UNIVERSITI PUTRA MALAYSIA

EXCHANGE RATE DYNAMICS AND ASSET PRICE FORMATION

ALIREZA ZAREI

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EXCHANGE RATE DYNAMICS AND ASSET PRICE FORMATION

By

ALIREZA ZAREI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in fulfilment of the Requirements for the Degree of Doctor of Philosophy

November 2015

This Thesis is dedicated

To

my parents, Hossein and Iran Zarei without whom none of my success would be possible

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the Requirements for the Degree of Doctor of Philosophy

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By

ALIREZA ZAREI

November 2015

Chairman : Professor Mohamed Ariff, PhD
Faculty : Economics and Management

Numerous studies on, (i) exchange rate behaviour, and (ii) exchange rate effect on stock prices have led to clear disagreement neither on how exchange rate is determined nor on how exchange rate affects stock prices. Purchasing power parity and interest rate parity theorems offered by monetarist suggest significant influences from inflation and interest rates on exchange rates. The first focus of this study is to investigate how these two factors affect exchange rates by introducing control factors, as suggested in recent studies. Second, empirical support for a significant exchange rate effect on stock returns is also not found, so the next proposition is worth investigating a theory-suggested effect on stock returns from exchange rates. In either case, it is pointed out that the use of more powerful econometric methods is the correct way forward to provide results on these two interesting research problems to explore support for evidence on these propositions. Therefore, this research aims to revisit these two topics using newer methodology and a long-length time series data (over 55 years) from eight major countries.

Consensus in the literature is that the two parity theorems are considered puzzles to be resolved by leading researchers. Two eminent scholars have dubbed the lack of support for theories as a "puzzle" as would be detailed in the thesis. Methodological advancements since the early days of research on this topic have shown the following: (i) time series and cross sectional regressions so well entrenched in this line of research actually lead to biased parameter estimation; (ii) panel regression, which is now popular though seldom used by researchers on this topic, is more appropriate and this method has hardly been used; (iii) multi-country panel regressions have been shown to have errors in parameter estimation because of presence of cross sectional dependence, nonstationarity and due to the absence of control on heterogeneity of panel members. Thus, findings in existing literature are likely to change if newer unbiased tests are applied to this research. A number of critical tests (common and mean group estimator, etc.) are conducted so that the panel regression leads to robust measurements. Furthermore, a test on the exchange rate behaviour is conducted for each country to determine the number of structural breaks within the sampled period. Finally, an analysis of cointegration for parity and non-parity variables in the presence of cross-sectional dependence is provided, which is a recently developed advanced procedure.

The findings from applying newer methodology are in support of parity and non-parity factors as significant exchange rate relevant factors. Further, it is founded that exchange

rate is a significant factor for stock index returns in addition to the relevance of other theory-suggested factors. The final estimators from advanced models applied in this study yield significant test statistics verifying the theory-suggested relationship especially when control factors are included along with corrections for unobserved heterogeneity, serial correlations, nonstationarity and cross sectional dependence (all of which are part of new developments in econometric). It is believed that the efficiency of econometric modelling methodology applied in this research has assisted in providing robust estimation of parameters. This thesis is expected to add useful findings relevant to the monetary economics literature.

Abstrak tesis yang dikemukakan kepada Senate Universiti Putra Malayasia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

DINAMIK KADAR PERTUKARAN DAN PEMBENTUKAN HARGA ASET

Oleh

ALIREZA ZAREI

November 2015

Pengerusi : Profesor Mohamed Ariff, PhD
Fakulti : Ekonomi dan Pengurusan

Kajian lepas ke atas terhadap (i) perilaku kadar pertukaran, dan (ii) kesan kadar pertukaran kepada harga saham telah menampilkan ketidaksepakatan yang jelas bagaimana kadar pertukaran ditentukan dan bagaimana kadar pertukaran memberi kesan kepada harga saham. Teori pariti kuasa beli dan kadar faedah yang dikemukakan oleh pakar monetaris mencadangkan pengaruh yang signifikan daripada inflasi dan kadar faedah ke atas kadar pertukaran. Fokus pertama kajian ini adalah untuk menyiasat bagaimana kedua-dua faktor yang mempengaruhi kadar pertukaran dengan memperkenalkan faktor kawalan buat kali pertama, seperti yang dicadangkan dalam kajian terbaru. Kedua, sokongan empirikal untuk menguji kesan kadar pertukaran yang signifikan ke atas pulangan saham juga tidak dijumpai, jadi usul seterusnya adalah berbaloi untuk menyiasat kesan daripada teori yang dicadangkan ke atas pulangan saham daripada kadar pertukaran. Dalam kedua-dua situasi, ia menunjukkan bahawa penggunaan kaedah ekonometrik yang lebih berkuasa adalah cara yang lebih tepat untuk mendapatkan hasil bagi kedua-dua masalah penyelidikan yang menarik untuk mendapatkan sokongan sebagai bukti keterangan usul ini. Oleh itu, kajian ini bertujuan untuk mengkaji semula kedua-dua topik menggunakan metodologi baru dan data bersiri yang panjang (data bulanan untuk lebih dari 55 tahun) dari lapan buah negara utama.

Sepersetujuan dalam sorotan kajian meyatakan kedua-dua teorem pariti tersebut adalah dianggap teka-teki yang perlu diselesaikan oleh penyelidik-penyelidik terkemuka. Dua sarjana yang terbilang telah menyatakan kekurangan sokongan untuk teori sebagai "teka-teki" yang akan diperincikan di dalam tesis. Kemajuan metodologi sejak zaman awal kajian berkenaan topik ini telah menunjukkan perkara-perkara yang berikut: i) Regresi siri masa dan keratan lintang telah berakar umbi dalam kajian ini hingga membawa kepada penganggaran parameter yang berat sebelah; ii) regresi panel, yang kini popular walaupun jarang digunakan oleh penyelidik dalam kajian berkenaan topik ini, adalah lebih sesuai dan kaedah ini hampir tidak digunakan; iii) panel regresi berbilang negara telah menunjukkan kesilapan dalam penganggaran parameter kerana kehadiran sandaran keratan lintang, ketidakpegunan, dan ketiadaan kawalan ke atas keheterogenan unit-unit panel. Oleh itu, hasil kajian dalam sorotan kajian yang sedia ada boleh berubah jika ujian baharu yang tidak berat sebelah digunakan untuk kajian ini. Beberapa ujian kritikal (penganggar biasa dan purata kumpulan, dll.) dijalankan supaya regresi panel menghasilkan anggaran yang mantap. Tambahan pula, satu ujian ke atas perilaku kadar pertukaran dijalankan untuk setiap negara untuk menentukan bilangan pecahan struktur

dalam tempoh sampel. Akhir sekali, analisis bersepadu untuk pembolehubah pariti dan bukan pariti bersama sandaran keratan lintang disediakan, yang merupakan satu prosedur maju yang baru dibangunkan.

Penemuan dalam mengaplikasi metodologi yang lebih baru adalah menyokong faktor-faktor pariti dan bukan pariti sebagai faktor kadar pertukaran signifikan yang relevan. Selain itu, telah ditemukan bahawa kadar pertukaran adalah faktor penting bagi pulangan indeks saham tambahan daripada faktor-faktor relevan yang telah dicadangkan oleh teori. Penganggar akhir daripada model yang maju digunakan dalam kajian ini menghasilkan ujian statistik yang signifikan telah mengesahkan teori hubungan yang dicadangkan, terutamanya apabila faktor-faktor kawalan disertakan bersama-sama dengan pembetulan bagi keheterogenan yang tidak diperhatikan, korelasi bersiri, ketidakpegunan dan sandaran keratan lintang (semua ini adalah sebahagian daripada perkembangan baru dalam ekonometrik). Adalal dipercayai bahawa kecekapan kaedah pemodelan ekonometrik yang digunakan dalam kajian ini telah membantu dalam menyediakan anggaran parameter yang mantap. Tesis ini dijangka dapat menambahkan penemuan berguna yang berkaitan dengan kepustakaan dalam hidang ekonomi kewangan.

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I would also like to acknowledge my family who provided me constant encouragement and continued support for this achievement.

I certify that a Thesis Examination Committee has met on 30 November 2015 to conduct the final examination of Alireza Zarei on his thesis entitled "Exchange Rate Dynamics and Asset Price Formation" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Junaina binti Muhammad, PhD
Senior Lecturer
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairman)

Cheng Fan Fah, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Internal Examiner)

Catherine Soke Fun Ho, PhD
Professor
Universiti Teknologi MARA
Malaysia
(External Examiner)

Dev Prasad, PhD
Professor
University of Massachusetts Lowell
United States
(External Examiner)

ZULKARNAIN ZAINAL, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 15 December 2015

This thesis was submitted to the senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy.

The members of the Supervisory Committee were as follows:

Mohamed Ariff, PhD
Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairperson)

Annuar Md Nassir, PhD
Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

Law Siong Hook, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

_____
BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malayasia

Date:

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Signature: _____ Date: _____

Name and Matric No.: Alireza Zarei, GS34767

Declaration by Members of Supervisory Committee

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Signature: _____
Name of
Chairman of
Supervisory
Committee: Mohamed Ariff, PhD

Signature: _____
Name of
Member of
Supervisory
Committee: Annuar Md Nassir, PhD

Signature: _____
Name of
Member of
Supervisory
Committee: Law Siong Hook, PhD

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CHAPTER 1

GENERAL INTRODUCTION

What determines exchange rate has long been considered a current and significant research topic despite extensive literature. After the breakdown of Bretton Woods Agreement (BWA) in 1973, exchange rate volatility has increased markedly, adding a practical reason for doing continued research on this topic. The aim of this study is to apply a relatively new and advanced methodology to find out key factors associated with exchange rate changes following the demise of BWA. In what follows in the remainder of this chapter, an overall discussion is provided on exchange rate determination and stock pricing in order to identify the research problem of the thesis.

1.1 Background

The BWA broke down in 1971 when the United States of America (U.S.) was of the view that continued use of BWA would deplete its gold stock. The first research problem therefore is to obtain statistical evidence of a structural breakdown in currency regimes, which has yet been done. BWA was negotiated by the Allied countries towards the end of World War II, in order to reintroduce the Gold Standard, which had been abandoned by the United Kingdom in 1933. The assumption was a fixed exchange rate regime would foster post-war trade and correct the defects of the pre-1933 Gold standard. The new agreement took effect in 1944. It aimed (i) to avoid competitive devaluations, (ii) restrictive trade policies (iii) to facilitate countries to a novel gold standard system based on multi-country fixed exchange rate system with three currencies, later expanded to five.

The 44 signatory nations agreed to introduce and maintain a new form of fixed exchange rates among three key currencies then (British Pound, US dollar and French Franc), all of which were fixed against the US dollar. The US dollar itself was convertible at a fixed rate of $35 per ounce of Gold. The signatories, who then became the founding members of the International Monetary Fund (IMF), were to make their national currencies convertible for current account purposes. Thus, BWA was aimed at reducing currency volatility so that international trade could be conducted with lowered currency risk.

Free flotation of major currencies against the U.S. Dollar without a gold backing was initially deemed a temporary reform against speculation in the international capital markets. "But the interim arrangements adopted in March 1973 turned out to be a permanent and [it] marked the end of fixed exchange rates and the beginning of turbulent new period in international monetary relations" (Grilli and Kaminsky, 1991).

1.2 Statement of Research Problem

The above discussion points out a number of issues that are yet to be addressed on exchange rate dynamics since exchange rate plays important role in the context of international economics and finance. In particular, this study aims first to investigate the *worldwide currency regime breakdown* by identifying statistical support on how currencies behaved before, and after the breakdown of BWA. This work has not been

done, which alone could provide a compelling rationale for studying a gap in the literature. Second, using relatively new and advanced methodology, investigate how inflation factor affect currency before and after the breakdown of BWA. The evidence to-date linking inflation to currency changes is still debatable because most studies provide weak evidence on this theorem, if any. Third, this study aims to investigate the effect of relative interest rate differentials on exchange rates using advanced methodology, in line with the tests on inflation effect.

A recent paper by Ho and Ariff (2015) identifies more factors than inflation-cum-interest rates as being relevant to exchange rate changes (others suggest few more non-parity factors). A fourth proposition therefore is to investigate the impact of the so-called *non-parities* on exchange rates. Fifth, theories in financial economics suggest a link between exchange rate and asset prices (Solnik, 1974). Findings reported in studies to-date, mostly using cross sectional tests, have not led to supporting the theory. Using newer methodology namely panel time-series common and mean group estimators (De Hoyos and Sarafidis, 2006; Mark and Sul, 2003; Pesaran and Smith, 1995) and unit-root and cointegration analyses in the presence of cross-sectional dependence (Gengenbach *et al.*, 2006; Maddala and Wu, 1999; Pesaran, 2007; Westerlund, 2007) is expected to reveal robust enough results to link exchange rate to asset pricing theory as well as to address this practical question of exchange rate effect on the huge asset pricing markets across the world (share markets alone are valued at about US$ 29.7 Trillion, in the first half of 2014).

Concerning the two different nominal exchange rate regimes of fixed and floating, there is evidence of substantial systematic differences in the behaviour of real exchange rates under the two systems. The real exchange rates typically show greater short-term variability under the flexible than under the fixed exchange rate system, which is partly due to relatively different adjustments of national price levels as well as international monetary shocks in terms of world inflations, fall of governments, oil crises, recessions, and changes in exchange control, etc.

Following large variations in several exchange rates under the free-floating system, a large number of theoretical and empirical studies resorted to verify how exchange rate is determined (Branson, 1980; Cuddington, 1983; Dornbusch, 1976; Ho and Ariff, 2015; Obstfeld and Stockman, 1985). While the traditional explanation for the exchange rate is based on trade balance terminology in the pre-floating era, from the onset of breakdown of BWA, the exchange rates are mostly determined in a similar fashion with asset market prices also being influenced by exchange rate changes, at least as per theory, though evidence on the latter is still skimpy. More pertinently, the question has to be addressed from monetary economics perspective using the whole economy even for studying the exchange rate effect on stock prices.

Theories on exchange rate determination has to turn to monetary, the currency substitution, and portfolio balance models. The distinction between these modelling approaches is in conjunction with the number of assets and their level of substitutability between domestic and foreign trading nations. Under the monetary approach (Cassel, 1918; Fisher, 1930), the purchasing power parity and interest rate parity theorems play crucial roles in explaining how foreign exchange rates are determined, while the currency substitution models are concerned with the relative exchange rate variations in accordance with the shift in public and private investment portfolio flows across nations. Accordingly, the portfolio balance approach assumes that foreign and domestic bonds

are not perfect substitutes for each other (De Jong, 1991). The focus of this study is more towards the monetary than currency substitution and portfolio balance approach as applied in some studies of exchange rate determination because this approach has been largely neglected especially in studying the non-parities and stock prices.

The literature on the determination of exchange rate is mostly on parity theorems as this approach has had a long history, though with mixed findings from using both time series and/or cross-sectional regressions (panel regression was a recent development). Further, the research literature attempted to show the impact of exchange rate on asset prices since the rise of finance as a separate discipline was firmly established by the 1970s: those studies use mostly similar cross-sectional and sometimes time series regressions. There is, again, no unanimous agreement that there is an exchange rate impact on asset prices because tests of asset pricing theories (see chapter 2 for a listing of theories) for an exchange rate effect have produced such mixed or at best weak results.

Despite numerous studies on exchange rate determinants and the exchange rate effect on asset prices, there is no consensus on which key factors affect exchange rate, nor on how the exchange rate affects asset price. These twin research problems – *exchange rate determination* and *exchange rate impact on asset prices* – deserve to be studied again using newer methodology to see if the theory-suggested factors and their effects are identifiable via newer econometric methods. Another reason for studying these research issues is to see how exchange rates behave under the flexible exchange rate system (as well as under other forms of exchange regimes) in place since 1973 after the breakdown of BWA. Researchers have often suggested an increased volatility of exchange rates under the flexible system, which is a policy-relevant research area on exchange rates (Levich and Amihud, 1994).

Thus, this study aims to find new evidence on (i) time-series behaviour of exchange rates over the sampled period, (ii) what factors affect exchange rates and (iii) whether the exchange rate effect on asset prices are identifiable using more advanced methods to be discussed later in this study. (iv) Development of newer research approaches for resolving erstwhile doubtful results on exchange rate is worthy, in our view, of another research effort.

1.3 Research Objectives

Consistent with the explanations provided in the previous section, a general objective for this study is:

To determine time-series behaviour of exchange rates, identify dynamics of exchange rate and investigate the macroeconomic fundamentals of stock index returns. The sub-objectives of this study are:

1. To identify structural breaks or instabilities in behaviour of nominal exchange rates over the 55-year test period.
2. To determine the association between inflation rates and nominal exchange rates during the Bretton Woods and free-floating exchange rate regimes.
3. To examine the association between interest rates and nominal exchange rates during the Bretton Woods and the floating exchange rate regimes.

4. To investigate the association between recently identified non-parity factors and nominal exchange rates during the Bretton Woods and the floating exchange rate regimes.
5. To identify relative changes in behaviour of stock index returns in response to the exchange rate changes using a strictly monetary-based model.

1.4 Research Questions

In accordance with the research objectives discussed above, the following research questions can be drawn:

1. What are the structural breaks or instabilities in the behaviour of nominal exchange rates over the entire sampled period?
2. Consistent with the theory of Purchasing Power Parity, how and to what extent does the inflation rate correlate with exchange rates before and after the breakdown of BWA?
3. Consistent with the theory of International Fisher Effect, how and to what extent does the interest rate correlate with exchange rates before and after the breakdown of BWA?
4. What is the role of non-parity variables in determination of nominal exchange rates?
5. How and to what extent does the exchange rate impacts stock index returns within a monetary-based approach?

We will operationalize and test these questions using newer methods, which will be discussed in Chapter 3 of this thesis.

1.5 Significant Research Contributions

This study aims to obtain significant contributions in empirical literature concerning the determination of exchange rates and the impact of exchange rates on asset prices. Major contributions of this study can be classified into two broad categories: one, which deals with variable specification, model building and empirical innovations, and the other, which deals with technical and methodological advancements. The aforementioned objectives trigger significant unique contributions falling under one of the two categories. In what follows, we review the contributions concerning the proposed objectives of this study.

1.5.1 Structural Breaks and Exchange Rate Behaviour

In assessing the behaviour of exchange rate over the entire test period, this study applies a test of exchange rate instability and multiple structural breakpoint as developed in Bai and Perron (2003), not yet applied in any exchange rate research to-date. The proposed test allows for multiple unknown breakpoints, a process that is suitable for long time series we use with many likely breaks. The issues concerning the structure and distribution of errors as well as the number of breaks are addressed in their method to provide a general framework that captures different levels of serial correlation in the errors and different distributions of the data. Of advantages arising from this methodology, it can be noted that events that may foster any structural change can be identified accurately. The contribution brought forward by the first sub-objective of this study thus falls within the category of technical and methodological advancements.

1.5.2 Parity and Non-parity Dynamics of Exchange Rate

As noted in the previous sections, this study aims to investigate two major theories on exchange rate determination: Cassel (1918) for PPP and Fisher (1930) for IFE. Despite the fact that these theories have been applied in most studies as well as in practical policy decisions in a variety of contexts, there is still no unanimity of findings on the theory-predicted results. Bahmani-Oskooee *et al.* (2009) call the lack of support for price parity as an unsolved "puzzle". Likewise, Fama (1984) dubbed the lack of evidence for interest rate effect on exchange rate (Uncovered Interest Parity) as a "UIP puzzle". This study proposes a framework to investigate the two parity theorems in solving the puzzles while controlling for a number of already-known non-parity factors identified from the existing literature on exchange rate determination. In other words, we add the recently theorized and tested non-parity factors to the traditional factors of parity conditions. Hence, given the use of new econometric methodologies, the contributions brought forward by the second, third and fourth sub-objectives of this study fall within both categories of empirical modelling innovations and methodological advancements.

1.5.3 Exchange Rate Impact on Stock Prices

Consistent with the sub-objective five, this study investigates the relationship between exchange rate and stock prices. We use the stock indices as proxies for stock prices because monetary modelling requires across-economy variables. Prior exchange rate impact studies have seldom explored stock index returns, which ought to be truly a measure of an economy-wide impact arising from changes in currency exchange rates perpetrating an economy-wide stock index effect. The asset pricing literature reveals that almost all stock pricing studies to-date, which use one or more of the several powerful asset pricing models, have focused on firm-specific factors aimed mostly as valuation of securities at the individual stock level. Unlike the literature, we develop an economy-wide model using strictly monetary and economic variables to restrict the factors specified in the model to aim at theory-relevant broader economy-wide factors. The model building is in line with prediction of Solnik's (1974) International Capital Asset Pricing Model (ICAPM) and also what Chen *et al.* (1986) applied at the macro level in their study.

Research interest on ICAPM's prediction of an exchange rate effect on individual stock prices has declined for some time now following lack of interest in exploring individual stock price reaction to exchange rate changes. The main reason for lack of interest is the knowledge that most studies failed to find a significant exchange rate effect on individual stock price returns. Our motivation to engage in this research from a macro perspective arose from the availability of new and more powerful econometric approaches that are known to overcome some of the major measurement issues in prior studies as well as the interest of the current researchers to measure economy-wide impact by using newer methodology to produce unbiased estimators by building test models strictly within a monetary economics framework: in fact we are in line with the long-ignored classic paper by King (1965). Monetary economics provide powerful variables – inflation, interest rate, exchange rate, and income growth – along with the exchange rate as an economy-wide influence on stock pricing (Solnik, op cit. although his ICAPM was developed for valuing individual assets). We apply new econometric approach to this model in accordance with the test on parity and non-parity factors.

1.6 Significance of Study

Given the fluctuating behaviour of exchange rates, investigation of structural breaks in financial time series can be useful in a number of ways, if verified. One good example is investigating the impact of news and exogenous economic events on the behaviour of exchange rates (Franses, 1998). Likewise, the import, export and trade segments of the market are greatly susceptible to the exchange rate changes in both direct and indirect ways, as far as the operating profit and losses are concerned (Gujarati, 2012).

Based on the theoretical point of view, it can be mentioned that the revival of interest in the theories of exchange rate determination such as in the Purchasing Power Parity (PPP) and the International Fisher Effect (IFE) are in conjunction with a number of factors. Considering the PPP theory, one of the most important factors to be considered is related to the advent of flexible exchange regimes, which triggered substantial fluctuations in the exchange rates, thus affecting policy decisions, corporate planning and engendered speculative activities. Particular misalignments in behaviour of major trading currencies from what is actually believed to be the equilibrium level can be measured with the use of PPP deviations. Assuming that PPP holds, the exchange rate is also a long run equilibrium rate. The PPP also serves as a standard monetary model as an approach advocated by some economists (e.g. (McKinnon and Ohno, 1989)).

The second important point can be attributed to the developments of macroeconomics of the open economy framework. In particular, the PPP theory is considered as a crucial component of balance of payment (BOP) models, which exerts critical influence in the international finance decisions and on investment decision, capital flows and efficiency of markets. In addition, the PPP theory is assumed as a relevant variable in the flexible monetary model of Frenkel (1976), Mussa (1976) and (Bilson, 1978a), while many studies (e.g. (Dornbusch, 1976) have assumed it holds as a long run equilibrium variable. The third factor of interest on PPP is about the cointegration analysis, which has been developing over time, and is useful to provide a statistical representation of relationships, which are of long run in nature.

The concept of International Fisher Effect has also been intensively researched in the context of international finance. Yet the evidence of a significant IFE is mixed or at best moderate. One of the reasons for interest on such an area of work is still related to the floating exchange rate system as in the 1970s coupled with the capital markets' deregulation in the 1980s, resulting in high degree of integration between exchange markets and capital markets across all the countries. The IFE theory can be used as a test for measuring the degree of integration between markets. Second, the linkages between the interest rates of countries can be investigated using the IFE theory. Third, the degree of market efficiency can be addressed based on a notion that forward exchange rate can be used as a benchmark for an unbiased prediction of expected spot exchange rate. The fourth reason is associated with the cointegration analysis as used for testing the international parity conditions, one of which is the IFE condition. The last reason is that IFE can be used as a factor in exchange rate modelling and determination, given the fact that it has been applied as an underlying condition for the sticky price model (Dornbusch, 1976).

At the firm level, exchange rate plays a very critical role in determining the performance of companies especially if the firms carry out large business transactions in other currencies. Any major imbalance or fluctuation in the exchange rate will pose significant

positive or negative impacts on the firms' financial assets and liabilities, which must consolidate in local currency as per accounting and tax laws. Accordingly, the exchange rate risk is the degree of uncertainty relative to changes in foreign currencies or stock prices. If there is an absolute awareness, ahead of time, from the investor's perspective, of the amount that a foreign stock would sell at some specific dates in future or similarly the future exchange rate between the home and foreign currency, there is no foreign exchange risk at all. However, such a situation is impossible, as there are always variations in the purchasing power of a particular currency in relation to its real value, which are unforeseeable.

For this reason, millions of individuals, corporations and financial institutions are involved in investment and trading related activities using foreign exchange in order to take advantage of the discrepancies in the value of exchange rates across different regions and countries. According to the survey of Triennial Central Bank, the amount of daily transactions and trading as of April 2013 reached an average of $5.3 trillion. Thus, it can be noted that exchange rate behaviour plays a significant role in the trading activities, profit and losses of a large population of people throughout the world.

1.7 Organization of Study

The main objective of this study is to evaluate the behaviour of exchange rate and its correlations with a number of parity and non-parity factors in addition to extending the study to include the effect of exchange rate on asset prices. The study covers a period starting from 1960 to 2014, to include the three general exchange rate regimes. This study aims to introduce a newer and advanced methodology to investigate the exchange rate behaviour. Furthermore, a single equation would be applied for the asset pricing determination based on the exchange rate behaviour. To be consistent with the assumption of the models, certain preliminary tests will be carried out as cointegration and structural break test for the identification of the exchange rate behaviour during the whole period of the study. Chapter 2 of this study is a review of parity theories; specifically we use the PPP theory, the IFE theory and the asset pricing theories in order to address the existing gaps in the literature for such theories, with further details than provided in this chapter.

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