

CONTENTS

Preface vii

1	Introduction	1
PART I. WHAT CAME BEFORE		21
2	Aristotelian Beginnings	23
3	Renaissance of Credit	49
4	The First Global Currency	71
5	Fiat Lux	84
6	The World's Banker	96
PART II. THE DOLLAR'S WORLD, AND WE ONLY LIVE IN IT		125
7	Engineering an International Currency	127
8	Dollar Dominance	153
9	Meet the New Boss	178

vi CONTENTS

PART III. WHAT COMES NEXT	203
10 Outside Options	205
11 Our Currency, Our Problem	224

Acknowledgments 243

Notes 245

References 291

Index 323

1

Introduction

IT WAS NOT RICHARD NIXON'S most memorable address. That honor goes to his 1952 "Checkers" speech, when the vice-presidential nominee defended himself against accusations of financial misconduct but steadfastly refused to return one gift, the family dog Checkers. Or else it goes to the 1974 Oval Office peroration in which he announced he was resigning the presidency. But Nixon's speech to the nation on the evening of August 15, 1971, outlining "a new economic policy" was his most economically consequential. Glancing down at a sheaf of papers, his tie slightly askew, the president announced a grab bag of policies to stimulate spending and counter unemployment. These included a 10 percent tax credit for investment in equipment and machinery, repeal of a 7 percent excise on new cars, and acceleration by a year of the increase in personal tax exemptions scheduled for January 1, 1973. This was the sort of thing Americans had come to expect of an incumbent president, or at least of this incumbent president, eager to look good in the face of a general election.

But the next set of policies Nixon unveiled that evening was more startling. The president went on to lay out an array of wage and price controls across the economy. By executive order, Nixon immediately froze in place the prices American retailers posted for consumers, the rents landlords charged tenants, and the wages employers paid workers. The goal was to break the back of inflation, as Nixon put it. "The time has come," he declared, "for decisive action—action that will break the vicious circle of spiraling prices and costs."¹

This price freeze was shocking. These were the first wage and price controls the United States had seen since the Korean War. That fact sat uneasily with the president's assertion, in the same speech, that he aimed to wind down the conflict in Vietnam. And they were a reversal of Nixon's earlier opposition to a provision in the Defense Production Act of 1970, which gave the president temporary power to combat inflation by freezing wages and prices.² Both the White House and Republicans in Congress had understood this effort to give the president authority over wages and prices as a political gambit by the Democrats: aware of the administration's reluctance to interfere in the operation of the economy, Democrats could then blame inflation on the president's failure to act.

Thus, Nixon's announcement represented a dramatic about-face. Not only that: It made a sharp break with both Republican orthodoxy and American ideology. Within months, this unprecedented peacetime government intervention in the operation of the economy gave birth to the Libertarian Party. The policies horrified free-market-oriented economists, who filled airwaves and publications with predictions of widespread resource misallocation and shortages of consumer goods.

Those warnings were not unfounded. With controls coming into force in midsummer, gasoline prices were frozen at seasonal highs, heating-oil prices at off-season lows. Refineries responded by shifting their mix of production, leading to fears of winter shortages of the oil people used to heat their homes. Food production saw similar distortions. Because fresh fruit and vegetables were exempt from Nixon's controls, but processed foods were not, General Foods halted production of frozen foods and focused on higher-profit product lines. Supermarket freezer cabinets soon stood empty.

Further, with the price of dressed meat now strictly controlled but the prices of live animals still unfrozen, meatpackers predictably declined to buy at uncontrolled prices what they could only sell at controlled prices. Cattle, rather than being slaughtered and dressed, were left to fatten on the farm. The problem was compounded, as such problems are, by a mysterious decline in the population of anchovies off the coast of Peru.³ American cattlemen relied on anchovies as a

much needed source of animal feed. Once the little fish became more expensive, so did live cattle, intensifying the squeeze on the meat-packing industry. Then as meat at the supermarket grew scarce, hi-jackers began targeting meat trucks, presumably to sell their contents on the black market. Ranchers in Utah complained of cattle rustling. Canadian packers started buying cattle in the United States, dressing it in Canada, and shipping it back to the American market, since the price freeze did not apply to imported beef.

What is most striking about Nixon's extraordinary departure in U.S. economic policy, with its wide range of untoward consequences, is that it was hardly a justified response to runaway inflation. Consumer price inflation was only running at a moderate 4 percent annual rate at the time of his speech—and it was actually edging lower relative to prior years.

The real explanation for the president's unprecedented resort to wage and price controls was different. In fact, it lay in a crisis of the U.S. dollar—and specifically in a looming threat to the currency's international status. The dollar was being unjustifiably attacked, as Nixon put it in his August 15 speech, by “international money speculators,” causing its stability against other national currencies to teeter. Foreign governments, he complained, were heaping gratuitous pressure on the currency, as they rushed to exchange their greenbacks for the U.S. government's dwindling stock of gold.

In addition to imposing price controls, Nixon responded with another drastic move: he suspended the conversion of dollars into gold, a policy that had formed the linchpin of the currency's special status all the way back to 1934, when the United States fixed the dollar price of gold at \$35 an ounce. This step would allow the greenback to fall on the foreign exchange market, as needed to enhance the competitiveness of U.S. exports. Wage and price controls were therefore designed to reassure American households—also voters—that depreciation would not erode the value of their dollars by increasing the cost of living. Controls also served as a useful distraction from these more far-reaching measures: suspension of the dollar's convertibility into gold, a steep drop in its value on foreign exchange markets, and a potential end to its singular international status, which together would

launch the United States and the global economy into the great unknown.⁴

Not Finished Yet

Not a few observers concluded that the “Nixon Shock,” the label history attaches to the president’s August 15, 1971 measures, had brought the age of dollar dominance to an unhappy end. The fixed link to gold, a feature that only the dollar had enjoyed since World War II, was now consigned to the dustbin of history, as it were. No longer would the U.S. authorities make gold available to all comers, or even to the governments and central banks of friendly countries. Central banks naïve enough to hold the dollar had suffered major financial losses as a result of its devaluation. No sooner did the U.S. Treasury negotiate a second set of currency values than the dollar had to be devalued a second time, in March 1973, a second devaluation that loosed a rip-roaring inflation. A currency that had once been a beacon of stability now looked more like an engine of instability. No less an authority than the eminent economist and international monetary historian Charles Kindleberger, who had been studying these issues since the 1930s, wrote decisively in the wake of these events that the dollar was “finished” as an international currency.⁵

Hindsight tells us that they could not have been more wrong: today, more than half a century later, a majority of global exports and imports continue to be invoiced and settled in dollars. More than half of global GDP—not counting the GDP of the United States itself—is produced by countries whose currencies remain linked, in one way or another, to the dollar.⁶ The dollar remains the dominant currency in international banking: the lion’s share of foreign bank loans and deposits are denominated in dollars. The dollar is involved in 90 percent of foreign exchange transactions worldwide. More than half the foreign currency reserves of central banks and governments are held as dollar-denominated securities and deposits.⁷

How can we explain this state of affairs despite the Nixon shock and the trials and tribulations that followed in its wake? The dollar’s ubiquity today reflects the fact that the United States remains the largest

economy in the world, as it has been for more than a century. The market in U.S. Treasury bonds is the single largest and most liquid security market in the world, and it is freely open to foreign investors. Moreover, the dollar's prevalence feeds on itself. The very fact that so many importers, exporters, and investors use dollars when conducting international business makes it the go-to currency for anyone engaged in cross-border transactions.

The dollar's prevailing status as the dominant international currency confers considerable advantages on the United States. U.S. banks and firms enjoy the convenience of transacting in their native currency. Given the captive demand for U.S. Treasury securities by central banks, private financial institutions, and corporate treasuries around the world, the U.S. government can borrow at favorable interest rates. These advantages extend to foreign relations and influence. Because such a large share of foreign savings is held in dollars and so many international transactions go through the U.S. banking system, the United States possesses a formidable financial weapon. In an economic or geopolitical dispute, it can freeze the foreign dollar balances of governments, firms, and oligarchs. It can garnish their assets. By barring individuals, companies, and entire countries from transacting through the U.S. banks that are the repositories of those assets, the United States can effectively prevent those it sanctions from engaging in cross-border business of all kinds. This is what is meant by what has been referred to for more than half a century as America's "exorbitant privilege"—that the United States gains an upper hand in many ways from the fact that its currency is so widely used internationally.⁸

But for these very same reasons, dollar dependence is not an entirely happy situation for other countries. For instance, governments typically earn less on U.S. Treasury bonds than they pay when issuing their own debt securities, the low interest rate paid by the U.S. reflecting the dollar's safe-haven status. But safe-haven status is not immutable. Although the dollar has a long record as a safe-haven currency, questions are increasingly asked about the sustainability of the U.S. government's ballooning debt and, therefore, about whether the value of U.S. Treasury securities could come into jeopardy. Further, an American administration

preoccupied by U.S. export competitiveness, or seeking to enhance the country's industrial self-sufficiency, could take additional steps to depress the dollar exchange rate, in the manner of Nixon, and thus erode the value of balances held abroad by foreign governments. If it continues to see other countries as rivals rather than allies, it could take more frequent recourse to sanctions, exploiting the dependence of those other countries on the dollar and exposing their financial and political vulnerability. At this point, those other countries would no longer regard the dollar as safe.

These issues are not new. Finance ministers voiced similar concerns in 1971, but President Nixon's Treasury secretary, John Connally, was unrepenting. He encapsulated their dilemma with typical Texas bravado, bluntly observing that "it's our currency but your problem."⁹

TINA (There Is No Alternative)

Connally could adopt this arrogant tone because at that time there existed no alternative to the dollar for undertaking international transactions. The situation is different today. Potential rivals to the dollar are making headway. One is the Chinese renminbi, the currency of an economy that has overtaken the United States as leading exporter and, for some countries, leading foreign investor. The day is not far away when the renminbi could circulate alongside the dollar, offering another full-fledged set of payment rails. Another potential alternative is the euro, the closest thing to a supranational currency circulating today. Yet another is a network of digital currencies—officially-sanctioned cryptocurrencies, if you will—issued by emerging-market central banks and traded on a dedicated digital platform, obviating the need to go through the dollar and U.S. banking system at all.

Actual and conceivable alternatives are not the same, though. Impediments to a real changing of the guard remain. China's financial markets are not fully open to the rest of the world. Western governments and central banks are reluctant, too, to rely on the currency of a geopolitical rival. Even nonaligned countries are of two minds about falling into China's monetary camp.¹⁰ The euro, in its turn, punches below its

weight, the euro area still lacking an integrated capital market, or “capital markets union” in eurospeak, akin to that of the United States. Some may look to a digital future, when technologists succeed in engineering a set of interoperable central bank digital currencies that can be conveniently used in cross-border transactions. But whether governments and central banks can agree on oversight and regulation of a common digital platform is another, eminently political, matter.

There are reasons to think, moreover, that reports of the dollar’s demise are greatly exaggerated, so to speak. Prophecies and pronouncements of the greenback’s loss of international currency status, as discussed earlier, trace back at least to Connally’s day and the collapse of the Bretton Woods international monetary system following the Nixon shock. Much to the surprise of contemporaries, no discernible flight from the dollar followed that earthquake, despite the shock that reverberated from the end of the dollar’s longstanding peg to gold. Thus, none of the pronouncements about the end of dollar dominance made after Nixon’s measures proved true. In our fraught current environment, worries about the sustainability of U.S. debt, the polarization of U.S. politics, and weaponization of the dollar have similarly provoked angst, and talk of dollar alternatives, but little has yet changed in actual practice.

For good reason. America has outperformed other advanced countries economically. It is a leader in the development of artificial intelligence and related digital technology. The U.S. defense establishment may be challenged, but it is still preeminent in its ability to project strategic and military power. All of these elements continue to bolster the dollar’s status as the dominant international currency.

How long will these advantages last? Will a rising competitor, such as China’s renminbi, finally gain parity or even ascendancy over the traditionally resilient U.S. dollar? And could economic decline or disaster lead to a collapse from which the dollar does not recover? These are open—and frequently asked—questions.

One way of attempting to answer them is by tracing the arc of earlier international currencies. There have been international currencies—defined as monetary units used in transactions beyond the borders of

the issuing kingdom, state, or nation—for as long as there have been currencies. Prominent ancient examples include the “owls” of Athens, named after the owl image stamped upon them, which circulated in other Greek city-states already by the fifth century BCE. Silver coins minted by Alexander the Great circulated north of the Danube and east of the Levant (present-day Syria and environs). Coins minted by Julius Caesar and subsequent Roman emperors have been found in India, Sri Lanka, and China.¹¹ From the fourth century CE, traders used the *solidus*, the gold coin of the Byzantine Empire, everywhere from Britain to South Asia. In the thirteenth century, the florin, the currency of a financially and commercially precocious Florentine city-state, circulated over a vast area stretching from England and France in the West to the Levant in the East—not just as a vehicle for trade but also as an instrument for undertaking financial transactions. Spanish pieces of eight, coined from abundant New World silver, then became the first truly global currency. Traders used Spanish silver coin in transactions everywhere from the Dutch East Indies and the Ottoman Empire to the newly independent United States, where they remained legal tender into the 1850s. They served as the primary vehicle for China’s foreign trade for fully four centuries.

In the seventeenth and eighteenth centuries, the Dutch took currency internationalization up a notch. They created a pure fiat currency—as distinct from bank money one could convert into a precious metal—backed by the Bank of Amsterdam, a proto-central bank. Credits drawn on Amsterdam and denominated in Dutch guilders financed trade throughout Western Europe and beyond.¹² When merchants in London and St. Petersburg did business with one another, they first converted their local currencies into guilders, before converting guilders into the target currency, just as traders today, when making foreign exchange transactions, go through the dollar. Following the French and Napoleonic Wars, London overtook Amsterdam as the leading international financial center, and the pound sterling supplanted the guilder. In the nineteenth century, sterling was used to finance and settle a majority of the world’s trade and two-thirds of its foreign and overseas investment transactions. Sterling remained a leading international currency

well into the twentieth century, permanently ceding its place to the dollar only after 1945.

Strong States

What common threads do these international currencies share, and how do they grow and maintain their influence in the course of their lifecycle?

At the most basic level, currencies commanding widespread international use must hold their value. That means they must be issued by strong states, able to reliably raise resources necessary for their basic needs without resorting to debasement or inflation. The weight and silver content of Athens's owls remained essentially unchanged for centuries. The Byzantine solidus circulated at the same gold content for seven hundred years. The value of Florence's gold coin did not fluctuate for more than three centuries. Spanish silver coin held its value for going on four centuries. The British pound sterling was synonymous with the gold standard, which guaranteed its value, for much of the eighteenth and nineteenth centuries. On rare occasions when exigent circumstances forced Britain to suspend gold convertibility, the country restored it subsequently at the previous gold parity, affirming that guarantee.

Political structures underpinned this steady value: these earlier international currencies, more often than not, were the currencies of political democracies and republics. Individuals with strong interest in preserving the value of the monetary unit were represented in the senate, parliament, or other representative body. This was true of the United States in the twentieth century, but also Britain in the nineteenth, Holland in the eighteenth, and Florence in the fourteenth. In Florence, the Popolani—a coalition of merchants, bankers, and entrepreneurs—seized control of the communal government from the nobility in 1250, a date that immediately preceded the issuance of the gold florin that then came into widespread international circulation. In ancient Rome, pressure to establish the denarius system came from the Senate, where property holders were well represented. That same Senate oversaw minting

and emission once the system came into full operation.¹³ In ancient Athens, the coinage of a stable unit with widespread circulation coincided with the advent of democracy. These deliberative bodies applied checks and balances, limiting arbitrary action by an emperor, king, prime minister, or chief executive that might have compromised investor rights and eroded the safe-asset status of the currency.

In the modern era, this division of powers has been extended to the central bank, which serves as steward of the currency. It enjoys autonomy from politics. This has been true not only of the U.S. Federal Reserve System in the twentieth and twenty-first centuries but, *de facto*, of the Bank of England in the nineteenth century and the Bank of Amsterdam in the eighteenth. Before the advent of the central bank, as in early modern Florence, autonomous institutions with an interest in preserving the stability of the currency, such as *Arte del Cambio*, the guild of money changers, exercised political and social sway and played a similar stability-preserving role.¹⁴

Another distinguishing feature of strong states that issue an international currency is the administrative capacity to coin money and print notes at a high level of uniformity, inspiring confidence in users.¹⁵ In Roman times, only Rome itself was empowered to mint gold and silver coin.¹⁶ The Roman authorities controlled each stage, from mining the precious metals to minting the coins. Later governments took similar pains to protect the integrity of their production. When the Spanish Crown uncovered a scandal at the royal mint at Potosí, in present-day Bolivia, it wrested direct control of mint operations to prevent unscrupulous mint masters from minting subpar coin again. When Dutch traders complained of a proliferation of depreciated gold and silver coins, Amsterdam's civic leaders established a public bank to assay those coins and replace them with uniform bank money.

A similar concept applies in the twentieth and twenty-first centuries when money is held in the form of bank deposits, bills, and bonds, rather than currency and coin. As before, international currencies are the currencies of states with the administrative and regulatory capacity to ensure the stability of their banking and financial systems. Where such capacity is lacking and financial crises result, as in the United States in the 1930s,

merchants and investors will conclude that the country's banking system is no longer a safe repository for their funds or a reliable source of credit. The international role of its currency will be imperiled.

Finally, international currencies are those of states with the fiscal and military capacity to defend their borders and institutions, including their monetary institutions. Where the state possesses this capacity, its currency is secure. Market participants regard it as a "safe asset," that is, as a reliable store of value.¹⁷ International adoption of that currency is further encouraged when this military power uses its strategic capacity to defend its allies. Countries hold as reserves and use in international transactions the currencies of their alliance partners, not their rivals, as demonstrated throughout history.¹⁸ Before World War I, members of the Triple Alliance (Germany, Austria-Hungary, and Italy) and the Triple Entente (Britain, France, and Russia) each disproportionately held as reserves the currencies of their alliance partners. In the 1960s, West Germany and Japan held and used dollars, rather than converting them into gold as they could legally under the Bretton Woods system. They did so because they valued the presence of American troops on their territory and, more generally, the security umbrella the United States provided. They feared that such conversions would hasten the withdrawal of those troops. In the 1970s, despite the collapse of the dollar's peg to gold, Saudi Arabia agreed to invest its export earnings in U.S. Treasury bonds because of the value it attached to U.S. military protection.¹⁹ Today, South Korea and Japan hold a larger share of their foreign reserves in dollars than their economic characteristics and trade and investment links with the United States would lead one to expect, specifically because they regard the United States as a reliable political partner and value its security guarantee.

Other forms of this idea have also played out, of course. Military forces that subdue and annex foreign lands can expand the reach of a currency directly, when the metropole mandates use of its currency by a dependency, as is not infrequently the case.²⁰ Foreign legions and military bases also aid the international diffusion of the currency, since it is used to pay soldiers, who then use it to procure local goods and services. "Alexanders," the coins of Alexander the Great, entered circulation via

the pay packets of his infantrymen campaigning abroad. Roman legions stationed from Campania to the British Isles were paid in full-bodied Roman silver coin.²¹ American soldiers stationed in Europe after World War II were paid in dollars that were sought after by residents who doubted the stability of local currencies, especially those of defeated powers.

Yet even when the victorious power does not maintain troops abroad, the perceived safety of its currency is often enough to encourage foreigners to hold and use it. In turn, this captive demand allows the dominant power to fund its military at lower cost. In the 1960s, the U.S. could maintain troop deployments in West Germany and Japan partly because their governments were willing to accumulate dollars and committed to not converting them into gold, as noted. If its allies wavered, Washington could threaten to withdraw those boots on the ground. At present, many are questioning whether China's growing military and geopolitical sway will encourage other countries to hold and use its currency, and whether this will further strengthen China's geostrategic position. History does point to this possibility, though there is no guarantee. This is because imperial reach can shade into imperial overreach—when a military becomes overcommitted to territorial expansion, it can strain a state's fiscal resources, impelling desperate authorities to debase the currency.

More generally, victory and defeat on the battlefield, and the financial stress associated with war, have more than once precipitated a changing of the international monetary guard. The French occupation of Amsterdam in 1795, juxtaposed against Britain's security as an island, hastened the transition from the Dutch guilder to the pound sterling—not least by encouraging continental financiers to evacuate to the safety of London. Yields on risky Dutch government bonds rose above those on safe British government securities and remained elevated, relative to that London benchmark, for more than a century thereafter. Defeat in World War I ended any aspirations Germany had of establishing the mark as a leading international currency. And the burdens of two world wars, by weakening Britain's financial position, drove the transition to the dollar.

From Trade to Finance

The appeal of an international currency relies not only on the efforts of the state, of course, but also on the forces of the market. Typically, the process starts when trade expands and merchants embrace a preferred currency to use in commercial transactions.²² Once importers and exporters grow accustomed to taking and making payment in that currency, and find themselves holding balances in it, they look to put those idle funds to work. Financial transactions begin to supplement commercial transactions, as merchants who previously specialized in trade expand to provide short-term credit to firms needing working capital and, eventually, long-term loans to corporate, sovereign, and other borrowers.

There is a logic for why the commercial role of an international currency—its function in buying and selling of merchandise and commodities—comes first. All cross-border transactions carry an element of risk. But import and export transactions have the advantage that they can be settled on the spot (more or less). Borrowing and repayment, in contrast, necessarily take place over time, sometimes long periods of time. In trade, payment is made for merchandise when it is delivered. In financial transactions, there is only the borrower's promise to pay in the future when the loan comes due. A king who needed a loan might have assigned the revenues of his salt monopoly or other income to service the loan. But no higher power could prevent him from reneging on his promise and revoking the assignment of those revenues—only his desire to maintain his good reputation and access to more credit.²³

More generally, in lending it is important to know the character of the borrower, information one can gain either through experience or from a trusted intermediary. Thus, merchants began lending across borders only when they acquired agents abroad to act as intermediaries. Those agents sourced raw materials and marketed goods, and then, based on this experience, evaluated the creditworthiness of these counterparties. Investors purchased financial claims from foreign borrowers only once these were attested to by reputable merchant banks experienced in the business. In other words, merchant bankers started

out as merchants, and became bankers over time. They built on deep knowledge acquired through trade to branch into finance.

This sequence was followed in Florence starting in the fourteenth century, for example, when certain successful merchants, such as the Medici, become extravagantly wealthy. Florentine merchants importing unfinished wool from Northern Europe first convinced their suppliers to take payment in florins. With their accumulated stores of currency, they then moved into providing florin credits to foreign suppliers needing working capital, employing agents to evaluate the creditworthiness of potential borrowers. From there, they began to extend long-term loans to English and French kings. Six centuries later, the United States followed a similar sequence when authorities sought to foster international use of the dollar by creating the Federal Reserve System. The new central bank first promoted the dollar as a vehicle for settling merchandise transactions and providing trade credit to exporters and importers. It did so by making a market in dollar trade acceptances—credit instruments bought and sold by American banks to finance and settle U.S. trade. From there, those same banks, having opened foreign branches, moved into providing dollar credits to finance trade that never touched American shores. Finally, they provided dollar loans to foreign governments, banks, and corporations.

Today, this strategy is again being followed by Beijing, as Chinese policymakers seek to support international use of the renminbi. Chinese exporters and importers are being asked to first use the currency in their own trade-related settlements. As the renminbi gains ground in trade invoicing and settlements, many anticipate that the currency will be also used in cross-border financial transactions, even though Chinese capital markets are not fully open to the rest of the world.

It follows that the more a country trades with the rest of the world, the more likely its currency is to enter international use. Thus, the Athenian tetradrachm became the leading coin of the Eastern Mediterranean because Athens was a leading trader and its port, Piraeus, was a leading entrepôt center. Fast forward two millennia: sterling circa 1780 was poised to supplant the guilder as the leading international currency because London had already surpassed Amsterdam as the leading

entrepôt center. In the second half of the twentieth century, the dollar was poised to replace sterling as the leading international currency because U.S. exports exceeded British exports, first modestly at the time of World War I, and then dramatically in later years.

The connections between international trade and international currency use, obviously, cut both ways. More exports encourage more international use of the exporter's currency. Equally, however, steps enabling more international use of a currency encourage more exports. In the seventeenth century, the Dutch minted large-value coins tailored to the needs of their export markets to facilitate merchandise exports and imports. Efforts by the early Federal Reserve to create a market in dollar trade acceptances were taken in response to complaints by U.S. exporters that they were handicapped by their reliance on credit sourced in London and denominated in sterling. Benefiting from the Fed's efforts, U.S. exports received a visible boost.

Innovation and Infrastructure

Trade acceptances were a financial innovation. Analogous instruments had not existed in the United States before. This points to the more general role of financial innovation in the development and diffusion of international currencies. An example is the bill of exchange. Arab merchants employed a primitive version of these promissory notes for settling accounts already in the eighth century CE, though its use at that time was confined to personal networks, limiting international credit flows. The Florentines and other Northern Italian merchants, making contact with the Levant, popularized the bill starting in the thirteenth century. Mirroring prior practice in the Middle East, early bills were simple written instructions for payment in a foreign place at a future time by an overseas branch of the merchant house originating the transaction.

But with the growth of trade, European merchants began drawing and paying bills on merchant houses with which they had no personal connection, in places where they did not possess a branch. Repeat business encouraged them to make good on their promises. When another

house added its signature, or endorsement, to the bill—a practice first prevalent in sixteenth-century Italy and then when juridical authorities in Amsterdam, Antwerp, and elsewhere determined that legal protections enjoyed by the initial creditor could be transferred to a new bearer—bills became negotiable. They were bought and sold in impersonal markets by individuals lacking social or familial connections.²⁴ Simple promissory notes—written promises to pay a stated sum to a specified person—were thereby transformed into standardized orders to pay the bearer, whomever they may be. The locations pioneering these negotiable instruments, Florence, Antwerp, and Amsterdam, saw increased international use of their currencies. Channels for extending international credit denominated first in Florentine florins and then Dutch guilders expanded accordingly.

But these new instruments flourished, providing free-flowing international credit, only with the support of well-developed market infrastructure. The bill of exchange on London, a negotiable promissory note denominated in sterling, became the dominant financial instrument for international transactions only once the city had three key features in place: acceptance houses to attach their names and guarantees to high-quality bills of exchange, specialized brokers to buy bills from banks with excess inventory and place them with banks that had idle funds, and a central bank to backstop the market by purchasing bills when merchant banks collectively sought to offload them and no one else stood ready to buy. Although the Federal Reserve and the American Acceptance Council developed an analogous dollar-denominated financial instrument after 1914, the United States lacked a comparable ecosystem of bill brokers and acceptance houses. When the acceptance market melted down and the Fed abandoned it in the 1930s, the United States no longer possessed a market maker and liquidity provider of last resort. Hence the new instrument failed to take off. The dollar's challenge to the pound sterling was deferred.

Today, we see China similarly attempting to develop the market infrastructure needed to foster international use of its currency. It has designated one of its four big banks to function as official renminbi clearing

bank for each global financial center, extended renminbi-denominated currency swaps and credits to foreign central banks, and built out the Cross-Border Interbank Payment System known as CIPS to facilitate payments. Time will tell whether this challenge to the greenback is successful, or whether dollar dominance lives to see another day.

The contrast between the Bank of England's commitment to backstop the market in the nineteenth century and the Fed's less-than-stellar support in the Depression of the 1930s underscores the importance, for the viability of any international currency, of not just a market but, specifically, a liquid market. Banks, firms, and governments gravitate toward a currency when it is easy to buy, sell, hold, and use. They favor it when the costs of buying, selling, and using it are predictably low.

Market liquidity in this sense depends on the presence of a diverse population of investors, who will not all seek to buy or sell the currency at the same time, as much as on efficient institutions to bring them together. The Dutch market displayed unmatched liquidity toward the end of the seventeenth century, when the Bank of Amsterdam began providing receipts for its customers' deposits of gold and silver. Customers could then use those receipts to purchase bills of exchange once reputable merchant bankers added their signatures to their clients' bills, guaranteeing payment. In the nineteenth century, the London money market exhibited unprecedented liquidity because of the large volume of sterling bills traded there, the presence of a diverse population of domestic and foreign banks, and the infrastructure provided by the Stock Exchange, discount and acceptance houses, and the Bank of England. The market in U.S. Treasury bills enjoys its reputation for liquidity for analogous reasons.²⁵

This focus on market liquidity highlights the fact that countries that are home to international financial centers have a leg up in fostering international use of their currencies. In Florence, the Bardi, Peruzzi, and other great merchant bankers were able to attract deposits from abroad and put them to work internationally, practices that are the hallmarks of an international financial center. This resulted in greater capitalization and turnover and a more diverse investor base, key

constituents of market liquidity. London was the leading nineteenth-century financial center by virtue of its ability to attract and place money abroad, where both the foreign deposits it attracted and foreign loans it extended were naturally denominated in sterling. After World War II, New York was the unrivaled financial capital of the world, the United States being the only country with open capital markets offering free access to foreign investors. When Middle East oil exporters found themselves receiving windfall profits following the 1973 Organization of Arab Petroleum Exporting Countries (OAPEC) shock, they deposited their receipts in New York and accumulated dollar reserves, overcoming reservations about U.S. foreign policy. This wrongfooted those who predicted that the end of Bretton Woods would spell the end of dollar dominance.

To be sure, oil exporters also held dollars in London, where an off-shore market in dollar deposits developed in reaction against restrictive U.S. bank regulation and objections to U.S. foreign policy. Ironically, however, this unbundling of the financial center, London, from the national identity of the currency traded there, the dollar, worked to the advantage of the incumbent international currency. It created another venue, free of restrictive regulation and objectionable foreign policies, where dollars could be freely held and traded.

Downside Risk

Much as history sheds light on the rise and persistence of international currencies, it helps to explain their fall. Typically, loss of international currency status is preceded by loss of economic and strategic preeminence. The wool cloth producers of sixteenth-century Florence found themselves unable to keep pace with more dynamic Dutch and English competitors, and the city-state could no longer repel larger territorial entities on the battlefield. Both factors spelled trouble for the florin. The Dutch fishing, processing, and cloth industries experienced mounting competitive difficulties in the late seventeenth and eighteenth centuries, while the taxes needed to support an expensive military establishment grew increasingly burdensome and debilitating. A financial crisis in 1791

and a military defeat in 1795 then brought the guilder's international reign to an end. Late-nineteenth-century Britain lost economic ground to the United States and other late-industrializing economies, and two world wars saddled the country with crushing debts, rendering sterling a "zombie international currency."²⁶

Widespread international use of a national currency may itself be a factor in economic and geopolitical decline. The development of liquid markets and the ascendancy of finance can draw savers to speculation in financial assets, to the neglect of practical investments in manufacturing and trade, accelerating an economy's commercial decline. The market liquidity that attracts and benefits from the presence of foreign investors is part of what makes financial investments attractive, more attractive even than investments in productive capacity. Additional demand for a country's liabilities as a form of reserves and means of payment can cause its currency to become overvalued, making it more challenging for merchandise exporters. Bankers and others who benefit from a currency's international status resist a devaluation that might slow the erosion of industrial competitiveness. In this way, international currency status may contain the seeds of its own destruction.

At the same time, these cases highlight the remarkable persistence, once acquired, of international currency status. Downfalls do not always occur right away, even once economic warning bells begin to ring. Florence's golden age spanned the early fifteenth century, after which its economic difficulties mounted. Despite this, the florin remained in ubiquitous international use for an additional hundred years and more. The Spanish economy went into relative decline in the early seventeenth century, yet Spanish silver coin remained in widespread global circulation for another two hundred years. The economic difficulties of the Netherlands dated to the mid- and late-seventeenth century, as noted, but as late as 1790 the guilder was still the dominant international currency in Europe and beyond. The economic shortcomings of late Victorian and Edwardian Britain were widely discussed already at the time, but sterling remained the world's leading international currency, except for a brief period after World War I, up to 1939. In each case, an

installed base of users, together with the interest of stakeholders in preserving the financial status quo, held the incumbent international currency in place, despite other woes of the issuing economy. For that incumbent to give way, moreover, there had to exist a desirable alternative, which was not always the case.

So, what does this mean for the future of the dollar, and where does history suggest it is in its lifecycle? Perhaps this is something on which history can shed light.

INDEX

Note: page numbers followed by n refer to notes, with note number.

- 'Abd al-Malik, 43–44, 252nn81–82
- acceptance houses, as key financial infrastructure, 16
- acceptances. *See* trade acceptances
- Adams, John, 90–91, 94
- Alexanders as international currency, 8, 249n23; spread through conquest, 11–12, 28; stable value and quality of, 28
- Alipay+, 219
- alliances between countries, international currencies and, 11, 12
- American Acceptance Council, 16, 128, 141
- American and Foreign Banking Corporation, 140
- Arab merchants: early use of bills of exchange, 15; gold traded to Italian city-states, 52
- Arellano, Juan Ramírez de, 76
- Aristotle, 23, 24, 247n2
- Arte del Cambio, 10, 58, 59
- artificial intelligence, and U.S. productivity, 225–26
- Asia: copper coins in, 258n30; scarcity of silver in, 79; trade using Spanish silver reals, 78–81
- Athenian tetradrachm (“owls”) as international currency, 8; Athenian form of government and, 246n13; Athens’ high volume of trade and, 14, 27; Athens’ military strength and, 27–28; quality and stability of Athenian coins, 26–27, 248n12
- Azores, U.S.-French talks in, 175–76
- Bagehot, Walter, 106, 110
- Baker, James A. III, 190–93
- bancor, 159, 161, 168–69
- bankers, origin in goldsmiths and silversmiths, 102, 251n73
- Bank for International Settlements (BIS), and mBridge, 220–22
- bank money-based transactions, first modern system of, 50
- Bank of Amsterdam: and appeal of stable and liquid guilder, 88, 89–91; loans to Amsterdam government and VOC, 94–95; as de facto central bank, 84, 91; and development of bank giro system, 87–88; exchange of precious metal deposits for fiat currency, 89–90; loss of ability to stabilize bank money value and liquidity, 94–95; receipt system for deposited specie, 89–90, 260n23, 260n26; and regularization of Dutch currency, 87
- Bank of England: and Chinese war indemnity payments to Japan, 110–11; convertibility of funds into gold as key attraction of, 110, 117–18; convertibility into gold, suspensions and threats of suspension, 104–5, 106, 114, 118, 120, 137–39, 151, 262n25, 270n32; and crisis of 1825, 104–7, 263n33; Dutch investment in, 92; and financial firm failures of 1800s, 119–21, 267nn101–2; gold standard, post-World War I, 147–48; interwar

- Bank of England (*continued*)
 policies to stabilize pound sterling, 150–52; as lender and discounter of last resort, 99, 107, 120–21; and San Francisco earthquake, 131
- Bardi banking partnership, 17, 57, 58, 60, 63, 64, 65, 67, 163
- Baring Brothers, 107, 112, 113–14, 116
- Barney, Charles, 133–35
- Belgium, and gold standard, 168
- Bernanke, Ben, 200
- Bessent, Scott, 212–13, 234
- bills of exchange: and Amsterdam as financial hub, 88, 89–91; and development of international currencies, 15–16; function of, 61–62, 255n44; origins of, 49, 253n3
- Blessing, Karl, 171, 276n49
- Blumenthal, Michael, 185–87, 188, 279n39
- Boyd, Benfield & Co., 112–13
- Boyd, Walter, 98, 112–13
- Bretton Woods Conference, 160–62; choice of location, 160; conferences prior to, 156, 273n6; U.S. Alternative A at, 162; and U.S. dollar as international currency, 159, 162–64
- Bretton Woods system: British pound driven from system, 180–82, 196; collapse of, 183–85; and controls on international capital flows, 158, 161; and convertibility of currencies, 161; Denmark and France driven from, 196–97; exchange controls, 158; Marshall Plan and, 164; U.S. abandonment of, under Nixon, 3–4, 175–76, 177, 178–83. *See also* United States dollar as international currency, under Bretton Woods system
- BRICS: Cross-Border Payment Initiative, 222; efforts to supplant U.S. dollar as international currency, viii, 215
- Britain/England: consol perpetual bonds, 96; loans denominated in dollars, post-Bretton Woods, 167; Fourth Anglo-Dutch War and, 94, 95; GDP growth, financial infrastructure supporting, 102–4; mint's silver shortages of 18th century, 100–101; political checks and balances protecting investors, 96; stock exchange, international trading on, 111; and U.S. devaluation of dollar, 172–73. *See also* Bank of England
- British East India Company: competition with Dutch East India Company, 93–95; Dutch investment in, 92
- British pound sterling: driven from Bretton Woods system, 180–82, 196; and EMS crisis of 1992–93, 197
- British pound sterling as international currency, 8–9; attraction of investment and foreign loans, 18; Bank of England as guarantor of value, 10; Bank of England interwar policies to stabilize, 150–52; Bretton Woods Conference and, 158; Britain's high volume of trade and, 14–15; British form of government and, 9; British Navy's dominance of seas and, 99; and circulation in bank money, 50; decline of, 12, 19, 137–39; duration of, 19; financial infrastructure allowing for, 16, 99; French and Napoleonic Wars and, 98; and gold standard, 9, 147–48; high number of overseas transactions, 97; international bonds and, 97; interwar competition with U.S. dollar, 145–48, 150–52, 272n83; interwar loan policies, 145–46; market liquidity and, 17; post-World War I loans to Europe, 147; rise in British international trade and, 99, 100; rise to international dominance, 97–99; spread with British financing of international trade, 109, 264n51; stable value of, 9; superior vetting of borrowers and, 150; trade in U.S. dollars and, 18; World War I and, 137–39. *See also* Bank of England; London as international finance center
- brokers, as key financial infrastructure, 16
- Bryan, William Jennings, 134, 142
- Burns, Arthur, 173, 174, 178, 189

- Byzantine Empire's soldus as international currency, 8, 251n68; administrative capacity to control money supply, 42; decline, factors in, 45–48; Empire's conquest by Pecheneg Turks and, 46–47; expansive trade network and, 42–43; other coins designed to imitate, 43, 44; reasons for, 42–43; rise of Italian currencies and, 48; spread through conquest, 42; stable value of, 9, 42, 43
- Caesar, Julius, 8, 33
- Carter, Jimmy, 185–90, 246–47n19
- central bank digital currencies (CBDCs):
direct digital exchange of, 220–21; as potential rival to U.S. dollar, 217–19, 241; retail, 217–19, 284–85n32–34; U.S. and, 285–86n36; wholesale, 217–18, 219
- central banks: autonomy of, as guarantor of international currency stability, 10; as key financial infrastructure, 16, 211–12
- Cerro de Pasco mine, 82
- Champagne Fairs, 51–52, 254n25
- Charles VIII (king of France), 67–68
- China: coins, early, 247n3; and Cross-Border Interbank Payment System (CIPS), 17; European coins used in trade with, 83; falling birth rates and sluggish labor force growth, 226, 286n6; and financial market infrastructure, 16–17; gold exports, 16th–18th centuries, 79, 258–59n36, 258n32; and mBridge project, 220, 221–22, 241; paper money and bills of exchange in, history of, 258–59n36; and potential new Cold War, economic effects of, 212–13, 223; and risk of U.S. sanctions, 231; trade using Spanish silver reals, 78, 79–80
- Chinese renminbi as international currency, 208–13; Belt & Road Program and, 208; China's growing global influence and, 6, 12; China's military power and alliances, 211, 283n18; Chinese officials' push for, 14, 208–10; digital renminbi (e-CNY) and, 218–19, 284–85nn34–35; direct trading of renminbi against other currencies, 209–10; international banking infrastructure, development of, 209–10; lack of political checks and balances and central bank autonomy, 211–12, 240–41; obstacles to, 210–12, 240–41; and potential new Cold War, economic effects of, 212–13; regional role for foreseeable future, 212; and renminbi-denominated securities, 209
- Churchill, Winston, 155
- Cipolla, Carlo, 43–44
- CIPS. *See* Cross-Border Interbank Payment System
- Claudius Gothicus (Roman emperor), 41
- Clement VII (pope), 66–67
- Coal and Steel Community, 165
- coins: early standardization, to allow for exchange, 25; and facilitation of trade, 25; invention of, 23–24; as vehicle for taxation, 25
- commenda* contracts, 54–55
- Committee of Twenty, 183, 278n20
- Connally, John, 6, 173–78, 191
- Constantine I, 41–42
- Cook, Lisa, 232–33
- Coombs, Charles, 182, 187
- countries issuing international currency:
attraction of investment and foreign loans, 17–18; benefits to, ix–x, 5; disadvantages for exporters and lenders, x; distortions in investment and excessive financialization, effects of, 19, 38; high volume of trade characteristic of, 14–15, 27, 34–37; risks inherent in, 47–48; spread of currency through foreign conquest or military bases, 11–12, 28, 31–32. *See also* international currency, core requirements for
- countries issuing international currency,
loss of dominance: economic and strategic decline and, 18–20, 37–39, 45–48; risks leading to, x; as typically gradual, 19–20; viable alternatives currencies as necessary for, 20

- COVID-19 pandemic: and EU integration, 206–7; and Federal Reserve currency swap lines, 236–37, 289n36; and U.S. dollar as safe haven, 200–201
- Croesus (king of Lydia), 24
- Cross-Border Interbank Payment System (CIPS), 17, 210
- cryptocurrencies as international currencies. *See* central bank digital currencies; stablecoins
- de Gaulle, Charles, 170, 198
- Delian League, 27
- Delors, Jacques, 198
- digital currencies as international currencies. *See* central bank digital currencies; stablecoins
- Diocletian, 41, 251n69
- double-entry bookkeeping, development of, 49, 69
- Draghi, Mario, 199, 206, 226
- Dutch East India Company (VOC): and Asian trade, 79, 80, 86–87; coins minted by, 260n11; collapse of, 93–95; and demand for silver, 79; and expansion of Dutch trading networks, 86; founding of, 86; use of bills of exchange in Asian trade, 260n11
- Dutch financial firms: loans to fund American Revolution, 90–91, 94; move from acceptances to long-term loans, 90; securitization of loans, 90
- Dutch guilders, as pure fiat currency, 84
- Dutch guilders as international currency, 8; Amsterdam as financial hub and, 88, 89–91; Bank of Amsterdam as guarantor of value, 10; circulation in bank money, 50; duration of, 19; and Dutch ability to control money supply, 10; Dutch form of government and, 9; French and Napoleonic Wars and, 98; global expansion of, 89–91; interchangeability with Dutch bank money, 87; liquidity of, 17, 88; overshadowing of coin and bullion, 84; spread of, with expanding trade, 86–87; stable value of, 88, 91. *See also* Bank of Amsterdam
- Dutch guilders as international currency, collapse of, 12; Dutch East Indies Company collapse and, 93–95; excessive financialization and, 92–93; fall of Dutch Republic and, 95; French and English competition and, 91–92, 93–95; lack of military power to defend trade routes and, 92; loss of dominance with economic decline, 18–19; loss of liquidity, 95; loss of stable value, 94–95
- Dutch Republic: early monetary disarray, 85, 86; expansion of Dutch trading networks in, 86–87; fall of, 95; founding of, 85; merchant corporations, development of, 86; minting of gold coins for international trade, 86
- Edward I (king of England), 65, 66
- Edward II (king of England), 65, 66
- Edward III (king of England), 58, 63, 64, 67; loan default, 58
- Egypt: closed currency system of, 36–37, 250nn48–49; trade with Rome, 36–37
- electronic market-making and liquidity-provision algorithms, 214–15, 284n24
- electronic trading, and nontraditional reserve currencies as potential international currency, 214–15
- electrum, early coins made from, 24
- English East India Company, 79, 80
- English Navigation Acts, 92
- euro: lender of last resort for, 199–200; as potential international currency, 6–7, 197–200, 205–7, 226, 240; reasons for creation of, 197–98
- European Central Bank, as lender of last resort, 199–200
- European Economic Community, establishment of, 165
- European Monetary System (EMS), 196–97

- European Payment Union, 274–75n23
- European Union: bonds, limitations of, 205–6; and defense of Ukraine, 207, 282n4; lack of commitment to supranational financial institutions, 206–7; lack of geopolitical power, 207; recent defense spending increases, 226
- exchange rate equilibrium values, tendency to overshoot, 192
- “exorbitant privilege” of country with international currency, 5, 27, 37, 248–49n21
- Federal Reserve, U.S.: CBDCs and, 285–86n36; creation of, ix, 128, 152; currency swap lines, 236–37, 288–89nn34–35; and dollars’ evolution from commercial to financial use, 14; Glass-Owen Federal Reserve Act and, 142; as guarantor of U.S. dollar stability, 10; as lender of last resort, 235; policies leading to Great Depression, 149–50, 151–52, 272n79; successful market stabilization, 200–201; and U.S. financial infrastructure, 16; withdrawal from U.S. acceptance market, 141
- Federal Reserve Act, U.S., 128, 136–37, 139, 143, 270n45
- Federal Reserve Board: creation of, 142; Trump attacks on independence of, 232–33
- fiat currency, Dutch introduction of, 84
- financialization, in countries issuing international currency, 19, 38; and decline of British pound sterling, 122; and decline of Dutch guilder, 92–93; and decline of Florentine florins, 70; and decline of Roman denarius, 38; U.S. and, 287n19
- Flandreau, Marc, 91
- Florence: acquisition of Porto Pisano and sea access, 253n5; early international trade, 51–52, 53; influx of gold through trade, 52–53; merchants’ early use of bills of exchange, 15; minting of gold coins for domestic commerce, 53, 59; as neither military nor commercial leader prior to florins’ rise, 50–51
- Florentine banks: accounting transactions and reduced risk of currency transfers, 61; development from partnership networks and holding companies, 49, 55–56; evolution into international banks, 60–63; and exchange rate risks, 62–63; financial services and loans to papacy, 65, 66–67, 256n58, 256n60; interbank transfers and bills of exchange, 61–62, 255n44; interest-bearing time deposits of, 60; interplay of banking and trade expansion, 62; liquidity provided by, 59–60; loans to merchants and monarchs, 81, 255n47; loans to royalty, risks and rewards of, 63–66; payment and credit services, 60–61; prominent families in, 60; reputation for security and good returns, 60; risk management practices, 65, 255n53; special privileges derived from loans to royalty, 65–66; syndicates formed by, 65; use of deposited funds to expand trade side of business, 60
- Florentine florins as international currency, 8; attraction of investment and foreign loans, 17; duration of, 19; evolution from commercial to financial use, 14; Florence’s form of government and, 9; Florence’s wide-ranging trade network and, 49, 53, 54; Florentine institutions preserving stability of, 10, 58–59; imitations minted by other city-states, 53–54; liquidity of, 59–60; and loans to royalty, 63–66; officials’ promotion of, 54; rivals to, 252n1; stable value of, 9, 49, 58; traders’ preference for, 58. *See also* Florentine banks
- Florentine florins as international currency, decline of, 67–70; excessive financialization and, 70; Florence’s military setbacks and, 67–68; political and economic stagnation and decline and, 18, 68–69, 256n70; rise of competitors, 69, 70

- Florentine florins' role in banking and finance: development of intangible bank money, 50; and international spread of florin-denominated assets, 49–50; as pioneering innovation, 49–51, 70
- Florentine holding companies for legally-separate partnerships: advantages of, 57–58; development of, 56–57; division of labor in, 57; evolution into branched international banks, 49, 55–56, 60–63; expansive trade networks of, 57, 254n30; legal protections of separate partnerships, 56, 58; prominent families in, 57
- Foreign Direct Investment Program, 171
- Fourth Anglo-Dutch War, 94, 95
- Fowler, Henry, 169–70, 171
- France: driven from Bretton Woods system, 196–97; and EMS crisis of 1992–93, 197; and U.S. as international currency, 170, 175–76
- French and Napoleonic Wars, and rise of British pound sterling, 98
- French franc as regional currency, 117
- French Revolution, 95
- Fugger family, 69, 78
- Genghis Khan, 45
- Genoa: challenge to Florentine financial dominance, 69; coins minted by, 53; and development of international trade partnerships, 56; and Spanish New World silver, 78
- German *deutschmark*: as alternative international currency, 196; and European Monetary System, 196–97
- Germany: banks' competition with London, 117; rise of international commercial and financial leagues, 69; and Saiger process for silver purification, 72; support for U.S. dollar, 12, 237; and troubled U.S. dollar, 173, 174, 176, 178, 180, 185–87, 191, 193
- Glass, Carter, 141–44, 271n61
- Glass-Owen Federal Reserve Act, 142
- Global Financial Crisis, maintenance of liquidity in, 194
- gold, discovery in Brazil, 100
- gold reserves: as hedge against U.S. sanctions, 231–32, 287n21; as impractical means of payment, 232
- gold standard: Belgium and, 168; British pound sterling and, 9, 147–48; and definition of gold-convertible currencies, 274n16; and pressure on U.S. gold reserves, 159; Triffin's critique of, 167–69; U.S. abandonment of, under Roosevelt, 154; U.S. return to, in 1934, 155
- Great Depression: events leading to, 149–50, 151–52, 272n79; repeat of, as likely consequence of collapse of U.S. dollar as international currency, 241–42; and U.S. acceptance market, 141; and U.S. dollar as international currency, 10–11, 17, 151–52
- Greece, ancient, coins in, 24–25, 247n2, 248n5. *See also* Athenian tetradrachm (“owls”) as international currency
- Greenspan, Alan, 194, 200
- Group of Five (G-5): exchange rate meetings of 1980s, 191–92; founding of, 183–84
- Group of Seven (G-7), 184
- Group of Ten (G-10): and Smithsonian Agreement, 176–77; and Special Drawing Rights (SDRs), 170–71; and SWIFT, 222; and U.S. fall from gold standard, 175
- Gurney, Samuel and John, 103
- Heinze, Fritz Augustus, 131–34
- Hirschman, Albert, 165–66
- Hope & Co., 92–93, 95, 96, 98, 113–14
- Hungary, gold traded to Italian city-states, 52–53
- India: Roman coins found in, 35–36, 250n52; trade using Spanish silver reals, 78
- interest on loans, early circumvention of usury prohibitions, 59–60, 62, 255n38

- Interim Committee, 183, 278–79n21
- International Acceptance Bank of New York, 128
- international capital flows, first modern system of, 50
- international currencies: evolution from commercial to financial use, 13–15; government support necessary for, 164; history, overview of, 7–8; and international alliances, 11, 12; lifecycle of, ix–x; persistence over time of, 19, 47–48; tensions between national government and international interests, vii–ix, 5–6, 245n1
- international currency, requirements for, 9–12; administrative capacity to control money supply, 10, 32, 42, 75–76, 246n15; capacity to ensure stability of banking and financial systems, 9, 10–11, 32; countries' power to defend its merchants, 247n22; currency's stable value and quality, assurance of, 9, 26–27, 28, 32, 35, 40, 42, 43, 58, 248n12; financial innovation and infrastructure as, 15–18; liquidity as, 17–18, 59–60; military power and security of issuing country as, 11–12, 27–28, 32, 42, 47–48, 207, 237–39; political checks and balances protecting currency as (typically democracy or republic), 9–10, 32, 39, 58–59, 211–12, 246n13
- International Monetary Fund (IMF): and collapse of Bretton Woods system, 184; role of, 158; and Triffin's plan, 168–69; U.S. contribution to, 160–61; U.S. veto in, 194–95
- international monetary policy, design of, 154–55. *See also* Bretton Woods Conference
- Japan: bank branches in UK, 108, 145; Chinese war indemnity payments to, 110–11; financing of war with Russia, 122, 129; silver production in 16th century, 72–73; support for U.S. dollar, for security reasons, 11, 12, 237; trade in pounds sterling, 108; and troubled U.S. dollar, 173, 174, 176, 178, 180, 185–87, 191, 193; Yen as alternative international currency, 195
- J. Henry Schröder & Co., 98
- J. P. Morgan & Co., 140, 146, 148, 149
- Keynes, John Maynard, 155, 158–59, 161–62, 168–69
- Kindleberger, Charles, 3–4, 179
- Knickerbocker Trust, 133–35
- Kuhn, Loeb & Co., 129, 148
- Latin America, capital flight from, 83
- Lehman Brothers, 200–201
- lender of last resort: development of concept, 105; as essential for international currency, 199–200; Rothschild as, in crisis of 1825, 106
- Lend-Lease Act of 1941, 156, 161, 163
- Liberty Loan Act (U.S.), 146
- Lindbergh, Charles, 160
- Loeb, Solomon, 129
- London as international financial center, 107–8; acceptance houses' overseas branches and, 107; acceptance market, World War I damage to, 137–39; banks' origin in goldsmith firms, 102; Baring crisis of 1890, 119–20, 267nn101–2; bill brokers, 103–4; bills of exchange development into international instruments, 100–102; bills of exchange infrastructure, 102–4; British stock exchange and, 111; competition from French and German banks, 116–17, 120; convertibility of funds to gold as key attraction of, 110, 117–18; and crisis of 1825, 104–7, 115; discount houses, development of, 106–7; and dominance of pound sterling, 109; 18th-century financial cooperation with Amsterdam,

- London as international financial center
(*continued*)
97; foreign correspondent relationships
and, 108; and foreign market for British
Treasury securities, 109–10; govern-
ment's political neutrality and, 266n90;
and international arbitrage transac-
tions, 111–12; large percentage of foreign
bills, 108; loans to foreign governments,
112–16; loan to America for Louisiana
Purchase, 113–14; network of local
banks tied to, 102–4, 262n23, 264n51;
origin and development of, 96–97;
Overend & Gurney crisis of 1866 and,
118–19, 121; overseas banks with London
branches, 107–8; rise to dominance, 97;
safety as attraction of, 96, 98, 121
- London as international finance center,
decline of: factors in, 122; World War I
and, 137–39
- Lowell, Abbott Lawrence, 154
- Lucca, 53, 56
- Lula da Silva, Luiz Inácio, 215
- Lydians, invention of coins by, 23–24, 247n3
- Marshall Plan, 164
- Medici, Piero de', 67–68
- Medici family, 14, 56, 65, 67
- Medina, Bartolomé de, 73
- Mercantile Bank of the Americas, 140
- Mercantile National Bank, 133
- Mexico: capital flight to Europe, 83; coins
minted in, post-Independence, 82–83
momentum-based trading strategies, 190
money: bank money, first system of, 50;
international capital flows, first modern
system of, 50; objects used as, before
coins, 23; three canonical functions of,
23. *See also* coins
- Mongol Empire, coins issued by, 45
- Monnet, Jean, 206–7
- Monte Comune, 60, 69
- Monte delle doti, 60, 69, 255n39
- Morgan, J. P., 127, 134–35
- Morgenthau, Henry, 154
- Morse, Charles W., 132–34
- National Banking Act of 1863, U.S., 129
- National City Bank, 140, 145, 146, 149, 270n43
- National Monetary Commission, U.S., 128
- Nero (Roman emperor), 39–41, 251n63
- Nestares Marín, Francisco de, 75–76
- Netherlands: as commercial backwater in
16th century, 84–85; late use of trading
partnerships, 84–85. *See also* entries under
Dutch
- Newton, Isaac, 100–101
- Nixon, Richard M.: efforts to curb gold
outflow in 1970s, 172, 173–75; and fallout
from dollar devaluation, 178–79;
suspension of gold convertibility, 3–4,
175–76, 177, 178–83; and threat to U.S.
dollar as international currency, 3–4, 6, 7;
wage and price controls, 1–2, 3, 175
- nontraditional reserve currencies as
potential rivals to U.S. dollar, 213–15
- OAPEC. *See* Organization of Arab
Petroleum Exporting Countries
- OPEC. *See* Organization of the Petroleum
Exporting Countries
- Open Market Investment Committee
(OMIC), 149, 272n79
- Organization of Arab Petroleum Exporting
Countries (OAPEC), 184–85
- Organization of the Petroleum Exporting
Countries (OPEC), 18
- Overend & Gurney, 103, 107
- Papacy, Florentine international banks and,
65, 66–67, 256n58, 256n60
- partnerships for international trade,
development of, 55–56
- Paul II (pope), 256n58
- People's Bank of China (PBoC), 209, 211,
212, 218, 220, 222, 283n19

- Peruzzi banking partnership, 17, 57, 58, 60, 63, 65, 67, 163
- Philip II (king of Spain), 65, 85
- Philip IV (king of Spain), 75, 76–77
- Pole, Thornton & Co., 105
- Pompidou, Georges, 175–76
- Potosí silver mine, 73, 74; minting fraud, impact of, 75–77; minting of silver, 77; Spanish loss of, 82
- Powell, Jerome, 232
- Project Icebreaker, 285n36
- Project mBridge, 220–21, 285n38; governance problems with, 222–23; political problems with, 221–22, 241; technical problems with, 221
- promissory notes, 59
- Putin, Vladimir, 207, 222, 238
- Qualified Foreign Institutional Investor Program, 209
- Reagan, Ronald W.: and Great Moderation, 193; tax cuts, and strength of dollar, 190–94, 280n53
- real bills doctrine: accommodation papers and, 101–2; U.S. acceptance market and, 142–45
- Regan, Donald, 190–91
- Reuss, Henry, 186
- R. G. Dun & Co., 130
- Riccardi banking partnership, 65
- Richardson, Thomas, 103
- Rocha, Francisco Gómez de la, 75–76
- Rockefeller, John D., 132
- Roman denarius as international currency, 8; flow of currency between government and market, 35; primitivists' theory on early use of coins, 34; Roman administrative capacity to control money supply, 10, 32; Roman form of government and, 9–10, 32, 212, 246n13; and Roman trade deficits, 36–37, 41; Rome's economic and military power and, 32; Rome's extensive trade networks and, 34–37; spread through conquest, 12, 31–33; stable value and quality of, 35; trade with Asia and, 35–37, 250n47
- Roman denarius as international currency, decline of, 37–41; cost of empire and taxation, 37–38; currency debasement pressures and, 39–41; denarius, replacement of, 251n66; drain of silver from empire and, 39, 41; excessive financialization and, 38; loss of political checks and balances and, 37, 39; loss of stable value and quality, and rising inflation, 39–41, 251n63; role of disease and pollution in, 38–39, 250n55
- Rome: Aes rude, 29; aes signatum, 30; Antonine Plague, 38–39; bi-metallic system, 33, 39–40; denarius, introduction of, 29, 31; denarius' evolution from unit of account to currency, 31–32; early protocurrency and evolution of coins, 29–31; first mint, 30; splintering of empire, 41
- Roosevelt, Franklin D.: economic policies, 154, 157; and Gold Reserve Act of 1934, 273n3; and gold standard, 154
- Rothschild, Nathan Mayer, 98–99, 105, 106, 113, 114
- Rothschild & Sons, 107, 112, 114, 116
- Royal Exchange (England), 96
- Russia: and Chinese renminbi, 212; and Project mBridge, 222; turn from U.S. dollar reserves, 238; use of Chinese renminbi in international trade, 246n10; U.S. sanctions on, viii, 230–32
- sanctions, U.S. use of: gold reserves as hedge against, 231–32, 287n21; potential damage to U.S. dollar as international currency, viii, 230–31; reasons for increase in, 287n19
- San Francisco earthquake, and financial crisis of 1907, 131

- SDRs. *See* Special Drawing Rights
- Shanghai-Hong Kong Stock/Bond Connect, 209
- Shultz, George, 174–75, 178–79, 182, 183–85
- silver mining: methods of indigenous
Andeans, 257n10; Nevada silver rush, 81–82; patio process in, 73–74; prior to Spanish New World mines, 72–73; Saiger process in, 72. *See also* Spanish New World silver mines
- small-economy currencies as potential rivals to U.S. dollar, 213–15
- Smith, Adam, 101, 227
- Smithsonian Agreement, 176–77, 183
- Soviet Union, and U.S. dollar as international currency, 166–67, 275nn29–31
- Spanish New World silver mines: destinations of silver from, 77–78; forced indigenous labor (*mita*) used in, 74; global impact of, 71, 76–77; and minting fraud, 74–76, 258n25; minting of silver from, 74–75, 77, 257n17, 258n25; public-private partnerships in, 74; silver processing methods, 73–74; silver sources prior to, 72–73; and Spanish influence, 73; transport of silver from, 78, 258n29; volume of silver produced, 73
- Spanish silver reals as international currency, 8; administrative capacity to control money supply, 10, 75–76; also referred to as “pieces of eight,” 74, 82; decline, 82–83; duration of, 19; as first global currency, 71, 80; and globalization of trade, 71, 76–77, 78–80; as preferred currency for international transactions, 80–81; Spain’s loss of New World mines, 82–83; Spanish form of government and, 212; stable value of, 9, 74, 80; U.S. use of, 81–82; various names for, 80
- Special Drawing Rights (SDRs): China and, 208; initial issue of, 171; limited impact of, 171–72; second issues of, 179, 187; third issue of, 194; value after U.S. abandonment of Bretton Woods system, 179
- stablecoins, as potential international currency, 215–17, 284n27
- Stuckey’s Bank, 106, 110
- Supreme Court, U.S., Trump’s authority over bureaucracy and, 233
- SWIFT (Society for Worldwide Interbank Financial Telecommunication): China and, 210, 212; digital efforts to circumvent, 219, 220, 222; U.S. sanctions and, 230–31
- tariffs, U.S. trade and, 212–13, 227–28
- trade, international: *commenda* contracts for, 54–55; and spread of international currency, positive feedback loop with finance, 5, 43, 62, 86–87, 109
- trade acceptances: Dutch banks and, 90; and financial innovation, 15; London and, 16, 107, 109, 112, 137–39; and U.S. dollar as international currency, 14. *See also* United States as financial center, and acceptance market
- trade deficits: in Ancient Roman, 36–37, 41; in Byzantine Empire, 43, 46; as consequence of international currency status, 41; U.S. and, 46, 179–80, 182, 185–86, 192
- Treasury Bills Act of 1877, 110
- Treasury securities, U.S.: equal treatment of foreign and domestic investors, importance of, 234; market depth and liquidity, importance of, 5, 17, 185, 200; threats to stability of, 5–6, 234–35
- Triffin, Robert, 167–68, 198, 208, 228
- Tripartite Agreement, 155
- Trump, Donald J.: alliance with Putin, 207, 238; claimed authority over U.S. bureaucracy, 233; and EU defense spending, 207; policies on sanctions, 231; policies threatening U.S. dollar as international currency, viii, ix, x, 225, 227, 229, 231, 232–36, 238; and stablecoins, 284n27; tariff policies, 212–13, 227–28; as threat to Treasury securities’ stability, 234–35; U.S. isolationism under, 239

- Tuscans, invention of partnership for international trade, 55–56
- Ukraine, Trump policy on defense of, 238
- Umayyad dinar as international currency, 43–44; collapse of, 45, 252n87; and spread of Islam, 44
- UnionPay, 219
- United Copper Company, plot to corner shares in, 131–35
- United States: Coinage act of 1857, 81–82; financial crisis of 1907, 127–28, 129, 131–35; isolationism under Trump, 239; Mexican silver pesos in, 83; National Banking System, flaws in, 130–31; Spanish silver reals as currency in, 81–82; World War II flow of gold into, 156; World War I loans to allies, 146–47. *See also* sanctions, U.S. use of
- United States banks: Fed’s interwar policies tightening credit and, 149; interwar foreign lending, high volume and high default rates, 145–50; lack of experienced personnel to evaluate borrowers, 148, 150; loans to London for Boer War costs, 122; pre-World War I loans, 146
- United States central bank: campaign for establishment of, 127–28, 135–36; lack of, and 1907 financial crisis, 127–28, 129, 131–35; need for, 127–28, 130–31, 134–35, 144–45. *See also* Federal Reserve, U.S.
- United States debt levels: political polarization as obstacle to resolution of, 229–30; projected increases in, 228; and U.S. dollar as international currency, 5, 228–30, 287n10
- United States dollar as international currency, vii–viii; advantages of, 5, 239–40; attraction of investment and foreign loans, 18; Bretton Woods Conference and, 159, 162–64; collapse, consequences of, 241–42; costs to exporters, 240; creation of U.S. acceptance market and, 128, 139–41; current status of, 4–5, 7; Great Depression and, 10–11, 17, 151–52; international leverage (“exorbitant privilege”) provided by, 5; interwar competition from British pound sterling, 145–48, 150–52, 272n83; Marshall Plan and, 164; and military action abroad, 12; postwar strength and, 156–58, 163; and pressure on gold standard, 159; pre-World War II discussion of, 155–56; rise of, post-World War I, 147, 148; and tensions between U.S. and international interests, viii, 5–6; U.S. characteristics conducive to, 4–5; U.S. military power as incentive to use, 11, 237–38; U.S.’s high volume of trade and, 15. *See also* Bretton Woods Conference; gold standard
- United States dollar as international currency, after Smithsonian Agreement: Bretton Woods system, collapse of, 183–84; British pound driven from Bretton Woods system, 180–82; and Carter administration inflation, 185–90; Carter’s efforts to restore public confidence, 188–89; dollars’ ongoing viability for cross-border capital flows, 185; fallout from dollar devaluation, 178–83, 277n3, 278n16, 278n18; lack of alternatives to, 194–97, 200, 240–41; market depth and liquidity, central importance of, 194, 200; petrodollar investments and, 184–85; prominent role in international finance and trade, 193–94, 280n54; Reagan administration impact on, 190–94, 280n53; safe haven status, importance of, 200–201
- United States dollar as international currency, potential rivals to: BRICS basket currency, viii, 215; central bank digital currencies (CBDCs), 217–19, 241; Chinese renminbi, 208–13, 240–41; euro, 197–200, 205–7, 226, 240; lack of alternatives, 6–7, 194–97, 200, 240–41; nontraditional reserve currencies, 213–15; stablecoins, 215–17

- United States dollar as international currency, threats to: decline in immigration as, 225; erosion of U.S. military dominance as, 237–39; loss of stability as, 232–35, 288n32; in Nixon administration, 3–4, 6, 7; trade deficits, 46, 179–80, 182, 185–86, 192; Trump’s policies and, viii, ix, x, 225, 227, 229, 231, 232–36, 238; U.S. critics of costs to U.S. as, 239; U.S. debt levels as, 5, 228–30, 287n10; U.S. decline in research dominance and, 225, 286n4; U.S. declining share of global GDP and, 224–25, 286n2; U.S. declining share of global trade and, 226–28; U.S. overuse of sanctions and, viii, 230–31. *See also* Nixon, Richard M.
- United States dollar as international currency, under Bretton Woods system, 176–77; dollar devaluation under Smithsonian Agreement, 176–77; dollar glut of 1950s, 165–67; and European loans denominated in dollars, 167; foreign currency devaluations, 165; initial dollars shortages, and U.S. policy, 164–65, 274n22; and potential run on U.S. gold reserves, 167–71, 275–76n34; Special Drawing Rights (SDRs) and, 171–72; suspension of gold convertibility, 3–4, 175–76, 177, 178–83; U.S. efforts to curb gold outflow in 1970s, 171–75, 276n49
- United States as financial center, and acceptance market: creation of, through Federal Reserve Act, 14, 15, 136–37, 139; early lack of infrastructure to support, 16, 122–23, 127–28, 129–31; efforts to create, 127–28, 135–36; Fed withdrawal from, 141; growth prior to Great Depression, 140–41, 143; hampering of, by real bills doctrine advocates, 142–45; lack of developed infrastructure to support, 141, 145, 150, 271n50; liquidity problems in, 141; need for market maker of last resort, 144–45; overseas branches of U.S. banks and, 140, 270n43; problems caused by lack of, 129–35; retrenchment in early 1930s after Federal Reserve’s withdrawal, 144; and U.S. dollar as international currency, 128, 139–41; U.S. trust companies and, 269n19; World War I growth of, 137
- United States financial system reform, rationales for, 135–36
- United States military power: erosion of, as threat to U.S. dollar dominance, 237–39; as incentive for countries to use U.S. dollar, 11, 12, 237–38; Trump defense budget cuts and, 238; and U.S. under Trump as unreliable ally, 238–39
- United States trade, tariffs and, 212–13, 227–28
- Urban VI (pope), 66–67
- Vance, JD, 236–37, 238
- vehicle currencies, early, 25
- Venetian gold ducats as international currency, 48
- Venice: coins minted by, 52; and development of international trade partnerships, 56; double entry bookkeeping, development of, 49; enrichment by Fourth Crusade spending, 52; as trade center, 51, 52–53
- Viner, Jacob, 154, 157
- VOC. *See* Dutch East India Company
- Volcker, Paul, 173–75, 179, 182–83, 186, 188–89, 194, 200, 277n18, 280n40
- Warburg, Paul Moritz, 127–29, 131, 135, 142–43, 145, 271n56
- West Africa, gold traded to Italian city-states, 52
- Western Schism, 66–67
- White, Harry, 153–57, 161–62
- Wilson, Woodrow, 128, 142