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Are the Russian Banks Threatened with Removal from SWIFT? A Multiple Case Study on Interbank Financial Messaging Systems

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Abstract:
When Russia invaded Ukraine in February 2022, the United States, European Union, and their allies removed the Russian banks from the main interbank payment system worldwide, SWIFT (Society for Worldwide Interbank Financial Telecommunication), which is a secure messaging system that makes cross-border payments possible, vital for the international trade. However, it is not the first time that Russian banks are threatened with disconnection from Swift by the US government. In response, the Central Bank of Russia developed in 2014 the SPFS (System for Transfer of Financial Messages, our translation). In addition, the Chinese government created in 2015 an equivalent system named Cross-Border Interbank Payment System (CIPS). In this article, we examined SWIFT and alternatives, such as the Russian SPFS, the Chinese CIPS, and the Indian SFMS. Key findings pointed out crucial differences between the financial messaging systems, their objectives, and the expansion of operations overseas. Finally, discussion and implications to the global economy compile this work.

Keywords: international finance; messaging interbank payment system; financial transactions

1. Introduction:

On 26 February 2022, the president of the European Commission, Ursula von der Leyen announced the withdrawal of Russian banks from the Society for Worldwide Interbank Financial Telecommunication (SWIFT) affecting approximately 300 Russian banks, in retaliation to Russia's invasion of Ukraine (EU, 2022), which occurred in the early morning of 24 February 2022, and brought unrest to the global economy.SWIFT is a vast messaging network cooperative society created in 1973 by 239 banks from 15 countries, based in Brussels (Belgium), designed to establish a global financial communication standard. To date, more than 11,000 financial institutions in 200 countries use the system for interbank financial transactions worldwide (SWIFT, 2022).

Much has been debated about the severe impact on the global economy with the removal of Russian banks from SWIFT. Most of their financial transactions worldwide would stop, and imports and exports would be effectively blocked, called "the financial nuclear weapon" by the French Finance Minister Bruno Le Maire because the Russian banks handled approximately $46 billion of transactions a day (Nikkei, 2022, p.1). The implications should affect the 40 percent of the European Union natural gas imports, increasing the prices of oil, grains, and other commodities, as well as freezing hundreds of billions of dollars in accounts, for instance. In sum, the implications would affect directly (i) trade; (ii) energy, and (iii) the financial sector. However, the effects of removing Russian banks from SWIFT might not affect the Russian economy as expected. There may be alternatives, analyzed in this original work.

In this article, we addressed in sequence the following messaging services of financial transactions and payments between banks worldwide, such as (i) SWIFT; (ii) the Russian SPFS, (iii) the Chinese CPIS, and (iv) the Indian SFMS, as the units of analysis of this multiple case study (Yin, 2018).

2. Methods and Research limitations

This work addressed the interbank financial messaging systems worldwide through a multiple-methods approach, combining archival research and case study, in which units of analysis are the following financial messages services: (i) SWIFT; (ii) SPFS; (iii) CPIS, and (iv) SFMS (Yin, 2018). The case followed the inductive rationale and interpretive approach and is limited to the electronic financial data interchange standards from the International Organization for Standardization - ISO 20022[1], which describes the standards procedures, and a common platform for the development of messages of (v) financial information transferred; (vi) payment transactions; (vii) securities trading; (viii) debit and credit card transactions, and other information, and is limited to the standard format of Business Identifier Codes (also known as SWIFT-BIC, BIC, SWIFT ID or SWIFT code (ISO, 2022). Other countries, financial messaging systems, and different standards may convey incorrect understandings and should be investigated in separate studies. Finally, this study followed all ethical procedures and was not submitted for publication elsewhere. Finally, in the next sections, the financial messaging systems are reported, in the order of creation, i.e., starting by SWIFT.

2. SWIFT (Society for Worldwide Interbank Financial Telecommunication)

The Society for Worldwide Interbank Financial Telecommunication, or simply SWIFT, is a cooperative created in 1973, constituted by 239 banks from 15 countries, based in Brussels, Belgium, designed to address a common problem: how to communicate and exchange securely cross-border payments (SWIFT, 2022b). In the 1970s, SWIFT represented an alternative to the Telex, which was a switched peer-to-peer telephone network, using teleprinters - the predecessors to the fax machine. The original service was comprised of a messaging system based on a computer system designed to route and validate a set of standardized financial messages. In 1977, 518 institutions from 22 countries were connected to the message service. In 1979, 10 million messages were exchanged. In 1989, 2,814 customers from 79 countries, exchanged 296 million SWIFT messages. To date, more than 11,000 institutions from near 200 countries use SWIFT's services, as illustrated in Table 1, as follows:

Table 1 : Evolution of SWIFT operations (1973-2021)

Year	Customers	Countries	Messages
1973	239	15	10.000.000
1989	2.814	79	296.000.000
1999	6.797	189	1.060.000.000.000
2009	9.281	209	3.760.000.000.000
2021	11.644	207	15.330.000.000.000

Observe in Table 1 that the number of messages exchanged interbank increased from ten million in 1973 to 15.33 billion in 2021. To date, it represents approximately 42 million messages per day. Figure 1 depicts SWIFT key highlights the financial messages figures, from January 2022, as follows:

[1] ISO 20022 is the sucessor to ISO 15022. It was originally called ISO 15022 Second Edition, later changed to ISO 20022.

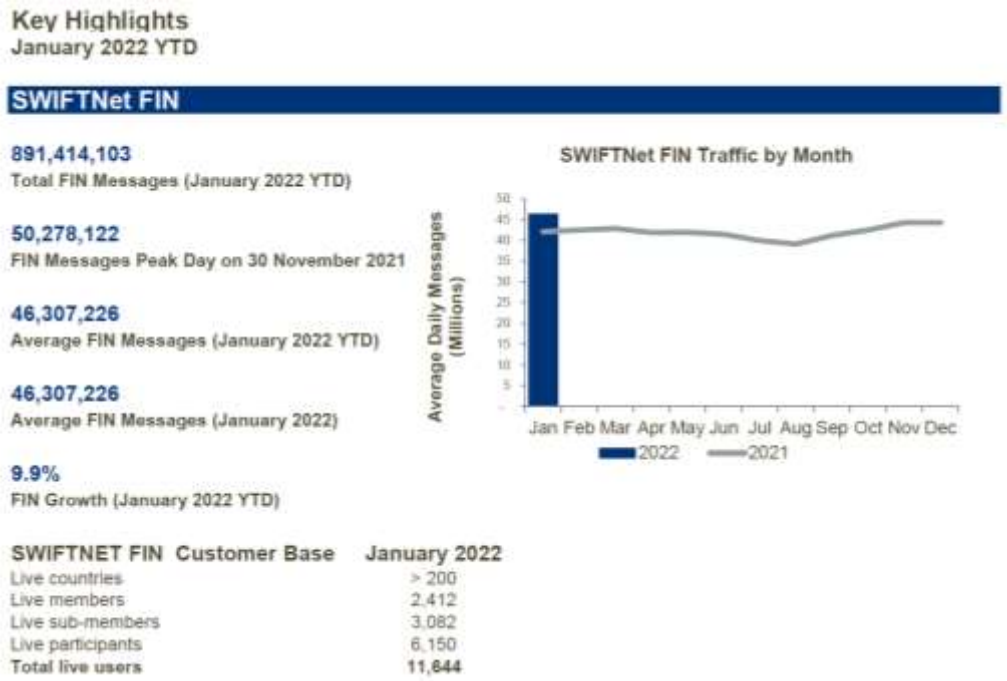

Figure 1 Key Highlights: January 2022.
Source: SWIFT, 2022d, p2.

SWIFT attracted global attention when the governments of the US, EU, and their allies threatened Russia with sanctions due to the Ukraine invasion, on 24 February 2022. On 1 March 2022, the SWIFT board of directors released the following message: "Our deepest thoughts are with those suffering the tragic human consequences of Russia's invasion of Ukraine. Equality, diversity, mutual respect, and global cooperation are the bedrock SWIFT stands on, and the ideals we stand for as a global and politically neutral cooperative." (SWIFT, 2022c).

Despite SWIFT declares to be a neutral cooperative, by which members are also cooperative members, it is not the first time that a sanction against one of its members has been issued: in 2012, following the EU regulation 267/2012, from 23 March 2012, adopted the Council Decision 2012/35/CSP, i.e., concerning restrictive measures against Iran (EU, 2012). Finally, on 26 February 2022, SWIFT adopted the Council Decision of The European Union 328/2022, from 25 February 2022, amending Regulation EU 833/2014, concerning restrictive measures given "Russia's actions destabilizing the situation in Ukraine" (EU, 2022b, p.1), and removed Russian financial institutions from the SWIFT.

2. SPFS (Financial messaging system of the Bank of Russia)[2]

In 2014, after the US government threatened to disconnect Russia from the SWIFT system, the Russian Central Bank (*Банк России*) developed an equivalent messaging system (*СПФС*). The operations started in December 2017. The SPFS also adopted the ISO 20022 standards. To date, there are 331 financial users registered, including some banks from Belarus, Armenia, Tadjikistan, Kyrguizia, Khazakstan, Cuba (*Banco Financiero Internacional SA*), and finally Germany (*VTB Bank SE*), according to the Bank of Russia (2022). SPFS charges are three times less expensive than the SWIFTequivalent. However, SWIFT works 24/7 and allows a data transmission rate of 10 Mb/s, whereas SPFS works only during weekday working hours, while the data transmission rate is currently is limited to 20 kb/s transmissions across networks (Nikkei, 2022).

[2] From Russian: Система передачи финансовых сообщений СПФС, Russian: Система передачи финансовых сообщений (СПФС), or 'System for Transfer of Financial Messages' (our translation).

3. CIPS (Cross-Border Interbank Payment System)[3]

The Chinese equivalent for SWIFT was founded on 8 October 2015 in Shanghai, to uphold the financial market structure in China, encompassing 36 financial institutions, mostly domestic ones. CIPS Co., Ltd. is supervised and administered by the People's Bank of China (PBC) CIPS is also connected to the SWIFT system and abides by the ISO 20022. Due to the Russian invasion of Ukraine, the Russian banks might adopt CIPS, as an alternative to the SWIFT removal, which occurred in late February 2022. Figure 2 illustrates the CIPS users worldwide:

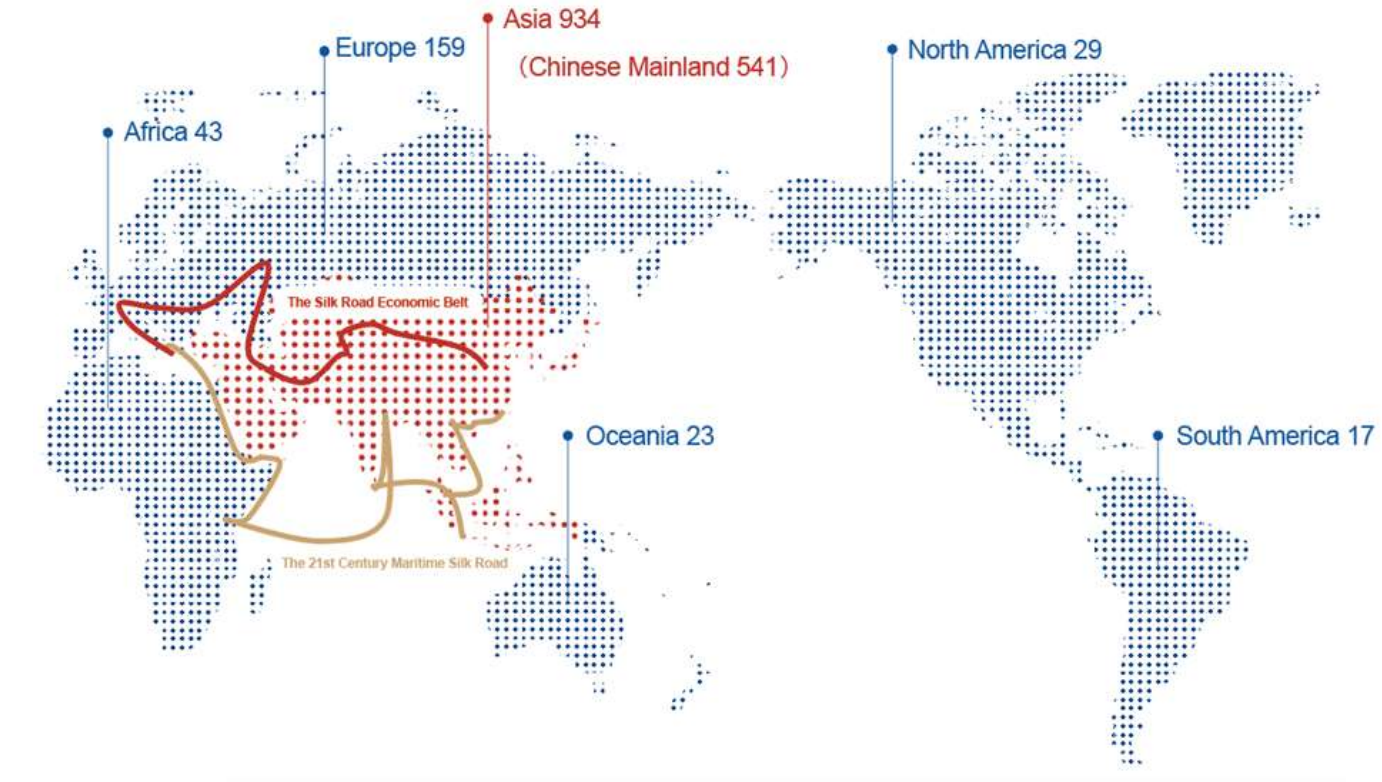

Figure 2 CIPS users. Source: CIPS, 2022

Observe in Figure 2 that as of January 2022 there were 1,280 participants registered, from which 934 are from Asia (541 from China), 159 from Europe, 23 from North America, 43 from Africa, 23 from Oceania, and 17 from South America, in total, 103 countries from all five continents (CIPS, 2022).

4. SFMS (Structured Financial Messaging System)

The Indian equivalent for SWIFT was created on 14 December 2001, with the cooperation of the Institute for Development and Research of Banking Technology (IDRBT), in turn, established by the Reserve Bank of India (RBI) in 1996. The system is similar to SWIFT and abides by the ISO 20022 standards. SFMS is interchangeable with SWIFT, which is operated by a private company in India, the SWIFT India Domestic Services Pvt Ltd, gathering 10,500 financial institutions, and accomplishing more than 22 million payments, securities, trade finance, for instance. Currently, SFMS connects 165 banks and clearinghouses, through a Real-Time Gros Settlement (RGTS) transfer system, which allows the instantaneous transfer of money. The RGTS is controlled by the Reserve Bank of India (RBI).

5. Implications and Discussion

In the case of the removal of the Russian banks from the SWIFT, other implications are expected such as (i) SWIFT loses income; (ii), and; (ii) Russian banks would be unable to make and receive payments for their

[3] CIPS is also known as China Interbank Payment System.

trades, and would potentially break and go bankrupt; (iii) interfere with the Russian profits on oil and gas production, responsible for 40 percent of Russia's revenues, implying in weakening the ruble, and further recession in Russia; (iv) Russian banks sanctioned moving massively their financial operations into other payment systems, such as the Chinese CPIS, and the Indian SFMS, intensifying their system operations on SPFS; (v) to harm the ability of the Russian banks operate worldwide, imposing a geographic area restriction, barriers, and limits to Russian credit institutions; (vi) Russian financial institutions would not handle $ 46 billion in transactions per day, mostly in US dollars; (vii) In the mid and long terms, EU would be severely affected by on the disruption of oil and gas imports; (viii) the European banks are creditors to Russia; removing Russia would imply in little ability to make debt payments, including export/import payments; (x) Russian retaliation on the natural gas and other commodities supply; (x) conflict escalation to other regions from Europe.

The case also has implications in plenty of fields of research, such as (xi) corporates across the globe (Silva, Melo, R., Dias, M., 2022; Silva. G.B., Dias, M., Felicio Jr, R., 2022); (xii) information security (Vieira, P.S.; Dias, M., 2022; Vieira, P.S.; Dias, M.; Silva, G.B.; Dias, Leonardo, 2022); (xiii) business negotiations (Dias, M., Nascimento, C.; Lima, M.; Santos, A.; Duarte, M.; Rocha, M.; Martins, M.; Mendes, F.; Filho, R.; Marques, L.; Filho, C.C., 2021; Dias, M.; Netto, P.C; Oliveira, F.; Melo, L.; Cavalcanti, S.; Marques, A.; Silveira, F.M., Bastos, E.H.; Pitangueira, A.L;Vaz, H.; Filho, C.C., 2021; Dias, M.; Andrade, S.; Silva, M. R.; Teles, G.; Mello, B.; Moura, R.; Salazar, A.; Sotoriva, L.M.; Mariotti, A; Filho, C., 2021); (xiv) oil and gas projects (Lopes, R; Massioui, F.; Barros, S.; Dias, M., 2021); (xv) software contract negotiation (Dias, Murillo; Waltz, Flavio; Oliveira, Barbara. Y., 2021), for instance.

The merit of the present article is to gather sparse information on financial messaging systems into a single work through multiple case studies on the subject, where the units of analysis are the aforementioned financial messaging systems (a) SWIFT; (b) SPFS (c) CPIS, and (d) SFMS, respectively.

A crucial aspect of the crisis caused by Russia's invasion of Ukraine is the difficulty of recovering the global economy after the coronavirus pandemic. One of the immediate consequences of the invasion was the increase of oil and natural gas. Perhaps, the worst-case scenario would be retaliation from Russia, cutting the supply of natural gas, as illustrated in Figures 3 and 4, as follows:

Figure 3 Russian natural-gas pipelines in northwestern Siberia.Source: Alexander Nemenov/AFP/Getty, 2022

Figure 4 The most important gas pipelines in Europe.
Source: European Network of Transmission System Operators for gas (ENTSOG, 2022)

Observing both Figures 3 and 4, we note the consequent higher energy prices, combined with high inflation rates, and recession, are among the consequences of a global escalation of the conflict, therefore, affecting local and global financial institutions, and decreasing the number of users of the financial messaging system worldwide, as well as the volume of operations, drastically affected by the conflict escalation.

Finally, although the Russian government has created its version of the SWIFT, namely the SPFS in 2014, to counterbalance the US government threats on SWIFT removal, the number of international banks and financial institutions registered in SPFS is too low to counterbalance the SWIFT removal. Additionally, the volume of financial transfer operations are still too small to substitute SWIFT effectively. Therefore, the removal of the Russian banks from the SWIFT system should imply a significant impact on the Russian economy, with consequences and ramifications affecting the entire global economy, still crumbling during the pandemic shock.

6. Future Research

We encourage future research on the global political, social, and economic implications of the unfolding Russian invasion of Ukraine, regarding the impacts of the conflict on (i) the global financial operations; (ii) global trade; (iii) the import/export transactions; (iv) the European dependence on Russian commodities, such as natural gas; (v) the largest migration since the outbreak of the WW II; (vi) the consequences for the

unfolding pandemic on the coronavirus on the global economy combined with the financial operations worldwide.

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