CHAPTER 20

Infrastructural Geoeconomics

The Emergence of Chinese and Russian Cross-Border Payment Systems

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1 Introduction

Since the 1970s, SWIFT (Society for Worldwide Interbank Financial Telecommunication), which is based in Belgium, has become the dominant institution for recording cross-border financial transactions.[1] However, its dominance has recently been challenged by some large emerging markets. The Bank of Russia's SPFS (System for Transfer of Financial Messages) was approved for cross-border use by the Russian Parliament in March 2019. India, Turkey, and Venezuela have expressed their interest in using the system, Belarus actually joined in 2021, Iran in 2022. China introduced its payment system called CIPS (Cross-Border Interbank Payment System) in 2015, which has seen a significant increase in transactions over the past few years, including the involvement of Russian banks. The system not only has a separate messaging system from SWIFT, but also covers a complete payment system, including clearing and settlement.

How can we make sense of the emergence of alternative financial messaging systems and payment systems based on an infrastructural lens? Subsequently, I will link the emergence of alternatives to the discussion on financial infrastructures and argue that the emergence of alternative infrastructures can be seen as a backlash against overt political use of the dominant infrastructure. Next, I will provide some background information on the cross-border payment process. At the center of this chapter is an account about the geoeconomic conflict about SWIFT and the emergence of Russian and Chinese alternatives in response to this conflict.

2 The Argument: Alternative Infrastructures as Backlash against Overt Political Use

During the 2020s, we have seen the development of an "infrastructural gaze" in social science studies of finance (see Westermeier, Campbell-Verduyn, and Brandl, this volume). The basic idea is to marry the macro-level concerns of international political economy (IPE) with the micro-level concepts of science and technology studies

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(STS). Two forms of gazing are particularly privileged. On the one side, a perspective more strongly anchored in SST attributes an agential role to infrastructures, highlighting how their technical features shape political activity (see Pinzur, this volume). On the other side, a perspective more informed by concerns of IPE departs from the macropolitical context when looking at infrastructures in finance, highlighting how these infrastructures determine the distribution of power (see Coombs, this volume). Given the point of departure outlined above, the second perspective is more relevant for this contribution.

At the core of Coombs' perspective is Michael Mann's concept of infrastructural power, a concept frequently invoked in the context of studies on the political aspects of financial infrastructures (see also, e.g., Konings, 2010; Weiss and Thurbon, 2018; Bernards and Campbell-Verduyn, 2019; Schwartz, 2019; Braun and Koddenbrock, 2022). At the core of the concept, defined in contrast to (often earlier ages of) despotic power, is the question of how the modern state has become able to wield so much power about the population within its territory. Whereas some applications of the concept use it to explain the power of finance actors over states and other financial actors (e.g., Braun and Koddenbrock, 2022, p. 17), other applications apply the concept in order to explain how the expansion of financial markets ("financialization") also increases the (infrastructural) power of the state (in particular of central banks), based on cooperation with financial sector actors (e.g., Konings, 2010).

Since Coombs (this volume) is dissatisfied about the close linkage of infrastructural power with financialization in existing research, he develops a very subtle typology of instrumental, communicative, and network-forming infrastructural power, based on other works by Michael Mann. These types of power allow for a broader infrastructural analysis. However, Coombs' typology still does not fully grasp the empirical developments described. All three types of infrastructural power ultimately go back to the power of ideas (even in case of "instrumental"), thereby missing the brute exercise of power by financial sanctions (and the subsequent establishment of alternative infrastructures). In the end, we may not be talking about infrastructural power at all in the overt power politics about SWIFT and its alternatives, given the indirect and diffuse nature of infrastructural power, if compared to other types of power (see Westermeier, Campbell-Verduyn, and Brandl, this volume).

There are further indications that the subtle approach of "infrastructural power" may not be entirely suitable for covering SWIFT sanctions and the development of Chinese and Russian alternatives. While the focus of Mann's infrastructural power approach is upon relations between states and society (or economy), in case of SWIFT we are talking about relations between states (or geopolitical power blocs). Moreover, the focus of STS-informed approaches to infrastructural power usually is on one single infrastructure, not on the emergence of competing alternatives (for an exception see Campbell-Verduyn and Hütten, 2023). Finally, existing approaches toward infrastructural power often focus on the Global North (or on global capitalism as a whole), not on North–South or West–East struggles (for an exception see de Goede and Westermeier, 2022).

Arguably, the emergence of an alternative payment infrastructure is a geoeconomic reaction to the geopolitical power play of the Western governments. Emerging economies have been warned about potential economic sanctions in this field. The Western threat of excluding Russia from SWIFT was frequently discussed when tensions between Russia and NATO (North Atlantic Treaty Organization) increased at the start of 2021, due to a Russian military buildup near the Ukrainian border (Faulconbridge, 2021; Shagina, 2021; Smith, 2022). In September 2021, the European Parliament (EP) had stated that the "EU should be ready to use its leverage and call for the exclusion of Russia from the SWIFT payment system to deter Russian authorities from engaging in further aggressive behaviour"

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(EP, 2021), echoing previous EP resolutions threatening the exclusion of Russia from SWIFT (Götz, 2021).

During the 2014 Crimea crisis, discussions about Western sanctions against Russia already included the possibility of disconnecting the country from SWIFT. This led to the creation of the CIPS and the SPFS systems. In 2020, there were discussions in the USA about decoupling China from SWIFT. The focus was on how to respond to human rights issues related to the Uyghurs in China and the repression of the protest movement in Hong Kong (O'Toole, 2020). In 2012 and 2017, smaller countries like Iran and North Korea were completely excluded from SWIFT.

Given this power play, the subtle notion of "infrastructural power" does not seem to be adequate for the analysis of the utilization of SWIFT as a sanction instrument and its repercussions with regard to the emergence of alternative payment systems. We should rather talk about "infrastructural geopolitics" (de Goede and Westermeier, 2022), or, better still about "infrastructural geoeconomics," given that – in contrast to the Iran sanctions covered by de Goede and Westermeier – we are not only talking about (potential) war, but also (and even more so) about a long-term geoeconomic competition, particularly with regard of the US dollar as global trade currency.

Using SWIFT for "weaponized interdependence" (Farrell and Newman, 2019) by the USA has some clear costs for the latter. Many years ago, experts cautioned about the potential unintended consequences of this behavior, specifically about the emergence of alternative systems like SPFS, as noted by Jones and Whitworth (2014). Warnings have been intensified amidst the Russia–Ukraine tensions 2021/2022, emphasizing that disconnecting Russia from SWIFT could enable the Chinese government to develop strategies for handling similar challenges. According to Smith (2022), if disconnecting from SWIFT does not produce the desired results, it may result in the United States losing its related deterrence with Russia and China.

From a broader viewpoint, the decline of institutions like SWIFT could also harm the financial system of the United States, as "the extension of US infrastructural power abroad diminishes state capacity at home" (Weiss and Thurbon, 2018) – a claim which links Mann's concern about state capacity with the geoeconomic issues of SWIFT-related sanctions. The main point being conveyed is the significance of a worldwide financial system that depends on the US dollar to fund the substantial deficit in the US current account (Schwartz, 2019). Correspondingly, even before the Ukraine war the Republicans' think tank Defense Priorities was already "counting the cost of financial warfare" and asked for "recalibrating sanctions policy to preserve US financial hegemony" (Gjoza, 2019, p. 1), whereas the more bipartisan think tank Center for a New American Security echoed this concern and feared a "move away from dollar-based clearing and payments" (Harrell and Rosenberg, 2019, p. 2). The US Treasury has expressed similar concerns across the Obama, Trump, and Biden administrations (Wong and Nelson, 2021, p. 13; Shagina, 2022, p. 3).

Considering the recent SWIFT-related sanctions imposed on Russia, it seems improbable that these warnings will be taken into account. As a result, significant emerging markets will likely keep on building cross-border payment systems that are within their own jurisdiction.

3 Background: Infrastructures of the Cross-Border Payments Process

To comprehend the significance of the global payments message infrastructure, especially SWIFT's role, we must examine the cross-border payment process. This is a topic that macro-level international political economy research has historically overlooked, until very recently (Farrell and Newman, 2019; Nölke, 2022a, 2022b). However, social studies of finance have been very attuned to this topic, although usually with a strong focus on the micro-level (Campbell-Verduyn, 2017; Westermeier, 2020; de Goede and

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Westermeier, 2022; Brandl and Dieterich, 2023; McDowell, 2023; Robinson, Dörry, and Derudder, 2023). Correspondingly, we need to combine the "zooming in" of social studies of finance with the "zooming out" and focus of the big picture of international political economy (see Westermeier, Campbell-Verduyn, and Brandl, this volume).

The process of making a payment involves electronic messages that are exchanged between financial institutions. These messages are used to facilitate the transfer of funds from the sender (originator) to the recipient (beneficiary) of the payment (US Department of Treasury, 2006; Wong and Nelson, 2021). Unless both the originator and beneficiary use the same institution, there are usually two financial institutions involved – one for the originator and one for the beneficiary. Additionally, there is typically some type of financial infrastructure in place. When two customers of the same financial institution want to transfer funds, it is a straightforward process. The person sending the money gives instructions to the institution, which then carries out the payment by recording the transaction in its accounting system. When two separate financial institutions, typically banks, are involved, they require a system of infrastructure which might include a separate financial messaging system like SWIFT.

It is sensible to categorize various subtypes of payments and their systems because of their wide range (Bech and Hancock, 2020, pp. 22–28): Typically, there are separate payment systems for retail and wholesale transactions. The term "retail" pertains to a high volume of small payments made for purchasing goods and services. These payment systems can be either private or public. Securities trading is typically part of the "wholesale" sector, involving fewer but larger transactions.

To fully grasp the function of SWIFT, it is important to differentiate between two processes: clearing and settlement. Settlement specifically pertains to the movement of funds. Due to the high volume of transactions that are sent in groups, called batches, financial institutions often need to reconcile these transactions with each other before they can be settled. Clearing involves reconciling and transmitting transactions, which is usually done through automated clearing houses, although it can also be done directly between two banks.

There is a third distinction between two types of settlement: "real-time gross" and "deferred net," and there are some types that combine both. A real-time gross settlement" (RTGS) system settles each payment as soon as it is received. This system needs a lot of money available, unlike a "deferred net settlement" (DNS) system, which has higher settlement risks but is less expensive. In the second system, payments are cleared at the end of a defined time period based on the net amount. Most securities trading involving wholesale payments are conducted through RTGS systems. The Fedwire Funds Service is the most significant system, operated by the US Fed since 1918 and exclusive to the United States. The main payment system used for cross-border wholesale trading is CHIPS (Clearing House Interbank Payment System), which is based in the USA. This is a private organization that was established in 1974, and it focuses on clearing and settling high-value payments, such as bank loans and securities. The system uses a hybrid DNS–RTGS system. Still, access to SWIFT is crucial for maintaining comprehensive control over the payment messages generated by both Fedwire and CHIPS, particularly in the case of cross-border transfers.

Cross-border transfers are more complicated than domestic transfers. Usually, they operate via the system of "correspondence banking," although the latter is not exclusive to cross-border transfers: "Correspondent banking is an arrangement, where one bank (the correspondent) holds deposits owned by other banks (the respondents) and provides payments and other services to them" (Bech and Hancock, 2020, p. 32). While some origins of the principle of correspondence banking date back to about 1400, the system has been established since the late 1800s (Rice, von Peter, and Boar, 2020, p. 38). Since not all banks have a correspondence relationship, fund transfers can involve a

chain of transactions. The sender is directing their bank to utilize financial infrastructure to communicate with a bank in the beneficiary's country via a correspondent bank. The process involves clearing and settling to transfer funds to the beneficiary's financial institution.

Correspondence banking, however, is retreating slowly, but steadily. We have seen a reduction of about 20% in the number of correspondent banks between 2011 and 2018, in spite of rising values of payments (Rice, von Peter, and Boar, 2020, p. 38). One of the main reasons for decreasing profitability is the rise in regulatory requirements such as those related to money laundering, tax havens, and terrorist financing. Additionally, alternative cross-border payment systems that leverage technological advances have contributed to the development of alternatives to SWIFT.

In 1977, SWIFT was created as a means of sending payment instructions between different countries. However, it does not handle the process of clearing or settling payments. Almost half of the messages sent through SWIFT are related to securities transactions, reflecting its dominant global position for communication in wholesale operations (SWIFT, 2019, p. 3). Ripple, a fintech company, has attempted to create a quicker wholesale alternative to SWIFT and the correspondence banking system by implementing distributed ledger technology. However, this alternative only accounts for a small portion of the market. This is similar to J.P. Morgan's Liink information-sharing system (Wong and Nelson, 2021, p. 8).

This is because SWIFT introduced a faster and more transparent payment service called "gpi" (global payments innovation) to counter these initiatives. Additionally, SWIFT has implemented another platform to improve speed, which was launched in late 2022. Correspondingly, the "infrastructural power" (Weiss and Thurbon, 2018; Schwartz, 2019; Braun and Koddenbrock, 2022; Coombs, this volume) of SWIFT with regard to cross-border wholesale payments still is undisputed. In 2020, SWIFT accounted for over 90% of the cross-border transactions totaling $140 trillion, which is equivalent to 152% of the global GDP (*The Economist*, 2021). However, SWIFT's uncontested position may face challenges due to political conflicts in the future.

4 Geoeconomic Conflicts over SWIFT

For many years, SWIFT ran without disruption and received little attention from political economists. However, in 2012, an advocacy group based in the United States called United Against Nuclear Iran initiated a campaign against SWIFT. They claimed that SWIFT's continued dealings with Iranian banks and institutions violated sanctions imposed on Iran by the European Union (EU) and the USA. Following the passage of legislation by the US Senate Banking Committee, sanctions against SWIFT were authorized if the company continued to provide services to Iranian financial institutions. SWIFT responded rapidly by indicating its willingness to comply with any sanctions arrangement developed by the EU and the USA. In March 2012, SWIFT cut off twenty-four Iranian institutions from their global financial signaling system in compliance with an EU regulation that prohibits the provision of financial messaging services to sanctioned institutions. This decision was significant for SWIFT, as it was turned into a geopolitical weapon.

Since Iran, "'de-SWIFTing' was readily recognized as the single most effective sanction currently in existence on a macro scale" – or as the "nuclear option" (Caytas, 2017, p. 14). The use of this terminology is making the role of SWIFT seem greater than it is. This is also true for Iran. The decoupling was just an addition to the existing US sanctions against any bank that carries out transactions with Iran, that is, making use of its power over the system of correspondence banks and CHIPS (O'Toole, 2020; Smith, 2022). More powerful than SWIFT decoupling is the latter sanction, potentially leading to a situation where the US government imposes heavy fines or withdraws the

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US license of any bank that conducts business with states blacklisted by the USA. For example, in 2014, BNP Paribas was fined 9 billion dollars (Götz, 2021).

In 2016, many Iranian institutions were temporarily reconnected with SWIFT. This was due to the "Joint Comprehensive Plan of Action" or "Iran deal" that was agreed upon between Iran, the permanent members of the United Nations (UN) Security Council, Germany, and the EU. The negotiations involved bringing Iranian institutions back into the global financial system, which was a significant aspect of the agreement (Farrell and Newman, 2019, p. 69).

The Iran situation, however, was just the beginning of the potential use of SWIFT for geopolitical purposes. This was demonstrated again during the 2014 Crimea crisis, which was further highlighted by the Russia–Ukraine tensions in 2021 and the ensuing war that began in 2022. The US government proposed disconnecting Russia from SWIFT following the annexation of Crimea, but SWIFT did not comply. However, the utilization of SWIFT as a weapon has become increasingly common. In 2017, the Belgian government ordered SWIFT to block North Korean banks from accessing its system for correspondence banking, as these banks were still using it despite being sanctioned by the UN. This move was based on a UN report and was in line with the other EU countries (Weiland, 2017). SWIFT has complied and even disconnected all other banks in North Korea (Wong and Nelson, 2021, p. 14).

In 2018, the Trump administration withdrew from the Iran deal and warned that it would impose sanctions on the SWIFT board if it maintained their collaboration with Iran. This has brought back the issue of Iran. European countries, in contrast, did not withdraw from the Iran deal (Thießen and Jehmlich, 2018, p. 4). Although the USA has no legal authority over SWIFT, it still gave in and removed Iranian institutions from its list due to concerns about the global financial system's stability (Götz, 2021; Wong and Nelson, 2021, p. 13). The USA also imposed secondary sanctions concerning Iranian institutions, leading to a comprehensive retreat of European banks from transactions with the latter. Subsequently, some European governments tried to resist US pressure by coming up with an alternative system for transactions with Iran (INSTEX, Instrument in Support of Trade Exchanges), circumventing the system of correspondence banks, CHIPS, and SWIFT, but this was not successful.

Finally, the by far most comprehensive utilization of SWIFT as geopolitical weapon has been taking place since the Russian war against Ukraine. After the Russian invasion, exclusion from SWIFT played a very prominent role in the public debate. Calls for an immediate exclusion of all Russian banks from SWIFT were initially countered by concerns about the practical consequences, which are difficult to overlook, given the close interconnectedness of these banks with the global financial system. So far, the EU has excluded a total of thirteen Russian (as well as four Belarusian) banks from SWIFT in three rounds. During the SWIFT exclusion on March 14, 2022, it affected the Bank Otkritie, Novikombank, Promsvyazbank, Bank Rossiya, Sovcombank, VEB, and VTB Bank. On June 14, 2022, additionally the Rosselkhozbank, Sberbank, and the Credit Bank of Moscow were excluded. Finally, the "anniversary" of the invasion was marked by the exclusion of Alfa-Bank, Tinkoff Bank, and Rosbank.

The EU has now imposed a complete transaction ban on most of these banks and has frozen their assets in the EU. Similar sanctions have been imposed by the UK. The USA has also placed relevant banks on the "Specially Designated Nationals" list. Correspondingly, US institutions may not conduct business with these banks. In contrast to the case of Iran, however, the USA have mostly refrained from imposing secondary sanctions, due to concerns of rising tensions with neutral economies in the Global South. The weaponization of cross-border payment infrastructures clearly poses a strategic dilemma to the West (Nölke, 2022b): The current payment-related sanctions on Russia are moderate in their effects, but a tightening of the sanctions could easily speed up the development of alternative infrastructures in China and Russia.

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5 The Russian Alternative to SWIFT

In response to the threat of SWIFT decoupling after the annexation of Crimea, Russia launched its own cross-border financial messaging system called SPFS in November 2014. This was done as a precautionary measure and due to repeated warnings about the possibility of SWIFT decoupling in 2014 (Wenhong, 2020). The SPFS is designed similarly to SWIFT, operates alongside it, and is intended to fully replace SWIFT if Russia loses access to it (which has happened to most Russian banks since the war on Ukraine). Moreover, it was meant to have a closed payment system where transactions cannot be monitored by the USA via access to SWIFT data (McDowell, 2023, p. 85).

As of 2023, the SPFS system's usage is mostly limited to Russia. However, the Russian government is actively promoting it at international summits like the ones held by the Shanghai Cooperation Organization and BRICS (Brazil, Russia, India, China, South Africa, Iran, Egypt, Ethiopia, and the United Arab Emirates). In 2019, the Venezuelan government was reportedly considering joining the Russian system in response to concerns about facing new sanctions that may result in being excluded from SWIFT (Laya and Andrianova, 2019); still, no Venezuelan bank was listed as an SPFS participant by 2021 (McDowell, 2023, p. 102). In the same year, Russia and Turkey reached an agreement to use ruble and lira instead of the dollar in bilateral trade, and to use SPFS for cross-border financial information (McDowell, 2023, p. 98). Also in 2019, Iran announced the connection of its recently developed payment signaling system, System for Electronic Payments Messaging (SEPAM), to the Russian system (*Financial Tribune*, 2019). In 2023, Iran finally joined SPFS, after Belarus in 2021. Still, these signaling systems are limited by the fact that they do not include clearing and settlement. If foreign business partners require US dollars – the usual trade currency – Russian banks still would need correspondence banks with access to CHIPS (McDowell, 2023, p. 85). In trade with India, however, the two governments have agreed to settle in rupees and to use bilateral settlement, in order to support the strongly growing trade between the two countries (Venkiteswaran, 2022). Alternatively, rubles or dirhams – the currency of the United Arab Emirates – are being used, with payment messages transferred via SPFS (Venkiteswaran, 2023).

The exact number of foreign banks using SPFS is unknown, since Russia has stopped publishing this information since the outbreak of the war, in order to protect SPFS cooperation partners from Western sanctions. By 2020, 400 financial institutions had joined, mostly from Russia, but also 23 foreign banks, from Armenia, Belarus, Germany, Kazakhstan, Kyrgyzstan, and Switzerland (McDowell, 2023, p. 85). This is very limited if compared to the roughly 11,000 institutions from 200 countries covered by SWIFT – but the main purpose of SPFS is not to match SWIFT, but to have a workaround in case of Western sanctions.

In addition to creating SPFS, Russia also implemented additional measures to protect itself from possible financial sanctions. These measures included building up large foreign reserves and establishing a domestic credit card system called "Mir" that lessens the impact of Mastercard and Visa being cut off for Russian consumers (Gricius, 2020). It has been reported that Russia is creating a digital version of their currency called the digital ruble, similar to the Chinese plans (see Section 6). A digital currency does not need to rely on SWIFT, but can find other ways to communicate (Shagina, 2022, p. 5; Westermeier, 2023). However, SWIFT has been very active in establishing a cross-border central bank digital currency (CBDC) platform, in order to become a leading actor in this field, too.

Although the disconnection from SWIFT due to Western sanctions in 2022 caused short-term capital outflows, currency volatility, and inconveniences for transactions with Russia (such as reverting to telex, email, or fax for financial messaging), it appears that the medium-term impact can be managed

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(Smith, 2022). This is also due to the fact that the sanctions still leave loopholes. As of 2023, Gazprombank – the most important Russian bank for energy trade – is still connected to SWIFT, and two major European banks – Raiffeisen Bank International and UniCredit – still operate in Russia (Nölke, 2023). In contrast, a study of TARGET2 transaction data indicates that for those ten Russian banks that were disconnected from SWIFT in 2022, TARGET2 transactions were comprehensively terminated (Drott, Goldbach, and Nitsch, 2022). However, this development is mainly based on the blocking sanctions that the EU has issued more or in parallel with the exclusion from SWIFT, not on the exclusion as such.

6 The Chinese Alternative to SWIFT, CHIPS, and US-Linked Correspondence Banking

The Chinese response to SWIFT sanctions is more extensive. China has been using CIPS since 2015. This system is more than just a financial messaging platform like SWIFT. It includes clearing and settlement capabilities, making it a complete payment system. While it still utilizes SWIFT for most cross-border financial communications, it can also function without it if required (Friesen, 2023, p. 15). CIPS distinguishes between direct participants (under the legal supervision of the People's Bank of China) and indirect participants (many from abroad). The former have an account with CIPS (and a separate CIPS terminal), the latter may use CIPS via the direct participants.

Since the 1910s, China has undergone a global policy shift which includes the development of CIPS. The Chinese strategy is primarily focused on the idea of "global connectivity" (Godehardt, 2020). This strategy involves creating both physical and digital infrastructures that are centered on China. China has realized the potential threat of being separated from the Western financial infrastructure. As a result, they have decided that solely working within existing institutions, such as setting up a data storage center called Finance Gateway Information Service in China in cooperation with SWIFT in 2021, is not enough. China needs to complement its strategy by developing a new set of institutions centered in China. This goes further than the Russian strategy to create an "Economic Fortress Russia," given that China aims to create alternative (financial) infrastructures centered on China (Petry, 2023).

The amount of payments processed within CIPS is currently still limited: "The Chinese system … processes approximately 15.000 transactions per day, amounting to the dollar equivalent of $50 billion. Meanwhile, CHIPS, the US version, processes 250.000 transactions per day, exceeding $ 1.5 billion" (Norrlöf, 2023). Correspondingly, China is "astute enough not to challenge SWIFT until the CIPS has matured, but no doubt one day the challenge will come" (Prasad, 2017, p. 116).

Although the Chinese alternative to SWIFT has not gained many users yet, its usage is increasing rapidly. According to a Nikkei survey, there was an 80% rise in payment settlements based on CIPS between 2017 and 2018 already. This increase was particularly observed in countries that are under US sanctions, such as Russia and Turkey, and countries involved in the Belt and Road Initiative (Kidda, Kubota, and Cho, 2019). From October 2015 to May 2021, the number of participants in CIPS grew significantly, from 195 to 1,189 (Wong and Nelson, 2021, pp. 9–10), rising to 1,280 participants from 103 countries in January 2022 (Cipriani, Goldberg, and Spada, 2023, p. 27) and, by February 2023, to 1,366 participants, 79 direct and 1,287 indirect (Friesen, 2023, p. 15). By February 2023, the number of foreign banks in CIPS was at least 613 (CED, 2023, p. 6). In addition, the faster-growing economic region where the alternative system is being used is not the traditional – and comparatively stagnating – center of the global economy covered by SWIFT.

Since several Russian banks are linked to CIPS as indirect participants (and one Chinese bank is connected to Russian SPFS),

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the payment system allows China–Russia transfers, even if the Russian banks are sanctioned by exclusion from SWIFT (Cipriani, Goldberg, and Spada, 2023, p. 27). The issue of China's payment system has resurfaced amidst growing tensions between China and the USA, which haven't eased up after Biden became president. The bipartisan US consensus regarding the need to slow China's rise poses a significant threat, leading the Chinese government to increase efforts to promote their alternative payment system. To avoid being hurt by potential US sanctions too badly, the Bank of China has advised the country's banks to avoid SWIFT messaging (PYMNTS, 2020).

In addition, China has been increasing efforts to create a CBDC, which could serve as an alternative to traditional cross-border payment systems (Greene, 2021; Friesen, 2023, pp. 16–18). This type of digital currency does not rely on SWIFT or correspondence banking, which is currently dominated by US banks. China plans to expand the use of its digital renminbi (also known as digital yuan, DCEP, or e-CNY) from domestic retail payments to wholesale cross-border trading in the future. This is in line with China's strategy to take advantage of having the first major currency to introduce a CBDC.

Many market participants believe that the digital renminbi could be as risky as the physical renminbi, due to the closed nature of the Chinese financial system (Kärnfelt, 2020; Shagina, 2021, 2022). Therefore, it is even more crucial for China to support global CBDC standards, especially a multi-CBDC arrangement (known as the mBridge project), than to expand the use of the digital renminbi. Interlinked CBDCs allow central banks to settle payments between the related countries in their own currencies, without resorting to correspondence banks and the US-controlled CHIPS settlement system.

In the future, a multi-CBDC arrangement that works efficiently could offer a cheaper and faster option for cross-border payments compared to the current correspondence bank and SWIFT-based system (Auer, Haene, and Holden, 2021), even if SWIFT is very active in establishing a cross-border CBDC infrastructure itself. As a result, it might weaken the position of the US dollar as the primary global currency and the ability of the USA to monitor international financial transactions (Campbell, 2021; Lewis and Li, 2021). In addition, the widespread adoption of CBDCs may make it easier for governments to implement advanced capital controls due to the significant level of state oversight in the use of these digital currencies (Greene, 2021).

7 Implications: Alternatives to SWIFT and the Future of the Global Financial Infrastructure

In contrast to the subtle forms of domination discussed in the context of infrastructural power (see Coombs, this volume; Pinzur, this volume), we have witnessed an overt case of geopolitical confrontation, with long-term geoeconomic implications. The increasing use of SWIFT as a weapon has led to the creation and adoption of alternative cross-border payment systems, as a (potential) defense against Western sanctions. China, with its state-capitalist economy, is at the forefront of alternative systems, particularly in the use of CBDCs for cross-border transfers.

The increase in the number of competing payment infrastructures can also hurt the currently dominant ("financialized") mode of the global financial system (Braun and Koddenbrock, 2022). According to Fichtner (2017), the current system has a high level of centralization in its financial infrastructures, which are controlled by Anglo-American entities. However, if there were a further development competing infrastructures, this could potentially weaken this important aspect of the current global financial order. This development is increasingly causing concern among US think tanks, including Carnegie (Greene, 2021). Similar to the USA, China one day could use its payment system in order to exercise its own "infrastructural geopolitics" against other countries (de Goede and Westermeier, 2022).

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For the time being, however, the focus is on geoeconomic competition (Babic, Dixon, and Liu, 2022), most notably on the function of the US dollar as trade currency. Correspondingly, the development of Russian and particularly Chinese alternatives to SWIFT (and the related US-dominated system of correspondence banks (see Westermeier, Campbell-Verduyn, and Brandl, this volume, as well as Nance and Tsingou, this volume), should rather be counted as a case of "infrastructural geoeconomics," that is, the pursuit of geoeconomic strategies via (financial) infrastructures.

First indications for the reduction of the role of the US dollar as the dominant global trade policy were already visible in 2023, driven by the Western sanctions on Russia after its invasion of Ukraine. Daily transactions using CIPS have increased by 50% (*The Economist*, 2023) and the renminbi's share of global trade finance has more than doubled during the first year after the onset of the war, and now nearly reaches the role of the euro (Lockett and Leng, 2023). Alternative geoeconomic financial infrastructures are clearly gaining ground.

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