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Does Regional Currency Matter for Regional Trade Integration?

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By HE QING and ZHANG CE*

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Abstract

This paper examines the choice of the most frequently used regional currency and discovers a U-shaped relationship between the degree of currency integration and the level of regional trade integration. When the proportion of the most frequently used regional currency is low, its use impedes regional trade. However, upon exceeding a threshold, the prevalence of a dominant regional currency promotes regional trade. This U-shaped relationship can be explained by both transaction cost and political factors. Finally, we provide policy application for “The Belt and Road Initiative” and point out that policy coordination is important to improve RMB internationalization.

Keywords: currency; trade integration; international monetary cooperation

JEL Classification: F33; F36; G15

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1 Introduction

Regional globalization and regional trade agreements quickly become the new trend in the world. As the development of regional trade integration, many scholars are seeking determinants of international regional trade integration. According to Feenstra (1998), trade liberalization and similar economies account for regional trade integration. Baier and Bergstrand (2004) build a model and discover that difference in capital-labor endowment ratios increases the probability of a free trade agreement (FTA). Besides, Martin et al. (2008) emphasize the relationship between military conflicts and regional trade. But until now, no one has analyzed what currency contributes to regional trade from the perspective of regional trade rather than trade between two countries. However, whether it is regional trade or global trade, there will be a big problem in choosing invoicing currency and settlement currency. Transaction cost of currency is considered as the chief factor (Krugman, 1980; Rey, 2001). So currency is still a major issue in regional trade.

As technology diffuses rapidly, lower transportation costs and instant communication reduce economic barriers among different countries. Distance is no longer the most important determinant in international trade, and globalization has become the prominent feature of the world economy now. But today is not the only golden age of international regional trade integration. Also with the strengthening of world multi-polarization, conflicts in traditional multilateral trade systems, which directly accelerate the development of international regional trade integration, have become apparent and sharp. As of 8 January 2015, 604 notifications of regional trade agreements (RTAs) have been received by the General Agreement on Tariffs and Trade/ World Trade Organization (GATT/WTO). A growing number of RTAs reflects closer trade relationship in the world and greater regional trade integration.

Existing literature on currency and trade integration typically employs the gravity model to explain the impact of currency unions on bilateral trade (Rose, 2000). However, a limitation of this approach is that the currency union dummy is a very restrictive measure of regional currency integration. Even if the region does not use a common currency, a particular local currency may be more important in regional transactions than other international currencies. This weak form of regional currency integration can also promote regional trade by lowering regional transaction costs. Moreover, conventional studies on the effects of currency unions on bilateral trade are silent on the

costs and benefits of currency integration during the transitional process. For example, the Chinese government is promoting RMB as an invoicing currency for trade in the "The Belt and Road Initiative" region in order to encourage economic integration with its trading partners in this region. However, whether the use of RMB can promote regional trade is uncertain. For these reasons, we adopt a different approach to explain the relationship between the degree of regional currency integration and regional trade integration. Our empirical results suggest that regional trade integration initially declines with currency integration due to a higher transaction cost and political factors associated with the expansion of the use of a specific local currency. Once a local currency dominates the invoicing choice in the region, the transaction cost will be reduced. In addition, some countries as coordinators will avoid deploying beggar-thy-neighbour monetary policy, all of which promotes trade in the region. An important application for our theory is "The Belt and Road". We give the simulation results for the RMB proportion for "The Belt and Road" countries and there is high potential for RMB to be the regional currency. Capital account liberalization and policy coordination is important for RMB internationalization and contribute a lot to the regional trade.

The remainder of this paper proceeds as follows: Section 2 reviews the literature and develops our hypothesis. Section 3 introduces the variables and describes the summary statistics, Section 4 shows our empirical model and results and states our explanation, Section 5 develops a policy application for the "The Belt and Road Initiative" and analyses the reason why there is a difference between reality and simulation. Section 6 concludes the paper.

2 Literature Review and Hypothesis Development

Since the 1990s, with the strengthening of world multi-polarization and increasingly obvious contradictions under traditional multilateral trade systems, regional trade integration has quickly become a trend in the world. The elimination of trade barriers and booming number of regional trade agreements would entail a huge shift in global trade patterns. In addition to the literature we mentioned above, the World Bank (2009) analyses the reasons for the boom of regional trade agreements and finds that the reduction of artificial spatial barriers usually occurs between close trading partners, both in the sense of geographical proximity and large bilateral trading volume. As a direct result, it is easier to have lower tariffs and higher quotas. This will in turn make closer trading partners become even closer and facilitate the gain of trade preferences in the future. Regional trade

agreements only provide a more convenient trade environment to those who already have large bilateral trade volume. Feenstra (1998) uses the level of merchandise trade relative to GDP to describe the level of global integration and finds it reached a peak in 1913 and rose again in the late 1960s. He also points out that similarity is the key factor in trade integration. However, these studies ignore the role of transaction currency.

Despite the difficulty in measuring the effect of currency in regional trade, the view that currency or international monetary cooperation has a substantial positive impact on trade has been demonstrated in previous empirical studies. Helliwell (1996) finds that trade between two Canadian provinces is more than twenty times larger than trade between a comparable Canadian province/American state pair mainly because trade occurs inside Canada using a single currency, while two currencies are necessary for economic transactions between Canada and America. Rose (2000) finds that trade between two countries using the same currency is triple of that using different currencies. An important reason is that currency integration lowers transaction costs. High transaction cost impedes trade, while low transaction cost promotes trade (Krugman, 1980).

In previous studies, scholars usually focus on single currency and currency union to explain the relationship between currency and bilateral trade. However, both single currency and currency union are conditions which are too hard to meet. Much of monetary cooperation, which does not relate to single currency or establishing a currency union, also contributes to a boost to trade. Single currency in a region means some countries have to give up their monetary sovereignty. Lacking an independent monetary policy makes it more difficult to balance payments and causes the economy to become more dependent on the currency issuing country. Establishing a currency union, like the Eurozone, might also lead to problems, such as coordination failures in fiscal discipline. An optimum currency area sets strict requirements on regional trade, economic development, inflation and financial systems. In this paper, we discuss regional monetary integration in a more general way and use the proportion of the most frequently used regional currency to measure the progress of international monetary cooperation. For a currency union, the most frequently used regional currency is the common currency. But other regions also have a dominating currency which is used most frequently, so this concept measures international monetary cooperation in a more general way. Moreover, this concept emphasizes that a dominating currency is a local currency, whose issuing country is in the region. As countries in the same region usually have close relationship in economy and trade, only a regional

currency can effectively protect against assault of international capital. After the US subprime mortgage crisis, more and more countries are realizing that the regional currency is the best choice to protect against assault of international capital (Goldberg & Tille, 2008).

Previous empirical work (e.g. Rose, 2000) finds that a currency union has positive effect on bilateral trade. We think the most frequently used regional currency also has positive effect on regional trade and on the promotion of regional trade integration. We also consider the inertia in choosing currency for invoicing or settlement (Rey, 2001). The expansion of regional currency may face many obstacles and might impede regional trade at the beginning because other currencies (like US dollar for many regions) constitute a large proportion in currency usage, and their transaction costs are lower. However, along with the increase in proportion, the regional currency will eventually have lower transaction cost and can serve the region better than other currencies. Hence, we expect that there is a U-shaped relationship between regional trade integration and the most frequently used regional currency. When the proportion of the most frequently used regional currency is low, using this currency has a negative impact on regional trade. Once it exceeds a certain threshold, it promotes regional trade.

3 Descriptive Statistics of Variables and the Model

3.1 Variable Definition

The most important variable in this paper is the proportion of the most frequently used regional currency. We use the data on foreign exchange transactions to calculate it. The Bank for International Settlements publishes Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity, which covers the foreign exchange transactions of different currencies in different countries. The most frequently used regional currency is defined as the largest foreign exchange transaction currency whose issuing country is in the region. The proportion of the foreign exchange transactions of the most frequently used regional currency to the total transactions is then calculated. We choose samples after 2001, because the euro appeared in 2001.

Intraregional trade share is the proportion of regional import and export volume to the total import and export volume, which directly describes the independence and importance. We use the intraregional trade share to define trade integration.

Intraregional trade share is defined as

$$IT\ Share_i = (EX_{ii} + IM_{ii}) / (EM_i + IM_i)$$

, where EX_{ii} and IM_{ii} are the regional export and import volumes of region i in region i ; EM_i and IM_i are the total export and import volumes of region i .

Due to the fact that data on Africa and Central America are not available, our sample cannot cover the regional economic cooperation organizations in Africa and Central America. We choose 16 in this paper, including all types of regional economic cooperation organizations at the national level. They are Benelux Economic Union (Benelux), European Union (EU), European Free Trade Association (EFTA), Commonwealth of Independent States (CIS), Eurasian Economic Community (EAEC), Association of Southeast Asian Nations plus China, Japan and Korea (ASEAN+3), Economic Cooperation Organization (ECO), First Agreement on Trade Negotiations among Developing Member Countries of the Economic and Social Commission for Asia and the Pacific (Bangkok Agreement), South Asian Association for Regional Cooperation (SAARC), Pacific Islands Forum (PIF), Gulf Cooperation Council (GCC), Andean Community (CAN), G3 Free Trade Agreement (G3), North American Free Trade Area (NAFTA), MERCOSUR and Asia-Pacific Economic Cooperation (APEC).

Table 1 provides the definitions of the variables used in the model. Export and import data are obtained from the IMF Direction of Trade Statistics and the CEIC Global Database, and the rest of the data are extracted from the World Bank's World Development Indicators.

Table 1. Variable Definition

Variable	Definition and measurement
<i>Trade integration</i>	Intraregional trade share
<i>Currency</i>	The proportion of the most frequently used regional currency
<i>Currency2</i>	The quadratic term of the proportion of the most frequently used regional currency
<i>Dgdp</i>	The GDP of the country issuing the most frequently used regional currency as a share of total GDP of the region
<i>Trade openness</i>	Trade openness in the region (average)
<i>Metrade</i>	Merchandise trade (% of the GDP) in the region (standard deviation)

<i>GDPpc</i>	GDP per capita in the region (standard deviation)
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3.2 Descriptive Statistics of Variables

Table 2 shows the descriptive statistics of major variables. The proportion of the most frequently used regional currency ranges from 0.18 to 0.96 in different regions. The big gap is mainly because US dollar as an international currency usually occupies a large proportion in the region, nearly 100%. As for the intraregional trade share, there are also differences among these regions, which means the level of trade integration is different though they are all economic cooperation organizations. Besides, in some of the regions, countries inside the region differ greatly in industrial structure, trade structure and economic development level, while some are nearly the same.

Table 2 Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max
Trade integration	0.1987	0.2107	0.0064	0.7206
Currency	0.5842	0.2140	0.1786	0.9633
Currency2	0.3881	0.2522	0.0319	0.9279
Dgdp	0.6609	0.2161	0.1033	1
Trade openness	0.8690	0.3763	0.375	2.213
Metrade	0.2970	0.2107	0.0537	0.9273
GDPpc	11.77	10.57	0.6221	42.82

Table 3 presents some data on the proportion of the most frequently used regional currency and intraregional trade share in 2001 and 2013 of all the regional economic cooperation organizations mentioned in this paper. During these 12 years, the most frequently used regional currency remains the same, but the proportion has changed greatly. As for trade integration, the intraregional trade share changes comparatively smaller than the proportion of the most frequently used regional currency.

Table 3 Major Variables in 2001 and 2003 of All Regions

Region	The most frequently used regional currency	Year	The proportion of the most frequently used regional currency	Intraregional trade share
Benelux	Euro	2001	0.6818	0.1374
		2013	0.5281	0.1537
EU	Euro	2001	0.4871	0.6606
		2013	0.4175	0.6353
EFTA	Swiss Franc	2001	0.2915	0.0074
		2013	0.2689	0.0082
CIS	Russian Ruble	2001	0.4336	0.1859
		2013	0.7927	0.1881
EAEC	Russian Ruble	2001	0.4336	0.1005
		2013	0.7927	0.1195
ASEAN“1 0+3”	Yen	2001	0.5174	0.3406
		2013	0.4418	0.3519
ECO	Turkish Lira	2001	0.2735	0.0451
		2013	0.5754	0.0846
Bangkok Agreement	Korean Won	2001	0.6467	0.0934
		2013	0.3246	0.1189
SAARC	Indian Rupee	2001	0.8206	0.0408
		2013	0.8199	0.0398
PIF	Australian Dollar	2001	0.4578	0.0675
		2013	0.4408	0.0480
GCC	Saudi Riyal	2001	0.2079	0.0649
		2013	0.1795	0.0530
CAN	Colombian Peso	2001	0.5953	0.0889

		2013	0.5644	0.0772
G3	Mexico Peso	2001	0.9542	0.0221
		2013	0.8771	0.0219
NAFTA	US Dollar	2001	0.9382	0.4710
		2013	0.8907	0.4131
MERCOS UR	Brazilian Real	2001	0.9633	0.1885
		2013	0.6829	0.1478
APEC	US Dollar	2001	0.9421	0.7128
		2013	0.8927	0.6640

3.3 The Model

To study the determinants of regional trade integration, the following panel regression model is estimated:

$$Trade\ integration_{it} = \beta_0 + \beta_1 Currency_{it} + \beta_2 Currency2_{it} + \beta_3 Controls + \lambda_i + u_t + \varepsilon_{it},$$

where

Trade integration is our measure of trade integration. We use the intraregional trade share to measure the development of regional trade. The variable is the ratio of intraregional import and export volumes to the total import and export volumes of countries in the region;

Currency represents the proportion of the most frequently used regional currency. It is defined as the ratio of foreign exchange transactions of the most frequently used regional currency to total foreign exchange transactions;

Currency2 is the quadratic term of *Currency*;

Controls is a vector of control variables, which includes the GDP of the country issuing the commonly used regional currency as a share of the total GDP of the region, trade openness and two indicators of similarities in economic structures between countries in the region.

i represents the region, while *t* represents the year;

λ_i is the unobservable regional factor;

u_t is the unobservable time-varying common factor across regions;

ε_{it} is the random disturbance term.

We use the total GDP of those countries, which are issuing the most frequently used regional currency measured to the total GDP in the region as one of the control variables, to control the different status of the regional currency in different regions. Goldberg & Tille (2008) show the economic size of the issuing country contributes immensely to the currency share of invoicing. So it also controls the potential of the regional currency. Ho (2011) uses the GDP share rather than trade share because GDP share is more comprehensive and reasonable in these times. Due to the increasingly globalised world, big nation states would not be self-sufficient but need to trade more with the other nation states. So GDP share has fewer disadvantages and further it can not only show the effect of bilateral trade, but also reflect the promoting on trade through third party states.

Trade openness is another control variable. On the one hand, high trade openness could mean the country is positively involved in the world trade and regional trade may be closer. On the other hand, high trade openness could increase bilateral conflicts or multilateral conflicts, which impede the regional trade (Martin et al., 2008). The discussion of trade openness measurement is beyond the scope of this paper. We chose the trade volume of both export and import relative to GDP as the proxy variable for the trade openness, as it is widely accepted by other scholars (Bonfiglioli, 2008).

Feenstra (1998) find similar economic structures lead to high level of trade integration. In this paper, we chose merchandise trade (% of the GDP) and GDP per capita to measure the similar economic structures. These three variables reflect the trade structure, economic development level and society development level. All the variables are calculated by the standard deviation in the region to measure the difference of the region. It can be compared across regions and over time.

4 Empirical Results

Table 4 reports the regression results. The dependent variable is the intraregional trade share. Models in Column (1) and Column (3) only show the proportion of the most frequently used regional currency and its quadratic term, while control variables are added in the models summarized in Column (2) and Column (4). All models include regional fixed effects. Models in Columns (1) and (2) do not consider time fixed effects, while models in Columns (3) and (4) control for time fixed effects. Column (5) instruments *Currency*, *Currency2*, and *Trade openness* by their one-period lags. Column (6) further instruments *Dgdp* by its one-period lag. Column (7) instruments all variables by

their one-period lags.

Table 4. Empirical Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Currency</i>	-0.280*** (0.065)	-0.284*** (0.065)	-0.209*** (0.073)	-0.196** (0.081)	-0.279** (0.138)	-0.275** (0.138)	-0.280** (0.138)
<i>Currency2</i>	0.222*** (0.053)	0.220*** (0.054)	0.167*** (0.061)	0.150** (0.068)	0.217* (0.116)	0.215* (0.116)	0.222* (0.116)
<i>Dgdp</i>		-0.024 (0.025)		-0.049* (0.027)	-0.018 (0.028)	-0.017 (0.028)	-0.018 (0.028)
<i>Trade openness</i>		0.079*** (0.021)		0.081*** (0.023)	0.078*** (0.024)	0.078*** (0.024)	0.079*** (0.024)
<i>Metrade</i>		-0.114*** (0.030)		-0.109*** (0.031)	-0.100*** (0.035)	-0.100*** (0.035)	-0.101*** (0.035)
<i>GDPpc</i>		-0.001*** (0.000)		-0.000 (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
R-squared	0.091	0.216	0.175	0.275	0.223	0.222	0.218
IV quality					24.532	18.286	12.588
Sargan					0.689	0.230	0.109
Threshold	0.6306	0.6455	0.6257	0.6533	0.6429	0.6395	0.6306

Note: Standard errors are in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. IV quality reports the Cragg-Donald Wald F statistic. Sargan reports the p value of the over-identification test.

Notice that there is a significant U-shaped relationship between regional trade integration and the proportion of the most frequently used regional currency across all model specifications. The estimated coefficients of both *Currency* and *Currency2* are statistically significant across all specifications. The U-shaped relationship suggests that when the proportion of the most frequently used regional currency is low, an increase of the proportion may impede regional trade development. However, after reaching a threshold of around 60%, a further increase in the proportion of the most frequently used regional currency promotes regional trade integration. Such a relationship can be explained by the transaction cost of using a common currency. After the breakdown of the Bretton Woods system, only a few countries chose to adopt a floating exchange rate regime, and many countries still regard the USD as an anchor currency. In the late 20th century, some countries in Africa and Latin America instituted dollarization to stabilize their domestic markets, enhance international trade and save the trouble of establishing foreign reserves. Using the USD directly for trade invoicing

and settlement can avoid exchange rate risk and reduce transaction costs. When a regional currency has not reached a dominating status, the transaction cost of using such a currency will be higher than using the USD. Thus, the use of regional currency may impede regional trade initially.¹ However, as the regional currency becomes dominant, the use of this currency can reduce transaction costs and accelerate the economic development in the region. The huge trade-promoting effect of a currency union found by Rose (2000) supports our findings. By using a single currency for transactions, a currency union can quickly eliminate the negative effect on trade development.

Although it is costless to use US dollar during trade, you need to pay back the lower transaction cost ultimately. First of all, it makes the countries in the region rely more on the US economy if US dollar is used very often in the region. And once there is something amiss in the US economy, its business cycle and monetary policy will deeply affect the countries in the region. Many countries are in a stage of rapid economic development before the US subprime mortgage crisis, but they are also unwillingly influenced by this crisis due to being overly dependent on US dollar. So, reforming the existing monetary system structure in the region and even in the world as well as reducing the dependence on a sovereign currency have become the consensus of the market. Second, if the country carries out dollarization, there is no independence in monetary policy and exchange rate policy. The US will not consider dollarized countries when setting policies. Also dollarized countries cannot use monetary policy and exchange rate policy to finance budget deficits and balance the payments. However, without dollarization, there is a big problem in invoicing and settlement because the US dollar exchange rate fluctuation brings much instability. In addition, one of the purposes of regional economic cooperation is to make up for the disadvantages of a single country, amplify the voices of individual countries in the world and jointly maintain the common interests of the region (Krugman, 1991). Using a regional currency can effectively enhance the economic ties among the countries in the region and make the region more competitive in the world market.

The cost and benefit of a currency union changes according to the environment (Artis, 2002), and the cost and benefit of a regional currency is changeable too. With the low transaction cost, US dollar provided a “safe haven” for world development before 2008. But as the US subprime mortgage crisis spreads all over the world, more and more countries realize using regional currency is important

¹ Although it is less costly to use the USD to settle transactions, these countries become more vulnerable to the US business cycles and monetary policy changes.

in trade development and economic independence. At first, the transaction cost may be relatively high because of the lower proportion. But as the proportion of the most frequently used regional currency increases, this currency can also reduce the transaction cost and better serve the economic development in the region. The same currency and the currency union discussed in the previous paper can also be explained by our theory (Rose, 2000; Rey, 2001). Whether it is the same currency or the currency union, the direct trade-promoting effect exists because it can quickly pass the bottom of the “U-shape”. Compared to the process of increasing the proportion of regional currency used, the same currency and the currency union have higher institutional cost and impair the strength of monetary policy tools, which may lead to economic upheaval and unbalanced payments. It is also the reason why the same currency and the currency union are hard to propagate.

Reconsider this problem from a political point of view, when the proportion of the most frequently used regional currency is low, many local currencies compete to be the regional currency. Some countries in the region may formulate policy which has negative externalities, and many negotiations and consultations ensue to alleviate the policy impact. And all of these are for the competition for the regional currency. It may be considered irrational from the economic view, but it is true, and ignoring political factors may lead to wrong policy (Kirshner, 2003). So, these policy shocks and political games definitely impede trade, and it is one reason why regional currency does harm to trade at first. When the most frequently used regional currency rises to an invincible position, the issuing country acts as a monetary leader of the region that contributes a lot to cooperation and coordination among countries, preventing beggar-thy-neighbour monetary policies and promoting regional trade integration. In addition, once the issuing country has an invincible position, it tends to sacrifice some its own interests to maintain regional interests (Kirshner, 1997). This means the region will have higher trade integration, more stable financial markets and more rapid economic development when the proportion of the most frequently used currency is high.

5 Policy Implications for RMB

Previous results employ the proportion of the most frequently used regional currency to show the U-shape relationship between currency and regional trade. In this section, we discuss its policy implications for regional economic cooperation among the countries along “The Belt and Road”.

China puts forward the concept of “The Belt and Road” in 2015, and the first Belt and Road Forum for International Cooperation was held on 14 May 2017. Whether RMB can play a core role in the “The Belt and Road Initiative” and raise the status of RMB is worth discussing. Following Chinn and Frankel (2005), we develop a regression model and use nine variables to fit the variable *Currency*: issuing country’s GDP share, country risk, credit to the private sector, FDI, foreign reserves, trade openness, manufacture export volume, GDP per capita and life expectancy. Multivariate regression gives us the linear prediction of the most frequently used regional currency. Substituting the data into the regression, we can get the fitted values of *Currency* variable for the “The Belt and Road” area.

Table 5 reports the results of selected countries. In all country groups, the proportion of using RMB is more than 40%, and it is undoubtedly the most frequently used regional currency. It shows that RMB has considerable potential for acting as a regional currency and serving regional trade integration. Other currencies, such as rouble, rupee and Singapore dollar, are competitive but will not change the RMB’s status. Whether RMB can take the first place and avoid monetary competition, China needs more international policy coordination and raises the proportion up to 60%. According to our simulation, the proportion of using RMB occupies 75.30% in Middle Asian countries. In the simulation of Maritime Silk Route, RMB’s proportion is as high as 46.66%.

Table 5. Simulation Results

	RMB	Rouble	Rupee	other
Country Group 1	60.74%	16.42%		
Country Group 2	56.18%	17.31%	13.59%	
Country Group 3	65.15%	27.72%		
Country Group 4	51.79%		8.29%	
Country Group 5	46.66%		11.17%	9.77% (Singapore Dollar); 5.26% (Indonesian Rupiah)

Note: Country Group 1: Russia, Turkmenistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan; Country Group 2: Russia, India, Pakistan, Afghanistan, Turkmenistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan; Country Group 3: Russia, Ukraine, Turkey, Turkmenistan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Mongolia, Belarus, Azerbaijan, Armenia, Georgia; Country Group 4: India, Saudi Arabia, Iran, Turkey, Iraq, Jordan, Kuwait, Afghanistan; Country Group 5: Indonesia, the Philippines, Malaysia, Vietnam, Laos, Myanmar, Thailand, India, Singapore, Bangladesh.

Simulation is not the reality, and we next turn to the existing trade agreements in which China participates: Asia-Pacific Economic Cooperation, ASEAN “10+3” and Shanghai Cooperation

Organization. Table 6 provides the results, and we find that there is a big difference between simulation and reality. This phenomenon reflects the lag effect of currency used compared to economic development, and RMB internationalization is still at its beginning. On the other hand, this result shows great potential of RMB internationalization. Some reasons may contribute to this huge difference between simulation and reality: first, incomplete financial openness limits the demand for RMB, and much demand cannot be satisfied in the world market. Second, the rise in RMB's proportion means some other currency's proportion has declined. Natural competition impedes the rise of RMB, and it must take a long time for currency replacement. Third, China's huge trade volume have not translated into the RMB used, and many Chinese firms still use US dollar as the invoicing currency and bear exchange rate fluctuation. Finally, some countries are unavoidably hostile to the emergence of China.

Table 6 Comparison Results

Economic Cooperation	True Value	Simulation Value
ASEAN “10+3”	6.72%	30.98%
Shanghai Cooperation Organization	31.95%	60.61%
Asia-Pacific Economic Cooperation	4.28%	6.29%

6 Conclusions

Through the comparison of the proportion of the most frequently used regional currency across different model specifications, a U-shaped relationship between the proportion of this regional currency and the degree of regional trade integration is found. In a nutshell, our results show that when the degree of dominance of a regional currency is low, it is costly to use a regional currency to substitute for an existing international currency, and the use of this currency impedes regional trade. However, as more countries adopt a single regional currency for trade settlement, the transaction cost falls, and the regional currency integration promotes regional trade. Then, in Section 5, we give the simulation results for the RMB proportion for “The Belt and Road” countries and find that RMB has much potential for being the most frequently used regional currency. But the reality differs markedly from the simulation results; China needs to open its capital account and promote RMB

internationalization. Currency competition must occur with the change of regional currency. Policy coordination is important to help overcome the threshold and enjoy the positive impact on regional trade.

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