A Survey of China Within and Beyond the Bretton Woods System

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ABSTRACT

What datasets are available to measure the extent to which China is a participant in the three institutional pillars of the Bretton Woods System (BWS) – specifically the International Monetary Fund, the World Bank Group and the World Trade Organization? To what extent is China operating outside of the BWS, in the realms of international monetary, global developmental finance and world trade? What are the most credible measurements of China's footprint in each realm? Do the existing data sets provide a sense of how the realms and the associated institutions intersect? This working paper provides a survey of the existing datasets on China's role within and outside the BWS, examining the published research and data-collections on this topic, and highlights the leading or 'best' quantitative datasets that are available in the published literature on China and the international monetary, global development finance and world trade systems. We also identify the relevant gaps that exist in the datasets both in terms of the questions asked and the data collected. Finally, we provide a roadmap for future work and future datasets that are needed to provide academic researchers and policymakers with more evidence-based, empirically grounded and theoretically informed starting-points to better understand China's relationship within and beyond the BWS, as well as its positioning and impact on global economic governance more broadly.

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INTRODUCTION

The Bretton Woods Conference in July 1944 provided the foundational framework for shaping the post-war Bretton Woods System (BWS). Now, nearly 80 years on, the International Monetary Fund (IMF), the World Bank Group (WBG) and the World Trade Organization (WTO) have set the rules for sustaining the post-World War II 'embedded liberal' and so-called 'neoliberal' world economy, with its component realms of international trade, international finance and global economic development (Ruggie 1982; Bernstein & Kirshner 1996; Helleiner 2010). The BW institutions have exerted systemic influence as these institutional arrangements expanded over seven decades to absorb a growing membership, expanding to also integrate 'non-Western' economies into the increasingly global economic system.

However, as the core institutions were and are in essence, Western-led creations, the expansion of the BW institutions also reinforced or strengthened what is an essentially Western-led international economic system, along with the associated ideational and regulatory preferences and practices of these institutions (Williams & Young 1994; Ito 2012; Lipscy & Lee 2019; Kring & Gallagher 2019).

China's full integration into the BWS since it joined the WTO in December 2001 raised questions about exactly how China relates to the BW institutions and the international economic order that they support. Existing studies debate whether China is supporting the BWS institutions and the order as a 'responsible' member, or whether it is looking to reshape the system or even undermine and replace the BWS institutions completely.

Despite such wide-ranging debates on China's rise, there is yet to be a consensus in the existing literature on how exactly China has positioned itself in relation to the BWS, the role it is playing and the consequences of its behavior for the respective institutions, or the system or the order more broadly. Some of the core questions framing the debate are as follows: To what extent is China a participant in the three pillars of the BWS constructed under Western leadership – specifically the IMF, the WBG and the WTO? To what extent has China created or joined other international institutions that are performing supplemental or parallel functions to the BW institutions within the world economy, in the international monetary, the global developmental finance and world trade realms? What is China's footprint in each realm? Do China's footprints within and outside of the BW institutions intersect? What are the main datasets that are available to measure and track these flows, how accurate or complete are these datasets, how useful are the existing datasets for making sound assessments and what are the main gaps in the available data, and more broadly, in our collective understanding?

This working paper provides a survey of the state of the knowledge and available data on China's role within the BWS. It details the datasets that have been collected and published on this theme of China in the international monetary, global development finance and world trade realms. The quantitative data on China's positioning within and outside of the BWS tends to be highly fragmented, inconsistent and imprecise. The lack of comprehensive and coherent official data published by the Chinese government, and the fragmentation in the unofficial data that has been collected by think tanks and academic institutions, has resulted in fragmented, partial understandings of China's position in the three realms, inside and outside of the BW institutions. The main contribution is first to provide a survey of the leading and 'best' quantitative data sources available in the public domain on the research question of China and the BWS; second, to highlight the relevant gaps that exist in the datasets that have been collected; and third, to offer a roadmap for the new datasets that should be created in order for academics and policymakers to gain a more evidence-based, empirically grounded and theoretically-conceptually informed understanding of China's position within and outside the BWS, as well as its positioning and impact on global economic governance more broadly.

SURVEY OF THE LITERATURE AND THE DATA: AN OVERVIEW

The debates on China's rise and its implications on the BWS and institutions have arisen in reaction to China's growing activism, footprint and profile in the international monetary, global development finance and world trade systems. China's economic presence has grown exponentially in the global system, and as a result, the balance of power and influence in the BW institutions have become increasingly out of synch with this evolving global economic reality (Golub 2013). As Figure 1 demonstrates, China's gross domestic product (GDP) in terms of Purchasing Power Parity (PPP) has outgrown that of the US in the past two decades. China's nominal GDP share of the world economy has also outgrown major Western economies and is now converging with that of the US.

But Western nations still have the largest voice in BW institutions. Recently, there have been efforts to adjust the voting quota and staffing allocations in the institutions, and China now holds the third-largest voting quota in the IMF, only slightly behind Japan, as seen in Figure 3 in the following section. China's currency, the renminbi (RMB) has also been included in the IMF's Special Drawing Rights (SDR) reserve currency basket as of 2016. China's expanding influence within the IMF and other BW institutions, however, still does not fully represent China's new economic status in the global economy.

Some have argued, therefore, that China has been seeking to expand its influence beyond the BW institutions to account for this mismatch. China has supported or led the establishment of the New Development Bank (NDB) and the Asian Infrastructure Investment Bank (AIIB). These institutional developments have triggered debate over whether the AIIB and the NDB are extensions of the BWS or challenges to its institutional foundations and values (detailed in Chin 2014; Chin 2016; Zhu 2015; Ren 2016; Gu 2017; Wang 2017; Hameiri & Jones 2018; Wang 2017; Wang 2019; Stephen & Skidmore 2019; Humphrey and Chen 2021; Xu and Liu 2022).

There are three main contending views on the intent of China's expansion of influence within and beyond the BWS. First, some scholars see China's role in the BWS to be benign overall. They argue that China's rising influence within the existing institutions does not significantly challenge established liberal norms, that China has many incentives to seek further integration into the BWS, or the

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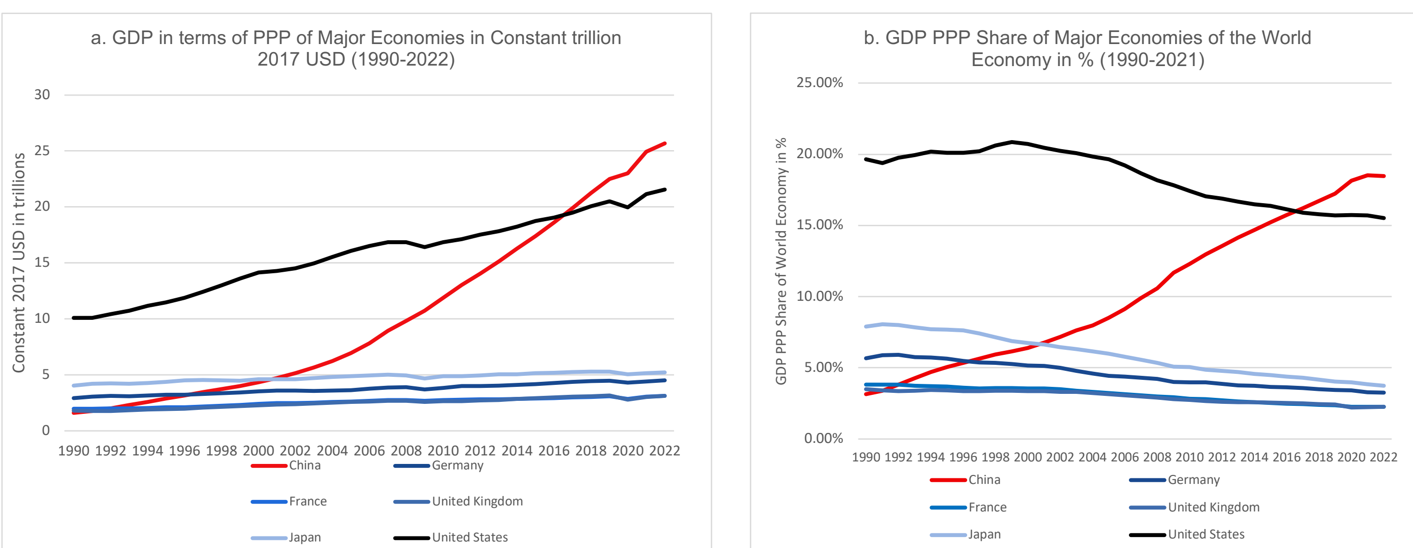
Figure 1: China's Economic Growth from a Comparative Perspective (1990-2021)



Source: Compiled by authors using World Bank data.

liberal order (Pearson 1999a, 1999b; Johnston 2003, 2008; Liang 2007; Tu 2013; Wang and French 2013; Wang and French 2014; Zeng & Liang 2013; Vickers 2014; Kastner, Pearson and Rector 2018; Ikenberry 2018, Weinhardt & ten Brink 2019). They suggest that China has generally lived up to required commitments as a member of the BW institutions, and some add that China has promoted pragmatic reforms within the BW institutions (Pearson 2001; Li 2011; Ferdinand and Wang 2013; Pang and Wang 2013; Zeng and Liang 2013; Liu 2014; Ren 2015) or offered new leadership within the BW institutions (Wang 2018), acting still as a status quo actor.

On the other side of the spectrum, others find China to be waging 'war by other means' inside the main institutions of global economic governance. This second perspective sees China as 'hostile' – not only a rival but a 'foe' and 'enemy' (Navarro 2006; Friedberg 2011; Pillsbury 2015; Lighthizer 2020; Pottinger 2021). Friedberg (2011), for instance, argues that the West should abandon efforts to engage or integrate what he sees as a 'hostile' and 'revisionist' China in this respect. This view is underpinned by the realists' view that China will challenge US power and bring about important changes to the liberal international order (LIO) (Glaser 2019; Stokes 2018; Mearsheimer 2021). As China grew in size and influence, becoming more active in international relations, realists predicted that China would eventually challenge the values and institutions that define the LIO (Schweller and Pu 2011; Mearsheimer 2019). A more moderate institutionalist view is that a more materially powerful and politically ambitious China is destined to change the existing international governance arrangements (Wang and Rosenau 2009). Other less-hawkish observers nonetheless portray China emerging as the world's largest agricultural subsidizer, and a force that is profoundly altering global trade governance in the area of export credit and eroding the efficacy of existing liberal international rules aimed at preventing a competitive race to state subsidization (Hopewell 2019, 2021).

A third perspective sees ongoing ambiguity and complexity in the purpose and aims behind China's rise, and more specifically in its relations with the BW institutions and the system. One Chinese scholar argues this complexity results from China's efforts simultaneously to consolidate its presence in the existing international order while also seeking to reform existing global governance institutions, sponsoring new institutional initiatives such as the AIIB and the Belt and Road Initiative (BRI), suggesting revisionist ambition "at least to some extent" (Pang 2018). Others have suggested that the support of the AIIB and the NDB for the United Nations 2030 Sustainable Development Goals (SDGs) and their adherence to other international norms and standards – such as operational transparency and environmental, social and governance (ESG) standards – creates the possibility, at least, for these new institutions to complement or supplement the existing BW institutions and address the developmental gaps that are not addressed by the BW institutions, even as the new China-backed multilateral institutions also create the potential for rules, norms and standards that may differ from BW institutions (Chin & Gallagher 2019; see also Liang 2021).

Some analysts see China absorbing and using the language such as "global commons" and "global public goods," but also offering some very different approaches to and substance on these concepts – to quote the tile of Freeman's award-winning article in *The China Quarterly*, "an uncommon approach to the global commons" (Freeman 2020). Offering a variant along a similar vein, other analysts argue that ingrained in China's bilateral arrangements are elements that stretch the standards and norms in and across the core pillars of the BWS, in international monetary, world trade and development finance. In international development finance, some commentators highlight opaque arrangements, which are inconsiderate to the sustainability of projects, and in some cases challenge liberal market norms (Humphrey & Michaelowa 2019). Others argue that China's increasing willingness to utilize asymmetries in bilateral trade and ties of trade dependency for statecraft also raises concerns for whether the liberal trade order will be sustained (Wu & Koh 2014; Lim et al. 2021). Finally, some argue that China's issuance of bilateral currency swap arrangements to promote trade settlement through the RMB and establish the RMB as a source of liquidity in place of the US dollar, although limited in their effectiveness to date, are a source of concern, particularly whether increased reliance on the RMB can open the door for coercive economic statecraft (McDowell 2019). In these narratives, it remains ambiguous whether China's rise poses a threat to the existing system or whether it merely drives healthy competition between institutions.

Hence, there is a lack of consensus on whether China challenges the BWS and the international economic order, or to what degree. Such contesting views on the same issue partially arise from the relative lack of transparent and reliable official data published by the Chinese government that can clarify its intentions. This is especially true of China's activities in development finance. In response, research institutions and think tanks have tried to collect and publish their own unofficial datasets on China's rising influence in the global economy. There are official data published by BW institutions that provide data on several key economic variables, but these are general datasets that include data on other economies as well.

Hence, the datasets that shed light on understanding China's rising influence in the global economy remain fragmented. This fragmentation makes attaining a holistic view on China's rise often highly time-consuming. Furthermore, there are increasing overlaps among the datasets that renders the data collection process confusing. To fill this gap, this working paper conducts a thorough review of the various datasets that have been constructed and publicly made available to track China's rise in global economic governance, and its impact on the BWS. Furthermore, by utilizing these datasets, we also offer an empirically grounded assessment of China's current standing in the BWS that could offer a concise, comprehensive summary of what is and is not known on this issue.

To do this, this study reviews the official and unofficial datasets that show China's standing within the three core institutional pillars of the BWS (the international monetary system, global development finance and world trade). Then, it offers a comprehensive and coherent perspective on China's presence within and beyond the BWS using existing datasets, highlighting the gaps in these datasets. The objective of this review is to provide a comprehensive and coherent assessment that can serve as a baseline for academics and policymakers to better understand and further examine China's relationship with the BWS.

CHINA AND THE INTERNATIONAL MONETARY SYSTEM

The international monetary system, as defined by Farhi and Maggiori (2016), consists of 'three key attributes: (i) the supply and demand for reserve assets; (ii) the exchange rate regime; (iii) international monetary institutions.' Eichengreen (1987) suggests a more general definition of it, identifying the international monetary system as 'a set of rules or conventions governing the economic policies of nations.' The definitions are congruent in essence: although backed by the currency's liquidity and its stable value against recessions, the supply and demand for a certain currency as a reserve asset is bolstered by a convention, or trust, in the currency as a safe and reliable asset. International monetary institutions serve as a lender of last resort against crises to prevent the downfall of established rules and conventions and in peace times, surveil member compliance to such standards (Bordo & James 2020). Hence, the influence of a country in the international monetary system should be measured first by the level of demand for the country's currency and second, by its ability to translate this power to influence the rules and conventions setting process of the system.

This section first briefly discusses the existing scholarship's discourse on China's rise in the existing international economic order and the international monetary system. Then it identifies the publicly available datasets that indicate China's presence in the international monetary system and uses those datasets to visualize key parameters that offer a comprehensive and comparative perspective on China's standing in the system. These datasets first include those that track China's rising influence within and beyond the institutions of the international monetary system and second, those that track the RMB's demand. Finally, we review the identified datasets and identify gaps and the way forward.

China's Rise, the IMF and the Global Financial Safety Net

The ability to provide liquidity support to troubled financial markets during crises has been a key parameter of influence in the international monetary system, and the IMF has been at the center of providing such support and creating a financial safety net for economies at the global level. As China's economic presence in the global economy grew, however, China's relationship to the IMF and its ability to create its own financial safety net beyond the IMF's purview led to important debates in the existing literature. Helleiner & Momani (2014), for instance, examine China's rising influence in the IMF and find that China has continued to commit to the IMF and the multilateral order it represents, as it has been direct stakeholder of the institution since its founding.

Chin (2010, 2017) has examined how China, in response to the 2008-09 global financial crisis, contributed to the collective efforts of the Group of 20 (G20), to give more financial resources to the IMF and to 'firefight' in response to the crisis, via SDRs. Concomitantly, China pushed for reforms for the IMF to support counter-cyclical lending (also see Gallagher 2014) and more rapid and flexible lines of credit. Grabel (2019), building on the aforementioned empirical research, and probing further, argues that China has contributed to constructive reforms of the Fund's approach.

There have been mixed perceptions, however, on China's rising influence in creating its own financial safety net for other economies beyond the IMF. McDowell (2019), for instance, argues that China's rapidly expanding network of bilateral swap arrangements represents China's attempt to both protect its policy autonomy from excessive dollar reliance and establish itself as a future lender of last resort. However, the author finds little evidence for the effectiveness of such policies. With the dollar still maintaining its dominance, McDowell (2019) finds that it is difficult to judge whether the future dominance of the RMB against the dollar will challenge the LIO, which is partially upheld by dollar dominance. Other works find similar results. Perks et al. (2021) and McDowell & Liao (2014) find that China's bilateral swap arrangements are motivated primarily by its trade relations with other countries to settle bilateral trade, rather than to proactively challenge dollar dominance. Likewise, Sundquist (2021) finds that China undercutting the IMF on loans to countries unable to access capital markets is a losing proposition, and that China only considers such a bailout when a country can provide alternative sources of compensation.

As such, the existing literature finds that the ability to provide emergency liquidity support and shape the Global Financial Safety Net (GFSN) is a key parameter of influence within the international monetary system. Hence, a comprehensive understanding of China's influence on the GFSN is important to understand China's influence on the international monetary system in general. This section identifies, assesses and visualizes some of the key data from the currently available key datasets that track China's rising influence on the GFSN to allow for such understanding.

The GFSN is the international community's attempt to account for adverse spillovers from the over-reliance on a single currency. Naturally, the GFSN not only seeks to provide *ex post* support for economies under liquidity crises but also seeks to reduce the monetary system's overall reliance on the dollar (Elson 2021). For instance, the IMF now extends SDR credit to member economies under distress, which is a currency basket denominated by not only the dollar but also other key currencies of the monetary system. The Chiang Mai Initiative Multilateralization (CMIM), a regional currency swap arrangement in the Asia-Pacific, has also recently allowed for a double denomination of its reserve pool in both the dollar and local currencies (Bank of Japan 2021). Bilateral currency swap arrangements that are denominated in respective local currencies have also emerged as a major component of the GFSN (Muhlich et al. 2022).

Hence, to understand China's standing in the international monetary system, its influence and presence in the institutions and mechanisms of the GFSN need to be closely examined. The GFSN provides both *ex-post* and *ex-ante* solutions for financial crises which, if successful, may reduce the international monetary system's reliance on the dollar and simultaneously increase the influence of the RMB, or other key currencies. Furthermore, the institutions of the GFSN, especially the IMF, given its centrality in the GFSN, also serve as a norms setter of the international monetary system (Gallagher & Tian 2017). Through the strengthening of its surveillance capacities and conditionalities attached to its lending, the IMF has been promoting the market norms adopted by its major member states or, as some studies argue, a mixture of its own institutional views on relevant economies (Gallagher 2014). Therefore, China's rising influence in the GFSN via its rising influence within the IMF and new bilateral or regional financial arrangements are key points to observe when assessing China's standing in the international monetary system.

Table 1 lists the major datasets that indicate China's increasing influence in the GFSN. The IMF publicizes the RMB's weight in the SDR basket and China's voting quota within the IMF, which can serve as a quantitative measurement of China's increasing influence from within the previously Western economies dominated institution.

Table 1: Major Publicly Available Data on China's Presence in the GFSN

<table>
<tr><th>Category</th><th>Source</th><th>Description</th></tr>
<tr><td>IMF SDR basket and voting quota</td><td>IMF</td><td>Publishes data on each currency's weight in the SDR basket and the voting quota of IMF member states</td></tr>
<tr><td>Bilateral currency swap arrangements</td><td rowspan="2">GDP Center GFSN Tracker, Council on Foreign Relations Central Bank Currency Swap Tracker</td><td rowspan="2">GDP Center: Tracks the GFSN's annual lending capacity by IMF lending, bilateral currency swaps, and regional financial arrangements
CFR: Tracks central bank swap arrangements over time (2007 to 2017)</td></tr>
<tr><td>Regional financial arrangements</td></tr>
</table>

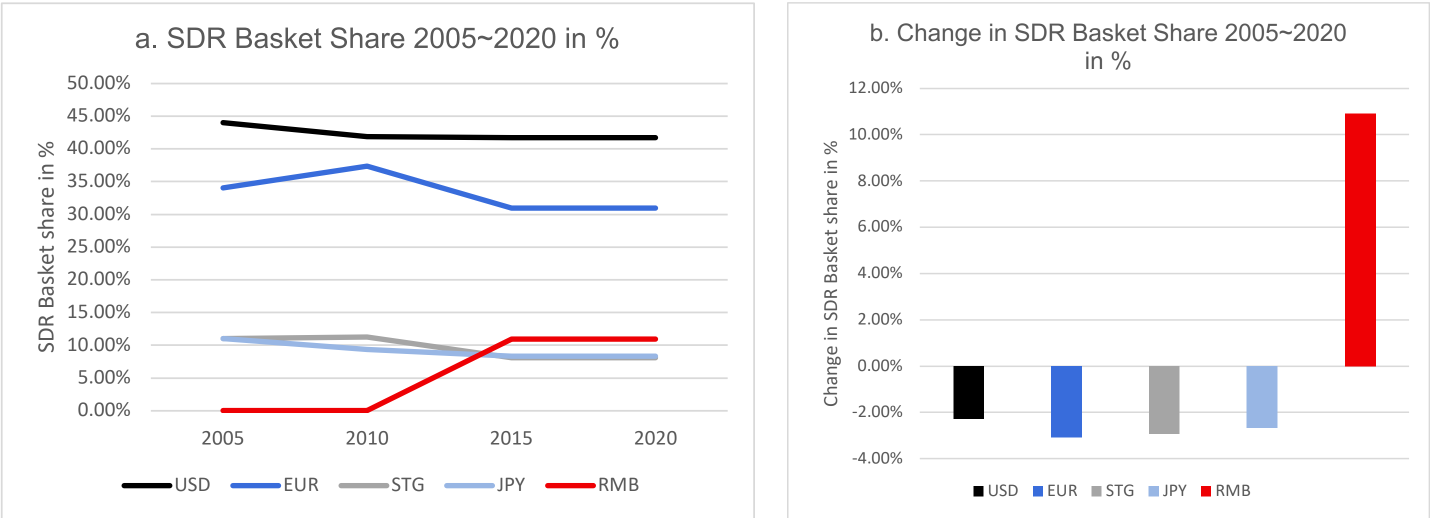
Source: Compiled by authors.

Using these datasets, Figures 2 and 3 visualize the changes in the RMB's weight in the SDR basket and China's voting quota.

Figure 2 demonstrates that since the RMB's inclusion among the five currencies that compose the SDR basket, the RMB has seen significant increases in its weight while that of other currencies has decreased. This demonstrates the increasing demand for the RMB as a reserve currency, as demonstrated in Figure 2, and institutional recognition of such heightened demand. Figure 3 demonstrates a similar upward trend in China's influence within the IMF. It demonstrates that since 2007, China's voting quota has significantly increased while those of other major economies have either remained generally stagnant or decreased. It is expected that this upward trend will continue, as, China is still critically underrepresented given its economic size in the IMF compared to European economies.

Other important components of the GFSN that have increasingly gained prominence beyond the IMF are the network of bilateral currency swap arrangements and regional financial arrangements. First, bilateral swap arrangements involve a promise between central banks to swap currencies (usually in the local currencies of the signees) at a pre-determined exchange rate to hedge for currency fluctuation risks. However, as these arrangements are often denominated in non-dollar currencies, their main aim lies in promoting bilateral trade and payment settlements in local currencies to reduce their reliance on the dollar as a vehicle currency rather than as a source of emergency credit against

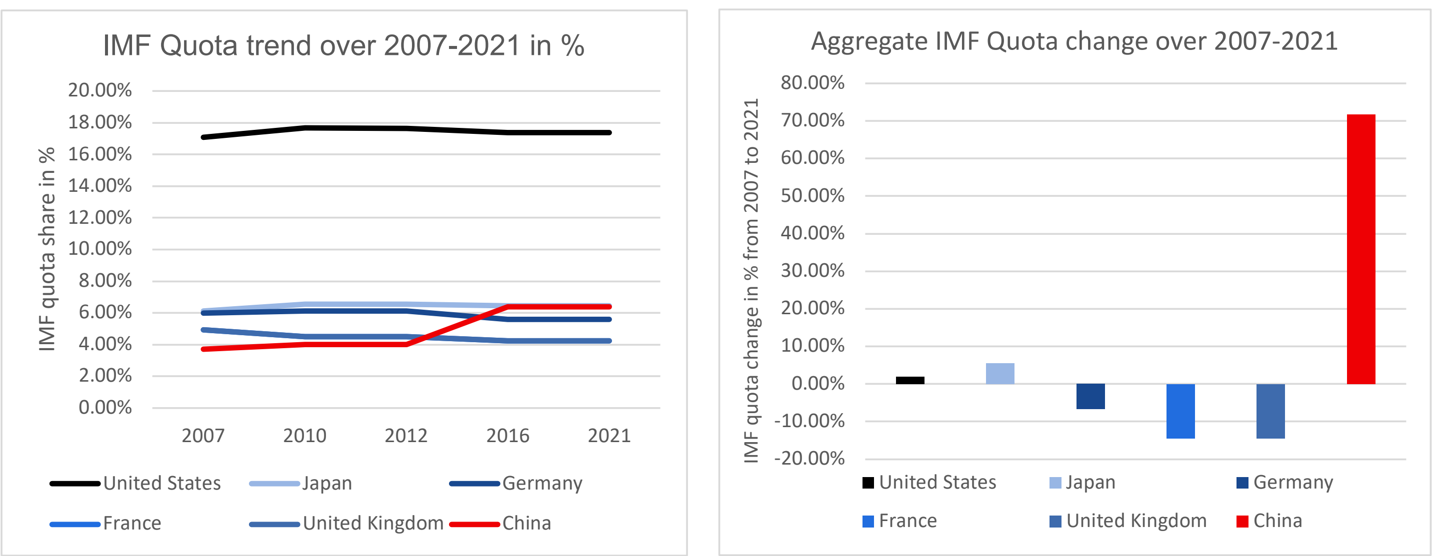
Figure 2: The RMB's Weight in the SDR Basket (2005-2020) in %



Source: Compiled by authors using IMF data.

Note: USD: US dollars; EUR: Euro; STG: Pound sterling; JPY: Japanese Yen; RMB: Renminbi.

Figure 3: IMF Voting Quota of Major Economies (2007-2021) in %



Source: Compiled by authors using IMF data.

financial crises, unless the trade and payments between the signing economies of the arrangements are substantially denominated in their local currencies (Liao & McDowell 2014).

Second, regional financial arrangements are mostly denominated in the dollar and aim to extend emergency credit to member states in distress. These arrangements are institutionalized and carry substantial weight in potentially undermining the role and authority of the IMF as a norms setter of the international monetary system (Henning 2006). China has been the founding member of two such arrangements. One is the CMIM, East Asia's $240 billion regional financial arrangement to which China has contributed $76.8 billion. The other is the $100 billion Contingency Reserve

Arrangement (CRA) established among Brazil, Russia, India, China and South Africa (BRICS) member states, where China's contribution is $41 billion (Steil & Walker 2014). In total, China-led regional financial arrangements have a lending capacity of $340 billion. These arrangements, however, maintain a link with the IMF in terms of surveillance and *ex ante/post* management of loans. In the case of the CMIM, 60 percent of its reserves are subject to IMF conditionality (Bank of Japan 2021). This demonstrates a recurring pattern in China's engagement with the BWS, where China does not seek to fully disengage with BWS institutions but rather puts one foot in and the other foot out, thereby creating a regime complex (Henning 2017).

Based on the emergence of alternative financial arrangements to the IMF, there have been several attempts to track their developments. Regional financial arrangements have been more easily traced, as their operations and developments are regularly publicized. Tracking bilateral swap arrangements has been difficult, however, as they were publicized by individual central banks, naturally in a disaggregated form. The Council on Foreign Relations published an interactive dataset on the 2019 landscape of currency swap arrangements, but the dataset is now relatively outdated, as the currency swap network has significantly expanded, most notably since the COVID-19 crisis (Council on Foreign Relations 2019).

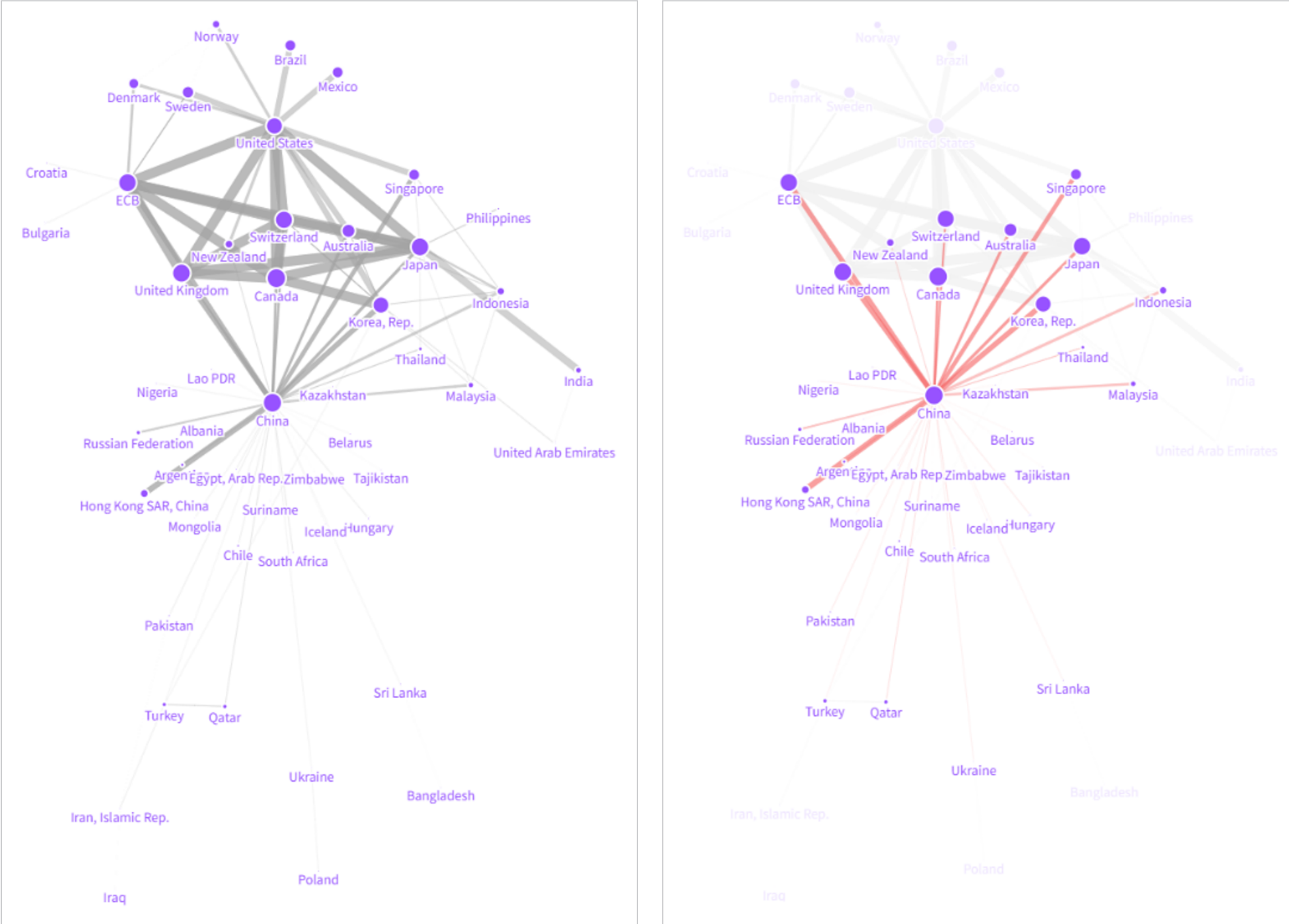
The most recent and comprehensive dataset on the GFSN's lending capacity which regularly tracks developments in both regional and bilateral financial arrangements, along with those on IMF lending, is available on the Global Financial Safety Net (GFSN) Tracker (Kring et al. 2022). The dataset considers the recent expansion of the GFSN against the COVID-19 crisis and tracks the newly established bilateral and activations of participating regional financial arrangements of not only China but also those of other economies, allowing for a comparative perspective on China's rise in the GFSN. This is important, as China has been aggressively signing bilateral currency swap arrangements to encourage settlements in the RMB. This dataset, therefore, facilitates the comparison between China's expansion bilateral swap arrangements with other developments in the GFSN and offers substantial insight on the potential for the RMB's expanding influence in the international monetary system.

Using the GFSN Tracker dataset, Figure 4 visualizes the global network of bilateral swap arrangements. The weight of the edges is correspondent to the size of the arrangements in place between the two countries and the size of the nodes corresponds to the number of arrangements that the country has signed with other countries, with permanent arrangements having a higher weight than temporary arrangements. The right figure demonstrates China's bilateral swap arrangement network while the left figure demonstrates the network at a global level.

Figure 4 demonstrates China's central position in network of bilateral swap arrangements. China has the most extensive network of bilateral swap arrangements, and while none of them are permanent and have a limited size compared to the permanent and unlimited swap arrangements signed among the US Federal Reserve and major Western central banks, the number of arrangements that China has signed far outnumbers that of other countries. Furthermore, as Perks et al. (2021) find, bilateral swap arrangements demonstrate a strong tendency to be rolled over once they have been signed. This demonstrates that despite the limited terms of China's local currency denominated bilateral swap arrangements, the current expansive network will have sustainable impact on GFSN governance.

A major shortcoming of the currently available data on China's bilateral currency swap agreements, however, and one that may be extremely difficult to account for, is that it is difficult to accurately track whether and when the bilateral arrangements have been activated. Unlike data on lending through the IMF or regional financial arrangements, the activation records of bilateral currency swap

Figure 4: Network Visualization of Global Bilateral Swap Arrangements



Source: Compiled by authors using GFSN Tracker data.

lines are not readily publicized. Hence, gauging the effectiveness of bilateral swap arrangements in encouraging settlements in the RMB or as a source of emergency credit against financial distress can be only indirectly measured through running a causal analysis on the effect of an RMB denominated swap arrangement on encouraging payments or investments in the RMB, which can be accessed from the datasets enumerated in Table 1. A recent working paper by the IMF has run a causal analysis on whether stronger trade relationships with China leads to higher tendencies to signing bilateral swap arrangements with China, and it finds that countries with higher exports to China are more likely to establish currency swap arrangements with China while the pattern is not observed in those with high imports from China (Perks et al. 2021). This indirectly demonstrates that China is using swap arrangements as a defensive mechanism to encourage settlements in local currencies rather than using the dollar as a vehicle currency, so that exchange rate risks can be hedged when making payments in foreign currencies (McDowell 2019). Yet, the IMF paper does not directly demonstrate how such arrangements led to an increase in the use of local currency in settling trade payments with China. To account for this gap, a dataset that records the level of correlation between the variables specified based on a regression formula would help illuminate the material impact of Chinese bilateral swap arrangements in advancing the use of the RMB.

The Rise of the RMB and the International Monetary System

Another important parameter of influence in the international monetary system is the demand for a currency, which is mostly derived from the demand for the currency-issuing country's exports. Supply is derived from the demand for imports from abroad. To purchase Chinese imports, for instance, the US must pay in RMB through selling its domestic currency, the dollar. Hence, a positive current account balance would increase the demand for the currency while a negative balance would increase its supply. While it would seem that higher demand for a currency would encourage settlements to be denominated in it, excess demand makes the currency market less liquid, potentially making it a less attractive settlement medium for trade. On the other hand, excess supply of a currency may enrich the offshore currency market, as the deficit country would sell its domestic currency for imports, sending the currency abroad (Eichengreen 2012). A continued current account deficit is unsustainable if the volume of the currency sent abroad is relatively insignificant to the global economy as the currency value will depreciate with less demand and increase the cost of purchasing foreign currencies.

Yet, if the volume of currency outflow is substantial, as in the case of the US and the dollar, the availability of the currency in the offshore market will create demand for the currency as a settlement and investment medium, simultaneously making it an attractive reserve asset (McCauley 2015). Hence, to assess the future and current standing of the RMB in the international monetary system, China's current account balance trends and the RMB's use as a trade settlement, investment and reserve currency medium should be observed.

Until now, there has been a fixation on the possible international role of the RMB and the potential role of Chinese efforts to promote the RMB's international use. The complex role of China in the international monetary system was most evident in response to the global financial crisis, the ensuing 2012-13 eurozone sovereign debt crises and RMB internationalization (RBMI) that has been taking place since 2009. In examining the international role of the RMB, a few key points and literature stand out. RMBI has now been ongoing for more than a decade; however, much of the predominant literature on the theme of RMBI was actually produced at the half-decade mark, in 2015-2016. In other words, this earlier literature has arguably become outdated as the process of RMBI has continued.

Table 2 identifies the publicly available datasets on the RMB's position in the international monetary system. These datasets are published by a mix of private and public entities that have exclusive access to the data. As a result, there is comparatively less room for overlaps. For instance, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) oversees the execution of financial transactions worldwide, naturally allowing it to track and collect data on the currency denominations of cross border capital flows. As SWIFT meets the demand for accurate, timely data on RMB denominated capital flows, there are less overlaps in datasets published on the same issue. This is unlike the datasets on the GFSN or development finance. What is lacking, however, is a comprehensive dataset that puts these datasets together. Standard Chartered publishes an annual index on the RMB's influence in the international monetary system but the granular data on how they calculate the index is not publicly available.

With such shortcomings set aside, we use some of the enumerated datasets to visualize the RMB's position as a reserve currency and trade settlement medium in Figures 5 and 6. Figure 5 demonstrates China's current standing as a reserve currency using the composition of official foreign exchange reserves (COFER) data from the IMF. While the sub-figure on the left, a visualization of the use of major currencies as reserves from 2016-2021, demonstrates the persistent dominance of the dollar, the sub-figure on the right which observes the percentage change in the currencies'

Table 2: Major Publicly Available Data on the RMB's Influence on the International Monetary System

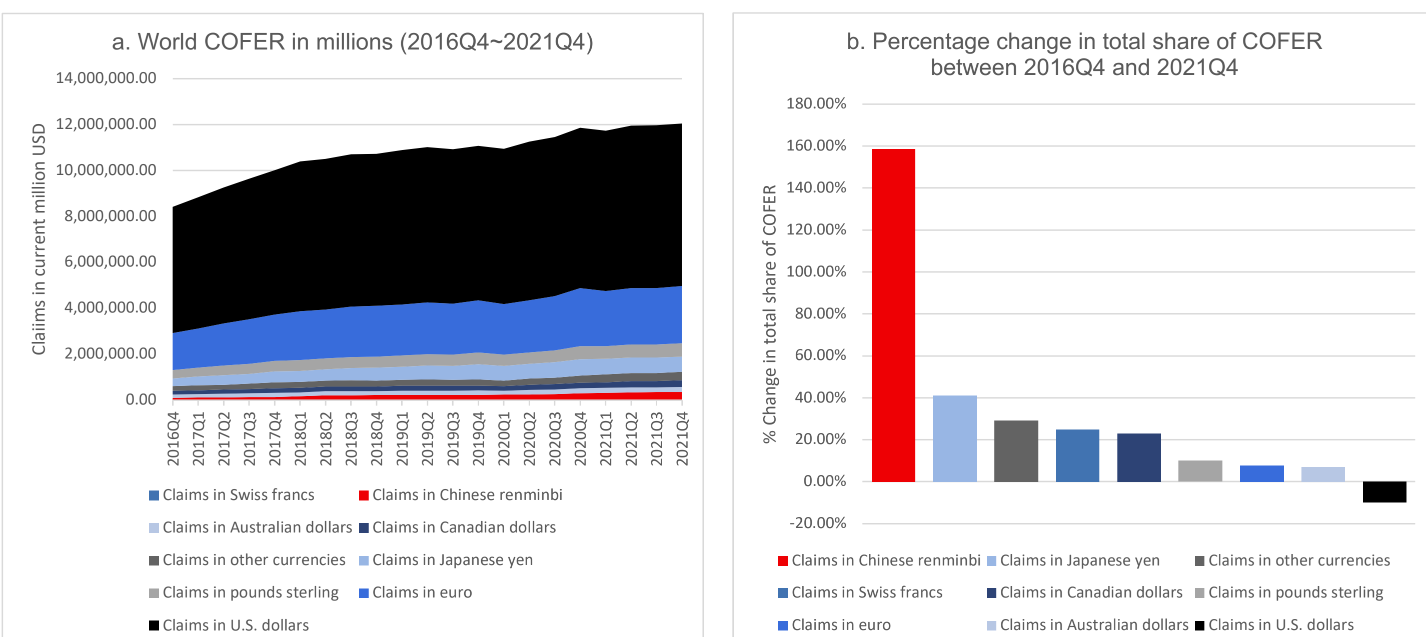
Category	Source	Description
Current account balance trends	World Bank Data	Annual data on the balance of payment
RMB as a global payment medium	SWIFT	Monthly data on currencies used for settling global payments and trade finance
RMB as a reserve currency	IMF Composition of Official Foreign Exchange Reserves	Quarterly data on the currency composition of reserve assets
RMB as an investment medium	Asian Bond Markets Initiative, FTSE Russell	*Asian Bond Markets*: Monthly data on onshore RMB bond market and foreign holdings of RMB denominated sovereign bonds *FTSE Russell*: Index on on, offshore RMB bond markets
Foreign exchange rate determinants	Bank of International Settlements	Triannual data on forex market turnovers, swaps, spot, and forward rates
Aggregate index	Standard Chartered	Annual index on the RMB's influence as a currency in the monetary system

Source: Bank of International Settlements, SWIFT, IMF, Asian Bonds Online, World Bank, Standard Chartered.

use during the same period, demonstrates that the RMB's use as a reserve currency has increased significantly while that of the US dollar has decreased.

Despite this notable increase in the RMB's use as a reserve currency, however, the RMB's use in trade financing has declined over the same period. This demonstrates the US dollar's persistent dominance as an international trade settlement medium. Yet, this seemingly contrasts with the findings in Figure 5 where the RMB's use as a reserve currency has significantly increased. Analysis conducted by Macaire et al. (2022) explains this contrast. Their analysis finds that central banks of countries that have a higher volume of trade with China have a larger size of RMB reserves. In other words,

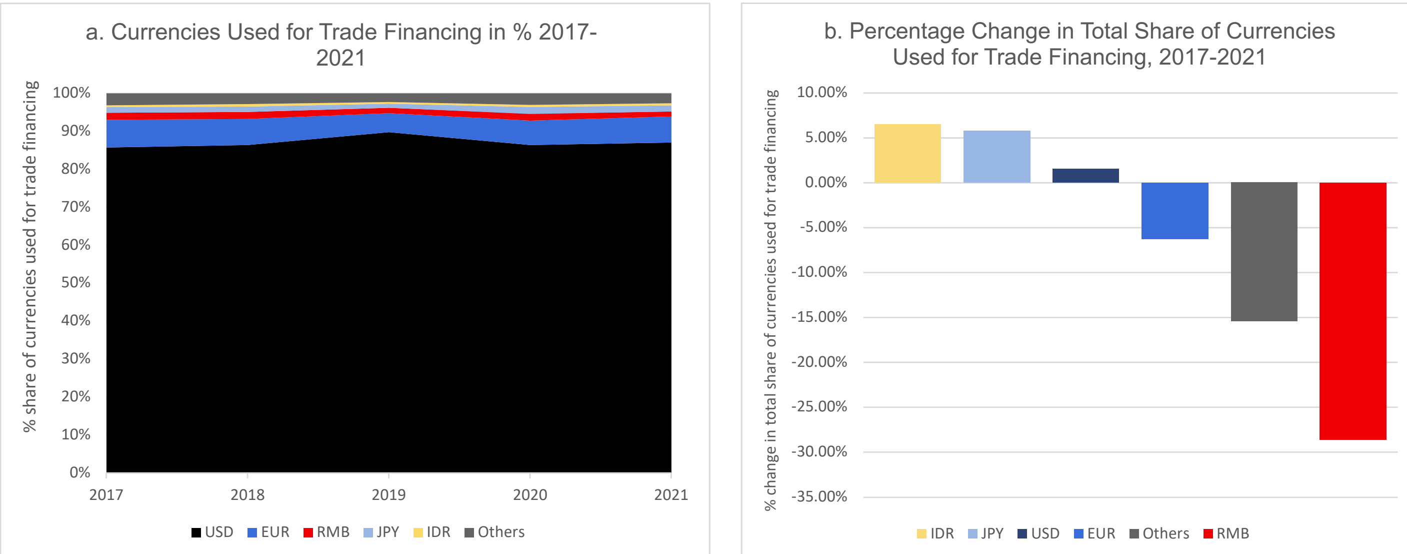
Figure 5: RMB and Other Currencies in Terms of Composition of Official Foreign Exchange Reserves (COFER), 2016Q4-2021Q4



Source: IMF COFER.

while Figure 5 demonstrates a sharp rise in preference for the RMB as a reserve currency, it may not serve as an accurate indicator for the RMB's internalization or its establishment as an international settlement medium but rather be an indicator for China's bilateral trade expansion. Figure 6, therefore, demonstrates that despite China's expanding trade volumes, the RMB's use as an international settlement currency has not seen significant progress for the observed period.

Figure 6: Major Currencies Used for Trade Financing in %, 2017-2021



Source: Compiled by authors using SWIFT RMB Tracker data.

It should also be noted, however, that China has contributed to the persistence of dollar dominance as an active issuer of dollar-denominated bonds and increasing influence in trade and the use of the dollar as a medium currency (Chin and Helleiner 2008; Chin 2017). In this respect, the RMB's rather stagnant presence as a reserve currency and in trade finance is partially reflective of China's proactive use of the dollar. With China increasingly seeking to push back on dollar dominance, however, the future trend of the RMB's influence as an international currency would be worth noting (Crawford 2022).

CHINA AND GLOBAL DEVELOPMENT FINANCE

Global development finance, broadly defined, refers to "the use of public sector resources to facilitate private sector investment in low-and middle-income countries where the commercial or political risks are too high to attract purely private capital, and where the investment is expected to have a positive developmental impact on the host country" (Ingram and Mosbacher 2018). This section briefly discusses the existing international political economy literature's views on China's engagement with the development finance regime and then presents and assesses the corresponding publicly available datasets.

China and its Impact on Global Development Finance

China's rise as a major player in development finance has attracted significant scholarly attention in recent years. China has increasingly expanded its influence both within the existing BW institutions and beyond, by establishing new multilateral development finance institutions (DFIs) and expanding its own bilateral development finance network.

China's relations with the existing BW institutions, most representatively the WBG, have evolved significantly over the last four decades, though the published research and analysis on this relationship has been rather limited (Pieter Bottelier 2007; Chin chapter in Freeman 2016, Dollar 2020). China's rising influence within these institutions has been considered to be benign and overall contributing to the WBG's capacities. However, China has not only worked within the WBG, but it has also supported the creation of the two new multilateral development banks (MDBs): the AIIB and the BRICS-led NDB (for examples, see: Chin 2014, 2016; Lichtenstein 2018; Wang 2019; Bautista 2022).

China's leading role in establishing two new multilateral DFIs had been initially met with speculation on whether and how it would challenge the US-led order and the LIO it represents (Liao 2015; Barma et al. 2014; Chin 2016; Lichtensetin 2019; Wang 2019). Multiple studies later found, however, that the new DFIs' practices and the norms that they followed have been in good compliance with the rules and expectations of the existing order (Heldt & Schmidtke 2019; Stephen & Skidmore 2019). Yeo (2018) finds that China has found no significant gain in 'rocking the boat,' as maintaining strict compliance with the LIO increased the participation rate of other countries in sharing the financial burden of establishing new DFIs.

Despite the seemingly benign contributions made by China in multilateral development finance, however, China's alternative approach to bilateral development finance has been more controversial. Some have argued that China's bilateral infrastructure projects under the BRI that often have less conditionalities attached come with high levels of debt for recipient countries (Carmody 2020), leading to fears of a 'debt trap,' in which recipient countries are unable to repay their loans and are forced to cede control of strategic assets to China (Chellaney 2017). This view was supported by the concern that China's approach to development finance often lacks transparency and accountability (Cormier 2022). This has led to criticisms that China is using its development assistance as a tool for geopolitical influence, rather than solely for the purpose of promoting development (Reilly 2013).

The accusations on Chinese loans creating a 'debt trap' for borrowing economies have been debunked, however, by some that argued that the loans do not serve predatory purposes or aim for military expansion but rather the consequence are representative of macroeconomic failures of the borrowing economies (Singh 2019; Jones and Hameiri 2021; Brautigam 2021). In line with this view, some observers have emphasized the net positive impact of China's increased participation in bilateral development finance. They have contended that China's approach to development can channel foreign direct investment to developing countries that face difficulties in accessing credit and boost their economic growth rates, which is how China achieved economic development (Wang & Gao 2019; Chen 2020). Additionally, developing countries welcomed China's alternative approach to providing development assistance, as it prioritizes non-interference in domestic affairs and often does not come with the same political strings attached as Western aid (Kjøllesdal & Welle-Strand 2010).

As such, there are contesting views on China's bilateral development assistance and its DFIs. The debate remains unsettled as to whether these programs are actually 'bad' depend on which program is ultimately more productive, since as Chin & Gallagher (2019) argue, China's bilateral development assistance programs have different conditions to those of Western economies. The lack of transparency in China's bilateral development assistance programs contributes to making the debate on the intentions and outcomes of the programs even more controversial. In fact, many of the earlier debates on the 'debt trap' came from the lack of official data published by the Chinese government that could clarify the terms, durations and purpose of its assistance programs. Think tanks and policy research institutions have therefore stepped in to fill this gap. Yet, unlike the datasets on the RMB's influence, China has exclusive access to data on its development assistance programs, causing the datasets on China's bilateral development finance to have multiple overlaps and carry their own strengths and downsides.

The following sections aim to provide a comprehensive review of the publicly available datasets and the current gaps in data that will allow scholars to access and gain an empirical understanding of the extent of China's impact on the global mdevelopment finance regime and potentially, the LIO.

DATA REVIEW As the development finance market increased in both size and complexity following the postwar recovery of Western economies and the development of newly industrialized economies, demand for tracking and classifying such aid flows also increased to promote cooperation among donors and allow for an 'informed decision making to ensure aid goes where it is most needed' (OECD 2021a). Following the demand for data transparency, multilateral and national DFIs of most advanced economies have been publicizing their development assistance programs and aid flows. Based on the data provided by the members of the development assistance committee (DAC) and those from the multilateral development banks, the Organisation for Economic Co-operation and Development (OECD) has been publicizing data on the total volume of development assistance flows to recipient economies. Nonetheless, the data carries significant gaps in understanding the entire landscape of the development finance regime, as the OECD only tracks aid that is classified as official development aid (ODA) by its DAC member states (*Ibid*).

To qualify as ODA, development aid should be concessionary over a given threshold or be a contribution to a multilateral DFI. For instance, loans should include a grant element of at least 45 percent for loans to low-income countries to qualify as ODA (OECD 2021b). Hence, if a resource flow does not meet the concessionary qualifications of ODA, the OECD data would only be able to capture a portion of the entire development finance landscape. Furthermore, as the OECD data mostly tracks the ODAs of DAC member states, China's increasing presence in the development finance landscape is not captured. Even if the OECD starts to track the ODAs of China, the exclusion of other official flows (OOF) in its dataset would fail to capture the majority of China's bilateral development finance operations other than its contributions to multilateral development banks as the majority of its resource flows do not qualify as ODA (Donor Tracker 2019). Instead, most of China's operations pertain to OOFs which include, according to the OECD's definition, 'assistance through DFIs and private sector development, mobilization effect of public development finance (including guarantee schemes), export credits, foreign direct investment, private philanthropy, remittances, innovative finance for development' (OECD, 2021c). The OECD is working on expanding its database to account for resource flows that pertain to these categories for better policy relevance (OECD 2021d). However, as Table 3 demonstrates, datasets from other institutions have, for now, replaced the OECD's role in tracking China's bilateral development finance operations.

An economy's involvement in development finance can be broadly divided into aid or resource flows channeled through multilateral or bilateral platforms, or DFIs (Gulrajani 2016). China's contribution and increasing influence within Western-led MDBs, such as the WBG or the Asian Development Bank, are easily trackable on their websites which publicize the voting quota of member states and contributions to projects under operation. Data transparency of China-led DFIs, such as the NDB and the AIIB, is on par with those of Western-led DFIs, allowing for the same level of data collection through the DFIs' respective websites, as well. Based on such publicly available data from the DFIs, Figure 7 visualizes China's contributions to multilateral development finance in comparison to major Western economies, measured by voting share.

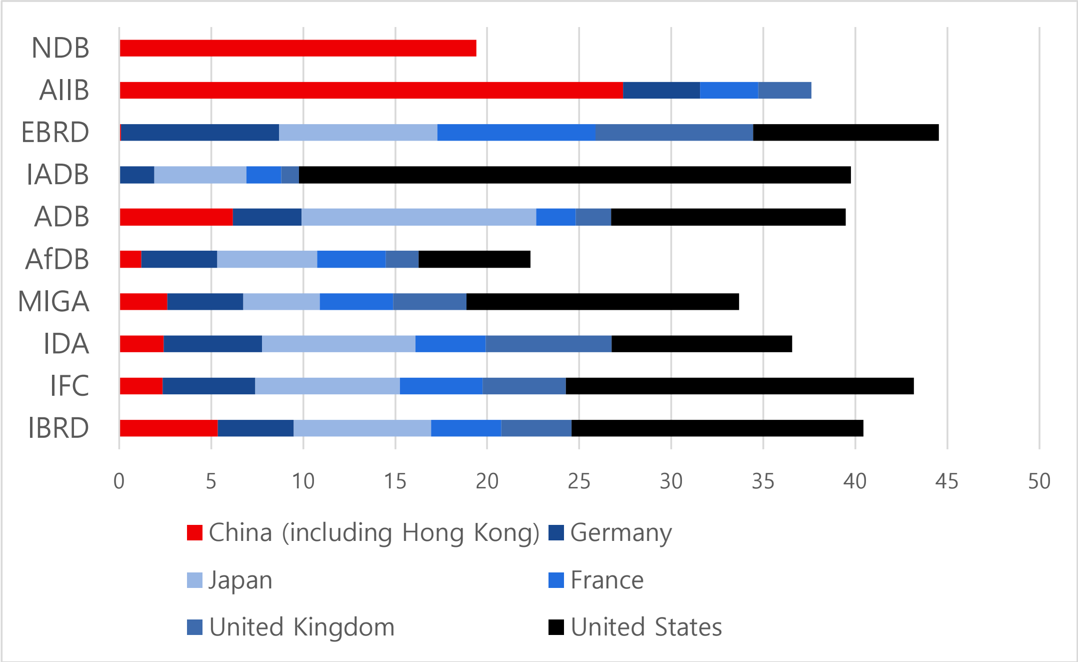
Voting share corresponds to the level of capital subscription a country is contributing to the DFI and is therefore a useful indicator of both the country's influence within the institution and its level of contributions to the institution's activities. Figure 7 demonstrates that China has been contributing to every major DFI in the development finance regime. Furthermore, its proactive participation has not been regionally bound. Although minimal, China carries voting shares in both the European Bank of Reconstruction and Development (EBRD) and the Inter-American Development Bank (IADB).

Table 3: Major Publicly Available Data on China's Development Finance

Category	Source	Description
Multilateral development finance in Western-backed DFIs	World Bank, ADB, AfDB, IDB	Provides data on voting quota, projects, and contributions made by member states of each multilateral development bank
Multilateral development finance in China-led DFIs	NDB, AIIB	
Bilateral development finance	Boston University Global Development Policy Center: China's Overseas Development Finance Database	Provides geospatial data on China's bilateral development finance operations from 2008-2019 by the China Development Bank (CDB) and Export-Import Bank of China (CHEXIM)
	AidData: Global Chinese Development Finance Dataset	Regularly tracks and enumerates data on Chinese development finance by policy banks, local governments, ministries and state-affiliated corporations
	CDB, Sinosure, CHEXIM	Annual reports on aggregate spending and annual balance sheets inclusive of total equity

Source: Compiled using data from DFI websites, Boston University Global Development Policy Center: China's Overseas Development Finance (CODF) Database, AidData: Global Chinese Development Finance Dataset.

Figure 7: China's Voting Share in Existing and China-led MDBs in % (2021)



Source: Compiled by authors using DFI websites.

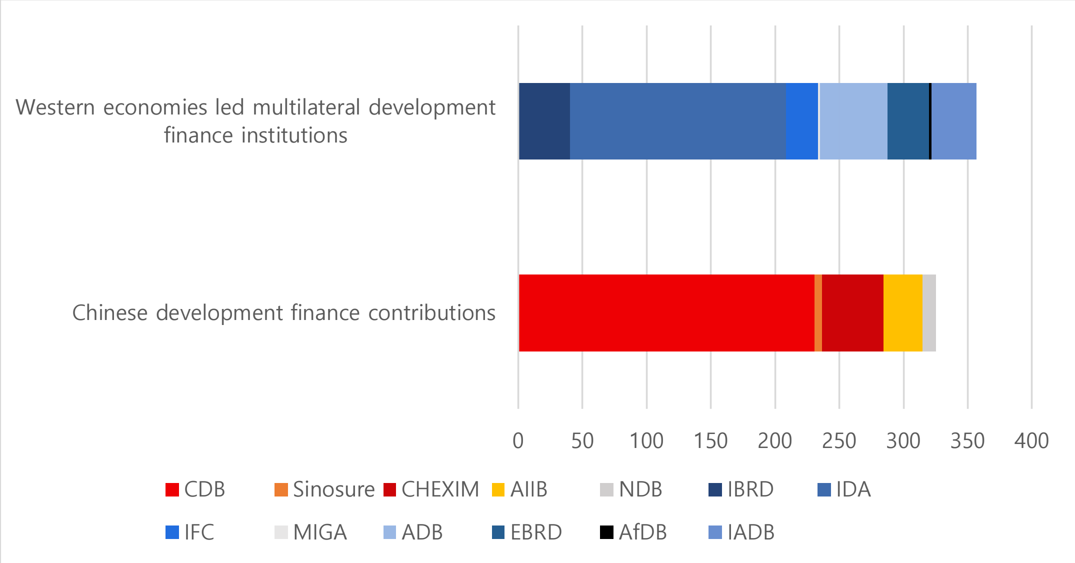
Note: IBRD: International Bank for Reconstruction and Development; IFC: International Finance Corporation; IDA: International Development Association; MIGA: Multilateral Investment Guarantee Agency; AfDB: African Development Bank; ADB: Asian Development Bank; IABD: Inter-American Development Bank; EBRD: European Bank for Reconstruction and Development; AIIB: Asian Infrastructure Investment Bank; NDB: New Development Bank

It is also a major contributor to international DFIs. While further details on China's participation in individual projects commenced by the DFIs can be accessed through the DFI websites, Figure 7 presents a general picture on China's participation in multilateral development finance. It's worth noting, however, that China's participation in multilateral development finance is not limited to its role as a donor. As Chin (2013) notes, China is a 'net donor.' In other words, China has been a major borrower

from the BW institutions *and* a major lender. Tracking China's borrowings from these institutions is also important in attaining a fuller picture of China's standing in the WBG and other BWS institutions. The data for disbursements from these institutions are available on their respective websites.

The real challenge of gaining a clear picture of China's development finance, however, comes from China's rather opaque bilateral operations. As mentioned, unlike China's contributions to multilateral DFIs, China's bilateral resource flows often do not qualify as an ODA but carry substantial material impact given their volume and scope. Hence, datasets should harness a broader definition of development assistance when collecting data on China's increasing commitments to development finance, to include both ODAs and OOFs (Tierney et al. 2011). Yet, as the operations are not openly publicized by Chinese DFIs, each project must be collected from a highly disaggregated source of data. It is important to track the individual projects commenced by China's bilateral development operations, as these operations are expected to be highly significant based on the total equity levels of these institutions that are annually publicized. Figure 8 makes a comparison between the aggregate volume of China's development finance contributions including both bilateral and multilateral development finance to those of Western-led multilateral DFIs measured by official total equity. The figure demonstrates that China's bilateral DFIs alone carry a lending capacity that outsizes that of every multilateral DFIs and when China's contributions to multilateral DFIs is added, China's lending capacity is almost at par with the aggregate lending capacity of every major Western-led DFI combined.

Figure 8: China's Development Finance Contributions Compared to those of Western-led DFIs Measured by Total Equity in Current USD billions (2020)



Source: Compiled by authors using DFI websites, CDB, CHEXIM and Sinosure.

Note: CDB: China Development Bank; IBRD: International Bank for Reconstruction and Development; IFC: International Finance Corporation; IDA: International Development Association; MIGA: Multilateral Investment Guarantee Agency; AfDB: African Development Bank; ADB: Asian Development Bank; IABD: Inter-American Development Bank; EBRD: European Bank for Reconstruction and Development; AIIB: Asian Infrastructure Investment Bank; NDB: New Development Bank

This demonstrates that closely tracking China's bilateral development finance projects is essential in gaining a complete picture of China's development finance activities, and the specified datasets in Table 3 do exactly this. The China's Overseas Development Finance (CODF) Database, created by the Boston University Global Development Policy Center, tracks lending commitments by China's two major DFIs, the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM), from 2008-2019. Typically, DFI loans understandably carry fewer concessionary elements compared to ODAs, as in the case of CHEXIM, which is an export credit agency that explicitly aims to promote the export of domestically produced goods and services. AidData covers an even wider scope of resource flows to include projects operated by the central and local governments, DFIs such as the CDB, non-profit government organizations and private enterprises that are allegedly heavily influenced and/or owned by the state. In other words, while differing in scope, both datasets employ an expanded definition of development finance from that proposed by the OECD, regardless of their compliance to ODA standards, as long as they consist of 'loans or grants from governments, official government aid agencies and intergovernmental organizations (IGOs) intended mainly to promote the economic development and welfare (broadly defined) of developing countries' (Tierney et al. 2011).

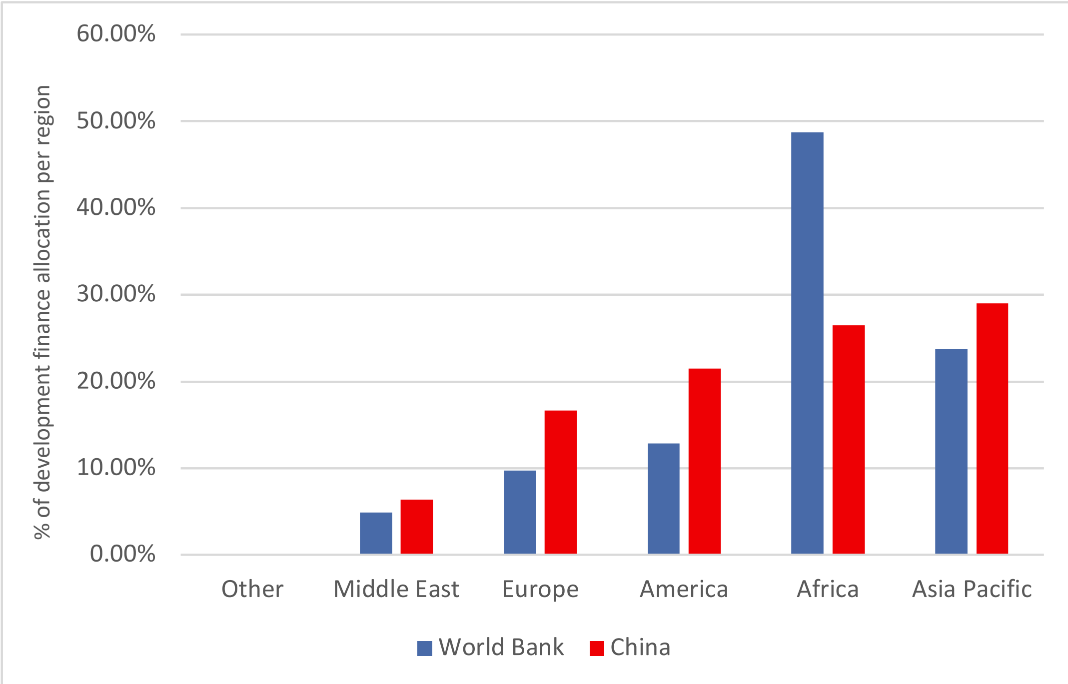
While at the onset, the AidData dataset may seem more comprehensive considering its wider scope, the CODF Database serves as a complementary addition to understanding the ramifications of China's development finance operations as it carries geospatial data for applicable projects. Development finance carries far-fetching implications for important policy areas, such as the environment, welfare, energy extraction and more. Indeed, the 'footprints' left by projects financed by Chinese resource flows are not always traceable as they may not necessarily involve infrastructural projects. However, for applicable projects, which Ray et al. (2021) find to pertain to most of the projects observed, the collected geospatial data can serve as an inference to explaining the environmental, social and economic ramifications of China-financed infrastructural projects at the local level. This is important, as infrastructural projects often carry multifaceted implications to the host country's socio-economic development and the environment. In this respect, the geospatial data creates a link between a wider array of variables and development finance, allowing for higher policy relevance.

Using the two datasets, Figure 9 visualizes the distribution of China's bilateral development finance destination per country and compares its distribution per region with that of the WBG. The figure demonstrates that China's development finance activities have been evenly spread throughout the Global South. Regionally, the WBG's development finance activities have been more biased towards African economies, while Chinese bilateral development finance activities more evenly focus across regions.

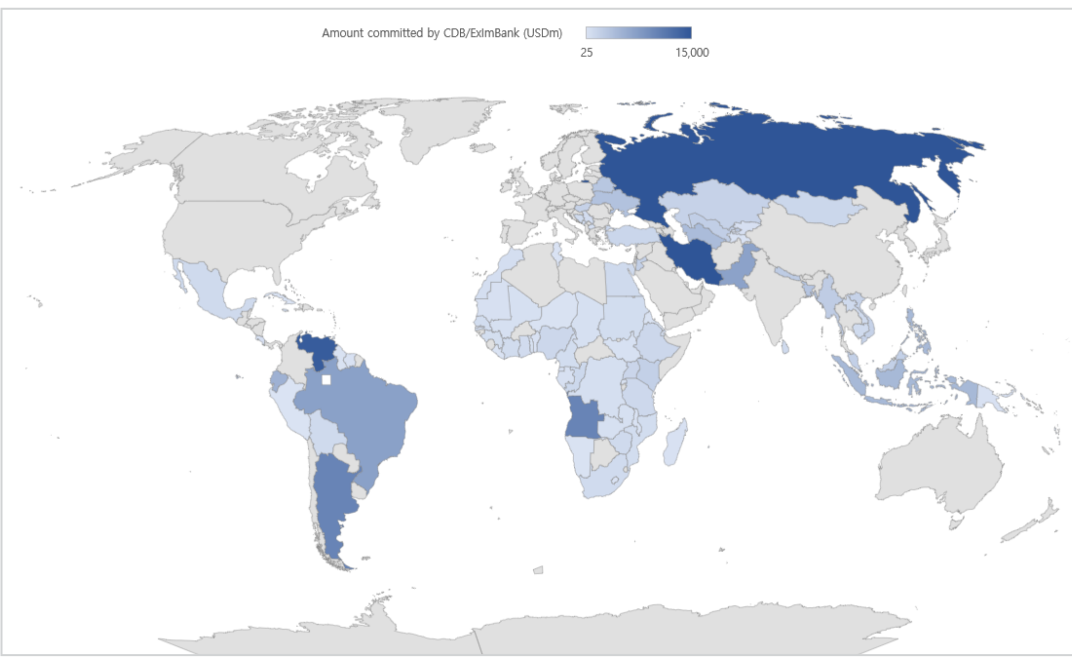
However, a key shortcoming of these datasets is that while they offer valuable data on understanding China's development finance landscape, it is difficult to figure out how such expansions interact with and influence the BWS itself. For instance, how does the overlap of Chinese development aid and aid from the Western-led DFIs impact the effectiveness of the loans and investments from the latter that may carry more concessionary elements to qualify as ODA, but also have more conditionalities attached? The datasets do not present clear insights for this question. In other words, they offer valuable data on the whereabouts of Chinese loans and resource flows but lack sufficient insight on how they affect the activities of Western-led multilateral DFIs and bilateral ODA from DAC member states. This is important, as studies have found that Chinese development aid may reduce the attractiveness of loans from DAC donors when the offers overlap, as the former carries less stringent conditionalities, albeit with less concessionary elements (Watkins 2021). One solution would be to construct a dataset that merges the geospatial data published by the Boston University Global Development Policy Center with the project data from Western-led DFIs, which also incorporates geospatial data, as a first step. A more complete dataset would include the geospatial data of ODAs from DAC donors as well. Users of the dataset would be able to identify the footprints of China's development finance not only at the local socioeconomic or environmental level but also on the BWS itself.

Figure 9: Chinese and WBG Development Finance Destinations

a. World Bank and China's Regional Focus of Development Finance by % (World Bank 1947-2022, China 2000-2017)



b. Chinese bilateral development finance destinations (2008-2019)



Source: Boston University Global Development Policy Center: China's Overseas Development Finance (CODF) Database, AidData: Global Chinese Development Finance Dataset, author compilation.

CHINA AND THE WORLD TRADE REGIME

The last, and perhaps the most influential pillar of the BWS, is trade. Balance of payments influences the supply and demand of currencies, and hence, the international monetary system. A substantial sum of development finance, such as export credits from CHEXIM primarily aims to promote and facilitate the exports of the donor state. In other words, how economies conduct trade and the varying outcomes of trade critically affect other core pillars of the BWS. Such causalities are, of course, reciprocal, as the pillars of the BWS are complexly entangled, but trade has remained at the crux of economic activity since began surplus goods were produced, far before the other pillars of the BWS gained prominence (Krugman 1996). China's 2001 accession to the WTO is also what marked China's full-fledged accession to the BWS. China has played by the WTO rules, despite the allegations that China has been exploiting the gaps created by the existing rules.

China and the Trade Regime

China's rising influence in international trade has been a significant development in the global economy in recent years. China was the world's largest exporter in 2019, accounting for 13.4 percent of global exports, marking a significant increase from previous years, as China's share of global exports has more than doubled since 2000, as seen in Figure 10.

The rise of China as a major player in international trade and its efforts to join the WTO brought a lot of scholarly attention to China's role in global trade and its potential role in the global trading regime (Pearson 1999, 2001; Wang Yong 2000). Some commentators asked whether China would play by the rules of the global regime or challenge the rules of the WTO and potentially sink the WTO, if it joined (Ostry 1998; Alexandroff 2000). One concern has been that China's growing economic power may hinder fair competition, an important pillar of liberal trade order, as China has been accused of engaging in unfair trade practices, such as intellectual property theft and subsidizing domestic industries (Kwan 2019).

The capacity to shape trade rules is another important aspect of investigating a country's influence on the trade regime. Beneath the global rules of the WTO, China has been active in supporting regional trade agreements (RTAs). By participating in RTAs, China has been able to shape the rules and regulations related to trade within regional contexts (Draper & le Pere 2005, 2007; Gallagher 2010, 2016; He & Fan 2015; Chin & Stubbs 2011). Nevertheless, the conditions of the RTA are fundamentally subject to the conditions set by the WTO, and signing RTAs is increasingly becoming a common practice for most economies. Furthermore, Jiang (2010) finds that China's trade agreements do not necessarily have motivations that go beyond what drives free trade agreements (FTAs) for other economies.

Another aspect of China's growing influence in trade rule-setting is its growing influence within the WTO. After China joined the WTO, a smaller literature tracked China's behavior after becoming a WTO member (Zhang Xiangchen 2005; Chin 2009; Gregory Shaffer & Gao 2018). Since becoming a member of the WTO in 2001, China has played an active role in shaping the organization's rules and regulations. Yet, as Shaffer & Gao (2018) find, China has also put forward its own interests by building its capacity to shape rules and norms from within. China has been increasingly successful in advocating for its interests in the WTO through such efforts that cannot be fully captured by its voting share, as the WTO gives one equal vote per country regardless of its size (Hopewell 2014; China Power Team 2019).

That said, the existing scholarship has mixed perceptions on China's rise and its potential impact on global trade system. This is partially due to the lack of data and difficulty in gauging a country's influence in trade rules setting and measuring the political intent behind trade policies. In this respect, a qualitative study that conducts a detailed single country analysis may be the most accurate way to gauge a country's influence on the trade regime. However, the purpose of this study is to offer a comprehensive overview of the currently available data on China's rising influence in the trade regime to allow for such research. The following section does so and offers suggestions for constructing new datasets to account for the identified gaps in data.

DATA REVIEW The WTO is one of the most legalized and effective international institutions in the world. The effectiveness of the existing trade regime conversely makes it difficult to measure a country's rising influence, as there is little space for the country to exploit. This is different from other pillars of the BWS. For instance, the apparent financing gap in development finance and the imbalanced reliance on the dollar of the international monetary system makes China's expansion of influence in these pillars more visible, as China can establish new institutions or mechanisms that exist independently from existing institutions.

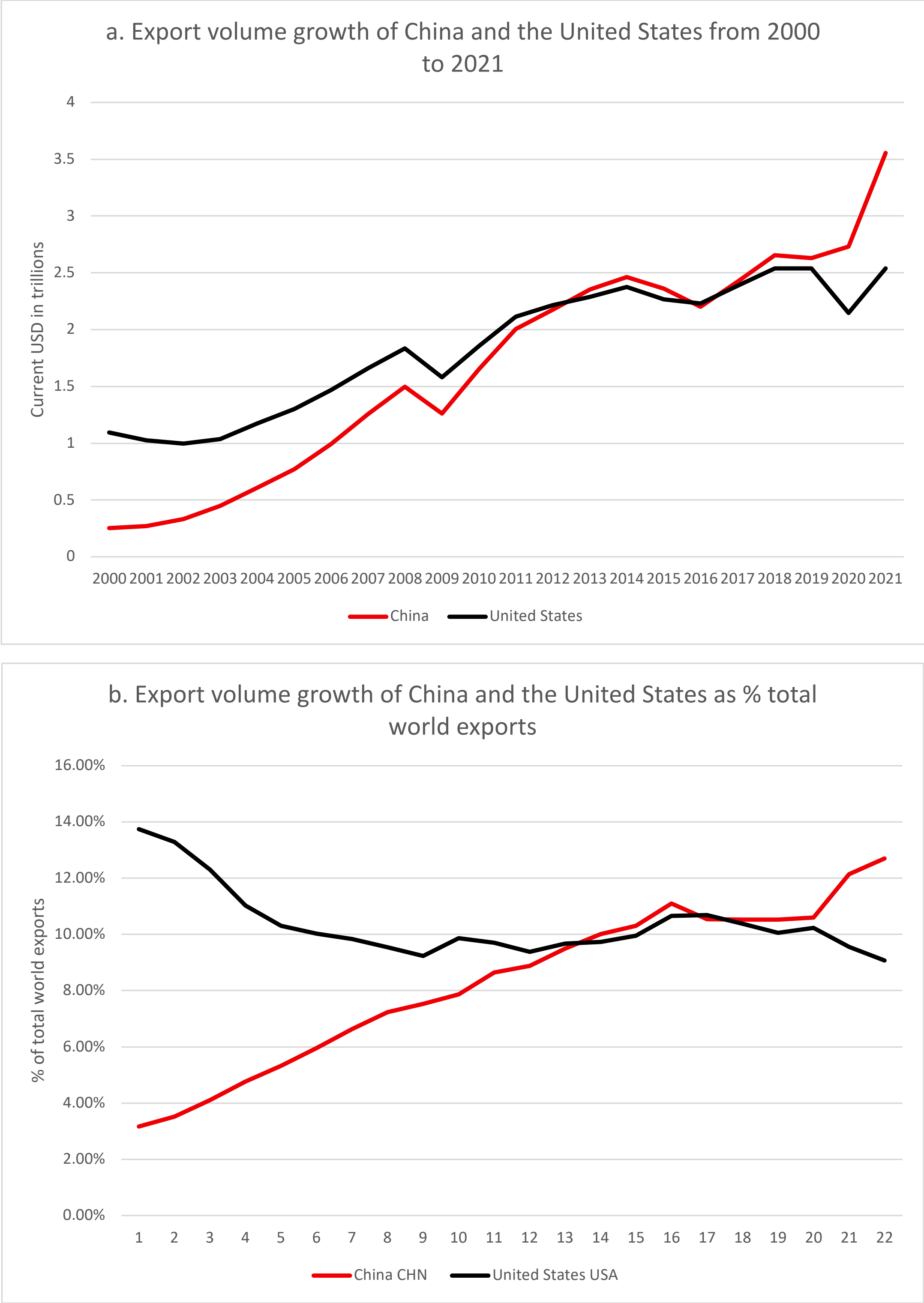
On the other hand, even regional and bilateral free trade agreements (FTAs), that seemingly exist beyond the jurisdiction of the WTO, are also essentially derogations, or additions to the 'most favored nation' clause under the General Agreement on Tariffs and Trade (GATT), which was allowed in paragraph 2(c) of the 1979 GATT round (WTO 2021). In this respect, a country's rising influence in the trade regime should be primarily measured from within the WTO as the fundamental terms and standards for how trade should be conducted are mostly decided within the institution.

Yet, unlike DFIs or the IMF, it is difficult to gain a quantitative measurement of a country's influence within the WTO as its voting power is not based on contribution or economic size but on a one-country, one-vote system. Total trade volume and economic size may serve as an indirect indicator of influence, and as Figure 10 demonstrates, China has risen to become the largest exporter in the world since its accession to the WTO. China's aggressive signing of bilateral investment treaties (BITs) also demonstrate China's increasing influence in trade, especially when compared to that of the US, as Figure 11 demonstrates. Nevertheless, it is still difficult to identify how the increase in gross economic power translates to influence in setting terms and standards in trade, or in influencing the dispute settlement processes towards a country's interest.

Aware of such ambiguities, studies have looked for alternative methods to measure the relative influence of member states within the WTO. Daku and Pelc (2017) conduct a textual analysis on 'every country submission in every ruling in the WTO era' to find that countries with a higher level of wealth, measured by GDP per capita, and experience as a litigant to dispute trials 'hold greater sway over the content of rulings than others.' Such findings empirically confirm the assertions of Busch et al. (2009) which argued, based on interviews with member state representatives, that the legal capacity of respective member states, determined by the member state's experience as a litigant and legal capacity to prepare for dispute trials, positively affects outcomes. Accumulating litigation experience, when accompanied with sufficient legal capacity, therefore, can help member states of the WTO insert their own language into jurisprudence as they are able to preoccupy interpretations of the WTO treaty and international economic law (Daku & Pelc 2017). In this respect, the number of disputes held against a country can be an indirect indicator of the country's rising influence in affecting litigation results.

While influence within the WTO should be the primary focus for gauging a country's rising influence on the trade regime, many studies have also examined how developments beyond the WTO affect the trade regime, as WTO governance has its gaps. As mentioned, the WTO has allowed for derogations to the 'most favored nation' clause and the establishment of RTAs. This concession was premised on the notion that RTAs continue to comply with the pre-established agreements of the GATT

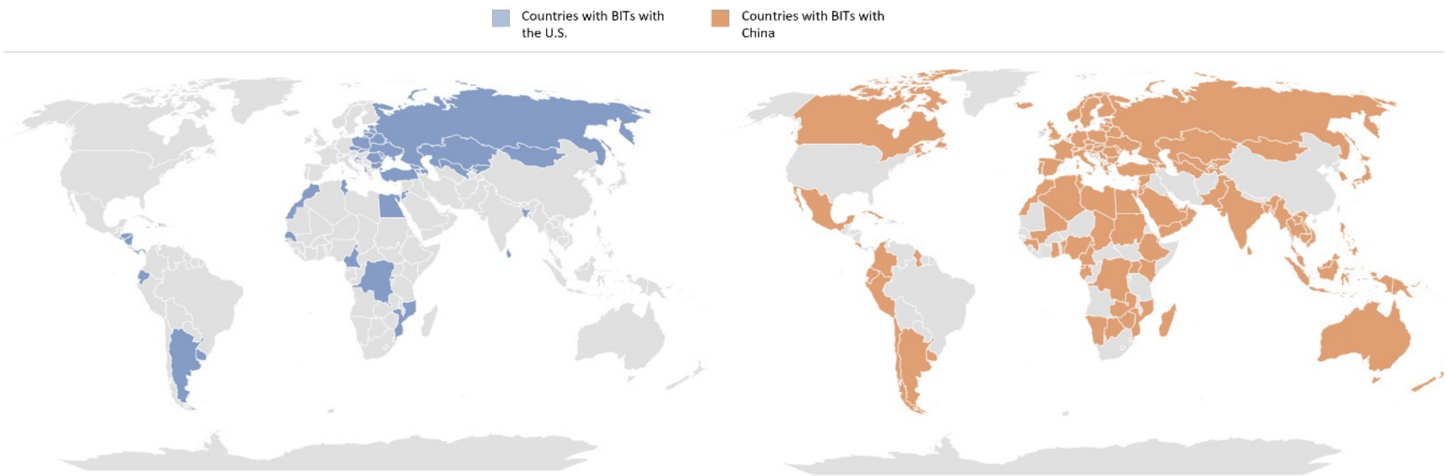
Figure 10: China's Growing Impact on Trade



Source: Compiled by authors using World Bank data.

and the resulting multilateral trading system. In other words, the RTAs are legally nested in the GATT. However, studies have found that varying interpretations of WTO rules regarding RTAs undermine the WTO's capacity to prudentially surveil the consistency of RTAs for WTO rules, potentially leading to the formation of extensive regional economic blocs that challenge multilateralism (Bhagwati

Figure 11: Bilateral Investment Treaties - China and the US



Source: Compiled by authors using United Nations Conference on Trade ande Development (UNCTAD) International Investment Agreements Navigator Data.

1992; Panagariya 1999; Crawford and Laird 2001). Therefore, China's aggressive signing of RTAs may also serve as an indirect indicator of China's rising influence against the WTO's rules-based system. Yet again, RTAs should be interpreted with a caveat, as the effect of RTAs on the WTO's rules-based system are dependent on multiple variables such as size, the extent of tariff reduction, region and more, with their effects being both positive and negative (Freund and Ornelas 2010).

Another external channel in which countries can potentially exert substantial influence in trade and the WTO's dispute settlement process is through dominating the international standardization landscape. Exerting influence in international standard-setting bodies on various goods and services, so that domestic standards form the basis for new or existing international standards, would reduce the cost of amending national standards to meet international standards. Furthermore, with a higher level of convergence between national and international standards in the favor of a country or a group of countries, international standards can serve as the legal basis for either litigating other WTO member states for imposing non-tariff-barriers (NTBs) when they are non-compliant to the standards or serve as a protective mechanism against charges of trade protectionism (Liu 2014; Pauwelyn 2014; Seaman 2020). In this respect, dominance over international standard building can serve as another effective platform for setting the rules and conventions for trade (Pauwelyn 2014). The international standardization landscape, however, has hitherto been dominated by traditional Western powers such as Japan, European economies and the US (Seaman 2020). China is set on changing this status quo. By announcing the Chinese Standards 2035, a roadmap for developing Chinese standards in high-value-added manufacturing and services industries, the strategy would aim to 'coordinate standardization efforts between civil and military sectors and will enhance China's role in international standards-setting and the internationalization of Chinese standards' (Baark 2021). Hence, identifying how China is increasing its presence in existing major international standard-setting bodies would serve as an effective measurement for assessing China's rise in the trade regime.

Based on a lengthy discussion on what parameters should be observed for measuring China's rise, we suggest that the datasets/information enumerated in Table 4 may serve as effective parameters for inferring China's status in the trade regime. First, to measure influence within the WTO based on Daku and Pelc's (2017) assertions, the size of GDP and trade volume of a country would be effective. This is because the larger the economy is, the higher number of disputes it will have, which will allow

Table 4: Publicly Available Indicators on China's Rising Influence in the Trade Regime

Category	Source	Description
Trade volume, GDP size	World Bank data	Provides annual data on GDP size and total trade volume
Bilateral Investment Treaties (BITs)	UNCTAD International Investment Agreements Navigator	Tracks every BIT signed between countries
Number of trade disputes	WTO dispute settlement statistics	Provides statistics on the disputes raised to the WTO dispute settlement body
Standard-setting bodies	ITU, IEC, ISO and more	Information on the leadership of standard-setting bodies
Regional Trade Agreements (RTAs)	Chinese ministry of commerce, WTO RTA database	The Chinese ministry commerce lists details on ongoing FTAs while the WTO RTA database offers a comparative perspective by listing every signed RTAs by member states

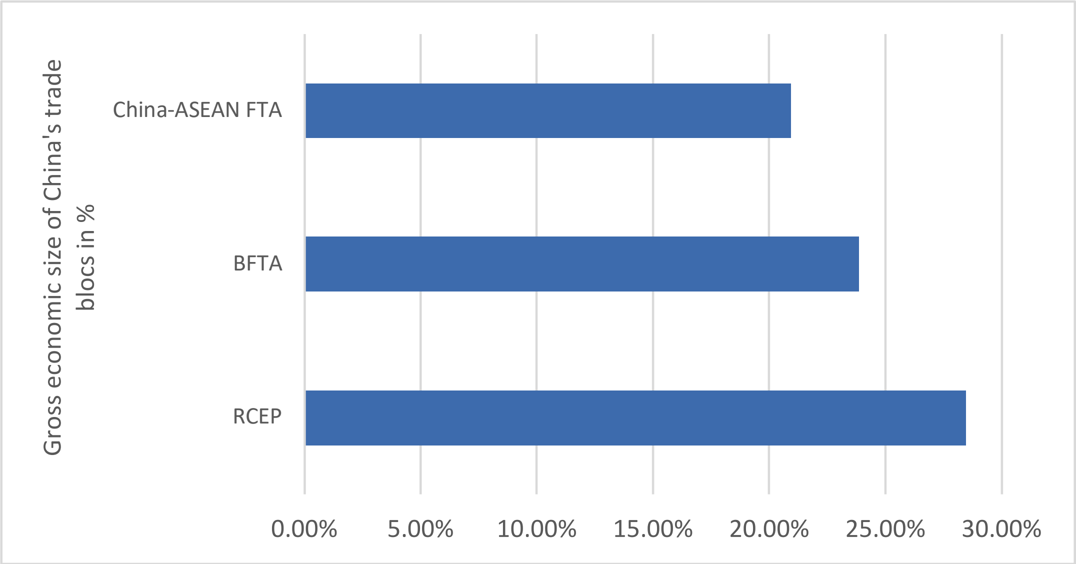
Source: WTO, World Bank, UNCTAD, Chinese Ministry of Commerce.

for experience in litigations and higher influence in the dispute settlement process. Data for these parameters are conveniently provided by the World Bank. The WTO also provides detailed numbers on dispute statistics and rulings on its website, which could serve as a direct indicator for measuring China's accumulating experiences in litigations. Then, to measure China's rising influence beyond the WTO, we suggest two main parameters: influence within standard-setting bodies and RTAs. The global dataset for total RTAs signed is available in the WTO RTA database. Qualitative details on China's RTAs are also well-documented on the official website of the Chinese Ministry of Commerce.

Based on these data, Figure 12 demonstrates the size of the trade agreement blocs that China is either part of or has established through RTAs. The figure demonstrates that by bilateral FTAs alone, China has created a trade bloc that is nearly 25 percent of the world's economy. Its participation in the Regional Comprehensive Economic Partnership (RCEP) also makes China part of a trade bloc that is even larger.

On the other hand, information on standard-setting bodies is disaggregated, and while the leadership composition of these organizations, such as that on the International Organization for

Figure 12: Gross Economic Size of China's Trade Agreement Blocs as % of World GDP



Source: Compiled by authors using WTO and World Bank data.

Standardization (ISO), is listed on the official websites, it is difficult to accurately gauge how decisions are processed based on publicly available information. An extensive survey of experts and practitioners in these organizations that helps readers gain a more thorough understanding of how leadership positions are allocated and how decisions are made and implemented would supplement the current lack of data on China's rising influence in international standard-setting.

Another major shortcoming of the enumerated parameters and datasets for assessing China's status in the trade regime is that a huge part of China's influence on the existing rules and conventions of the WTO and the liberal trade order may not be observable. China has been increasingly using its trading partner's reliance on its market as a tool for statecraft (Reilly 2013; Brautigam & Tang 2012; Aggarwal & Reddie 2021). Fear of reprisal may discourage highly reliant countries from litigating China for its protectionist policies, leaving China's influence unobserved (China Power Team 2019). Berger et al. (2013) observe a similar phenomenon in the US's use of political influence for gains in trade. They find that increased political influence created a 'larger foreign market for American products' during the Cold War, which led to higher exports of American products that were considered to have comparative disadvantages. Hence, political pressure may exert unobserved influence on the trade regime and the liberal market order. Although there are visible cases where countries would not succumb to such implicit pressure, such as in the recent Australia-China trade feud (Tan S.L. 2021), without sufficient information on the decision-making processes of each government that have a heavily reliant trade relationship with China, it would be difficult to gauge how China's political pressure, if any, is distorting the liberal market order.

Also, as indirectly implied in this section, there is a striking dearth of research on *how* to define China's influence in trade. Works published by the China Power Team (2019) and Daku and Pelc (2017) partially contribute to this endeavor, but these works only provide limited insight into holistically understanding China's rising influence in the trade regime. Research on identifying the parameters that represent a country's influence in trade should precede the building of comprehensive datasets. This section is only a cursory attempt and needs further scholarly qualifications.

CONCLUSION

This working paper has sought to contribute to the existing literature by assessing the datasets that are currently available for understanding China's footprints in the international monetary, global development finance and world trade realms, encompassing the main pillars of the BWS, as well as the flows and new international governance mechanisms beyond the BWS. The analysis has identified gaps in the data, the literature and arguably, the collective understanding. Although much has been written on China's rise within global economic governance, including the construction and publishing of new datasets and qualitative assessments on China's expanding presence within and across the core pillars of the BWS, there has yet to be a comprehensive assembling, visualization and assessment of the currently available datasets.

By engaging in a thorough assessment of the currently available datasets on China's rise within the international monetary, global development finance and world trade realms – and particularly China's role within and beyond the IMF, WBG and WTO – this study offers a more comprehensive perspective on China's positioning within and outside of the existing institutions of the BWS. In so doing, we offer a compact guide for academic researchers and policymakers seeking to gain a more precise understanding of China's footprints within and beyond the BWS based on existing datasets. We have also identified gaps in the datasets, and where China's activities within and outside of the BWS need to be better tracked, suggesting avenues for further research and where datasets are needed.

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APPENDIX

LINKS TO DATASETS AND INFORMATION ON CHINA AND THE BWS

Pillar	Category	Link
International monetary system (currency)	Current account balance trends	World Bank Data
	Trade settlements	SWIFT
	Reserve currency composition	IMF COFER
	Investment medium	Asian Bonds Online
		FTSE Russell
	Forex turnover	BIS
International monetary system (GFSN)	IMF SDR basket	IMF
	IMF voting quota	IMF
	Bilateral currency swap arrangements	GDP Center GFSN Tracker
	Regional financial arrangements	Brookings article on the CRA
		AMRO
Development finance regime	Multilateral development finance in western-backed DFIs	World Bank
		ADB
		AfDB
		IDB
	Multilateral development finance in China-led DFIs	NDB
		AIIB
	Bilateral development finance	China's Overseas Development Finance Database
Trade regime	GDP size	World Bank data
	Trade volume	World Bank data
	Number of disputes	WTO dispute settlement statistics
	Standard setting bodies	ITU, IEC, ISO, among others*
	RTAs	Chinese ministry of commerce
		WTO RTA database

Note: *Links to the International Telecommunication Union (ITU), International Electrotechnical Commission (IEC), International Organization for Standardization (ISO) have not been provided in this table as apart from information on leadership, these organizations do not provide meaningful insight/information on their decision-making process. The plethora of existing standard setting bodies also makes selecting only a several organizations problematic.

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