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Internationalization of Emerging Market Currencies: A Balance between Risks and Rewards

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EXECUTIVE SUMMARY

The global financial crisis and its aftermath renewed the debates relating to the functioning of the international monetary system (IMS). One dimension of this debate is the potential for a more multi-currency system and its implications. Today, the IMS is characterized by a handful of currencies that have achieved varying degrees of internationalization, with the U.S. dollar and the euro as the main “global” currencies, but there are signs that the system is evolving toward a greater role for emerging market (EM) currencies, reflecting both strong fundamentals in EMs and an appetite for diversification among investors. Against this backdrop, this paper surveys the evolving landscape of international currencies; examines the potential for internationalizing a select number of EM currencies; and explores benefits/risks to individual countries and the IMS more broadly—both from policy and operational perspectives.

The limited role of EM currencies in international transactions stands in sharp contrast to their growing weight in the global economy, which is in itself a source of stress to the functioning of the IMS. International experience has shown economic size—including trade networks—macroeconomic stability, and policy support are important determinants of currency internationalization. In this light, only a few EM currencies, led by the Chinese renminbi (RMB), show potential for internationalization on a global scale, albeit many more could achieve some degree of international use. This process, however, will require deeper financial markets and further progress to reform and liberalize the capital account, along with other macroeconomic and structural policies that are beneficial on their own merits. In that sense, and for those countries with potential, internationalization of currency may well come simply as a by-product of their broader reform agenda.

At the country level, benefits from internationalization include potentially lower transaction costs and reduced exchange rate risk, and the ability to issue international debt at more competitive terms. But this may also complicate monetary management and strain the domestic financial system’s ability to absorb capital flows due to potential for increased volatility and large shifts in portfolio flows. From a systemic perspective, the transition to a multipolar system may help diversify risks, facilitate gradual global adjustments, and provide incentives for sustainable policies conducive to systemic stability. Thus, there appears to be merit for policymakers to try and encourage this process, including safeguarding macroeconomic stability, increasing the flexibility of their monetary frameworks, and deepening their financial markets. It is an open question, however, to what extent markets would internalize the benefits and risks of such a system. If the answer is less than fully, the process may need to be accompanied by closer coordination among global currency issuers to help mitigate exchange rate and capital flow volatility that might ensue. This would permit a smoother transition to a multipolar system.

I. INTRODUCTION

Background. Currency internationalization refers to a currency's use outside the issuer's borders, including for purchases of goods, services, and financial assets in transactions by nonresidents (Kenan, 2009). It is essentially an organic, evolutionary, and market-driven process. Today's system is characterized by the dominance of the U.S. dollar, followed by the euro, sterling, and yen and more marginal use of a handful of other advanced economy currencies. Emerging market (EM) currencies, by contrast, are hardly used internationally, even though these economies are increasingly more integrated into the global economy and their contribution to global growth, trade, and financial flows is growing fast.²

Issues. The concentration of many functions of the IMS in one or two currencies, while efficient, does not reflect the increasingly multi-polar structure of the global economy. Further, such concentration may increase systemic vulnerability stemming from shocks or policy decisions in global currency issuers that may not be appropriate for the rest of the world (Zhou, 2009). It also leads to a very uneven sharing of currency risk among international currency issuers and others (who face the bulk of the risks). In addition, the global financial crisis and debt sustainability concerns have raised questions over the long-term store of value properties of the main global currencies, and along with it, created interest in encouraging wider use of the IMF's Special Drawing Rights (SDRs) and various EM currencies, particularly the RMB. Interest in EM currencies is driven by strong fundamentals, and also reflects a desire for greater diversification and less correlated assets. Increasing risk perception across a number of advanced economies has led to record highs for the Swiss franc and Japanese yen. These market movements reflect not only risk aversion and a so-called "flight to quality," but also a lack of viable investment alternatives and financial markets with sufficient depth to absorb the massive financial flows that characterize today's IMS. In this context, the paper explores the scope for internationalization of EM currencies, and the benefits and risks—both to the system and to each country—of a more multi-currency world. It is worth highlighting here that international currency use is viewed as a continuum, with currencies expected to reach varying degrees of international or regional use.

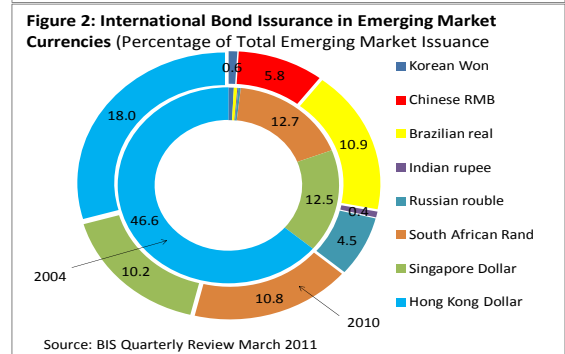
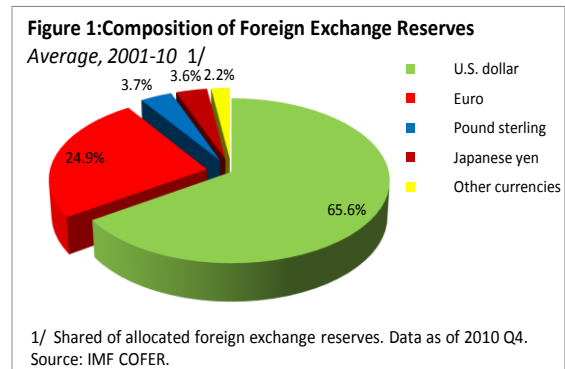
Overview. While currencies from a number of advanced and emerging market countries have achieved a significant degree of international use, this paper focuses on a select number of those emerging markets that may have the potential to evolve into "global" currencies. Section II surveys the landscape of international currency use, while Section III elaborates some insights from cross-country experience, including the evolution of the role of the U.S. dollar. A detailed assessment of the potential for wider international use of some EM currencies is presented in Section IV; Sections V, and VI, respectively, discuss the benefits and risks of currency internationalization to individual countries and IMS stability.

² A June 2011 survey of central bank reserve managers, sovereign wealth funds, and multilateral institutions suggested that the dollar could be replaced as the dominant reserve asset by a portfolio of currencies within the next 25 years. See <http://www.ft.com/intl/cms/s/0/23183a78-a0c6-11e0-b14e-00144feabdc0.html#axzz1Qdl2Z2aV>.

II. CURRENT LANDSCAPE

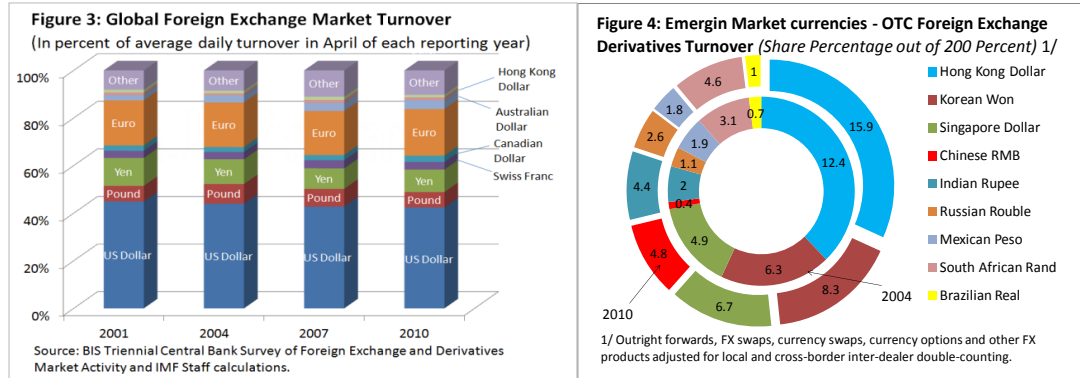
Measurement. Common measures of international use of a currency include a currency’s use as an international reserve asset; its use in invoicing and settlement of international transactions; and trading volumes in foreign exchange markets. On these metrics, only a few currencies are truly global. Indeed, currently only four currencies are recognized by the IMF as “freely usable” globally (i.e., widely used internationally and widely traded in the principal exchange markets): U.S. dollar, euro, British pound, and Japanese yen.

- **Reserves.** These four currencies make up the bulk of “allocated” global international reserves—more than 95 percent.³ Other advanced economy currencies, including the Swiss franc, Canadian dollar, and Australian dollar, are also held by central banks in foreign reserves and traded in foreign exchange markets, albeit on a much smaller scale. However, the share of ‘other’ currencies in reserve composition has tripled in absolute terms since 2007, suggesting a trend for reserve diversification.
- **International transactions.** The U.S. dollar and euro are the two most widely used currencies in international trade (Goldberg and Tille, 2008) and capital transactions. In particular, the U.S. dollar dominates the pricing of commodities, as well as the issuance of international debt and equities. While EM currency use remains small, bilateral efforts are underway by country authorities to promote wider use in trade settlement (for example, see Wu et al., 2010) and capital transactions. Accordingly, there have been steady gains in the use of EM currencies, such as the RMB and the Brazilian real. The use of the RMB increased in both trade and international debt securities, while the Brazilian real showed the largest gains for denominating debt securities (see Figures 1–4).



³ “Allocated” foreign exchange reserves are those for which currency composition is reported in the IMF’s Currency Composition of Official Foreign Exchange Reserves (COFER) database. As of December 2010, 55 percent of official foreign exchange reserves were reported to COFER.

- *Foreign exchange (FX) trading.* As of 2010, the four currencies in the SDR basket (U.S. dollar, euro, British pound, and Japanese yen) comprise about 75 percent of global foreign exchange turnover amid increased trading of other currencies. Currencies of Asian financial centers, such as the Hong Kong dollar and Singapore dollar, are also frequently traded, but the use of these currencies is limited. Other EM currencies, while increasingly traded, remain insignificant in the global FX market. Moreover, the lack of hedging instruments is a major impediment to more international use of EM currencies, as reflected in the small trading volumes of FX derivatives (BIS, 2010).



An evolution? While the preceding data provides a “snap shot” of the current dominant position of the U.S. dollar and euro in the IMS, it may obscure a growing interest in EM currencies on the part of both private and official sector participants in the system. There are signs that a slow but steady increase in the use of alternative currencies in international transactions is underway. For instance, China’s introduction of the RMB trade settlement scheme has expanded the use of the RMB in regional trade, while the successive increase in “other” foreign exchange turnover in each BIS Triennial Central Bank Survey since 2001⁴ and the growing contribution of local currency-denominated assets in EM bond and mutual funds⁵ speak to a similar evolution in global financial markets. Given the traditional role of international reserves to cover a country’s external liabilities, it seems likely—if not inevitable—that emerging market currencies will account for a larger share of international reserves, keeping pace with this evolution. Interviews with private and public fund managers support the view that there is a structural shift underway that will give greater weight to EM currencies in the IMS.

A look ahead. While EM currencies are still far from center stage, international currency status is best viewed as a continuum rather than a binary concept. While policy support can play an important role (for instance China’s decision to allow trade settlement in RMB; central bank convertibility guarantees), market demand appears to be driving the evolution,

⁴ OTC foreign exchange turnover by country and currency in April 2010. The label “Other” in Figure 3 captures all currencies other than USD, EUR, JPN, STG, CHF, CND, and AUD.

⁵ EPFR database, data available through July 2011, <http://www.epfr.com/>

while the official sector, especially reserve asset managers, may be seen as “catching up” to market developments. In this light, the following analysis focuses on assessing the potential for a subset of EM currencies that could play a global or regional role in enhancing IMS stability, rather than a wider set of EMs that may have achieved macroeconomic stability or successfully liberalized their capital accounts. The assessment centered on those EM currencies that are most likely to achieve sufficient scale as to potentially become used on a global level. Thus, the detailed analysis focused on the BRICS⁶ as the largest EMs from different regions. Other EM currencies were also examined with additional indicators presented in the Appendix.

III. INTERNATIONAL EXPERIENCE

Key insights. The evolution of international currencies over the last century, including the rise of the U.S. dollar in the 1920s and 1930s, as well as the experience of the Japanese yen, Deutsche mark, Korean won, Singapore dollar, and the euro more recently, suggest that economic fundamentals such as the economy’s size and trade network, depth, and liquidity of capital markets, as well as the stability and convertibility of the currency are important determinants that support currency internationalization (Cohen, 2000). No single factor determines successful internationalization; rather, wide use of a currency outside the issuer’s borders is due to the combination of economic size and centrality to global trade, as well as capital account openness and the depth of financial markets, which provide global investors with safe stores of value. Empirical analysis using a panel data set of advanced market currencies broadly supports these conclusions: economic weight, trade centrality, macroeconomic stability, and financial depth are contributing factors to wider international use of a currency. However, the relative importance of these factors may vary across currencies. For instance, economic size may not be the decisive element for the use of sterling or the Swiss franc, while financial indicators are more important due to the role of the United Kingdom and Switzerland as major financial centers. For truly “global” currencies (U.S. dollar and euro), both size and financial factors are important. These factors and a few others are elaborated below.

Economic size. Typically, the largest and leading global economic and political power provides the global currency. The dominant role of the British economy (and Empire) in the 19th century, and then of the United States throughout much of the 20th century, were matched by the dominant role of the British pound and U.S. dollar in the IMS. Indeed, large economic scale is supportive of creating deep and liquid financial markets, another key aspect of currency internationalization (Eichengreen and Flandreau, 2010; Genberg; 2009; Tavlas, 1992). At the same time, there was considerable inertia in the transition from pound to dollar compared to the relative economic weights of the United Kingdom and the United States.

⁶ BRICS in this paper refer to Brazil, Russia, India, China, and South Africa.

Demand-side factors. A number of factors can generate demand for a currency on a regional or global scale. These factors include:

- *Network effects.* Historical experience shows that internationalization of currencies is supported by strong economic powers with wide international trade networks, and that scale matters in terms of a currency's use outside its borders (Dwyer, 2003). The experience of the Dutch Republic (Dutch guilder) in the 17th and 18th centuries; England (British pound) in late-18th and 19th centuries; and the United States (U.S. dollar) in the 20th century demonstrates that wide trade networks support the use of the currency both as a unit of account and medium of exchange. Positive network effects develop when the value of a product or service increases as more people use it.
- *Invoicing practices.* A number of factors influence actual trade invoicing behavior and determine effective use of the currency in international trade, including a country's share in world exports; the proportion of the country's exports to countries that are not themselves issuers of international currencies; and the share of specialized manufacturing products in exports; all support the use of one's own currency in invoicing trade (Tavlas, 1992). Commodity exporters are less likely to invoice their trade in domestic currencies, and instead will adopt the global standard (e.g., U.S. dollar pricing for many commodity exports). Other factors, such as the composition of the supply chain, also influence pricing behavior. For instance, Japanese exports are often priced in U.S. dollar since Japan is part of the Asian supply chain, which essentially belongs to the dollar bloc. Japanese firms often centralize exchange rate management by invoicing in U.S. dollar for imports and exports. Similarly, pricing to market to protect competitiveness encourages firms to invoice exports in the importer's currency (Goldberg and Tille, 2008; Ito et al., 2010). Some of these factors limited the expansion of the Japanese yen as the dominant invoicing currency even in Asia. Similarly, efforts to create international demand for the Korean won were hampered due to established practices of pricing and invoicing trade in U.S. dollar and European currencies (Takagi, 2009; Xu, 2009).
- *Store of value.* The macroeconomic and financial stability underlying a currency are key considerations in determining willingness to hold and transact in it, and are particularly relevant for reserve management (both official reserves and private sector stores of value). High GDP growth rates (and potential future growth), as well as low and stable inflation, are key factors in determining the attractiveness of a currency. In this sense, crisis episodes could undermine efforts to internationalize domestic currencies, as was the case of Japan after the banking crisis in the 1990s (Tetsuji, 2000; Takagi, 2009).

Supply-side factors. The supply and ready access to assets denominated in a given currency will impact the degree to which a currency can assume an international role (and therefore also demand for it):

- *Domestic financial market depth.* The literature places considerable emphasis on the importance of deep and liquid financial markets to support currency internationalization, providing borrowers and investors access to a range of financial instruments backed by the country's real economic activity and sovereign's fiscal position (e.g., Kenen, 2009, IMF 2011d). Importantly, access to deep and liquid financial markets onshore is essential to allow hedging of currency and credit risks required by participants in international markets.
- *Role of offshore markets.* Offshore markets often played an important part in currency internationalization efforts and usually led market development onshore, including for the U.S. dollar (He and McCauley, 2010). However, offshore market development should go in tandem with financial deepening onshore. The policy of internationalizing the yen yielded mixed results, possibly because of the two-track strategy of liberalizing offshore use of the currency, while the domestic yen market remained relatively controlled and capital markets unevenly developed and heavily regulated. This approach prevented deepening of domestic financial markets and did not attract capital flows and investment in yen-denominated assets (IMF, 2007; Tetsuji, 2000). Japan's experience points to the importance of opening domestic currency and debt markets to foreign investors, in addition to encouraging offshore use of the currency, as was the case for the U. S. in the late-1960s and 1970s, when the Eurodollar market developed rapidly.
- *Currency convertibility and capital account liberalization.* Successful internationalization is generally associated with financial openness, allowing for the free flow of capital and contributing to the development of domestic financial markets (e.g., Eichengreen and Flandreau, 2008; 2010; Genberg, 2009; Bénassy-Quéré and Pisani-Ferry, 2011). Dywer (2003), Tavlas (1992) and others note that the leading international currencies of the last three centuries—the guilder, sterling, and U.S. dollar—were issued by countries with dominant positions in international finance and relatively unfettered markets. Importantly, limits on the convertibility of a currency for capital account transactions are likely to raise the costs of transactions denominated in the currency, and limit foreign access to domestic stores of value.⁷

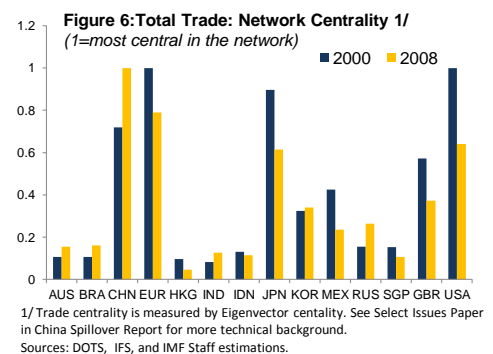
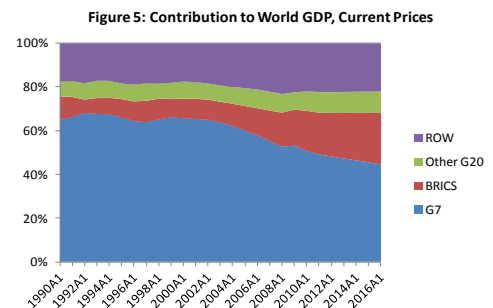
⁷ Kenan (2009) notes that the removal of restrictions on capital account transactions need not require the end to all restrictions on capital account transactions (i.e., macroprudential measures may be retained).

- Policy support:* Support for currency internationalization, through specific policy measures, or willingness to act as a provider of global liquidity, appear to play an important role in internationalizing the currency, particularly building credibility as safe global asset. For instance, the Federal Reserve Act of 1913, which created the Federal Reserve System allowed the Federal Reserve to discount and purchase trade acceptances as a mechanism for managing credit conditions. Using this authority, the Fed acted as "market maker of last resort", allowing the dollar to supplant sterling as the currency was used for trade finance already in the 1920s. More recently, Fed support included the establishment of swap lines with 14 central banks, including Korea, Brazil, Mexico, and Singapore.
- Lengthy process?* Currency internationalization is generally expected to be a gradual process driven by deeper economic, financial, and political factors. While it is true that developing the *conditions* that impact a currency's eligibility for internationalization could span a number of years (e.g., substantial financial market depth), the switch itself could potentially be quite rapid, in particular, if regulatory or policy conditions are the primary impediment to internationalization. For instance, Eichengreen and Flandreau (2010) argue that the rise of the U.S. dollar as a leading global currency in the 1920s was very rapid. During transition, the key challenge for policymakers is guiding the pace and managing the process to safeguard domestic and systemic stability.

IV. ASSESSING EMERGING MARKET CURRENCIES' POTENTIAL

Overview. Key EM currencies with potential for internationalization are the Brazilian real, Chinese renminbi, Indian rupee, Russian ruble, and South African rand. All these economies have significant regional importance and economic weight. Despite severe data limitations, there is evidence that the use of these EM currencies in international transactions has increased markedly in the past few years. For instance, use in foreign exchange derivatives increased by 50 percent for the real, doubled for the rupee and the ruble, and increased about twelve-fold for the renminbi (see paragraph 4).

Contribution to global GDP and trade. Higher rates of growth in many emerging market countries relative to advanced economies, in particular over the last decade, has meant that emerging market countries now account for nearly half of global output, up from just over a quarter in 1971. This trend is expected to

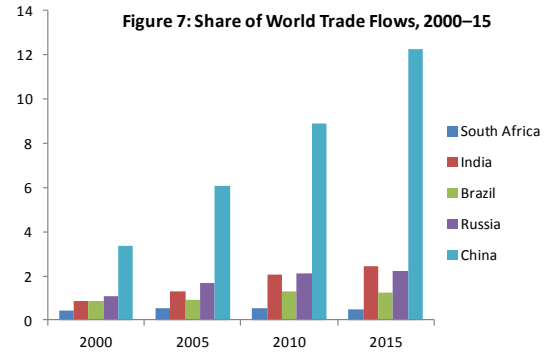


continue over a longer horizon, with China forecast to overtake the United States as the world's largest economy by 2035 (IMF, 2011a; Goldman Sachs, 2010; CEPII, 2011). The increased economic weight of EMs is complemented by a significant rise in trade centrality: measures from network theory show that emerging markets are now more central to the global trading system, with China even surpassing the United States and the Euro Area (IMF, 2011b) in terms of network centrality (see Figure 6). This structural change is likely to lead to shifts in asset allocations, as well as savings and investment behavior.

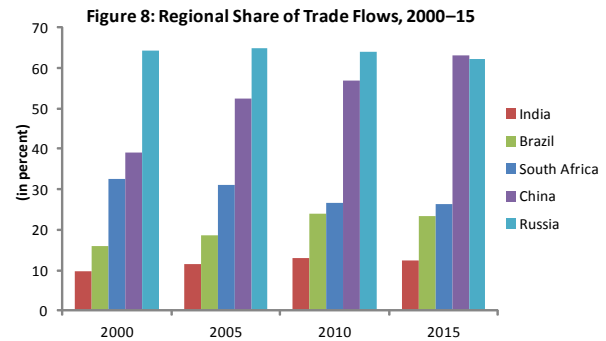
Trade flows. Both size and network matter for currency internationalization, and the higher the weight of the country in global trade flows, the more likely the currency may be used for invoicing and settling trades. As Figures 7 and 8 illustrate, China stands out relative to the other EM countries on a global scale, accounting for nearly 9 percent of global trade in 2010, compared with 4.5 percent for Japan. Further, China's trade flows as a percent of global trade are expected to surpass the United States in the next five years. Other EM countries also show an increasing share of global trade, or are roughly constant in the cases of Brazil and South Africa, but all EMs trail China by a significant margin and still show a gap with other major countries. This gap is not expected to close significantly in the next five years.

Regional acceptance. China's regional importance has grown markedly in the last 10 years (see Figure 8). This is particularly significant considering that interregional trade in Asia accounts for a large part of the growth in global trade in the last decade. Brazil has also experienced considerable growth in its role as a regional trading partner. Russia's regional share appears to have plateaued, India's relative growth has been modest while South Africa's regional share has declined.

Impact of commodities. The value of currencies of large exporters and importers of commodities are largely determined by



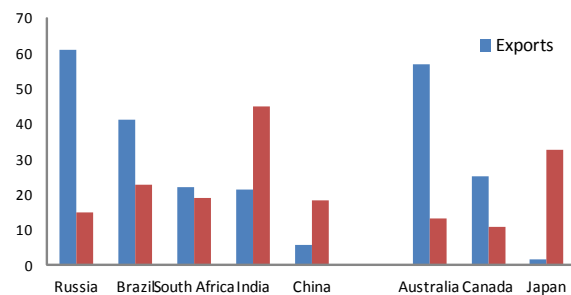
Source: WEO; and Fund staff Projections.



Source: WEO; and Fund staff projections.

Region: Western Hemisphere (Brazil), Developing Asia (China, India), CIS (Russia), and Sub-Saharan Africa (South Africa)

Figure 9: Weight of Total Commodities in Trade Flows 1/ (as percent of total exports or imports)



1/ includes agricultural products, energy and metals

Source: Fund terms of trade data.

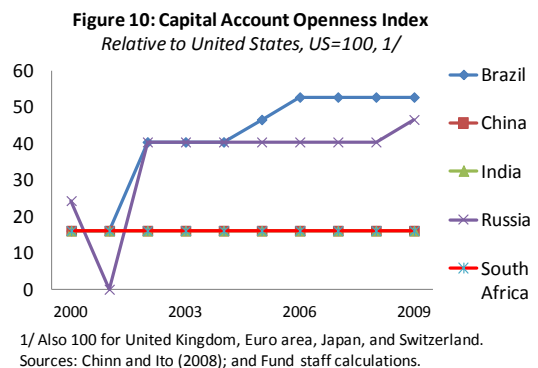
movements in commodity prices, limiting their attractiveness as a unit of account and an international store of value, although they can provide a hedge for commodity importers. The Fund's calculation of terms of trade weights can be used as a proxy for estimating the weight of commodities in a country's trade flows. Figure 9 suggests that having a large share of commodities in trade flows may present headwinds to currency internationalization in Brazil, India, and Russia; China appears to be relatively less influenced by commodities trading, in contrast to some AM currencies, which are heavily influenced by commodity prices.

Macroeconomic factors. Average real GDP growth in EM countries has been consistently above that of the United States, Japan, and the Euro Area, while EMs' relative growth prospects remain quite favorable in the near- to medium-term. However, with the exception of China, inflation has been consistently higher in EMs, with negative implications for the stable store of value characteristic. Chronically high inflation may be symptomatic of inadequate macroeconomic policies and/or underdeveloped financial infrastructure, all sources of risks which historically have translated into a significant risk premium over advanced economies assets.

Credit and sovereign risk. Without exception, credit ratings for the countries evaluated have improved markedly, with all countries having achieved investment grade status (Baa3/BBB- or above) and rating outlooks that are generally stable. The improvement in the risk profile of EMs may not be sufficient; however, to attain reserve currency status. Official reserves are managed conservatively and guidelines typically require at least an "A" rating, and high liquidity to invest (see Appendix Table).

Currency risk. In addition to credit risk, currency risk diversification is another key consideration for international portfolio managers. It can be reduced by diversifying into currencies that have or are expected to have a low or even negative correlation with currencies already in the portfolio. These lower or negative correlations occur when business cycles between two countries or regions are not fully synchronized, or when, for structural reasons, a currency is expected to outperform currencies already in the portfolio. Adding EM currencies to a portfolio could provide diversification benefits and reduce value-at-risk. Despite significant progress in market development, foreign exchange markets for EM currencies still have some way to go before they can match the efficiency and liquidity provided by current reserve currencies. For instance, the bid-ask spread in EM markets remain an order of magnitude higher.

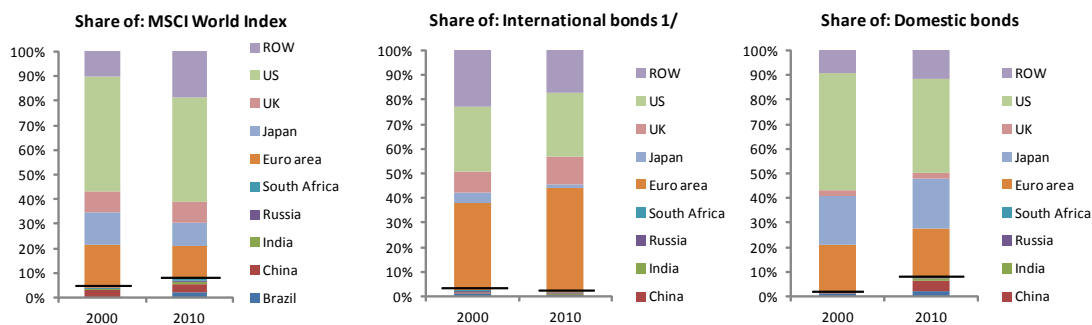
Capital account openness. Chinn and Ito (2008) developed a capital account openness index based on the IMF's Annual Report on Exchange Arrangement and Exchange Restrictions (AREAER). In general, a higher index value is associated with countries or areas that have successfully achieved a high degree of currency internationalization (United States, Euro



Area, United Kingdom, Japan, and Switzerland). According to the index, Brazil and Russia have made significant progress toward liberalizing their capital accounts, while China, India, and South Africa still lag behind (see Figure 10).

Financial depth. As investment flows provide demand for the currency as a store of value, this demand should be met by an adequate supply of financial instruments. To proxy the financial depth of select EMs, Figure 11 shows the share of each country's contribution to the stock of securities according to: the MSCI World Index, international debt outstanding and domestic debt outstanding. In both the aggregate and for individual countries (with the exception of Russia), the share of the BRICS in global capital markets has increased, albeit from a very low base, and probably not to the same extent as their economic performance would suggest. To proxy financial depth, Fund staff developed an index of total financial claims (both domestic and external) over GDP for each country and for the world as a whole. The index shows that the countries/currency areas whose currencies comprise the SDR basket (United States, Euro area, Japan, U.K.) make the largest contributions to “global financial depth”, followed closely by China (for details, see Appendix box and IMF, 2011d). Of course, this measure only captures total financial stocks as one proxy for depth and needs to be augmented with additional information to shed light on possible use in global transactions—related to whether these claims are denominated in local or foreign currency and are freely traded, among others.

Figure 11. Share of MSCI World Index, Domestic and International Debt Outstanding



1/ end-January of 2000 and 2010

Sources: MSCI, BIS - Securities statistics and syndicated loans.

Offshore markets. Offshore markets for EM currencies are growing, with the sharp increase in recent years reflecting EM's increasing global economic clout (see He and McCauley, 2010). Development of offshore markets contributes to interest in the currency and facilitates its use internationally.

Optimizing potential. Overall, economic influence, trade flows and centrality tend to support the potential of a subset of EMs, particularly China, to have their currencies internationalized. Particularly, increasing trade linkages among EMs could encourage “south-south” use of EM currencies. However, each economy has a different structure and may face different challenges. EM countries have made progress in deepening their financial markets, with China and Brazil standing out for the rapid expansion of domestic bond markets. Russia and Brazil have made the most progress in liberalizing their capital accounts. However, their

potential for use in trade settlement may be limited by the structure of their trade and reliance on commodity exports. China has made the most progress in promoting cross-border use of the RMB, in particular since the start of the pilot scheme in early 2010, suggesting that rapid change in the actual use of international currencies is quite possible (see Figure 12). Growing accumulation of RMB deposits offshore accompanied the rapid pace of RMB trade settlement and has spurred the development of RMB financial instruments offshore. In August 2011, the RMB trade settlement was extended nationwide, and RMB-denominated FDI and portfolio flows (within quota) were authorized from Hong Kong SAR to the mainland, thus significantly expanding the investment channels for offshore RMB; an important step toward wider currency use. Arguably, the RMB has the greatest potential to become internationalized, provided financial sector reforms and capital account liberalization continue. The score board below (see Table 1) summarizes the prospects of key EM currencies and comparison with issuers of international currencies.

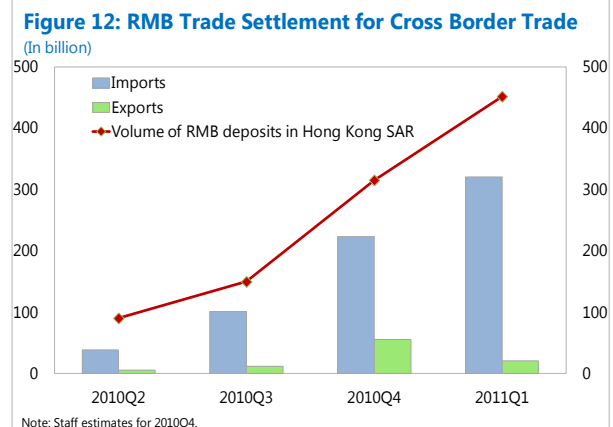


Table 1. International Currency Status: A Score Board 1/

AE currencies	USD	Euro	Yen	Pound	SWF	AUD	CAD	NZD
Widely used as international reserves	●	●	●	●	◐	○	○	○
Widely used in capital and trade payments	●	●	◐	◐	○	○	○	○
Widely traded in FX markets	●	●	●	●	◐	◐	◐	◐
Economic size	●	●	●	●	◐	◐	◐	○
Trade network	●	●	●	●	◐	◐	◐	◐
Investability 2/	●	●	●	●	●	●	●	●
Capital account openness 3/	●	●	●	●	◐	◐	●	●
Financial depth index 4/	●	●	●	●	◐	◐	◐	○
EM and NIE currencies	HKD	Won	SGD	RMB	Real	Rupee	Ruble	Rand
Widely used as international reserves	○	○	○	○	○	○	○	○
Widely used in capital and trade payments	○	○	○	○	○	○	○	○
Widely traded in FX markets	●	◐	◐	○	○	○	○	○
Economic size	○	◐	○	●	◐	◐	◐	◐
Trade network	◐	◐	◐	●	◐	◐	◐	◐
Investability 2/	●	●	●	●	◐	◐	◐	●
Capital account openness 3/	●	◐	●	○	◐	○	◐	○
Financial depth index 4/	◐	◐	◐	●	◐	◐	◐	◐

1/ ● " criteria fully met; ◐ "patially met; ○ "not met.

2/ "●" Based on sovereign risk ratings "A" or above by Moody's and S&P.

3/ Based on Chinn and Ito "Capital Account Openness Indicator, 2008"

4/ Country contributions to global financial depth , "●" for top five contributors.

V. IMPLICATIONS FOR EMERGING MARKETS

Issues. Mindful of the potential risks to monetary and financial stability posed by currency internationalization, some countries discouraged international use of their currencies (e.g., Deutsche mark in the 1960s and 1970s, and the yen in the 1970s). Until the late 1990s,

Singapore had maintained a number of restrictions on the international use of its currency, despite promoting the country's role as a major financial center (IMF, Singapore, Selected Issues, 2001). The accompanying capital account liberalization tends to bring increased market discipline and scrutiny over a country's policies, including fiscal management, which could reduce policy flexibility. In addition, the global use of a currency carries a different set of benefits and responsibilities for countries at the center, with significant implications for the rest of the system as elaborated in Section VI.

Benefits. International currency use brings a number of benefits both to the issuer of the currency and to global markets:

- Opportunity to reduce transaction costs and exchange rate risk with the option of settling payments in domestic currency.
- Larger volume of transactions and increased competition tend to improve institutions' performance and innovation. At the same time, certain sectors in an economy (e.g., financial services) could expect to benefit from the financial market development that would accompany a move toward internationalization.
- Lower cost of funding than would be the case otherwise. According to some estimates, the cost of funding in the U.S. is reduced by 50–60 basis points due to foreign demand for U.S. treasuries (McKinsey, 2009). Similarly, EMs could face lower yields from a portfolio shift toward EM-issued assets (IMF, 2011b)

Risks. Currency internationalization involves a number of potential risks to monetary and financial stability; including complicating monetary management (by reducing authorities' control over monetary aggregates due to increased offshore activities and offshore/onshore links, as well as reduced autonomy in setting domestic interest rates) and straining the financial system's ability to adequately absorb capital flows (due to increased volatility of capital flow and susceptibility to surges and sudden stops). Currency and other financial markets that lack scale and depth could also become a source of systemic instability as a shift in portfolio allocations could overwhelm more shallow markets and result in destabilizing asset price swings. The sequencing of reforms and achieving a degree of financial depth ahead of encouraging greater cross-border use of the currency could mitigate those risks.

Competitiveness. Some studies have found that the exchange rate of the reserve currency issuer is higher than it would be otherwise because of the increased demand for assets denominated in that currency (McKinsey, 2009). In the present context, demand for dollar assets has supported the dollar exchange rate, whereas reduced demand for dollar assets associated with a shift to other international currencies would result in a strengthening of alternative currencies, *ceteris paribus*, relative to the dollar.

Policy actions. Policymakers from EM countries that wish to promote internationalization of their currencies would need to focus on the following key areas:

- *Macroeconomic stability.* Establishing a credible policy framework for low and stable inflation is the cornerstone for building confidence in the store of value properties of that currency. A country with a sound and sustainable macroeconomic framework and low inflation tends to make its economy more resilient and its currency more stable.
- *Market-based monetary framework.* It is particularly relevant for countries that target monetary aggregates or rely on quantitative ceilings to reorient policy toward a more market-based monetary framework, including market-determined interest and exchange rates. This could minimize risks to monetary stability during transition, as control over monetary aggregates weakens due to financial innovation and increased currency circulating outside the country's banking system.⁸ As the country's financial system expands, and the nonbank financial sector develops, monetary aggregates lose some of their significance and a market-based monetary framework becomes invariably part of the reform process.
- *Capital account liberalization.* Key steps to enhance foreign access to domestic financial markets, which also require sufficient market and institutional development and adequate oversight, include: i) reducing or eliminating the required approval process for transactions as they add considerable costs and risks to the end users; ii) allowing forward delivery of the domestic currency; iii) reducing various direct and indirect taxes on income and capital flows (e.g., reserves requirements, withholding taxes, transaction taxes); iv) allowing/increasing the ability of foreigners to borrow in domestic currency, permitting domestic entities to borrow in foreign currency, and allowing for cross-border swap settlements between banks and between banks and end users; and v) allowing foreign institutions to establish banking and capital markets businesses on the same basis as domestic entities to spur competition and innovation in cross-border flows and products.
- *Liquidity provision.* International currency issuers, especially those issuing reserve currencies, may also have to act as providers of global liquidity at times of financial stress. In this context, central banks in countries aspiring to achieve broad internationalization may also consider establishing swap lines with other central banks and be willing to stand ready to enhance the liquidity of their assets by providing access to a discount window at normal times.

⁸ He and McCauley (2010) discuss the U.S. experience in managing this situation through reporting requirements and adjustments to the reserve requirement framework of banks.

- *Sequencing.* In undertaking these efforts, it is important to ensure appropriate sequencing and prioritization of reforms. As discussed, currency internationalization is closely linked to financial deepening and capital account liberalization; as such, the same roadmaps to financial deepening and capital account liberalization apply.⁹ For instance, a sound market-based monetary framework to control liquidity and credit growth effectively would have to precede capital account and financial liberalization. Similarly, developing offshore markets for domestic currencies should accompany financial sector reforms onshore, which would set the stage for capital account openness and greater foreign access to investment opportunities onshore. More specific to currency internationalization, a broad sequencing could begin by encouraging use in invoicing and settling of trade; followed by use in private financial transactions and as foreign reserves.
- *Capacity building.* Financial sector policies need to focus on building institutional capacity and strengthening financial system oversight, corporate governance, and resolution schemes. They should aim at encouraging the development and growth of various sub-components of the financial markets (e.g., market infrastructure for trading and market-making, as well as the payments, securities clearing, and settlement systems to facilitate the use of nondollar currencies for securities trading, cash payments, and derivatives transactions).

Of course, all the pre-requisites to currency internationalization, particularly ensuring macroeconomic stability and developing and deepening domestic financial markets, are worth pursuing in their own right even for countries that do not seek wider use of their currencies. Indeed, for those countries, currency internationalization may even be viewed as a by-product of economic reforms that bring additional benefits.

VI. IMPACT ON INTERNATIONAL MONETARY SYSTEM STABILITY

Issue. While countries may attempt to internationalize their currencies in light of domestic interests, an important consideration is how a shift to a greater number of international currencies would impact the overall stability of the IMS. To the extent there are benefits (risk diversification; faster and more equitable global adjustment between deficit and surplus countries, leading to enhanced stability) and risks (lower efficiency and network externalities; heightened capital flow and exchange rate volatility) associated with greater multipolarity, what potential is there to mitigate risks while maximizing benefits. For instance, would these benefits and risks be fully internalized by markets, or would they need to be managed at least in part by policymakers?

⁹ See for example IMF (2011f), IMF (2002), IMF (1999); and IMF (1998).

Network externalities. A key argument in favor of the current system relates to the notion that transacting in a single currency lowers transaction costs due to a more efficient foreign exchange market involving the vehicle currency. The dominant role of the U.S. dollar in invoicing and transacting, along with the unparalleled size of U.S. dollar financial markets, would appear to support this claim. At the same time, the theoretical move toward a more multipolar world is predicated on the development of deeper, more liquid financial markets. To the extent that a move to a multipolar system can only occur in the presence of large, highly liquid, and therefore highly efficient domestic financial markets, it is not clear that denominating, invoicing, and settling trade in a *limited* number of currencies would be more costly. Diversification benefits and the advent of electronic trading may also outweigh potential costs of reduced network externalities (Eichengreen, 2005; Genberg, 2009). Moreover, to the extent that monetary blocs would match economic ones, with floating exchange rates between blocs, reducing the need for reserve buildup across blocs, the loss of efficiency would be limited (CEPII, 2011). This suggests there may be room for a handful of currencies to play an international role without losing efficiency. For instance, it is possible to envisage a system where the U.S. dollar and euro remain the main global currencies, while a set of regional currencies emerge in different trading blocs or regional financial centers.

Risk diversification. An increase in the number of international currencies would be beneficial to diversify overall portfolio risk. For the global financial system, the benefit of currency internationalization would be greatest if any new global currency can offer diversification benefits relative to the dominant international currencies (U.S. dollar, euro), while offering significant depth and liquidity at the same time. That said, the marginal benefits of currency diversification would decrease as the number of international currencies increases.

Increased volatility. To the extent that global currencies are close substitutes, we may observe higher price elasticity as investors become more responsive to changes in expected returns. As such, expanding currency options, in particular, for reserve currency assets may lead to sudden portfolio shifts, greater capital flow volatility, and large exchange rate swings. Against this risk of increased short-term volatility (which could be hedged), enhanced substitutability could reduce the likelihood of persistent deviations of exchange rates from fundamentals, thus improving the automaticity of global adjustment and systemic stability (Bénassy-Quéré and Pisani-Ferry, 2011). At the same time, a shift out of dollars assets by the official sector in the near term would likely be countered by portfolio rebalancing in private sector portfolios, provided the shift does not trigger a significant change in exchange rate expectations or system-wide expectation of a rapid change in official reserve allocations (Alcidi et al., 2010). However the risk of a change in market expectations should not be minimized, and some have proposed an International Reserve Diversification Standard for major foreign exchange reserve holders, that would aim to prevent any sharp adjustments in currency composition of reserves (see, IMF 2009; 2011; Truman, 2006). In addition, it is not clear to what extent markets would internalize the potential benefits and risks from a move to

a more multipolar system, putting greater emphasis on policy coordination among the major economies to avoid disruptive portfolio shifts or market dislocation.

Global adjustment. The move to currency internationalization by EMs is a lagging indicator of the global economic transition already underway, and to a large extent, the shift to a multipolar IMS would be consistent with ongoing global adjustment. To the extent leading candidates for currency internationalization are also prolonged current account surplus countries, exchange rate appreciation associated with currency internationalization would support global adjustment. In a related study, Chinn, Eichengreen, and Ito (2011) find that for China, financial development may help shrink its current account surplus, but only when it is coupled with financial liberalization. In a multipolar system, the risk of protracted exchange rate misalignments and persistent global imbalances would likely be reduced due to increased policy discipline among economies at the core (CEPII, 2011).

International and regional initiatives

Regional efforts. Regional initiatives to promote financial depth and increase systemic stability could support orderly currency internationalization as they act as an intermediate step to promote cross-border use of EM currencies and facilitate their acceptance as reserve assets within a particular region, leading to wider internationalization. The Chiang Mai Initiative (CMI, now the Chiang Mai Initiative Multilateralization or CMIM), which was conceived as a regional response to address liquidity needs of its members, has the potential to serve as a lender-of-last resort through multilateral swap lines. Similarly, the Asian Bond Market Initiative, first announced in 2003, seeks to develop local currency and regional bond markets, in effect increasing domestic financial depth.

EM asset pooling. To enhance market depth for EM-issued assets, sovereign and corporate debt issued by EMs could be pooled and securitized into a composite asset, providing diversification benefits across regions and allowing it to acquire higher quality status. This could mitigate some of the limitations to financial development and market depth, and enhance the safety of EM assets. The creation of synthetic EM currencies securities could accelerate the process of financial deepening and bypass the need to develop deep and liquid asset markets in individual countries—a process that could take decades to complete and may not be feasible in countries that lack the sufficient scale of economic and financial activities to support a deep financial market. While such a process would need to be private sector driven, and some proposals in this direction have been floated (see e.g., Mandeng, 2010), success would likely require coordinated support from authorities in participating countries; even so, legal hurdles could be considerable.

Role of SDR. The SDR, as a reserve asset already held by central banks could support a greater role for EM currencies. The potential to expand the basket composition to include currencies of large dynamic emerging markets could play a catalytic role in facilitating their acceptance (and use) as reserve assets (IMF, 2011c, IMF, 2011e). In addition, the criteria governing SDR membership emphasizes maintaining the stability of the basket valuation and

its attractiveness as reserve asset, thus highlighting some of the responsibilities of reserve asset issuers toward maintaining IMS stability.¹⁰

VII. CONCLUSION

The structure and composition of the global economy continues to evolve, with emerging markets already accounting for roughly half of global GDP and taking an increasingly central role in trade flows. While financial flows continue to be dominated by advanced economies, the trend in EMs is clearly in the direction of greater financial deepening and capital account liberalization. Therefore, in the longer run, EM currencies show potential to achieve wider international use similar to some advanced economies. For instance, currencies of commodity exporters (e.g., the Russian ruble and the Brazilian real) could play larger regional roles and become part of reserve assets similar to the Australian or Canadian dollar; while the RMB could achieve global use due to the economic size and trade related centrality of the Chinese economy.

While the speed and shape of progress toward a more multi-currency system will be largely organic and market driven, there is scope for policy action to facilitate this transition. The paper argues that the balance of risks and benefits point to a potential for systemic stability gains from further integration of a number of EM currencies, in addition to benefits to the countries themselves. However, only a handful of currencies have realistic prospects to become significant international currencies in the foreseeable future. Domestic policies could support financial depth and openness and help build market infrastructure, complemented by policy cooperation at the international level. The process, however, will need to be handled carefully to avoid greater instability both in the transition as well as the normal phases of the new multi-currency steady state.

¹⁰ Bénassy-Quéré and Pisani-Ferry (2011) go a large step further and suggest institutionalizing cooperation among central banks whose currencies belong to the SDR basket, so that global monetary stance and global liquidity are taken into account in setting national monetary policy. With this, an expanded SDR basket that includes the RMB could form the basis for a new “G-5” (China, Euro Area, Japan, the United Kingdom, and United States) to foster global policy coordination.

Appendix: Indicators of Use of Emerging Market Currencies

Appendix table. Selected macro and financial indicators of currency internationalization potential: key EMs and NIEs 1/

	Brazil	China	Hong Kong SAR	India	Indonesia	Korea	Mexico	Russia	Singapore	South Africa	Turkey
Macro indicators											
<i>GDP size 2/</i>	3.6	10.9	0.4	2.8	1.3	3.2	1.7	1.7	0.4	0.6	1.2
<i>Economic growth 3/</i>	4.2	9.5	4.4	8.1	6.7	4.2	3.6	4.3	4.4	4.2	4.2
<i>Inflation 4/</i>	4.9	2.6	3.4	5.2	4.8	3.3	3.1	7.2	2.5	5.0	5.2
<i>Sovereign ratings 5/</i>	BBB-	AA-	AAA	BBB-	BB+	A	BBB	BBB	AAA	BBB+	BBB-
<i>Capital account openness 6/</i>	0.4	-1.1	2.5	-1.1	1.1	0.4	1.1	0.2	2.5	-1.1	0.1
<i>Total trade 7/</i>	1.3	11.0	2.7	2.3	0.9	3.1	1.8	2.3	2.6	0.5	1.0
<i>Exchange rate flexibility 8/</i>	Floating	Crawl-like arrangement	Currency board	Floating	Floating	Floating	Floating	Other managed	Other managed	Floating	Floating
Financial indicators											
<i>Financial depth 9/</i>	1.6	7.2	1.6	1.1	0.3	1.2	0.5	0.8	0.5	0.5	0.4
<i>Intl. debt securities 10/</i>	0.1	0.1	0.2	0.0	0.0	...	0.1	0.1	0.1	0.1	0.1
<i>FX market turnover 11/</i>	0.3	0.4	1.2	0.5	...	0.8	0.6	0.5	0.7	0.4	0.4
<i>FX bid-ask spreads 12/</i>	8.6	1.7	1.2	6.7	...	11.6	7.2	7.9	6.7	31.2	23.6

1/ Selection based on shares of global and regional GDP, and trade among EMs and NIEs.

2/ Share of global GDP in nominal prices, projected 2011-16 average, WEO.

3/ Real GDP growth, projected 2011-16 average, WEO.

4/ CPI inflation, projected 2011-16 average, WEO.

5/ Standard & Poor's sovereign ratings, August 2011.

6/ Index number in 2009, Chinn and Ito (2009).

7/ Share of total world exports and imports of goods and services, projected 2011-16 average, WEO.

8/ De facto exchange rate arrangement, IMF AREAER 2010.

9/ Share of global financial depth in 2009, calculated from Staff Discussion Note "The International Monetary System and Financial Deepening," IMF 2011.

10/ Share of total international bonds and notes issues as of December 2010, BIS Quarterly Review, Table 13a and 13b.

11/ Share of global FX turnover as of April 2010, see table 2, "Criteria for Broadening The Composition of The SDR Basket", IMF 2011.

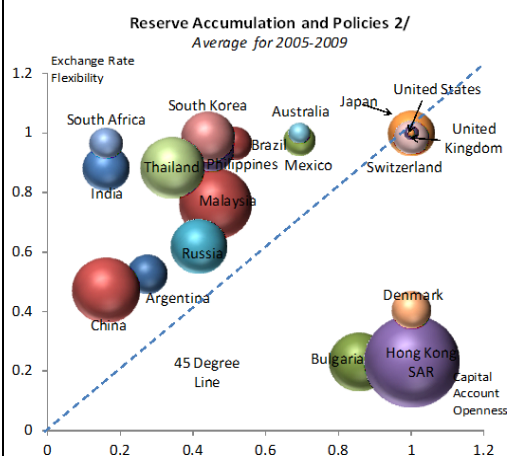
12/ 2006-10 average of bid-ask spread in basis points, see appendix table 2, "Criteria for Broadening The Composition of The SDR Basket", IMF 2011.

The above table complements the data and analysis presented in the paper for the group of BRICS by providing an overview of the status of use of other emerging market currencies, complementing the analysis in Sections III and IV. The sample coverage is based on shares of global and regional GDP, as well as trade and financial importance. Notwithstanding the fact that many EMs are catching up fast to advanced economies in terms of GDP and trade, the international use of their currencies has been limited so far, as reflected in the financial indicators presented above. In terms of potential for wider international use, several currencies are likely to become more internationally or regionally used, given their size and importance to global growth and trade; however only a handful are likely to acquire large scale use at a global level. The RMB stands out as the currency with most potential to acquire that level of use, as explained in the paper.

Appendix Box. Financial Deepening in Emerging Markets: Patterns and Implications¹

Financial deepening in emerging markets has important implications for both domestic and international stability. Deeper domestic financial markets can help countries cope better with volatile capital flows, increase access to finance, and therefore enhance the economy's ability to smooth the effects of shocks. Deeper markets can also attenuate currency mismatches on balance sheets, facilitate domestic absorption, and reduce the precautionary demand for reserves, thus contributing to lower external imbalances. Based on a new index of financial depth capturing both domestic and external financial claims,² there are several key findings for EMs:

- **Patterns.** Notwithstanding an ongoing catch up in real income, there exists a wide gap in the financial depth of emerging versus advanced economies, leaving significant scope for EMs to catch up (Box Table and Figure). Even if there is not full convergence in financial depth, some catch up in financial depth could contribute importantly to resolving persistent current account imbalances as domestic demand in EMs is boosted by faster secular credit growth.
- **Crisis incidence.** Crisis incidence rises at initial stages of deepening but decreases sharply thereafter. And though the cost of crises declines with deepening, it is relatively high at intermediate levels of financial depth. This non-linear profile could help to account for the distinct pattern of policy choices in EMs compared with AMs with deeper financial markets.
- **EM policies.** EMs typically have less exchange rate flexibility, more capital account restrictions, and high reserves accumulation, which serve as buffers against costly crises but which could also contribute to external imbalances. To attenuate the risks to the system as a whole that might accompany deepening, continued multilateral progress is therefore essential, for instance, to resolve external imbalances, build an adequate global financial safety net, and develop a comprehensive framework to cope with volatile capital flows.



2/ **Bubble size:** Official reserves as percentage of GDP, Hong Kong = 100.
Capital Account Openness: 1 for most open (normalized Chinn-Ito measures).
Exchange Rate Flexibility: 1 for free float (normalized AREAER measures).

Top five contributors to global financial depth

In percentage share of global financial depth weighted by GDP

	1989		2009
Advanced countries	92.8	Advanced countries	82.4
United States	32.5	United States	29.4
Japan	28.3	Japan	13.2
United Kingdom	5.7	United Kingdom	7.8
Germany	5.3	Germany	6.1
France	4.5	France	5.4
Emerging markets	7.2	Emerging markets	17.6
Brazil	1.9	China	7.2
China	0.9	Brazil	1.6
Hong Kong SAR	0.7	Hong Kong SAR	1.6
Korea	0.7	Korea	1.2
India	0.5	India	1.1

¹ Abstracted from Staff Discussion Note "Financial Deepening and International Monetary Stability" forthcoming, IMF, 2011.

² The index is constructed by using a weighted sum of domestic and foreign assets and liabilities as percentage of GDP for each country. See above-mentioned SDN for technical details.

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