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Is Peter Navarro Wrong on Trade?

Whether the U.S. current account deficit is harmful or not to the U.S. economy depends on the assumptions we make about capital scarcity. In a world awash with excess capital and insufficient demand, the U.S. current account deficit is a drag on growth.

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1. ECONOMIC ILLITERACY

Donald Trump's selection of Peter Navarro, an economics professor at the University of California at Irvine, to lead a newly formed White House National Trade Council has set off furious debates around the country and the world about some fairly basic questions on trade theory. In their widely-read "Scoring the Trump Economic Plan," a piece published a few weeks before the election and written by Peter Navarro and Wilbur Ross, both senior policy advisers to the Trump campaign, one passage in particular has drawn a great deal of comment and criticism:

When net exports are negative, that is, when a country runs a trade deficit by importing more than it exports, this subtracts from growth . . . In 2015, the US trade deficit in goods was a little under \$800 billion while the US ran a surplus of about \$300 billion in services. This left an overall deficit of around \$500 billion. Reducing this "trade deficit drag" would increase GDP growth. These trade-related structural problems of the US economy have translated into slower growth, fewer jobs, and a rising public debt.

The authors explain that growth in any country's GDP is the sum of the growth in consumption, net government spending, investment, and net exports. This is nothing more than the standard accounting identity so familiar to anyone who has taken basic economics.

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Net Exports}$$

They actually say that GDP growth is driven by these four factors, but—and I am sure they know this—we have to be a little careful stating it this way because the four factors are interrelated in complex ways such that it could easily be the case that increasing one factor automatically causes another to decrease. We would never want to imply that we can automatically boost GDP growth by revving up one or another of the four.

This is what the authors seem to imply, however, when they argue that negative net exports (a trade deficit) subtract from growth. This is what caused Dan Ikenson, a specialist in trade policy at the Cato Institute, to accuse Navarro of economic illiteracy. Ikenson is a committed free trader and in his response he wrote:

There is no inverse relationship between imports and GDP, as Navarro asserts. In fact, there is a strong positive relationship between changes in the trade deficit and changes in GDP. The dollars that go abroad to purchase foreign goods and services (imports) and foreign assets (outward investment) are matched almost perfectly by dollars coming back to the United States to purchase U.S. goods and services (exports) and U.S. assets (inward investment). Any trade deficit (net outflow of dollars) is matched by an investment surplus (net inflow of dollars). That investment inflow undergirds U.S. investment, production, and job creation.

Changes in the trade deficit and in GDP are indeed usually positively correlated, but this point is meaningful only if the only source of GDP growth is net exports, something that no one has ever suggested. In fact, the two are likely to be positively correlated whether or not Navarro was right on trade, and it's a little disingenuous for Ikenson to suggest otherwise.

Ikenson is clearly wrong, however, to imply that the outflow of dollars from imports must return as inflows and create jobs either by increasing exports or by increasing investment. He doesn't quite say that; he says that the trade deficit (more correctly, the current account deficit) is matched by an investment surplus, which is correct by definition, but when he adds that this investment inflow undergirds U.S. investment, production, and job creation, his mistake is to confuse net investment (that is, domestic investment minus domestic savings) with investment. This is a mistake that is made far too often, and I'll explain why it is a mistake later in this essay, but the confusion is based on a failure to recognize that both higher investment and lower savings can drive up the investment surplus.

2. A HIGHER TRADE DEFICIT DOESN'T HAVE TO MAKE THE UNITED STATES POORER

Before continuing, I want first to refer to another, much more accurate critique of Navarro's claims by Noah Smith, a finance professor at Stony Brook University. Smith also seems to disagree in principle with Navarro, but he has a more sophisticated understanding of trade dynamics. He begins by expanding the net exports factor in the GDP accounting identity, so that:

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Exports} - \text{Imports}$$

Imports have a negative sign in the equation, which might at first suggest that the more a country imports the lower its GDP, but he reminds us that we subtract imports only to avoid double-counting the stuff imported, which already was counted either in consumption or investment. The impact of imports on GDP is zero, he says, because the value of the imported object was both added to GDP in the form of higher consumption or higher investment and subtracted from GDP in the form of higher imports. "This means that a higher trade deficit doesn't have to make the U.S. poorer."

That's the point: a higher trade deficit doesn't have to make the United States poorer. It can make the country poorer, but it can also make the country richer, and it turns out that whether the United States is richer (that is, more productive) or poorer depends on whether or not what causes the deficit also causes productive investment to rise. This should be so obvious as to make it unnecessary to bother saying, but unfortunately it needs to be said over and over. The debate about trade tends to have little to do with logic and much to do with ideology. On the one hand, free trade ideologues deny that the United States can ever benefit from trade intervention, and on the other, protectionists seem to think that all deficits are harmful and any reduction of the deficit creates jobs.

Both sides are wrong. Trade deficits can sometimes lead to higher growth and lower unemployment, and sometimes to lower growth and higher unemployment—the same is true of trade surpluses. For all the muddled debate, it really isn't difficult at all to specify the conditions for one or the other. It is only after we have identified these specific conditions that we can begin to determine whether specific trade policies are likely to benefit or harm the economy. Policies that force a contraction in the U.S. trade deficit, in other words, can do so in ways that cause unemployment to rise and real household income to drop, while other policies that force a contraction in the U.S. trade deficit might do so with lower unemployment and higher real household income.

It is probably useful to start by reminding ourselves of another accounting identity.¹ For any open economy:

Current Account Surplus = Capital Account Deficit, or

Exports – Imports = Savings – Investment

These equations just mean that the global economy is a closed economy in which total savings is equal by definition to total investment. Within the global economy, any country that saves more than it invests must export the excess savings to another country that invests more than it saves, so that the world as a whole balances savings and investment. This identity does much to explain the origins of the great global imbalances of recent years, as I explain in my 2013 book, The Great Rebalancing.

Of course, any country that saves more than it invests also by definition produces more goods and services than it can absorb domestically, and so it must export the excess production. That is why a country's current account and its capital account (which includes changes in central bank reserves) must always balance to zero. For those who find this intuitively hard to accept, it is important to understand that this is an accounting identity and is true by definition. I will not explain here why it is necessarily true because it is easy to find explanations in most introductory macroeconomics textbooks.

3. CAPITAL DRIVES TRADE

The accounting identity tells us that the net capital inflows into the United States, also known as the U.S. capital account surplus—and which consists of the total amount of foreign money

invested in American stocks, bonds, real estate, factories, businesses, and other investment assets less the total amount of American money invested abroad—is exactly equal to the U.S. current account deficit, which for the purpose of this essay, we are treating as if it were identical to the trade deficit. Accounting identities are astonishingly simple and yet seem to create an astonishing amount of confusion. An accounting identity is something that is true by definition, and true at every point in time without lags, much like two plus three is equal to five.

Any economic explanation that violates an accounting identity can be rejected because it simply cannot be true. When policymakers declare, for example, that they will implement policies that force the U.S. trade deficit to contract sharply, and then with the next breath promise to attract more foreign investment, we can immediately dismiss their promises not just as unlikely but as literally impossible. If an increase in foreign investment causes the U.S. capital account surplus to grow, the U.S. current account deficit must also grow by exactly the same amount.

One implication of this accounting identity is that unlike developing countries that face capital constraints on domestic investment and lack technology and managerial skills, the United States does not benefit from increased foreign investment except in a very few, highly specific cases which I have discussed elsewhere, including in a [Foreign Policy article last year](#), and in a [more extensive blog entry](#). In another Foreign Policy article, published five years earlier, I also explain why the United States must nearly always [respond to an increase in its capital account surplus](#) either by allowing an unsustainable increase in debt or an increase in unemployment. What's bad for the United States, however, isn't necessarily bad for every part of the country: if the governor of South Carolina, say, convinces a Japanese car manufacturer to build a new plant in his state, it will create local jobs and boost revenues for South Carolina, but unless it brings with it a significant transfer of technology and managerial skills to which Americans would not otherwise have had access, most of the benefits will come at the expense of Michigan or of other states with car plants.

To return to trade, the fact that the investment surplus must always be exactly equal to the trade deficit does not tell us which causes which. But this doesn't mean that each side is independent and that it is simply a lucky coincidence that in every country in the world the capital account is the exact obverse at all times of the current account.² Changes in one side force changes in the other, usually but not necessarily in a self-reinforcing way.

The relationship, however, is typically shrouded in confusion because of an implicit assumption that underlies much of our thinking about the balance of payments. We tend to assume that countries run trade surpluses or deficits because of relative price differentials on traded goods and because of other trade-related factors. We assume that the United States runs a deficit with China, in other words, because goods produced in China reflect fundamental differences between cost structures in the two countries. If we think about the capital account at all, we assume that the capital account adjusts to whatever level is needed to balance the trade account.

Put differently, trade flows are assumed to have primacy, and capital flows are assumed to adjust to balance the trade flows. While this may be true in some cases, and probably was true for much of modern human history, it is not necessarily true, and is almost certainly not true today, at least for large economies like that of the United States. Capital flows have grown so much faster than

trade flows that they dwarf trade flows, and it is in many cases easy to show that capital flows have primacy while trade flows adjust. (Please see Appendix 1 below for a fuller discussion.)

4. THE SOURCE OF TRADE IMBALANCES

This implies that by shifting from analyzing the current account to understanding the capital account in the balance of payments, we can judge much more accurately the impact of different policies and conditions on trade. One important implication is that it is pointless to see trade primarily as competition among more efficient and less efficient industries. A more efficient industry in one country can easily succumb to a less efficient one in another as a consequence of policies that distort capital flows. A second implication is that the best way to determine whether or not individual economies are contributing to global trade imbalances is to look at the aggregate current account position, which is likely to be driven by the aggregate capital account position, and not by bilateral trade balances—I explain why in much more detail in Section 9 of this essay.

This is particularly important for the Trump administration as it pertains to its concern with Mexico's role in U.S. trade imbalances. In 2015, Mexico ran a current account deficit of 2.8 percent of its GDP, and in 2016, it is expected to report a fairly large deficit again. This means Mexico is importing excess global savings and, rather than contributing to global and U.S. trade imbalances, is in fact helping to absorb them. If Washington takes steps to reduce or eliminate Mexico's bilateral surplus with the United States, and this causes net capital inflows into Mexico to decline, Mexico's current account deficit must decline, regardless of what happens to its bilateral surplus with the United States.

The paradoxical consequence could very easily be a wider American trade deficit even as the American trade deficit with Mexico contracts. This may seem counterintuitive, but only to those for whom international trade is the sum of independent bilateral trade balances. Once we recognize that bilateral trade reflects the complexity of trade in the global economy, and not the sources of the trade imbalances (as I explain in Section 9), it becomes clear that Mexico is not a source of American trade imbalances, and is in fact far more likely to be providing relief.

This leads to a third important implication. Policy intervention that addresses the trade account without addressing the capital account can easily create unexpected and damaging distortions for the country that implements the policy. If the United States were to impose a tariff on foreign goods, for example, without implementing policies that restrain capital imports, the resulting surge in capital inflows could well set off an asset bubble and a debt-fueled consumption boom that creates more problems than it resolves.

It may be helpful to illustrate the relationship between the capital and trade accounts by working through the current conditions of capital and trade flows between China and the United States. Let us assume that China's current account surplus is equal to 2.5 percent of GDP, which is probably a little higher than what the reported 2016 surplus is likely to be. With a reported GDP of 74.41 trillion renminbi (RMB)—or \$10.85 trillion—at the end of 2016, China's average monthly current account surplus is currently around \$22 billion.

This means that net Chinese capital exports were on average \$22 billion each month. When entities other than the Chinese central bank are net exporters of more than \$22 billion, as they have been since June 2014, the central bank will have imported capital (sold reserves) to bring that number down to \$22 billion. When these entities are net exporters of less than \$22 billion, as they had been for much of 2013 and 2014, or net importers of capital, as they had been during the previous two decades, the central banks will have exported capital (accumulated reserves) to bring that number up. (Please see Appendix 2 for an explanation).

Let's assume for the purpose of illustration that the full \$22 billion was exported to the United States. The impact it will have had on the U.S. economy is far easier to understand than we might at first think. For the sake of accuracy, we will start by further assuming that Chinese net exports to the United States of \$22 billion strengthened the dollar somewhat (against other currencies, and not the RMB, because intervention by the People's Bank of China neutralizes the effect on the RMB), and as a consequence U.S. investors looking abroad for cheap assets invested \$3 billion of their capital in foreign assets. In that case, the U.S. capital account surplus rose by \$19 billion, which was simultaneously balanced by a \$19 billion increase in the trade deficit.

This immediately highlights a very important point almost always neglected in most discussions of international trade. China's capital account deficit of \$22 billion, which having been exported to the United States and after adjusting for its impact on the decisions of American investors, caused a \$19 billion increase in the American capital account surplus. The trade implications are clear: China ran a \$22 billion trade surplus, and the U.S. trade deficit increased by \$19 billion.

But notice that I have said nothing about bilateral trade. It can easily be the case that the American trade deficit with China rose by only \$10 billion, in which case the American trade deficit with the rest of the world necessarily rose by \$9 billion, while the Chinese trade surplus with the rest of the world necessarily rose by \$12 billion. The change in the two countries' trade balance has absolutely no reason to show up in their bilateral trade numbers. As I discuss in Appendix 1, economists who try to explain the sources of trade imbalances by analyzing bilateral trade balances are almost always only confusing the discussion. While bilateral trade balances tell us a great deal about the complexity of trade in the global economy, they tell us very little about the sources of the trade imbalances.

The problem is often that our hidden assumptions about the way the world works have not adjusted with changes in the world economy, and so are often misguided but nonetheless deeply held. Conditions were different during most of the nineteenth century, when we developed much of our theoretical understanding of trade, and certainly also before then, when trade usually had primacy and the trade account largely drove the capital account. (Although this has not always been the case, and one has only to trace the history of European discoveries of silver mines first in Germany, then in Mexico, and finally in Bolivia, and their relationship with Chinese demand for silver, to see how earlier waves of globalization also manifested themselves in complicated relationships between capital and current accounts around the world.) For most of this period, bilateral imbalances told us most of what we needed to know, and it was useful to assume that trade drove capital. Since the late nineteenth century, however, except perhaps for a brief period

before and after World War II, this is no longer the case, and we should not allow this hidden assumption to determine our explanations of trade imbalances.

5. THE SAVINGS AND INVESTMENT ACCOUNT

To return to our example, we want to understand what will happen if China runs a \$22 billion trade surplus and exports the full amount to the United States, which causes the U.S. capital account surplus and the US current account deficit both to rise by \$19 billion. This is where the last accounting identity from Section 3 turns out to be extremely useful:

$$\text{Exports} - \text{Imports} = \text{Savings} - \text{Investment}$$

With a reminder that what we are calling the trade deficit (exports minus imports) should really be the current account deficit (although without meaningfully affecting our analysis at all), the accounting identity tells us that the U.S. trade deficit is exactly equal to the excess of U.S. investment over U.S. savings. If the U.S. current account deficit rose by \$19 billion, in other words, the gap between U.S. investment and U.S. savings also rose by exactly \$19 billion.³

If we want to understand the impact the change in the U.S. current account deficit had on the U.S. economy, we must understand how the change in the gap occurred. Obviously, there are only two variables that can change so that the excess of U.S. investment over U.S. savings rises by \$19 billion: either U.S. investment rises, or U.S. savings fall, or of course both, by \$19 billion.

As I explain in Appendix 3, it turns out that logically there are only two ways U.S. investment can rise: either productive investment rises, by which we mean an investment that causes future American productivity to rise by more than the cost of the investment, or there is an increase in unwanted or nonproductive investment (including inventory), in which case the U.S. debt burden rises. It also turns out that, practically speaking, there are only two ways U.S. savings can decline: unemployment can rise, which causes savings to drop, or Americans can engage in a consumption boom that reduces the savings share of income, and this causes an increase in the U.S. debt burden.

To simplify all of these paths, we can say that an increase in the U.S. current account deficit must be accompanied either by an increase in productive investment in the United States, or an increase in American unemployment, or an increase in the debt burden (to fund either unproductive investment or consumption). There is no other meaningful adjustment mechanism consistent with an increase in the U.S. current account deficit.

This very straightforward and clear relationship is, or should be, at the heart of any evaluation of the impact of the U.S. trade imbalance: If whatever causes the trade deficit to rise also causes the debt burden to rise, or causes unemployment to rise, it is safe to say that a higher trade deficit makes the United States poorer and a lower trade deficit makes the country richer. If, on the other hand, it causes productive investment to rise, it is the reverse: a higher trade deficit makes the United States richer.

The latter case describes the economic history of the United States during much of the nineteenth century. At least partly because of its very unstable financial system, American savings were too low to fund the economy's very high investment needs. Fortunately, Americans had access to substantial British, Dutch, and other European savings, and as these countries exported their excess savings to the United States, the United States ran both a capital account surplus and the necessary trade deficit—using the former to purchase foreign-produced capital goods or commodities or, when used to purchase foreign consumer goods, to free up domestic income to fund investment. The bigger the trade deficit, the greater the net amount of capital the United States was importing, and on average the more productive investments Americans could fund. During this time, American producers got richer on European savings while European savers got richer on American productivity, and so both sides benefitted over the long run from the U.S. trade deficit.

6. IS PRODUCTIVE INVESTMENT CONSTRAINED BY THE LACK OF CAPITAL?

Here we run into a second misguided but implicit and deeply held assumption that seriously undermines the usefulness of much economic analysis and leads directly to very harmful policies, not just on trade but also on income distribution. Many economists seem implicitly to assume that the quantity of productive investment in any economy, including that of the United States, is constrained by the quantity of savings. In that case, policies designed to increase the amount or availability of savings will lead to an increase in the amount of productive investment.

While this was true for the United States and the rest of the world during much of the nineteenth century and earlier, and for part of the twentieth century for most countries, I have explained in an [earlier blog entry](#) (in the section entitled A Century of Dominance), that this assumption has not been true for highly credible countries, including the United States, for several decades. Once the developed countries of Europe and East Asia had substantially rebuilt their economies after the devastation of war, and the United States had completed a major infrastructure investment process from the 1930s through the 1960s, the total productive capacity of the world reached extraordinarily high levels.

At first, much of the income this productive capacity generated was distributed fairly equitably across the populations of rich nations, so that it manifested itself in high levels of disposable income and high consumption levels. Beginning in the 1970s, several important trends led to a greater concentration of income. This process began with the oil price hikes of the 1970s, the effect of which was to channel income away from both advanced and developing nations toward a small number of oil-producing nations, often with extremely small populations incapable of absorbing much of their newfound income in consumption. In the late 1970s, probably first as a consequence of the highest real interest rates in U.S. history, engineered by Paul Volcker's Federal Reserve Bank, the United States began a process of income concentration that has continued until now for reasons that are hotly debated.

The same process of growing wealth and income inequality soon afterward characterized much of the rest of the developed world, as well as the largest emerging-market economies, including Russia, Brazil, and most importantly, China. Income and wealth concentration within national economies tends to force up national savings rates because as households get wealthier they save

a higher share of their income. The relationship between wealth concentration and savings is fairly well-understood and has been much discussed among economists. Less well-understood is another process that vastly exacerbated the upward pressure on savings, with income being transferred from ordinary households not to the low-consuming rich but rather to even lower-consuming non-household entities.

This occurred mainly in Germany and in China. In Germany, the 2003–05 Hartz labor reforms effectively transferred household income to German businesses. Something similar, but even more extreme, occurred in China, where policies designed to increase investment— most importantly financially repressed interest rates—did so effectively by driving household income down to roughly 50 percent of GDP, one of the lowest shares ever recorded.

The effect of growing income inequality around the world and a declining household share of GDP in a few major economies was the same. They both tended to push up ex-ante the global savings rate, setting off what many have called a savings glut, mainly by constraining the growth of consumption.

7. HOW DO TRADE DEFICITS AFFECT GROWTH?

It may be more useful, however, to call this consumption scarcity rather than a savings glut. As I explain in a 2014 blog entry (“[Why a Savings Glut Cannot Increase Savings](#)”), constraining consumption will only lead to a rise in savings if it also leads to a rise in investment (the two are always equal by definition). But because investment is no longer capital constrained, a savings glut in one part of the world does not lead to greater investment, either at home or abroad. In that case, it must lead either to higher unemployment at home or abroad or to a higher debt burden abroad, either of which reduces global savings by an equivalent amount (or some combination of the two). If investment is not constrained by savings, a savings glut cannot cause total savings to rise because it cannot cause investment to rise.⁴

In fact, the very opposite may happen—and the 2008–09 global financial crisis showed exactly how. By reducing demand generated by consuming households and not replacing it with demand generated by productive investment, the net effect of the conditions that create a savings glut can easily slow the economy and even reduce productive investment. Why, after all, would a manufacturer expand her production facilities or a merchant expand his distribution network if the ultimate buyer is buying less?

This is why I said earlier that the impact trade imbalances might have on the U.S. economy is far easier to understand than we might at first think. How the U.S. trade deficit will affect growth in the U.S. economy depends on whether American businesses are already able to invest as much as they desire to expand production or are unable to do so because of insufficient savings. If actual investment in the United States is far below desired investment, then transferring savings from abroad to reduce the gap between the two is matched by a commensurate increase in investment; because productive investment makes the economy grow faster than it otherwise would have, a part of the increased productivity can go to pay foreign investors and the bulk of it remain in the United States. In that case, a U.S. trade deficit is actually a boost to economic growth, as it was for much of the nineteenth century.

But if actual investment is broadly equal to desired investment, then transferring savings from abroad has no impact on domestic investment and so cannot lead to a sustainable increase in growth. In fact, in the long run, it will reduce growth. Either unemployment must rise and growth must slow in the short term, or there must be a temporary increase in growth caused by a surge in the debt burden, either to fund an unsustainable increase in consumption or an unsustainable increase in unwanted or nonproductive investment, which will be more than fully reversed over the longer term.

8. EVALUATING ECONOMIC POLICIES

We can extend this same analysis more generally for other policies besides trade—for example, policies that redistribute income. If actual investment in the United States is far below desired investment, policies that aim to repress consumption and increase savings to raise higher investment, are likely to work. These policies, which are usually designed effectively to transfer income from the poor to the rich, initially reduce consumption but the consequent negative impact on demand is countered by the increase in investment, which has a positive impact on demand. With the latter making the economy grow faster than it otherwise would have, ultimately the poor benefit too from rising prosperity all around: and presto, trickle-down theory. It turns out that George Bush was wrong when he dismissed trickle-down theory as voodoo economics. It does make sense, but only under the specific conditions by which any suppression of consumption liberates production capacity to produce goods and services that feed into higher investment.

On the other hand, if actual investment in the United States is broadly equal to desired investment, the trickle-down mechanism breaks down. In that case, transferring income from the poor to the rich will initially suppress consumption, just as in the previous case, but now lower consumption is no longer automatically matched by higher investment, and so total demand simply declines. When that happens, savings and consumption both fall, as unemployment rises and GDP drops.

But there is an additional twist, as I point out in the last paragraph of the previous section. Desired investment levels depend on profit expectations, which themselves depend on expected demand. If policies that transfer income from poor to rich, and so suppress consumption, don't unleash savings into higher actual investment levels, they can easily cause instead a reduction in desired investment levels, so that paradoxically investment actually falls. What's the point, after all, of maintaining investment levels if the ultimate clients, household consumers, can no longer consume all that is produced?

China today faces this very paradox: while total investment continues growing far too rapidly, the increase is driven by the state sector. After many years of rapid expansion, the private sector, whose investment decisions are driven almost wholly by economic considerations and profit expectations, unlike those of the state, has been disinvesting. This suggests that desired investment levels in China are declining, while actual investment continues to surge. The model would tell us that rather than implement income distribution policies that force up the savings rate, Beijing should redistribute income from the state sector to households so as to force up

consumption. It is not for nothing that although this has proven politically too difficult yet to accomplish, this is just what Beijing has been trying to do since at least 2007.

Germany may provide an even more appropriate example for U.S. policymakers of this paradox. The Hartz labor reforms of 2003–05 had the impact of a tax increase on workers and a cut in corporate taxes, effectively redistributing income from high-consuming workers, in the form of a decline in wage growth, to non-consuming businesses, in the form of higher profits. The higher savings did not translate into higher investment, however. In fact, domestic investment in Germany actually declined, perhaps because weaker consumption growth reduced desired investment levels.

The only reason the combination of lower consumption and lower investment did put greater downward pressure on German GDP and German employment is because the rules of the European currency union eliminated adjustment mechanisms both in Germany and in its European partners, and so effectively forced nearly the entire German savings and production gap onto those parts of Europe that had a history of higher inflation. With interest rates converging throughout Europe much faster than inflation, leaving real interests high in the low-inflation countries like Germany, and low or even negative in the high-inflation countries, German savings poured into the latter and, with it, German manufactured goods. This forced upon its European trading partners the resulting unemployment pressure, although they were able to stave off unemployment with soaring debt for several years until 2009, after which debt levels reached their limits and unemployment in Europe duly soared.

This simple but powerful model provides an elegant test for the impact of trade-related policies. If actual investment is far below desired investment, we should celebrate foreign capital inflows and the trade deficits that come with them, just as we should celebrate tax cuts for the rich, which basically do the same thing. If actual investment is equal to or even exceeds desired investment, we should try to reduce foreign capital inflows, and the trade deficits that come with them, just as we should propose policies that redistribute income downward. In the case of the United States, best of all, Washington should initiate policies that cause desired investment to surge, so that the American economy can take advantage of very cheap foreign savings and massively rebuild America's tattered physical infrastructure. Rebuilding U.S. infrastructure would have the effect of substantially reducing the country's debt burden even if the full amount of the investment were funded by government debt. (Please see Appendix 4 for a discussion of the limitations of logical models based on static accounting identities.)

The model also allows us to test for consistency among various policy initiatives. The Trump administration, for example, wants not just to force a contraction in the trade deficit but has also proposed policies aimed at increasing U.S. investment, partly by making investment more profitable (cutting corporate taxes and rebuilding American infrastructure) and partly by increasing savings (cutting taxes on the very wealthy). There are inconsistencies among them, however. As I have shown, trade intervention policies can lead to higher growth, lower unemployment, and a smaller debt burden, but only if we assume that desired investment is broadly in line with actual investment. If it is much higher, then a contraction in the trade deficit cannot occur without a contraction in net foreign investment, which would only increase the gap between desired and actual investment by reducing actual investment levels.

On the other hand, cutting taxes on the very wealthy can only increase savings if it increases investment, and for this to happen, desired investment must be substantially higher than actual investment. If they are broadly in line with each other, the United States risks suffering, instead, the same consequences that Germany and China suffered, with reduction in both desired and actual investment. The two policies, in other words, are inconsistent. They can only be made consistent if Washington also unleashes an infrastructure building program, a policy initiative consistent with either of the other two, on a truly heroic scale—which, as an aside, I suspect would be a smart strategy under any circumstances as American infrastructure needs are so great that the consequent productivity increases would fully service the associated debt long before they stopped adding value to the economy.

9. TRADE IMPLICATIONS

Before ending this essay, it might be useful to some readers to clarify specific trade issues. There has been a great deal of debate about both border taxes and across-the-board tariffs. As has been widely noted, the difference between them is mainly that the former acts as currency intervention, making U.S. exports cheaper and imports more expensive, whereas the latter makes imports more expensive. I will roll all three policies into one and refer to them all simply as intervention, with the assumption that these policies all work by effectively raising the cost of foreign production relative to U.S. production.

I should stress, before I start, my complete agnosticism concerning the virtues or vices of trade intervention. I reject as wholly incomprehensible the views of those for whom protection is inevitably a positive strategy, and one that will resolve many or most of the problems of the U.S. economy. I also reject as equally incomprehensible the views of those for whom any trade intervention is necessarily and self-evidently harmful to the U.S. economy. I find both incomprehensible because with the minimal reflection, and based on any knowledge of economic history, they are so obviously wrong. Like many other debates in economics in which each side is treated as ideology or faith, in fact, protection can be positive or negative for an economy depending on specific underlying conditions.

As I have trawled through the extensive recent press reports and academic and policy papers about trade, I've come up with a list of statements in favor and against the protectionist policies suggested by Peter Navarro, and by the Trump administration more generally. These include:

- Intervention will raise the cost of foreign goods for Americans and reduce the cost of American goods for foreigners, and so through the price mechanism will divert purchases from foreign-made goods to domestically produced equivalents, generating U.S. jobs.
- The United States does not produce many of the things it imports from China—or from other trading partners—and never will, so intervention will have no effect on U.S. manufacturing jobs.
- The U.S. savings rate is too low, making the United States reliant on foreign inflows to fund the U.S. fiscal deficit and domestic investment.
- If the United States intervenes, the affected trading partners will retaliate and so neutralize the U.S. intervention.
- Intervention is inflationary.

- The experience of every period of U.S. trade intervention, including the 1930 Smoot-Hawley Act, proves that U.S. intervention ultimately hurts the United States more than any other country.

To take each claim in turn, the argument is cumulative. Please remember that I define intervention here only to mean differential cost-based measures, including: tariffs, border taxes, and currency manipulation.

1. Intervention will raise the cost of foreign goods for Americans and reduce the cost of American goods for foreigners, and so through the price mechanism will divert purchases from foreign-made goods to domestically produced equivalents, generating U.S. jobs.

This claim may seem self-evident as an explanation of how trade intervention works, but in fact it tends to obscure more than it clarifies because it emphasizes the wrong part of the system. In fact, intervention does not affect the demand for individual items in the way we might assume. Its effect on the overall trade balance is indirect and works mainly through various income effects, and not through differential pricing. To put it differently, much of our discussion of trade implicitly assumes that each product that a country imports or exports is traded in its own two-country market, and the balance of trade is nothing more than the sum of all of these individual markets. This wholly mistaken way of thinking about trade leads us incorrectly to an analysis of the impact of intervention on the overall trade balance, as if it were the sum of the expected impact of intervention on each trade item.

In fact, intervention shifts the distribution of income. To simplify what can sometimes be far more complex, when the United States intervenes, it causes the price of foreign goods to rise. In every economy, all households except subsistence farmers must consume imported goods directly or indirectly, so that higher prices on these imported goods will reduce the real value of their incomes. What matters next is how intervention affects production. Because the United States produces competing goods, and assuming (quite safely) that there is unutilized labor and other capacity in the U.S. economy, local manufacturers will hire unemployed workers and expand production to replace imports, causing GDP to rise. The difference between the real decline in disposable household income and the real increase in GDP represents a real increase in nominal U.S. savings as well as an increase in the national savings rate.

This part puzzles many economists because it would seem that with more expensive imports necessarily causing an increase in consumption expenditures, the household saving rate is likely to decline, or at least not to rise. Economists, however, too often confuse household savings and national savings, and so find it hard to understand why U.S. savings rise with intervention rather than decline or remain unchanged.

The reason national savings rise is because intervention causes the household share of GDP to decline, and with it the consumption share, even though overall household income rises as unemployed workers return to the workforce. This is the key to understanding how intervention affects the trade deficit. Remember that total savings is

equal by definition to GDP less total consumption, and that the trade deficit is equal by definition to the excess of investment over savings. As intervention causes GDP to rise faster than consumption, U.S. savings rise, and so the gap between savings and investment contracts, along with the trade deficit.

This is usually true even if investment rises to meet the greater demand for U.S.-manufactured goods, because investment will almost always rise more slowly than savings. That being said, if the trade deficit actually expands because intervention causes investment to rise even faster than savings (which can in principle happen), it will only be because of soaring desired investment, in which case trade deficits are once again positive for growth. There are many moving parts to this process, and it is easy to posit various alternative scenarios, but the basic analytical structure is the same: it must begin by recognizing that, except in very specific and implausible circumstances, the effect of intervention is to shift income from consumption to savings.

2. The United States does not produce many of the things it imports from China—or from other trading partners—and never will, so that intervention will have no effect on U.S. manufacturing jobs.

I considered explaining why it isn't the case that the United States does not or cannot produce most of what it imports, whether from China or elsewhere, but decided that the claim is so self-evidently absurd that it is unnecessary to do so. More importantly, it doesn't matter. The point is that intervention affects the overall trade balance not by shifting the demand for each imported item but rather by shifting income from consumption to savings.

In Appendix 3, I discuss a two-country world consisting of the United States and Japan. To clarify the explanation of why it doesn't matter whether or not the United States can produce all the goods it imports, let us assume we are again in that world. Let us also assume that the United States is incapable of producing a substantial fraction of the goods that Japan exports, and that the quantity that the United States purchases of these goods is inelastic (that is, the United States has to purchase the same quantity no matter what the price). If the United States were to intervene, in other words, it would purchase the same amount after intervention as before intervention.

It turns out, perhaps counterintuitively, that the U.S. trade deficit would still contract by as much as it would have had the United States been able to produce these goods, because the amount of the contraction must be exactly equal to the amount by which the gap between investment and savings is reduced. The adjustment in total trade would have simply occurred among the rest of the traded products. A further point, also perhaps highly counterintuitive, is that if we were to relax one of our constraints and add a third country (we'll call it Mexico), the adjustment might not have even required a reduction in the bilateral trade deficit with Japan. Instead, the United States would run the corresponding surplus with Mexico, and Mexico would run an equivalent surplus with Japan. In that case, the U.S. trade deficit will have declined but the bilateral trade deficit with Japan will have remained unchanged. The decline in the overall trade deficit will seem to have been driven by the sudden emergence of a surplus with Mexico.

It is because trade balances are affected by shifts in the distribution of income and the ways in which these shifts affect consumption and investment rates, and not as if it were the sum of the expected impact of intervention on each trade item, that makes it impossible to say how this or any other adjustment would happen exactly. This is perhaps why trade can be so confusing, but the reason it is impossible to specify the adjustment is because of the complexity of international trade, not because the adjustment can be prevented. If intervention causes savings to rise faster than GDP, or to decline less sharply than GDP, the trade deficit must contract. If intervention causes the former, the United States is better off (unless it were a trade surplus country). If it causes the latter, the United States is worse off. What matters is the impact on GDP, and this will depend almost wholly on how intervention affects employment or investment.

3. The U.S. savings rate is too low, making the United States reliant on foreign inflows to fund the U.S. fiscal deficit and domestic investment.

I have already explained how intervention forces up the savings rate. It also reduces total debt, including government debt. There are many ways this can happen, but the most obvious is through its impact on employment and business profits. In the case I described above, intervention causes business profits to rise, and with them corporate tax payments. Employment also rises, along with an increase in income and a reduction in unemployment benefits. The combination reduces the government's fiscal deficit and its borrowing needs. In Appendix 3, I explain in greater detail why the gap between savings and investment is neither determined endogenously nor requires foreign funding. The low savings rate is largely created by the fact of net foreign capital inflows.

As counterintuitive as this may at first seem, in fact it is a necessary consequence of completely open capital markets. Because investment and savings within the closed system of the global economy must balance, returning again to our two-country world, if new policies distort Japan's income distribution and force up the ex-ante Japanese savings rate to above the desired investment rate, Japan must rebalance either by adjusting internally—perhaps by simultaneously forcing up domestic investment, by allowing inventory to pile up, or by laying off workers, which prevents savings from rising—or by adjusting externally. If there are no trade or capital constraints at all in the United States, the most likely consequence is that Japan rebalances externally. This means that Japan exports its excess savings, along with its excess production, to the United States, which further means, again by definition, that U.S. investment must exceed U.S. savings. Either the new availability of Japanese capital will have caused U.S. investment to surge, or it will have forced the U.S. savings rate to decline.

Of course, the mere existence of the imbalance tells us nothing about the direction of causality. In my example, the original distortion occurred in Japan, and the United States was forced to adjust, but in itself the balance-of-payments identity doesn't indicate the direction of causality. But this doesn't mean that there is no causality, as so many seem to think. Whether the original distortion occurred in the United States or in Japan, a demand imbalance in one country automatically had to force the savings rate in the other country to adjust to whatever level was needed to maintain the accounting identity (I am

assuming, as is most likely to be the case, that investment in neither country is constrained by insufficient savings). The only way it is possible for savings rates in each country to be determined endogenously is if we are willing to accept that it is purely a coincidence that the sum of the savings excess in all trade-surplus countries and the sum of the investment excess in all trade-deficit countries were exactly equal at every point in time throughout history.

The savings rate in an open economy, in other words, is extremely unlikely to be determined endogenously, and is in fact far more likely to be determined by distortions in economies with significant institutional rigidities and substantial government intervention. Put differently, there is no reason to assume, as is almost universal practice, that the U.S. savings rate is low for reasons that reflect specific U.S. conditions (and to assume that American household preferences determine the U.S. savings rate is especially absurd). It is not an independent variable, and the common claim that because Americans are unwilling to save they must rely on foreigners to bridge the funding gap gets it exactly backwards. Americans save so little precisely because of foreign capital inflows, and this must necessarily be the case as long as the capital account is open and the U.S. financial system flexible.

Because this necessary consequence of the logic of the balance of payments seems so counterintuitive to so many that it is nearly impossible for them to grasp, I will add one more point. The confused logic by which trade deficits can only be the consequence of depraved national morality (reflected in statements like “no one put a gun to his head and forced him to buy a flat screen television”) also assigns blame for countries with high household debt or low household savings (which are the same thing) to moral failure. But while this flatters our capacity for expressing outrage, moral depravity plays no role at all. If a country’s monetary authorities are willing to reduce real interest rates to counter rising unemployment, it is easy to prove mathematically that there will be a rise in debt or a decline in the savings rate of any country with a sufficiently large population (1 million households is more than enough) in which the amount of optimism and willingness to take risk varies across the population, according to some normal distribution. If that country is the recipient of massive foreign capital inflows, as I have discussed elsewhere, its national savings rate will automatically plummet.

4. If the United States intervenes, the affected trading partners will retaliate and so neutralize the U.S. intervention. They may retaliate, but at the limit of zero trade, this is not a game in which everyone has as much room to intervene as everyone else.

Retaliation against trade intervention is always possible, and indeed at first probably likely, but it is absurd to assume that countries have equal retaliatory capacity. Trade conflict always reduces global economic growth, but its costs are not distributed evenly among the belligerents, especially in an environment of weak global demand.

Countries that run large, persistent trade surpluses do so almost always because they suffer from income distortions that create structural deficiencies in domestic demand (the few exceptions tend almost always to be countries, like late-eighteenth-century Haiti or late-twentieth-century Kuwait, in which small populations are unable to absorb huge

commodity-exporting revenues). They must export the excess production of tradable goods or choose between rising debt or rising unemployment, so that any forced contraction in their trade surpluses must exacerbate the “normal” costs to them of trade conflict. This is not the case with deficit countries if desired investment is roughly in line with actual investment. In that case, any contraction in their deficits will automatically cause either debt or unemployment to decline, and this will at least partly mitigate the “normal” costs of trade conflict.

Trade conflict, in other words, is far more costly to surplus countries than it is to deficit countries, and historical evidence suggests that a globally damaging trade conflict may in fact leave large, diversified economies with substantial deficits relatively unscathed. The case that most resembles that of the United States today is probably Britain in the 1920s, when its trade account was adversely affected by large foreign purchases of sterling for reserve and investment purposes. The British economy significantly underperformed that of both the United States and its continental rivals, with nearly a decade of unemployment in excess of 1 million insured workers.

This changed dramatically after London succumbed to strong protectionist pressures, took sterling off gold in September 1931, and imposed the General Tariff in 1932 (with additional tariffs before and after in 1931, 1934, and 1935). As Barry Eichengreen writes of the British economy, “Its performance compares less favorably with Europe’s in the ‘twenties, when it persistently lagged its Continental rivals, than in the ‘thirties, when it closed much of the gap that had opened up in that earlier decade.” The United States also implemented protectionist measures at the same time, although far from being a champion of free trade, it had behind it over a century of substantial protection and some of the highest import tariffs in the world. During the subsequent decade, the UK economy performed relatively well in sharp contrast to the misery of the American Great Depression.

This is not to suggest that the United States will benefit from global trade conflict and should in fact eagerly engage in belligerent behavior. There are undoubtedly costs to trade conflict, and enough uncertainty to demand caution, but the idea that large surplus nations have substantial retaliatory capacity is hard to take seriously.

5. Intervention is inflationary, and the cost to households of this inflation will turn them against intervention.

Intervention raises the costs of imported goods but it does not cause inflation. While intervention will certainly increase the prices of certain imported goods, any increase in spending on one set of goods and services must be matched with lower spending on the rest, and the consequent price declines elsewhere means that, in the aggregate, there is no reason why intervention should be inflationary. There is certainly no empirical evidence that credibly establishes the connection. It is only when aggregate demand rises faster than aggregate supply that the economy suffers from generalized inflation, and households actually suffer from inflation only if prices rise faster than household income. Trade intervention is only likely to be inflationary if it causes total household income to

rise—perhaps by putting unemployed workers back to work or by putting upward pressure on wages—in which case households are still better off.

6. The experience of every period of U.S. trade intervention, including the 1930 Smoot-Hawley Act, proves that U.S. intervention ultimately hurts the United States more than any other country.

Smoot-Hawley proves what should have been obvious: countries with large trade surpluses should never engage in trade war. Devaluation doesn't work by changing relative prices. It works by shifting income from consumption to savings. In deficit countries, where savings are by definition insufficient to fund investment, as slowing growth scares off foreign inflows investment must decline, and this decline slows the economy further. By redirecting income from consumption toward savings, devaluation reduces dependence on foreign capital and keeps investment from dropping.

Surplus countries, like the United States in 1930, don't suffer from insufficient savings, however. They suffer from insufficient domestic demand, and this almost always means insufficient consumption. By shifting income from consumption to savings, Smoot-Hawley simply reduced already-low U.S. domestic consumption—made worse by the wealth effect of collapsing asset prices—and increased American reliance on domestic investment, from which American businesses were fleeing, and exports to countries increasingly unable to pay for American imports. For surplus countries, in other words, devaluation displaces a sustainable form of demand, consumption, and replaces it with the unsustainable demand of investment and trade surpluses.

APPENDIX 1: WHAT DRIVES CAPITAL FLOWS?

Nearly every discussion of trade implicitly assumes that the trade account has primacy over the capital account, probably because it is more natural somehow to think in terms of the trade in goods and services than in terms of investment flows. Countries that run trade surpluses or trade deficits are assumed to do so primarily because of relative cost structures that make goods in one country cheaper than in the other. If China runs a current account surplus with the United States, for example, the assumption is that Chinese manufacturers have a fundamental cost advantage over American manufacturers, the result of which is that American households and businesses find it cheaper to import Chinese goods than to buy American goods, and Chinese households and businesses find it cheaper to buy Chinese goods than to import American goods.

According to this view, the capital account imbalance is mainly the consequence of the trade imbalance. The United States is a net importer of Chinese capital, for example, because it must finance its trade deficit with China, and its trade deficit with China is a consequence not of capital flows that may distort trade but rather because of high manufacturing costs in the United States, with expensive labor almost always fingered as the main culprit. As evidence that the U.S. deficit is caused by expensive labor, high manufacturing costs, and the spendthrift habits of Americans, many economists will point out that the United States runs bilateral trade deficits with many countries, and not just with China. For example Yale University's Stephen Roach has pointed out the following:

In 2015, the United States had trade deficits with 101 countries – a multilateral trade deficit in the jargon of economics. But this cannot be pinned on one or two “bad actors,” as politicians invariably put it. Yes, China – everyone’s favorite scapegoat – accounts for the biggest portion of this imbalance. But the combined deficits of the other 100 countries are even larger.

The notion that the pattern of bilateral trade can tell us what we need to know about the variables that drive the trade account depends on the assumption that the trade account has primacy and drives the capital account. But the assumption is mistaken. While bilateral trade may tell us useful things at the level of microeconomics, they are almost completely useless at the macroeconomic level. In fact, the relationship between the capital account and the trade account is extremely complex, and over the past few decades, it is almost certain that the variables that drive capital flows have dominated the fundamentals of trade flows. In fact, my mentor at Columbia University, Michael Adler, used to argue that looking at bilateral trade balances could only undermine any understanding of the factors that drove international trade, and he would insist that we pay no attention to them.

Adler’s view may be an extreme one, but it is certainly the case that capital flows have grown so rapidly that the volume of capital transactions can be many multiples of trade volumes, and variables that change the nature and flow of the capital account can easily overwhelm the trade account. In the early 1970s, for example, as a newly assertive OPEC drove up oil prices and deposited their massive surplus earnings in international banks, these banks were forced to find borrowers to whom they could recycle these flows. They turned to a group of middle-income developing countries, including much of Latin America.

The subsequent history is familiar. In the early 1970s, as capital began flowing in ever increasing amounts to Latin American borrowers, some of whom had been running small trade deficits and others trade surpluses, the whole region became a large net importer of capital and began to run the huge corresponding trade deficits. By the early 1980s, enormous external debts, soaring interest rates, and the beginning of a long-term decline in commodity prices set off what was subsequently known as the LDC Debt Crisis. After 1982, the entire region switched from large net capital inflows to large net capital outflows as foreign investment dried up, to be replaced by capital flight and the struggle to service external debt. The whole region also began to run the large trade surpluses that characterized Latin America in the 1980s.

It was obvious then that the shift in capital flows had primacy, and that the shift in trade flows was in large part a consequence of the former. This isn’t to say that there were no corresponding changes in economic fundamentals—post-1982 manufacturing costs and labor costs plummeted, after all—but it does show that policies that had been designed with trade fundamentals in mind would have had a minor impact at best in the overall thrust in trade. We have seen this story replicated many times. As I have explained—in my 2001 book, *The Volatility Machine*, for example, and [elsewhere](#)—for the past 200 years capital flows to developing countries have occurred in waves that are far more easily explained as having been driven by liquidity shifts in the developed world than by parallel shifts in the cost structure of manufacturing across all developing countries.

Ben Bernanke's global savings glut thesis is another example of the primacy of capital flows, and indeed the decision by East Asian countries to accumulate savings in the form of soaring foreign exchange reserves, which set off the savings glut, was itself the likely response to the 1997 Asian crisis, which occurred as a consequence of a sharp reversal of capital flows to the afflicted Asian countries. With the reversal of these flows, currencies collapsed and large trade deficits that counterbalanced massive capital inflows became the necessary surpluses that counterbalanced the capital outflow. Flight capital generally is an example of capital flows driving trade flows.

I could go on, but the point should be clear. We cannot turn mainly to economic fundamentals to explain trade flows. The relationship between the capital account and the current account, most of which tends to consist of the trade account, is extremely complex and can work both ways. And in recent decades, the variables that have affected the capital account have tended to overwhelm trade fundamentals, which have had to shift in order to accommodate shifts in the capital account. In fact, more generally a compelling case can be made that what we call globalization is driven largely by shifts in liquidity and risk appetite: "Globalization takes place," as I wrote in 2001, "largely because investors are suddenly eager to embrace risk."

APPENDIX 2: WHY CHINA'S RESERVES ARE DECLINING

We typically divide the capital account into two separate accounts for countries, like China, whose central banks intervene heavily in the currency markets. One account, confusingly called the capital account, consists of all capital account transactions excluding purchases or sales of reserves by the central bank. The other account, logically enough, consists of central banks purchases and sales of reserves. In that case, we must restate our original balance of payments identity:

$$\text{Current Account Surplus} = \text{Capital Account Deficit} + \text{Central Bank Deficit}$$

Before 2014, when there was an overwhelming consensus that the RMB would continue to appreciate, China had a large capital account surplus: far more money from abroad was invested in China than Chinese money was invested abroad, driven mainly by the so-called arbitrage, by which Chinese companies borrowed money offshore at lower interest rates and brought it back into the country, usually illegally, to invest at higher rates of interest so as to pick up the carry plus any appreciation of the currency. China also had a large surplus on its current account.

This meant by definition that it must have had an even larger central bank deficit, which means confusingly, that its central bank reserves grew as it exported capital abroad to purchase U.S. Treasury bonds and other assets. To give numbers, let's assume that China's current account surplus was \$22 billion and let's further assume that \$30 billion more money was invested in China than taken abroad. Because the current account ran a \$22 billion surplus, the sum of the capital account and the central bank account had to run a \$22 billion deficit, and given that the former was in \$30 billion surplus, the latter must have run a \$52 billion deficit, that is, central bank reserves rose by \$52 billion.

Today the dynamics are different. The current account is still in surplus—let's assume it is still \$22 billion—but the capital account is running a large deficit as Chinese rush to take their money out of the country. If we assume that the capital account deficit is \$40 billion, the central bank must have sold \$18 billion of reserves to bring the sum of the two accounts to a \$22 billion deficit, once again perfectly balancing the \$22 billion surplus on the current account.

APPENDIX 3: WHAT DETERMINES THE AMERICAN SAVINGS RATE?

I have mentioned two misguided but implicit and deeply held assumptions that mar most trade discussions. The first is that the trade account has primacy over the capital account. The second is that the quantity of productive investment in any economy, including that of the United States, is constrained by the quantity of savings. There is a third. This is the implicit assumption that the domestic savings rate of any economy is endogenously determined as a function of household savings preferences.

This assumption is simply wrong, although infernally difficult to dislodge, on two counts. First, total savings include but are not limited to household savings and in many cases far exceed household savings. Second, as I have discussed above and shown several times (for example [here](#), [here](#), [here](#), and [here](#)), the requirement that the excess of savings over investment in one country must be matched by an excess of investment over savings in another means, once we recognize that productive investment need not be constrained by the lack of savings, then it is purely a matter of logic that in at least one of these two countries the savings rate was determined not endogenously but rather by conditions in the other country. The implication that most people find hardest of all to believe is that U.S. savings rates are almost wholly determined outside the United States. American households do not cause low American savings. As long as trading partners are net exporters of capital to the United States, the latter must run a trade deficit and its savings rate must fall to below its investment rate.

This assumption implicitly underlies much of the debate on trade. Analysts, for example, will thoughtlessly argue that China's extremely high savings rates reflect the thriftiness of Chinese households, and that extremely low U.S. savings rates are the consequence of a systematic tendency among Americans to overconsume, which is simply the obverse of the country's excessively low savings (in any economy savings is equal by definition to GDP less consumption), and for this reason Americans do not save enough to meet domestic investment needs. That is why, they continue, the United States is forced to exploit the generosity of foreigners and to borrow abroad to meet domestic investment needs. As [Yi Wen of the St. Louis Federal Reserve Bank](#) mistakenly explains, China's high savings have to do with the needs of Chinese households:

First, we need to understand why China is willing to lend to the United States when it is still struggling with low consumption per capita. The answer is that Chinese households need to save for precautionary reasons but do not have good domestic investment opportunities for their savings.

He then goes on to use the same flawed logic to explain that the U.S. trade deficit is the consequence of American household savings preferences:

The United States has been running large and persistent trade deficits with other economies, especially emerging markets such as China, for decades. Persistent trade imbalances imply that the United States has been consuming more than it produces or, equivalently, saving less than it invests. This means that the United States has been borrowing heavily from foreigners (especially China) to finance its domestic investment.

Critics say that to rebalance its current account, the United States needs to either increase its saving rate or lower its investment rate. Both approaches are painful for the U.S. economy and will lead to lower aggregate demand and hence slower economic recovery. However, the very nature of the trade deficit itself offers a solution.

Yale University professor Stephen Roach implicitly makes the same assumption in [an article](#) for Project Syndicate:

What the candidates won't tell the American people is that the trade deficit and the pressures it places on hard-pressed middle-class workers stem from problems made at home. In fact, the real reason the US has such a massive multilateral trade deficit is that Americans don't save.

Roach goes on to refer to the "ironclad identity that saving must equal investment at each and every point in time."

But there is a critical twist: To import foreign saving, the US must run a massive international balance-of-payments deficit. The mirror image of America's saving shortfall is its current-account deficit, which has averaged 2.6% of GDP since 1980. It is this chronic current-account gap that drives the multilateral trade deficit with 101 countries. To borrow from abroad, America must give its trading partners something in return for their capital: US demand for products made overseas.

Therein lies the catch to the politicization of America's trade problems. Closing down trade with China, as Donald Trump would effectively do with his proposed 45% tariff on Chinese products sold in the US, would backfire. Without fixing the saving problem, the Chinese share of America's multilateral trade imbalance would simply be redistributed to other countries – most likely to higher-cost producers.

The mistaken assumption here is that the United States has a very low savings rate for endogenous reasons, and that China has a very high savings rate because of a cultural propensity to thrift. Neither is true. In the case of China, its savings rates are among the highest ever recorded mainly because of the low share that Chinese households retain of GDP, among the lowest ever recorded. As [I have written elsewhere](#):

China's extraordinarily high savings rate is almost wholly explained by the transfer mechanisms that subsidized rapid growth over the past two decades, leaving Chinese households with the lowest share of GDP in the world, and perhaps the lowest ever recorded for a large economy. Arithmetic, not to mention historical precedents, can easily explain why these transfers, which during this century amounted to as much as 5-8 percent of GDP annually, would drive down the

household consumption share of GDP by driving down the household income share, and of course high savings are simply the obverse of low consumption.

China's high savings rate, in other words, has very little to do with Chinese households and is mostly structural. Three decades of policies that have subsidized rapid growth with transfers from the household sector have left Chinese households with an extremely low share of GDP. Not surprisingly, household consumption is consequently an extremely low share of GDP, as is total consumption, which consists mostly of household consumption. A low consumption share is the same as a high savings share, and because China's extraordinarily high savings rate is even greater than its very high investment rate, China must export excess savings and run the corresponding current account surplus.

Nor is the U.S. savings rate set by the cultural propensities of American households. Surprising as it might at first seem, because of its open capital account, flexible financial system, and safe haven status, American savings rates are largely the consequence of external distortions. To see why, let us assume that there are only two countries in the world, the United States and Japan, and that Japanese policies that have suppressed the household share of income, as was the case in the 1980s, has left the country with ex ante savings that substantially exceed desired investment. Japan is able to easily export excess savings to the United States and run a trade surplus that allows it to resolve its domestic demand deficiency.

Japan's net export of savings to the United States means that the United States is forced into being a net importer of savings (there are no restrictions on foreign investment into the United States). This is just another way of saying that the United States must run a current account deficit, and that U.S. investment must exceed U.S. savings by the amount of its net import of savings. Or to put it in the form of an equation:

$$\text{Japanese savings} - \text{Japanese investment} = \text{US investment} - \text{US savings}$$

How is it possible for the United States to run a savings deficit to counterbalance Japanese investment flows into the U.S. economy? Logically, there are only two ways. Either American investment must have risen as a consequence of Japan's export of savings into the United States, or its savings must have dropped (or some combination). How can investment rise? There are, again, two ways logically in which Japanese investment in the United States can cause aggregate U.S. investment to rise. There can be an increase in productive investment, or an increase in nonproductive investment, with the latter consisting either of an unwanted increase in inventory or of misallocated investment.

- **Productive investment:** Governments or businesses may have identified productive investment opportunities, but because capital is scarce and excessively expensive, are unable to raise the funding at a reasonable cost. In that case, by importing capital from Japan, the United States can increase its stock of productive investment, and this will cause a boost in the future production of goods and services, part of which can be used to repay the Japanese and part of which is retained by Americans, making both better off. While this may have been a realistic scenario 150 years ago or even 50 years ago, in a

world awash with excess savings, credible borrowers in the United States don't find it difficult to fund investment. This is, in other words, a very unlikely scenario.

- Unproductive investment as an unwanted increase in inventory: If Japanese manufacturing exports displace goods produced by American manufacturers, the latter will see an increase in investment in the form of unwanted increases in inventory. This increase in inventory must effectively be funded by higher debt and is not sustainable.
- Unproductive investment as misallocated investment: As Japanese money pours into the United States, it can set off real estate and/or stock market booms that lead to overly optimistic growth forecasts or higher speculative housing demand. The resulting nonproductive investment is effectively funded by debt, whose servicing cannot be met by the additional value created by the investment.

The point is that net Japanese capital inflows are unlikely to be balanced by a rise in productive investment in the United States but may be partially balanced by a rise in nonproductive investment. Because the net inflow of Japanese capital must be exactly equal to the excess of American investment over American savings, if investment doesn't rise, or rises by less than the amount of the net inflow, savings must decline.

This is where the greatest amount of confusion lies in the trade debate. The idea that U.S. household preferences determine the U.S. savings rate is wrong on so many counts, but for some reason impregnable. In fact, the savings rate for any credible economy with an open capital account and significant foreign investment is largely determined by foreign investment decisions. In our case, in which the increase in investment is less than the net capital inflow, U.S. savings must decline. There are mainly two ways in which savings can decline:

- Unemployment can rise. In Case Two above, once American manufacturers are no longer able to increase unwanted inventory, they must close production and fire workers. When workers are fired, the amount of goods and services they produce drops to zero but, of course, their consumption does not. Because savings is the gap between production and consumption, unemployed workers bring down the savings rate.
- In Case Three above, soaring stock and real estate markets create a wealth effect that can set off a consumption boom, which requires that households reduce their savings or increase their borrowing (which is the same thing) as they consume a larger share of their income.

As the above examples show, when the United States is a net recipient of foreign capital inflows, it must balance those inflows with an equivalent adjustment in the gap between domestic investment and domestic savings. The five scenarios above list nearly every possible way the United States can adjust, and these basically boil down to some combination of three options: either foreign capital inflows cause productive investment to rise, or they cause the debt burden to rise (that is, debt rises faster than debt-servicing capacity), or it causes unemployment to rise. There are no other plausible adjustments.

The key question is whether productive investments in the United States have been constrained by a lack of funding. In today's highly developed and flexible capital markets, centered on the U.S. economy, it is hard to imagine many potential scenarios in which U.S. investment is

urgently needed but has not been implemented, only because it is impossible to raise the necessary funding. If it is indeed the case that foreign investment inflows do not cause aggregate productive investment to rise, then they cannot help but cause either the debt burden to rise or unemployment to rise.

Some economists will argue that the very fact that domestic investment exceeds domestic savings is prima facie evidence that the United States requires foreign savings to fund its investment needs. This confusion is based on a misunderstanding of the balance of payments and on how accounting identities work. Imagine, for example, if Japan were to reduce its net capital exports to the United States. This would not leave U.S. investments suddenly unfunded.

Depending on how Japanese investment had affected the U.S. economy and on how it was retracted, if U.S. unemployment were high it would decline, causing American savings to rise, or else either U.S. consumption or misallocated U.S. investment, no longer driven by the stock market and real estate booms, would decline, or unwanted inventories would be sold. In any case, U.S. investment would remain unchanged, and either the U.S. debt burden or U.S. unemployment would decline in order to replace the receding Japanese investment. If this seems too good to be true, it isn't. It is simply the reversal of the process in which the United States was the recipient of net Japanese capital inflows.

APPENDIX 4: THE STATIC NATURE OF ARBITRAGE MODELS

Models built around accounting identities are in effect arbitrage models. They are often powerful and elegant, but economists too often fail to recognize that they are necessarily static, and these models can too easily ignore dynamic processes that may also matter for policy reasons. David Ricardo's model of comparative advantage, for example, is breathtakingly elegant and clearly among the most powerful analytic tools in economics, but it is important to understand that its conclusion—any trade intervention or distortion that pushes the composition and direction of international trade away from an optimum built around comparative advantage—implicitly assumes that comparative advantage is static. This means that the comparative advantage argument in favor of free trade assumes static productivity relationships.

This assumption is clearly wrong. In a static world, Alexander Hamilton's infant industry argument would be inane, and it would be rare to find countries whose transitions from backward to advanced economies occurred during periods of trade protection, government industrial policy, and state initiative in what Americans in the first half of the nineteenth century called internal improvements. In fact, since the economic emergence of the Netherlands and the UK, mainly from whose experiences Hamilton drew his insights, nearly every country that has achieved advanced-economy status (it is hard to find a single exception) has directly or indirectly followed Hamilton's program, including protection for infant industries. This suggests at the very least that while static models can be very powerful and can clarify decisionmaking immensely, we should consider how dynamic changes within a system might affect the model and the policy recommendations they generate.

The dynamism of comparative advantage does not invalidate Ricardo's claims about free trade at all, but it does mean that there are cases in which the global economy, and certainly individual

economies, can benefit over the long term with trade intervention. They benefit, however, only to the extent that these interventions correctly transform comparative advantage, and otherwise they don't. Protecting infant industries, in other words, can work only if these industries are investing heavily in innovation to raise productivity, which almost always requires an environment of intense domestic competition. Protection cannot work, however, if it is designed to protect national champions.

The reason I point to the risks that come from applying static logical models to a dynamic system is as follows. While I think my model makes very powerful arguments against excess income inequality in a world of abundant capital—and I personally believe that reversing several decades of income concentration is the most urgent long-term task for the United States if we are to return to days of high productivity and GDP growth—I would want to add that policies that distribute income also affect incentives for individuals and businesses that can themselves affect productivity growth, which is a dynamic process, and not static. It is important, in other words, that income redistribution policies are consistent with productivity dynamics.

One last point: those who oppose all trade intervention of any kind seem to think Ricardo's comparative advantage model proves that it is always to the benefit of the United States, or any other country, to remove trade restrictions whether or not trading partners do the same. This rather extraordinary interpretation is based more, it seems, on religious faith than on Ricardo's logical elegance. In fact, it proves no such thing. Economic value is maximized, in Ricardo's model, only in a world in which global trade is built wholly around comparative advantage and in which there are no trade-related policy distortions. In that world, any intervention is value-destroying. In a suboptimal world in which some countries intervene, it is easy to prove that certain types of intervention actually benefit the intervening country as well as the global economy. What is more, whereas this model points out the benefits to the U.S. economy of income redistribution, it also shows how these can be sharply eroded if the U.S. economy is forced to absorb large capital imports from the rest of the world.

NOTES

¹ Throughout this essay, I fudge the difference between the current account and the trade account simply because it is often easier and clearer to refer to the trade account when I really mean the current account. Although technically the two are not the same, for the purpose of this discussion we can assume they are the same without in any way changing the argument.

² To remind readers, I am using investment surplus interchangeably with capital account surplus and trade deficit with current account deficit because, although technically incorrect, doing so makes the explanation much easier to understand, and in no way affects the overall argument.

³ I should dispense here with what is always the standard refutation. The statement that an increase in the current account deficit must be matched by an increase in the gap between savings and investment tells us nothing about the direction of causality. Yet many economists, not always clear on the logic of the balance of payments, will claim that the flaw in this argument is the assumption that an increase in the current account deficit must cause an increase

in the gap between savings and investment, and because this is clearly wrong there is no need to follow the rest of the logic. But this is not at all the assumption. The balance of payments approach simply proposes that if the U.S. trade deficit rose by \$19 billion, it is indisputable, and implicit in its very definition, that the gap between U.S. investment and U.S. savings rose by \$19 billion. No direction in causality is implied.

⁴ For those who are interested, I have another blog entry written that year, “[How Trade Can Reinforce Income Inequality](#),” in which I discuss the same issue from the trade angle.