QUANTIFYING THE PROSPECTS AND IMPACTS OF RMB INTERNATIONALIZATION

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ABSTRACT

The aim of this paper is to analyze the prospects of RMB internationalization in the medium run, and assess its impacts on China’s economy. To begin with, the paper examines the demand-supply conditions for currency internationalization and the imbalance for RMB. It then classifies the major currencies into three groups: fully, partially and non-internationalized currency. Based on the classification and assumptions on different demand-supply combinations, panel data analysis and scenario analysis are conducted to quantify RMB’s potential international role. The estimations show that RMB will rise to the second global currency in 10-15 years’ time if Chinese government takes aggressive measures to liberalize it. Further, the paper summarizes transmission channels for the internationalized RMB to influence the domestic economy, and quantifies the benefits and costs. It concludes that China may gain from transaction cost reduction, seigniorage revenue, credit cost decrease and terms of trade improvement etc. It also evidences that the cost of losing domestic monetary policy independence will not be as significant as most observers concerned. Some of the impacts are sensitive to domestic economic outlook, but the magnitude will not be tremendous. The paper finds the benefits of RMB internationalization overwhelm potential costs, and it suggests Chinese government to promote a full (instead of partial) RMB internationalization in the medium run.

Keywords: RMB internationalization, scenario analysis, transmission mechanism

1. INTRODUCTION

RMB internationalization has drawn a great deal of attention in the past few years. On the theoretical front, enormous literature has studied the conditions, roadmaps, possible scenarios and potential impacts of RMB internationalization. On the practical front, the government has taken gradual steps to promote financial opening-up and currency liberalization. The views for the timing of RMB internationalization vary
greatly. Yongding Yu commented that Beijing’s plan for RMB internationalization was “flawed with many missing links and wishful thinking”. He claimed that before getting meaningful progress in currency liberalization, Chinese government needs to make a breakthrough in financial reform (Yu, 2012). On the other extreme, Arvind Subramanian expects RMB to be one of the major reserve currencies in 5–10 years’ time. \(^1\) Despite the uncertainty in government policies, the path of RMB internationalization and its implications to China’s economy is getting more complicated with the headwinds of China medium-run economic slowdown.

This paper aims to give an insight on prospects and impacts of currency internationalization when the economic condition and government stands change. Firstly, it summarizes the demand-supply factors for currency internationalization, and examines the imbalance for RMB. Secondly, six scenarios are introduced assuming different economic prospects and policy supports. Panel data analysis is applied to estimate RMB’s international currency role. Thirdly, it analyzes the different transmission channels for RMB internationalization to influence Chinese economy.

### 2. CONDITIONS OF CURRENCY INTERNATIONALIZATION

#### 2.1 Determinant Factors

“Demand side” includes the factors generating demands for a currency on a global scale, while the “supply side” deals with the policy supports from the government.

**Demand-side Factors:** 1) *Economic size.* Economic size is highly related with international trade in-depth and the support of creating deep and liquid financial markets. 2) *International trade linkage.* Wide trade networks support the usage of a currency as a unit of account and medium of exchange. The share of a country’s exports in global exports is a widely used indicator for measuring trade linkage. 3) *Economic growth and price stability.* High growth rate and low inflation indicate a prosperous future of an economy, which means its local currency becomes more desirable to be held within and beyond the national borders.

**Supply-side Factors:** 1) *Domestic financial market depth and financial openness:* The former factor provides the borrowers and investors with access to a range of financial instruments. The latter factor, which includes currency convertibility, capital account liberalization etc, allows capital to flow freely into the country. 2) He and McCauley (2010) also emphasized the importance of *off-shore market policies,* They

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\(^1\)Arvind Subranmanian’s presentation in Hong Kong Monetary Authority in 2012: *Renminbi Rules: Why, When and How the Dollar will be Eclipsed as the Premier Reserve Currency.*
argued offshore markets perform essential functions, including currency risk separation from country risks and the diversification of operational risks.

2.2 Demand-Supply Imbalance in China
The imbalance between “demand” and “supply” is obvious for China (Table 1). On the demand front, China is a “prosperous” country with large output, large trade shares, rapid GDP growth and tolerable inflation. However, on the supply front, China is far lagging behind other countries. According to Chinn and Ito (2010)\(^2\), China’s latest reading of Current Account Openness Index was -1.16, the second lowest score across 182 countries. Čihák, et al. (2012) introduced Global Financial Development Database, measuring financial depth, access, efficiency and stability for the financial system. Financial Markets Depth Index for China is 109.9 (2008-2010 average), lowest among all the countries covered in the table.

<table>
<thead>
<tr>
<th>Table 1. Demand-Supply Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demand side factors</strong></td>
</tr>
<tr>
<td>% of World GDP (2011)</td>
</tr>
<tr>
<td>% of World exports (2011)</td>
</tr>
<tr>
<td>% of World imports (2011)</td>
</tr>
<tr>
<td>real GDP (%yoy, 2005-2011 avg)</td>
</tr>
<tr>
<td>inflation rate (%yoy, 2005-2011 avg)</td>
</tr>
<tr>
<td><strong>Supply side factors</strong></td>
</tr>
<tr>
<td>Domestic financial market depth</td>
</tr>
<tr>
<td>Capital account openness (2010)</td>
</tr>
</tbody>
</table>

* Including intra-regional exports/imports.


3. PROSPECT SCENARIOS OF RMB INTERNATIONALIZATION
3.1 Degree of currency internationalization
Hyun (2012) defined a currency as “Non-internationalized” if the use of this currency is concentrated in domestic transaction. Meanwhile, a “full internationalized” currency satisfies three major criteria: 1) no restrictions on third-party use of the currency in transactions; 2) the international currency serves three functions: medium of exchange, investment, and store of value; 3) the currency proportion of official reserve holdings around the world is high. The currencies that only meet criteria 1) and 2) are classified into the “partially internationalized” group. Based on the criteria, this paper classifies 25 major currencies across the world as shown in Table 2.

\(^2\text{Available at: http://web.pdx.edu/~ito/Chinn-Ito_website.htm (accessed 2 December 2012).}\)
Table 1. Classifications of currencies

<table>
<thead>
<tr>
<th>Full Internationalization</th>
<th>Partial Internationalization</th>
<th>Non-Internationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro (Euro)</td>
<td>Australian Dollar (AUD)</td>
<td>Brazilian Real (BRL)</td>
</tr>
<tr>
<td>Japanese Yen (JPY)</td>
<td>Canadian Dollar (CAD)</td>
<td>Chinese Yuan (CNY)</td>
</tr>
<tr>
<td>Pound Sterling (GBP)</td>
<td>Danish Krone (DKK)</td>
<td>Indian Rupee (INR)</td>
</tr>
<tr>
<td>Swiss Franc (SWF)</td>
<td>Hong Kong Dollar (HKD)</td>
<td>Indonesian Rupiah (IDR)</td>
</tr>
<tr>
<td>US Dollar (USD)</td>
<td>New Taiwan Dollar (TWD)</td>
<td>Mexican Peso (MXN)</td>
</tr>
<tr>
<td></td>
<td>New Zealand Dollar (NZD)</td>
<td>Philippine Peso (PHP)</td>
</tr>
<tr>
<td></td>
<td>Norwegian Krone (NOK)</td>
<td>Polish Zloty (PLN)</td>
</tr>
<tr>
<td></td>
<td>Singapore Dollar (SGD)</td>
<td>Russian Ruble (PLN)</td>
</tr>
<tr>
<td></td>
<td>South Korean Won (KRW)</td>
<td>South African Rand (ZAR)</td>
</tr>
<tr>
<td></td>
<td>Swedish Krona (SEK)</td>
<td>Thai Baht (THB)</td>
</tr>
</tbody>
</table>

Four of the most widely used indicators to measure the currency’s international share in FX turnover, trade transaction, international bond market and reserve system (Figure 1). “Full” currencies are major currencies in the three functions – unit of account, medium of exchange and store of value. In terms of RMB’s international use, though China has made remarkable improvements in the cross-border trade settlement scheme, the currency is still far from being widely used in a broad range of areas.
3.2 Assumptions: Demand-supply Matrix
The timing of RMB internationalization process is uncertain as the outlook of both demand-side factors and supply-side factors are not certain. Thus, a scenario analysis will be conducted based on different assumptions for “demand” and “supply”.

On the supply front, this paper assumes three types of government: dove, neutral and hawk. In the medium run, a “dove government” is reluctant to promote further RMB internationalization. While a “neutral government” takes gradual measures to open RMB market, allowing it to become a “partially internationalized” currency. The “hawk government” promotes RMB to be the major international reserve currency. In terms of the demand side, two situations are introduced – “baseline” and “hard-landing”. The “baseline” scenario refers to the consensus forecast of IMF, World Bank, and the major financial institutions. While the “hard-landing” scenario is a situation where the economy meets some severe problems and the economic growth rate downgrades around 2% permanently. A summary matrix (see Table 3) is compiled below by combining the supply side and demand side prospects. Thus, Scenario 1 – 6 are the possible future situations with different macro indicators and policy package.

<table>
<thead>
<tr>
<th>Supply</th>
<th>Demand</th>
<th>Dove Government</th>
<th>Neutral Government</th>
<th>Hawk Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td></td>
<td>Scenario 1</td>
<td>Scenario 3</td>
<td>Scenario 5</td>
</tr>
<tr>
<td>Hard-landing</td>
<td></td>
<td>Scenario 2</td>
<td>Scenario 4</td>
<td>Scenario 6</td>
</tr>
</tbody>
</table>

3.3 Modeling and Estimation: Prospects
Under the pre-assumption of full convertibility of RMB, Li and Liu (2008) used panel data analysis to explore the relationship between international use of a currency and “demand factors” such as GDP ratio, currency appreciation, inflation, interest rate and current account balance. It also predicted the future scenarios of RMB internationalization till 2020 (international use of RMB in terms of invoicing trade, dominating international bonds and reserves).

This section applies a simplified version of Li’s model and relaxes the assumption of RMB full internationalization. The explained variable are share of FX turnover, international payment, international bond and international reserve in the world currency system. Explanatory variables include nominal GDP as % of world GDP, real GDP growth (% yoy), total trade as % of world trade, trade balance (USD bn), inflation (% yoy), and current account balance as % of GDP. Linear regression and panel regressions are applied for each group of currencies. Based on the regression
Quantifying the prospects and impacts of RMB internationalization

equations, estimations on RMB’s international use are made using the forecasted macro indicators in 2025 (see Table 4).

### Table 3. Estimated international use of RMB in 2025

<table>
<thead>
<tr>
<th>Scenario</th>
<th>FX turnover</th>
<th>Int payment</th>
<th>Int bond</th>
<th>Int reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (N, BL)</td>
<td>1.8</td>
<td>0.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2 (N, HL)</td>
<td>1.4</td>
<td>0.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3 (P, BL)</td>
<td>5.9</td>
<td>11.9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4 (P, HL)</td>
<td>5.2</td>
<td>9.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5 (F, BL)</td>
<td>15.1</td>
<td>35.1</td>
<td>50.4</td>
<td>29.2</td>
</tr>
<tr>
<td>6 (F, HL)</td>
<td>15.8</td>
<td>29.2</td>
<td>38.2</td>
<td>25.6</td>
</tr>
</tbody>
</table>


Several conclusions can be drawn from the estimation results: 1) FX turnover volume of RMB and its international use as payment currency will increase dramatically given certain supply side support. However, the difference in macro outlook will not lead to significant changes of both. 2) If RMB is partially internationalized, its FX turnover will be similar as AUD and CAD’s current share in the foreign exchange market. While if RMB is fully internationalized, the FX turnover share would roughly match Euro’s present situation. 3) In the international payment system, RMB will play a crucial role even if it is partially internationalized, in other words, its proportion as world payment currency is much higher than any other “Partial” currency and is even larger than GBP. In the “Full” case, its status would be similar as present USD or EUR. 4) The internationalization process contributes the greatest to the international use of RMB in the global bond market. The share of RMB will reach 50% given baseline economic growth. This is 9% and 7% higher than the current proportion of USD and Euro. But the result is also vulnerable to the macro outlook – under a hard landing scenario, the share would shrink by 12%. 5) If RMB is fully internationalized, its role in the international reserve system will be similar as Euro’s at present. However, its proportion won’t surpass USD.

### 4. IMPACTING MECHANISMS OF RMB INTERNATIONALIZATION

When RMB is internationalized, partially or fully, it would also impact the real economy, and the implementation of macro policies. The transmission mechanisms are complex as they are associated with various financial markets and economic factors. In addition, it is technically difficult to find a general equilibrium among those markets. Thus, it would be helpful to classify the impacts and conclude them in different channels as shown in Figure 2.
4.1 Foreign Exchange Channel

One important benefit of currency internationalization arises from the medium of exchange function, or the role of vehicle currency, which is defined as a currency that is used in the foreign exchange market as a means to exchange two other currencies. To be more specific, currency A and B are exchanged via vehicle currency, instead of being traded directly. This applies to international transactions in both international goods market and financial market. ECB (2001) used three ways to assess the use of a vehicle currency in the foreign exchange market: 1) examining trading volumes; 2) examining bid-ask spread; 3) collecting evidence on market practices on the basis of direct contacts with market participants.

Many literatures found a negative relationship between transaction volume and transaction cost. Fleming (1997) summarized that the volume-cost relationship probably reflects decreasing order-processing costs, decreasing inventory-carrying costs, and increasing market maker competition as volume increases. Hartmann (1996) did an empirical estimation on the elasticity of transaction costs with respect to volumes for foreign exchange markets. His estimation result was -0.03, and he emphasized that the parameter is stable across country and across time.

The estimations in Table 5 are based on regression result in the previous section (Table 4) and Hartmann’s elasticity coefficient. It is assumed that the growth rate of total FX turnover of world currency system will remain the same as the average rate from 2007 – 2010 (Source: BIS triennial survey, latest data available is 2010). The estimation concludes that the internationalization process will contribute greatly to
transaction cost reduction. From a “Non” case to “Partial” case, or from a “Partial” case to “Full” case, transaction cost will reduce around 5% - 8%. More notably, transaction cost will reduce around 22% - 30% when comparing “Full” with “Non”.

**Table 5. Estimated transaction cost reduction in 2025**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Share of FX</th>
<th>Volume (daily)</th>
<th>TC reduction</th>
<th>TC reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>1.8</td>
<td>223</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>1.4</td>
<td>176</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>5.9</td>
<td>724</td>
<td>6.7%</td>
<td>N/A</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>5.2</td>
<td>639</td>
<td>7.9%</td>
<td>N/A</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>15.1</td>
<td>1,843</td>
<td>21.8%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Scenario 6</td>
<td>15.8</td>
<td>1,928</td>
<td>29.8%</td>
<td>6.1%</td>
</tr>
</tbody>
</table>

Reduction in transaction cost will lead to lower cost of China’s overseas investment and increasing imports from other countries, which consequently contribute to the transformation of China’s economic growth model as from FDI and export-led growth to outbound investment and domestic consumption-led growth. In the financial market, decreasing transaction cost of capital mobility will stimulate international borrowing and lending, enabling better risk sharing among households and investors. Consumers will also be offered a variety of financial instruments to smooth their consumption.

4.2 Seigniorage Channel

Seigniorage refers to the difference between the value of a currency and the cost of its production. It is the profit government generates from creating and issuing money minting metal coins and printing paper bills. Seigniorage on notes derives from the interests government earned on securities acquired in exchange for the production of more bank notes. The most popular ways to measure seigniorage are “monetary concept” and “opportunity cost concept”. In monetary concept, seigniorage is commonly defined as the change in money supply deflated by the price level. In opportunity cost concept, seigniorage is defined as the total “opportunity costs” of money holders by foregoing the real interest earnings on assets while holding money. Papaioannou and Portes (2008) estimated the potential gains from international seigniorage for the euro and USD by multiplying net currency holdings abroad (i.e. banknotes held abroad) and 3-month government bond rates. It has been argued that the monetary concept is most appropriate for countries where financial markets are underdeveloped and the government finances budget deficit at the central bank by printing money instead of issuing bonds. Meanwhile, the opportunity cost concept matches with countries in which interest rates are determined by the market and inflation is relatively low. The estimation of seigniorage benefits in this section deal with Scenario 5 and 6, where China is expected to achieve interest rate liberalization and the market rate will effectively reflect the opportunity cost of the monetary base.
Therefore, opportunity cost concept is used in the projection:

$$\text{Seigniorage benefit} = \text{net currency holding abroad} \times 3\text{m gov bond rate}$$
$$= \text{currency in circulation} \times \text{ratio held abroad} \times 3\text{m gov bond rate}$$

Below are the assumptions for the parameters in the sensitivity analysis:
1) Under “Full” scenario, China is most likely to reach Euro’s current level, i.e., the ratio of currency in circulation held abroad is around 20% - 30%.
2) Interest rate is assumed to vary between 1.0% and 2.5%. Historical daily data shows that China 3m government bond rate ranged from 0.9% to 3.7% (Nov 30, 2005 to present, source: Bloomberg), but the rates higher than 3% were rare.
3) China’s money in circulation (MC) growth rate ranged between 7.9% and 16.7% since 2000. By observing a longer period, it can be concluded that the growth rate is positively and highly correlated with GDP growth rate. Thus, the estimation assumes MC growth at 11% - 13% in the baseline case, and 8% - 10% in the hard landing case.

Table 6 shows that the estimation results are not significantly sensitive to the varying parameters. Under Scenario 5, the seigniorage revenue in 2025 will be RMB 43.7 bn to 210.7 bn, which occupies 0.02% - 0.12% of estimated GDP. Meanwhile, under Scenario 6, it ranges from RMB 29.8 bn to 144.5, 0.02% and 0.1% of estimated GDP.

Table 6. Estimated seigniorage revenue in 2025 (Unit: as % of estimated nominal GDP)

<table>
<thead>
<tr>
<th>Base case (Scenario 5)</th>
<th>20%</th>
<th>25%</th>
<th>30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate (%)</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Growth of MC</td>
<td>0.05</td>
<td>0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>11%</td>
<td>0.03</td>
<td>0.04</td>
<td>0.06</td>
</tr>
<tr>
<td>12%</td>
<td>0.03</td>
<td>0.04</td>
<td>0.06</td>
</tr>
<tr>
<td>13%</td>
<td>0.03</td>
<td>0.04</td>
<td>0.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bear case (Scenario 6)</th>
<th>20%</th>
<th>25%</th>
<th>30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate (%)</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Growth of MC</td>
<td>0.02</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>8%</td>
<td>0.03</td>
<td>0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>9%</td>
<td>0.02</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>10%</td>
<td>0.02</td>
<td>0.03</td>
<td>0.07</td>
</tr>
</tbody>
</table>

4.3 Credit Channel
When a currency is fully internationalized, the reserve currency status will attract incremental capital inflows. One of the major impacts of the massive capital inflows is a reduction on the cost of capital. Warnock (2009) estimated that the substantial capital inflow into US government bonds decreased the 10-year treasury yield by 80
basis points. Other research also discussed the same issue using various models, and
the results were similar at around 80 basis points. The decrease of interest rate has
several effects. The most direct impacts are the reduction in borrowing costs and loss
for private sector due to the lower interest paid on bank deposits. However, the most
notable impact might be the stimulation for investments due to the lower cost of
capital, which will eventually lead to output growth.

China’s fixed asset investment (FAI) can be divided into two types: government
influenced investment and market based investment. The share of government
influenced investment is around 30%, and the ratio has been constant in the past ten
years. The linear regressions find market based investment in China does not have a
clear negative relationship with interest rate. In contrast, government influenced
investment moves closely with the rates, together with some other indicators, which
are expressed in the equation below (t-stats in brackets):

\[
\text{GOV\_INV} = -40.6 -7.3 \times \text{INTEREST} + 2.1 \times \text{M2(-2)} + 1.4 \times \text{IP} \\
\text{(t-stats)}: (-4.7), (-6.9), (8.1), (4.3)
\]

Sample: from March 2005 to November 2012 (monthly)
Adjusted \( R^2 = 0.53 \)

In the equation, government investment, M2 and industrial production (IP) are
expressed in % yoy terms and interested rate is the change of 10-year treasury bond
rate from last year (unit: %). Other things being equal, if the long term government
bond rate decrease 0.8% due to capital inflow, the % yoy government investment
growth would increase 5.8%. Assuming its share in total FAI remains roughly
unchanged, the % yoy growth of total investment will increase 1.8%. However, this
relationship can be impacted by the domestic macro situation. If China’s economy
slows down as the bear case (Scenario 6), the “credit channel effect” will be offset by
the sluggish economic growth. The overall benefits brought by lower interest rate will
be fully offset if nominal IP growth rate decreases 4.2% yoy.

4.4 Monetary policy Channel
One potential cost of currency internationalization is the possibility of losing domestic
monetary policy independence. The famous Fleming-Mundell theory raised the
concept of “impossible trinity”, which means a fixed exchange rate, unfettered capital
mobility and domestically oriented monetary policy cannot be achieved
simultaneously. Kenen (2009) claims that internationalization broadens the scope for
residents and non-residents to buy and sell domestic currency instruments, the central
bank’s ability to influence domestic economy through open market operations will be
limited. Combining the Current Account Openness Index developed by Chinn and Ito (2008), Aizenman (2008) constructed Monetary Independence Index (MI) and Exchange Rate Stability Index (ERS) to represent the “trinity”. Same methods are applied in this section to examine the different status of “Non”, “Partial” and “Full” internationalized currencies and to foresee how much monetary policy independence the government will lose in the RMB internationalization process.

Figure 3 shows the changing patterns of the trinity for each group of currency in the past ten years. The regular triangle means an “ideal situation” where there are no foreign exchange rate volatility risks, domestic monetary policy is independent from US, Eurozone or other big neighbor economies, and the current account is fully open. The charts have visually proved Mundell’s theory. Moreover, it can be observed that: 1) “Partial” and “Full” currencies have high financial openness and comparatively low monetary policy independence. 2) The three categories do not differ greatly on the foreign exchange stability front. 3) “Non” countries do not get significant improvements for financial opening across time. 4) “Partial” and “Full” countries gained significant monetary policy independence in the past ten years. Their current level is approaching “Non” countries.

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3 $MI$ is measured as the reciprocal of the annual correlation of the monthly interest rates between the home country and the base country, 

$$MI = 1 - \frac{\text{corr}(i, j) - (-1)}{1 - (-1)}$$

where i and j respectively refer to home countries and the base country.

4 $ERS$ is calculated on the annual standard deviations of the monthly exchange rate between the home country and the base country.

$$\frac{1}{\text{dev(exch_rate)}}$$

where $|d \log E / dt|$ is the absolute value of the year-on-year depreciation rate.
If the current trend continues, the paradigm changes from a “Non” to “Partial” or “Full” is a combination of “painful” significant improvement in financial opening-up, and an insignificant lose on FX stability as well as monetary policy independence. In other words, the cost for RMB internationalization on the monetary policy independence front will not be as large as many scholars or observers concerned.

4.5 International Trade Channel
Currency internationalization may lead to a distortion on exchange rate, such as an overvaluation. The change in foreign exchange rate in comparatively longer term (compared with daily) will impact the international goods trade. To examine the impacting mechanism, two effects need to be analyzed (see Figure 4). The price effect refers to changes in the terms of trade (TOT), which is presented by the price of exports relative to the price of imports. Currency depreciation will cause imports to be more expensive and exports to be cheaper in the short run for domestic consumers, which is equivalent to a decrease in TOT. Therefore trade balance is deteriorated in the short run due to inelasticity of export and import demand. However, in the long run when exports and imports adjust to the new exchange rate, the volume effect dominates and reverses the trade balance movement. Therefore currency depreciation will lead to an improvement in the trade balance in the long run, if the sum of price elasticity of exports and imports is greater than one. This conclusion is widely known as the Marshall-Lerner condition and the evolution of the trade balance in this way yields a J-curve. McKinsey (2009) set a numerical example, analyzing the net impact of currency overvaluation on the US economy. It assumed 10% depreciation of USD, and concluded that in a crisis year, the cost increased to between $85 bn and $115 bn, a difference that equates to about 0.5% of GDP. However, the future RMB exchange rate situation is uncertain. This paper then does not access this effect on quantitative basis, as the impact is ambiguous.
5. CONCLUSION AND POLICY IMPLICATIONS

A currency’s internationalization process is usually determined by demand side and supply side factors. The former refers to the appetite for the currency arises from the country’s global economic importance, growth potential, investment opportunities etc. Meanwhile, the latter factor is related with government policies, which determines to what extent the country is opened to the world economy, as well as global financial markets. Even with progressive improvements in developing offshore RMB markets, China’s supply side support is still lagging behind the extensive demands. Some indices, such as Domestic Financial Market Depth Index and Capital Account Openness Index, indicate that China is among the least financially liberalized countries around the world.

The different scenarios of RMB internationalization’s prospects in the medium or long run are discussed based on the possible mixes of demand side and supply side factors, especially the latter. RMB’s international role as a unit of account, a medium of exchange and a store of value would be largely enhanced if the government promotes the liberalization process aggressively. Generally, when RMB is fully internationalized, it is expected to become the second widely used currency, similar as Euro’s current situation. More notably, the paper forecasts that RMB would probably be top one currency in dominating bonds under the full internationalization circumstance. However, if the government is less aggressive, and RMB is only partially internationalized at some point of time, its situation would be much like CAD or AUD in the present currency system.

When RMB is internationalized, no matter fully or partially, it can impact the real economy and the implementation of government policies through different channels:
1) **Foreign exchange channel**: The enormous FX turnover is associated with a reduction in transaction cost, which is a pure benefit for the country. The estimated...
transaction cost reduction is around 20%-30% when comparing the “Full” situation with “Non” case. This benefit is not sensitive to domestic economic growth. 2) **Seigniorage channel**: Estimation result shows that annual seigniorage revenue for the government ranges between 0.02% and 0.12% as percentage of GDP. 3) **Credit channel**: The massive capital inflow resulted from full currency liberalization causes reduction in the cost of capital. The lower interest rate will boost domestic investment. The regression suggests that this “credit effect” can contribute 1.8 percentage point to the yoy growth rate of total investment. However, this benefit can be offset by domestic economic slowdown. 4) **Monetary policy channel**: “Trilemma analysis” shows a growing trend that countries with fully internationalized currencies have been gaining more independency on domestic monetary policy. If this trend continues, the cost of losing monetary policy independence from RMB internationalization will be much less than most observers expected. 5) **International trade channel**: RMB internationalization may lead to exchange rate distortion. Currency depreciation and appreciation in the longer term (compared to daily) affects international trade through export/import price changes. This will lead to the change of terms of trade. Moreover, it will affect the trade balance through both unit price and demand changes.

This paper concludes that the benefits from RMB internationalization overwhelm the potential costs. In the medium run, it is worthwhile for the government to be “hawk” and promote full currency internationalization. If the government takes progressive measures, such as fully liberalizing interest market and foreign exchange market etc, RMB will become the second most widely used international currency in around 10-15 years’ time. The benefit from RMB internationalization will be affected by China’s economic outlook, but the impacts will not be tremendous.

### 6. REFERENCES


