regulate by the policy maker. Because foreign investors are attracted by the increasing interest rate regardless of increasing inflation of a country (Investopedia, 2015). Inflation rate movements also rely on global oil price movements and those standard data recorded from National Retail Price Index and Consumer Price Index (CPI) (European Central Bank working paper, 2014).

Inflation of a country, especially in developing countries, makes a significant effect because of lower income level. If the price of goods and services goes up regardless of income people, become more violent. An Employee from all level intends to do corruption. From real life example from Bangladesh: police officer taking commission from a goods delivery driver who was waiting to pass the toll collection office. Because of the driver

giving extra money to the police officer the overall price pressure is added to products' price (Prothom-Alo news, 2014). Businesses need to increase employee wages due to inflation, which titled as 'Wage Push Inflation'. This is a bad effect for businesses, as employee's salaries need to rise further on demand because of recompense additional expense rise of belongings. For example: According to Aljazeera (2016), Venezuela raises their minimum wages by 30% due to extreme inflation bites. But on the other hand, many unindustrialized countries (like Bangladesh, Nepal etc.) where the unemployment rate is higher than normal, this Wage Push Inflation does not accomplish. This is because individuals need an employment regardless of ordinary salary. Higher population growth is another reason of unemployment. In addition according to Trevino (2003), positive inflation is executed on redundancy.

But the good thing is foreign investor intend to invest in a country where there is a low labor cost due to gaining higher profit in developed countries. Increasing foreign trade investment creates more job opportunities (Ay and Ayhan, 2016). For example: iPhone is manufactured mostly in China because of lower cost. Also UK's major fashion merchant (e.g. Primark, H&M, and Next etc.), import fashion and leather wear from Bangladesh (Bloomberg, 2015). Inflation also depending on global price competitiveness, which is many firms, amends their price in according to quality, demand and consumers level (BIS, 1993).

Reservation of Foreign remittance is oscillating depending on exchange rate movements (Ball et al. 2013). There is a human perception rely on sending remittance while there is a greater value. **For example:** People from Bangladesh living in UK are sending British pound to Bangladeshi financial institutions as a BDT (Bangladeshi Taka, which is £1= 114.27 TK) (XE, 2016) and where they find great value. Also, the amount mostly depending on the time when BDT depreciate against GBP, because people get more money against per pound.

In according to Bangladesh Bank (2015), around the time of January 2014, the average remittance of BDT 95.5 billion was reserved in BD central

bank. That time the inflation rate was 7.4% and the Taka rate against GBP was £1= 130.00 (approx.). But while the inflation rate was decreased by 1.2% (from 7.4% to 6.2%) during November 2015 the normal remittance lowered to BDT 90 billion, which means reserve decreased because of the lower value of Taka against Pound because that time people sent less GBP to Bangladesh.

According to Forbes (2015), the term ‘pass-through’ used by many economists where price are more sensitive in large transactions, which is mostly depending on exchange rate rather than inflation, also known by ‘fear to float’ (NBER, 2006). However, It is debated that subdivision with the excessive transaction of global rivalry do not complex in exchange percentage variations rather it varies on exchange configuration of billing, changes of MPC’s framework and share of liability (Rayes, 2007). An experimental result from United Kingdom exchange demonstrates that minor import charges (relative to inflation) escalate exchange ratio except rising universal demand, which creates descending weight on import price from appreciation (BOE, 2015). Reyes (2003) argued, “When the inflation frequency is small, person's anticipations are more prospective towards the authority’s objective and consequently will be fewer manipulated by temporary exchange rate fluctuations”.

2.2.2 Political stability and Economic growth

Foreign stockholders certainly seek out unchanging countries with robust financial functioning in which they can invest their capital. Political chaos, for example- creates less confident to the investor, therefore, they move away to another country to invest their money and raise capital. Politics plays a major part in the country’s economic growth and economic growth appreciates currency value, therefore, it effects on the exchange rate. However, it is highly unlikely to find a single country, which is fully politically stable. Changing government means changing financial policy and any policy could lead to the recession if the policy is not strategic for the nation (Investopedia, 2016).

Political stable means a predictable political atmosphere where less poverty, new job creation, increases investment; GDP growth, welfare and educational activity etc. are seen in the nation. The country almost likes Switzerland for example (Shepherd, [no date]).

Are all politicians doing honest politics, which lead to economic growth? The answer is controversial from many economists; where some finding shows that it depend on the politician behavior and ethical sense, election time (Natarajan, 1999). There is some country made economic growth under single government for many years.

For example: Dr Mahathir Mohamad was the Malaysian president since 1981 to 2003 and he was the lengthiest serving prime minister. According to Department of Statistics Malaysia (2015), in 1981 when Dr Mahathir elected, Malaysian KNDK GDP was 50,430 RM (Juta/Million) and it was increased to 399,414 RM (Juta/Million) in 2003 at the time he resigned. Also, Tenth Malaysian financial plan states that it will be a developed country by 2020 (Hasan, 2015). This shows that the long-time political stability can grow an economy. Malaysian revenue and expenditure time series is given below:

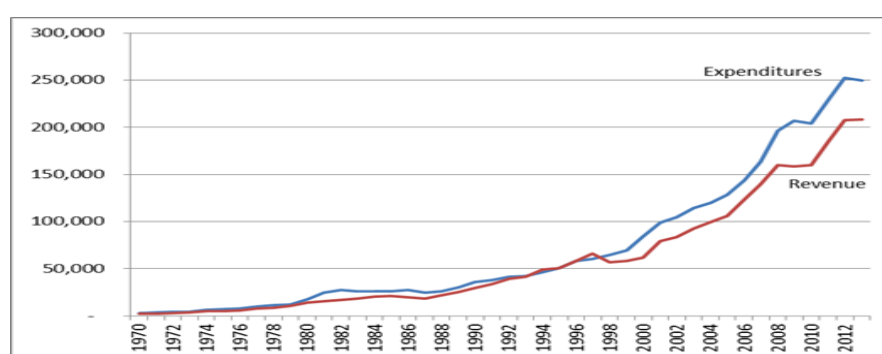


Figure 3: Malaysian growing revenue and expenditure chart from 1970 to 2013 (Malaysia Transform, 2013).

On the other hand, the case of Gambia's president Jammeh has been in the power since 1994 as a military dictatorship and Angola's president Dos Santos has been in the power since 1979. Interestingly several growth rate has been seen in those countries due to oil revenue but there is no

significant change noticed since last decade in the economy (Shepherd, [no date]). How these economic devaluation effects on currency market on the case of Angola and Gambia?

For example: If we looking at the exchange rate history for the last 10 years, we can notice there are significant changes in currency valuation in Angola from May 2006 to April 2016. In May 2006, the exchange rates USD/AOA was average 80.18 but in April 2016 USD/AOA were 165.9, which means Angola's currency highly depreciate against USD due to continuous economic disaster. Same as Gambia's case where in May 2006 USD/GMD was average 27.93 and in April 2016 USD/GMD was average 42.53, it means currency depreciate against USD (XE, 2016). From the above example, we can summarize that political stability cannot always bring economic growth. Financial growth refers to real GDP increase, which is depending on technology in reality. For example: USA's technological improvement creates huge growth in the economy while they introduced Internet and Technology (Investopedia, 2016).

However, there is some correlation exist between GDP growth and exchange rate if we look into the US and UK economy since the recession period from 2007 till now. In July 2007, the US GDP growth rate was -2.8% and exchange rate GBP/USD was \$2.08 but in July 2015 GDP grew to 2.4% and exchange rate GBP/USD was \$1.46 (approx.). It shows USD appreciates due to GDP growth against GBP (Appendix 1). Both countries achieved success from the economic recession because of political leadership. President Barack Obama from USA and David Cameron from the UK both introduced new policies in contribution to the country's economic growth (Trading Economics, 2016).

Furthermore, many economists do not necessarily support excessive economic growth where some other factors related to the fiscal policy (Robin, 2014). Empirical evidence from Jordan case among interest frequency, GDP growth, inflation and real economic development shows some contradicting result. It is argued that there is an interrelationship between inflation, interest rate and economic growth, where economic growth represents higher inflation and higher inflation lead to increase

interest rate by the policy maker. Also, there are no modifiable relations between insignificant interest rate and estimated inflation rate (Saymeh et al. 2013).

2.2.3 Interest rate

There is the strong link between exchange rate and interest rate but there is no consistent result examined in the real situation. These two variables (inflation and interest rate) have represented long and short-term relationship in the previous finding (Hooper and Lowery (1979). Policy maker increases interest rate due to attract external investor because investor wants a better return. These trends can increase interest rate but decrease inflation because people spend less money.

For example: In according to World Bank (2016) data, Afghanistan increased its interest rate from 4.1% (2011) to 14.7% (2014) therefore GDP grew from \$17.5bn to \$20.04bn. During this time period the exchange rate was AFN 43.00 (average) per USD in mid-2011, but it was depreciate (more AFN needed to buy USD) to AFN 56.98 (average) per USD in mid-2014.

In the case of Hungary there was a contradict methodology noticed by the economist. Hungary decreased its interest rate from 6.0% (2011) to 1.2% (2014). This time, GDP decreased by 1.0bn (approx.), where exchange rate has been seen as a volatile ratio. In 2011 HUF was average 182.3 (approx.) per USD but in 2014 HUF was average 221.5 (approx.) per USD. We can see that even though interest rate decrease the currency rate fluctuates towards devaluation (World Bank, 2016).

Why does this happen? The answer is still hypothetical but there are other relevant factors correlated. Hungary's inflation rate was 3.9% in 2011 and -0.23% in 2014. In these case we consider that how their population density, demand of goods and how ethical they are to represent data. In according to Japan case, from last five years since 2011 to end of 2015 their interest rate was 0.0%, which is now down to -0.2%. The inflation rate increased from -0.2% to 0.19% (2011 to 2015). In this case, decreased interest rate appreciate currency value against USD, which was USD/JPY

124.5 (approx.) in May 2015 and USD/JPY 108.5 in May 2016 (XE, Inflation, Economics, 2016).

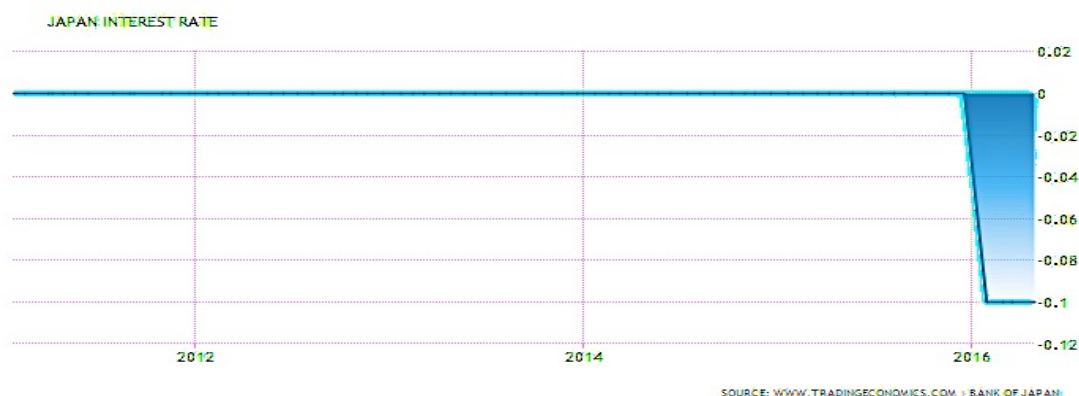


Figure 4: Japan historical interest rate (Trading Economics, 2016).

Some countries increase their interest rate to give investor higher returns, therefore they reinvest that money to the economy. The interest rate in Australia is relatively higher than New Zealand because Australian wants to raise their currency value (depreciate) against NZD (where \$1.5 AUD= \$ 1.2 NZD) due to attracting New Zealand investor. They can buy more AUD by spending Less NZD (International Business Times, 2015).

According to Sargent & Wallace (1981), upper interest rate absolutely move the Spot Exchange rates, which could increase the expense level and slash money demand. Furthermore, interest rate increase contains a sequence of management duty and there may be decline of exchange rate frequency. Hasio (1999) argued that all exchange rate determinants do not practically influence its volatility. His empirical result concluded that currency did not increase its value in terms of interest rate changes in the Asian unindustrialized countries.

According to Simon & Razzak (1999) investigation, there is a strong correlation remains between interest rate and exchange rate changes over time. Many Asian nations do not relate interest rates regime due to the economic crash during 1997, and this illustrates that there are no relations among exchange rate and interest rate changes (Chow & Kim, 2004).

For example: In 2011 the Chinese economy became undervalued while Yen fell by 2% against USD and that time international response and rhetoric was reckless. In according to IMF and US treasury data, not only China but also many Asia-Pacific countries currency fell against USD due to China's currency issues. This is because some most important Chinese commodity (e.g. Copper, Aluminium etc.) values fell sharply, which affected 6-year recessions. The 'fear index' celebrated the major two-day growth in its evidence at the conclusion of 2011 financial year where the euro zone disaster revealed. Financial Times well defined this scenario as a big titled, 'surprise China devaluation marks escalation of currency war'. Exchange volatility in China caused the delay of MPC's meeting for the interest rate increase, because analysts were aware of the uncertainty in the UK economy and their Quantitative Easing (QE) mechanism (BOE, 2015).

However, additional outcome argued that the covariance concerning with exchange rate and interest rate limited on uncomplimentary risk premium where cost-effective for the contractionary ones but unfavorable for expansionary deflations. The explanation for this statement is in the period of negative threat economists rise interest rate to reinforcement the degree of state currency.

For example, during 1997-98 Thailand and Korea has practiced this theory (Rehman & Aftab, 2015). Moreover, the occurrences of Chile and Brazil during 1998, when interest level amplified and exchange amounts devalued, it was tough to resolve together with the forecast exchange rate model. Furthermore, the connection between the exchange rate and the interest rate remains hypothetical and the results coming from the forecast is related to some non-fundamental factors or underlying elements.

2.2.4 Current account deficits and Terms of trade

"According to the intertemporal approach to the balance of payments, the current account deficit is the outcome of forward-looking dynamic saving and investment decisions" (Obstfeld and Rogoff, 1982, Sachs, 1981, cited by Calderon et al. 2002). Current account deficits are the nation's trade balance

ratio where imported value exceeds the value of exported goods and services. In this occasion, we can say that a country consumes more than produce.

It is an estimate from the overseas transactions where the investment report is a component of a state's equilibrium of expenditures. If a nation spends more on import rather than making money from export then it needs overseas currency to pay deficits. Increasing rate of foreign deficits make a nation unappealing to foreign investors, therefore, money rate falls in exchange market. In this instance Gijon-Spalla (2005), concluded from an empirical result is that the dispersion of movements between nations varies on the amount of the revenue and established quality, where the poorer and unindustrialized nations obtain fewer overseas investments and typically only get Foreign Direct Investment (FDI). How does it effect on exchange market?

For example: China and Japan are paying high amounts of United States current account deficits. In the FOREX market currency devalues against USD because export and import affect the exchange percentage over the stock market frequency. However, empirical results recommend that stock return, particularly bonus yields, which play a vital part in defining exchange rate performance (Kalbasi, 2002). But in contrast, in the developing marketplace Japan has profited from currency devaluation during Governor Fukui's administration. BOJ exchange strategy was reflecting Japanese budget due to smaller interest level. United States turns additional \$600 bn current account deficits from the Asian nation by trading their bond because those country purchase US bond to backup foreign exchange (Blanchard, 2007).

It is argued that necessary currency adjustments can be delayed due to this type of excessive deficits. One example from China as they completed irresistible economic development in the past 25 years. At current generation, China's inner financing marketplace is out-of-the-way and subsidizes to the significant misallocation to communal segment of the businesses, while its networks with international capital marketplaces are loaded by investment regulators and limits.

Clarida (2005) stated that the Chinese officers were appeared to be enthusiastic to the plan that would gradually publicize extra exchange rate flexibility, but they might not change all in the similar time to control of variable with a comprehensive worldwide capital marketplace. It is measured that certain fact of gradualism is suitable in the broader structure of China's strength to pile up the speculation method and to increase the foreign exchange markets.

According to the World Bank report (2013), UK's pound has been devalued due to Greece trade debits extends. Another finding showed that the exchange ratio might changes significantly at periods but this is not fundamentally provocative to universal trade as companies can protect themselves in paradox of exchange threat by hedging in the advancing exchange marketplace. In many states, the deflation of exchange is a vibrant tool for preserving their universal attraction and trade volumes (Pilbeam, 2013).

A countries export level increase means its price ratio increase because growing transfers requests can increase money rate but if import value is bigger than transfer rate than exchange price fall (Investopedia, 2015).

For Example, Present financial progress affects the activities of exchange rate amount, where corporation can rationalize their global trades. In 2013, while U.S. dollar appreciated about 20%, Euro has devalued by 7%. According to OEC (2016), during 2014, China imported \$1.53T and exported about \$2.37T that means there was a positive trade balance noticed but still there has been seen a down tendency on Yen around 7% since 2012 and together with many currencies (e.g. Brazilian Real and Turkish Lira depreciated by 42% and 30% respectively), which has been decline suddenly due to developing market tendencies. This type of exchange volatility is not exceptional or even rare (Forbes, 2015 cited in BOE).

Another empirical finding argued that even though in the emerging marketplace real exchange rate is critical to adjust but it can help to achieve maintainable current account position and preserve macroeconomic financial solidity. Evidence from the developing countries during 1975–2008 reveals

that real Exchange rate modification has subsidized significantly to dropping current account inequities. The modification of Current Account Deficits in states with a stable exchange level regime classically appears an Exchange rate crisis and considerable charges in terms of relinquished yield are experienced (Gervais et al. 2016).

The rules of Exchange rate variability were unyielding to be inherently unequal most of the exchange marketplaces (Hooy and Baharumshah, 2015). In Terms of Trade, export costs are rising faster than import price, which means if Export value rises more than import value then there is a positive economic trend work but if import value rises other than export value then there is the devaluation in Terms of Trade.

According to BOE journal (2008), in 2007 during financial crises, UK sterling was depreciated approximately 20% because that time UK's import cost raised by 15%. The example chart is given below:

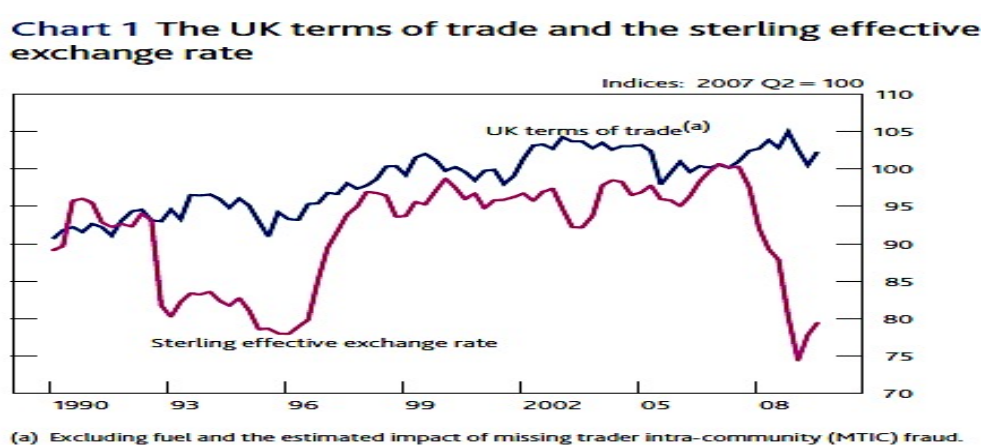


Figure 5: UK terms of trade and sterling effective exchange rate (MacCoille, 2009).

According to Marshall Lerner study, if there is comparatively adaptable demand for import and export rate ($PED_m + PED_x > 1$) where increasing tendencies in Terms of Trade will degenerate the Balance of Trade. For example, a huge trade discrepancy has been sponsoring to deflation of US dollar and this declining the Terms of Trade (Economics org, 2015).

2.2.5 Public debt

Public debt (three types, which are nominal, foreign and indexed [Bleaney et al. 2011]) in its place of public deficit sustainability became a complication of theoretical apprehension some years ago (Chalk, 2000 and Bohn, 2008). A country with a high economical establishment may not be free from public debts. Many economists along with the country's government work together to sustain public liabilities but growing population are the main barriers. Sustainable public debt can implement nation's fiscal consolidation procedures from the risk of global economic crisis (Awadzi, 2015).

The government needs to pay huge amounts of money to the foreign country if they have a large number of public debts and this amount increase if that country depreciates currency value in the time of debt repayment period. This kind of continuous activity simulates economic growth to the downward and many foreign investor loss attentions to invest money to that country. But what is the reason? What are the effects of an independent stock development of community liability on the actual exchange rate and investment accumulation in a circle of the budget?

From the economic review large amount of debts can cause inflation, and if inflation continues for the long while, the debts continuously increase and it will pay off with a massive amount due to the devaluation of currency. In worst-case situation is that the government may need to print cash to pay a portion of a huge liability, but growing currency supply unsurprisingly produces inflation (Anaya et al. 2015). But according to Bleaney et al. (2011), indexed **debt** is protected in contradiction of unexpected inflation.

Along with printing money, governments may need to sell the domestic bond or following QE methodology to increase the money supply to the economy to pay deficits. Moreover, if these procedures are not enough government might sell its securities to the foreigner, therefore currency decreases the value. Finally, a big debt may worry to investors if they think the state risks defaulting on their debts. Investors may be unwilling to buy those securities if volatility is so high. For example:

According to Standard & Poor's analysis, the nation's liability rating is a vital factor of its exchange frequency.

According to Diamond style overlapping generations (OLG) model by Rankin and Roffia (2003), "that, even with a continuous store of government liability, economic policy may be unjustifiable because economically stable nation with non-degenerate prices of the variables may not exist".

An empirical argument suggests that labour ratio of private capital in the aggregate investment strength associated with unstable government liability level, which we called maximum interior in contrast to a dissoluteness in which the investment strength lines with zero as a significance of a disproportionately extreme government duty ratio. For example: The current EU disaster has produced apprehensions together with public debt sustainability and exchange rate stability of extremely indebted republics (Farmer, 2011).

This result established that more public liability in a big net foreign borrower country (comparable to the USA) does not have bad influences on the actual exchange frequency, and on the other hand a net overseas creditor state (comparable to Japan), does not have progressive exchange rate outcomes despite a great community debt amounts. However, the effect of real exchange rate is independent, no matter how big their income level are and how massive amounts they are liable as a foreign creditor or debtor.

The examination of two country's OLG model through globally opposing manufacturing elasticity signifies that the increasing liability to GDP proportions throughout the unconventional planet, a dynamic quantifiable universal equilibrium (CGE) model plus many republics and several commodities, manufacture features with calibrated considerations would be greatly applicable to the exchange rate sustainability (Farmer, 2011).

Some economists consider that currency configuration of a nation's assets and liabilities may affect the exchange rate system. According to PEG (price/earnings) model, where the peg is expected to provide price

constancy and complete protection from exterior shocks, but not the native ones (Bleaney, 2011).

3 Chapter Three: Research Methodology and Design

The factors of exchange rate instability and its impact on transition economy are very complicated process. There are several distinctive methodologies has been taken in this research paper to find out the factors related to volatile exchange rate and its impacts in the different country's economy. This paper runs a latest test of Purchasing Power Parity and its applicability for the UK starling. Principal Component Analysis (PCA) is familiarised to hypothesis a joint measurement of inflation rate for two developed country (USA and UK) to benchmark the exchange rate fluctuation and inflation rate to identify the two countries purchasing power, in correspondence with the consumer price index (CPI). This measurement is used to examine the PPP and the experiment outcome is used to modification of the nonconformities from equality using systematic regressions methods. Lastly, the estimating accuracy of PPP based on UK starling and compared with USD (United States currency). In general, the outcomes are helpful of Purchasing power parity (Investopedia, 2016). In current economic condition the price of goods and services is not the same between two countries, because the economic condition is not the same. Also in according to our literature discussed above suggest that exchange rate can in terms of inflation rate changes. Developing countries and developed countries inflation ratio are not the same in according to global statistic data (BIS, 2016).

3.1 Methodology

All data were collected from Bloomberg terminal (2016) by using Data stream software. Based on the model description I run the test between USA and UK by collecting historical CPI data from 13th of May 2011 to 13th of May 2016 (Five years) and included 60 observations after adjustments. Based on

the exchange rate between two countries I consider US inflation rate (SER03) as home country and UK inflation rate (SER02) as the foreign country.

All Excel Data, which was transported from DataStream, were shifted to EViews to run Regression Analysis.

The formula of percentage change used in literature to calculate exchange rate frequency based upon foreign and home countries CPI inflation rate. The 'CPI' known as consumer price index is used to quantify inflation (MAA 100, 2016).

The equation has been experimented in according to quantify PPP between USA and UK.

3.1.1 Equation model 1:

$$\frac{E_t(S_{t+1})}{S_t} = \left(\frac{(1 + I_F)}{(1 + I_D)} \right)$$

Here, E_t = Expected exchange rate in time t, S_t = Spot exchange rate in time, I_F = CPI inflation rate for foreign country and I_D = CPI inflation rate for home country and $\frac{E_t(S_{t+1})}{S_t}$ is the expected Future Spot Rate.

However, above model has been simplified as $e_f \cong I_D - I_F$ (Madura and Fox, 2007), and in this paper I have used this model to (stated as log) to run Regression using the data from 13/5/2011 to 13/5/2016 for GBP INFLATION LINKED SWAP 1Y - MIDDLE RATE (UK inflation rate as SER02), USD INFLATION LINKED SWAP 5Y - MIDDLE RATE (US inflation rate as SER03) and US \$ TO UK £ (WMR) - EXCHANGE RATE (SER01) (Appendix 4).

3.1.2 Regression analysis: Equation model 2 ($e_f \cong I_D - I_F$):

In this paper I used this model to run regression analysis (followed by simplified equation, $e_f \cong I_D - I_F$).

In the EViews test the equation defined as:

$$$/\text{£} = C + DLOG(US) - DLOG(UK)$$

Here, $$/\text{£}$ is the **Exchange Rate as the dependent variable**. It is defined as DLOG (SER01) in EViews regression test.

C is the constant phrase and $DLOG(US) - DLOG(UK)$ is an **independent variable**.

In the EViews regression analysis (Least Squares method) DLOG (US) defined as DLOG (SER03) and DLOG (UK) defined as DLOG (SER02). The outcome of this regression test is to quantify P-value where if the P- value is Less than 5% ($p < 0.05$) then the result is considered as a significant value, therefore Purchasing Power Parity (PPP) Holds (Anderson, 2010).

3.2 Other Data sources

The majority of information's are from quantitative research process and all data collected from secondary sources, such as DataStream software, Bloomberg terminal, Different corporate website, Stock Exchange, FT 100 index, Panel Data analysis, some empirical observations, run a variable test to inspect Purchasing Power Parity between the countries.

3.3 Variable Description and Justification

Consumers, businesses, policymakers, researchers etc. from all over the world often compares their income and spending depending on the price change in daily life. Every country's economic development often reviewed to analyses their financial stability by quantifying the ratio of income and expenditures. Observers from different country have their different approach and methodology identify those price measurements regardless of data and model rationality, so there is no specific answer whether it is right or wrong (ODI, 2010).

In this report, I used some analytical tools and theory with the appropriate model from the different academies and Journal papers, which was empirically tasted to identify the economical condition in many countries. According to the above literature review discussed in chapter two are breakthrough in diverse classifications:

i. Econometric Presentation

- a. This function allowed me to run E-view test after collecting data from DataStream and Bloomberg terminal in the historical real time.

- ii. I discussed the Data Sources result in the literature and findings; also benchmark them with the other relevant research findings.
- iii. All Empirical Result Discussed and critically analysed in the appropriate chapter.
- iv. I analysed Economic review and Portfolio Analysis.
- v. All Statistical Analysis has presented accordingly.

The justification is to run this model for analysing the actual data in the real market, whether the estimated variable hold or not. The test identified that the real exchange rate movements correlated with the inflation changes, where decreasing exchange rates increase inflation.

3.3.1 Hypothesis

Early research, according to Anawar and Ali (2015) experimented a method by using Vector Error Correction and Johansen's Cointegration approach. The outcome of their experiment showed that **Purchasing Power Parity model holds** for all countries considered including developed (UK, USA, Canada) and developing countries like Bangladesh and Nepal.

But another finding by Payne et al. (2005) suggested that the transition markets facing development in production and actual incomes, therefore **it was unclear** that the model is validated (whether PPP holds) by their experiment on Croatia. These mixed finding has been challenged by some realistic situation that was not justified in theory in according to reality, which is the need for further experiment.

I ran a regression analysis of purchasing power within two countries (US & UK) to identify if it holds or not by using the model, $e_f \cong I_D - I_F$.

Furthermore, this paper analyses the impacts of exchange rate volatility in the global transition economy and quantify the different findings with the real situations.

3.4 Limitation

Modern swing in economic development is changing the poverty dynamics and upcoming Millennium Development Goals (MDG's) in the financial market (ODI, 2010). Correct data and measurement are crucial facts

to define the solution, but in reality, it's not possible. For example: Some people hold very controversial data in the businesses, which is never disclose in public to analyse. Therefore, those people (e.g. top business leaders) have monopoly power, which sometimes lead them to gain something extra. The most recent issue is that five top business leaders found guilty by the court for insider trading cost around £7.4 million (Bloomberg, 2016).

There is also some limitation in this paper as well. Followed by many empirical finding I run the regression analysis on E-views. I have found some technical difficulties while using data stream software. This is due to recent upgrade on our university IT system. I have limited time to collect some data for further investigation but the issue took a long while. However, I collected real-time data from the Bloomberg as according to the model analysis but could not manage to collect forecast exchange rate. There are some errors in measurements, in which the system rejected the null hypotheses (countries result came zero).

There is some further investigation need to benchmark the process and I hope in my further study I will research in this area. This paper analyses the existing model to benchmark the real situation in the economy.

4 Chapter Four: Research Findings

Early findings used 'Ordinary Least Squares' (OLS) to calculate the sensitivity of business flows as a degree of exchange rate volatility. Recent investigation applied additional sophisticated methods including panel-data and time-series techniques. Other identifications that monitor this overall measurement have discovered that instability has had momentous influences. Those findings have relied on current developments in time sequence investigation, because different nations have different intensity of danger in terms of their income and expenditure. This test determines the purchasing power changes (inflation ratio) in terms of exchange rate movements, which effect the country's growing economy. Pointing the discussion of hypothesis in this paper I run a test example of purchasing power parity between USA and United Kingdom.

4.1 Purchasing Power Parity (PPP) and exchange rate

'Purchase Power Parity' (PPP) is a concept of Exchange Rate suggests that the two countries exchange rate determined by proportion of Inflation, which is general price level of two countries Inflation or the general price level in determined by the consumer price index (CPI) or gross domestic product (GDP) or product price index (PPI) (Balassa, 1964). The original and easiest model of Exchange Rate Determination is known as Purchasing Power Parity (PPP) theory. The concept indicates the performance of the 'law of one price', however, the philosophy does not compute the satisfactory evidence of the fluctuating Exchange rate characters. Conferring to financial concept the amount of modification essential of an Exchange rate between nations in order to create equivalent all currency's buying control.

'The law of one price' is signifying that the similar goods and services price will be the same value regardless of transport and other barriers cost to gain profit. **For example**, if an automobile cost in Britain is £20,000 and in America is \$25,000 then the Exchange amount will be £20,000/\$25,000, which is £0.8/\$1 (GBP/USD). But in the recent financial situation, it is unmanageable to solve the exchange ratio between one to another country. It is argued that the exchanged and non-exchanged goods price cannot be equal, means PPP does not hold at any time (Pilbeam, 2013).

Agreeing with this statement I run an experimental check by concerning the model, $e_f \cong I_D - I_F$ [Dlog(us_to_uk_exchange_rate) c (Dlog(us_inflation)-Dlog(uk_inflation))] to define P-value [Prob(F-statistic)].

4.2 Empirical Test Result

Dependent Variable: DLOG(SER01)

Method: Least Squares

Date: 05/16/16 Time: 18:05

Sample (adjusted): 3 62

Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002043	0.002832	-0.721664	0.4734
DLOG(SER03)- DLOG(SER02)	0.003005	0.0339	0.08863	0.9297
R-squared	0.000135	Mean dependent var		-0.00203
Adjusted R-squared	-0.017104	S.D. dependent var		0.021722
S.E. of regression	0.021907	Akaike info criterion		-4.7713
		Schwarz		
Sum squared resid	0.027834	criterion		-4.70149
Log likelihood	145.1389	Hannan-Quinn criter.		-4.74399
F-statistic	0.007855	Durbin-Watson stat		2.218769
Prob(F-statistic)	0.929681			

View	Proc	Object	Print	Name	Edit+/-	CellFmt	Grid+/-	Title	Comments+/-
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Table: Screen shot from EViews (PPP regression analysis, second test in EViews9SV).

4.3 Discussions and Interpretations

The data set in the above table shows the continuous inflation rate change in USA and UK; therefore, exchange rate changes have been seen in both countries currency. The test found the total of 60 observations after adjustments, and rejected the entire null hypothesis, which characterises Intercept and Slope measurement. The probability value (P, F-statistic) here is **0.929681 (92.96%)** ($P > 5\%$), thus, the value represents very high than suggestive balanced of 5% (0.05).

The result is **highly insignificant**, which means the purchasing power parity does not hold for these two countries. This higher p-value also determined that the changes in inflation do not associate with the changes of the exchange rate. T-statistic value is -0.721664, which is lower than the critical value of 0.08863. The expectable volatility ratio from threat is measured by R-squared, which is 0.000135 (0.014%). The covariance, P-value= 0.4734 and coefficient= -0.002043 (-0.2%), which means that the fluctuating rates were not associated with Inflation rate changes. In Appendix 5, we can notice that there is a linear line of exchange rate movements since May 2011 to May 2016, where exchange rate fluctuation is unnoticeable, but the inflation rate gradually fluctuates over time horizon between two (US & UK) countries. Therefore, the Purchasing Power Parity test in the case of UK and US does not support the concept of Vector error correction and Johansen's Co-integration approach by Anawar & Ali (2015), where they showed that PPP holds for all countries. The regression analysis showed that PPP relations depending on the country's economical stability.

But there are some other arguments showed that Purchasing power parity relation hold for the long time periods but not in the short time periods.

For example: An investigation experimented on 1997 (covering period 1974-1991) between the OECD nations and the result showed that in spite of having substantial and persistent Short Run Deviation from proportional Purchasing power parity, it cannot be prohibited Long Run for Six years (Pilbeam, 2009).

Another study ('Big MacCurrencies' theory) found that though PPP holds for the long periods, currencies could actually diverge from their stability for extensive times. Additionally, subsequent change back to Purchasing power parity did not come through an exchange rate shift, but across the changes of comparative charges.

For example: In 1995, Argentina's peso has been overvalued than the previous year, not because of currency fell against the dollar, but because of 17% price cut of Big Mac (The Economist, 1995).

The rationality of long run Purchasing power parity needs the stationarity of Real Exchange Rates. If the logarithmic exchange rate (e_f , from the equation) is stationary then deviances from purchasing power parity relation are temporary and might disappear with phase, and therefore, PPP is possible to holds in the prolonged period. But if ' e_f ' consumes a Unit Root, subsequently suggests that deviations of PPP are growing and not eventually Self-reverting (Gidis et al. 2015).

For example: An empirical test on China investigated about Real Bilateral Exchange Rate stationarity properties by using ADF model and it showed that it fluctuate in the long-run is if the Mean and Variance remain continual over time and covariance value depends between the two time phases but not the actual calculated time (Gujarati, 2004; cited by Gidis et al. 2015).

It is accomplished that the conventional measure of CPI inflation with the exchange rate changes typically the moving the Standard Deviation of the historical exchange rate yields, which effects GDP growth. The experiment model forecasts the risk of the exchange rate and inflation and we can identify the purchasing power variation. But it does not exactly quantify suitable substitution for the risk of real Exchange rate danger, until it entirely takes all types of the instability and applies every part of evidence such as interest rates, GDP growth etc. to creating the exchange ratio. 'Generalized Autoregressive Conditional 'Heteroscedasticity' also named as 'GARCH' model of exchange rate instability is used to identify the uncertainty and take the report of allocation of Exchange rate yields.

However, this has been revealed that the determination in uncertain instabilities of economic variables might be due to command swings. In the Forex market, strategy modifications could affect on exchange rate data generating, which cause conditional volatility (Du & Zhu, 2001). Failing to change the uncertain instabilities may extremely shake the risk capacity, and therefore weaken the breakdown of the result of export risks.

For example: The fluctuations in the 'EMS' Exchange scale preparation could have touched the provisional instability regimes.

5 Chapter Five: Discussion of Exchange rates and PPP Measurements (Other related impacts of volatile Exchange rate)

Purchasing power Parity model hold or not, it depends on some correlated factors in the real world. There are many explanations that the diverse methods do not completely reflect the benchmarks of country's capitals. Exchange rate changes depend on some other global issues, which cause economic impacts in the world.

5.1 How does volatile exchange rate impacts on global transition economy: Discussions

The determinants of volatile exchange rate discussed above literature are the major part of any country's economic condition. Countries with volatile exchange rates do not mean that they are affected by all the factors in the whole economy. There are many correlated facts greatly involve in the economy, which is never disclosed to the public or the media. Politics and ethics do not go together in a country where people's income levels are below average. In the global transition economy every country dependent on each other in terms of trade, immigration, services etc. Developing country's (where around two third of the country in the world are developing) economy also affected more from the domination of powerful country (most EU countries, USA, Australia etc.) (SSR, 2016). From the many kinds of literature agreed that exchange rate fluctuate if the economy goes down or up, and

economic stability depends on domestic or foreign trade policy, GDP, political behaviour, speculation etc. In this literature, we will look into the impacts of global transition economy in terms of exchange rate volatility with some empirical evidence.

Formulation of interest rate, deposit and loan repayment to the foreign are more complicated in floating exchange rate regime rather than fixed rate. Here is one calculation below how a country calculates those payments in fluctuating FOREX rate.

One example: Interest rate on deposit calculation for the floating exchange rate and fixed rate is different. Because in the floating exchange rate we can see that there are many interest rates need to adjust in time to time as long as exchange rate changes. This could **increase liability** because countries financial institutions need to pay more money (if Forex rate not in favour) to the other country to pay their deficits.

So who normally pay that extra money? General answer come to mind is Public and yes continuously we are paying huge money not only developing country but also every country were floating rate exist.

According to Lessard & Lightstone (1986), exchange rate volatility can put any business operation at risk. They also found that the companies who do not have any direct foreign transaction, also get effected by operating profit due to maintaining international competition in the domestic market. Long-term relationship between exchange rate and price level of a country name as Purchasing Power Parity (PPP) could imply changes inflation rate and it became more complex on trade during export and import. Pegging the Exchange rate can drop inflation by stimulating better policy regulation and encouraging bigger confidence in the exchange. Empirically both results are principal (Atish et al. 1997).

For an example: Inside the 'BITCOIN' also named as 'cryptocurrency', which was introduced in 2009 has considerable macroeconomic impacts on the American economy. In 2013, this digital currency was dropped by 60% of its value, which was transfer through computer among many individuals and retailers where the interest rate is lower. Currently, this is a big matter because Bitcoin is priced in \$USD and transaction reflect exchange rate as

according to the dollar. Though average American do not care about these changes because USA is a big economical country. But on the other hand the more transactions occurring in 'Bitcoin' the more entrepreneurial business predict the exchange rate volatility by paying the same currency to the supplier and their employee, which means people get paid by lower valued currency (The Economist, 2013).

5.1.1 Changes of Monetary policy regime in terms of exchange rate, does it really matter?

Monetary policy needs to adapt to targeting country's inflation rate. But these always do not stable their economy. For example: In Severe exchange control rules and consistent market involvements by the South African reserve bank (SARB) attended the modifications to the exchange frequency system. However, typically these actions were ineffective in steadying the overseas exchange market, therefore exchange rate uncertainties remain continual.

Many commentators suggest that short-term interest rate can stable the exchange uncertainty but it is argued that short-term change could bring more difficulties in terms of public relation to the bank. Mtonga (2011) suggested from an experiment that if interest percentages rose quicker at the end of longer maturity expiration of yield curve, Monetary Policy could be more encouraging.

Foreign trade in the global economy is the important component to stabilize the economy where transactions mostly depend on the dollar rate variation. In according to Telegraph (2015), recent fall of oil price severely impacts on Russian currency where rouble touched 71.29 per US dollar in July 2015 for the first time worse since 1998. It was greatly impact on Russian stock exchange, which leading a recession since the first half of 2015 to present. In addition on-going oil price linked to Azerbaijani manat collapse against US dollar in December 2015, which 32.3% weaker for the first time in 10 years history. The central Bank of Azerbaijan said this is the result of "intensifying external economic shocks" (Farchy, 2015), where

currency shifts to float. However, it is expected to upset average Azerbaijanis with remunerations, investments and pensions in manat.

Speculation in the OTC derivative market makes another contribution to change exchange rate. Bias information can lead a market to the downward trends and that could affect the normal buyer or seller in the stock market. Many people could lose their total investment, where strong ethical financial regulation could be a solution. Speculation is a bad word but uncertain economic condition in the future price change can be mitigated by speculation (Shashikant, 2013).

Economists and investigators throughout the planet often try to discover the overview of stocks marketplace moves the spot value of fundamental assets. Since speculation is recognized as worse futures, exchange is similarly viewed as bad. The groups of this philosophy were not intelligent to differentiate among manipulation and speculation. They do not welcome the constructive character of speculation in delivering strength and liquidity to the marketplace. It is frequently ignored that the company need a speculator to hedge the risks. The experimental support of this financial philosophy is demonstrated in the findings of Newbery (1987) and Hart (1977). The study reported that a qualified speculator could exploit an inexperienced stockholder and accordingly destabilise the upcoming value (Kumar, 2015).

An investigation from Brazil, Chile and Mexico shows that 1-day exchange rate movements caused surprising interest rate increase, and reduces backup. This event came with some argumentative lessons by Kohlscheen (2014). He found that the lack of experiential support for the forecasts of typical economy models continues notwithstanding whether those country use US dollar or real exchange rates, whether modifications in the strategy rate. He described further that exchange rate mystery is challenging to attribute in fiscal dominance, as unforeseen rate rises are not related with expansions in risk premium.

5.1.2 Most recent scandal and exchange rate regime!

According to recent news about 'Panama scandals' is the biggest financial issue in the world. Many Politicians (e.g. Russian president Putin, UK's President David Cameron's late Father etc.), Top Businessman, bigger company (e.g. Shell) are involved in this issue. Panama considered as a 'Tax Haven' where many companies around the world make an offshore company (virtual) to hide their tax (money laundering), which they supposed to pay in their mother country (BBC, FT, Guardian, 2016). The Panama papers (11.5 million documents) is the illegal confidential paper, which was revealed by panama-based law firm 'Mossack Fonseca'. In United Kingdom, investors have been worried for the past 16 months for continuous lower value of sterling due to ongoing record high deficits and still industry crisis.

For example: According to Euro Exchange Rate News (EERN) by Jeffery (2016), most recent Panama papers scandals boost sterling (GBP/EUR).

The total news and its reliability still arguable by the UK officials and analysts but these are gambled that the quantity of UK-based tax equivocation could strengthen HMRC funds significantly if recouped (EERN, 2016). The implications of this issue are not based in one country but for global market. The global foreign policy moderated, banks regulatory changed especially foreign related, and also stock exchange could change in the biggest due to small move, because of trader's underperformance (Pisani, 2016). Currency normally governed by the politics and biggest financial institutions and the value of currency changes unexpectedly if politician and financial institutions involve in scandals.

5.1.3 EU Referendum

Upcoming controversial EU referendum could impact on exchange rate therefore in the economy. The reasons are vital. EU countries are the fast moving in the world of economy based on currency value, export and GDP. In the UK, many economists considered that sterling could be devalued if they exit from EU. According to US President Barack Obama's recent visit to UK made this clearer that Britain could be back of the queue in terms of trade with the USA. But if UK exits from EU, does euro hike against sterling?

One argumentative example in according to ECB (2016), Euro has rarely higher rate because of euro demand and euro zone foreign investment. Foreign investors want to invest in EU countries and to maintain attractiveness ECB want to devalue their currency (Appendix 2). The reason is very simple, if euro becomes more expensive to buy investors needs to spend more money in their currency, which make them U-turn from EU investments. Also, cheap euro could hike EU export industry (Privett, 2016).

There are other difficulties for the investor in according to many analysts. The question come to mind first, does cheaper euro really attract investors? There are many arguments among economists. But the simple logic is, if euro became cheaper to buy but their goods and service rate increase more than average, does it attractive?

Evidence from an example: After implementation of recent financial regulation named 'Sarbanes-Oxley Act', managers of the firm have to give true information to the investors. They provide information in according to the market movements even though this could affect business profits margin (Almazan et al. 2008). According to Rupert (2015), Britons taking benefit of the **Discounted Euro** and low petrol prices splashed out on vacations rather than staying Whitbread's costa coffee and premier Inn chains.

On the other hand, Australian dollar hits the higher rate in April 2016 against the pound. AUD normally has a growing demand due to its tourist's attraction for example. But evolving political condition in Australia makes investors more worried to purchase AUD weather it could be benefited or not.

5.1.4 Foreign Investments and US dollar rate in exchange market

Beside with sterling's up and down movements, the US dollar rate has also been mostly volatile. Many countries currency were paged with US dollar rate due to ongoing risk on foreign exchange. For example: Venezuela experienced dramatically fall (32%) in their currency against USD during February 2013. After that country's officials decided to peg their currency with USD to maintain a fixed exchange rate (6.3 VEB= 1 USD) (Investment Frontier, 2013).

Foreign trade mostly paid through US dollar rate and many countries will affect if dollar becomes volatile. Currency rate mostly depends in terms of foreign relation with the US trade. US trade relation with the Muslim countries became more critical since 9/11 crash followed by Iraq and Afghanistan war and most recent attack in California. Moreover, recent controversial statement by Donald Trump (US presidential candidate) “Muslims should be banned to entering USA” gave a negative impression to the Muslim leaders around the world, which is an ongoing severe impact on the economy.

For example: Many economists accused these political issues to recent downturn of the dollar exchange rate. But American Central Bank argued this on the other way. According to many American officials, recent fall of dollar rate is nothing with the Donald Trump’s eye-catching statement announcements, but the advancing conversation on interest charges. The US were primarily fixed interest rate climbs this financial year for the historical 4 times, still decelerating worldwide progression and the US’s peculiar matters with inflation has an additional threat to the accumulation when forming such a principal decision (Privett, 2016).

In according to BBC (2016), the US experiencing slower economic growth, which is the yearly pace of 0.5% with first quarter of the year. The unemployment rate remained at 5% but wages increased by 2.5%. Walker (2016) argued that unemployment rate is higher due to increasing number of people, not the labour force.

There are diverse methods in which the actual exchange amounts may be related to Foreign Direct Investment (FDI). Froot & Stein (1991), indicated that actual exchange charges may distress FDI throughout an unsatisfactory investment markets method. They argued that in the stock marketplace with defective evidence, the credit restraint is a significant leading influence in a firm’s capability to purchase overseas assets. Klein & Rosengren (1992), examined two substitute hypotheses for exchange rate (first hypothesis) and actual exchange rate that moves the price of production (second hypothesis), in witch the actual exchange ratio changes the comparative capital throughout countries.

Cushman (1988) presented that the price of manufacture functions, where the degree of yield is related with the actual increase of the overseas cash, can impact on the foreign direct investment drive to the domestic state. Relatedly, Campa (1993), found a progressive connection that dollar appreciation could lead to increase US inbound FDI. Foreign trade and investments expressively influenced by Real Exchange Rates in South Asia, while Foreign investment is not complex to actual exchange frequencies in Latin America (Du & Zhu, 2001).

5.1.5 Industrial Productions

Volatile exchange rate could slower the industrial production level. Many companies normally produce one commodity and making profits from the export. If exchange rate fluctuates the demand of the importers could hold that commodity. But on the other hand the industrial production could be the slower, therefore impact on internal and intra-sectoral job restructuring, labour wages etc. (IMF, 2015).

For example: Some empirical test previously held such as ADF statistic, co-integration test etc. found that real exchange rates movements shake the production units profitability and the pattern of entrance and withdrawal. The investigation in France (1984 to 1992) in response to actual exchange volumes movements, using disaggregated secure level data discovered that trade industries are very reactive to actual exchange rate activities. During that time along with benchmark estimation showed that 1% increase of exchange rate abolishes 0.95% of tradable employments.

Furthermore, employment foundation is more volatile than employment destruction. The outcomes imply the importance of great-unexpected variations in the actual exchange rates (Gourinchas, 2001).

5.1.6 Dual Currency System

The country with dual currency system (like Cuba) has more complicated in foreign exchange. In order to global competitiveness domestic currency could be lost. For example: If we look back on Serbia economy during 1999, we can notice that dual currency leads them lower production and hyperinflation. The reason is government introduced dual

currency in order to loan submission in foreign money. Appreciation of dollar limited Serbian monetary policy; increased foreign debts and increased unemployment rate by 27% due to their high degree of dollarization in exchange market (Popov, 2012).

But according to Du & Zhu (2001), since overseas firms hold portion of their capital in overseas money, a devaluation of local money can raise their capital and consequently lead to additional overseas attainments of certain national resources.

5.1.7 Exchange rate moves in Tourism and Economic impacts

Travel and Tourism is a vital financial activity in maximum countries around the planet, due to direct economic impressions for GDP growth. According to WTTC, Travel and Tourism's entire input is much larger than other sectors. Some research found that there is a correlation between exchange rate and countries tourists' attraction.

For example: American imports and exports of tourism are extremely reactive to revolutions in actual revenue, meaning that the comparative progress of overseas to national income is the vital factor of the US travel sector balance. The actual exchange frequency is discovered to be an important long-run influence moving that equilibrium. The finding specifies that an escalation (or decline) of US dollars declines (or increases) the US travel trade stability (Junwook, 2015), also fewer flexible Exchange rates encourage Tourism (Santana et al. 2010). Many developing countries, like Bangladesh (for example) implied 3.6% job increase, BDT 60.9bn investment revenue from Tourism sector during 2014 (WTTC, 2015) while exchange rate depreciated against USD.

However, Travel and Tourism activities depending on the country's attraction, security and services, facilities etc. regardless of exchange rate variation. According to BBC (2015), the country having best facilities, low exchange rate and beautiful attractions without security does not attract tourists. The reason is the recent ongoing terrorism activities around

targeting countries (e.g. France, USA) demotivate traveler not to visit unless necessary, even though those countries are preparing highest level security upon human trafficking (Parkinson & Heyden, 2015).

6 Chapter Six: New Instructions and Conclusion

Most of the theory and empirical test has been examined previously upon the law of one price or purchasing power parity theory, which were mostly constructed with the CPI data to quantify real exchange rate volatility. Many studies were failed because of the aggregation bias. Very few studies used commodity values in diverse nations and have delivered robust encouragement for the concept. Those findings have frequently expended data from industrialised republics (Bahmani and Nasir, 2015).

A disagreement put onward by the challengers of the fluctuating Exchange amounts is that such proportions host insecurity into the Foreign Exchange marketplace, which might prevent trade movements and economic growth (Kumar, 2015). However, some to show that uncertainty might also improve the foreign transactions if dealers raise their trade quantity to balance any reduction in forthcoming income due to exchange level unpredictability (Viera & MacDonald, 2016). The observed literature evaluated in this paper can agree with both opinions. In this literature, analysis of exchange rate risk and its impacts can propose some arrangements to minimise risks.

For example: Certain adjustments of the factors of business runs, such as joining third country effects, simplified representations, often-using revenues, comparative value, and factors of exchange scale instability can influence economic growth (Kumar, 2015).

Moreover, overseas exchange control in several developing countries might have black market exchange rate risks. Some developing country does not pay attention to black market trade policy, not even take this premium as risk measurements, thus, instability is stationary (Pesaran et al. 2001).

According to 'GARCH' model, the unequal instability in the exchange amount yield producing further volatility in the spot exchange amount profit (Kumar, 2015).

It is highly recommended that policymakers must implement diverse policies to reduce Exchange Rate volatility if they want to increase economic stability. The international economic crisis had momentous impacts on trade size and financial growth in all anticipated models regardless the size or economy of a country.

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8 APPENDICES

8.1 Appendix 1

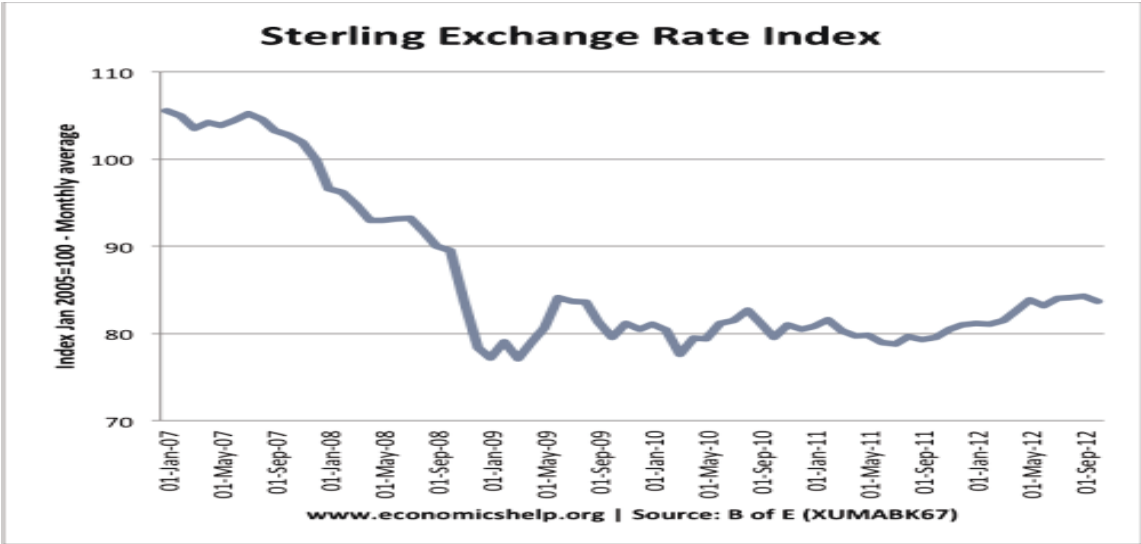
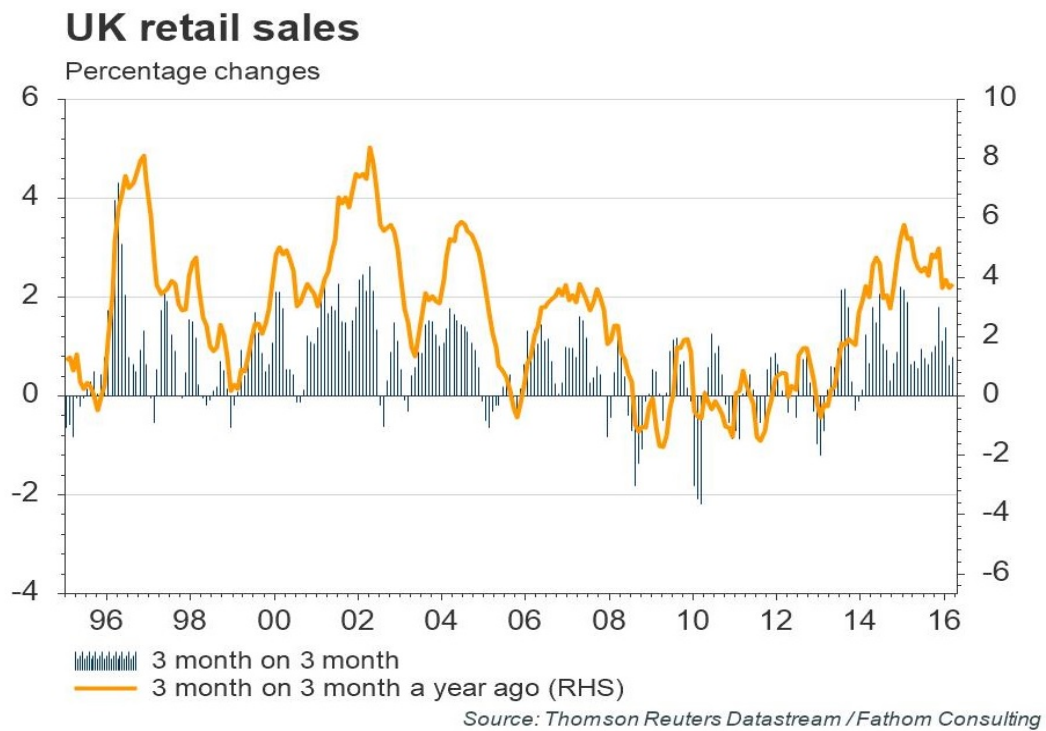


Figure: Inflation in UK caused by depreciation in (2007-12) (Economics, 2012).

8.2 Appendix 2



8.3 Appendix 3



8.4 Appendix 4

Start	Exchange Rate	UK Inflation rate	
End	13/05/2016	13/5/2011 to	13/5/2011 to
Frequency	M	13/5/2016	13/5/2016
		M	M
		GBP INFLATION	USD INFLATION
Name	US \$ TO UK £ (WMR) -	LINKED SWAP 1Y -	LINKED SWAP 5Y -
Code	EXCHANGE RATE	MIDDLE RATE	MIDDLE RATE
	S19571	S4144N	S4145M
CURRENCY	£	£	US\$
13/5/2011	1.6208	3.8525	2.41
13/6/2011	1.6307	3.96375	2.315
13/7/2011	1.60835	4.11	2.38
13/8/2011	1.6275	3.695	2.225
13/9/2011	1.579	3.54	1.845
13/10/2011	1.57285	3.52625	1.904
13/11/2011	1.6079	3.1675	2.155
13/12/2011	1.5538	2.85375	2.026
13/1/2012	1.5285	2.84	2.025
13/2/2012	1.57935	2.77625	2.306
13/3/2012	1.57355	3.135	2.436
13/4/2012	1.5885	2.9825	2.3
13/5/2012	1.6097	3.0075	2.23
13/6/2012	1.55825	2.6175	2.13
13/7/2012	1.55465	2.52375	2.099
13/8/2012	1.57035	2.945	2.188
13/9/2012	1.6117	3.058	2.394
13/10/2012	1.60875	2.8	2.494
13/11/2012	1.5891	3.173	2.353
13/12/2012	1.61355	2.91	2.395
13/1/2013	1.61245	3.05	2.428
13/2/2013	1.55455	3.375	2.51
13/3/2013	1.4925	3.55	2.563
13/4/2013	1.5368	3.42	2.392
13/5/2013	1.53435	3.048	2.277
13/6/2013	1.5681	2.978	2.124
13/7/2013	1.51175	2.988	2.199
13/8/2013	1.54615	2.988	2.16
13/9/2013	1.5866	2.988	2.12
13/10/2013	1.59465	2.988	2.213
13/11/2013	1.59895	2.985	2.176
13/12/2013	1.6278	2.943	2.093
13/1/2014	1.6383	2.798	2.194
13/2/2014	1.66365	2.735	2.161
13/3/2014	1.66765	2.65	2.181
13/4/2014	1.67215	2.675	2.073
13/5/2014	1.68385	2.848	2.185
13/6/2014	1.69605	2.575	2.223
13/7/2014	1.71015	2.5725	2.359
13/8/2014	1.66945	2.795	2.294
13/9/2014	1.6229	2.83	2.149
13/10/2014	1.6057	2.483	1.952
13/11/2014	1.57355	2.345	1.904
13/12/2014	1.5699	1.95	1.496
13/1/2015	1.5175	1.49	1.383
13/2/2015	1.5394	1.61	1.676
13/3/2015	1.4752	1.573	1.623
13/4/2015	1.46415	1.7925	1.754
13/5/2015	1.5726	2.276	1.871
13/6/2015	1.5569	2.369	1.852
13/7/2015	1.5528	2.289	1.83
13/8/2015	1.5584	1.905	1.514
13/9/2015	1.5408	1.605	1.425
13/10/2015	1.5225	1.704	1.436
13/11/2015	1.51915	2.046	1.513
13/12/2015	1.52145	2	1.52
13/1/2016	1.4443	1.823	1.463
13/2/2016	1.4457	1.775	1.29
13/3/2016	1.4394	2.101	1.587
13/4/2016	1.4209	2.263	1.64
13/5/2016	1.43485	2.08	1.67

8.5 Appendix 5

