

Transaction Costs and Suitability of Trading Currency – Case on Selected East Asian Economies

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Abstract—Until recently, there are literatures that studied exporters in different countries are assumed to have increased their interest in setting prices in their own currency. However, they are concern about the business practice of “pricing to market” at the same time. In this paper, few Asian countries have been selected to compare costs trading in US dollar and Home Currencies (HC) unit. The countries include Japan, Malaysia, India, Singapore and Thailand as exporting countries. China’s recent rapid growth made it a desirable trading destination, thus, it is chosen as partner country in this analysis. More developed countries like Japan and Singapore might also choose either to trade in USD or own local currencies as the differences are not so obvious compared to India. On the other hand, Malaysia and Thailand could consider trading using home currencies as it might bring more benefit than trading in USD. This study does not mean to ignore the effects of fluctuations of exchange rates. This study uses simple ratio and index to help in demonstrating the suitability of trading currency for a country. The findings can be used as a guideline for policy makers in proposing to trade using home currencies or foreign currency in order to create a win-win trading environment.

Index Terms—Currency cost, trading costs and benefits, competitive currency vs cooperative currency

I. INTRODUCTION

In more recent literature, exporters in different countries are assumed to have increased their interest in setting prices in their own currency. However, they are concern about the business practice of “pricing to market” at the same time. In general terms, “pricing to market” refers that exporters could price to market regardless of whether they invoice in their own currency (“producer currency pricing”) or in the currency of the local market where the end products are sold (“local currency pricing”) [1].

Until today, dollar still remains as the major internationally-used currency even since the Second World War living the euro, Japanese yen, pound sterling, and Swiss franc far behind in a number of dimensions. The US dollar is commonly used in foreign exchange market transactions, and for invoicing a range of commodities especially oil. However, lately in October 2000, the Iraqi government demanded the settlement of its petroleum exports in euro under the UN Oil-for-Food [2], while in April 2008, Iran stopped conducting oil transactions in US dollar [3]. There is also a case of crude oil exports to the United States being priced in Canadian dollars but settled in US dollars, so that

the producers bear the exchange rate risk. Finally, Chinese oil companies such as CNOOC Ltd. and Petrochina Company Ltd. price their locally produced crude oil in US dollars on the basis of international benchmark grades but settle domestic contracts (the majority of their crude oil sales) entirely in renminbi [4].

II. LITERATURE REVIEW

Most of the theoretical literature on trade invoicing discusses money as a medium of exchange and demonstrates the role of vehicle currencies in the trading of goods or the exchange of currencies. If residents of a country may only hold non-interest bearing foreign currency assets, and their revenues or expenditures are at least partly denominated in a foreign currency, it is, transaction costs (i.e. brokers’ fees, bookkeeping, and psychological inconvenience) make it profitable for them to hold foreign currency cash balances [5]. Other research mentions that “thick market” externality (e.g. economies of scale in foreign exchange markets) and trade parameters (i.e. degree of openness, the level of integration between the countries or transportation technologies) have an impact on the choice of vehicle currency.

Furthermore, industry characteristics are proved to have important role where homogeneous goods and traded is specialized markets likely to be invoiced in a single low transaction cost currency [6]. The fragmentation theory claims that fragmentation of production processes takes place when (i) production cost per se in fragmented production blocks can be substantially reduced and (ii) service link cost for connecting remotely located production blocks is not prohibitively high. If the reduction in production cost by fragmentation overweighs the service link cost incurred thereby, the firm breaks apart some of its production blocks to other remote locations, so as to attain a total cost reduction [7].

The first empirical study on currency invoicing was regarding Swedish exports mostly invoiced in Swedish kronas and Swedish imports are mostly invoiced in the exporter’s currency, at the meanwhile US dollar was not often used as invoicing currency [8]. Those findings were generalized and called Grassman’s law in which producer currency pricing (PCP) is dominant for manufacturing trade between industrialized countries. US dollar is used in primary goods’ trade while industrialized country’s currency is used to invoice in trade between developing and industrialized countries. The Grassman’s law describes that a firm with more market and bargaining power would choose its own currency to avoid exchange rate risk.

There are a large number of theoretical and empirical studies that analyze the relationship between exchange rate volatility and international trade, eg. [9], [10]. Further studies on Asian currency union and optimal currency areas are summarized in Figure 1. There are other papers with different approaches like error-correction model and panel data techniques; different sample period and countries which found a negative relationship between exports and exchange rate volatility in East Asia [11]-[14]. Exchange rate volatility is proved to reduce electronic parts and components exports within East Asia region

Exchanges rates are one of the major factors that generate uncertainty in the competitiveness of business partners as well as service link costs. A production plants located in countries with high volatility in exchange rates are less likely to be incorporated into production networks. There are reports from Japanese companies claiming that exchange rate stability is important for back-and-forth transactions of intermediate goods in international production networks [15]

The act of choosing competitor's currency is known as "herding effect" [16]. This effect happens for industries with homogeneous goods where producers want to keep their prices stable relative to the competitors. There are also some other empirical studies on the invoicing choice. It includes cross-country invoicing choice analysis [1], [17]; invoicing currency choice in Canadian using imports data at a customs level spanning from February 2002 to February 2009 [18] and empirical tests of determinants of currency invoicing using questionnaire survey analysis with Swedish exporting firm [19]. Other studies include analysis on Canadian import invoicing [20], Japanese Yen more often used in industries with differentiated products like the automobile industry [21] and research on invoicing practice in Swedish exports and Dutch Trade respectively [22].

Another recent research by [23] using interview analysis with 23 Japanese representative firms in the automobile, electrical machinery, general machinery and electrical component industries to obtain information on their currency invoicing practices and their exchange rate risk management. They found that: (1) importer's currency invoicing is more common in Japanese exports to developed countries. It is because most of their exports are destined for local subsidiaries. If sales and/or production subsidiaries is having strong competition in the local markets, Japanese parent firms would have a stronger tendency to take an exchange rate risk in intra-firm trade by invoicing in the local (importer's) currency, which known as pricing-to-market (PTM) behavior; (2) Japanese firms that export highly differentiated products or have a dominant share in global markets tend to invoice in Yen even in exports to developed countries; and (3) even Japanese firms' production based in Asian countries, exports from these production subsidiaries tend to be invoiced in US dollars as long as the final destination market is the United States. Both Japanese and Asian firms have to take exchange rate risks against the US dollar as long as the share of dollar invoicing is prevalent in Asia.

III. RESEARCH METHODOLOGY AND ANALYSIS

In this paper, few Asian countries have been selected to compare costs trading in US dollar and Home Currencies (HC) unit as shown in Table 1.0. The countries include Japan, Malaysia, India, Singapore and Thailand as exporting countries. China's recent rapid growth made it a desirable trading destination, thus, it is chosen as partner country in this analysis. Exports and imports value in USD are available at UN COMTRADE website while value in each countries' home currencies are obtained from countries' statistical yearbook. Since data in year 2010 is not available for some countries, thus data covers only from 2006 to 2009 to demonstrate the most recent trends of trading using different currencies. Most similar studies used more complex way especially one-way random-effects GLS panel and gravity model to analyze the currency invoicing and transaction costs. In this study, ratio of trading (exports/imports) has been compared in both USD and home currencies which are known as foreign ratio and domestic ration respectively. Ratio in year 2006 is set as basic year to calculate the costs. Finally, mean of ratio from year 2006 to 2009 are calculated in final column of table 1.0. Higher index indicates higher benefit to trade using that particular currency. The finalized data demonstrate that Japan, India and Singapore should probably remain to trade in USD as it rates higher benefit than local currencies. Though, from the analyzed data, more developed countries like Japan and Singapore might also choose either to trade in USD or own local currencies as the differences are not so obvious compared to India. On the other hand, Malaysia and Thailand could consider trading using home currencies as it might bring more benefit than trading in USD. However, this analysis could not conclude that it is a must to trade using currencies that could bring more benefit. Countries should always consider using currencies that create lowest costs especially in exchange rates fluctuation.

IV. CONCLUSION

In this paper, few Asian countries have been selected to compare trading costs in US dollar and home currencies unit. From the analyzed data, more developed countries like Japan and Singapore might also choose either to trade in USD or own local currencies as the differences are not so obvious compared to India. On the other hand, Malaysia and Thailand could consider trading using home currencies as it might bring a slight more benefit than trading in USD. Some previous literatures also mentioned that Asian countries would tend to trade in USD as long as the final destination of their exports goes to the US market. This study uses simple method to demonstrate which currency is more suitable for partners' trading countries. It might be used as a reference for policy makers in proposing to trade using home currencies in order to create win-win trading environment for both countries.

	China	Hong Kong	Taiwan	Japan	South Korea	Singapore	Malaysia	Indonesia	Thailand	Philippines	Other ASEAN countries	Australia and NZ	India
Bayoumi et al. (2000)													
Loayza et al. (2001)													
Yuen (2001)													
Baek and Song (2002)													
Chow and Kim (2003)													
Lee et al. (2003)													
Kawai and Motonishi (2004)													
Kwack (2004)													
Zhang et al. (2004)													
Girardin (2005)													
Sánchez (2005)													
Tang (2006)													
Huang and Guo (2006)													
Ogawa and Kawasaki (2008)													

Fig. 1. Identified optimal currency areas. Shaded boxes indicate that countries are included in optimal currency areas identified in each paper. If several optimal currency areas are identified in a paper, the boxes corresponding to each area are surrounded by thick lines. The boxes marked with diagonal lines indicate that those countries are not covered by the respective studies.

Source: [24]

TABLE I: COMPARISON OF TRADING INDEX (USD VS. HOME CURRENCIES)

Year	Reporters	Partner	Commodity	Exports Value to China (USD)	Exports Value to China (HC in million)	Imports Value from China (USD)	Imports Value from China (HC in million)	Foreign Ratio (EX/IM) - in USD	Domestic Ratio (EX/IM) - in HC	RATIO (with value in year 2006 as base)		
										Foreign Ratio	Domestic Ratio	
2006	Japan	China	TOTAL (HS1996)	92,769,551,020	¥10,794,000	118,525,736,273	¥13,784,000	0.7827	0.7831	1	1	
2006	Malaysia			11,638,253,320	RM42,620	15,883,589,077	RM58,260	0.7327	0.7316	1	1	
2006	India			7,829,167,581	₹299,249	15,639,063,508	₹481,167	0.5006	0.6219	1	1	
2006	Singapore			26,491,279,266	\$42,061	27,211,159,599	\$43,194	0.9735	0.9738	1	1	
2006	Thailand			11,774,180,471	฿445,978	13,617,176,189	฿521,524	0.8647	0.8551	1	1	
2007	Japan	China	TOTAL (HS1996)	109,270,655,883	¥12,839,000	127,922,365,758	¥15,035,000	0.8542	0.8539	1.091351	1.090487	
2007	Malaysia			15,443,850,730	RM53,037	18,841,697,859	RM64,713	0.8197	0.8196	1.118656	1.120324	
2007	India			9,491,978,178	₹375,148	24,575,771,746	₹787,295	0.3862	0.4765	0.771516	0.766175	
2007	Singapore			28,924,628,974	\$43,549	31,908,128,120	\$48,013	0.9065	0.9070	0.931131	0.931456	
2007	Thailand			14,872,545,725	฿511,109	16,979,861,795	฿564,566	0.8759	0.9053	1.012996	1.058668	
2008	Japan	China	TOTAL (HS1996)	124,900,515,034	¥12,950,000	143,229,984,360	¥14,830,000	0.8720	0.8732	1.114134	1.11512	
2008	Malaysia			19,012,611,886	RM63,435	20,046,601,790	RM66,854	0.9484	0.9489	1.29438	1.297052	
2008	India			10,093,926,793	₹435,974	31,586,024,206	₹109,1161	0.3196	0.3996	0.638352	0.642443	
2008	Singapore			31,080,835,725	\$43,817	33,754,833,144	\$47,595	0.9208	0.9206	0.945803	0.945435	
2008	Thailand			15,997,870,399	฿532,319	20,045,768,978	฿670,343	0.7981	0.7941	0.922988	0.928615	
2009	Japan	China	TOTAL (HS1996)	109,727,427,882	¥10,236,000	122,574,080,731	¥11,436,000	0.8952	0.8951	1.143731	1.143007	
2009	Malaysia			19,103,882,149	RM67,358	17,245,921,353	RM61,026	1.1077	1.1038	1.511806	1.508796	
2009	India			10,370,052,494	₹426,613	30,613,370,690	₹1,476,056	0.3387	0.2890	0.676651	0.464723	
2009	Singapore			26,302,522,753	\$38,125	25,927,368,791	\$37,585	1.0145	1.0144	1.042037	1.04169	
2009	Thailand			16,123,831,401	฿548,760	17,028,921,054	฿586,143	0.9468	0.9362	1.095059	1.094812	
AVERAGE (MEAN)										Japan	1.08730	1.08715
AVERAGE (MEAN)										Malaysia	1.23121	1.23154
AVERAGE (MEAN)										India	0.77163	0.71834
AVERAGE (MEAN)										Singapore	0.97974	0.97965
AVERAGE (MEAN)										Thailand	1.00776	1.02052

Source: Author's Compilation (value in USD available at UN COMTRADE; value in home currencies available at countries' statistical yearbook
Notes: HC=Home Currencies

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