PANEL UNIT ROOT AND COINTEGRATION TEST OF PURCHASING POWER PARITY: A STUDY OF SELECTED AFRICAN COUNTRIES

BY

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Dissertation submitted to
Othman Yeop Abdullah Graduate School of Business,
University Utara Malaysia,
In partial fulfillment of the requirements for the Award of Master of Degree in Economics
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The Purpose of this research is to test the validity of the purchasing power parity (PPP) theory in Africa. The theory is tested through the use of panel unit root and cointegration techniques. Based on the annual data covering the period of 1980-2012, panel unit root tests of Levin, Lin and Chu (2002) and Im, Pesaran and Shin (2003) are conducted on the real exchange rate of the studied countries. The results based on the unit root tests failed to validate the theory in its strong form. However, based on the Pedroni (1995, 1996) cointegration test of price indices and exchange rates, the results appeared remarkable in favor of long term applicability of PPP as a cointegration concept. Further test on the long run relationship revealed that domestic prices played a vital role in determining the equilibrium exchange rates (hence PPP) as far as this data is concern. As concerns major policy, based on this study, these countries could use the PPP theory to determine the equilibrium exchange rates. Even though, the strong form of PPP theory could not be attested given the unit root approach employed, the empirical results emphasized that there is weak evidence about the long run PPP hypothesis in these countries.

Keywords: PPP, Real exchange Rate, Nominal exchange rate, Domestic Consumer Price Index (CPI), foreign Consumer Price Index (CPI*), Panel Unit Root and Panel Cointegration.
TUJUAN KAJIAN


ACKNOWLEDGEMENT

All praise and thanks are due to Allah, the One who, by His blessings and favor, perfected good works are accomplished. I would like to express my sincere gratitude to my humble supervisor, Prof Madya, Dr Hussin Abdullah for his endless guidance and suggestions throughout the thesis processes. I owe great many thanks to my great reviewers and teachers/lecturers who have immensely gave me a lot of knowledge and experiences that I am able to finish my program successfully today. I would always remember you and be thankful to you all.

Special gratitude and thanks go to my entire family especially my father, Yahaya Sa’ad and my mother, Maimunah Yusuf. Your patients, prayers, help, encouragement and financial supports did not go in vein. A special prayer and thanks remain to my lovely wife and daughter in persons of Amina Usman Yusuf and Aminah Auwal Yahaya for your patients, endurance, love and understanding throughout my stay in UUM. May Allah forgive and grant us Paradise.

This dissertation would not have been successful without the work of so many people in so many ways. My deep sense of gratitude to; Muktaar Baba, Aminu Hassan Jakada, Ishaq Auwal Moh’d, Ali Ibrahim Sani, Idris Idris Musa, Ahmad Taye Binali, Umar Moh’d Kumo, Mohammad Adamu, Abdul-Rahman Pantamee, Shum li Li and to my Tutor and friend Muhammad Zakir Abdullah.

Lastly, I would like to thank my institution-sponsor, Bauchi State University (Basug) for giving me this chance. Very special thanks go to my VC and the entire governing and administrative bodies of Bauchi State University, Gadau. I also extend my heartfelt thanks to all well-wishers.

Remember you all

(814680)
TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION ................................................................................. 1
  1.1 Introduction ............................................................................................ 1
  1.2 Statement of research problem ............................................................... 3
  1.3 Objectives of the Study ......................................................................... 6
    1.3.1 General Objective ........................................................................... 6
    1.3.2 Specific Objectives ......................................................................... 7
  1.4 Significance of the Study ....................................................................... 7
  1.5 Scope of the Study ................................................................................ 8
  1.6 Organization of the Study ..................................................................... 8

CHAPTER 2: LITERATURE REVIEW .................................................................. 9
  2.1 Introduction ............................................................................................ 9
  2.2 Theoretical Framework ......................................................................... 9
    2.2.1 Purchasing power parity ................................................................. 9
    2.2.2 The Absolute Purchasing power parity ......................................... 9
    2.2.3 Relative purchasing power parity ................................................. 11
  2.3 Empirical framework ........................................................................... 14
    2.3.1 Early Studies based on Short-horizon data .................................... 14
    2.3.2 Empirical Studies based on Long-horizon data ............................ 15
    2.3.3 Studies based on Panel Approach ................................................. 23

CHAPTER 3: METHODOLOGY AND DATA ...................................................... 31
  3.1 Introduction ............................................................................................ 31
  3.2 Model specification .............................................................................. 31
  3.3 Estimation of the Procedures ................................................................ 34
    3.3.1 Levin-Lin and Chu (2002) Test ....................................................... 34
    3.3.2 Im, Pesaran and Shin (IPS, 2003) Test ......................................... 37
  3.4 Panel Co-integration ............................................................................ 39
  3.5 Fully Modified OLS (FMOLS) Panel Estimates ..................................... 43
  3.6 Data description and it sources ............................................................ 45

CHAPTER 4: EMPIRICAL ANALYSIS AND FINDINGS .................................. 46
  4.1 Introduction ............................................................................................ 46
  4.2 Panel Unit Root Test Results ................................................................. 46
  4.3 Panel Co-integration Test Results ......................................................... 51
  4.4 Fully Modified Ordinary Least Square (FMOLS) ................................. 53

CHAPTER 5: CONCLUSIONS AND POLICY IMPLICATIONS ....................... 55
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Introduction</td>
<td>55</td>
</tr>
<tr>
<td>5.2 Discussions of Major Findings</td>
<td>55</td>
</tr>
<tr>
<td>5.3 Conclusions</td>
<td>57</td>
</tr>
<tr>
<td>5.4 Policy Implications</td>
<td>59</td>
</tr>
<tr>
<td>5.5 Limitations of the Study</td>
<td>60</td>
</tr>
<tr>
<td>5.6 Suggestion for Future Studies</td>
<td>61</td>
</tr>
<tr>
<td>REFERENCE</td>
<td>62</td>
</tr>
<tr>
<td>APPENDEX</td>
<td>68</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 4.1: Panel Unit-Root Test Results without Linear Trend……………………47
Table 4.2: Panel Unit-Root Test Results with Linear Trend…………………………48
Table 4.3: Im, Pesaran and Shin Unit Root Test Results at country level…………50
Table 4.4: Pedroni Residual Co-integration Test Results…………………………..52
Table 4.5: Fully Modified OLS Estimates…………………………………………54
**LIST OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>Augmented Dickey-Fuller</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CPI*</td>
<td>Foreign Consumer Price Index</td>
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<td>EU</td>
<td>European Union</td>
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<tr>
<td>FMOLS</td>
<td>Fully Modified Ordinary Least Square</td>
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<tr>
<td>IPS</td>
<td>Im, Pesaran and Shin (2003)</td>
</tr>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>KPSS</td>
<td>Kwiatkowski, Phillips, Schmidt &amp; Shin test (1992)</td>
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<td>LDCs</td>
<td>Less developed Countries</td>
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<tr>
<td>LLC</td>
<td>Levin, Lin and Chu (2002)</td>
</tr>
<tr>
<td>LM</td>
<td>Lagrange Multiplier</td>
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<tr>
<td>LOP</td>
<td>Law of One Price</td>
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<tr>
<td>MENA</td>
<td>Middle East and North African Countries</td>
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<tr>
<td>NER</td>
<td>Nominal Exchange Rate</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>PPP</td>
<td>Purchasing Power Parity</td>
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<td>PPI</td>
<td>Producer Price Index</td>
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<tr>
<td>RER</td>
<td>Real Exchange Rate</td>
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<td>SPM</td>
<td>Sequential Panel-Selection</td>
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<tr>
<td>SURKSS</td>
<td>Seemingly Unrelated Regressions Kapetanios-Shin-Snell(2009)</td>
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<tr>
<td>WPI</td>
<td>Whole Sales Price Index</td>
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</tbody>
</table>
CHAPTER 1

INTRODUCTION

1.1 Introduction

The theory of purchasing power parity as one of the oldest topics in international economics plays a central role in macroeconomic models in an open economy. It constitutes one of the oldest and the most practical relationships in the theory of exchange rates (the relationship between relative prices and exchange rate). Earlier versions of the theory can be traced back to the works of scholars dating to 15th up until 16th centuries. Though, the intellectual presentation of the theory began as far back as early 1800s, with the writings of Wheatly and Ricardo.

The series of debates on the collapse of world financial system and the necessary ways to restore it marked the modern origin of the theory of purchasing power parity (PPP). Before 1st World War, exchange rates between two countries were simply represented by their relative gold values. However, maintaining the relative gold standard after the end of the war was faced with lot of problems. Countries were highly concern about the possibilities of currency devaluation that could be easily adopted all in an effort to gain seignorage revenues. This let to abandoning of the gold standard (Rogoff 1996).

In a series of influential articles, Cassel (1921, 1922) advocated that PPP should be used to set gold parities. Even though, the theory of PPP had been given earlier discussion by the so-called classical economist, Cassel was really the first to digest and present it as a practical empirical theory.
The contents of the thesis is for internal user only
REFERENCE


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