

CHAPTER 1

INTRODUCTION

1.1 Statement of the Problem

Purchasing Power Parity (PPP) is a theory of exchange rate introduced by Gustav Cassel in the period after World War I to restore the world financial system after large-scale periods of inflation during and after the war. There are two versions of PPP. One is absolute PPP and the other is relative PPP.

The absolute version of PPP states that the nominal exchange rate, defined as units of the domestic currency per unit of the foreign currency, should be equal to the price ratio of domestic to foreign country. This version of PPP is based on the basic idea of the Law of One Price (LOP) that the same good should have the same price between two countries when measured in a common currency, under given conditions.

The relative version requires that changes in the nominal exchange rate should be equal to the inflation differential between the home and foreign countries. In other words, the rate of growth in the exchange rate offsets the differential between the rate of growth in home and foreign price indices.

Some literature also mention weak and strong PPP¹. Weak PPP implies that price ratios and nominal exchange rates move together over long periods; therefore, they are cointegrated. Moreover, if the cointegrating coefficient is unity, it reflects strong PPP. Weak PPP can be explained by transportation costs, measurement errors and differences in price indices that make cointegrating coefficient differ from unity. Nominal exchange rates and aggregate price ratios may move together over long periods, but the movements may not be directly proportional due to these factors (Pedroni, 2004).

¹See Pedroni, 2004; Jenkins and Snaith, 2005 and Drine and Rault, 2007 for more details.

PPP is utilized in broad applications. According to Rogoff (1996), Allsopp and Zurbruegg (2005) and Drine and Rault (2007), various versions of PPP are used to choose the appropriate initial rate for a newly independent country, to forecast medium and long term real exchange rates and to adjust for price differentials in international comparisons of income. In addition, deviations of the nominal exchange rate from the PPP level have proved to be good indicators of a forthcoming crisis.² Moreover, it has been shown that the deviations of the nominal exchange rate from PPP are larger in developing countries than for developed countries (Tang and Butiong, 1994). This has been attributed to differences in government intervention and trade restrictions. It therefore follows that PPP can also aid in measuring the degree of economic development in different markets.

In spite of its usefulness, the validity of long run PPP remains a controversy. Unlike short run PPP, which is so widely accepted that it does not hold, the existence of long run PPP is not yet firmly established.

Numerous studies, using different periods of time, different currencies, different specifications with various econometric techniques, were conducted to test for long run PPP across a large number of countries. Unfortunately, among these considerable studies, the results were mixed. While numerous amounts of literature³ credibly supported the existence of PPP, plenty of them⁴ found very little or no evidence for PPP.

Even in the case of Thailand and other Asian countries, the empirical studies of PPP are also vague. Wrasai's (1996) results were mixed. Adithipyangkul

²Allsopp and Zurbruegg (2005) have referred to the studies of Kaminsky and Reinhart (1998) and Perry and Lederman (1998).

³Coakley and Fuertes, 1997; Papell and Theodoridis, 1998; Azali, Habibullah and Bararumshah, 2001; Chiu, 2002; Diamandis, 2003; Esaka, 2003; Kargbo, 2003; Wu, Tsai and Chen, 2004; Yan, Bernard and Warren, 2006 and Lopez and Papell, 2007.

⁴Frenkel, 1981; Engel, Hendrickson and Rogers, 1997; Baharumshah and Ariff, 1997; Engel, 2000; Herwartz and Reimers, 2002 and Cerrato and Sarantis, 2007.

(2000) did not find any assertion supporting PPP in Thailand. Other studies⁵ based on Asian countries yielded different results with different degrees of confidence and different explanations.

The power of test is frequently claimed when PPP cannot be asserted. It has been argued that the traditional tests have low power in such a case that the existence of PPP might not be detected even though it is indeed valid. Nonetheless, econometric techniques are persistently developed. Moving from traditional time series analysis to panel analysis, various advanced methods relaxing former strict assumptions allow the test to be more realistic and powerful. Consequently, it is expected that these advanced methods should have greater capability to capture PPP.

Additionally, the crucial assumptions underlying the LOP, and also the PPP, which are frequently accused as sources of deviation from PPP, are transportation costs, official trade barriers and noncompetitive market structures. From this point of view, the lower the trade barriers, the higher the possibility that PPP will hold, given that other things remain unchanged. Nowadays, the barriers are believed to be reduced from trade liberalization. International bilateral and multilateral co-operations are common. The number of free trade agreements (FTAs) has been increasing rapidly in recent years. From less than 50 agreements in 1995, the number of agreements jumped to almost 200 by 2006. Among these trade agreements, bilateral agreements gain higher expansion than multilateral agreements. This is simply because negotiations between two like-minded countries are much more simple and can go further than those of several diverse- and complex-minded countries. In the case of Thailand, it can be seen that Thailand is very enthusiastic in signing FTAs compared to other Southeast Asian (SEA) neighbors. If Thailand can benefit from FTAs, it is sensible to expect that PPP should hold among Thailand and FTA partners.

As econometric tools for verifying PPP are more powerful and the global trend of trade liberalization strengthens the no trade barrier assumption of PPP, it is reasonable that PPP is more likely to be confirmed. Therefore, this study intends to

⁵Tang and Butiong, 1994; Weliwita, 1998; Doganlar, 1999; Basher and Mohsin, 2002; Allsopp and Zurbruegg, 2003; Nusair, 2003; Paul, 2004; Allsopp, Rammal and Zurbruegg, 2005 and Drine and Rault, 2007.

find if there is any evidence supporting PPP between Thailand and its trade partners. Two interesting groups of trade partners consist of 6 bilateral FTA negotiation countries and 4 Southeast Asian neighbors which have all been members of ASEAN Free Trade Area (AFTA) since 1992. The group of FTA partners is a representative of partners under bilateral trade agreement, while the group of Southeast Asian countries is a representative of partners under multilateral trade agreement.

1.2 Objective of the Study

The main objective of this study is to investigate whether any form of PPP, including relative PPP, weak PPP and strong PPP, holds among Thailand and two groups of trade partners: FTA negotiation countries and SEA countries, in the long run.

1.3 Scope of the Study

This study intends to examine the validity of PPP based mainly on Thailand and two groups of trade partners, bilateral FTA partners and trade partners in SEA area.

For the case of FTA partners, the Department of Trade Negotiations has reported that Thailand's FTA negotiation countries, or FTA partners, are Australia, New Zealand, India, China, Japan, United States of America, Peru, Bahrain, BIMSTEC⁶ and EFTA⁷. However, this study will focus only on Australia, New

⁶BIMSTEC stands for Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation. BIMSTEC was first established in 1997 with 4 countries, Bangladesh, India, Sri Lanka and Thailand and now consists of 7 countries including Bhutan, Myanmar and Nepal. The objectives of BIMSTEC are to enhancement of mutual benefits in economic, social and technological aspects, to create economic and social prosperity based on equality.

⁷EFTA consists of 4 members, Iceland, Liechtenstein, Norway and Switzerland. The EFTA Convention established a free trade area among its Member States in 1960. In addition, the EFTA States have jointly concluded free trade agreements with a number of countries worldwide.

Zealand, India, China, Japan and United States. BIMSTEC and EFTA are excluded as this study focuses mainly on countries that have bilateral agreements with Thailand while Bahrain is omitted since the agreement has been postponed indefinitely due to restrictions imposed by Gulf Cooperation Council (GCC)⁸. Peru is also excluded from this study due to its relatively small value of trade compared to other countries included in this study⁹.

For the group of SEA countries, only four countries, Indonesia, Malaysia, Philippines and Singapore, are selected based on the fact that they have the highest trade values compared to other countries in SEA.

The real exchange rate can be calculated based on various aspects, for example, based on import or export price index, wholesale or producer price index (WPI or PPI) and consumer price index (CPI) as well. In this study, however, by availability of data, the real exchange rate will simply be calculated from the CPI index. Using the CPI index in examining PPP is also common in previous literature.

Nevertheless, as raised by Rogoff (1996), it should be noted that each country may have different basket weights in calculating CPI and this may affect the precision of our test. In addition, as traded goods prices constitute a larger weight in the CPI index, deviations from PPP will decline (Melvin and Bernstein, 1984). This study, however, will rely on CPI provided by the IMF as it is the best available choice and its construction is similarly sufficient for empirical.

⁸Gulf Cooperation Council (GCC) consists of 6 Arab countries: Kuwait, Qatar, Oman, Saudi Arabia, Bahrain and Arab Emirates. The economic agreement between the Gulf Cooperation Council States restricts its member from negotiating for any bilateral FTA. Therefore, Bahrain has proposed to negotiate for multilateral FTA between Thai and GCC, but there is no significant progress until now.

More details on this issue are available at these websites:

<http://www.gcc-sg.org/eng/> (available on 22 May 2008),

<http://www.thaifta.com/ThaiFTA/Home/NegoLastestStatus/tabid/117/Default.aspx> (available on 22 May 2008).

⁹According to the figures reported in UN Commodity Trade Statistics Database (COMTRADE), total trade between Thailand and Japan, United States, China, Australia, India, New Zealand, and Peru and in 2005 are 41079, 25748, 20292, 6406, 2790, 771 and 89 millions dollars, respectively.

More details can be queried from <http://comtrade.un.org/db/> (available on 15 August 2007).

1.4 Organization of This Study

This study will be organized into five chapters. The first chapter consists of statement of the problem, along with the objective and scope of the study. The second chapter reviews empirical studies on testing for PPP. The advantages and shortcomings of econometric tools are also discussed in that chapter. The theoretical framework and methodology are described in Chapter Three. Chapter Four reports the empirical results of investigating PPP. Related discussions are also included in that chapter. The last chapter presents major findings of this study, as well as limitations and some suggestions for further study.