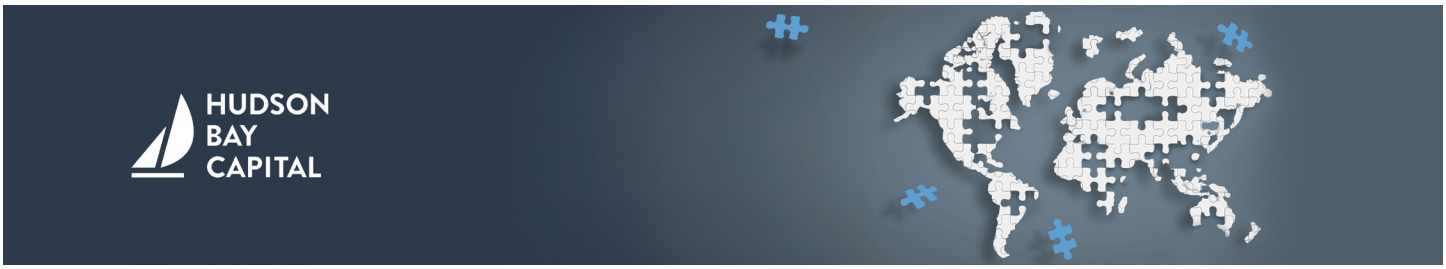

A User's Guide to Restructuring the Global Trading System

November 2024

Executive Summary

The desire to reform the global trading system and put American industry on fairer ground *vis-à-vis* the rest of the world has been a consistent theme for President Trump for decades. We may be on the cusp of generational change in the international trade and financial systems.

The root of the economic imbalances lies in persistent dollar overvaluation that prevents the balancing of international trade, and this overvaluation is driven by inelastic demand for reserve assets. As global GDP grows, it becomes increasingly burdensome for the United States to finance the provision of reserve assets and the defense umbrella, as the manufacturing and tradeable sectors bear the brunt of the costs.

In this essay I attempt to catalogue some of the available tools for reshaping these systems, the tradeoffs that accompany the use of those tools, and policy options for minimizing side effects. This is not policy advocacy, but an attempt to understand the financial market consequences of potential significant changes in trade or financial policy.

Tariffs provide revenue, and if offset by currency adjustments, present minimal inflationary or otherwise adverse side effects, consistent with the experience in 2018-2019. While currency offset can inhibit adjustments to trade flows, it suggests that tariffs are ultimately financed by the tariffed nation, whose real purchasing power and wealth decline, and that the revenue raised improves burden sharing for reserve asset provision. Tariffs will likely be implemented in a manner deeply intertwined with national security concerns, and I discuss a variety of possible implementation schemes. I also discuss optimal tariff rates in the context of the rest of the U.S. taxation system.

Currency policy aimed at correcting the undervaluation of other nations' currencies brings an entirely different set of tradeoffs and potential implications. Historically, the United States has pursued multilateral approaches to currency adjustments. While many analysts believe there are no tools available to unilaterally address currency misvaluation, that is not true. I describe some potential avenues for both multilateral and unilateral currency adjustment strategies, as well as means of mitigating unwanted side effects.

Finally, I discuss a variety of financial market consequences of these policy tools, and possible sequencing.

Stephen Miran, ***Former Hudson Bay Senior Strategist***

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Chapter 1: Introduction

Americans' opinion of how well the international trade and financial systems serve them has deteriorated substantially over the last decade. Among voters if not among economists, the consensus underpinning the international trading system has frayed, and both major parties have taken policies that aim at boosting America's position within it.

With President Trump winning reelection with a strong democratic mandate, it is reasonable to expect the Trump Administration to undertake a substantial overhaul of the international trade and financial systems. This essay surveys some tools available for doing so. In contrast to much Wall Street and academic discourse, there are powerful tools that can be used by an Administration for affecting the terms of trade, currency values, and the structure of international economic relations.

During his campaign, President Trump proposed to raise tariffs to 60% on China and 10% or higher on the rest of the world, and intertwined national security with international trade. Many argue that tariffs are highly inflationary and can cause significant economic and market volatility, but that need not be the case. Indeed, the 2018-2019 tariffs, a material increase in effective rates, passed with little discernible macroeconomic consequence. The dollar rose by almost the same amount as the effective tariff rate, nullifying much of the macroeconomic impact but resulting in significant revenue. Because Chinese consumers' purchasing power declined with their weakening currency, China effectively paid for the tariff revenue. Having just seen a major escalation in tariff rates, that experience should inform analysis of future trade conflicts.

President Trump has also discussed adopting substantial changes to dollar policy. Sweeping tariffs and a shift away from strong dollar policy can have some of the broadest ramifications of any policies in decades, fundamentally reshaping the global trade and financial systems.

There is a path by which these policies can be implemented without material adverse consequences, but it is narrow, and will require currency offset for tariffs and either gradualism or coordination with allies or the Federal Reserve on the dollar. Potential for unwelcome economic and market volatility is substantial, but there are steps the Administration can take to minimize it.

From a trade perspective, the dollar is persistently overvalued, in large part because dollar assets function as the world's reserve currency. This overvaluation has weighed heavily on the American manufacturing sector while benefiting financialized sectors of the economy in manners that benefit wealthy Americans. And yet, President Trump has praised the reserve status of the dollar and threatened to punish countries that stop using the dollar for reserve purposes. I expect these tensions will be resolved by a suite of policies designed to increase burden sharing among trading and security partners: rather than attempting to end the use of the dollar as the global reserve currency, the Trump Administration can attempt to find ways to capture back some of the benefits other nations receive from our reserve provision. Reallocation of aggregate demand from other countries to America, an increase in revenue to the U.S. Treasury, or a combination thereof, can help America bear the increasing cost of providing reserve assets for a growing global economy. The Trump Administration is likely to increasingly intertwine trade policy with security policy, viewing the provision of reserve assets and a security umbrella as linked and approaching burden sharing for them together.

The remainder of this essay is structured as follows: first, I review the underlying economic causes of our economic imbalances. Second, I explore tariff driven approaches to redressing these grievances. Third, I review currency-driven approaches, both multilateral and unilateral. Finally, I discuss market consequences.

This essay is not policy advocacy. I attempt to diagnose the economic disequilibrium in the terms of trade that underlies the nationalists' critique of the current system, describe a catalogue of tools that can be used to address it, and analyze these tools' relative advantages or disadvantages and potential consequences.

My analysis reflects only my own views, not those of anyone on President Trump's team or Hudson Bay Capital. The goal of the analysis is to understand the range of possible policies that might be implemented, so that our team and clients can evaluate the consequences in the economy and financial markets that might result.

Chapter 2: Theoretical Underpinnings

The Roots of Economic Discontent Lie in the Dollar

The Triffin World

The deep unhappiness with the prevailing economic order is rooted in persistent overvaluation of the dollar and asymmetric trade conditions. Such overvaluation makes U.S. exports less competitive, U.S. imports cheaper, and handicaps American manufacturing. Manufacturing employment declines as factories close. Those local economies subside, many working families are unable to support themselves and become addicted to government handouts or opioids or move to more prosperous locations. Infrastructure declines as governments no longer service it, and housing and factories lay abandoned. Communities are "blighted."

According to Autor, Dorn and Hanson (2016), between 600,000 and one million U.S. manufacturing jobs disappeared between 2000 and 2011 due to the "China shock" of increased trade with China. Including broader categories, the jobs displaced by trade during that decade were closer to 2 million. Even 2 million job losses over a decade represents only 200,000 per year, a fraction of the churn of jobs that occurs every year because of technology, rising and falling firms and sectors, and the economic cycle.

But that logic was flawed in two ways: first, the estimates of job losses due to trade increased over time as new research emerged, for instance Autor, Dorn and Hanson (2021); the "China shock" was much larger than initially estimated. Indeed, plenty of nonmanufacturing jobs which depended on local manufacturing economies were lost as well. Second, many job losses were concentrated in states and specific towns where alternative employment was not easily available. For these communities, the losses were severe.

The problem is compounded by the reversal of "the end of history" and the return of national security threats. With no major geopolitical rivals, U.S. leaders believed they could minimize the significance of declining industrial plant. But with China and Russia as not only trade but security threats, having a robust and well diversified manufacturing sector is of renewed necessity. If you have no supply chains with which to produce weapons and defense systems, you have no national security. As President Trump argued, "if you don't have steel, you don't have a country."[1]

While many economists fail to include such externalities in their analysis and are therefore happy to rely on trade partners and allies for such supply chains, the Trump camp does not share that trust. Many of America's allies and partners have significantly larger trade and investment flows with China than they do with America; are we so sure we can trust them, if worse comes to worst?

Such problems are compounded by aggressive Chinese espionage. According to reports in the *Wall Street Journal,*[2] in September alone, "the Federal Bureau of Investigation said a Chinese state-linked firm hacked 260,000 internet-connected devices, including cameras and routers, in the U.S., Britain, France, Romania and elsewhere [and] a Congressional probe said Chinese cargo cranes used at U.S. seaports had embedded technology that could allow Beijing to secretly control them." The security, espionage and sabotage vulnerability of sensitive imports from China continues to grow.

In this telling, persistent overvaluation of the dollar is the key mechanism for trade imbalances, keeping imports from abroad stubbornly cheap despite widening trade deficits. So how is it possible that currency markets, which are the largest markets in the world in terms of sheer trading volume, don't equilibrate?

The answer lies in the fact that there are (at least) two concepts of equilibrium for currencies. One is rooted in models of international trade. In trade models, currencies adjust over the long term to balance international trade. If a country

1 https://thehill.com/homenews/administration/376408-trump-if-you-dont-have-steel-you-dont-have-a-country/

2 https://www.wsj.com/politics/national-security/scale-of-chinese-spying-overwhelms-western-governments-6ae644d2

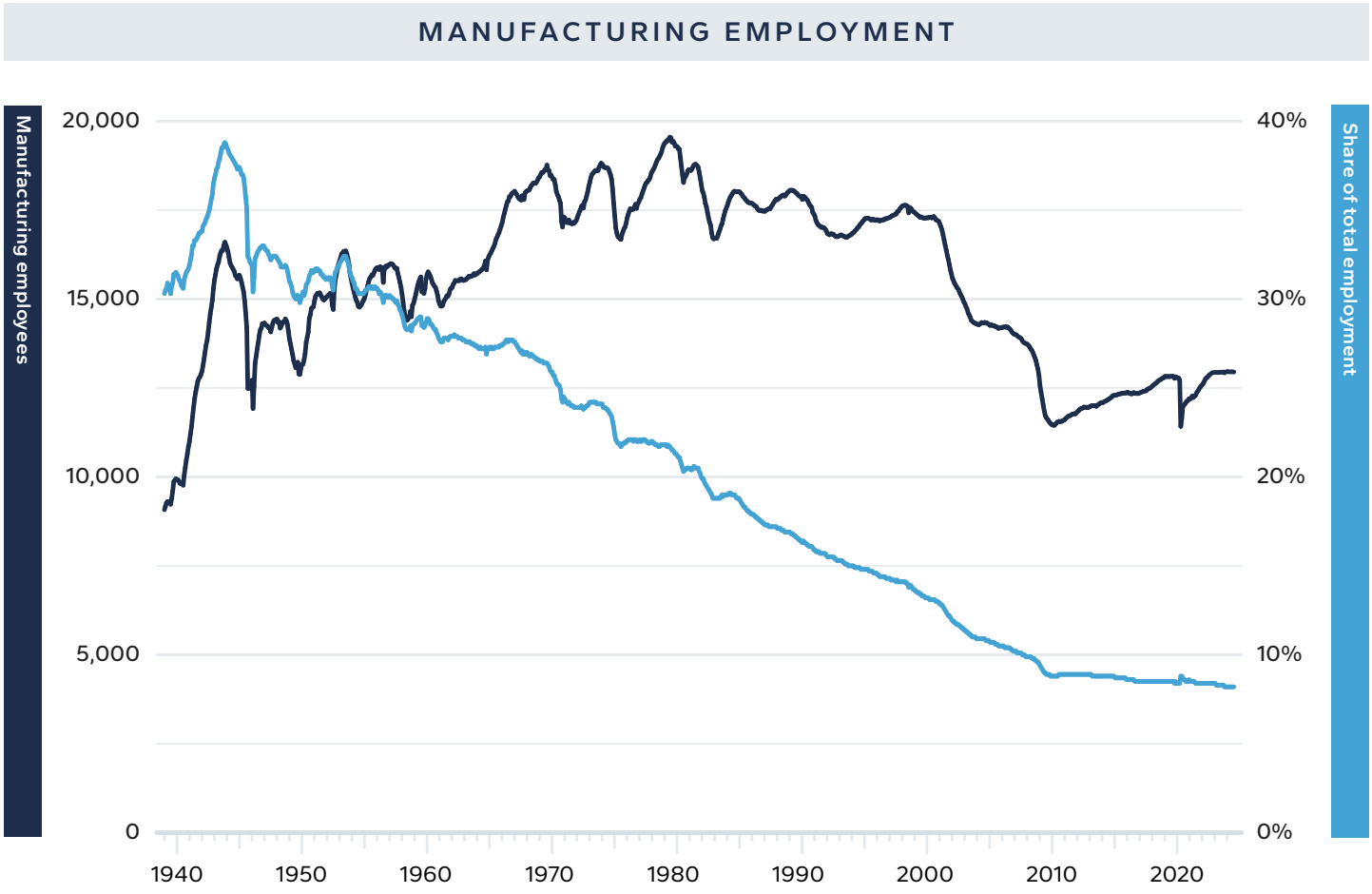

Figure 1 Manufacturing employment in the United States. Source: Bureau of Labor Statistics

runs a trade surplus for a sustained period, it receives foreign currency for its goods, which it then sells for its domestic currency, pushing its domestic currency higher. That process occurs until its currency is strong enough that its exports decline and imports increase, balancing trade.

The other equilibrium concept is financial and comes from savers selecting investment alternatives among different nations. In this equilibrium concept, currencies adjust to make investors indifferent between holding assets denominated in different currencies, on an *ex ante* risk-adjusted basis.

However, the latter class of models becomes more complicated when a nation's currency is a reserve asset, as is America's. Because America provides reserve assets to the world, there is demand for U.S. dollars (USD) and U.S. Treasury securities (USTs) that is not rooted in balancing trade or in optimizing risk-adjusted returns. These reserve functions serve to facilitate international trade and provide a vehicle for large pools of savings, often held for policy reasons (e.g. reserve or currency management or sovereign wealth funds) rather than return maximization. Much (but not all) of the reserve demand for USDs and USTs is inelastic with respect to economic or investment fundamentals. Treasurys bought to collateralize trade between Micronesia and Polynesia are bought irrespective of the U.S. trade balance with either, the latest jobs report, or the relative return of Treasurys vs. German Bunds.

Such phenomena reflect what can be described as a "Triffin world," after Belgian economist Robert Triffin. In Triffin world, reserve assets are a form of global money supply, and demand for them is a function of global trade and savings, not the domestic trade balance or return characteristics of the reserve nation.

When the reserve country is large relative to the rest of the world, there are no significant externalities imposed on the reserve country from its reserve status. The distance from the Triffin equilibrium to the trade equilibrium is

small. However, when the reserve country is smaller relative to the rest of the world—say, because global growth exceeds the reserve country's growth for a long period of time—tensions build and the distance between the Triffin equilibrium and the trade equilibrium can be quite large. Demand for reserve assets leads to significant currency overvaluation with real economic consequences.

In Triffin world, the reserve asset producer must run persistent current account deficits as the flip side of exporting reserve assets. USTs become exported products which fuel the global trade system. In exporting USTs, America receives foreign currency, which is then spent, usually on imported goods. America runs large current account deficits not because it imports too much, but it imports too much because it must export USTs to provide reserve assets and facilitate global growth. This view has been discussed by prominent policymakers from both the United States (e.g. Feldstein and Volcker, 2013) as well as China (e.g. Zhou, 2009).[3]

As the United States shrinks relative to global GDP, the current account or fiscal deficit it must run to fund global trade and savings pools grows larger as a share of the domestic economy. Therefore, as the rest of the world grows, the consequences for our own export sectors—an overvalued dollar incentivizing imports—become more difficult to bear, and the pain inflicted on that portion of the economy increases.

Eventually (in theory), a Triffin "tipping point" is reached at which such deficits grow large enough to induce credit risk in the reserve asset. The reserve country may lose reserve status, ushering in a wave of global instability, and this is referred to as the Triffin "dilemma." Indeed, the paradox of being a reserve currency is that it leads to permanent twin deficits, which in turn lead over time to an unsustainable accumulation of public and foreign debt that eventually undermines the safety and reserve currency status of such large debtor economy.

While the United States share of global GDP halved from 40 percent of global GDP in the 1960s to 21 percent in 2012, and has recovered slightly to its present level of 26%, it is still far from such a tipping point, in part because there are no meaningful alternatives to the dollar or the UST. A reserve currency must be convertible into other currencies, and a reserve asset must be a stable store of value governed by reliable rule of law. While other nations like China aspire to reserve status, they satisfy neither of these criteria. And while Europe may, its bond markets are fragmented relative to the UST market, and its share of global GDP has shrunk even more than America's.

It is worth observing that the U.S. share of global GDP troughed around the GFC and has stabilized or improved since then, coincident with the pattern in manufacturing employment. In this telling, our share of global GDP drives the size of the Triffin distortion in trade equilibrium, which in turn drives the state of the tradeable sector.

The backdrop for these currency developments has been a system of tariff rates defining the international trading system that are, broadly speaking, locked into a configuration designed for a different economic age. According to the World Trade Organization, the United States effective tariff on imports is the lowest any nation in the world imposes at about 3%, while the European Union imposes about 5% and China 10%.[4] These numbers are averages across all imports and not reflective of bilateral tariff rates; bilateral discrepancies can be much larger, for instance the U.S. imposes only 2.5% tariffs on auto imports from the E.U., while Europe imposes a 10% duty on American auto imports.[5] Many developing nations apply much higher rates, and Bangladesh has the world's highest effective rate at 155%. These tariffs are, in large part, legacies of an era in which the United States wanted to generously open its markets to the rest of the world at advantageous terms to assist with rebuilding after World War II, or in creating alliances during the Cold War. Moreover, tariffs in

3 A critical analysis of the "current account" and "fiscal" versions of the Triffin dilemma is available in Bordo and McCauley (2017). Their dismissal of these theories focuses more on the lack of dilemma/crisis in the near term and the inability to identify any such crossing point, rather than on an ability to discount the basic mechanism.

4 https://www.wto.org/english/res_e/booksp_e/world_tariff_profiles24_e.pdf

5 https://www.politico.com/news/2023/01/19/joe-manchin-davos-inflation-reduction-act-europe-00078510

some cases enormously understate the unevenness of the playing field, as some nations employ material non-tariff barriers, steal intellectual property, and more. In theory, prior tariff rates may not affect trade if floating currencies adjust to offset them, but they have very significant consequences for revenue and burden sharing (see the discussion below).

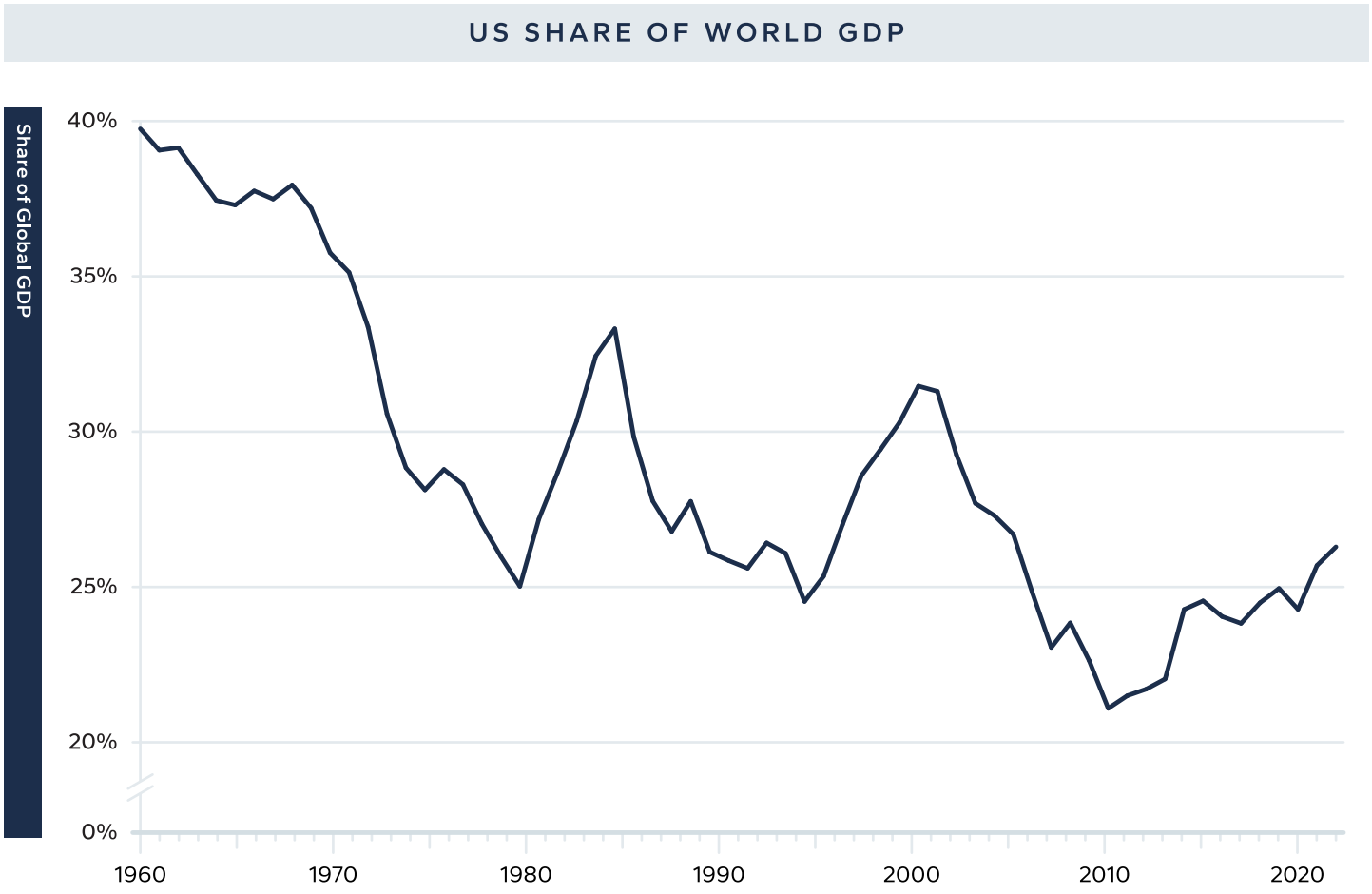

Figure 2 U.S. share of global GDP. Source: World Bank

Economic Consequences

While we are likely far from the economic crises that comprise the tipping point of the Triffin dilemma, we must nonetheless reckon with the consequences of the Triffin world. Reserve nation status comes with three major consequences: somewhat cheaper borrowing, more expensive currency, and the ability pursue security goals via the financial system.

1) Cheaper Borrowing

Because there is a persistent reserve-driven demand for UST securities, the United States may be able to borrow at lower yields than would otherwise be the case. Because economists have little variation to study (we've been the sole reserve currency for many decades), it's impossible to have confidence about how big this benefit is. Some estimates, fictional as they are, have it as large as 50-60 basis points of borrowing yield (McKinsey, 2009).

In any case, there are numerous countries that borrow significantly more cheaply than the United States. At the time of writing, all G7 members borrow more cheaply than the United States except for the UK, which borrows a tenth of a percent more expensive. Other peers like Switzerland and Sweden borrow more cheaply too, Switzerland by almost 4 percentage points. Meanwhile, an erstwhile troubled debtor like Greece can borrow over a point more cheaply.

More precisely, one can create a synthetic dollar borrowing rate with currency risk hedged out, i.e. examine deviations from covered interest parity, as in Du, Im and Schreger (2018). Such deviations are currently (and usually) close to zero[6] for the United States relative to other G10 borrowers; in other words, there's little special borrowing rate conferred on the U.S. relative to other developed countries. G10 vs. EM, however, still contain substantial residuals, suggesting that emerging markets pay a borrowing premium relative to developed markets to borrow.

The inference I draw from this is that while, all else equal, being a reserve currency may reduce borrowing costs, whatever benefit is gained is likely to be dwarfed by things like central bank policy outlooks, growth and inflation forecasts, and equity market performance.

However, the borrowing advantage may be framed differently: rather than reducing the cost of borrowing, it may reduce the price sensitivity of borrowing. In other words, we don't necessarily borrow substantially cheaper, but we can borrow more without pushing yields higher. This is a consequence of the price inelasticity of demand for reserve assets, and the flip side that we run large external deficits to finance that reserve provision.

2) Richer Currency

The more significant macroeconomic consequence of serving as the world's reserve producer is that reserve demand for American assets pushes up the dollar, leading it to levels far in excess of what would balance international trade over the long run. According to the IMF, there are about $12 trillion of global foreign exchange reserves in official hands, of which roughly 60% are allocated in dollars—in reality, reserve holdings of the dollar are much higher, as quasi- and non-official entities hold dollar assets for reserve purposes too.

Clearly, $7 trillion of demand is enough to move the needle in any market, even currency markets. For reference, $7 trillion is roughly a third of U.S. M2 money supply; flows creating or unwinding these holdings will obviously have significant market consequences. If trillions of dollars of securities bought for the Fed's policy and not investment purposes on the Fed's balance sheet have had any effect on financial markets, then trillions of dollars bought for foreign central banks' policies and not investing purposes should also have some effect if they are on other nations' balance sheets instead of the Fed's.

Canada	-1.05
Japan	-3.38
UK	0.12
France	-1.19
Germany	-1.94
Italy	-0.66
Greece	-1.03
Switzerland	-3.93
Sweden	-2.20

Table 1: 10-year borrowing spreads to Treasury notes. Negative numbers mean the other nation borrows more cheaply than the United States. Source: Bloomberg, HBC calculations

Because nations accumulate reserves in part to stem appreciation pressures in their own currencies, there is a contemporaneous negative correlation between the exchange value of the dollar and the level of global reserves. Reserves tend to go up when the dollar is going down, as accumulators buy dollars to suppress their currencies, and vice versa when the dollar is going up.

Nevertheless, other than two quarters in 1991, the United States has run a current account deficit since 1982. That the current account cannot balance beyond a negligible period over half a century tells us the dollar is not playing its role of equilibrating international trade and income flows.

The interplay between reserve status and the loss of manufacturing jobs is sharpest during economic downturns. Because the reserve asset is "safe," the dollar appreciates during recessions. By contrast, other nations' currencies tend to depreciate when they go through an economic downturn. That means that when aggregate demand suffers a decline, pain in export sectors get compounded by a sharp erosion of competitiveness. Thus employment in manufacturing declines steeply during a recession in the United States, and then fails to recover materially afterward.

6 https://sites.google.com/view/jschreger/CIP?authuser=0

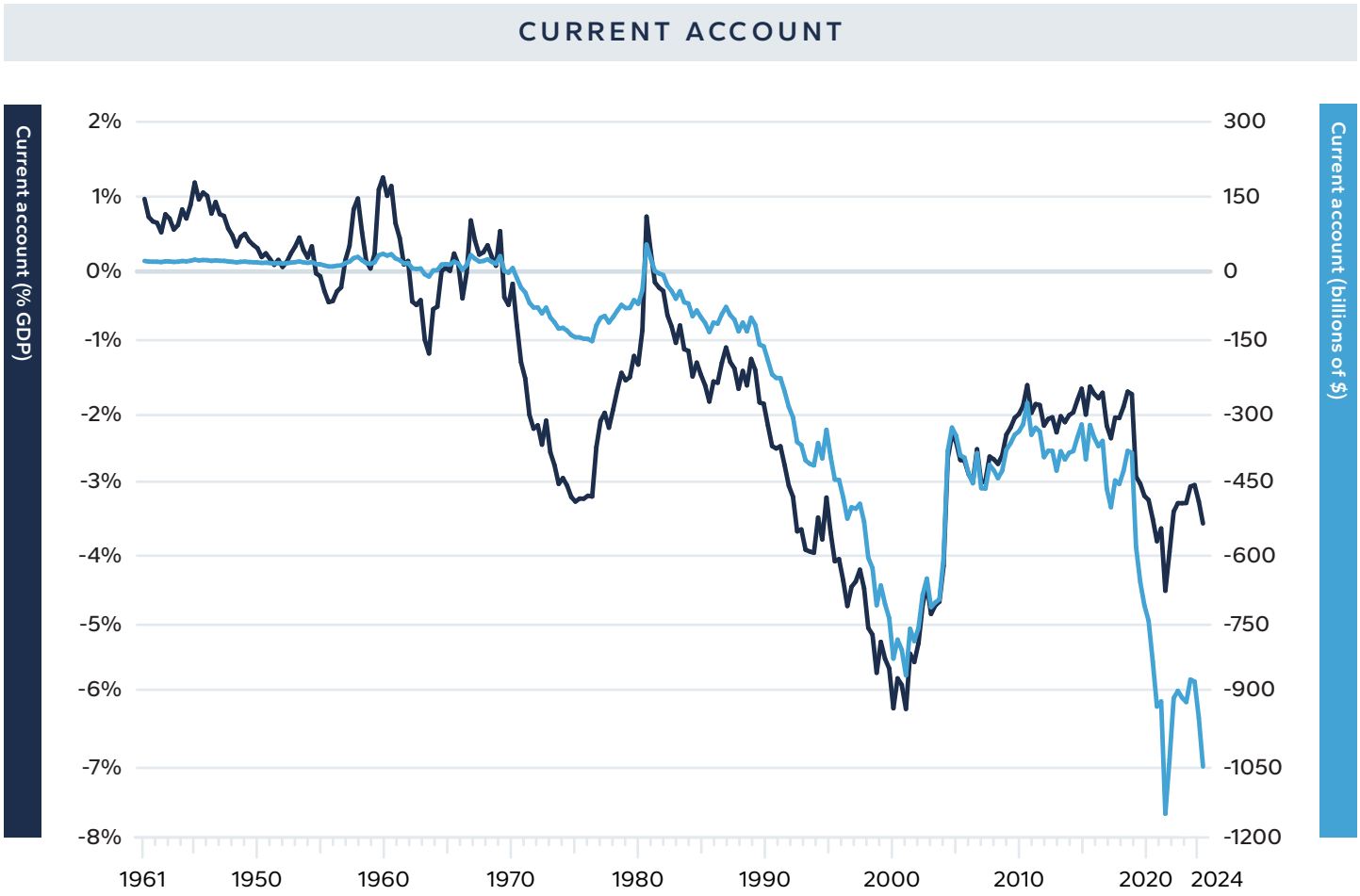

Figure 3 U.S. current account. Source: Bureau of Economic Analysis, HBC calculations

It may seem odd to suppose that reserve demand for Treasury securities plays only a small role in delivering favorable borrowing terms, yet a large role in creating currency overvaluation. However, that is the explanation most consistent with outcomes in both interest rate markets and the balance of payments. Indeed, it is also consistent with the idea that liquidity injections ultimately raise interest rates because they stimulate stronger nominal growth. Other theoretical explanations for this combination of outcomes could make interesting research.

3) Financial Extraterritoriality

Finally, if the reserve asset is the lifeblood of the global trade and financial systems, it means that whoever controls the reserve asset and currency can exert some level of control trade and financial transactions. That allows America to exert its will in foreign and security policy using financial force instead of kinetic force. America can, and does, sanction people all over the globe in a variety of ways. From freezing assets to cutting nations off from SWIFT and restricting access to the U.S. banking and financial system that is critical for any foreign bank doing global business, the U.S. exerts its financial might to achieve foreign policy ends of weakening enemies without having to mobilize a single soldier. Economists cannot evaluate whether America's national security goals are worthy, only note that it can achieve them far more cheaply because of America's control of the international trade and financial systems by virtue of our reserve currency status.

A comprehensive review of how the United States mobilizes the global financial architecture for national security purposes is given in Cipriani, Goldberg and La Spada (2023), and a history of many of the key players in Mohsin (2024). In a broader sense, sanctions can also be perceived as a modern-day form of a blockade. Many previous reserve providing nations possessed significant sea power by virtue of their trading empires, which allowed them

to blockade rival nations and hamper their economic production; sanctions achieve related outcomes, without the need for physical action.

The Core Tradeoff

Synthesizing these properties of reserve assets, if there is persistent, price-inelastic demand for reserve assets but only modestly cheaper borrowing, then America's status as reserve currency confers the burden of an over-valued currency eroding the competitiveness of our export sector, balanced against the geopolitical advantages of achieving core national security aims at minimal cost via financial extraterritoriality.

The tradeoff is thus between export competitiveness and financial power projection. Because power projection is inextricable from the global security order America underwrites, we need to understand the question of reserve status as intertwined with national security. America provides a global defense shield to liberal democracies, and in exchange, America receives the benefits of reserve status—and, as we are grappling with today, the burdens.

This connection helps explain why President Trump views other nations as taking advantage of America in both defense and trade simultaneously: the defense umbrella and our trade deficits are linked, through the currency.

In a Triffin world, this arrangement becomes more challenging as the United States shrinks as a share of global GDP and military might. As the economic burdens on America grow with global GDP outpacing American GDP, America finds it more difficult to underwrite global security, because the current account deficit grows and our ability to produce equipment becomes hollowed out. The growing international deficit is a problem because of the increased strain it places on the American export sector and the socioeconomic problems that follow therefrom. That the bargain becomes less appealing in this context brings us to present, whereby there is growing consensus in America to change the relationship.

Reshaping the Global System

If America is unwilling to bear the status quo, then it will take steps to change it. There are, broadly speaking, unilateral and multilateral approaches, and approaches focused on tariffs or currencies.

Unilateral solutions are more likely to have undesired side effects, like market volatility. Multilateral solutions may have less volatility, but entail the difficulty of getting trading partners onboard, which curtails the size of the potential gains from reshaping the system. Unilateral policies provide greater flexibility to rapidly shift policy; multilateral policies are more difficult (maybe impossible?) to implement, but allow you to recruit foreign policymakers to help reduce volatility.

The U.S. dollar is the reserve asset in large part because America provides stability, liquidity, market depth and the rule of law. Those are related to the characteristics that make America powerful enough to project physical force worldwide and allow it to shape and defend the global international order. The history of intertwinement between reserve currency status and national security is long. In any possible reshaping of the global trading system, these linkages will become ever more explicit.

Both tariffs and currency policy are aimed at improving the competitiveness of American manufacturing, and thus increasing our industrial plant and allocating aggregate demand and jobs from the rest of the world stateside. These policies are unlikely to result in significant reshoring of low-value-added industries like textiles, for which other countries—like Bangladesh—will retain comparative advantage despite significant swings in currency or tariff rates. However, these policies can help preserve the American edge in high-value-added manufacturing, slow down and prevent further offshoring, and potentially increase negotiating leverage with which to procure agreements from other countries to open their markets to American exports or protect American intellectual property rights. The Phase 1 trade deal with China in 2019 made advances in these domains, before China abdicated its commitments under that agreement.

Moreover, because many in the Trump camp see trade policy and national security as inextricably intertwined, many interventions will be targeted at industrial plant critical to security, to the extent they can. National security will likely become ever more broadly conceived, for instance to include products like semiconductors and pharmaceuticals.

Despite the dollar's role in weighing heavily on the U.S. manufacturing sector, President Trump has emphasized the value he places on its status as the global reserve currency, and threatened to punish countries that move away from the dollar. I expect this tension to be resolved by policies that aim to preserve the status of the dollar, but improve burden sharing with our trading partners. International trade policy will attempt to recapture some of the benefit our reserve provision conveys to trading partners and connect this economic burden sharing with defense burden sharing. Although the Triffin effects have weighed on the manufacturing sector, there will be attempts to improve America's position within the system without destroying the system.

No matter what policy is adopted, there is the risk of material adverse consequences for financial markets and the economy. However, there are steps the Administration can take to try to mitigate these consequences and make the policy changes as successful as possible.

Chapter 3: Tariffs

Tariffs are a familiar tool to President Trump and his team, since they were used—with success—extensively in 2018-2019 in trade negotiations with China. Those tariffs passed with little discernible macroeconomic consequence—inflation remained stable or even declined, and GDP growth continued to perform quite well despite the Fed's hiking cycle. It is therefore reasonable to expect tariffs once again to be a primary tool.

Tariffs and Currency Offset

Before discussing how unilateral and multilateral tariff regimes might work in practice, I first review some economics of tariffs. There are several critical dimensions to study: inflation, incidence, and efficiency (including how tariffs compare to other types of taxes).

In the analysis that follows, the critical question is to what extent currencies adjust to offset changes in international tax regimes. A recent rigorous theoretical treatment and literature review is given, for instance, in Jeanne and John (2024). The classic reason currencies offset changes in tariffs is that tariffs improve the trade balance, which then puts upward pressure on the currency for traditional reasons. But currencies might also adjust because nations' central banks adjust interest rates to offset inflation and demand changes; or because end-supply is determined by comparative advantage and end-demand by preferences, and currencies adjust to offset changes like taxes; or because the growth prospects of the tariffing country improve relative to the tariffed country, attracting investment flows (so long as tariffs do not exceed "optimal" levels; see below).

To illustrate the mechanism simply, let p_x be the price of a good charged by (foreign) exporters, denominated in their own currency, e the exchange rate (dollars per foreign currency unit), and τ the tariff rate. Then the price paid by (American) importers is:

$$p_m = e(1+\tau)\, p_x$$

Suppose we begin with $e=1$ and $\tau=0$. The government imposes a 10% duty on imports but the foreign currency depreciates by 10% as well. Then the price paid by importers becomes:

$$p_m = 0.9(1.1)\, p_x = 0.99 p_x$$

In other words, the exchange rate move and the tariff almost completely offset each other.[7] The after-tariff price of the import, denominated in dollars, didn't change. If the after-tariff import price in dollars doesn't change, there are minimal inflationary consequences for the American economy (but not so for the exporting country). Now, underlying this simple example are a number of assumptions which must be made clear:

1) The exchange rate must move by the right amount.
2) Primitive and intermediate value added in final exports originate predominantly in the exporting nation.
3) Passthrough from exchange rates to exporter prices p_x is complete. Importantly, since imports are often invoiced in USD, the exchange rate doesn't automatically affect . Instead, a strengthening in the dollar improves exporter profit margins if exchange rates do not passthrough into prices.
4) Passthrough from wholesale import to retail consumer prices is complete.

As I will discuss below, these assumptions may not hold perfectly, in which case there is room for more volatility in prices, international trade and markets. Further, to the extent there are no meaningful changes to , then there will be no rebalancing of trade flows as a result of the tariffs. If imports from the tariffed nation become more expensive, then there will be some rebalancing of trade flows but also higher prices; if imports from the tariffed

7 Technically, e has to adjust by $1/(1+\tau)$ to perfectly offset the tariff, or in this case 9.09%

nation do not become more expensive because of currency offset, then there's no incentive to find cheaper imports. One must choose between higher prices and rebalancing trade. Revenue is an important part of this story, as discussed below.

Inflation

While in principle tariffs can be noninflationary, how likely is it? In the macroeconomic data from the 2018-2019 experience, the tariffs operated pretty much as described above. The effective tariff rate on Chinese imports increased by 17.9 percentage points from the start of the trade war in 2018 to the maximum tariff rate in 2019 (see Brown, 2023). As the financial markets digested the news, the Chinese renminbi depreciated against the dollar over this period by 13.7%, so that the after-tariff USD import price rose by 4.1%. In other words, the currency move offset more than three-fourths of the tariff, explaining the negligible upward pressure on inflation. Measured from currency peak to trough (who knows exactly when the market begins to price in news?), the move in the currency was 15%, suggesting even more offset.

Measured CPI inflation moved from slightly above 2% before the start of the trade war to roughly 2% by the armistice. Measured PCE inflation went from slightly below the Fed's target to further below the Fed's target. Of course there were cross-currents like the Fed's tightening cycle at the time, but any inflation from this trade war was small enough that it was overwhelmed by these cross-currents. This explains the Trump camp's view that the first U.S.-China trade war was noninflationary.

While the macroeconomic data appear consistent with the currency offset theory, academics studying goods-level microdata take a harsher view of this experience. For instance, Cavallo, Gopinath, Neiman and Jang (2021) study detailed microdata of goods imported by retailers and find that the dollar import price moved up by the amount of the tariff, and that the appreciation of the dollar did little to offset the tariffs. In other words, they argue

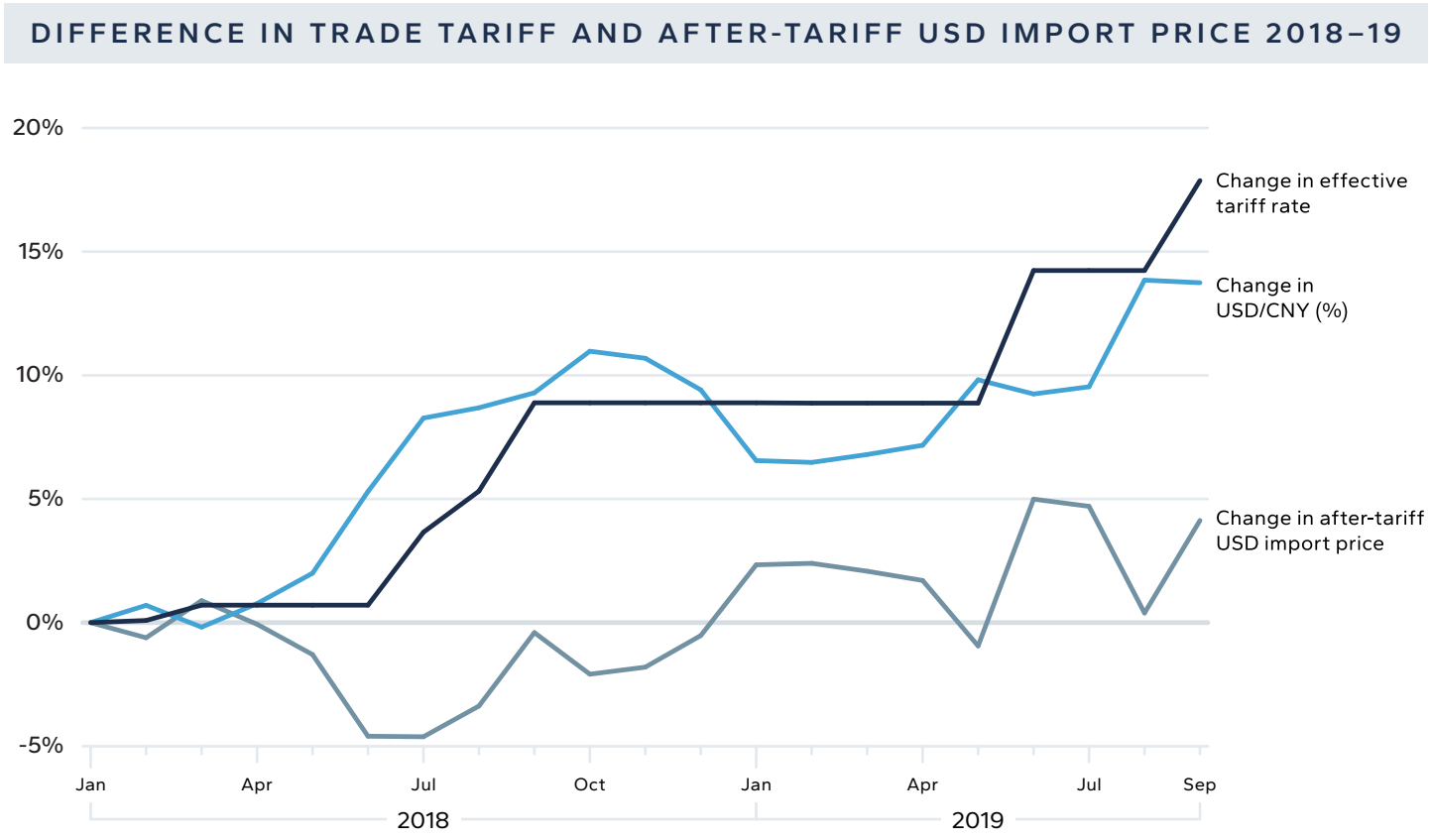

Figure 4 Changes in effective tariff rates and currency offset. Source: Brown (2023), Federal Reserve, authors' calculations.

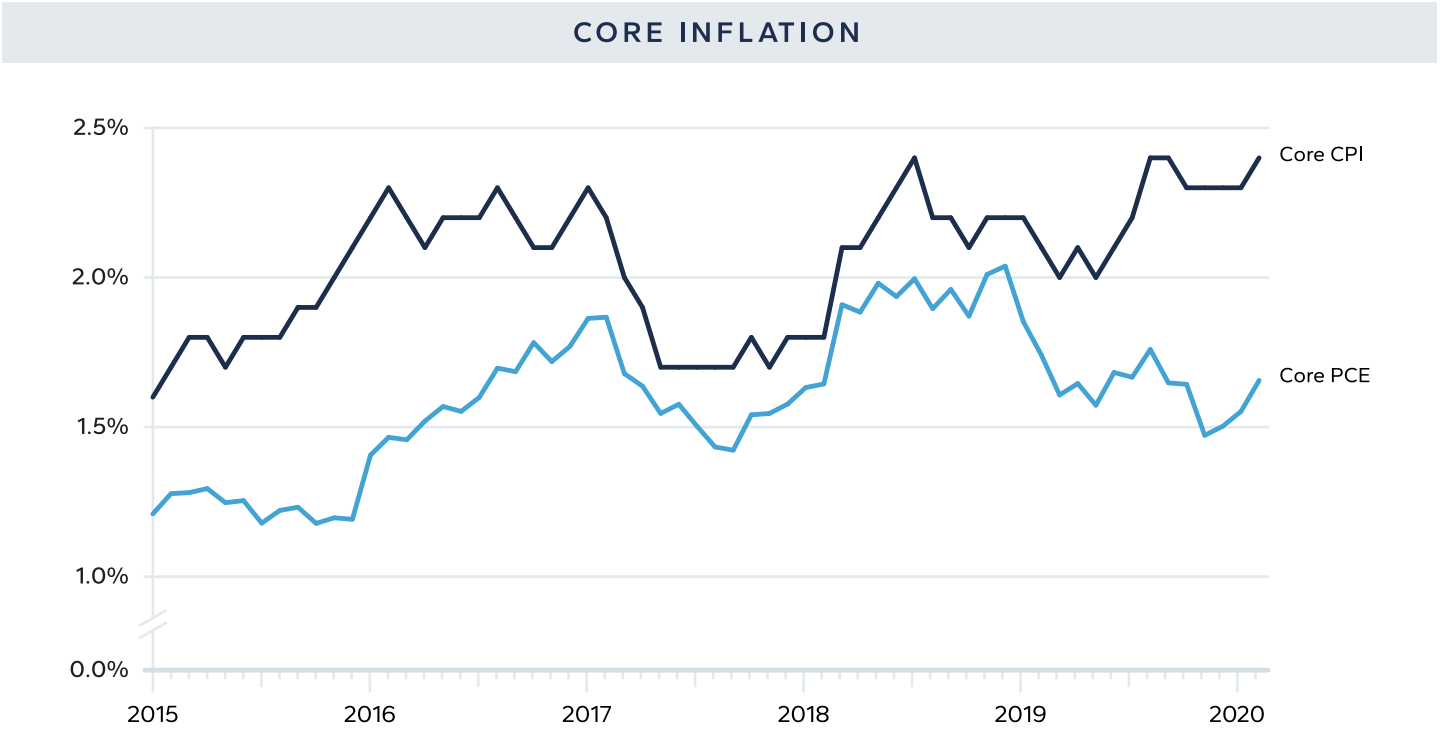

Figure 5 Core CPI and PCE inflation, annual rates. Source: BLS, BEA

that the move in the currency didn't passthrough into import prices.[8] Similar conclusions are drawn by Fajgelbaum et al (2020) and Amiti, Redding and Weinstein (2019).

What can bridge the gap between the macrodata arithmetic and the results of microdata studies? First, examples like Cavallo et al tend to study short run effects, and it is possible currency passthrough into prices will be much slower than tariff passthrough: it's much less salient, and importers tend to hedge their currency exposures anywhere from a few months to a few years out. If the importers hedge currency risk, it will take time for level shifts in the currency to pass through into invoiced prices. It would be bizarre for any economist to think that passthrough will never occur, since a competitive marketplace will result in producers lowering prices to marginal cost; if economists began to believe currencies didn't affect the prices of traded goods, they'd have to reimagine several branches of economics. Amiti et a (2018) refer to the lack of exchange rate passthrough as a "puzzle" and speculate that over a longer period, exchange rate effects will materialize.

Second, Cavallo et al find that the price hikes occurred for prices paid by importers, not prices sold by retailers, limiting the ability of tariffs to result in increases in consumer prices but squeezing margins. That means that for the measures of inflation commonly prioritized, like the Consumer Price Index, or the price index for Personal Consumption Expenditures, there was little consequence. That helps reconcile the micro- and macro experiences. However, it would be bizarre for economies with sufficient competition not to see importers over time restore their margins by shifting suppliers if currency weakness isn't passed through.

Third, interpreting goods-level microdata is difficult in light of re-export diversion. To avoid the tariffs, many Chinese companies began exporting goods or components to third countries, engaging in some minor processing, and then re-exporting to the United States. Iyoha et al (2024) find that rerouting of Chinese imports increased by roughly 50% since the tariff increases. And Freeman, Baldwin and Theodorakoplous (2023) find that, while just

8 More formally, because imports are invoiced in USD, the currency move doesn't automatically affect the import price. If imports are invoiced in USD and the dollar appreciates, foreign profit margins improve, and then over time competition should whittle that margin so that then the dollar-invoiced import price declines.

over 60% of manufacturing intermediates imported into the U.S. came directly from China, incorporating the value-added of manufacturing intermediates that originated in China but were imported from other trade partners brought that number above 90%.

The decision for Chinese exporters whether to evade tariffs via re-export is affected by the demand elasticity for their exports in the United States, introducing a critical bias into microdata studies. It is likely that the goods that are still directly exported to the U.S. and therefore subject to the tariffs are the ones over which the Chinese exporters retain the most pricing power and the greatest ability to pass through price increases on Americans. The goods on which Chinese exporters do not have pricing power, and over which they might have to absorb the tariffs, are the ones most likely to be re-exported via a third country. Chinese exporters will not pay the cost of diverting exports if they can push through price increases on purchasers. This practice severely upwardly biases the results of the microdata studies: only those goods with the highest ability to foist increases on Americans continue to be labeled as "made in China," and other goods receive minor processing elsewhere and get labeled as different origin. In other words, difference-in-difference and related approaches will over-estimate the effect of tariffs on prices in microdata.

Nevertheless, let's consider the results in Cavallo et al at face value, and suppose America puts a 10% tariff on all imports, per President Trump's proposals. With complete passthrough, that would lead to a 10% increase in prices of imported goods in the United States. Further suppose the dollar behaves as in 2018-19 and appreciates by the same amount as the tariff, 10% on a broad basis. Gopinath (2015) estimates that USD passthrough to imported prices is about 45% in the first two years, and that a 10% move in the USD impacts CPI by 40-70 basis points.

Gopinath (2015) calculates that 6% to 12% of all consumption derives from imported sources, while Briggs (2022) estimates that number at about 10%. With 10% of consumption from imported sources, 100% passthrough, and a 10% tariff, consumer prices will go up by one percentage point.

Incorporating the 40-70 basis point drag on inflation from the stronger dollar would indicate a total tariff passthrough into price levels of 0.3% to 0.6% of the CPI. All else equal and in a calm economic environment, such a modest increase would be a one-time boost to the price level and thus transitory, rather than contribute to lasting inflation. In more turbulent times and greater inflationary cross-currents, such a change may work its way into inflation expectations and become more persistent, contributing to a goods-wage inflationary spiral. The economic context into which tariffs are levied will be of significant importance, and the fragility or robustness of inflation expectations and local supply elasticities at current macroeconomic equilibrium can play substantial roles. Certainly there was no indication in 2018-2019 of a goods-wage spiral.

If the currency markets adjust, tariffs can have quite modest inflationary impacts, between 0% and 0.6% on consumer prices. Given the inflation volatility of recent years, this is nontrivial, but hardly earthshaking. Clearly, the experience of 2018-2019 was that there were only imperceptible increases on the general price level. Moreover, the totality of tax reform, deregulation, and energy abundance can serve as meaningful disinflation drivers that smother any incipient inflationary impulses; it is quite possible that even with substantial tariffs, Trump Administration policy is overall disinflationary. I will later turn to the likelihood of whether currency markets will adjust, as well as to the risks of retaliation, which can alter the tariff analysis.

Incidence, Revenue, and Trade Flows

Like inflation, the question of who bears the burden of the tariff will depend on what prices adjust, but there are more nuances. In a world of perfect currency offset, the effective price of imported goods doesn't change, but since the exporter's currency weakens, its real wealth and purchasing power decline. American consumers' purchasing power isn't affected, since the tariff and the currency move cancel each other out, but since the exporters' citizens became poorer as a result of the currency move, the exporting nation "pays for" or bears the burden of the tax, while the U.S. Treasury collects the revenue.

While the effective price paid by U.S. importers may not change very much with perfect currency offset, U.S. exporters now face a competitiveness challenge insofar as the dollar has become more costly for foreign importers. Presumably, they have hedged most of their currency exposures, and this can help lessen that pain in the short run. Thus there is a tradeoff: if currencies perfectly adjust, the U.S. government collects revenue in a noninflationary way paid by foreigners via reduced purchasing power, but exports may become encumbered. Policymakers can in part alleviate any drag on exports by an aggressive deregulatory agenda, which helps make U.S. production more competitive. Recent work by Goldbeck (2024) flags the increase in regulatory-related compliance under the Biden Administration as costing the economy over 1% of GDP per year, while research from Laperriere et al (2024) suggests those costs could be twice as large. Improvements in competitiveness driven by regulatory reform can offset drags on competitiveness due to currency appreciation.

By contrast, if currency offset does not occur, American consumers will suffer higher prices, and the tariff will be borne by them. Higher prices will, over time, incentivize a reconfiguration of supply chains. American producers will have improved competitiveness selling into the American market, and importers will be incentivized to find alternatives to the tariffed imports. As trade flows adjust, the trade balance can decline, but then the tariffs will no longer collect much revenue.

These tradeoffs are listed in Table 2, though of course reality may fall in between these extremes:

	PERFECT CURRENCY OFFSET	NO CURRENCY OFFSET
Inflation	Noninflationary (after-tariff USD price unchanged)	Inflationary (tariff passed through)
Incidence	Paid for by tariffed nation via reduced purchasing power from weaker currency	Result in more expensive consumer goods
Trade flows	Little effect on trade flows, as effective import prices don't increase and regulatory reform offsets currency effects on exports	Rebalancing over time as imports are more expensive relative to domestic production
Revenue	Treasury raises revenue	As trade rebalancing away from the tariffed goods occur, Treasury raises less revenue

Table 2: Comparison of outcomes under total and no currency offset of tariffs

Once again, there is a disconnect between the macro experience and studies of the microdata on questions of incidence. However, note that in Cavallo et al (2021), the microdata indicate that price hikes occurred for prices paid by importers, and that those prices were not passed through to retailers. In other words, the incidence fell on reduced retailer profit margins, rather than consumers themselves. This helps further bridge the gap between the microdata and the macro experience in price data.

The same questions about the microdata studies pertain to the finding of reduced wholesaler margins as well: primarily that this is a short-term effect, and that in the long-run changes to wholesaler profitability will lead to other changes that will end up passing through the cost. Over time, wholesalers will find ways to source products more cheaply. Moreover, this result implies that profitability was enhanced for Chinese exporters, since they experienced both currency depreciation and passthrough of tariff costs to retailers—over time, competition among them will lead to reduced profitability, or rebalancing of trade flows to other exporters or domestic producers.

Currency Offset and Financial Markets

While reducing volatility in consumer prices, currency offset can actually imply greater and not less volatility in financial markets, at least in the short term. For instance, the volatility of early August was deeply intertwined with moves in the Japanese yen. Carry traders borrowing in yen to buy higher-yielding assets in other currencies were highly levered, and the assets they were long were also held by other types of highly levered investors. When the carry trade began to unwind somewhat—due to a shift in the stance of the Bank of Japan and an increase in the unemployment rate in the United States—the long assets were sold by levered traders managing their risk exposures. The result was significant financial market volatility, in which the Nasdaq Composite Index fell 8% in three sessions.

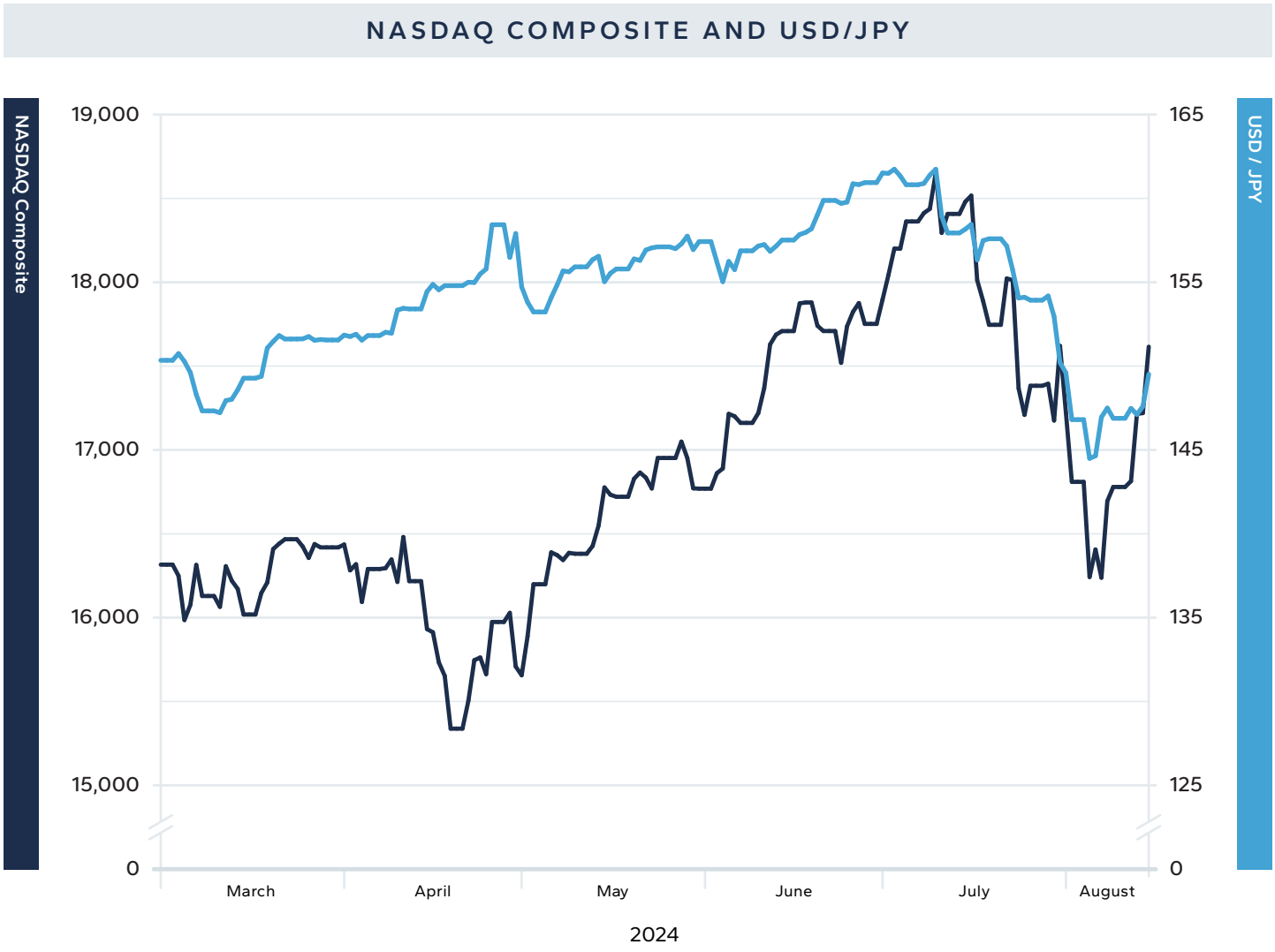

Figure 6 During the flash-crash of early August, the correlation between the yen and stocks was near complete. Source: Bloomberg

Similarly, imagine a very large tariff on China, say a sharp increase in the effective tariff rate from roughly 20% to roughly 50%, offset by a similar move in the currency. A 30% devaluation in the renminbi would most likely lead to significant market volatility. Because China's communist economic system necessitates strict control over the capital account to keep funds locked in domestic assets, the incentives to find ways around capital controls could be devastating for their economy.

Capital outflows from China can potentially result in asset price collapses and severe financial stress. According to Bloomberg, total debt in the Chinese economy exceeds 350% of GDP (Figure 7); this level of leverage entails the possibility for massive vulnerabilities to leakages in the capital account. Bursting bubbles in China as a re-

sult of currency devaluation could cause financial market volatility significantly in excess of that caused by the tariffs themselves.

Financial market volatility from currency moves may far exceed the volatility from total passthrough of tariffs into consumer prices. For example, consider the case of total passthrough of a 10% tariff, that boosts consumer prices by 1%, with no currency offset. Such a move is a one-time shift in the price level, not a persistent increase in the inflation rate, and may therefore be ignored by the central bank, in which case there are not likely to be much in the way of financial fireworks. If the central bank fears second-round effects taking hold, it may hike rates—say, by 75 basis points, half of what it would if it considered a persistent 1 point increase I the inflation rate. Such an adjustment to monetary policy will likely induce less volatility than a 10% move in currency markets.

It's worth noting that value-added taxes are a form of tariffs because they exempt exported goods but tax imported goods, and central banks usually do not respond to them, because legislated price changes are typically thought not to be indicative of underlying supply-demand imbalances. (Indeed, the fact that other countries have VATs and we do not says something about initial conditions.)

Even without a currency or monetary response, tariffs can affect profitability. For instance, Amiti et al (2021) estimate that firms more exposed to tariffs experienced steeper declines in equity value in the days following tariff announcement. There are a few problems taking these results at face value, however: many of these estimates are statistically insignificant from zero effect, and markets are prone to excess volatility. What matters is whether there is a lasting effect from the tariffs, and as any investor knows, initial market responses often unwind or reverse over time.

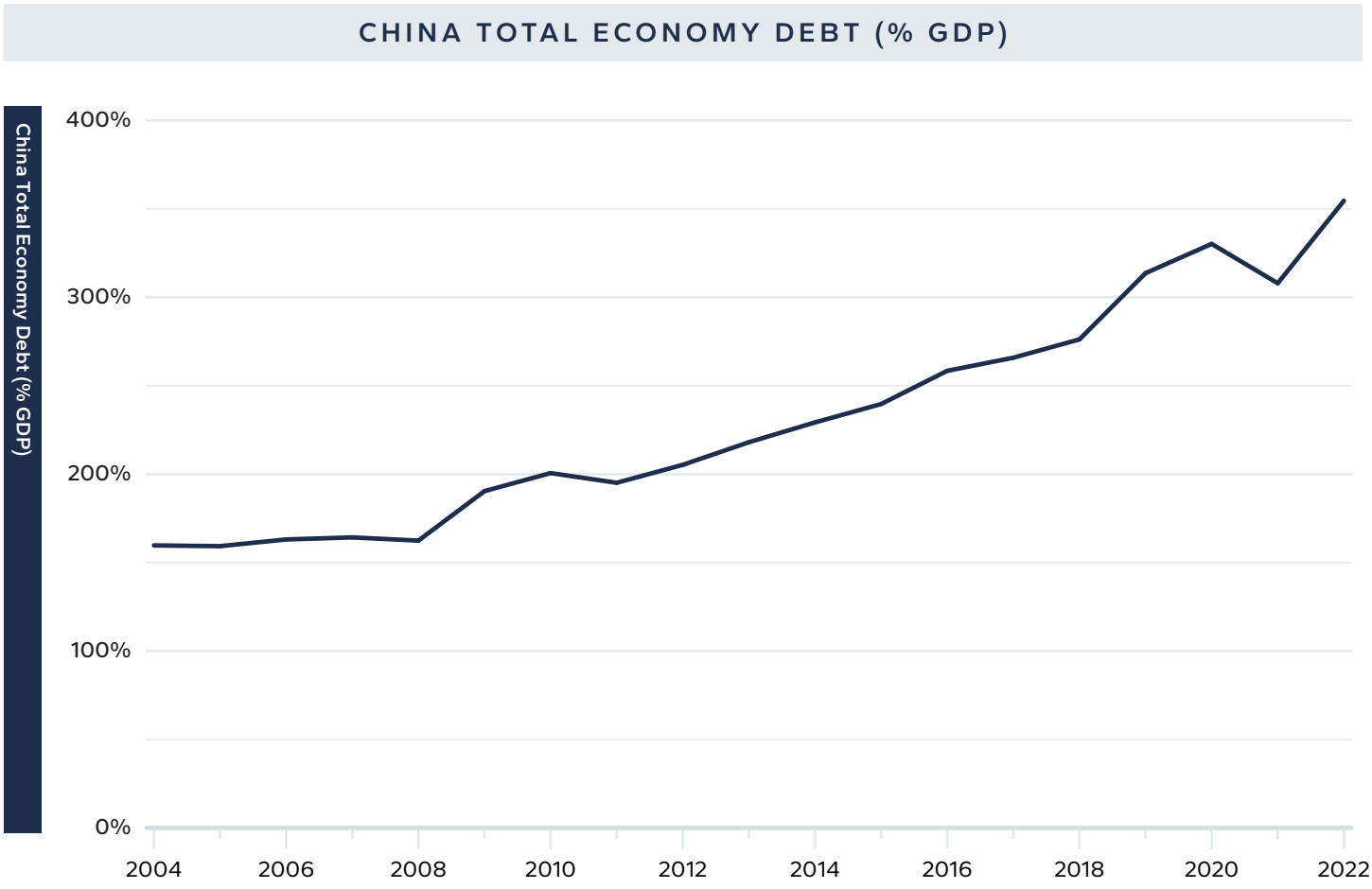

Figure 7 Excessive levels of debt in the Chinese economy. Source: Bloomberg

How Likely is Currency Offset to Occur?

The economic and market consequences of tariffs hinge on the extent to which they are matched by offsetting changes in currencies, so it is important to consider the likelihood that currencies do adjust. In the U.S.-China trade war of 2018-2019, currency offset was effective. However, there were several crosscurrents at the time that make the comparison cloudy.

For instance, the dollar was appreciating more broadly than just vs. China; during the period discussed above, the DXY dollar index maintained by the Intercontinental Exchange, which measures the dollar against other developed nations, also increased by about 10%. As mentioned above, currency moves in one pair can affect other assets too, just as an unwind in the yen carry trade affected all financial markets. Indeed, given the significance of the USD-RMB pair to the global economy and markets, it is possible a good portion of the move in DXY was driven by the move in USD-RMB.

Such a possibility is bolstered by trends in interest rates over the period. The most powerful financial variable for explaining currency moves in developed markets is typically the spread in interest rates at the front end of the yield curve; market participants usually use two-year yields, but the convention varies depending on the interest rate and economic environment. In the period of the trade war, the yield advantage of UST securities was declining relative to the yields on other G7 debt; the spread declined from about 2% in January 2018 to about 1.65% at the trade war armistice in September 2019.

The decline in spreads occurred despite the rate hikes from the Federal Reserve over the course of 2018. This happened because markets marked down their expectations for future rate hikes as the economic data came in over the course of 2018. Of course, currency markets would typically follow changes in expected policy rather than the (already-priced-in) policy hikes occurring in real-time. A fully-expected change in policy should have no effect on currency markets. Thus it is highly unlikely the dollar appreciated because of monetary policy during this period; it appreciated in spite of monetary policy.

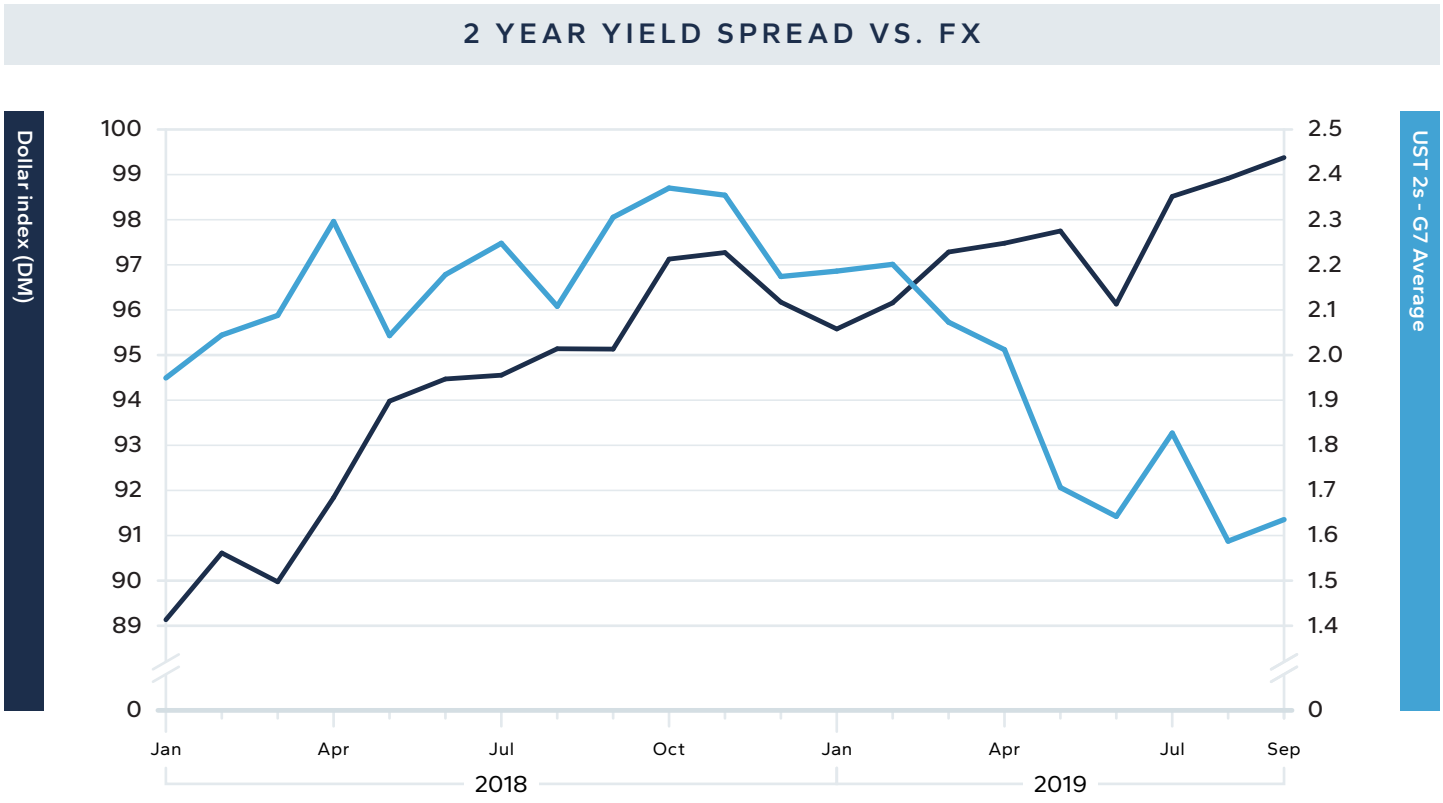

Figure 8 Dollar index vs. the spread on sovereign U.S. two-year debt relative to the average on two-year debt for other G7 nations. Source: Bloomberg

In 2025-2026, the yield spread of Treasury securities over other nations' debt may narrow if the Fed continues its cutting cycle catching up to other central banks and the special factors boosting U.S. growth—like fiscal policy—further fade and U.S. growth converges down to the rest of the world's. A declining-yield environment might make it more difficult for the dollar to rally to offset tariff hikes, although the experience of 2018-2019 shows currencies can move against interest rate differentials.

Alternatively, concerns over U.S. debt sustainability may come to the fore and prevent the dollar from appreciating to offset tariffs. The U.S. deficit for last fiscal year and this fiscal year are both near 7% of GDP[9], during a peacetime expansion—an unprecedented degree of fiscal laxity. And with the Social Security Trust Fund set to run out of money in 2033[10], at which time the government will likely be forced to borrow to pay mandatory expenditures, budget woes draw inexorably nearer.

Since currencies always trade relative to each other, markets would have to become inordinately preoccupied with U.S. budget problems for this to prevent a rise in the dollar. Given many other nations' precipitous demographic trends, they have severe budget problems lurking in their futures as well, even if their primary deficits are not projected to rise as much. Moreover, because tariffs raise revenue, deficit concerns are likely to be allayed by hikes in tariff rates, suggesting this is an unlikely channel to prevent appreciation.

A further reason the dollar might not appreciate as in 2018-2019 is if it starts from stronger levels. In 2018, the DXY index was at the bottom of its post-2014 range. At writing, it is in the middle of that range. This would be more of a concern if the DXY was stretched near the top of its long-term range.

Finally, the dollar will be cross-buffeted by cyclical and secular changes to growth. There may be other changes which weigh on economic growth and prevent dollar appreciation. By contrast, former President Trump has expressed a desire to take steps to aggressively deregulate portions of the economy. If doing so serves as a boost to growth, it may provide further noninflationary support for the dollar.

Summing this all up, it is of course possible that currency offset does not occur in the next iteration of tariffs, but considering plausible reasons why that might be the case, offset seems more likely than not.

Tariff Implementation

A sudden shock to tariff rates of the size proposed can result in financial market volatility. That volatility can take place either through elevated uncertainty, higher inflation and the interest rates required to neutralize it, or via a stronger currency and knock-on effects thereof.

President Trump, and those likely to staff his economic policy team, have a history of caring deeply about financial markets and citing the stock market as evidence of economic strength and the popularity of his policies. A second Trump Administration is likely therefore take steps to ensure large structural changes to the international tax code occur in ways that are minimally disruptive to markets and the economy. There are several steps that would help mitigate any adverse consequences.

Graduated Implementation

Even in the 2018-2019 trade war, President Trump didn't implement 25% tariffs on Chinese imports in one swoop with no warning. He discussed these plans publicly and threatened China if it didn't reform its trade practices, before implementing tariffs. Subsequent to open threats, they were implemented in such a manner that the roughly 18-point increase in effective tariff rates was spread over more than a year.

9 To consider its effects on aggregate demand, supply and markets, last year's deficit has to be adjusted to offset accounting technicalities surrounding the Biden Administration's failed attempts to forgive student loans, see: https://www.cbo.gov/publication/59544.

10 https://www.ssa.gov/OACT/TRSUM/index.html

In going to 60% tariffs on China or 10% globally, such an approach becomes even more important. During his first Administration, President Trump sought to use tariffs to procure a trade agreement from China, which ultimately found shape in the "Phase 1" agreement—a commitment to improve practices on intellectual property, cyber security, nontariff barriers, openness to financial services, and purchases of agricultural commodities—that was subsequently violated and disregarded by China. Because tariffs are a negotiating tool, the President was mercurial in their implementation—the uncertainty over whether, when, and how big adds to leverage in a negotiation, by creating fear and doubt.

In a second term, there's less cause to negotiate with the Chinese up front, since they already abdicated their responsibilities under the Phase 1 agreement. When someone has already demonstrated they walk away from their commitments, why bother trying to procure more, without some form of security—like placing their UST reserves in escrow?

Instead, to help minimize uncertainty and any adverse consequences of tariffs, the Administration can use credible forward guidance, similar to what is used by the Federal Reserve across a range of policies, to guide expectations. The U.S. Government might announce a list of demands from Chinese policy—say, opening particular markets to American companies, an end to or reparations for intellectual property theft, purchases of agricultural commodities, currency appreciation, or more.

The U.S. can proceed to gradually implement tariffs if China does not meet these demands. It might announce a schedule, for instance, a 2% monthly increase in tariffs on China, in perpetuity, until the demands are met.

Such a policy will 1) gradually ramp tariffs at a pace not too different from 2018-2019, which the economy seemed able to easily absorb; 2) put the ball in China's court for reforming their economic system; 3) allow tariffs to exceed 60% midway through the term, which is something President Trump has expressed wanting ("60% is a starting point"); 4) provide firms with clarity over the path for tariffs, which will help them make plans to deal with supply chain adjustments and moving production outside of China; 5) limit financial market volatility by removing uncertainty regarding implementation.

2018-2019 did not severely hobble China's economy and bring back all its supply chains to the United States. In part, this is because it was a one-time shock to tariff rates, which was mostly offset by the currency. By contrast, a plan like the one set forth above would result in a *perpetually rising tariff rate on a known and gradual path.* That would likely instill much greater capital pressures on China and more rearrangement of supply chains.[11] And with significant pressure on China, it is likely to achieve greater trade concessions. Critically, in the wake of their abdication of Phase 1 commitments, Chinese obligations under trade agreements should now be secured rather than unsecured.

Graduated Scales, Leverage and Security

The last trade war saw gradations of tariff rates for different types of products imported from China. It is likely that the next Trump Administration take a similar approach with respect to both products and trading partners. While President Trump has proposed a 10% tariff on the world as a whole, such a tariff is unlikely to be uniform across countries.

Scott Bessent, a Trump advisor floated as potential Treasury Secretary, has proposed putting countries into different groups based on their currency policies, the terms of bilateral trade agreements and security agreements, their values and more. Per Bessent (2024), these buckets can bear different tariff rates, and the government can lay out what actions a trade partner would need to undertake to move between the buckets.

11 Of course, supply chains might have ultimately had greater adjustments if the Phase 1 deal reached in the fall of 2019 had been enforced. Given China abandoned it as soon as the Biden Administration took over and the Biden Administration had no interest in trying to enforce it, it is unclear if the trade war of 2018-2019 would have had more lasting consequences.

In this manner, tariffs create negotiating leverage for incentivizing better terms from the rest of the world on both trade and security terms. America would encourage other nations to move to lower tariff tiers, improving burden sharing.

One can imagine a long list of trade and security criteria which might lead to higher or lower tariffs, premised on the notion that access to the U.S. consumer market is a privilege that must be earned, not a right. For example, maybe the U.S. wants to discriminate based on:

- Does the nation apply similar tariff rates to their imports from the U.S. as America does on their exports here?
- Does the nation have a history of suppressing its currency, for instance via the accumulation of excessive quantities of foreign exchange reserves?
- Does the nation open its markets to U.S. firms in the same way America opens its markets to foreign firms operating stateside?
- Does the nation respect American intellectual property rights?
- Does the nation help China evade tariffs via re-export?
- Does the nation pay its NATO obligations in full?
- Does the nation side with China, Russia, and Iran in key international disputes, for instance at the United Nations?
- Does the nation help sanctioned entities evade sanctions, or trade with sanctioned entities?
- Does the nation support or oppose U.S. security efforts in various theaters?
- Does the nation harbor enemies of the United States, e.g. terrorists or cybercriminals?
- Do the nation's leaders grandstand against the United States in the international theater?

Because of the concern of the impacts of such a system on global markets, a Trump Administration may want to pursue a rate phase-in approach as described above, starting with low tariffs and only hitting the maximum 10% rate over time. Moreover, such a system is likely to begin with a small number of criteria as it is tested out, and then the criteria can grow in number.

If the system is effective over time either at raising revenue or incentivizing more favorable treatment from trading partners, it could eventually have a top tariff rate significantly in excess of 10%, that applies to a small number of countries. Similar to the domestic tax code, once the government starts carving out exclusions and deductions for various behaviors, it needs to raise rates to achieve the same revenue goals.

Such a system can embody the view that national security and trade are joined at the hip. Trade terms can be a means of procuring better security outcomes and burden sharing. In Bessent's words, "more clearly segmenting the international economy into zones based on common security and economic systems would help … highlight the persistence of imbalances and introduce more friction points to deal with them." Countries that want to be inside the defense umbrella must also be inside the fair trade umbrella.

Such a tool can be used to pressure other nations to join our tariffs against China, creating a multilateral approach toward tariffs. Forced to choose between facing a tariff on their exports to the American consumer or applying tariffs to their imports from China, which will they choose? It depends on the relative tariff rates and how significant each is to their economies and security. The attempt to create a global tariff wall around China would increase the pressure on China to reform its economic system, at the risk of significantly more global volatility as supply chains come under greater pressure to adjust.

From America's perspective, if other nations choose to keep their current policies vis China but accept the higher U.S. tariff, that's not terrible—because then, in this framework, at least they're paying revenue to Treasury, and limiting the security obligations of the United States. Joining a tariff wall with a security umbrella is a high-risk strategy, but if it works, it is also high reward.

Tariffs and Competitiveness

Government revenue must come from somewhere, and requires some form of taxation. The characteristics of the tax code will affect overall economic growth and international competitiveness. Many in the Trump camp see them as joined. The relative cost of producing goods for export, or importing from elsewhere, can be affected by whether a nation taxes labor, consumption, capital, or trade. This argument was given explicitly for the Tax Cuts and Jobs Act in Council of Economic Advisers (2018).

Fiscal Devaluations

The literature on so-called fiscal devaluations fleshes out this idea. For instance, Fahri, Gopinath and Itskhoki (2013) show that the economic effects of devaluation in the exchange rate can be perfectly replicated either by two combinations of policies: either an import tariff and an export subsidy, or a consumption tax increase and payroll tax cut. These combinations discourage domestic use of goods and services and encourage domestic production, and result in identical economic outcomes to currency devaluations. Tax policies and currencies are two avenues for achieving a boost to competitiveness—and this equivalency helps build the intuition for currency-tariff. (Note that what is *not the same* in each of these policy mixes is the net amount of revenue raised.)

Because of the emphasis on competitiveness, it is unlikely that a second Trump Administration will support an increase in domestic tax rates, whether corporate or income. Its goal will be, in large part, to make America a more attractive place to invest and hire than other countries, particularly China, and higher domestic tax rates undermine that goal. Indeed, the Tax Cuts and Jobs Act of 2017 reduced in the United States' statutory corporate rate from the second-highest in the OECD in 2016 (after Colombia) to the average (21.2% in 2021)[12]. Work by Chodorow-Reich, Smith, Zidar and Zwick (2024) estimated that the domestic investment of firms with mean tax changes increased by 20% relative to a no-change baseline.[13] In that sense, the preservation of low tax rates is a means of generating investment and jobs in America—and even better when financed in part by tariffs on foreign imports.

This argument extends to income tax rates as well. As long as labor supply is not perfectly elastic, an income tax will reduce the after-tax wage received by workers and require firms to offset some of the tax with higher wages. An increase in taxes on labor income thereby makes it more expensive to employ workers in the United States relative to employing workers abroad or investing in labor-saving capital. More expensive workers, all else equal, means fewer jobs relative to machines or imports.

Distortions and Optimal Tariff Rates

Economists have also spent much time studying how the tax code affects economic decisions, known as "distortions," if they take the economy away from a first-best, efficiency-maximizing equilibrium. The economic distortions are the loss of welfare that occur beyond the revenue raised. For example, suppose a taxpayer reduces her working hours from 45 per week to 40 per week because her income tax rate increased. While she enjoys more leisure, the goods or services she would have produced in those five hours, and the salary she would have received, cease to exist and are lost to the economy forever. The "deadweight loss" or "excess burden" in this stylized example is the lost production, net of the increased leisure she enjoys and revenue raised by the government.

Of course, there are many decisions that can get adjusted, not just the number of hours worked—job choice, education choice, entrepreneurship, whether compensation is in the form of cash or fringe benefits, location, and much more. These distortions are a function of the marginal tax rate paid, not the average tax rate, since the decision whether

12 See https://www.oecd.org/en/about/news/press-releases/2024/07/new-oecd-data-highlight-stabilisation-in-statutory-corporate-tax-rates-worldwide.html

13 A 20% boost resulting from a 14-point cut in statutory rates might sound small, but that is because the effective marginal rate paid by many firms was well below the statutory rate due to numerous carve-outs and extensive transfer pricing incentives which were in part eliminated via TCJA. In that sense, TCJA was a base-broadening but rate-reducing reform to the corporate tax code, and the effective reduction in marginal tax rates was much lower than the statutory reduction (on average, 7 points, per Chodorow-Reich et al).

to work those last few hours depends on the marginal and not average rate. And some of these distortions can have enormous consequences over time—for instance, if firm location decision is affected by taxes, agglomeration economies may be strongly inhibited, sharply decreasing innovation and productivity growth over the long term.

The distortionary costs of taxation are convex, i.e. tax hikes are much more costly when starting from already-high rates. A one-point hike from 35% to 36% marginal tax rates is much more damaging to the economy than a one-point hike from 2% to 3%. Costs are convex because the higher tax rates move, the more intensely households and firms adjust their behavior to avoid the tax burden.

Because marginal rates are already much higher on labor and capital income than they are on imports, the economic consequences of an increase in tariff rates might well be less problematic than an increase in income or corporate rates. For instance, Saez, Slemrod and Giertz (2012) provide a benchmark for what economists call the "marginal excess burden" of raising a further $1 of revenue. They calculate that the marginal excess burden is equal to 38% of revenue raised. To understand what this means, go back to the example of labor supply: when the government chooses to extract $1 from the worker's salary, she reduces her work by an additional amount worth a total of 38c, net of the increased leisure she enjoys and revenue collected.

By contrast, trade economists argue that for a large economy, imposing a positive tariff level is modestly welfare-enhancing, up to a point. Classically, modest tariffs can improve welfare because reduced demand from the tariff-imposing country depresses prices of the imported goods.[14] While the tariff produces distortionary welfare losses due to reduced imports and more expensive home production, up to a point, those losses are dominated by the gains that result from the lower prices of imports. Once import reduction becomes sufficiently large, the benefits from lower prices of imports cease to outweigh the costs, and the tariff reduces welfare. That tariffs initially increase and then subsequently decrease welfare implies an "optimal" tariff rate, at which point the country has reaped all possible benefit from tariffs and a higher tariff rate reduces welfare.

For a benchmark, the *Handbook of International Economics* chapter by Costinot and Rodriguez-Clare (2014) indicates that the optimal tariff for the United States under plausible parametrizations is around 20%. Indeed, as long as tariffs don't exceed 50%, they are still welfare-enhancing relative to completely open trade. In other words, increasing effective overall tariffs from currently low levels near 2% will actually boost aggregate welfare in the United States. Once tariffs begin increasing beyond 20% (on a broad, effective basis), they become welfare-reducing. Investment houses are now projecting that the projected effective rate of the tariffs proposed by President Trump will jump from 2.3% to 17%, just shy of this 20% level.[15]

Moreover, tariffs can address pre-existing distortions due to other nations' trade policies. The list of China's abuses of the international trade system is long and storied, and ranges from state subsidies for export-oriented industries to outright theft of intellectual property and corporate sabotage. These distortions interfere with the discovery of comparative advantage and a free and open system of international trade. Applying corrective tariffs to address these distortions may improve overall efficiency.

Where these arguments run into trouble is when other nations begin retaliating against U.S. tariffs, as China did modestly in 2018-2019. If the U.S. raises a tariff and other nations passively accept it, then it can be welfare-enhancing overall as in the optimal tariff literature. However, retaliatory tariffs impose additional costs on America and run the risk of tit-for-tat escalations in excess of optimal tariffs that lead to a breakdown in global trade. Retaliatory tariffs by other nations can nullify the welfare benefits of tariffs for the U.S.

Thus, preventing retaliation will be of great importance. Because the United States is a large source of consumer

14 See, for instance, Broda, Limao and Weinstein (2008).

15 See https://www.wsj.com/economy/trade/donald-trump-election-trade-tariffs-aed6c281

demand for the world with robust capital markets, it can withstand tit-for-tat escalation more easily than other nations and is likelier to win a game of chicken. Recall that China's economy is dependent on capital controls keeping savings invested in increasingly inefficient allocations of capital to unproductive assets like empty apartment buildings. If tit-for-tat escalation causes increasing pressure on those capital controls for money to leave China, their economy can experience far more severe volatility than the American economy. This natural advantage limits the ability of China to respond to tariff increases.

With respect to other nations, if the Trump Administration merges national security and trade policy explicitly, it may provide some incentives against retaliation. For instance, it could declare that it views joint defense obligations and the American defense umbrella as less binding or reliable for nations which implement retaliatory tariffs.

Additionally, it's not clear whether one should view the failure of this deterrent as a bad outcome. Suppose the U.S. levels tariffs on NATO partners and threatens to weaken its NATO joint defense obligations if it is hit with retaliatory tariffs. If Europe retaliates but dramatically boosts its own defense expenditures and capabilities, alleviating the United States' burden for global security and threatening less overextension of our capabilities, it will have accomplished several goals. Europe taking a greater role in its own defense allows the U.S. to concentrate more on China, which is a far greater economic and national security threat to America than Russia is, while generating revenue.

What is clear, however, is that given all these considerations, the Trump team will view tariffs as an effective means of raising taxes on foreigners to pay for retaining low tax rates on Americans. The reduced personal income tax rates introduced by the Tax Cuts and Jobs Act are due to expire in 2026 and extending them in full without raising deficits may require raising almost $5 trillion of new revenue or debt over a ten-year budget window. Doubtless, tariffs are a big part of the answer for extending the tax cuts; revenue must come from somewhere.

Chapter 4: Currencies

Currency Policy and Risks

In the Triffin world, the demand for reserve assets causes persistent deviations from the equilibria in currency markets that would balance trade. This disequilibrium in trade occurs because the real exchange rate is too strong. Exchange rate overvaluation can be redressed by tariffs, as discussed above, or by addressing the undervaluation of other nations' currencies, as occasionally floated by President Trump, Vice President-elect JD Vance, and former Trump Administration officials like Peter Navarro and Robert Lighthizer.

Currency policy brings different considerations than tariffs do. The principal risk of pursuing a fairly valued dollar is that the policy intervention makes dollar assets less attractive in the eyes of foreign investors. At the time of writing, the yield on ten-year UST debt is roughly 4.25% per year. Suppose movement towards the currency valuation that would arise in a trade balance equilibrium would result in foreign holders of USTs expecting a 15% reduction in the domestic value of their UST holdings: that represents almost four years' worth of interest payments, and over a third of all the expected interest over the life of the note. Three-year UST debt yields 4.1%, implying the devaluation would eat more than all expected interest, i.e. the note holder loses money over the life of the security.

These risks can be a disincentive for holding dollar-denominated fixed income securities. If an expected change in currency values leads to large-scale outflows from the Treasury market, at a time of growing fiscal deficits and still-present inflation risk, it could cause long yields to rise. Because significant portions of the economy—like housing—are tied to the belly and long end of the yield curve, such a rise could have material adverse consequences.

This risk will be somewhat compounded if inflation remains elevated. As discussed in the section on tariffs, the results in Gopinath (2015) indicate that a 20% depreciation in the dollar would boost CPI inflation by 60-100 basis points. A one-time adjustment in the currency without second-round effects should be looked through by the Fed as a price-level rather than inflation-rate shift. However if the Fed believed it to persistently shift the rate of inflation rather than just the price level, under standard Taylor rule specifications, it would hike overnight rates by roughly 100-150 basis points.

Whether the Fed decides to offset any price consequences from a weaker dollar will depend on whether it is concerned by so-called second-round effects, that the initial move in currencies is leading to subsequent rounds of price hikes by firms. Second-round effects are highly dependent on economic context, meaning that if there are numerous other inflationary cross-currents, they are likelier to occur. It will therefore be important for the Trump Administration to carefully choose its moment for such a policy change or to coordinate currency policy with deflationary regulatory and energy policy.

The disincentive for holding equities is somewhat mitigated, as earnings rise to offset some of the currency losses. A significant portion of sales made by S&P 500 companies come from abroad[16], and those sales are worth more in dollar terms as the dollar depreciates. Earnings will increase as companies are able to increase selling prices. While higher yields may weigh on multiples, the increase in earnings can mitigate volatility.

It is worth repeating that many of these policies are untried at scale, or haven't been used in almost half a century, and that this essay is not policy advocacy but an attempt to catalogue the available tools and analyze how useful they may be for accomplishing various goals.

16 https://www.spglobal.com/spdji/en/documents/research/sp-500-global-sales-2018.pdf

Multilateral Currency Approaches

Historically, multilateral currency accords have been the principal means of implementing intentional changes in the value of the dollar. The Plaza Accord of 1985, in which the U.S., France, Germany, Japan and the U.K. coordinated to weaken the dollar, and the Louvre Accord of 1987, which halted such weakness, are generally regarded as successful approaches to adjusting currency levels (though their economic consequences are somewhat more disputed).

Because the value of the dollar in foreign exchange is also dependent on the forces affecting trading partners' currencies as well, coordination with those partners on the goal of changing the dollar's value can be very helpful. Today, the two other major currencies are the euro and the renminbi, though the yen is also of import.

As things stand, there is little reason to expect that either Europe or China would agree to a coordinated move to strengthen their currencies. European real GDP growth has been below 1% for almost three years, and the rise of the Chinese auto export industry has Europe so concerned it is implementing its own set of protectionist measures to limit imports. And Chinese domestic growth has been so weak that China has chosen to double down on its mercantilist, export-led model to secure marginal income, much to the rest of the world's consternation. Indeed, China was basically a non-player in global auto exports just a few years ago, and has now rocketed up to be the world's biggest auto exporter.[17] Neither Europe nor China will be in the mood to curtail their industrial subsidies and other market interventions that would reallocate tradeable manufacturing demand away from themselves and toward the United States.

Japan, the U.K., and potentially Canada and Mexico, might prove more amenable to currency intervention, but aren't large enough in today's global economy to accomplish the desired end.

Instead, recall that President Trump views tariffs as generating negotiating leverage for making deals. It is easier to imagine that after a series of punitive tariffs, trading partners like Europe and China become more receptive to some manner of currency accord in exchange for a reduction of tariffs.

As currency accords are typically named after resorts where they are negotiated, like Bretton Woods and Plaza, with some poetic license I'll describe the potential agreement in the Trump Administration as others have done as the prospective "Mar-a-Lago Accord."

However, there are many differences between the economy today and that of the 1980s. For one thing, gross U.S. debt as a share of GDP is now in excess of 120%, relative to roughly 40% when the Plaza Accord was agreed. That drives concerns about the consequences for the debt market that didn't exist in the 1980s.

One suggestion put forth in Poszar (2024) is for any accord to incorporate a duration agreement. Poszar's hermeneutics of the remarks of likely economic policy leaders in a second Trump Administration explicitly links the U.S. provision of a security umbrella to the international financial system, and infers that efforts to reduce interest rates can help finance the security zone. He synthesizes the following Mar-a-Lago Accord from potential policymakers' remarks:

"1) security zones are a public good, and countries on the inside must fund it by buying Treasurys;

2) security zones are a capital good; they are best funded by century bonds, not short-term bills;

3) security zones have barbed wires: unless you swap your bills for bonds, tariffs will keep you out."

(Poszar, 2024.)

To strengthen their own currencies, reserve managers must sell dollars. As their currencies appreciate, the United States will receive a competitiveness advantage helping our tradeable and manufacturing sectors.

17 https://www.wsj.com/world/china/china-vehicle-sales-rise-further-boosted-by-stimulus-policies-sales-promotions-3452cca1

To help mitigate potential unwanted financial consequences (like higher interest rates), reserve selling can be accompanied by term-out of remaining reserve holdings. Increased demand for long-term debt by reserve managers will help keep interest rates down, even if there is overall selling of USD fixed income as a result of the currency adjustment. Reserve owners hold fewer USD reserves, pushing their currencies higher, but the reserves they do hold are longer duration, helping contain yields.

If the term-out is into special century bonds as suggested by Poszar, then the funding pressure on the U.S. taxpayer for financing global security is significantly alleviated. The U.S. Treasury can effectively buy duration back from the market and replace that borrowing with century bonds sold to the foreign official sector.

Such a Mar-a-Lago Accord gives form to a 21st Century version of a multilateral currency agreement. President Trump will want foreigners to help pay for the security zone provided by the United States. A reduction in the value of the dollar helps create manufacturing jobs in America and reallocates aggregate demand from the rest of the world to the U.S. The term-out of reserve debt helps prevent financial market volatility and the economic damage that would ensue. Multiple goals are accomplished with one agreement.

But the term-out of reserve debt shifts interest rate risk from the U.S. taxpayer to foreign taxpayers. How can the U.S. get trading and security partners to agree to such a deal? First, there is the stick of tariffs. Second, there is the carrot of the defense umbrella and the risk of losing it. Third, there are ample central bank tools available to help provide liquidity in the face of higher interest rate risk. *Ex ante,* there were also numerous doubts and questions about Trump's ability to secure improved trade terms from Mexico and Canada, Korea, and China, and yet he succeeded.

Recall that the purpose of official sector currency reserves is to defend the value of the currency in the face of market volatility and finance imports in a potential crisis. The reason reserve managers tend to keep duration risk low is because they need to be able to liquidate reserves to defend their own currencies when volatility spikes. If they experience losses on their holdings because interest rates increase, they have reduced firepower for defending their currencies. Longer-term debt is less liquid than short-term debt, and crossing bid-offer spreads can be costly in ultra-long-term debt.

This mark-to-market risk of holding longer-term debt can be mitigated via swap lines with the Federal Reserve, or alternatively, with the Treasury's Exchange Stabilization Fund. Either institution can lend dollars to reserve holders at par against their long-term Treasury debt holdings, as a perk of being inside the Mar-a-Lago Accord. Such liquidity obviates the risk of mark-to-market loss on long-term debt, since reserve managers will always have access to liquidity at the face value of the debt. As Poszar (2024) points out, the Bank Term Funding Program which the Fed used to respond to the regional bank stresses of spring 2023 provides a model. Holding century bonds is less risky for reserve managers if they have access to swap lines granting them substantial short term dollar liquidity. The desire to maintain access to such swap lines will be a powerful long-term incentive for remaining inside the U.S. security and economic umbrella.

Such an architecture would mark a shift in global markets as big as Bretton Woods or its end. It would see our trading partners bear an increased share of the burden of financing global security, and the financing means would be via a weaker dollar reallocating aggregate demand to the United States and a reallocation of interest rate risk from U.S. taxpayers to foreign taxpayers. It would also more clearly demarcate the lines of the American defense umbrella, removing some uncertainty around who is or is not eligible for protection.

Feasibility

Most importantly, a multilateral approach to dollar adjustment will only work if our trading partners have dollars to sell. In contrast to the period of the Plaza Accord, most currency reserves these days reside in the hands of our Middle Eastern and Asian trading partners, not our European trading partners. Combined forex reserves in the Eurozone are approximately $280 billion, and Switzerland has an additional ~$800 billion. By contrast, China has $3 trillion in official reserves (though unofficial reserves are likely much higher given the state-owned nature

of the Chinese economy); Japan has $1.2 trillion, India $600 billion, Taiwan $560 billion, Saudi Arabia $450 billion, Korea $420 billion, and Singapore $350 billion.

Most of the dollars available to be sold by governments are in the hands of Middle Eastern and East Asian governments. Some of these nations are not as friendly as the Europeans were during the Cold War. It will require a different kind of diplomacy to procure that end than the diplomacy that produced the Plaza Accord, and the mixes of sticks and carrots may be extremely challenging to get right.

Moreover, a large fraction of the U.S. debt is held by private sector investors, both institutional and retail. These investors will not be convinced to term out their Treasury holdings as part of some sort of accord. A run by these investors out of USD assets has potential to overwhelm the bid for duration coming from a term out from the foreign official sector. The extent to which private sector assets flee the dollar will depend on the price sensitivity of those investors. Assets held for reserve purposes are less likely to flee than assets held for wealth maximization.

The difficulty in persuading trading partners to agree to such an approach is a good reason for currency tools to be used after tariffs, which provide additional leverage in negotiations. If a currency agreement is reached, removing tariffs can be a big part of the incentive.

Unilateral Currency Approaches

Consensus on Wall Street is that there is no unilateral approach that the Trump Administration can take for strengthening undervalued currencies. These economists tend to point to the Federal Reserve's policy rate as the main driver of the dollar and then emphasize that the Fed will not cut rates merely because the President wants to achieve a currency outcome.

This conclusion is wrong. There is a variety of steps an Administration can take if it is willing to be creative, that do not rely on the Fed cutting rates.

IEEPA

For instance, the International Emergency Economic Powers Act, signed into law by President Jimmy Carter in 1977, gives the President sweeping powers over international transactions in response to foreign-origin threats "to the national security, foreign policy, or economy of the United States."[18] Such powers include the ability to limit or prohibit transfers of credit, payments or securities internationally.[19] The Act is an important foundation of Treasury's sanctions powers and financial extraterritoriality.

IEEPA can also be used to disincentivize the accumulation of foreign exchange reserves, if the Administration wills it. If the root cause of dollar overvaluation is demand for reserve assets, Treasury can use IEEPA to make reserve accumulation less attractive. One way of doing this is to impose a user fee on foreign official holders of Treasury securities, for instance withholding a portion of interest payments on those holdings. Reserve holders impose a burden on the American export sector, and withholding a portion of interest payments can help recoup some of that cost. Some bondholders may accuse the United States of defaulting on its debt, but the reality is that most governments tax interest income, and the U.S. already taxes domestic holders of UST securities on their interest payments. While this policy works through currencies as a means of affecting economic conditions, it is actually a policy targeting reserve accumulation and not a formal currency policy.

Legally, it is easier to structure such a policy as a user fee rather than a tax, to avoid running afoul of tax treaties. Such policy is not a capital control, since aiming it exclusively at the foreign official sector targets reserve accumulation rather than private investment.

18 50 U.S.C. §1701(a)

19 50 U.S.C. §1702(a)1

Of course, a user fee risks inducing volatility. Incentivize too much reserve selling and there can be a rout in the dollar, spikes in interest rates, and limits to our powers of financial extraterritoriality. However, there are steps an Administration can take to mitigate these risks:

First, start small and take small steps. By starting with a small user fee, say 1% of interest remittances, Treasury can avoid provoking a deluge of flows. If that's not sufficient to achieve the desired devaluation, go up to 2%. And so on. With such a drastic change in policy with enormous potential consequences, gradualism is necessary. It'll take time to find the "right" level, but patience will help reduce adverse consequences. To become even more gradual, Treasury could explore imposing a fee only on new issues, rather than old ones.[20]

Second, as in tariffs, differentiate among countries. Presumably the Administration would want to withhold remittances to geopolitical adversaries like China more severely than to allies, or to countries that engage in currency manipulation more severely than to those that do not. The Administration would likely want to give our allies the benefits of reserve currency usage, not our adversaries. Tax rates experienced by different nations on their reserve holdings can be a function of their relationship with America. Treasury can implement the fees through securities custodians and financial intermediaries; it is well within Treasury's anti-money-laundering and financial intelligence toolkits to do a good job identifying the beneficial owners of most of Treasurys.

Third, secure the voluntary cooperation from the Federal Reserve. The Fed has a long history of deferring to Treasury on matters of currency policy, and Treasury to the Fed on matters of short rates and demand stabilization—for instance, see the lengthy history on this subject in Mohsin (2024). Bordo, Humpage and Schwartz (2010) review the history of prior currency accords and joint intervention. When Treasury reaches a decision to adopt a policy on the dollar, the Fed typically assists with implementation; the Foreign Exchange Desk of the Federal Reserve System can help buy and sell foreign exchange to achieve Treasury's goals. (For more on how the Fed might buy foreign exchange, and the need to sterilize it, see the next section.)

There is precedent for cooperation from the Fed in capping interest rates increases that occur as a side effect of Treasury's intervention in foreign exchange markets. Crucially, the "dual mandate" of the Fed is actually a triple mandate: Congress delegated the Fed's goals of "maximum employment, stable prices, and moderate long-term interest rates."[21] The last of these mandates provides a basis for intervention if interest rates spike as a result of shifting currency policy, and procuring pre-commitment for a backstop can help avoid volatility. The Fed has a statutorily assigned mandate—no less important than prices or employment—to address interest rates.

For example, as recounted in Alon and Swanson (2011), the goal of the original Operation Twist during the Kennedy Administration was to simultaneously prevent gold outflows (a currency goal) while keeping medium- and long-term interest rates low to support the economy. Operation Twist was a collaboration between the Fed and Treasury whereby Treasury increased its issuance of short-term debt and the Fed offset the new borrowing by buying long-term debt. Since currency flows are mainly dominated by short rates, this policy mix prevented currency outflows while allowing lower long rates to support the economy.

The Fed is likelier to coordinate with Treasury if it is offered the following terms: public support from the President; public acknowledgement from the White House that the intervention would be temporary during the transition period, and not permanent; and political support for its decisions on short rates so that it can still achieve its inflation and employment objectives. Essentially, the Fed will likely require guarantees of its independence to use short rates to achieve its inflation and employment mandates. This combination would effectively set a limit on the yield curve, not the absolute level of long rates.

20 This might also help alleviate any concerns about the constitutionality of this measure with respect to the contracts clause.

21 12 U.S.C. §225(a)

Three further observations on this strategy are necessary. First if reserve buyers are relatively price inelastic, then they may not be incentivized to diversify their holdings out of dollars by reduced yield. In this case, the currency may not move much, but the U.S. will save considerable interest expense remunerating these holders. In this way, even if the dollar doesn't adjust to a fairer value, there is improved burden sharing in the form of subsidization of the U.S. taxpayer by reserve holders. If UST buyers are inelastic, then the U.S. is overpaying for the public goods it provides, and price discrimination can help the United States repcapture value.

Second, there may be concern that incentivizing too much movement out of dollar reserve assets can limit financial extraterritoriality, which President Trump has already emphasized he is determined to preserve, and threatened punitive tariffs on nations that stop using the dollar for transactions purposes. Critically, the imposition of a usage fee on foreign official Treasury holdings does not interfere with the usage of the dollar in payment systems, only in the savings function of reserve assets in the official sector; a country with substantial excess foreign exchange reserves can somewhat diminish those reserves without turning to other currencies for facilitating international trade. Moreover, this reinforces why it will be important to move slowly and in small steps with such a policy. Treasury would want to get a good sense of how its policies affect transactions and financial extraterritoriality before taking too much risk with user fees for Treasury holdings, and this argues for gradualism.

Finally, it will be important to emphasize that this policy will not be extended to domestic holders of UST securities, since there is no currency advantage to doing so, and if the purpose is to raise revenue from interest income, there are other, traditional instruments for doing so. IEEPA only authorizes action on transactions involving a foreign party, anyway, so there is no authority in this structure for using applying a user fee to domestic holders.

Reserve Accumulation

Another unilateral approach to strengthening foreign currencies is to mimic the approach taken by some of our trading partners and accumulate foreign exchange reserves. By taking dollars and selling them in the market for other nations' currencies, government can create additional demand for other currencies and increase their value.

In terms of implementation, there are two meaningful avenues for doing so: the first is Treasury's own assets, particularly its Exchange Stabilization Fund. The President can direct the Treasury Secretary to use the ESF as he sees fit. However, the ESF is of limited size: its total net position is less than $40 billion, of which $10 billion is already invested in foreign currency instruments.[22]

The ESF can leverage itself,[23] but at the risk of increasing the interest burden of the Federal government. Whatever foreign assets the ESF buys will of course yield something, but in the current global economy, its assets will almost certainly yield less than its liabilities, resulting in losses for taxpayers—as long as U.S. yields are in excess of our trading partners', this is a negative carry proposition.

The Gold Reserve Act also authorizes[24] the Secretary to sell gold in a way "the Secretary considers most advantageous to the public interest," providing additional potential funds for building foreign exchange reserves. However, the Secretary is statutorily required to use the proceeds from such sales "for the sole purpose of reducing the national debt." This requirement can be reconciled with the goal of building foreign exchange reserves by having the ESF sell dollars forward. If gold sales are used to deliver dollars into the forward contracts, it will likely satisfy the statutory requirement of reducing national debt. There are other means of structuring the ESF transaction as a form of debt contract to comply with the law. While this is probably statutorily permissible, selling national gold reserves to buy foreign exchange instruments could be politically costly, and changes the asset composition of the

22 https://home.treasury.gov/system/files/206/ESF-June-2024-FS-Trunc-Notes.pdf

23 USC 31 §5302(b) authorizes the Secretary to deal in "instruments of credit and securities the Secretary considers necessary."

24 USC 31 §5116(a)(1)(A).

USG's balance sheet. Still, because gold pays no interest, selling it for positive-yielding foreign debt should result in income for the U.S. Government.

The other means of building a reserve portfolio is to use the Federal Reserve's System Open Market Account, since the Federal Open Market Committee authorizes the New York Fed to do so.[25] Use of SOMA requires cooperation from the Fed—which, to repeat, is not impossible given the Fed defers to Treasury on currency policy, and can be the outcome of any number of agreements between the Fed and Treasury, but must be voluntary to preserve the Fed's inflation fighting credibility.

Given the Fed's ability to create money supply at will and operate with any capital position, size constraints do not arise from purchasing power, but rather from available assets to purchase.

The greatest drawback of accumulating foreign exchange reserves is the need to buy something with those reserves—as always, exchange rates have two sides. If the Fed prints dollars to buy foreign currency, it must do something with that foreign currency. It can leave foreign currency at a foreign central bank, but that requires cooperation from that central bank and offers a relatively low yield. Since increasing money supply is inflationary, doing so imposes a cost on Americans, and using the proceeds to earn low levels of interest at a foreign central bank isn't a productive use of funds. Alternatively, a reserve fund can buy assets, like longer-term foreign government debt, or other assets, but that exposes taxpayers to credit or other forms of risk.

If the Fed prints $1 trillion and uses it to buy European, Japanese and Chinese debt to support the major foreign currencies, that becomes $1 trillion at risk should a foreign government restructure its obligations, devalue its own currency, or experience some other form of crisis. China has repudiated its debt in the past, and the Eurozone is a relatively new institution with kinks still being worked out. Just as America can use law like IEEPA to withhold remittances on UST securities owned by the foreign official sector, such policies can be levied by foreign governments against any American reserve portfolio; losses can be imposed on us by foreigners. A reserve portfolio can become a significant vulnerability. Moreover, even if we trusted assets from China to be money good, it's not even clear what we could buy at scale given capital controls around the Chinese economy.

Just as with Treasury borrowing to buy foreign assets, the Fed will also likely lose money on a reserve portfolio. If the Fed's purchase of foreign securities creates additional liabilities in the form of bank reserves and pays interest on those liabilities via the Interest on Reserve Balances, the trade will likely be negative carry for the Fed, as the interest on its assets is dominated by its funding costs. Such losses will impede the Fed's ability to remit profits on its operating account to Treasury—assuming the Fed eventually returns to profitability. Taxpayers can suffer, as a result.

Moreover, this form of intervention can be more inflationary than some other types. When the dollars being sold are new dollars created by the central bank, money supply is expanding in a way that does not happen when foreign holders sell already-existing dollars, or if Treasury sells gold to buy foreign exchange. The inflationary impulse isn't merely a weaker currency but a much more potent domestic liquidity provision too.

The Federal Reserve will doubtless seek to curtail this inflationary force, sterilizing some of the increase in money supply and curtailing its ability to weigh on the dollar. Sterilization will require tightening monetary policy by some other means—say, selling bills to offset the liquidity provision created by buying foreign exchange, or allowing longer-term SOMA holdings to mature off its balance sheet. If creating foreign exchange reserves through the central bank increases the money supply in a way the Fed deems inflationary, then to achieve its inflation priorities and all else equal, the central bank will at least partially offset such an increase by reducing money supply. That will support the dollar and counteract some of the effects of sales.

25 https://www.federalreserve.gov/monetarypolicy/files/FOMC_AuthorizationsContinuingDirectivesOMOs.pdf

The alternative to sterilization is to allow the inflation from additional liquidity provision to pass through the economy. The need to sterilize central bank purchases of foreign exchange is what has led economists to believe this is not a fruitful means of intervening in the currency. It is possible that in the Basel endgame world with abundant reserves and interest on reserve balances, increases in base money will not lead to the same quantum of inflation that the Fed experienced in the past. Changes in the structure of the financial plumbing may mitigate the extent to which the Fed needs to sterilize increases in money supply, opting instead for adjustments to interest rates if any concerning inflation pressures materialize.

If the weak dollar policy is adopted in a time of quiescent inflation pressures, when an increase in the money supply is not a concern for monetary policymakers, then there is scope for reduced sterilization. Again, so much will depend on the economic environment in which such a policy is adopted.

Chapter 5: Market and Volatility Considerations

Tariffs Then Dollars or Investments

A second Trump term is likely to be even more forceful than the first when it comes to reconfiguring the international trading and financial systems. With President Trump unable to run for another term, he can focus on his legacy and achieving some of his core goals of reindustrialization, manufacturing revitalization, and improved international competitiveness. I have reviewed a menu of policy tools that can work toward these ends.

Although volatility risks are material, President Trump has shown repeated concern for the health of financial markets throughout his Administration. That concern is fundamental to his view of economic policy and the success of his presidency. I therefore expect that policy will proceed in a gradual way that attempts to minimize any unwanted market consequences of efforts to improve burden sharing for provision of reserve assets and the defense umbrella.

Further, President Trump is familiar with tariffs and they successfully raised revenue the first time around on China, whereas major changes to dollar policy would be a new foray for him and several of his trusted advisors have in the past warned of potentially risky side effects. Tariffs offer revenue in a time of large deficits, whereas currency adjustments do not.

These considerations suggest several consequences:

1) There is good reason to be more cautious with changes to dollar policy than with changes to tariffs.
2) Steps to strengthen undervalued currencies will likely not be taken until risks can be mitigated. The Administration will likely wait for more confidence that inflation and deficits are lower, to limit potentially harmful increases in long yields that could accompany a change to dollar policy. Waiting for turnover at the Federal Reserve increases the likelihood that the Fed will voluntarily cooperate to help accommodate changes in currency policy.
3) Tariffs are a tool for negotiating leverage as much as for revenue and fairness. Tariffs will likely precede any shift to soft dollar policy that requires cooperation from trade partners for implementation, since the terms of any agreement will be more beneficial if the United States has more negotiating leverage. Last time, tariffs led to the Phase 1 agreement with China. Next time, maybe they will lead to a broader multilateral currency accord.
4) Therefore, I expect policy to be dollar-positive before it becomes dollar negative.

While tariffs are now decently understood—tariffs will cause some dollar appreciation, though the extent of that appreciation is debatable—the contours of currency policy are less well understood, in part because it hasn't changed in decades. That also argues for more caution on currency changes than tariff changes.

There is another potential use of the leverage provided by tariffs: an alternative form of Mar-a-Lago Accord that sees the removal of tariffs in exchange for significant industrial investment in the United States by our trading partners, China chief among them. Such an exchange was critical in resolving trade conflicts during the Reagan Administration (and spearheaded in part by Robert Lighthizer). In comments in July, President Trump indicated he would welcome China building, among other things, auto factories in the United States.[26] While such an agreement is possible, there are some reasons for caution. First, China does not have a good record abiding by trade deals it makes with the U.S., and the memory of Phase 1 is still fresh. The U.S. ougbt to therefore demand some security—for instance, China's Treasury portfolio in escrow—to ensure it abides by a deal like this one. Second, China is loath to make such concessions as exporting some its industrial production abroad in a way that creates jobs for non-Chinese, and would likely

26 https://www.bloomberg.com/news/articles/2024-07-19/trump-welcomes-china-to-build-cars-in-us-in-departure-from-biden

require lengthy negotiations or significant pressure to do so. The U.S. is not likely to sit idly by while China drags out negotiations, so tariffs will likely be imposed to create urgency for any such talks. This is likely still a case of tariffs first, then a deal, because the deal requires some pressure to take form.

Moreover, because reducing inflation is critical to helping alleviate bond market concerns as well as allowing the Fed to pursue a deeper cutting cycle, a Trump Administration is likely to prioritize structural policies that reduce inflation via supply side liberalization. That means aggressive deregulation, and a concentrated effort to reduce energy prices. This combination is probably bearish oil prices, but ambiguous for energy producers, and quite bullish for equities and growth. If deregulation boosts potential growth and reduces inflation—as this contributed to the noninflationary growth experienced in the first Trump Administration—that will help support both the bond and equity markets.

Finally, tariffs could be implemented in a way that offers graduated scales based on other nations' willingness to share the burdens of reserve asset and defense umbrella provision. Countries that are happy to help share the burden and work to be inside the security zone will likely receive lighter tariffs. Assets in countries receiving higher tariffs are likely to suffer disproportionately.

Multilateral Currency Approaches

Getting trading partners to agree to a multilateral approach to strengthening undervalued currencies can help contain unwanted volatility. An agreement whereby our trading partners term out their reserve holdings into ultra-long duration UST securities will a) alleviate funding pressure on the Treasury and reduce the amount of duration Treasury needs to sell into the market; b) improve debt sustainability by reducing the amount of debt that will need to be rolled over at higher rates as the budget deteriorates over time; and c) solidify that our provision of a defense umbrella and reserve assets are intertwined. There may even be arguments for selling perpetuals rather than century bonds, in this eventuality.

In this world, both the dollar and long yields can come down together, instead of moving in opposite directions. But, as argued above, terming out the duration of Treasury held by friendly/ally countries' central banks is hard enough; such flows will have to overwhelm selling from private sector agents, which depending on their sensitivity for foreign exchange losses, can be substantial. The reason for the uncertainty is that much of the private sector ownership of USD assets is for reserve purposes and therefore much less price sensitive. To what extent this is more than a short-term blip will depend on the scope of currency losses, private sector sensitivity, the size of the improvement to the longer-term U.S. budget outlook, and whether the Federal Reserve decides to coordinate with the process.

Unilateral Currency Approaches

Unilateral currency approaches bring bigger volatility risks, but increased flexibility of action. If the Fed creates dollars with which to buy foreign assets, it may seek to sterilize that money creation, and sterilization has consequences—likely, higher front yields, lower back yields, and a flatter yield curve. If Treasury imposes a user fee on foreign reserve holders' USTs, it will be very helpful if the Fed is willing to help contain any unwanted volatility in interest rates, subject to the Fed's freedom to pursue its inflation mandate.

Should the Fed not help with a unilateral shift in currency policy, there is scope for greater volatility. If the U.S. takes steps to discourage foreign holders of Treasurys by imposing a user fee on remittances of interest or principal, term premia can increase as foreigners reduce their holdings. Sharp increases in Treasury yields can lead to declines in the stock market. Therefore the Administration, in such an approach, is likely to move gradually, and start with very small increments of withholding. Small and slow movements would reduce volatility, but increase the amount of time it takes to find the right combination of interest rates and currency values for the Administration. Patience will be helpful.

Despite any attempts at gradualism, the market may move sharply anyway; the hint of such a policy change could induce significant market moves without any need for actually implementing the policy. Such volatility risks spiking

long yields as global investors rebalance out of USD assets. Without the assistance of the Fed in capping yields, or of foreign reserve holders terming out their debt, an Administration has fewer good options for intervention to stabilize yields. However, there are still some tricks:

1) Activist Treasury Issuance of the type discussed in Miran and Roubini (2024). By shortening the maturity profile of its debt, Treasury can reduce supply of duration to offset the increased supply that occurs as a result of foreign sales. There are limits and costs to such a policy, as discussed in Miran and Roubini (2024). The justification for ATI in this context would be to buffer volatility due to foreign selling.
2) The Exchange Stabilization Fund may be used to help reduce volatility in this instance.
3) Pursue a parallel policy of deregulation, cheap energy and fiscal consolidation aimed at reducing deficits and inflation, which will boost aggregate demand and reduce supply of debt to help offset sales by foreigners. Nonfinancial steps to shore up the fundamental attractiveness of UST securities can help.

None of those provides a huge amount of short-term financial power against market volatility, while they may prevail over longer periods of time. It is clear that taking this type of unilateral approach is riskier, but it nevertheless is an option if the President decides he wants to pursue changes to the currency markets.

In All Cases

There are some common consequences across all these possible scenarios, if the Administration pursues any of them.

First, a much stronger demarcation between friend, foe and neutral trading partner. Friends are inside the security and economic umbrella, but there is more burden sharing. Based on the scope of that burden sharing, friends may experience more favorable trade or currency terms. Those outside the security umbrella will also find themselves outside friendly arrangements for international trade and easy access to the U.S. consumer. They will have more aggressive costs imposed on them via tariffs and other policies. There are obvious implications for asset prices.

Second, the threat of withdrawal of the security umbrella without burden sharing will have its own, potentially volatile, consequences. Will it spur nations around the world to invest more in defense? Will it encourage more aggressive action by bad actors against those now outside the defense umbrella? These are significant degrees of uncertainty which will permeate markets. Risk premia may rise for assets in countries that now experience greater security risks.

Third, a structural increase in implied volatility in currency markets. The scope for monumental, once-every-few-decades level of shifts in policy ought to significantly heighten expectations for volatility.

Fourth, these policies may supercharge efforts of those looking to minimize exposure to the United States. Efforts to find alternatives to the dollar and dollar assets will intensify. There remain significant structural challenges with internationalizing the renminbi or inventing any sort of "BRICS currency," so any such efforts will likely continue to fail, but alternative reserve assets like gold or cryptocurrencies will likely benefit.

Chapter 6: Conclusion

The next Trump term presents potential for sweeping change in the international economic system and possible accompanying volatility. It is important for investors to understand the tools that might be employed for such purposes, as well as the means by which government may attempt to avoid unwelcome consequences. This essay attempts to provide a user's guide: a survey of some tools, their economic and market consequences, and steps that can be taken to mitigate unwanted side effects.

Wall Street consensus that an Administration has no means by which to affect the foreign exchange value of the dollar, should it desire to do so, is wrong. Government has many means of doing so, both multilaterally and unilaterally. No matter what approach it takes, however, attention must be paid to steps to minimize volatility. Assistance from trading partners or the Federal Reserve can be helpful in doing so.

In any case, because President Trump has shown tariffs are a means by which he can successfully extract negotiating leverage—and revenue—from trading partners, it is quite likely that tariffs are used prior to any currency tools. Because tariffs are USD-positive, it will be important for investors to understand the sequencing of reforms to the international trading system. The dollar is likely to strengthen before it reverses, if it does so.

There is a path by which the Trump Administration can reconfigure the global trading and financial systems to America's benefit, but it is narrow, and will require careful planning, precise execution, and attention to steps to minimize adverse consequences.

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