

Economic Brief

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What Is SWIFT, and Could Sanctions Impact the U.S. Dollar's Dominance?

By [Russell Wong](#)

The recent removal of Russian banks from the SWIFT messaging system has highlighted the importance of payments in supporting economies. But the weaponization of SWIFT has also left some commentators worrying about the loss of the U.S. dollar's dominance, as it might drive banks and firms to other substitutes. This Economic Brief discusses the economics of SWIFT and explains why emigrating from the U.S. dollar may be more difficult than we thought.

In this Economic Brief, we discuss the economics of the SWIFT messaging system and implications for the U.S. dollar. To begin, it is useful to distinguish between inside money and outside money, which can be token-based or account-based.¹

Inside Money Versus Outside Money

The distinction between inside money and output money is whether it is backed by private agents' liability:

- Inside money is someone's liability such that its net supply within the private sector is always zero. That is, inside money is a credit to one entity and a debit to another.
- Outside money is a medium of exchange (or its claim) that is in positive net supply within the private sector of the economy. The qualifier *outside* is short for "outside the private sector."

Most modern payments (such as bank deposits) are inside money. Examples of outside money include reserves, bank notes and stablecoins.

Token-Based Payments Versus Account-Based Payments

The distinction between token-based and account-based payment systems involves how transfers happen:

- A token-based system requires payees to verify the genuineness of payment instruments against counterfeits.
- An account-based system requires participants to verify their counterparty's identity against fake accounts.

Bank reserve account balances maintained at Federal Reserve banks are an example of account-based outside money. Table 1 illustrates different examples of monies.

Payment System	Outside Money	Inside Money
Token-Based	Banknotes, gold (or its certificate), stablecoins	Circulating IOU
Account-Based	Reserves	Bank deposit

[Enlarge](#)

What Is and Isn't SWIFT?

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) is a Belgium-based cooperative overseen by G-10 central banks.² SWIFT is incorporated under Belgian law and complies with regulatory obligation by disconnecting banks sanctioned by the European Union from the system.

SWIFT is a message system for instructing the transfer of account-based money (usually banks' account balances). Such a message system is needed for account-based payments to verify account holders' identities and to record instruction details like the currency, amount and route. (Sometimes more than two banks are involved for transfers denominated in foreign currencies.)

The actual settlement of money happens subsequently in systems like Fedwire or CHIPS (TARGET2 for Europe). The Fed maintains Fedwire, which is available to U.S. banks, U.S. branches of foreign banks and U.S. government agencies. A Fedwire transfer credits reserve account balances (the account-based outside money) of payee banks and debits payor banks in real time.

CHIPS is operated by a private company owned by its member banks. Based on the backbone of Fedwire, CHIPS saves liquidity by facilitating multilateral netting transfers.³ Given this economic advantage, CHIPS handled about \$1.8 trillion U.S. dollar-denominated transfers per day in 2021 despite only serving about 40 member banks, compared to about \$4 trillion for all banks served by Fedwire.

Note that a message system is not needed for most token-based outside money transfers like bank notes. The nature of on-spot quid pro quo implies that no further instruction of transfer is needed.

Sometimes, though, a message system is needed for token-based outside monies when they are not physically transferred. For example, cryptocurrencies like bitcoins and various stablecoins rely on blockchains to serve as a message system to record transfer instructions.

Will the Recent SWIFT Sanctions End the U.S. Dollar's Dominance?

The European Union's recent move to ban several Russian banks from SWIFT has caused some to argue that it will have significant unintended consequences. One popular argument is that market participants will switch from the U.S. dollar to other currencies out of fear that they or their counterparties could be removed from SWIFT in the future at the urging of the U.S.⁴

But there are several reasons this is unlikely. First, as a message system, SWIFT is open to any currencies and not tied to the U.S. dollar. According to its 2020 annual report, nearly half of SWIFT messages are sent within the region of Europe, Middle East and Africa to itself. It is not clear why the dollar is more likely to be abandoned than currencies like the euro when some banks are removed from SWIFT.

Second, the notion misses the fact that payment decisions are made by bilateral economic choice, rather than by coercion. Market participants will not switch to non-dollar currencies on non-SWIFT platforms if their counterparties will not do the same. In economics, it is known as the network effect. Of course, the network effect is a double-edged sword: The opposite can happen and trigger a self-fulfilling "run" from the dollar or from SWIFT. But the anchors of history, social norm and switching cost give the dollar some incumbent advantage.

Third, let's use Gmail as an example of why banning some banks from SWIFT wouldn't cause abandonment of the dollar. If some users are banned from writing emails in English with Gmail, they will likely look for other email systems rather than abandon English. Similarly, banks may first look for another message system — like SPFS in Russia or CIPS in China — before abandoning the dollar.

But these platforms have notably fewer counterparties, mostly domestic banks.⁵ The vicious cycle of network effect mentioned above may also explain the low number of participating banks. Also, transfers in these platforms are denominated in local currencies, so banks need to obtain the local currencies from an offshore market or directly from local markets. But the limited offshore market trading of these currencies and their capital control may deter participation.

Would Banks Switch to Other Currencies?

As shown in Table 1, the dollar is facing competition with other types of money. How likely are banks to switch to gold or even cryptocurrencies like stablecoins? An appeal of cryptocurrencies is that they do not rely on intermediaries or governments, which leads to over-centralization of market power. Also, unlike account-based payments where identities are known to the message system (and hence the government), the anonymity feature of cryptocurrency circumvents the individual-specific sanctions.

However, the prices of cryptocurrencies and gold are not very stable, and they are not widely adopted as a payment instrument due to the regulation concern of cryptocurrencies and the lack of supporting payment services. And a big advantage of the dollar is the access to the Fed's facilities like the discount window and overnight reverse repos.⁶ For other currencies like the euro and the yen, their lower (or even negative) returns on reserves may discourage the switch from the dollar. For currencies of emerging countries, their markets are much smaller and less liquid than the U.S.

Finally, one should also consider the funding landscape of the dollar. For international trades, the dollar plays an outsize role as the invoicing currency. Prices are often quoted in the U.S. dollar even if neither the importer nor exporter is based in the U.S. The funding market is deep in the sense that there are abundant dollar deposits by non-U.S. banks and abundant dollar borrowings by non-U.S. firms. It is partly because of the lower funding cost of the dollar liability, known as the exorbitant privilege. These desirable features are mutually enforced and will likely help maintain the dominance of the U.S. dollar, as discussed in a recent paper by IMF Chief Economist Gita Gopinath and Harvard professor (former Fed governor) Jeremy Stein.⁷

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¹ For more discussion on inside money versus outside money, see the chapter "[Inside and Outside Money](#)" in the 2010 book "[Monetary Economics](#)." For more discussion on token-based money versus account-based money, see the 2009 paper "[Why Pay? An Introduction to Payments Economics](#)."

² The G-10 banks are the Bank of Canada, Deutsche Bundesbank, European Central Bank, Banque de France, Banca d'Italia, Bank of Japan, De Nederlandsche Bank, Sveriges Riksbank, Swiss National Bank, Bank of England and the Federal Reserve System. The National Bank of Belgium is the lead overseer.

³ Suppose Bank A must pay \$500 million to Bank B in the morning, and Bank A expects to receive \$400 million from Bank C in the afternoon. Using the CHIPS netting system, Bank A only need to pay \$100 million at the end of the day. More details of CHIPS can be found at the New York Fed's [CHIPS webpage](#).

⁴ An assumption of this argument is that the U.S. government can single-handedly expel banks from SWIFT. This is not correct. As mentioned above, SWIFT is jointly overseen by a diverse body of central banks. Indeed, SWIFT removed the Russian banks from its network in compliance with the legal instruction of EU Council Regulation.

⁵ For example, there are currently around 340 banks in SPFS and 75 direct participants in CIPS, compared with more than 10,000 in SWIFT.

⁶ For instance, the Fed's borrower-of-last resort facility has been heavily used recently, as noted in the 2021 article "The Borrower of Last Resort: What Explains the Rise of ON RRP Facility Usage?"

⁷ See the 2021 paper "Banking, Trade and the Making of a Dominant Currency."

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