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## Measuring Currency Power from 2005 to 2018: Greenback Still Unrivaled or Increasingly Constrained by Its Rivals?

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### *Summary*

The main research goal of this paper is to empirically assess the state of US currency power relative to its main rivals in the period between 2005 and 2018. The most novel aspect of our inquiry is the design of three new composite indices called: Monetary Capability Index (MCI), Quality of Governance Index (QGI) and Currency Internationalization Index (CII). We argue that those indices are indispensable in an attempt to empirically measure the concept of currency power, both its underlying material and non-material resources, as well as the degree of their effective exploitation. Based on the conducted analysis it is visible that material resources are a necessary but not sufficient condition to wield and exert currency power which we proxy by currency internationalization. In that regard quality of governance remains indispensable to this effort. Our measurement shows that US currency power remains unshattered by the global financial crisis (GFC) and US dollar is still placed firmly at the top of international monetary and credit hierarchy. In spite of dangers emanating from Trump's erratic policy, US rivals either face weakening of their currency power in terms of their monetary capability or still lag far behind the US in terms of their quality of governance.

*Keywords:* Currency Power, Currency Internationalization Index, Monetary Capability Index, Quality of Governance Index, US Dollar

## Introduction

*Great powers have great currencies.* (Mundell, 1993)

The incidence of the dollar's diminution talk and of the corresponding eclipse of American power seems to be widespread, especially after Donald Trump's presidential inauguration. The major arguments mustered in support of that view are both material and ideational. The former set of arguments, which are predominantly credited for a 'looming US dollar crisis' and for the hollowing out of the material substance of US currency power covers a range of perceived threats such as: the declining share of US GDP in global output (Mastanduno, 2009), the falling US share of global exports (Layne, 2011), the rising number of countries which have China as their main trading partner as opposed to the US (Khanna, 2016), differential growth dynamics between the US economy and the newly emerging poles of the global economy (Layne, 2012), reckless US deficits and the yawning gap between US foreign assets and liabilities (Bergsten, 2009; Hardie and Maxfield, 2016).

At the same time, there are also several ideational arguments at play which allegedly act as a significant drag on US currency power and policy autonomy. They refer to the delegitimization of the second US postwar order after the outburst of the global financial crisis (GFC) (Kirshner, 2014). According to the Pew Research Centre poll, there is a rising number of people globally who see US power and influence as a major threat (Manevich and Chwe, 2017). Compounding both sets of arguments raises a specter of a significant erosion of US currency power which is tightly intertwined with the US dollar's predominant position in international financial architecture. The logic seems to be straightforward. The waning confidence in the US dollar by both state and non-state actors in the following years is poised to usher in a new era of heightened balance-of-payments constraints for the US. Namely, the loss of the 'deficit without tears' privilege, which enables the monetary hegemon to print money everyone accepts to buy guns without giving up butter inevitably leads to further erosion of power projection capacity (Smart, 2018). Hence, US foreign policy autonomy might be severely compromised. In terms of the hegemonic transition literature, both balance-of-power theory, whereby weaker states balance against the hegemon, as well as convergence theory which stipulates that poor countries grow faster than rich countries and induce redistribution of international power, serve as major narratives for hegemonic decline (Beckley, 2018). Therefore, currency internationalization by rising powers seems to be inevitable part and parcel of this wider story.

As opposed to the previously stated arguments, various scholars claim that US currency power is still viable due to structural constraints and specific attributes of the US economy (Prasad, 2014; Fields and Vernengo, 2013; Mehrling, 2015). The most frequently mentioned arguments include: significant and rising differentials in net primary income between the US and other leading economies such as the Eu-

rozone and China (Prasad, 2014; see World Development Indicators encompassing the 2000-2018 period), the rising number of countries that use the US dollar as a currency anchor in spite of the decreasing share of the US economy in global output (Reinhart, 2017), a stable share of foreign currency reserves denominated in US dollars (Mehrling, 2015) and an even larger gap in absolute income levels between the US and other major rivals, in spite of the relative convergence achieved since the 1980s (Beckley, 2018; Baldwin, 2016).

All of the aforementioned arguments could be also tied with the notion of US structural power (Strange, 1988; Helleiner, 2014). It is the power to shape the financial environment in which other state and non-state actors interact and has been primarily nested in its unique ability to create credit in the global economy. Essentially, the US enjoys the position of a Stackelberg leader due to first mover advantage in the creation of current vestiges of global financial architecture. Therefore, it is extremely difficult for any aspiring hegemon to upend the current financial structure that plays so much into US hands. Network effects and preferential attachment imply huge costs of switching to an alternative financial structure. Besides, this move would require coordinated effort by majority of the stakeholders to overcome the existing institutional inertia. Most governments willing to consider this switch simply lack the capacity to persuade or coerce private actors to abandon the current system which is efficiency-enhancing. Only efforts by a determined strategic rival offering superior alternative maximizes the chance of displacement. To wrap it up, being an extant hegemon like the US who did not overturn an existing international order, but rather the order collapsed on itself, brings a lot of financial perks.

Confronted with the aforementioned arguments both in favor and against the relative continuation of US currency power, we decided to test several important propositions empirically. However, before embarking on that endeavor we have to briefly define the meaning of currency power. Our definition of currency power entails a successful internationalization of a given currency beyond issuers' borders. This appears across the whole spectrum of currency functions such as the storage of value, unit of account and medium of exchange (Norrlof, 2014; Helleiner, 2008). In that regard we developed composite index titled 'Currency Internationalization Index (CII)', which serves as a good proxy for currency power. Currency internationalization entails the share of a given currency in global FX (foreign exchange) reserves, its share in cross-border banking claims and finally, its share in FX private transactions.

Nevertheless, what represents the ultimate source of currency power manifestation as mentioned above? Our answer is twofold. First, we identify material resources essential for wielding currency power and construct a 'Monetary Capability Index (MCI)' for the purpose of cross-country comparison. Second, we point out institutional (non-material) resources undergirding currency power. Therefore,

we construct a ‘Quality of Governance Index (QGI)’, also for the purpose of cross-country comparison. This is a major step forward as empirical measurement of political determinants of currency power are in high demand.

More precisely, monetary capability represents a list of material resources a given country can claim in order to achieve currency power by means of financial statecraft (Norrlof, 2014; Cohen, 2015a; Helleiner, 2008; Katada et al., 2017). Our research points out that even though material resources are vital for achieving currency power, this relationship is tenuous in cases such as that of China, since raw material power does not equate with successful currency internationalization. The opposite is true for the US and Eurozone where we establish a very high correlation between their respective monetary capability and currency internationalization. On the other hand, non-material resources that come in the form of sophisticated political institutions, such as an independent judiciary or functioning representative government, can play a key role in compensating missing material resources. Therefore, our research shows very high correlation between the level of institutional development and successful currency internationalization, especially when it comes to Australia and Canada. In addition, these institutions often compensate for the lack of material resources, but only to a certain extent, since they cannot propel as a reserve currency issuer to the top of the monetary pyramid just on their own. To wrap everything up, ultimate currency power is the sum of both material (monetary capability) and non-material (quality of governance) resources. Hence, genuine currency power requires a full package. Both monetary capability and quality of governance find themselves in a positive feedback loop with the concept of currency power as proxied by CII. However, nothing comes perpetually granted. Institutional decay and/or the erosion of material resources might start a truly negative feedback loop of currency power.

The previously proposed indices represent a pioneering effort since the empirical literature on the issue of currency power measurement remains pretty scarce. Therefore, this paper comes with three key research questions. First, has the gap between the US, on the one hand, and other leading economies, on the other hand, increased or decreased in terms of their monetary capability since the GFC? Second, has the GFC shaken US currency power relative to its competitors? Third, how might non-material resources account for potential divergence between a country’s monetary capability and the exertion of currency power? Hence, we start off with three basic propositions:

1. It seems that US monetary capability as a basis for maintaining US currency power has not eroded compared to its peers in the observed period between 2005 and 2018.
2. Apparently, US dollar internationalization has not significantly diminished relative to other leading reserve currencies and would-be reserve currencies in the period between 2001-2019q2.

3. Institutional foundations of currency power, as proxied by QGI for the 2005-2018 period, might serve as a bridging gap for explaining monetary capability and a currency internationalization score divergence in several important cases.

In an attempt to provide answers to our research questions and validate our propositions we contrast the US with other leading economic powers and key reserve currency challengers, both regionally and globally. They encompass China, the Eurozone, Japan, the United Kingdom, Canada and Australia. Our cases are based on Cohen's (2015a) currency pyramid.

The paper is structured into four parts. The first part makes an attempt at an empirical assessment of US monetary capability. Therefore, it lays out the methodology for calculating the Monetary Capability Index (MCI). Equally important, it also explains the logic which underpins index composition. The second part analyses the extent of US currency power and outlines the methodology behind the Currency Internationalization Index (CII). The third part gives way to the discussion involving the institutional foundations of currency power and establishes the Quality of Governance Index (QGI). The fourth part elaborates on the tenability of US currency power with regard to previously presented results. Finally, after introducing all three indices and analyzing their scores, we conclude with the following observation. As of this writing, US currency power remains unshattered by the GFC's impact and the US dollar is still placed firmly at the top of international money and credit hierarchy (Mehrling, 2015; Helleiner, 2014).

### **1. Monetary Capability as a Material Foundation of Currency Power**

In his masterfully written book *Currency Power: Understanding Monetary Rivalry*, Benjamin Cohen mentions four important factors that make up a full resource package necessary for wielding currency power: the existence of a broad transactional network with the rest of the world, deep and sophisticated financial markets, military power and foreign policy ties. These factors are in a bi-directional and mutually reinforcing relationship with the currency power of the key reserve currency issuer.<sup>1</sup>

On the other hand, Carla Norrlof (2010) offers slightly different set of factors that are important for exerting currency power in international monetary relations. In her book *America's Global Advantage: US Hegemony and International Cooperation* she identifies three interrelated factors which encompass: trade, financial markets and military power. According to her view, one of the crucial roles in up-

<sup>1</sup> Cohen singles out several other important aspects which originate from having the material prerequisites for currency power. These are: leadership, confidence and liquidity, as well as the crown jewel of currency power, the ability to deflect macroeconomic adjustment costs onto others (Cohen, 2012).

holding the US-led order belongs to its capability to secure investments and property rights. This largely relies on US military prowess which indirectly underpins the US dollar's role as the key reserve currency. Besides, military strength ensures a steady supply of global public goods such as the freedom of navigation and nuclear non-proliferation. In turn, those global public goods boost the hegemon's commercial interests and standing (Brooks et al., 2012).<sup>2</sup> The simple logic behind the aforementioned bargain is the willingness of foreigners to put a special premium on the security generated by a hegemon. On the other side of this transaction there is a substantial macroeconomic flexibility for the hegemon, which is further reinforced by acting as a *de facto* banker of the world (Depres, Kindleberger and Salant, 1966). Additionally, the aforementioned macroeconomic flexibility offers a wide foreign policy latitude due to loose constraints on defense and diplomacy-related spending. The synergies established by the existence of market access, favorable financial conditions and military power to secure them, parsimoniously explain the durability of the American-centered order and the US dollar as a cornerstone of that order.

Finally, Michael J. Beckley (2011) offers in his seminal paper *China's Century: Why America's Edge Will Endure* quite a distinct set of factors necessary for sustaining the primacy of the hegemon.<sup>3</sup> He underlines the importance of wealth, innovation and military power. In his view this forms a triangle of power. The country's wealth in terms of GDP per capita (PPP) offers the possibility of controlling market access to foreigners and using it as a strategic leverage. It also begets technological primacy and enables the option of sustaining a strong military power with freely disposable resources. On the other hand, the formation of innovation clusters begets more wealth and superior military power. Finally, the sheer existence of military power helps in adjudicating disputes and nudging allies to behave in accordance with the hegemon's structure of preferences. It also serves to avert potential threats from strategic competitors.

In order to compare the main key reserve currency issuers or would-be issuers (such as China) across various dimensions pertaining to the material resources necessary for wielding currency power, we first develop a composite Monetary Capability Index (MCI). Basically, MCI covers nearly all factors deemed as essential for successfully projecting currency power. Most of them were already specified separately by leading authors such as Benjamin Cohen (2015a) Carla Norrlof (2014), Eric Helleiner (2008) and Michael J. Beckley (2011), as explained in previ-

<sup>2</sup> South Korea was more willing to sign onto a free trade agreement with the US due to security concerns than due to sheer economic benefits. See Brooks, Ikenberry and Wohlforth (2012).

<sup>3</sup> In the definition of the word hegemon in IPE and IR financial hegemony is always implied. Therefore, factors important for sustaining hegemony are also factors directly and indirectly related to financial hegemony and currency power.

ous section. However, our contribution pushes the debate even further by blending these factors into a unique composite index which can serve as a basis for future comparisons and analyses.

Our MCI is broader and more precise in coverage than the existing attempts at measuring monetary capability such as the Composite Index of National Capability and Norrlof's (2014) definition of monetary capability. Unlike Norrlof's attempt at measuring monetary capability as a snapshot of relative difference among key contestants for primacy in 2010, we provide a more dynamic overview for the whole period between 2005-2018. Our MCI consists of 9 indicators with different weightings and it broadly covers: trade, wealth, financial markets and investments, military power and innovation performance. The index composition takes into account theoretical justification as explained above, as well as the empirical advantage of broadly diversifying the concepts' measurement. Since there is no existing theoretical literature on the issue of weighting we decided to use several weight adjustments across four different scenarios (see *Table 1*).

**Table 1.**

	Military	FDI outward	FDI inward	GDP per capita (PPP)	Triadic patents	Stock market	Debt securities market	Total merchandise trade	Total services trade
<b>SCENARIO 1</b>	0,2	0,075	0,075	0,15	0,075	0,15	0,15	0,1	0,025
<b>SCENARIO 2</b>	0,2	0,05	0,05	0,025	0,1	0,2	0,25	0,1	0,025
<b>SCENARIO 3</b>	0,3	0,04	0,04	0,02	0,075	0,15	0,25	0,1	0,025
<b>SCENARIO 4</b>	0,25	0,035	0,035	0,03	0,1	0,1	0,25	0,16	0,04

*Source:* Authors.

This step was essential because we needed to cross-check for the possibility of overestimating or underestimating the impact of particular weights upon the total index score. In each scenario we decided to attribute the biggest weights to military expenditures, financial markets (both bond market and stock market), trade (both merchandise and services trade) due to theoretical argumentation stipulated above. On the margins we played with weights that serve as proxies for technological performance, GDP per capita and the total stock of inward and outward FDI. The latter factors are deemed as necessary but not sufficient conditions for exerting currency power.

The methodology for calculating our index is straightforward. In the first step we calculate the value of China, the Eurozone, the UK, Australia, Canada and Japan's indicators in each subcategory relative to the value of indicators for the US as percentages. Then we proceed to multiplying the percentages for each year and country with the weights attributed to indicators in the overall index composition. The last step consists of adding indicators' values across all nine subcategories in order to calculate the total value of MCI. We measure both monetary capability of key reserve currency challengers relative to each other and to the US. In that sense we can easily track both their relative convergence vs. divergence and obtain answers to the crucial question of where does each key reserve currency issuer stand in comparison to the US.

The data for our research are taken from the following databases and are expressed in the following measurement units. The data on GDP per capita according to PPP are taken from the IMF World Economic Outlook 2018 and are expressed in constant 2011 US dollars. This is the best way of measuring economic growth over time, without jeopardizing that the output size is being subject to the exchange-rate volatility error. Trade-related indicators are based on WTO Statistics Database which cover both trade in merchandise and services in millions of USD at current prices. The exact division of weights between trade in merchandise and services is linked to the crude ratio of global trade in merchandise and services (4:1). Our data only measure the total value of trade with the rest of the world and exclude intra-regional trade, like in the case of the Eurozone.

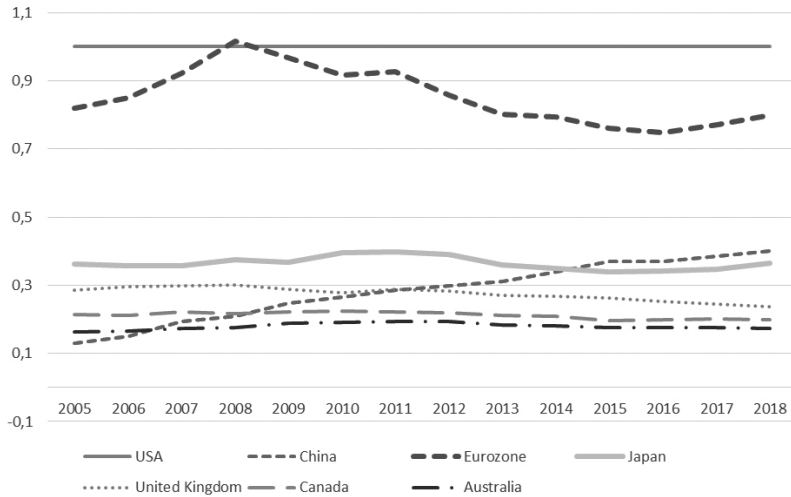
The total bond market size relies on the Bank for International Settlements data which include all types of publicly and privately issued bonds. The size is quoted in trillions of USD. The other complementary indicator which measures the depth of financial markets is the stock market capitalization expressed in trillions of USD. The data are taken from the financial sector rubric of the World Development Indicators. The final set of indicators trace the financial development related to FDI as the most stable source of funding. We decided to rely on data covering both total stock of inward and outward FDI, quoted in millions of USD at current prices and provided by OECD. Military power is operationalized by military expenditures in millions of USD at constant prices and furnished by the SIPRI Military Expenditure Database. Last, but not the least important, is the innovation capacity, which is measured by triadic patents which are the most secure and the most difficult to attain, granted by the three leading patent offices in the world (USPTO, EPO and JPO). The data are obtained from the OECD Main Science and Technology Database.<sup>4</sup>

<sup>4</sup> The data were available for the period between 2005-2017. In order to fill the void for 2018, we calculated compound patent growth rate for each entity over the previously mentioned period.



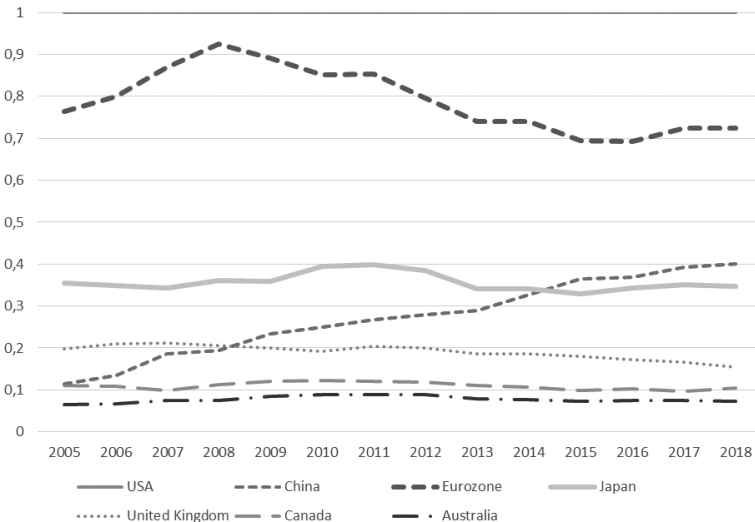
Our effort at constructing and calculating MCI discloses the following set of important conclusions, which are consistent regardless of the scenario used (see *Figure 1, Figure 2, Figure 3, Figure 4*).

**Figure 1. Monetary Capability Index – Scenario 1**



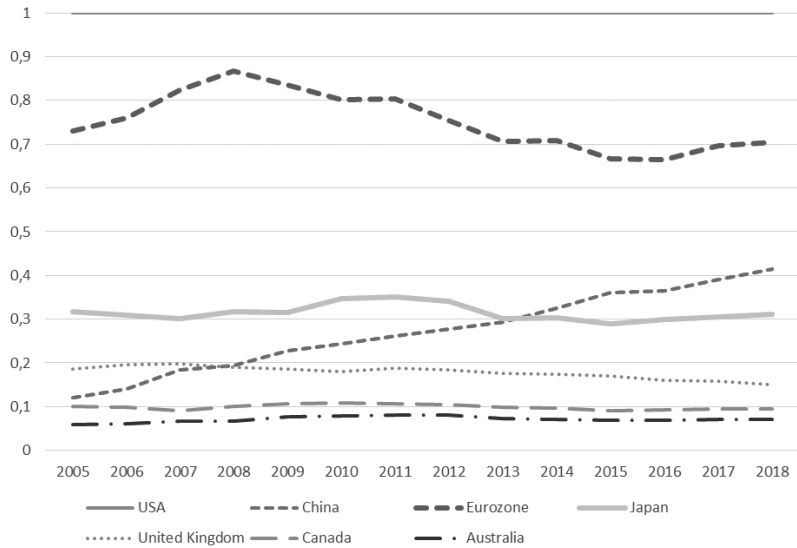
Source: OECD, IMF, SIPRI, BIS, WDI, WTO.

**Figure 2. Monetary Capability Index – Scenario 2**



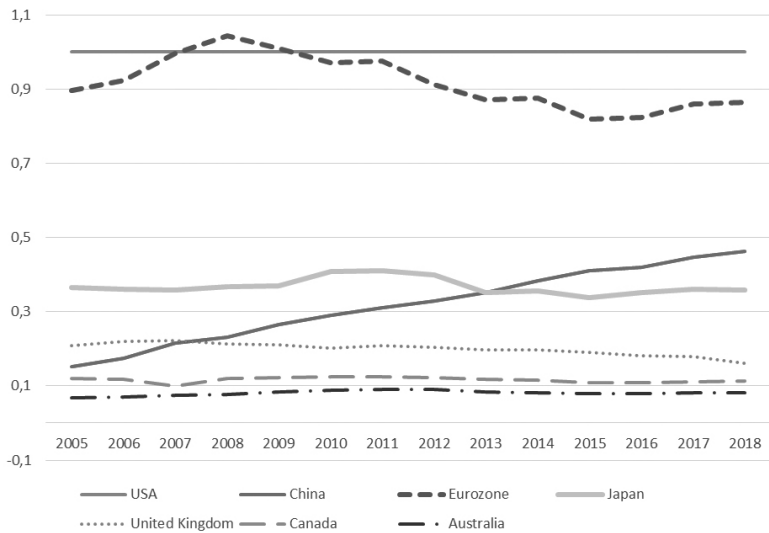
Source: OECD, IMF, SIPRI, BIS, WDI, WTO.

**Figure 3.** Monetary Capability Index – Scenario 3



Source: OECD, IMF, SIPRI, BIS, WDI, WTO.

**Figure 4.** Monetary Capability Index – Scenario 4



Source: OECD, IMF, SIPRI, BIS, WDI, WTO.

First, over the period from 2005 to 2018, China rapidly increased its monetary capability relative to the United States. China's rise was primarily propelled by skyrocketing stock and bond market, vertiginous triadic patents and the continuously escalating military expenditures. Second, the Eurozone's monetary capacity increased rapidly in the short time span from 2005 to 2008. However, the Eurozone's fortune did not last long as the serious eclipse had been set in motion by the outburst of the GFC. In its aftermath the Eurozone's monetary capability shrank steadily, especially in the period from 2012 to 2016. The Eurozone's decline can be explained by the shrinking size of its stock markets, decrease in triadic patents, falling military expenditures and its decreasing advantage in merchandise trade relative to the US. Third, Japan's role as a potential regional challenger to the primacy of the greenback saw its monetary capability slightly increasing from 2005 until 2011. However, from 2011 to 2018 we can identify a decline in Japan's MCI largely due to its laggard stock market performance relative to the US. The same thing can be mentioned for the size of Japan's bond market, which has been seriously affected by BoJ's aggressive strategy of quantitative easing. A significant drop is also registered in the total value of its merchandise and services trade relative to the US. Fourth, smaller regional economies such as the United Kingdom, Australia and Canada only marginally increased their distance to the US at the frontier, over the duration of the observed period. Finally, regardless of the chosen scenario the relative country ranking in terms of monetary capability remains consistent during the whole period. It is also noteworthy that years marked by changing countries' rank diverge slightly (by only a year).

The presentation of four different scenarios has been essential for pointing out major overlapping conclusions, as outlined above. However, we decided to advocate for a 3<sup>rd</sup> scenario as the most convenient and theoretically based scenario, with the smallest chance of producing large errors in future analyses. Hereby, we rely on three most frequently mentioned material resources for achieving currency power, as stated by Cohen (2015a), Norrlof (2014), Helleiner (2008) and Beckley (2011): military strength, trade and the size of financial markets. In the 3<sup>rd</sup> scenario military expenditures, stock and bond market, merchandise and services trade account for 82,5% of the total index value (see *Table 2* on the next page). This is the largest percentage covering those subcategories across all four scenarios. After this detailed account of monetary capability measurement we will delve into a discussion on currency internationalization in the following section.

## **2. Currency Internationalization as a Gateway to Currency Power**

As was already stated in the introduction, having monetary capability does not always equate with wielding currency power. In order to evaluate the degree of a suc-

**Table 2.** Monetary Capability Index – Distance to the US at the Frontier (3<sup>rd</sup> Scenario)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
USA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
China	0,120	0,140	0,184	0,193	0,227	0,245	0,262	0,277	0,294	0,326	0,362	0,365	0,392	0,415
Eurozone	0,730	0,760	0,823	0,868	0,835	0,802	0,804	0,754	0,707	0,709	0,666	0,664	0,697	0,705
Japan	0,317	0,308	0,301	0,316	0,316	0,346	0,351	0,341	0,302	0,302	0,289	0,299	0,306	0,311
UK	0,185	0,196	0,197	0,190	0,187	0,180	0,189	0,185	0,175	0,174	0,170	0,161	0,158	0,150
Canada	0,100	0,098	0,090	0,100	0,106	0,108	0,107	0,105	0,099	0,097	0,090	0,092	0,095	0,096
Australia	0,059	0,061	0,067	0,067	0,076	0,079	0,080	0,080	0,073	0,072	0,069	0,069	0,071	0,071

Source: OECD, UNCTAD, IMF, SIPRI, BIS, WDI, WTO.

successful translation of monetary capability into currency power we came up with an idea to further expand on Norrlof's (2014) definition of currency influence. Hence, our CII which proxies currency internationalization is more thorough and dynamic in perspective than that of Norrlof. We also deem it important to expand on Cohen and Benny's (2014) analysis of the apparent and emerging multipolarity in the international currency system. Their analysis shatters the perception of greater currency competition by using Herfindahl-Hirschman Indices. Our goal is to provide an additional confirmation of their findings via calculation of CII. If the US dollar's global role is waning in favor of a more influential role for the euro, Japanese yen, Chinese yuan, British pound, Australian dollar or Canadian dollar (or some permutation of them), then we might also assume that the overall system has been more competitive. In this case we could also claim that the US currency power has been eroding.

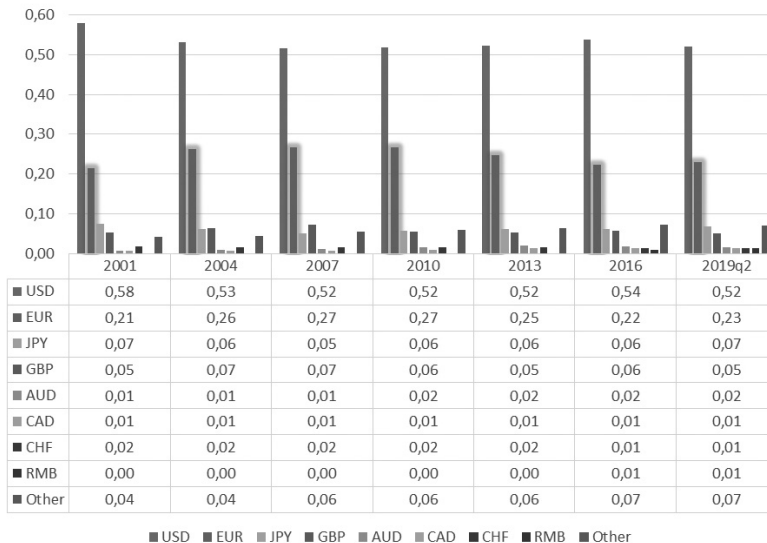
In pursuing our stated goal we rely on official foreign exchange reserves, private foreign exchange transactions and currency denomination of cross-border banking claims. We follow this line of inquiry since putting too much emphasis on official foreign exchange reserves in Norrlof's measurement risks distortion of the overall score, because the IMF's Currency Composition of Foreign Exchange Reserves (COFER) encompasses a share of unallocated reserves.<sup>5</sup> Additionally, we argue that both the structure and composition of cross-border banking claims serve as one of the best estimates for the pulse of financial globalization and who is in charge of it.

<sup>5</sup> We add this despite the fall in the share of unallocated foreign exchange reserves as of total world FX reserves from 31.58% to 6.19% at the end of 2018, which increases the validity of Norrlof's measurement (IMF COFER 2019).

Therefore, our CII consists of three equally weighted indicators: the share of currency in the world's foreign exchange reserve, the share of currency in the world's private foreign exchange transactions and the share of currency in world's cross-border banking claims. The data for the share of foreign exchange transactions are obtained from the BIS Triennial Central Bank Survey of Foreign Exchange and OTC Derivatives Markets while cross-border banking claims are covered by BIS Locational Banking Statistics. The methodology for calculating our index rests on the multiplication of the value of each weight (0,3333) with the percentage share of each currency in the given subcategory. In the final step we add scores across all three subcategories at regular intervals. The illustration differs from our MCI as we posit here a different question. Unlike the relative monetary capability of each currency issuer vis-à-vis the US here we measure the index value for each currency on a continuum from 0 to 1. The measurement technique is impacted by the type of data at hand (percentage points from 0 to 100) and by the different nature of our empirical question.

Our results reveal the following ranking among the top-rated currencies: the US dollar, euro, Japanese yen, British pound, Australian dollar and Canadian dollar plus the category which covers all other currencies (see *Figure 5* and *Table 3*).

**Figure 5.** Currency Internationalization Index (2001-2019q2)



Source: BIS, IMF.

**Table 3.** Currency Internationalization Index 2001-2019

	2001	2004	2007	2010	2013	2016	2019q2
USD	0,58	0,53	0,52	0,52	0,52	0,54	0,52
EUR	0,21	0,26	0,27	0,27	0,25	0,22	0,23
JPY	0,07	0,06	0,05	0,06	0,06	0,06	0,07
GBP	0,05	0,07	0,07	0,06	0,05	0,06	0,05
AUD	0,01	0,01	0,01	0,02	0,02	0,02	0,02
CAD	0,01	0,01	0,01	0,01	0,01	0,01	0,01
CHF	0,02	0,02	0,02	0,02	0,02	0,01	0,01
RMB	0,00	0,00	0,00	0,00	0,00	0,01	0,01
Other	0,04	0,04	0,06	0,06	0,06	0,07	0,07

Source: BIS, IMF.

The following pattern is established by the listed currencies' gyrations in the period from 2001-2019q2.<sup>6</sup> When observing the data we can discern three important conclusions. The first conclusion refers to the relatively undisputed greenback status at the pinnacle of the currency pyramid. The index value for the US dollar fell from 0,579 in 2001 to the low of 0,517 in 2007. However, the US dollar bounced back in the aftermath of the GFC, despite ubiquitous declinist predictions. In light of Cohen and Benny's (2014) conclusion and our analysis, the international financial system might have become a more competitive place only from the standpoint of second-tier currencies such as the Japanese yen and the British pound, since part of their power and prestige migrated to new challengers. The second finding refers to the reversal in the euro's fortunes for the same period. The index value for the euro shot up from 0,214 in 2001 to its peak of 0,267 in 2010. Nonetheless, the euro crisis dealt it a serious blow which has been reflected in its fall to the level only slightly higher than at the outset of its creation. The third finding covers the Japanese yen and the British pound which are positioned lower in the currency hierarchy than the euro. The gap between the Japanese yen and the US dollar increased before the crisis. However, since 2007 the Japanese yen has staged a modest recovery. On

<sup>6</sup> Triennial Central Bank Survey of Foreign Exchange and OTC Derivatives Markets appeared in April 2019. COFER and BIS Locational Banking Statistics data for 2019q2 point out that the USD remains firm in its place. For instance, the USD's share in global foreign exchange reserves is almost at the same level as that in 2010 (62,25%). In terms of cross-border banking claims 50,55% of them were denominated in USD at the end of 2019q2, several percentages higher than their respective share in 2007.

the other hand, the British pound's trajectory was pretty much similar to the euro's trajectory, a jump from 0,054 in 2001 to 0,072 in 2007, only to be reversed by a fall to 0,051 in 2019q2. The fourth finding refers to the remarkable ascendancy of currencies positioned even lower than both the GBP and the JPY according to Cohen's currency pyramid (2015a), namely the Australian and the Canadian dollar. AUD increased its score from 0,007 in 2001 to 0,016 in 2019q2. The similar conclusion can be reached for the CAD, which jumped from 0,007 in 2001 to 0,014 in 2019q2. Finally, currencies comprising the category 'Other' staged a slight growth from 0,062 in 2001 to 0,071 in 2019q2. Nevertheless, the Chinese yuan, as one of the most advertised contenders to the primacy of US dollar started to appear cautiously only after 2016. In one out of three categories used for CII construction the RMB has not been mentioned in official statistics (cross-border banking claims).

Despite the RMB's inclusion in the IMF's basket of currencies, it still does not conform to the second criterion, which is essential for such a decision. This refers to the currency being 'freely usable', besides being issued by the world's leading exporter. The IMF's move was primarily political and as a matter of irony, China has been imposing new capital controls since mid-2016 due to heavy spike in capital outflows (Eichengreen, 2017). The RMB's share in global FX reserves started only to appear in 2016q4 within the COFER database. From then until 2019q2, its share increased from 1,07 up to 1,97%. On the other hand, RMB Tracker published by SWIFT shows that the RMB's share as an international payments currency slightly decreased from 2,30% in 2015q4 to 2,22% in 2019q3. All of this can be summarized by Charles Kindleberger's poignant sentence that 'governments propose and markets dispose'. There is still a Long March ahead for the RMB's internationalization.

This unique combination of indicators comprising our CII shapes the structure of financial interdependence, which directly or indirectly constrains both the autonomy and influence of state and non-state actors that are reliant on the greenback and US financial markets. For instance, rising financial interdependence which relies on asymmetric network structures enables the weaponization of interdependence by states controlling key nodes of this network. The introduction of extra-territorial secondary sanctions via cutting off foreign banks' access to US financial infrastructure serves as only one glaring example of potential weaponization against rogue states, terrorist groups or simply their abettors (Farell and Newman, 2019).

Hence, far from creating a competitive level playing field and diffuse platforms as portrayed in liberal IPE accounts, financial globalization creates and enhances durable but not completely immutable financial structures that extend the US's power projection capacity. If this capacity is used in a prudent and balanced fashion over the long-term period, the majority of stakeholders in an existing financial structure

such as SWIFT (Society for Worldwide Interbank Financial Telecommunications) will abstain from the subversion or contestation of the current distribution of currency power. On the other hand, the overuse of economic sanctions by exploiting control over key nodes in the system could gradually inspire their targets to come up with an alternative structure in an attempt to redistribute currency power. However, this will not be an easy feat given many hurdles one has to overcome such as granting market participants capital certainty, low transaction costs and broad network structure, compounded with active geopolitical and macroeconomic management steps on the part of state promoting currency internationalization (Cohen, 2015a).

### **3. The Role of Institutional Development in Explaining Currency Power**

In this part we simply want to assess the variation in the CII score and ranking relative to MCI over the same time span from 2005-2018.<sup>7</sup> There are several major conclusions which arise after their comparison. In the case of the Eurozone, Pearson correlation coefficient between MCI and CII amounts to staggering 0,97. Other key reserve currency issuers display less correlation between their MCI and CII (UK – 0,75; Australia – 0,21; Japan – 0,19; Canada – 0,81). The correlation could not be calculated for China since it was impossible to construct CII due to an unavailability of data for the RMB. When it comes to the US, it serves as a relative benchmark for the rest of the sample and we cannot use the same approach. However, we can calculate the correlation between key US material resources and CII. Our measurement shows that US material resources remain strongly aligned with US currency power as proxied by CII. Pearson correlation coefficients for GDP per capita and CII amount to ( $r = 0,89$ ), for bond market size and CII ( $r = 0,95$ ), for stock market size and CII ( $r = 0,88$ ), for FDI inward stock and CII ( $r = 0,96$ ), and for trade in services and CII ( $r = 0,88$ ).

There are several major conclusions which arise after this comparison. First, the gap between China and US's respective monetary capability in terms of material resources has been steadily declining. However, China as a rising power lacks the efficient and politically expedient way of transforming its rising monetary capability into effective currency internationalization, which might further boost its overall monetary capability in a positive feedback loop. This comes in sharp contrast to the experience of currencies such as the Australian and Canadian dollar, whose respective economies rank far lower in terms of their material resources. The RMB's slow ascent occurs primarily due to controversies arising from the structure of its domestic political economy, almost all of which are associated with potential

<sup>7</sup> Our correlations are based on pairing MCI and CII for 2007, 2010, 2013 and 2016. The results are only indicative and merit further data collection. Nevertheless, they provide some important figures regarding this insufficiently researched issue.



capital account liberalization and the uncertain direction of political reforms. Second, the euro and the yen are punching far below their weight in terms of their currency internationalization. Apart from that, they both demonstrate downward sliding in the aftermath of the GFC along both dimensions, both monetary capability and currency internationalization. Third, despite the slow decrease in US monetary capability and currency internationalization advantage towards its contenders in the years before the GFC, the position of the US dollar has been further strengthened after 2008 (Helleiner, 2014).

After this brief analysis of the interaction between monetary capability and currency internationalization we still remain with the puzzle of why some countries punch far below and far above their weight in terms of currency power. Even though they are equipped with material factors of power that come under the label of monetary capability, they still lag far behind other less resource-endowed countries in projecting currency power, or *vice versa*. In solving that puzzle we propose a QGI as a handy tool for explaining the divergence between monetary capability and currency internationalization.

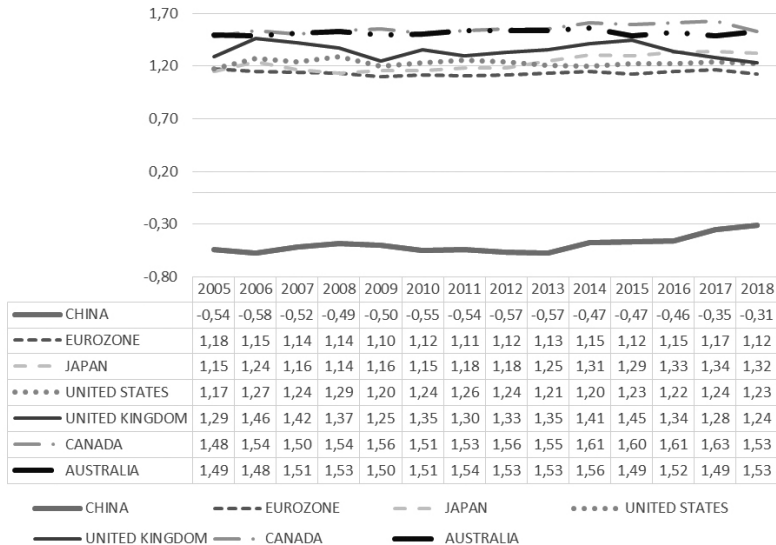
We root our analysis in the importance of domestic politics and institutions for a country's currency power (Walter, 2006). Namely, creation of money requires trust in money's multiple forms. Money could not exist without the institutions of money which intermediate, govern, regulate and set the rules of the game. As the money became an instrument in and of itself, power grew from the capacity to use money to capacity to engineer the rules of the money game through influencing the formal and informal institutions of money and finance (Selmier, 2017). Successful currency internationalization requires that the government in question can effectively implement relevant policy measures such as keeping the markets open and forfeiting exchange rate control. Domestic socioeconomic cleavages or institutional arrangements that mediate and convert diverse preferences into policy may shrink government's room for maneuver in foreign relations, especially monetary ones (Cohen, 2019). Financial statecraft is curtailed to the extent that individuals or groups exist, within the state structure or in the wider society, with the ability to effectively block executive action. However, the absence of the aforementioned veto players such as independent regulatory institutions or bicameral parliamentary systems is also not a virtue in and of itself. Lack thereof undermines the emergence of trust in the currency that aspires to the top of the monetary pyramid. Economist Vito Tanzi famously quipped that *If the state is strong, it will crush us; if it is weak, we shall perish* (Tanzi, 2011). Indeed, successful currency internationalization requires a delicate balancing act and institutions of liberal democracy have so far proved most adept at solving this puzzle between too much and too little political control.

The existing literature frequently mentions institutional foundations of currency power such as: the rule of law, democratic accountability, government effectiveness and political stability (Prasad, 2014). Eichengreen et al. (2018) argue for: *the importance of constraints on arbitrary action by the executive for reassuring foreigners contemplating investment in a country*. The impact of those institutions on confidence, liquidity and transactional networks unequivocally plays a large indirect role in other states' and market actors' choices (Helleiner, 2008). However, as of our knowledge, there was no empirical attempt at measurement and relative comparison of key reserve currency issuers or would-be issuers in the domain of institutions as non-material factors of currency power.

The QGI relies on the data provided by Worldwide Governance Indicators (WGI) in the period from 2005 until 2018. It is composed of five equally weighted subcategories that are essential for assessing the level of institutional development of key reserve currency issuers or would-be issuers. They refer to the areas which are of crucial importance to private and public investors in a given currency across all three dimensions of currency usage (Cohen, 2015a). These subcategories come in the following order: the rule of law, government effectiveness, voice and accountability, political stability and regulatory quality. We took country scores from WGI dataset (which vary between -2,5 and 2,5) and multiplied them with a given weight (0,20) in every subcategory. In the final step we added scores across all five subcategories at regular intervals.<sup>8</sup> The undertaken calculation displays the following results depicted by *Figure 6*.

The top three performers are Canada, Australia and Japan. The extremely high level of institutional development displayed by Australia and Canada go a long way in explaining the level of their currencies internationalization, despite constraints in terms of their material resources. The rising need to diversify currency denomination of assets and to lower transaction costs in an age of globalization works favorably for regional currencies underpinned by highly developed institutions and stable domestic politics. On the other hand, what works well for Australia and Canada currently represents an insurmountable obstacle for China. In spite of China's rising clout in terms of monetary capability (measured by material resources), China has improved its QGI score since 2005 at a slow speed (from -0,54 to -0,31 in 2018).

<sup>8</sup> When it comes to the calculation for the Eurozone we first determined the share of each Eurozone member in the Eurozone's total output. Then we used the same methodology like in other cases (score multiplication with equal weights for each subcategory and their final aggregation for every member state). Then we used output shares as country-specific weights and multiplied them with total score for every member state. Finally, we aggregated total scores for all EMU member states. In that way we took account of diverging levels of institutional development in economies of different size.

**Figure 6.** Quality of Governance Index

Source: Worldwide Governance Indicators.

The structure of Chinese legal and political institutions combined with its increasingly unbalanced financial market development limit the potential for strengthening the RMB's presence in international monetary relations. China's Chinn-Ito score for capital account openness did not increase in the observed period from 1993 to 2017. Some accounts even claim that CCP further centralized its power and backtracked on financial liberalization (Eichengreen, 2017). In terms of generating a benchmark asset and providing global liquidity, democracies are more nimble (Schultz and Weingast, 2003).

When it comes to the US ranking, QGI shows that the US has a slightly greater score than the Eurozone in the respective period, and was overtaken by Japan in 2013. Contrary to the wide perception of a rapid institutional decay, as well as uncertainty arising from several moves by Trump's administration, the country still boasts high-quality public institutions, democratic government and the most developed financial markets in the world. Therefore, the US also boasts significant non-material resources of power which are not easily undone during one presidential term.

## **US Dollar: Withering Away or Holding the Line?**

After conducting a careful and balanced empirical study in several regards we have to give a brief overview of our results. First, we introduced a unique composite index for the purpose of measuring monetary capability. MCI encompasses key material resources which are important for wielding currency power. In our effort we used several weight adjustments across four different scenarios in order to cross-check for the possibility of overestimating or underestimating the impact of particular weights upon the total index score. Our MCI scores across all four scenarios pointed to the continued US advantage in terms of material resources over other major challengers, with the sole exception of China which is narrowing the existing gap. Nevertheless, material resources are a necessary but insufficient condition for wielding currency power on a global scale. Furthermore, Beckley's (2018) differentiation between gross and net power resources invites warranted skepticism about the true potential of big and populous countries such as China and Russia. They both display a large military and economy, but also have large costs of production, security provision and welfare support at home, given their relative inefficiency.

Second, we also introduced the other composite index aimed at the measurement of currency internationalization as a vital component of currency power. So far, CII is without precedent and might become an indispensable tool in assessing the relative success of key reserve currency issuers or would-be issuers in handling essential tools of financial statecraft. The CII score displayed rising US currency power as compared to other leading key reserve currency issuers since the GFC. In contrast to China's rising monetary capability relative to the US, the RMB's insufficient representation across several components of CII hinders its exact calculation. However, we could infer that the RMB still does not qualify for the position among the top six currencies. This acts as a drag on the projection of China's currency power.

Third, we added to the existing literature by constructing a third composite index which is very helpful in analyzing the nexus between monetary capability and currency internationalization. We already stated the existing gap between China's monetary capability clout and its almost unrecognizable role in shaping the structure of international monetary relations. This gap could be neatly explained by referring to QGI, which evaluates the quality of political institutions considered as indispensable for attracting foreign private and public investors in a given country's currency. Trust remains an essential piece of the puzzle. The US is also among leaders in that regard with very high QGI scores during the entire period under observation, while China is chained to the bottom of the list.

After conducting our thorough empirical research and presenting our arguments, we would like to finish with a few educated guesses about the future of cur-

rency power and its distribution in international monetary relations. When faced with the need to choose between the Shakespearean dictum *Uneasy lies the head that wears a crown* and John Connally's poignant slogan *The dollar is our currency, but it's your problem*, our judgement is still tilted towards Connally's slogan. This choice is not conditioned by the normative desirability of the 'unloved dollar standard' but primarily by the combination of several US strengths and contenders' serious weaknesses. Hereby, we will shortly emphasize the main vulnerabilities of two key rivals to the position of the US dollar.

If the euro suffers from the insufficient and limited state foundation, the RMB faces the opposite problem of too much state (Eichengreen, 2011). The Eurozone suffers from the basic structural defect of being unable to develop a viable arrangement for solving internal payment imbalances (Cohen, 2015b). The euro is a product of an interstate treaty and to its potential users worldwide it is only as good as the political glue that underpins it. Currently, the euro cannot generate domestic institutional support to solve internal balance of payment imbalances, let alone deal with the current account deficit consequences when serving as a major rival to the US dollar. Namely, the Eurozone as a whole generates current account surplus with the rest of the world and serves to it as a net creditor. By relying upon its export-led growth the Eurozone cannot simply forgo the possibility of managing the euro's exchange rate. Supplying liquidity on a truly global scale requires being net debtor and net importer from the rest of the world, a mission totally incompatible with the existing political economy model of export-led growth established in the Eurozone's core. Complicating matters even more, the process of shaping 'politically embedded currency area' with a well-functioning banking and fiscal union faces almost insurmountable obstacles of rising divisions between the core vs. the periphery, East vs. West, as well as citizens vs. EU elites (McNamara, 2015; Raines et al., 2017). Hence, without deeper political integration the Eurozone is not poised to boost its overall power projection capacity. While the euro might be a second-tier alternative to the US dollar, there is no European counterpart to US military security umbrella.

On the other hand, China's total indebtedness has been consistently above the average for emerging markets and is at par with developed economies. This heightens the risk pertaining to financial reforms and capital account liberalization, which are indispensable for successful internationalization of the RMB (Garcia-Herrero, 2015). The Chinese leadership is faced with the hardly palatable dilemma of risking a further opening, accompanied with fatal unintended consequences, or relying on the current and unsustainable growth model. Orchestrating trade settlements in the RMB and weaving a network of central bank swap lines by the PBOC represents a far less demanding task, as compared to developing open, deep and liquid financial

markets. Complicating the process of internationalization even more is the geopolitical side of the story. Handing out swap lines to interested partners is hardly reconcilable with China's aggressive foreign policy posture in the South China Sea and other contested areas. The usage of foreign currency in trade and financial transactions cannot be achieved by coercion, but only through persuasion.

One has to also point out a positive correlation between currency's share in global payments divided by a country's share in global trade and the total stock of inward foreign direct investment as a percentage of GDP. The aforementioned correlation testifies to the continued ability and willingness of foreign investors to invest their trade and financial investment proceeds in a country that can boast open, secure and liquid financial markets. In that regard China punches far below its weight since it finds itself below the regression line, while the US reigns supreme, positioned significantly above the line. US dollar share in global payments has been way higher than its share in global trade (Stein and Della Rocca, 2018). This offers to the key reserve currency issuer like the US a genuine possibility to determine monetary conditions worldwide and indirectly constrain and destabilize both the foreign and economic policy options of their strategic rivals through weakening capital account position (Lubin, 2018).

The impact of the FED's monetary tightening upon China's foreign exchange reserves lately is a case in point. A true game-changer for doing away with this dollar-based financial structure would be to enhance the credibility of China's political institutions. Without political reform supporting structural reforms, RMB internationalization process will stall or go astray (Cohen, 2015c). All that said, it might be expected for the RMB to rise, but it won't be in a position to rule anytime soon (Prasad, 2017).

Other key reserve currencies such as the yen, British pound, Australian or Canadian dollar are even less salient options given their lack of broad transactional network and capital certainty. Japan is still reeling from its long and painful deflationary trap in the 1990s and early 2000s. The continuously shrinking size of Japan's GDP and relatively closed political economy of finance is hardly compatible with further yen internationalization. Furthermore, the United Kingdom, Australia and Canada offer only very limited alternatives convenient for portfolio diversification. Furthermore, the relatively fresh appearance of cryptocurrencies on the world financial stage is still far from jeopardizing the dominance of the existing fiat-currencies like the US dollar. Their market gyrations do not offer enough predictability and safety for world's leading central banks and fixed-income investors.

The aforementioned weaknesses of its major contenders make the US dollar indispensable for the next five to ten years. Even the fraying faith in the US-led order because of the Trump administration may have great difficulties in overcoming in-

stitutional inertia.<sup>9</sup> The US dollar's status has been more tarnished in the perception of state elites in the emerging markets than in reality (Otero-Iglesias and Steinberg, 2013). Hence, the world is not moving decidedly towards a 'leaderless currency system' (Cohen, 2012). It is also not providing more room for a genuine SDR reform since major emerging markets are not decisive enough to address key global financial governance issues.<sup>10</sup> This will inevitably enable autonomy and influence to US policymakers in the years ahead.<sup>11</sup>

In our view, there are two issues which might accelerate the demise of the US dollar and bring about something akin to a multipolar currency order. The first one refers to the continued reliance on volatile and risk-prone asset structure intermediating between surplus and deficit countries. The US-led order with the US dollar as its cornerstone would be even more pronounced in the coming decades if based on a healthier pool of assets geared at necessary infrastructure and green investments, both domestically and globally. Tackling domestic inequality, until now only temporarily and haphazardly alleviated by a series of credit booms gone bust, would also be highly beneficial to the role currently enjoyed by the US dollar (Biböw, 2010). The second issue mentioned above refers to the Trump administration's foreign policy. Reckless foreign and security policies might alienate the US's traditional allies. This is especially important in light of the findings by Eichengreen and

<sup>9</sup> This hierarchy starts with the US dollar at the very top, followed by swap lines among six major central banks (the FED, the ECB, the BoJ, the BoE, the SNB and the BoC). Further down the pyramid come other liquidity sources such as bilateral swap lines, regional pools such as Chiang Mai and IMF emergency lines. The lowest tiers are reserved for national money and national credit of other states whose central banks are not in the upper tiers mentioned above.

<sup>10</sup> The outstanding volume and composition of major foreign US Treasuries holders points to rising foreign entanglement into the US web of currency power. The rest of the world is far from winding down on its dependence from US-issued risk-free asset. After decomposing the total volume of holdings into separate entities we can observe that all countries or groups of countries except Russia increased their US public debt investments (see data published by Treasury International Capital System). The fact that China, India and Brazil underpinned US structural power by enabling 'deficits without tears' for the US, even though they do not depend on the US in terms of their security, casts a shadow on the claim that changing security landscape would significantly weaken US-led financial order (Mastanduno, 2009).

<sup>11</sup> BRICS countries are pressing for a voting power reform in an organization which is heavily skewed towards consensual decision-making instead of offering solutions pertaining to adjustment, liquidity and confidence in the international financial system. Furthermore, China called for a supra-sovereign currency in 2009 and did it mostly out of symbolical considerations since it could issue more SDR-denominated securities on its own, in order to create private market for them (Cohen, 2012). For the SDR to become used among corporations and individuals around the world it would have to be backed up by an active agent akin to national central bank, a proposition which would require consent by established national currency-issuers. This is a pretty far-fetched idea.

others (2018), which posit that a military alliance with a country issuing key reserve currency increases the share of the partner's foreign-exchange reserves held in that currency by roughly 30 percentage points. Mars and Mercury, sword and purse, reinforce each other. In that regard, a large increase in US Treasuries purchase by wealthy US residents has the potential to entrench their political power over the administration's policies and provide comfort to foreign purchasers, at least in the short run (Hager, 2017). This carries the potential to check rash decisions and 'America First' rhetoric. However, it is to be seen how much this entrenchment of political power on the part of wealthy residents is compatible with the imperative of balancing demand and supply through a more sustainable financial model in the long run.

Donald Trump and his administration could further consolidate US global primacy if opting for a carefully crafted mix of reflationary policies and established foreign policy practices. They would be principally tailored to the needs of the tradable sector of the US without resorting to blunt tools such as tariff protection. Continued reliance on established foreign policy ties might reassure allies to further align their interests with US-led financial order, especially given the high US performance across a whole range of international rankings such as *Soft Power 30* and *Lowy Global Diplomacy Index*. US currency power emanates from the level of trust vested in its political and economic institutions.

In the short-run, policy moves such as Central Bank of Russia's sell-off of US dollar from its FX reserves conducted over the course of 2018 or the first issues of oil futures denominated in RMB are only a small pinch to the dollar hegemony. Paradoxically, by creating more instability and uncertainty Trump might reinforce dollar hegemony in the short-run by triggering capital inflows into the US financial market, as was also the case in the aftermath of 2008 global financial crisis. However, abdicating leadership of the multilateral order by excessive weaponization of trade, technology and finance will set in motion a cascade of events that will diminish US currency power over the long-run. The uptick in Trump administration's belligerent rhetoric and agency will only reinforce calls for more strategic, financial and technological autonomy on behalf of key US rivals such as Russia and China. This is a clear sign of power illusion and of strategic miscalculation. Hence, the continuation of US-led financial order is only compatible with active promotion of shared goals of global growth and stability. Time will be the best arbiter to validate our speculations, but it is evident that US currency power has remained largely unchanged as of this writing. It seems that we have a long way to go before reaching a genuine multipolar international currency system.



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