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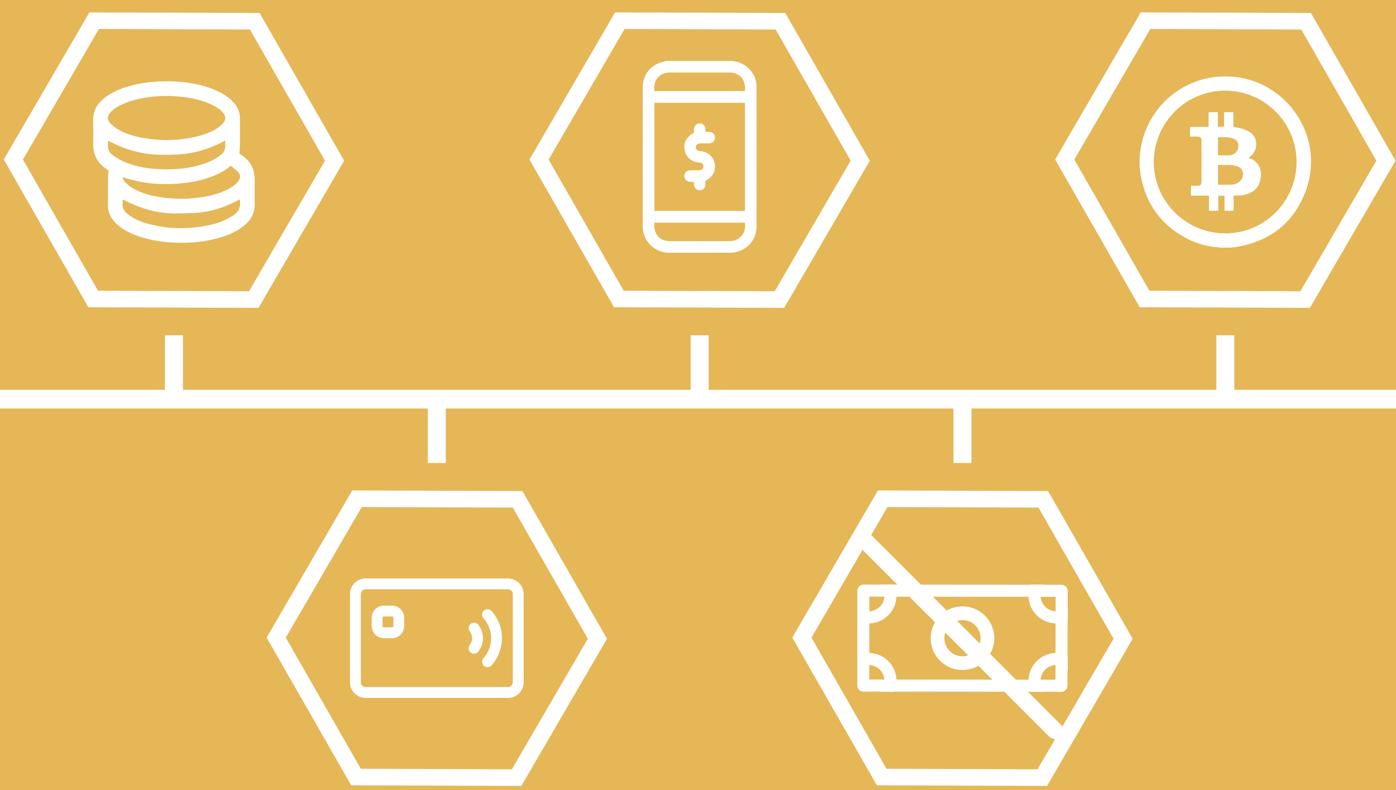
A History of Money and Banking



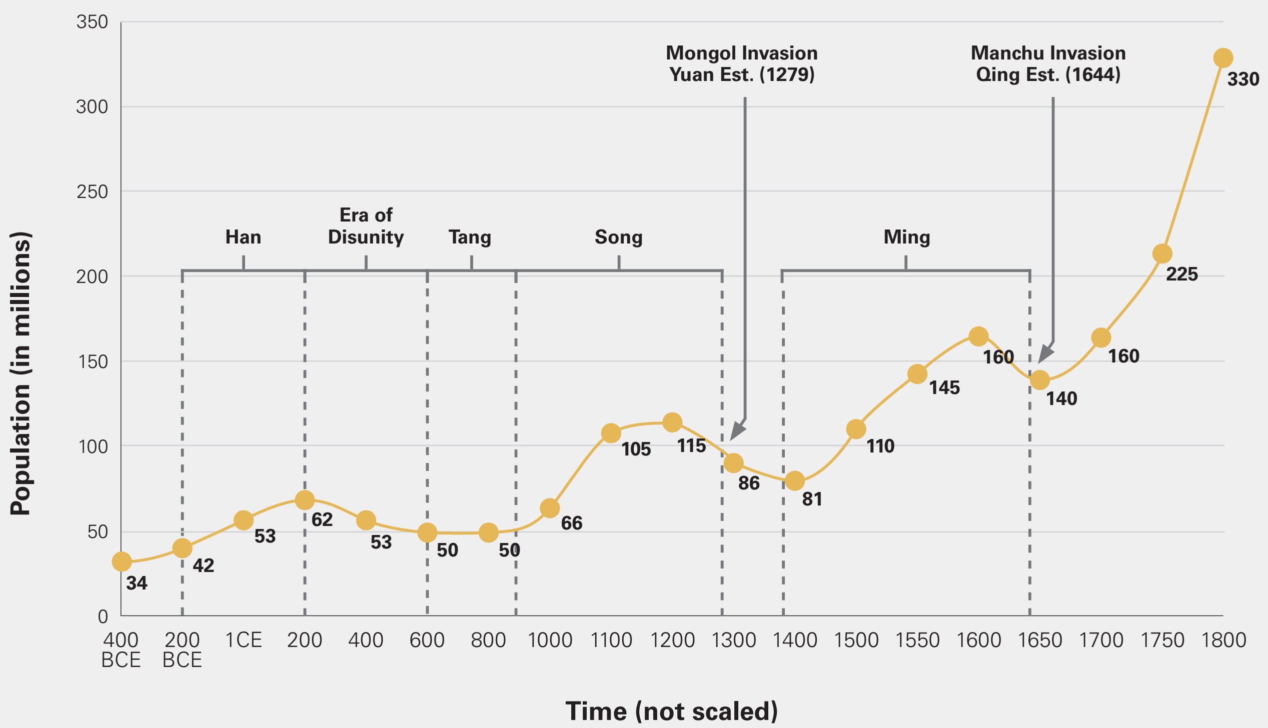
Banking and fractional monetary system

The Origin of Money

Modern-day coins are thought to have emerged around 770 BC in China, where bronze miniature replica objects (e.g., small shovels and daggers) were eventually transitioned into the more practical circular shape we recognise today[1]. It was not until much later however, under the Tang dynasty in the 7th century, that traders began using paper receipts (known as "Flying Money") which could be exchanged through local officials against copper coins to avoid transporting large quantities of coins over long distances. While these paper receipts technically constituted a form of paper money, true paper money as we know it only emerged until around the 11th century, under the Song dynasty, when a group of traders in Sichuan province adapted the flying money concept and began issuing their own notes known as "jiaozi". Jiaozi could be exchanged between individuals, against bronze coins or to buy goods and services. It was not long before some merchants realised they could simply counterfeit the notes and use them to purchase goods and services. As counterfeiting scandals grew, the Chinese Government – which had by this time unified the country - became the nation's money-issuing authority, clearly labelling its bills with a stark warning that read "*By imperial decree: criminals who counterfeit [this bill] are to be punished by beheading. The reward [for informers] shall be 1,000 guan. . . . If accomplices of counterfeiters or any who harbour them willingly identify the ringleaders to the authorities they will be absolved of criminal liability and given the above-stipulated reward*"[2]. Government-issued paper money was born.

The emergence of true paper money is partly credited with unleashing rapid economic growth in China. Indeed, the Song dynasty is known for great advances including the invention of the magnetic compass, the flamethrower, gunpowder-based warfare, and the emergence of guilds as artisans started to specialise. Trade routes flourished, with early-ripening rice from other parts of the region being used to expand rice cultivation, and literature and sciences spread too. This period a marked the birth of a national Chinese economy and, as shown on Figure 1: China's population over time, from the start to the peak of the Song dynasty, China's population approximately doubled.

Figure 1: China's population over time[3]



Source: Vox EU

After the Mongol invasion of China, Kublai Khan created his own new type of paper money and removed its link to the bronze coins that previously existed with the jiaozi. It was no longer possible to redeem the paper money for bronze coins. As a result, notes were freely printed by the Government. While this initially caused inflation spikes, prices eventually stabilised, and the economy ticked along. When Marco Polo arrived in China he observed the notes in use, remarking that "*everybody takes them readily, for wheresoever a person may go throughout the great Khan's dominions he shall find these pieces of paper current, and shall be able to transact all sales and purchases of goods by means of them just as well as if they were coins of pure gold*"[4]. This new money worked purely because the Khan told people it was money and the people believed him. In contrast to the representative money previously used, this new kind of money, "fiat" money simply derived from the fact everyone trusted it could be used as money.

With that view on how revolutionary money is, it is useful to break down into more detail the functional roles money serves in economies and why those are important:

1. **Medium of Exchange:** by acting as a commonly accepted article of value, money acts as a highly liquid asset. It can then be used to trade goods and services without having to barter, effectively emerging as the medium of exchange.
2. **Unit of Account:** by being fungible and countable, money can be used to establish comparisons in value across a range of goods and services. With this property, money can form the basis for prices and for accounting of value.
3. **Store of Value**: As money retains its value over time, it can be put away and later retrieved, preserving value. As such, money can be saved, borrowed, or lent without fundamentally losing its worth (barring inflation).

By fulfilling these three functions, money enabled deeper exchanges of values in society throughout time, fostering both positive (e.g., commerce) and negative (e.g., wars) interactions amongst people.

The Birth of Banking

While Banking had existed in Europe since the Renaissance period[5] in Italy, contemporary fractional banking was born when London's goldsmiths bankers took the same notion of Chinese Flying Money innovation and gradually took it one step further. The goldsmiths had private vaults in which customers could safely store their gold for a fee. Owners who locked up their gold were awarded a paper receipt to claim their ownership of the asset they had put away for safekeeping. Abridging a long story, at some point the goldsmiths realised that as long as those who stored their gold with them did not claim it back, they could technically give out another paper receipt for the same gold to a new customer without giving them any gold. However, in this new exchange, customers would instead provide the bank their commitment that they would return the equivalent amount of gold due with interest at some point in the future. Through this new innovation, there was now more paper in circulation than there was gold redeemable for it. Thus the fractional reserve banking system was born, and as a consequence Londoners had to get acquainted with bank runs!

That said, the system did however have its merits: more money in circulation did mean more trade and economic activity. To ensure that banks did not issue far more money than they held in gold, laws were instituted requiring bankers to keep a minimum amount of gold in their coffers against issued paper (liquidity reserves). To enforce this strictly, jail sentences were imposed on those bankers who went bankrupt.

By the mid-17th century, the goldsmiths ran the London banking system and ended up lending out the paper to King Charles II, who was waging an expensive third Anglo-Dutch war. At some point interest on the King's loans came due and, unable to pay, the Great Stop of the Exchequer was proclaimed in 1672. Bankers went bust in droves and the trust in money - which was so instrumental in the success of the Khan's fiat money in China – completely disappeared from London's paper receipts.

Two kings, a civil war[6], and a crushing defeat to France later, England's public finances were in tatters. To redress the matter, the Bank of England was created by Parliament in 1694. The bank proposed to raise £1.2M by issuing stock to anyone who would invest, ultimately securing the funds from 1,268 subscribers within two weeks in the summer of 1694. Investors varied in size: William III and Mary II each invested £10K and are accompanied in the founding documents by a certain Judith Shirley who invested £75[7]. A loan in the form of paper notes redeemable at the Bank of England for gold was then extended to William III (at an 8% interest rate) so he could rebuild his fleet. However, according to the English Bill of Rights of 1688, fiscal authority now resided with Parliament, and this time around the King would not be able to default on his loan. These paper notes percolated through the economy and over time the Bank of England ran the goldsmiths' fractional banking playbook, issuing out more paper than there was gold in the coffers. However, with the confidence that the paper notes could be redeemed for gold and that Government wouldn't let the people down the way Charles II had, the system worked efficiently.

The Removal of the Gold Standard

Up until this point, the Bank of England operated with the gold standard, meaning that the value of the paper notes issued by the bank was derived from the gold for which they could be redeemed. In fact, all the leading economies in the world – including the relatively young United States – had adopted under the same system by the end of 19th century. In Britain, one troy ounce of gold was redeemable for £3.90[8], while in the US, an ounce of gold could be redeemed for US$ 20.67[9]. This common standard greatly simplified global trade and eliminated all manner of friction in international commerce. For instance, at the time, through the equivalence in gold, the FX rate was set at a constant 4.83 USD/ GBP.

While this worked for some time, as the global economy grew, the global demand for gold grew faster than it could be dug out of the ground. In effect, the value of gold grew. With the pound – or the dollar for that matter – earning you a set quantity of gold from the bank, the notes circulating the economy were worth more. This in turn meant that prices for everything that was being purchased with the notes had to fall. Some argued that this should not in reality pose a problem because all prices would fall (including people's salaries), leading to a situation where all relative prices to remain the same. However, this hypothesis failed to consider the impact of rising gold prices on lending: for debtors, falls in prices had a terrible effect as repaying loans would require an equivalent increase in their ability to generate money (e.g., through their wages or the sale of goods). Conversely, for creditors, all of a sudden, their receivables would allow them to purchase more goods and services.

Prices continued to fall in the ensuing decades but hit a turning point in the 1930s: the US had entered the great depression and in order to print more money to halt the spiralling fall in prices, the previous tie to gold was effectively broken in 1933. By that time, the Bank of England had also almost run out of gold too and had in fact already stopped redeeming paper notes for gold in 1931.

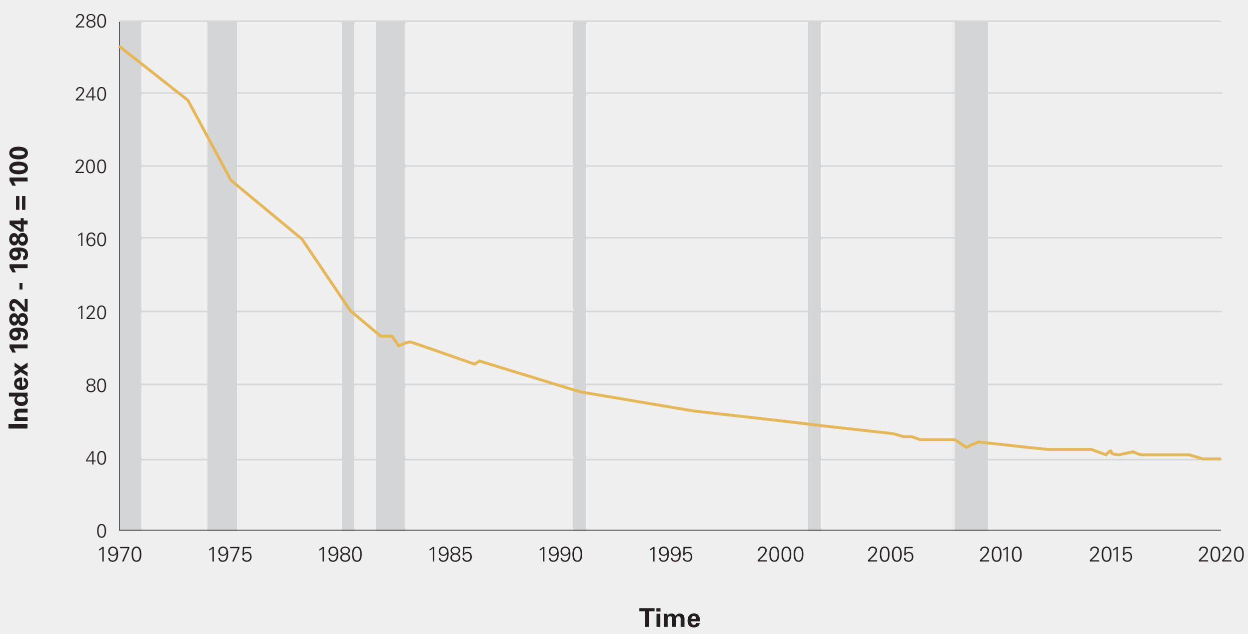
In 1934, the US Government revalued the price of gold to US$ 35/oz to enable the further printing of money. The dollar's teetering relationship with gold continued until 1971 when the US' balance of payments turned to a deficit through a combination of social care costs, the Vietnam war, and an increasingly competitive global economy. On the 15th of August, 1971, Richard Nixon announced the cancellation of the convertibility of the US dollar to gold amongst a range of other measures in what has come to be known as the "Nixon Shock".

Inflation and the Weaponisation of Reserve Currencies

Inflation and Financialisation

Central banks – such as the US Federal Reserve (the "Fed") – typically operate with the "dual mandate" of having to maximise employment and promote price stability. That second objective, ensuring price stability, has basically translated into keeping inflation in check and led the Fed to committing to a target of 2% inflation. The reasoning for targeting 2% - rather than 0%, or even a negative number – is generally quoted as being three-fold. Firstly, a desperate aversion to deflation has led the Fed to ensure that target inflation remains above zero. Deflation, or the prolonged fall in prices, generally discourages consumer spending (after all, why spend today if prices will be lower tomorrow?) and ultimately leads to a vicious cycle of decreased economic activity. Secondly, and perhaps an even more pragmatic point, is that inflation is simply difficult to measure. Trying to assess the purchasing power of a dollar at any point in time, across a wide range of goods and services, is just a challenging endeavour. In fact, economists have noted that not only are inflation measurements generally approximate in nature, but they also tend to have a slight upward bias. That is to say that if inflation is measured to be 2%, it is in reality a little lower, perhaps closer to 1% or even 0%. Thirdly, having a positive number ensures that the central bank has the room to cut interest rates. Indeed, inflation and interest rates are linked and having a higher inflation rate usually is attached to having a higher interest rate. By having a low positive number, the central bank gives itself the leeway to cut interest rates in the event of an economic slowdown while also ensuring that prices remain relatively stable. With this constant headline rate of 2% being the target, which is sustained by central banks by increasing the money supply, an analysis of consumer prices reveals that the purchasing power of money has actually been falling pretty consistently over time, as shown on Figure 2. This situation is only exacerbated by the fact that central bank inflation targets are currently primarily concerned with price inflation on average baskets of goods and services. Inflation on assets – such as the ones traded on the housing market, for instance – are excluded from these targets. Given that housing prices have risen faster than the consumer price index for several decades, actual inflation is in reality higher, only heightening the hurdle for those parts of society relying on labour income (rather than capital income) to participate in these markets.

Figure 2: Purchasing power of the US dollar over 1970-2000



Source: US Federal Reserve

As a result of this phenomenon, traditional government issued currencies – known as fiat currencies – have not been effective store of value. Indeed, holding value in the form of currency is analogous to holding water in a bucket with a small hole in it, causing value to escape at the rate of inflation.

The traditional approach to responding to this issue – after all, who wants to see the value of their hard-earned assets erode – has been to "financialise" the economy. Essentially, if money is losing its value and purchasing power over time, then ways must be devised to counter this. The most common approach to solve this problem has been to create a plethora of Financial Products, ranging from pension products to mutual funds, to unit trusts, to provide asset-holders growth that counterbalances erosion of capital. The implication of financialisation is that for individuals to preserve their assets and purchasing power, they must take on risk through the financial products that have been engineered to generate this growth. As such, pure saving, or putting away your gains for a rainy day or retirement, will not on its own ensure asset-holders preserve purchasing power. While taking on risk and investing is certainly a great tool for those willing to generate more wealth, it is also imposed on those simply wishing to store what they have already created, i.e., just "save". Indeed, the inherent devaluation of traditional fiat currencies has led to a constant state of risk taking by all individuals wishing to preserve asset value, either directly or through the institutions that they rely on for the safekeeping of their assets.

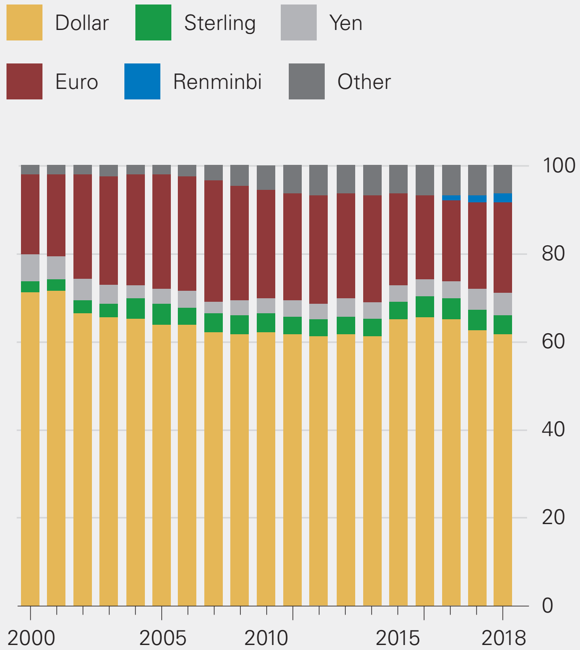
The net result of this persistent approach to monetary policy has been a ballooning in the number of financial products that are created to package and repackage, allocate and reallocate, or bundle and unbundle risk in an attempt to seek "yield". This process of financialisation grows in complexity as risks get layered onto one another over time, to a point where the resulting synthetic financial products become so intricate as to be opaque to the individuals that are compelled to invest in them. While this process of financialisation may seem abstract, it is important to understand the very real consequences it can entail. The genesis of the financial crisis of 2008 is a case in point: the catastrophe was initiated by a housing bubble that grew out of the overwhelming quantum of bad mortgages that were in circulation. These mortgages had been packaged into mortgage-backed securities which were in great demand by markets, thus leading credit issuers to extend loans carelessly. The tranching and repackaging of these loans led the buyers of the resulting exotic securities – many of which were longstanding financial institutions – to lose track of the risks they were actually underwriting to a point where loan defaults in a dark corner of the American housing market ended up affecting them in unforeseen ways. The result was the disappearance of the assets they had confidently invested in, creating the largest financial collapse in close to 80 years.

Weaponisation of currencies

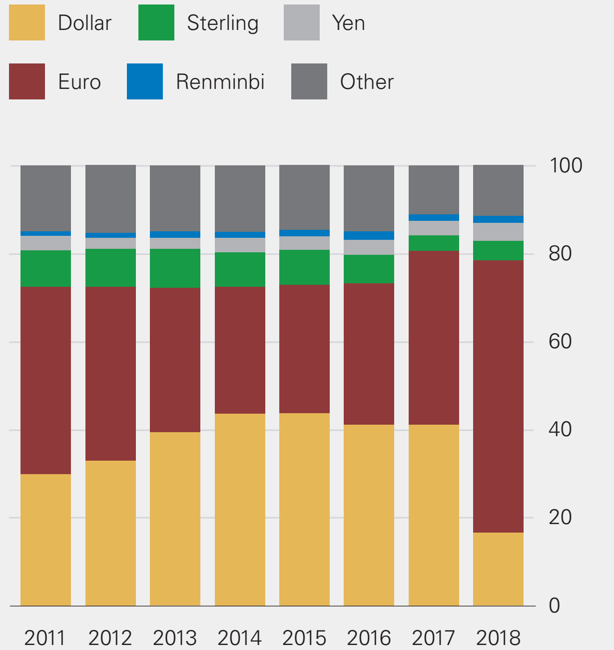
As shown in the charts below, the US dollar is a dominant currency both in terms of share of currency reserves and prevalence in international payments. The majority of international payments are made in US dollars and cleared in New York via US correspondent banks. Furthermore, key parts of the global financial infrastructure such as the SWIFT cross-border messaging system, or the Clearing House Interbank Payments System (known as CHIPS) - which is the largest USD clearing system in the world - are dominated by the US. The case of the US illustrates that by controlling key components of the global financial system, some nations have substantial leverage and control on the global economy. The full extent of the dollar's power as a financial weapon became clearer in recent years with a surge in additions to the US sanctions list. The case of Iran shows how currency weaponisation works in practice: when sanctions were reimposed on the Middle Eastern nation, SWIFT was ordered to cut off Iranian banks, effectively disconnecting the entire country from the global trade system. While the validity or merit of a nation's particular position against an adversary cannot be commented on, what is clear is that currencies can be used as a weapon in what is effectively a geopolitical zero-sum game. In response, we have seen other nations try to adapt by finding ways to use their currencies instead. For instance, Russia and China have subsequently developed their own systems to settle payments in their own currencies, thereby reducing their dependence on the dollar as a ubiquitous medium of exchange. While these initiatives may have some impact, they fundamentally do not solve the problem: currencies from nations that dominate the global financial system can be used as weapons to achieve a vast array of ends, regardless of whether or not those ends are justified or virtuous. This ultimately results in a centralised and self-perpetuating world order in which smaller countries face larger hurdles for advancement and have to play by existing "rules of the game" in order to thrive.

Figure 3: Overview of FX reserves and key payment currencies

Major currencies' share of world foreign exchange reserves

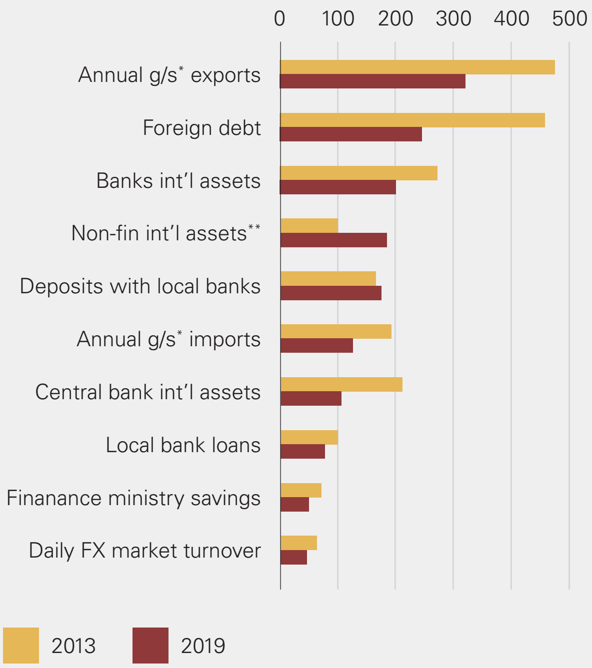


The dollar and euro dominate international payments

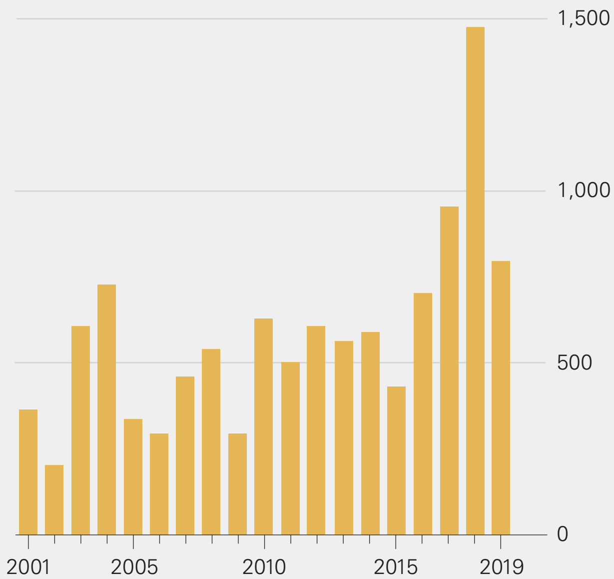


Source: FT

US dollar usage in Russia, $bn



New additions*** to the US sanctions list



*Goods and services **Non-equity ***Individuals, companies and other entities
Source: The Economist

References

1. Note that coins also emerged in Lydia in present-day Turkey around the same period of history
2. J. Goldstein, Money: The True Story of a Made-up Thing
3. Vox EU (https://voxeu.org/article/why-did-europe-s-growth-take-happen-first)
4. A. Kennedy, Foundation for Economic Education, Marco Polo on Money, from M. Polo, Travels - How the Great Khan Causes the Bark of Trees, Made into Something Like Paper, to Pass for Money All Over His Country
5. Notable Italian banking families (e.g., Medici, Bardi, Peruzzi) emerged over this period
6. The Glorious Revolution of 1688
7. Bank of England Museum Twitter Account
8. The Bank of England indicated that £1 was worth 123 grains of gold; 480 grains = 1 troy ounce; 1 troy ounce = 1.09714 ounces
9. St Louis Federal Reserve

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Matteo Stefanel - Managing Partner & Co-Founder, Apis Partners

Matteo has a successful track record in private equity and investment banking spanning 23 years and focusing specifically on Growth Markets and Financial Services.

He is Managing Partner and Co-Founder of Apis Partners LLP, which manages Apis Growth Fund I and Apis Growth Fund II - two private equity funds focused on investing in financial services companies in Africa and Asia, as well as a number of smaller investment vehicles focused on Fintech investments more globally.

Formerly a partner at The Abraaj Group where he was responsible for a number of Abraaj's investee companies (10+), including Network International (payments), Saham Finance (insurance), and Jordan Ahli Bank (banking).

Matteo has been a board director of over 25 companies and completed over 110 transactions in Europe (including CEE), South Asia, the Middle East and Africa, throughout his career at Abraaj, at MIG ($7.4bn AUM) where he was briefly CIO, and at Deutsche Bank as MD and co-Head of Emerging Markets in the Financial Institutions Group.

Matteo has twice been a member of the World Economic Forum's Global Agenda Council on Financing and Capital (2012-14 and 2014-16).

Matteo graduated from Queens College, the University of Oxford, with an MA (Hons) in Philosophy, Politics and Economics.

He is married, with three children.

Udayan Goyal - Managing Partner & Co-Founder, Apis Partners

Udayan has been a keen proponent of the fast-changing landscape of Financial Services in the transition from an industrial era to the information age and now to the networked economy. He fell into the intersection of Financial Services and technology well before the term FinTech was coined and traversed the Growth Markets when they were called frontier markets. His global experience began as the son of a diplomat living across multiple continents with his working life commencing in traditional investment banking and transitioning through to investing and entrepreneurship.

Prior to co-founding Apis, Udayan co-founded and lead Anthemis Group, the first specialist global investor in FinTech based in London where he made 32 investments including well-known names such as Simple, Betterment and Trov. Prior to that he was Global Head of Financial Technology Advisory at Deutsche Bank.

Udayan lives in London, is married with two children, and enjoys trying out innovative spinning studios to work off his passion for food and wine wherever his Apis travels take him.

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