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# **Structural Conditions for Currency Internationalisation- International Finance and the Survival Constraint**

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# Structural Conditions for Currency Internationalisation

## International finance and the survival constraint<sup>1</sup>

Stefan Angrick

### Abstract

This paper examines the relationship between currency internationalisation and economic structure. It argues that the hierarchical and asymmetric architecture of the international monetary system imposes a ‘survival constraint’ upon non–centre countries that obliges them to generate net inflows of the international centre currency to finance their payment commitments. It outlines why management of this constraint has historically been associated with a development approach that prioritises exports and investment over domestic consumption. It is demonstrated how this development approach creates an economic structure that is subject to path dependence and network effects, which perpetuates the role of non–centre countries as users of the international currency and the role of centre countries as suppliers of the international currency. It is argued that currency internationalisation cannot be pursued in isolation of broader economic policy, but rather requires economic structural change, political mediation, and accommodative international economic structures. Specifically, raising the international profile of the Chinese renminbi requires rebalancing of the Chinese economy towards domestic demand, whereas the status of the US dollar is intimately intertwined with the international openness of the US economy.

**Keywords:** International currency; international monetary system; economic structure; economic development; liquidity flows; survival constraint

**JEL classification:** F02, F1, F33, F34, F63

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## 1. INTRODUCTION

As the world enters a period of transition, discussion on the structure of the international monetary system is taking a back seat to debates on international trade and security. The success of political parties across much of the Western world that have promoted more inward-looking policies has rightfully attracted the attention of political economists. But focussing on politics and the real economy alone carries the danger of overlooking the central role that money and finance play in making of breaking political agendas in the today's world of globalised finance. This paper revisits one of the founding issues of international political economy (IPE), international money (Strange, 1971), to shed light on an important macroeconomic relationship that has in recent years been overlooked: the relationship of international currency use and economic structure.

The modern international monetary system is built around national money used on the international stage. Traditional analyses have typically approached this topic from the supply side, by exploring how economic (e.g. Park, 2010; Subramanian, 2011; Cohen & Benney, 2014; McCauley, 2011; Subacchi, 2013; Yu, 2014), institutional (Eichengreen, 2013; Kawai & Pontines, 2014), political (e.g. Chey, 2013; Kirshner, 2014; Cohen & Benney, 2014; Stokes, 2014), or historical conditions (e.g. Frankel, 2012; McDowell, 2013; Cohen, 2014) affect a currency's international use, based on quantitative and qualitative techniques (prominent quantitative studies include Liao & McDowell, 2016, 2015; Norrlof, 2014; Chinn & Frankel, 2008). In particular, capital account openness, financial deregulation, the transparency of political institutions have been widely studied. Meanwhile, recent contributions have focused more on the demand side (e.g. Ito et al., 2010; Chey, 2015) to determine which factors actually drive international use of a currency. While all of these studies have made important contributions, however, the relevance of economic structures underpinning international liquidity flows has been relatively little explored.

Recent analyses of the euro (Germain & Schwartz, 2014) and the Chinese renminbi (Pettis, 2013b, pp. 150-177) have reminded us that current accounts and currency internationalisation go hand in hand, a theme that is carried forward here and related to the more general features of the international monetary system. Since the present international monetary system is an asymmetric and hierarchical one centred around the US dollar, the 'centre currency', countries operating within the system require access to sources of dollar funding to finance international transactions. Similar to firms operating in monetary economies, countries relying on foreign currency funding are required to match dollar-denominated expenditure and dollar-denominated cash flow in a way that

allows them to meet payment obligations as they come due – a mechanism termed the ‘survival constraint’ by Minsky (2004, pp. 95–99). Whenever an international loan is taken out, the debtor will need to generate *net* inflows of US dollar funds sufficiently large to cover repayment of a loan’s principal and interest. To achieve this, many countries throughout history have relied on a development approach that prioritises exports and investment over domestic consumption, an approach now commonly referred to as the ‘Asian Development Model’ (Pettis, 2013b, pp. 69 ff.). While this strategy has produced high rates of economic growth, it rests on an economic structure that generates current account deficits in the centre economy – the US – and current account surpluses in key economies in the rest of the world – particularly in Asia.

The argument of this paper is that this structure limits the potential for the currencies of non–centre countries to achieve greater international use. Economic structure and international currency use are intertwined, so the international profile of currencies like the Chinese renminbi depends on the success of their home economies at rebalancing towards greater reliance on domestic demand rather than international demand. Similarly, the current role of the US dollar in the international system is backed by the international openness of the US economy, and efforts to reduce the role of the US as the ‘buyer of last resort’ would likely entail adverse consequences for the international role of the dollar and the stability of the international monetary system. In illustrating how the survival constraint links economic structures and the international use of currencies, this paper firmly locates currency internationalisation in the realm of multilevel analysis. It highlights how the potential for international liquidity provision relates to domestic political structures, and thereby strives to contribute to the rediscovery of the macroeconomy in IPE (Blyth & Matthijs, 2017).

The paper is organised as follows. Section 2 lays out the mechanics of the survival constraint conceptually, and explores its consequences for a country’s policy space. Section 3 focuses on the effect of the survival constraint on trade patterns and development paths, outlining how past development strategies have given rise to path dependence and network effects that benefit the incumbent centre currency. Finally, Section 4 will outline the relationship between the survival constraint and the ‘Triffin dilemma’. Whereas Sections 2 and 3 will draw heavily on the historical experience of the Japanese yen and the Chinese renminbi, Section 4 will pay closer attention to the case of the British pound. Section 5 concludes.

## 2. THE INTERNATIONAL MONETARY SYSTEM AND THE SURVIVAL CONSTRAINT

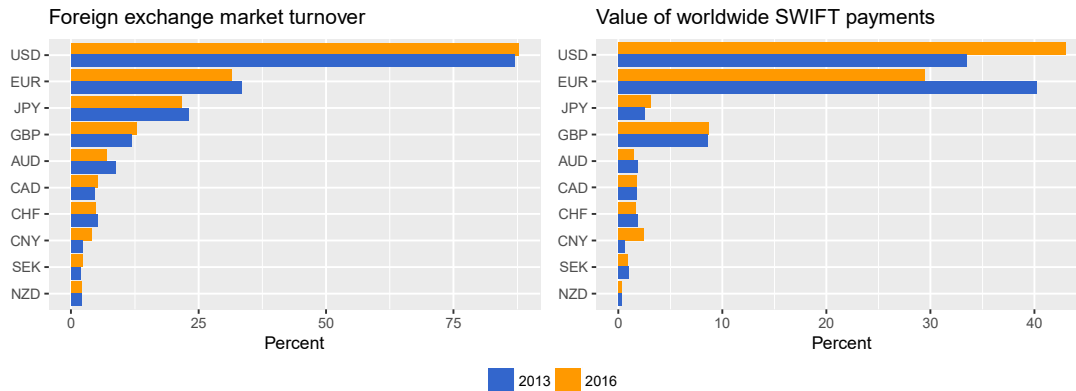
Since the end of the Second World War, the international monetary system has been a US-centric one. The US dollar is the only true international currency, accounting for 87.6% of all international foreign exchange transactions between 2013 and 2016 (BIS, 2016), as shown in Figure 1.<sup>2</sup> Other currencies, such as the British pound, continental European currencies and the Japanese yen, have remained limited to specific geographical regions. Fewer currencies even are used to any significant degree in international exchange at all, and economies issuing such currencies often face significant obstacles to issuing local currency-denominated debt altogether, an issue known as “original sin” (Eichengreen & Hausmann, 2005; McKinnon & Schnabl, 2004). The international monetary system is a highly hierarchical and asymmetric one, with the US dollar on top as the international ‘centre currency’ (Mehrling, 2013; Bell, 2001; Cohen, 1998, pp. 92–118). Economies that wish to engage in international transactions, including international trade and cross-border investment, thus require access to sources of US dollar funding.

Like many emerging market economies today, Japan and China at early stages of their economic development almost exclusively relied on US dollars to settle international trade, as shown in Figure 2. Japan particularly depended on US dollar funding to finance the import of raw materials and resources, whereas China’s dependence on US dollar funding was primarily driven by its desire to import foreign capital goods when it embarked on its policy of reform and opening up. Both countries initially relied exclusively on foreign currencies to conduct international transactions, particularly the US dollar.

Historically, countries have accumulated the international centre currency in one of two ways: Through retained profits from international trade, or through international borrowing. Since emerging market economies often lack the capacity to maintain steady export surpluses, international borrowing is a common route at early stages of development. Economies that rely on foreign currency funding need to ensure that they maintain sufficient cash flow to meet payment commitments as they come due. Crucially, they need to be able to generate sufficient revenue to repay the amount borrowed (the principal) and interest at maturity, which together are necessarily larger than the principal alone (Germain & Schwartz, 2014). In other words, the borrowing party will need to generate *net* inflows of funds.

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<sup>2</sup>This is far ahead of the next most commonly used currencies, the euro at 31.4% and the Japanese yen at 21.6%. Readers are asked to note that, according to convention, these shares sum to 200%, since two currencies are involved in each transaction.



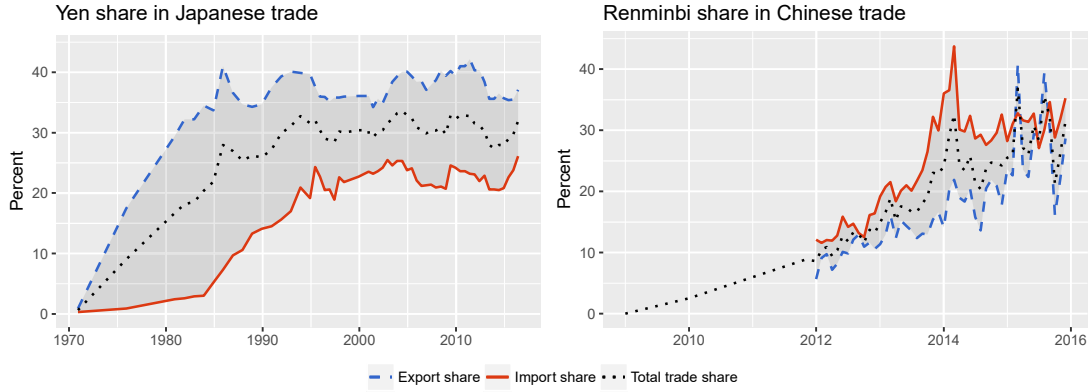
Note: Currencies by ISO 4217 code, where, i.a., USD = US dollar, EUR = euro, JPY = Japanese yen, GBP = British pound, and CNY = Chinese renminbi (yuan). Totals for foreign exchange market turnover (left) add up to 200%.

Source: Bank for International Settlements, Society for Worldwide Interbank Financial Telecommunication (SWIFT) RMB Tracker

**Figure 1:** Currencies in foreign exchange transactions and worldwide payments.

Minsky (2004, pp. 95–99) referred to this feature of creditor–debtor relationships as the ‘survival constraint’. In his analysis of the balance sheet management of firms in monetary economies, Minsky outlined how firms line up income streams and payment commitments in such a way that guarantees repayment of obligations as they come due. Firms need to ensure that they allocate funds to investments that yield sufficient return to cover repayment of principal and interest on any liability they incur, while at the same time maintaining a sufficient buffer of liquid assets to meet any intermediate payment commitments. Only firms that are able to meet their current obligations with current cash flow and future obligations with future cash flow maintain liquidity and, ultimately, solvency.

Similar principles apply to international foreign currency borrowing between countries. Table 1 lays out the mechanics of the survival constraint for such a case conceptually by tracing liquidity flows between the centre economy (the US) and a non–centre economy (N), where the centre economy supplies the international currency (the US dollar). The balance sheets of both countries track the *changes* (flows) in each country’s dollar–denominated assets ( $\Delta A$ ) and dollar–denominated liabilities ( $\Delta L$ ). To illustrate the dynamics of international borrowing, it is assumed that the non–centre country has no prior US dollar assets and that its counterparties in the US can draw on existing US dollar funds to grant loans and purchase goods. For reasons of simplicity, real resource flows and complications such as compound interest or rollovers are neglected. We fur-



Source: Ministry of Finance of Japan, Japan Customs, People's Bank of China

**Figure 2:** Local currency shares in Japanese and Chinese trade settlement.

ther abstract from intermediate interest rate payments, since they would not change the qualitative results and because they are not directly relevant to the specific question at hand.<sup>3</sup>

In step one, our non-centre country  $N$  obtains a US dollar-denominated loan from the US for a nominal amount of  $P$  (the principal) at an interest rate  $i$ , due at period four. The non-centre country's assets increase by  $P$ , the amount of finance received, while its liabilities increase by  $P(1+i)$ , the amount to be repaid in the future. Conversely, the US acquires assets equal to  $P(1+i)$ , representing its claim on  $N$ , and incurs a liability equal to  $P$ , since US dollar deposits are liabilities of the US banking system and backed by the US Fed. The net worth of the non-centre country decreases ( $\Delta A_N - \Delta L_N < 0$ ), as it has obtained US dollar funds in return for accepting the obligation to repay a larger amount of funds in the future. In fact, given that the non-centre country has been assumed not to hold prior dollar balances (for otherwise it would not need to draw on a dollar loan), *its external net worth is now negative* (foreign assets minus foreign liabilities). The net worth of the US, on the other hand, increases ( $\Delta A_{US} - \Delta L_{US} > 0$ ), as it has lent funds in return for a promise to receive a larger amount of funds in the future.

In step two, the non-centre country now uses all of its US dollar funds to purchase inputs for production from the US, reducing its assets by  $P$ . A firm in the US receives these funds as payment, thus increasing its assets by  $P$ . Since the non-centre country

<sup>3</sup>While this illustration relies on a very simplified two-country case, the fundamental mechanics do not change when introducing multiple non-centre countries or subnational units (business, households, local governments etc.), as all groups would still be limited by their aggregate balance sheet constraint.



**Table 1:** Balance sheet mechanics of the survival constraint

|                           | N            |              | US              |                 |
|---------------------------|--------------|--------------|-----------------|-----------------|
|                           | $\Delta A_N$ | $\Delta L_N$ | $\Delta A_{US}$ | $\Delta L_{US}$ |
| (1) Loan from US to N     | $+P$         | $+P(1+i)$    | $+P(1+i)$       | $+P$            |
| (2) N buys inputs from US | $-P$         |              | $+P$            |                 |
| (3) N sells goods to US   | $+R$         |              | $-R$            |                 |
| (4) N repays loan         | $-P(1+i)$    | $-P(1+i)$    | $-P(1+i)$       | $-P(1+i)$       |
| Total flows 1–4           | $R - P(1+i)$ | 0            | $P - R$         | $-Pi$           |
| Change in net balance     | $R - P(1+i)$ |              | $-R + P(1+i)$   |                 |

Note: Financial transactions (flows) of all economic units in each country (aggregates)

reduces its US dollar deposits while a US entity increases its US dollar deposits, the changes on the liability side of the US offset each other:  $\Delta L_{US} = -P + P = 0$ . The non-centre country now uses the inputs purchased to produce goods for export.

In step three, the non-centre country sells its total produce to the US, earning total revenue equal to  $R$ . The non-centre country sees its assets increase by  $R$ , while the US sees its assets decrease by  $R$ . Again, since the non-centre country increases its US dollar deposits at the same time as a US entity decreases its US dollar deposits, the net change on the liability side of the US is:  $\Delta L_{US} = R - R = 0$ .

Finally, in step four, the non-centre country repays its loan to the US by drawing on its bank deposit at a US bank, thus extinguishing its liability to the US. Tallying up the changes in assets and liabilities over time, and subtracting liabilities from assets, the non-centre country finishes the exchange with a net balance of  $R - P(1+i)$ . Since the balance sheet transactions taking place within the US mirror those in the non-centre country, the US finishes the transaction with a net balance of  $-R + P(1+i)$ .

The net changes on each economy's balance sheet equal their current account positions. From the perspective of the US, the current account is made up of  $+Pi$  interest received on the original loan,  $+P$  revenue from the export of intermediate goods,  $-R$  payment for the import of final goods. The final current account balance for the US is thus  $CA_{US} = -R + P(1+i)$ , which mirrors the current account balance of the non-centre country  $CA_N = R - P(1+i)$ .

The crucial point now is the sign of each country's net balance. The net balance of both countries is determined by the relative size of  $R$  vis-à-vis  $P(1+i)$ , or in other words, by the revenue of the final goods sold to the US and the principal and interest on

the original loan. The survival constraint mandates that final revenue match or exceed the payment obligation due at maturity, i.e.  $R \geq P(1 + i)$ . If  $R > P(1 + i)$ , the non-centre country has sold its goods at a profit, generating a trade surplus against the US and retaining an amount of US dollar funds equal in size to  $R - P(1 + i)$ , which it can use to pay for future transactions or to invest in domestic economic ventures. The US, correspondingly, would have a trade deficit. In this case, the non-centre country's survival constraint is satisfied.

If, on the other hand,  $R < P(1 + i)$ , then the non-centre country failed to generate revenue sufficient to cover its cost of funding. It will fail to repay the loan in full and finish the exchange with a current account deficit. As repayment of the loan comes due, the non-centre country would have to default on its international obligations, or obtain a subsequent loan to roll over funding (i.e. repay the original loan using funds obtained from a new loan). Subsequent loans of this kind typically entail strict conditionality, as private market agents and international organisations become reluctant or unwilling to provide funds at affordable rates, thus limiting the non-centre country's access to international financial markets and sources of foreign currency funding. In the terminology of Minsky (2008, pp. 47–49, 230–238), borrowing money to pay back money leads to overleveraged, 'speculative' finance and financial instability.

Non-centre countries assuming a foreign currency loan must bear exchange rate risk and duration risk in addition to the credit risk inherent in any type of investment. The borrowing country accumulates a *currency mismatch* on its balance sheet, as its external liabilities are dollar-denominated whereas its assets are tied up in the local economy which operates on domestic currency. If a country in addition also relies on short-term sources of foreign funding, this becomes compounded by a *maturity mismatch*, as international investors could withdraw money at an instance and render the country unable to pay – a salient issue during the Asian Financial Crisis 1997–98. The survival constraint is satisfied only if all of these risks are managed successfully, which affects the range of policy choices available to countries that rely on international borrowing.

International borrowing allows a country to overcome temporary funding shortfalls, but at the same time amplifies the need to generate future net inflows of US dollar funds, since loans must be served. International borrowing entails an obligation to generate future foreign currency revenue sufficiently large to cover repayment of principal and interest, the sum of which is larger than principal alone. Borrowed funds have a cost (the interest rate charged), so whenever an international loan is taken out, the borrowing country's international liabilities will grow more than its international assets, automatically reducing the borrowing country's net worth. Borrowing countries need to direct

funds to *productive* uses and, at some point, generate *net* liquidity inflows to honour foreign payment obligations, since loans cannot usually be rolled over indefinitely. Borrowing postpones, rather than cancels, the necessity to generate *net* inflows of funds. This central consequence of the survival constraint has important consequences for a country's policy space and its international use of currency.

### 3. TRADE AND DEVELOPMENT UNDER THE SURVIVAL CONSTRAINT

Management of the survival constraint rests on *net* liquidity flows of centre currency into non-centre countries. Developing economies throughout history have frequently generated such net liquidity inflows by relying on an economic development model that prioritises exports and investment over consumption to generate current account surpluses. Often referred to as the 'Asian Development Model' (Pettis, 2013b, pp. 69 ff.), this strategy has been particularly successful in East Asia, where it generated high rates of economic growth. By putting in place economic structures that sought to manage countries' roles as *users* of the international currency, however, this approach also limited the potential for regional economies to become the *suppliers* of international currencies.

While the specific economic policies of East Asian economies differed more strongly than common references to concepts like the 'Developmental State' suggest (Shiraishi, 2014), they overlapped in a strong role of the state (Aoki et al., 1997), which put in place specific policies and institutions that aimed at generating current account surpluses against the US. In Japan and China, these policies included restrictions on access to and use of foreign currency, incentives to reduce domestic consumption, and promotion of investment and export production (Brown, 1994, pp. 27–71; Pettis, 2013a, pp. 1–44). Households were encouraged to save (Garon, 2011; Pettis, 2013a, pp. 26–46) while credit was directed to industries deemed beneficial for economic development. Underlying this system was a financial structure based on low deposit interest rates, managed exchange rates and a managed capital account (Brown, 1994, pp. 66–67, 72 ff., 76 ff.; Kregel, 2013). This combination of policies has at times been described as a system of 'financial repression' (McKinnon, 1973; Pettis, 2013b, pp. 58 ff.).

Applied in concert, these policies reduced domestic consumption and raised domestic investment and saving, pushing the private sector into a surplus position. In absolute terms, the private sector surplus was larger than the public sector deficit, so there existed a gap that had to be filled by the external balance. The difference was made up by a current account surplus, or equivalently, a capital account deficit (which reflects the ac-

cumulation of claims on foreigners).<sup>4</sup> Figure 3 shows the corresponding balances relative to GDP for Japan and China. Figures 4 and 5 show contributions to GDP growth and composition of GDP.

Development strategies based on high domestic investment and low consumption have a long history,<sup>5</sup> but are not trivial to execute, given their political dimensions. Any policy that supports selective capacity building in one sector while putting other sectors at a relative disadvantage potentially leads to misallocation of capital, inefficient use of funds and build-up of overcapacity. Industries benefiting from official support further have a natural interest in maintaining the system and are likely to exert corresponding political pressure (Germain & Schwartz, 2014), even when the overall development objective is not achieved. Even though many Latin American economies pursued policies that were in many respects similar to those applied in East Asia, for example, failure to restrain domestic consumption has been linked to low general levels of investment and growth in the region (Kregel, 2013). Directing investment to productive uses that generate output which can be sold on world markets at sufficient revenue is thus a central ingredient of this policy's success.

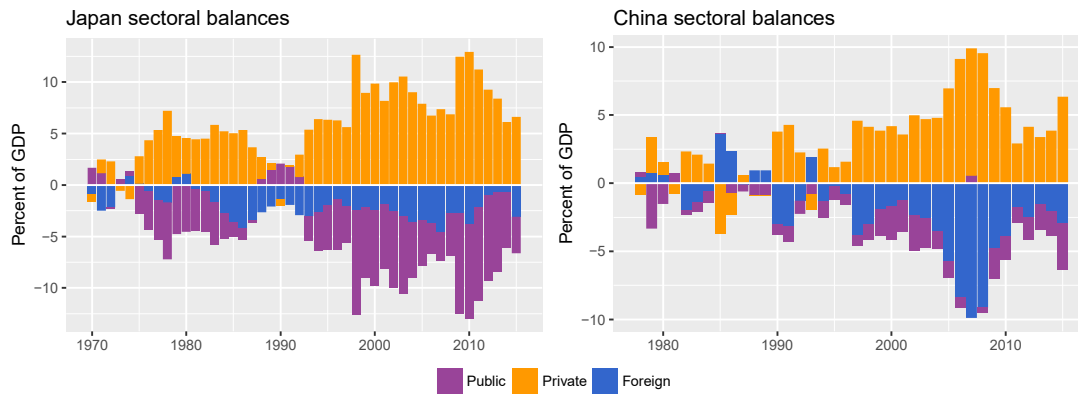
A pronounced feature of this development approach is historical inertia. Once policy-makers institute policies to support an export-oriented and investment-oriented economic structure, they shape the trajectory of a country's economy for the future, which will make reform of the system at a later point in time more challenging. The very current account surpluses and net liquidity inflows produced by successful application of this approach limit the ability of a country to provide net liquidity of local currency to the world, which perpetuates its role as currency *user*. As a country develops, international demand for its currency typically increases, but for international agents to be able to accumulate net positions in domestic currency, the country needs to run a current account deficit (Germain & Schwartz, 2014). This would require rebalancing towards domestic consumption, but given the structural and political economic forces at play, this will require time and careful political mediation between different interest groups. Economic structures do not change over night (Lin, 2012, pp. 141–214).

Network effects are another important factor. The survival constraint which countries like Japan were facing at early stages of their economic development applied equally to countries in East Asia and Southeast Asia, and many of these countries relied on

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<sup>4</sup>For macroeconomic sectoral balances, see Minsky (2008), Pettis (2013b), and Koo (2014).

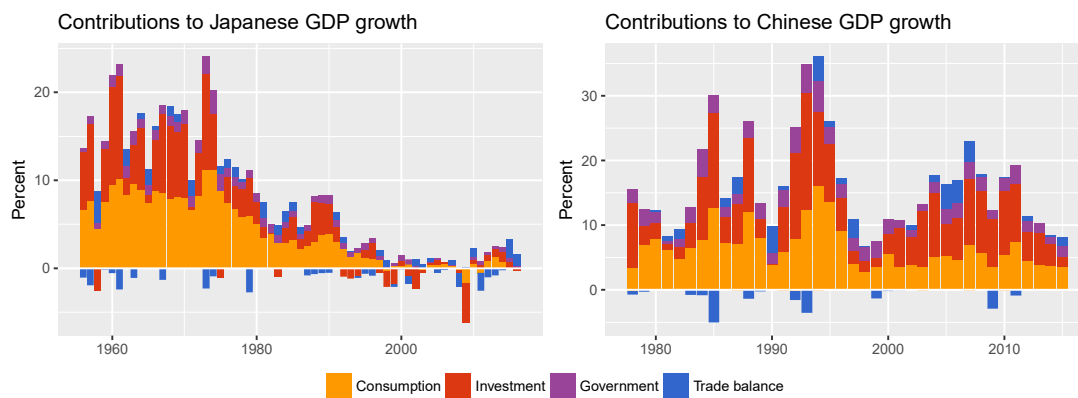
<sup>5</sup>The similarities between the Asian Development Model, the theories of List (1909) and development economics after the Second World War (e.g. Nurkse, 1954; Sen, 1960; Chang, 2003) are striking. Lin (2010) provides an attempt to integrate this strand of development economics with more market-focused, liberalist traditions.



Note: The foreign balance is represented by the capital account (inverse of the current account).

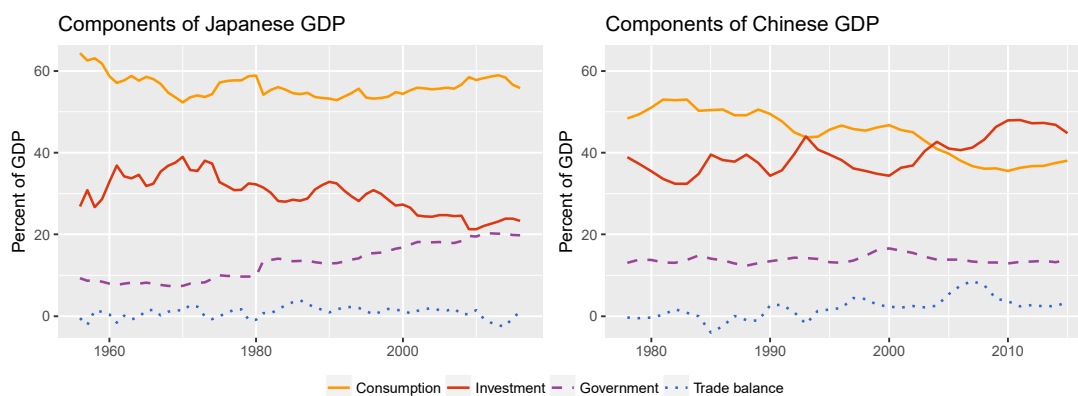
Source: Statistics Japan, Government of Japan Cabinet Office,  
National Bureau of Statistics of China

**Figure 3:** Net lending/borrowing by institutional sector for Japan and China.



Source: Statistics Bureau Japan, National Bureau of Statistics of China

**Figure 4:** Contributions to nominal GDP growth in Japan and China.



Source: Statistics Bureau Japan, National Bureau of Statistics of China

**Figure 5:** GDP components in Japan and China.

similar development strategies as Japan. Since East Asian countries started out from very different income levels, they focused on producing goods along different sections of the value chain and developed clusters of production (Sonobe & Otsuka, 2006) which integrated into a regional supply chain. Primary products would undergo basic processing in the region’s low-income economies before entering into industrial manufacturing in its mid-income economies, while logistics, product development and marketing took place in the region’s high-income economies (Kwan, 2001, pp. 15–37). Ultimately, goods were exported to the US, which gave rise to a substantial region-wide current account surplus (Yoshino, 2012). Again, while this proved to be a major driver of regional economic growth, this structure locked countries into export-focused modes of production. The regional supply chain thus reinforced structural constraints present on domestic levels.

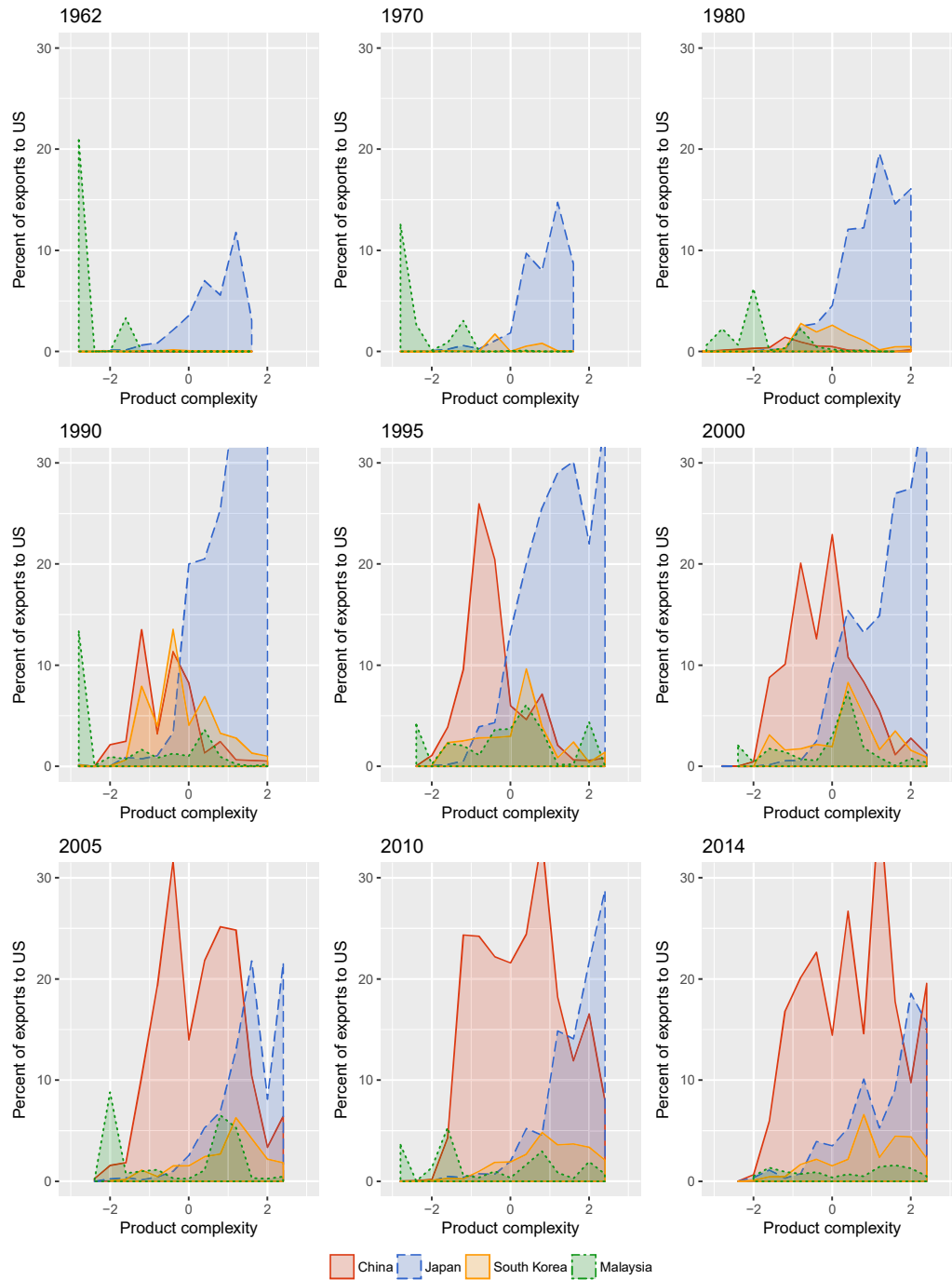
This pattern of production became known as the ‘flying geese’ (Akamatsu, 1962) and is visualised (following Kwan, 2002) in Figure 6 using data on East Asian exports to the US. The graphs show the complexity of a country’s exports (x-axis) against that country’s market share in each product group (y-axis). Until the 1990s, sophistication of an economy’s production indeed appears to have correlated with its income level, with the small amount of overlap between countries indicating complementary production structures.<sup>6</sup>

This specialisation of countries along distinct sections of the value chain, the establishment of a regional supply chain and accompanying integration of East Asian trade was supported, and enabled, by a system of semi-fixed exchange rates against the dollar, the so-called *East Asian dollar standard* (McKinnon & Schnabl, 2005). As most East Asian economies stabilised their exchange rates against the dollar to some extent, intra-regional exchange rates remained relatively stable as well. This again reinforced the necessity to sustain net inflows of US dollars, as exchange rate stabilisation required access to foreign currency funds for foreign exchange market intervention (Angrick, 2018). A dollar-focused monetary structure thus accompanied a US-focused economic structure.

This is considerably different from Europe, where regional currencies were widely used, in part because European economies were more economically advanced than East Asian economies at the time and so European economies were able to use their currencies internationally to *some* degree, but also because the European Monetary System (EMS) obliged member economies to use regional currencies to maintain intra-regional exchange rate stability. In times of persistent imbalances, the monetary authorities of surplus and

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<sup>6</sup>It is worth bearing in mind that these graphs do not capture intra-sectoral product diversification and provide no indication of net balances. The graphs should consequently be treated as a rough approximation of actual trade patterns only.



Negative = low product complexity, positive = high product complexity

Excluding 5% most extreme values along x-axis and top 2.5% values along y-axis

Source: Own calculations, following Kwan (2002), based on SITC4 rev. 2 (1962–2014) data and product complexity index (2013) by Hausmann et al. (2011)

**Figure 6:** Structure of East Asian exports to the United States.

deficit countries had to intervene in foreign exchange markets in concert, using the two countries' currencies simultaneously. So although Germany, like Japan, tended to run current account surpluses, the German mark saw some international official use since it served as the central anchor within the EMS.<sup>7</sup> Japan, on the other hand, interacted with economies which relied on the US dollar-centred international monetary structure and had little use for Japanese yen (Chey, 2015; Takagi, 2011).<sup>8</sup> While the yen became one of the few currencies to attain some international significance, the economic structure of the East Asian economy limited the usefulness of yen for countries in the region. The same was true for other East Asian currencies.

For a country that followed the main tenets of the Asian Development Model, expanding the international profile of its currency would first require rebalancing away from external demand towards domestic demand. This in turn requires a greater role for imports and domestic consumption. A shift from investment to consumption as a driver of domestic economic growth may not immediately bring external rebalancing, however, as an accumulated capital stock can continue to support export production. Indeed, while Japan reduced its reliance on investment in the early 1970s, it failed to rebalance externally (Fukumoto & Muto, 2012). Later, when Japan's external surplus declined following the Plaza Agreement 1985, export-driven growth was replaced by debt-driven growth and a domestic asset price bubble, which had a disastrous impact on the economy when it burst (Kregel, 2013), forcefully demonstrating the difficulty of such an economic transition. Similarly, while China has made some progress rebalancing towards domestic consumption, it maintains a sizeable external surplus, which limits the potential for net international renminbi liquidity provision. The present economic structure benefits export industries (Helleiner & Malkin, 2011), but limits an expansion of the renminbi's international role.

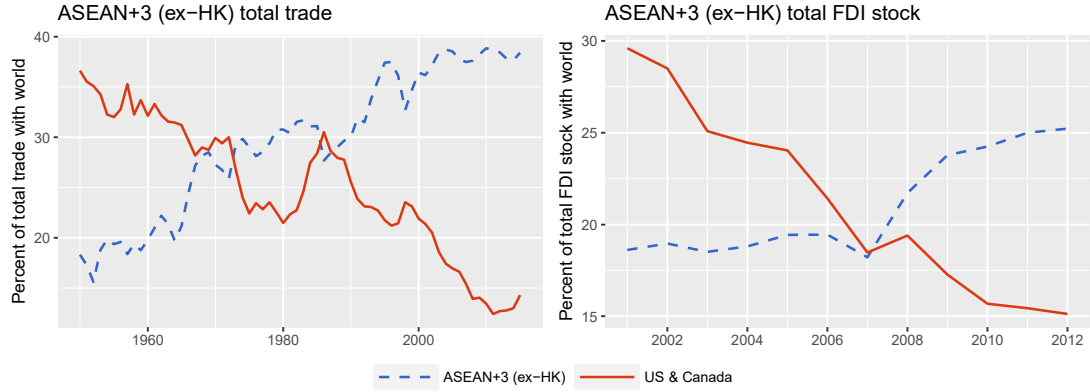
Despite the decline in China's current account surpluses relative to China's GDP, Figure 6 shows that the country continues to rely on US exports and has increasingly dominated exports to the US along most of the value chain within East Asian supply networks since the turn of the century. Interestingly, China managed to supply the world with net renminbi liquidity for some time despite its current account surpluses by using renminbi predominantly in import settlement, as shown in Figure previously 2 (Ito &

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<sup>7</sup>The author thanks Naoyuki Yoshino for highlighting the relevance of the European Monetary System in this context.

<sup>8</sup>Evidence for the continued relevance of these network effects within the context of the internationalisation of the Chinese renminbi is presented in Chey (2015): *'Moreover, when Korean firms use the [renminbi] for trade settlement with their Chinese trade partners, they usually have to handle double exchange risks, both for the [renminbi] and for the dollar, as many still have to continue using the dollar with their other trading partners.'*





Note: Hong Kong excluded from ASEAN+3 as its client role in Chinese foreign trade has declined since sovereignty returned to China. Statistics for both directions averaged.

Source: IMF Direction of Trade Statistics, UNCTAD

**Figure 7:** East Asian intra-regional and extra-regional total trade and foreign direct investment (FDI).

Kawai, 2016), although this has changed again in recent years.<sup>9</sup> Still, the renminbi's prospects to achieve greater international use look best in the areas of trade and foreign direct investment (FDI), since China is running current account deficits against some of its East Asian trading partners (Chey, 2012, 2013) and because East Asian trade and FDI continue shifting towards the region, as shown in Figure 7. As of early 2017, about 1.4% of Japanese exports and 0.9% of Japanese imports are settled in renminbi, for example (Japan Customs, 2017). As the Chinese government steps up its efforts to provide international development assistance, the renminbi may further see increased use in areas such as infrastructure finance.

Ultimately, the success of renminbi internationalisation will depend on how Chinese policymakers manage the transition of their economy towards greater reliance on domestic demand against the background of changing global economic conditions. At present, economic structures in China and other East Asian economies continue to centre on external demand, with path dependence and network effects supporting current account surpluses against the US and the incumbency of the US dollar. This reflects the management of regional survival constraints, but also limits the potential of regional currencies to play a more international role. East Asian economies remain set in their role as *users* of the international currency, while the US remains in its role as *supplier* of the international currency. The mirror image of Asia's role as 'factory of the world' is the US's

<sup>9</sup>It is also worth pointing out that, since China continued to settle exports mostly in US dollars, this strategy also reinforced the centrality of the US dollar.

role as ‘buyer of last resort’. In order for China and other East Asian economies to raise the international profile of their currencies, substantial progress towards rebalancing is required. Given the political economic dynamics that underpin East Asian economic structures, such a transition involves political challenges and will likely require time to execute.

#### 4. TRIFFIN’S LONG SHADOW AND THE POLITICS OF REBALANCING

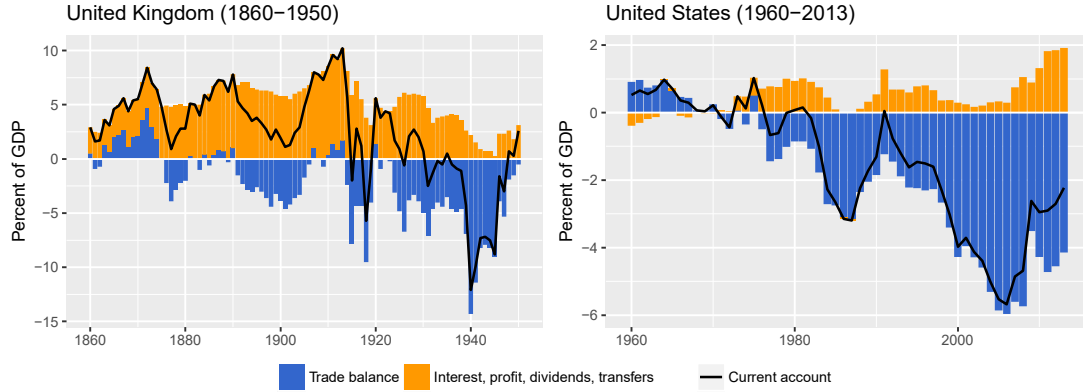
The role of the survival constraint in driving international liquidity flows from the centre economy to non–centre economies has profound consequences for the international use of currency. As the foregoing analysis has shown, currency use relates to economic structure, so currency internationalisation is an objective that needs to be embedded in overall economic policymaking. Indeed, pursuing currency internationalisation in isolation of broader economic policies, for example by attempting to encourage the process through carefully sequenced capital account liberalisation and financial market reforms only, is unlikely to be successful on its own.<sup>10</sup>

Given the mechanics of the survival constraint, promoting the international use of one’s currency by expanding lending to foreign counterparties that run persistent current account deficits is ultimately self–defeating, as those very deficits imply declining creditworthiness on the part of the counterparties. Greater reliance on domestic demand as opposed to external demand would be warranted for a country to expand the international profile of its currency. For countries that have followed the Asian Development Model, such a transition is a challenging undertaking, as domestic industries and the domestic work force depend on an export–focused mode of production. At the very least, such a transition is likely to be a protracted process, given the multitude of different stakeholders involved (see Helleiner & Malkin, 2011, for an examination of different interest groups involved in promoting currency internationalisation).

In principle, non–centre economies would not necessarily need to rely on export surpluses to generate net liquidity inflows, as they could also derive net inflows of international currency from factor income. An investor in a non–centre country could, for example, take out a US dollar loan, invest the money in a promising venture in the US and obtain net US dollar inflows from the revenue generated from that investment, provided the total return is larger than the amount to be repaid at maturity of the loan. Empirically, however, interest payments, profit flows, dividends, and transfers have been

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<sup>10</sup>This parallels a point made by Kregel (2013), who argues that all components of an economic system need to be reformed together.



Source: Bank of England, Federal Reserve Bank of St. Louis Economic Data

**Figure 8:** Trade balance and current account of UK and US.

observed to move *towards* the centre economy rather than to the rest of the world. In other words, on aggregate, the United States earns more on its investments abroad than the world earns on its investments in the United States (Lane & Milesi-Ferretti, 2001, 2007; Bordo & McCauley, 2016), as shown in Figure 8, rendering this channel moot.

This regularity has also been observed within the United Kingdom in the late 19th and early 20th century, where inflows of factor income and transfers even outweighed large trade deficits, producing a current account surplus. The UK’s positive (albeit declining) current account balance might, on the surface, seem incompatible with the simultaneous provision of the world’s centre international currency, the pound, but this is not necessarily the case when the centre currency is based on a metallic standard. As the pound was tied to gold, the expansion of pound liquidity was limited by the UK’s gold stock, which created a binding constraint on liquidity outflows which is not present in the case of freely floating fiat currency. Furthermore, with gold at the centre of the system, net liquidity additions could also be provided by other gold-producing countries rather than the centre country alone. Finally, it is worth recalling that in the era of Imperialism, international liquidity flows and the expansion of cross-border credit were subject to political dynamics that affected economic decision-making in distinct ways (de Cecco, 1974; Nurkse, 1954). Debt, after all, relates intimately to power. An international currency in such a system is very different from an international currency today.

This train of thought naturally leads to the question if and what kind of constraints apply to the expansion of centre currency liquidity today. This issue is commonly framed in the context of the ‘Triffin dilemma’, which is typically understood to point to a conflict between international liquidity expansion and credibility of the centre currency in cases

where a national currency also functions as the currency of the world. According to this view, the expansion of international liquidity creates instability that eventually leads to a breakdown of the system. On closer inspection, however, it is not entirely clear that such a trade-off exists or when it would come into effect.

As Bordo & McCauley (2016) point out, Triffin’s original analysis was about the link between the US dollar and gold rather than current account positions themselves. Triffin, in his influential 1960 book, argued that the rise in post-war international trade and US dollar liquidity would have to be limited if the fixed exchange rate between the dollar and gold were to be maintained. He reasoned that such a limitation would lead to deflation, but without limitation, the peg would collapse, hence the dilemma. Bordo & McCauley (2016) note that, since the breakdown of the Bretton Woods System, this analysis has been understood to indicate a conflict between US external liabilities and the US currency, but as they demonstrate, this does not follow, since identifying a point where international liabilities become unsustainable is non-trivial.

In a world of fiat currencies, liquidity is created independently of gold or commodity stocks, and how a monetary claim is denominated is just as important as where it is issued and where it is held. Indeed, Pozsar (2011) convincingly argues that an *insufficient* supply of US government-guaranteed securities prior to the Global Financial Crisis led to the rise of the private shadow banking system as international investors sought to store wealth in dollar-denominated assets. Pozsar (2011, p. 19) writes: “[...] *not unlike the soaring volume of U.S. dollars relative to the volume of U.S. gold reserves stretched the convertibility of the dollar in the 1960s, the rise of institutional cash pools and their safety preferences stretched the U.S banking system to its limits in its ability to guarantee cash pools’ principal safety and redeemability on demand and at par and in unlimited amounts and in all states of the world.*” This rise in demand was met by increased issuance of private liabilities, a large part of which collapsed onto public balance sheets when the Global Financial Crisis hit. A more modern conceptualisation of the Triffin dilemma would thus pay less attention to the nominal outstanding amount of debt and more attention to the hierarchy of debt instruments, their denomination, characteristics of the issuer and the underlying politics. Ultimately, financial stability should occupy a much more central position in the analysis of international money – an aspect that also features prominently in Gabor’s (2016) ‘repo trinity’.<sup>11</sup>

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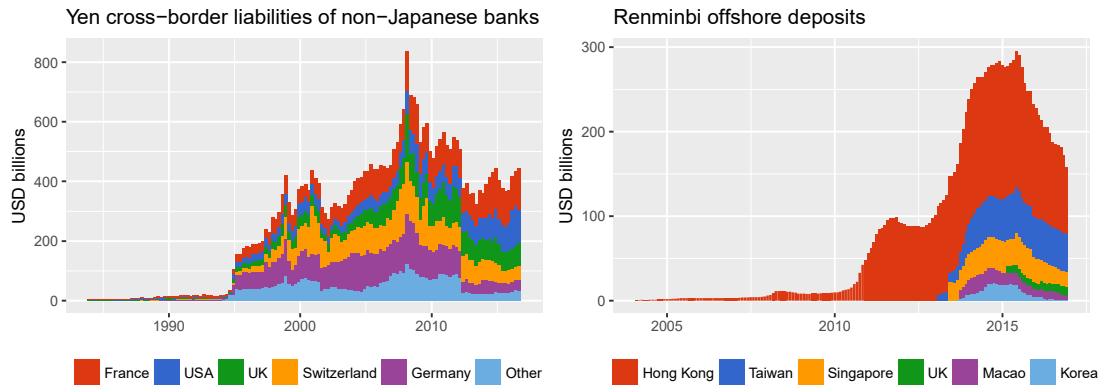
<sup>11</sup>It is also worth pointing out in this respect that, recent deviations in cross currency swap markets indicate that demand for US dollars remains strong (Sushko et al., 2016).

Dollar liquidity supplied by way of US current account deficits is a result of international demand for US dollars and the desire of international actors to sell goods to the US (Blanchard et al., 2005), not a policy variable at the discretion of the central bank (Braun, 2016). The case for a trade-off between liquidity and credibility is thus not as straightforward as commonly assumed, a point which is reinforced by the working mechanisms of Eurodollar markets. In Eurodollar markets, US dollar liquidity is created outside the US by non-US banks. Eurodollar markets have become one of the primary transaction points mediating international dollar finance, and liquidity creation in these markets primarily follows market activity. As such, Eurodollar markets provide the international monetary system with greater elasticity than US onshore markets alone. Like onshore liquidity, however, offshore liquidity is also subject to the survival constraint. Offshore transactions settle on onshore accounts (Stigum & Crescenzi, 2007, pp. 207 ff.), and when a claim is created, that claim needs to be serviced. *Net* liquidity additions are thus required to maintain stability and sustain growth of offshore markets as well.

Again, the experience of Japan and China in this area is instructive, as both countries have made considerable progress liberalising their financial systems without developing offshore markets that approach the importance of Eurodollar markets, as shown in Figure 9. While the yen began playing a significant role in international carry trade following the Bank of Japan's adoption of zero interest rate policy, the international profile of the Japanese currency did not expand further. Similarly, offshore renminbi deposits have declined since 2015, after years of strong growth, mirroring the drop in renminbi-denominated SWIFT payments throughout 2016 (SWIFT, 2017).

None of this is necessarily negative. One conclusion to draw from the analysis presented here is that currency internationalisation is not an end in itself. Although countries unable to settle international obligations using their own currencies need to maintain net liquidity inflows and therefore find their policy autonomy constrained, being the supplier of the international key currency is not without cost either. Both the *supplier* and *users* of the international centre currency face different limitations to their policy autonomy.

As a country develops economically and rises up the value chain, its dependence on foreign finance as a means of gaining access to know-how and technology is reduced while international demand for its currency expands. Such a country would find its survival constrained loosened and its policy space increased, and may reasonably well choose to remain in this position without further promoting the internationalisation of its currency. Although the ability to settle international obligations using one's own currency, the so-called 'exorbitant privilege' (as former French finance minister Valéry Giscard d'Estaing put it, see Eichengreen, 2011), will seem attractive for a country unable



Note: The data for Japanese yen is reported on nationality basis (i.e. positions are allocated to the headquarters of an institution). The break in early 2012 is due to the introduction of more comprehensive reporting of cross-border positions by the Bank for International Settlements.

Source: Bank for International Settlements, monetary authorities

**Figure 9:** Offshore balances of Japanese yen and Chinese renminbi.

to use its currency internationally (see, e.g., Johnson, 2013; Rajan, 2013), this privilege looks considerably less exorbitant once the structural and political effects of international currency status are taken into account.

Since international demand for centre currency requires net liquidity provision by the centre economy to the rest of the world, the centre economy needs to run current account deficits to provide the world with said net liquidity. This hurts manufacturing and production in the centre country, with potential adverse knock-on effects on employment and indebtedness in the centre country (Pettis, 2013b, pp. 150–177), topics which are at the centre of contemporary public debate. Since gains and costs from international currency status are unlikely to be distributed equally between domestic groups, a structural transition from currency user to currency supplier requires careful political management and mediation between different interest groups and stakeholders (Germain & Schwartz, 2014; Helleiner & Malkin, 2011). Ultimately, the need to absorb international demand for one's currency means that the centre country is similarly limited in the type of economic policies it can pursue. Should politics in the centre country shift towards prioritising domestic manufacturing and exports (potentially in combination with measures to discourage imports), then the status of the centre currency might diminish – something that is of increasing relevance in the United States today.

In many ways, the provision of the international centre currency is an international public good (Drezner, 2014; Kindleberger, 1973), and the international position of the US dollar contradicts an inward turn of US politics. If the US were to step back from its

central role in the world, it would also affect the international status of the US dollar, which would in turn have profound consequences for the world as a whole. At the very least, development strategies based upon the traditional Asian Development Model would become considerably more challenging, as the world economy would become less receptive to absorbing excess export supply. A decline in the role of the dollar would also raise important questions about the sustainability of an international monetary system without a central anchor. Eichengreen (2011) suggests the possibility of multipolar international monetary system where a number of currencies jointly serve as international currencies. While it is unclear whether this would be feasible, given the network effects and path dependence exhibited by a unipolar monetary standard (Kirshner, 2014; Cohen & Benney, 2014; Stokes, 2014; Norrlof, 2014), there is also the question of which currencies could possibly play such a role. As discussed here and elsewhere, the Chinese renminbi and the euro continue to face important structural limitations to their international potential. The euro is a currency without a government, whereas the Chinese renminbi is a currency still lacking important market infrastructure. Crucially, both the euro zone and China maintain a current account surplus against the rest of the world, limiting the international potential of both currencies. Just as not all countries in the world can be net exporters at the same time, not all countries in the world can remain in the position of *users* of the international currency at the same time. Exports need to be matched by imports just as supply of international liquidity needs to be matched by demand (Chey, 2015). There thus exists interdependence of economic structures across borders. Ultimately, this issue will continue to dominate discussions on the appropriate structure of the international monetary system, as it has since the Bretton Woods System (Keynes, 1980).

## 5. CONCLUSION

This paper demonstrated how the hierarchical and asymmetric architecture of the international monetary system imposes a ‘survival constraint’ upon non-centre countries that obliges them to generate net inflows of the international centre currency to finance their payment commitments. It outlined how countries’ management of their respective survival constraints has shaped their development paths, thereby linking their international use of currency to their economic structures. Since economic structures are subject to path dependence and network effects, the paper argued that the survival constraint perpetuates non-centre countries in their role as *users* of the international currency and the centre country in its role as *supplier* of the international currency.

Given these mechanics, it has further been argued that pursuing currency internationalisation in isolation of broader economic policies is unlikely to be successful. A strategy of promoting the international use of one's currency through capital account liberalisation, financial deregulation, and lending to foreign counterparties, for example, is ultimately self-defeating if those counterparties run persistent current account deficits, since those very deficits imply declining creditworthiness. Borrowing countries need to generate net inflows of international currency liquidity to honour payment obligations, so for the international monetary system to remain stable, the centre country needs to supply this net liquidity through current account deficits. International lending can only bridge funding gaps, but it cannot substitute for net liquidity provision.

Net liquidity provision requires corresponding economic structures, which has important political implications. Different economic modes of production favour different business sectors and interest groups (Helleiner & Malkin, 2011), and transitioning from one mode of production towards another will change the distribution of benefits of costs, which requires time and careful political mediation.

The potential for economic structural change on the domestic level further requires accommodative change in the rest of the world. Just as not all countries in the world can be net exporters at the same time, not all countries in the world can remain in the position of users of the international currency at the same time. Exports need to be matched by imports just as supply of international liquidity needs to be matched by demand. Given this interdependence, the survival constraint firmly places currency internationalisation within the realm of multilevel analysis.

None of this is to claim that current account deficits are by themselves a sufficient condition for currency internationalisation. Currency internationalisation is subject to economic, political, geopolitical, and historical factors beyond the scope of this paper. Neither is the purpose to invalidate supply side analyses of the topic. Rather, the point here has been to redirect discussion to an important area of macroeconomics that shares intimate linkages with politics, yet is often overlooked in political economic analysis. Ideas matter (Blyth et al., 2016), and sometimes a change in perspective can draw attention to important aspects of policy debates that would otherwise go unnoticed.

On the basis of the analysis presented here, it has been argued that an inward turn of the US would likely diminish the international role of the dollar, whereas progress towards rebalancing in China will determine the success of raising the international profile of the renminbi. Scholars of the international monetary system will find these questions familiar,



as similar issues were at the core of the Keynes Plan presented at the Bretton Woods Conference (Keynes, 1980). More than 70 years after this important point in history, the search for a sustainable solution continues.

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