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The Collapse of the US Net Savings Rate

-- What It Means --



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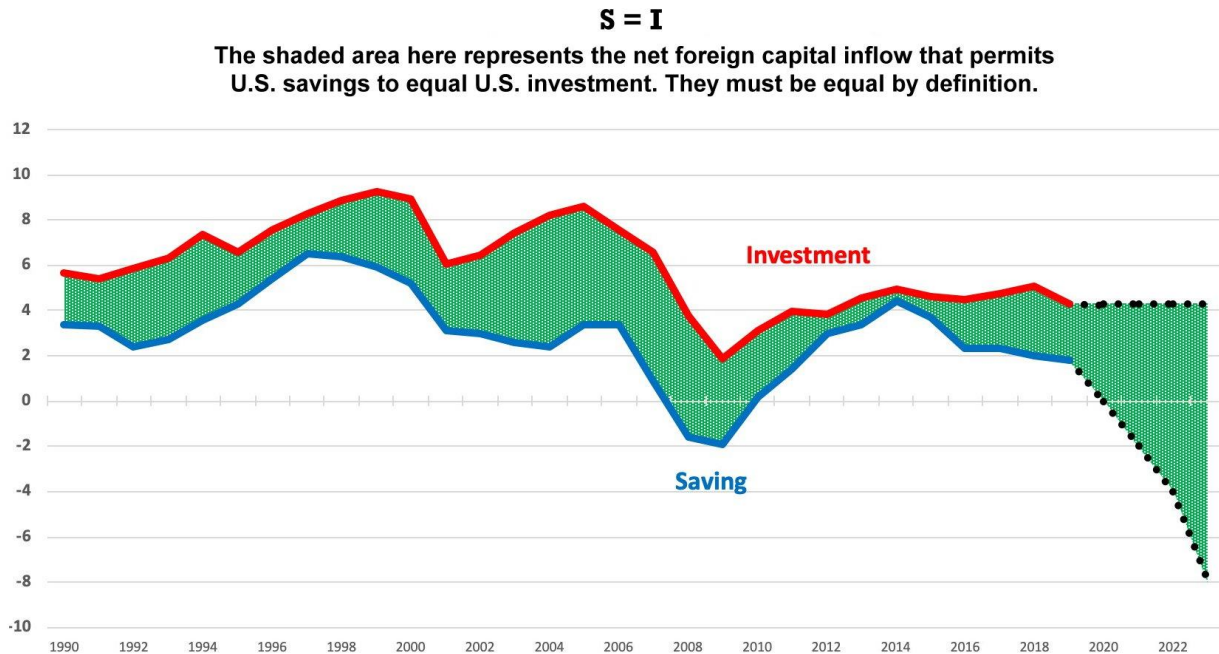
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The Collapse of the US Net Savings Rate

- What It Means -

This **PROFILE** is about the relationships (i) between national savings and investment, (ii) between national savings and the nation's "current account" (trade deficit), (iii) between the current account and GDP growth, and (iv) between the current account and the future value of the dollar. Why read this? First, because these matters are of fundamental importance and are very rarely discussed. Second, because without understanding them, it is impossible to understand what will happen to the value of the US dollar, to GDP, to the trade deficit, and to trade policy. Figure 1 here summarizes one – but only one – of the central results of our analysis.

Figure 1: U.S. NET SAVING AND INVESTMENT AS % OF GROSS NATIONAL INCOME
(dotted portion of lines are SED estimates)



Sources: Bureau of Economic Analysis; Federal Reserve Bank of St. Louis; SED

The economist Stephen Roach is an old friend who used to direct economic research at Morgan Stanley, and who has now completed ten years of teaching at Yale University. He recently published an article drawing my attention to what has happened to the first two relationships identified above. He stressed that developments depressing US net savings could cause a serious devaluation of the US dollar. He also correctly pointed out that the Covid-19 virus is significantly altering prospects for the US trade deficit on current account.

Yet, as Roach further notes, there has been absolutely *no discussion* of these matters by widely read financial commentators. I plead guilty: Whereas I have often written in the past about these same issues, it never occurred to me that the issue of national savings has become more important today than ever before.

We shall not simply restate Roach's arguments that inspired this **PROFILE**, but rather expand upon them and clarify them. The branch of economics that we must draw upon is National Income Accounting (NIA). Regrettably, some of the relationships involved in NIA are counter-intuitive and difficult. This is why the issues we are analyzing are either scrupulously avoided in most commentaries, or else wrong. [See Stephen Roach, *The COVID Shock to the Dollar*, June 23, 2020, published by the Project Syndicate of the Yale University Jackson Institute.]

Part A: A Reinterpretation of the "Exceptionalism" of the US economy

In assessing future prospects for the global recovery from the virus, it is easy to imagine that most developed nations will experience pretty much the same pattern of recovery. Of course, the recovery of some will outpace that of others. By extension, it would seem that the *currency values* of the past decade will remain fairly unchanged for the simple reason that "everyone is in this together." This would not be true of course if, say, the US encountered problems sharply greater than those of other nations. In this case, we would expect the value of the dollar to fall significantly.

In stating this, we are influenced by Harvard Professor Richard Cooper who taught his students that the best way to predict the future value of the major currencies was to ask: How rotten will the various apples in the barrel be? Changes in his "rotteness ranking" will determine changes in the values of currencies. He was arguing that much more was needed for forecasting currencies than to merely forecast future changes in "real interest differentials" between nations. Back in the 1970s, it was largely changes in this variable that drove relative currency values: If German real rates rose and US rates didn't, then the value of the mark would rise accordingly. Cooper argued that far more than this variable needed to be taken into account. In particular, if a nation's international clout decreased, or its global indebtedness soared, or its infrastructure decayed, then its currency would eventually fall.

Most commentators believe that a similarity in the economic recoveries from the epidemic will leave the rotteness ranking pretty much unchanged. One purpose of this paper is to suggest otherwise. For the US has a set of problems unlike other nations, problems that will depress its recovery and thus drive down the dollar. *These problems stem from the short-term collapse of net national savings – a collapse unlikely to be seen elsewhere.* This collapse will in turn cause the US current account (trade deficit) to explode with negative implications for both GDP and the

dollar. American exceptionalism is real, but in this case, the reasons why are unfortunate and bode ill for the future. Parts B, C, and D below explain why.

Part B: Some Basic Relationships within National Income Accounting

In Part C we present the data that make our case. But in order to properly *interpret* these data, we must first understand a few basic relationships within NIA. The relationships we discuss are not “theories” that can be disagreed with. Rather they are either definitions or else “identities.” The latter are equations that are always true and which cannot be argued with. Here are three such relationships.

1. The GDP identity is that GDP is the *sum* of government spending, consumption, investment, and the nation’s current account (loosely, its trade balance). That is, $\mathbf{GDP = C + I + G + X}$. The last variable has a negative value when there is a trade deficit. A trade deficit reduces GDP since foreigners are making more goods for us to consume than we are making for them to consume. The opposite is true when the US runs a trade surplus.

This definition GDP is deceptively obvious, but it need not be. For example, we can rewrite this equation as $\mathbf{X = GDP - C - G - I}$. This provides a wholly new way of understanding trade deficits. And many other rewrites of the GDP equation are possible and insightful.

2. The most familiar of the identities is that Savings Equals Investment. Very simply, investment must be funded, and it is funded by savings, where “savings” refers to the sum of domestic savings and foreign capital inflows/outflows. Interestingly, Adam Smith wrote many pages of his *Wealth of Nations* attempting to clarify this identity.

3. The most important identity for us in this essay is that *the current account of a nation (loosely the trade deficit) must always equal its capital account (net foreign capital inflows) on an annual basis*. We now explain exactly what this identity means as it is central to this essay, and is highly counter-intuitive – indeed perhaps the most counter-intuitive relationship in macroeconomics.

A Simplified Explanation of the Current Account = Capital Account identity: Consider a two-nation world consisting of the US and Germany back in 1975 when the Deutsche Mark was still the German currency. Suppose that US consumers chose to spend \$1 trillion on German-made imports, and suppose that the Germans only buy \$500 billion of US goods. Then the US has a trade deficit of \$500 billion. How in the world will the US pay Germany what Germany is owed for having sold \$500 billion more goods to the US than the US spent on German goods? The US cannot pay this debt by selling more *goods* as we have already stipulated that German consumers only want \$500 billion of US goods.

The answer is that the US must sell to Germans US assets such as real estate, stocks, or Treasuries. Assets. Not goods. Of course, US investors will usually buy German assets as a matter of daily business – German companies, bonds, or whatever. And Americans regularly buy German assets. So what matters here is that the sales of US assets to Germany *exceeds* the purchase of German assets by Americans by exactly \$500 billion – the money the US owes Germany to pay for its trade deficit with Germany. [Example: If US investors buy \$2 trillion of German assets, then Germany will have to buy exactly \$2.5 trillion of US assets for the identity to hold true. And it always does.]

This net difference in the value of asset sales amount is called the US Capital Account. And it is this number (reflecting changes in which country owns how much of US assets) that must always equal the size of the trade deficit. This strikes many as strange since the trade deficit ostensibly has nothing to do with the asset markets, but is rather a statement about *income flows* due to the purchases by Germans of those US goods that Germans like, versus those German goods that the US consumers buy.

Are Germans Slaves? But wait – doesn't it sound that German investors are *slaves* who “must” buy a specific amount of US assets even if they do not wish to? *Yes they are, but no they are not!* The reason is remarkable. An example will help. Suppose that the US trade deficit remains the same next year. But suppose that the Germans have had a change of heart, and wish to buy only *half* as many US assets as they did last year. More precisely, suppose the Germans wish to invest 50% less DMs into US assets than last year. Would their wishes not be stymied by the requirements of the identity?

No they are not. Because what will happen is that the value of the dollar will fall in half. Germans are then free to put half as many DMs into US assets as last year. But from this, Americans receive their unchanged required capital inflow when measured in dollars. The currency will fall by whatever amount is necessary to make this happen. This truly is the Invisible Hand at work – but in an international context.

Most commentators have an altogether different view of this story – one which is dead wrong both in theory and practice. They claim that, when foreigners choose not to invest in US assets as they used to, as the Chinese and Japanese threatened to do so as to hurt the US, the result of foreign disenchantment will be *higher US interest rates*. The reality is that interest rates do not and should not rise for the very simple reason that the amount of foreign purchases in dollars of US assets (net inflow of foreign capital) will not change as long as the US trade deficit does not change. Remember that the two entities must be equal in magnitude. Thus there is no “cut off”

of foreign savings coming to the US to drive up rates.¹ But there will be a reduction of capital inflows to the extent that the US trade deficit narrows, which in the case of the US, it rarely does.

Consider an extreme case. Should some American invent Woody Allen's "Orgasmatron" that everyone on earth wants, and export it to the world, then the US trade deficit would collapse, say, from \$650 billion to \$0. US net capital inflows would fall to \$0 as well. US interest rates would *soar* due to the need to induce Americans to save much more domestically.

These realities put to rest another lie, namely the claim that foreigners can "pull all their money out of the US." The concept has no meaning, and of course is false. Yes, China could sell their US holdings, but then other non-US nations would have to buy them – and currency values will adjust so that this happens. While the Chinese can pull out, the rest of the world cannot. This is because, when China dumps its US assets, it receives *dollars*. Other nations will buy these dollars from China. Since these dollars by definition can only be used to buy US dollar assets (buying goods has been ruled out by assumption), these other nations will recycle these dollars back into new US asset purchases. There cannot be any global pullout from the US.

As this happens, the value of all currencies keep changing, if only by very small amounts. This in turn insures that every nation gets its trade deficit/surplus properly funded. That is, no nation ends up robbing another nation. This is once again the global Invisible Hand at work. The math required to show all this is complex.

The points we are making are not merely academic. For they will be central to the real-world forecasts we will offer in Part D of this report – a forecast as to *exactly how* the US is in trouble. For the interested reader, a more rigorous discussion of the meaning of the "capital" and "current" account is given in a footnote below.²

¹ US rates can be driven somewhat higher if the asset preferences of foreigners change. That is, if they have to acquire \$650 billion in dollar assets, and they suddenly want real estate and *not* Treasuries, then yields could rise a bit. Rates would rise much more should US investors *and* foreign investors *both* lose their taste for Treasuries.

² **More Rigorous Definitions:** The current account records a nation's economic transactions with the rest of the world. It consists of its net trade in goods and services, its net earnings on cross-border investments, and its net transfer payments such as foreign aid. For simplicity, let us assume that the US current account is effectively its trade balance in goods and services – pretending that the other components do not matter much.

Whereas the *current* account is a measure of the net income of a nation, the *capital* account is a measure of what can loosely be called "foreign capital inflows" dedicated to buying assets – not goods and services. And, just as the current account is a *net* figure since it consists of the difference in the *income* the US gets from selling goods and services to other nations minus their income from selling their goods and services to the US, so is the capital account a net concept. It is the dollar difference between all the foreign *assets* that the US buys in a year and all the US assets that foreigners buy. Many people think of the latter as purchase of US Treasuries, but this is false. Foreigners can and do buy assets of any kind, whether bonds, stocks, factories, art, or real estate.

Now we are in a position to understand the problems that the US alone faces. In doing so, the following data will prove very important.

Note: Most of the above assertions were proven formally by the author in conjunction with Professor William Branson at Princeton University some 25 years ago.

Part C: The Unique Problems of the US

Here are four graphs to consider.

Figure 2: The US net savings rate has been falling for 60 years from some 12% of GDP to about 2% of GDP – *before* the COVID-19 virus struck. It could well go to -4% or even -7% in the coming couple of years, for reasons we shall explain. Not only has the US savings rate been falling for five decades, but it is very low compared to most other nations.

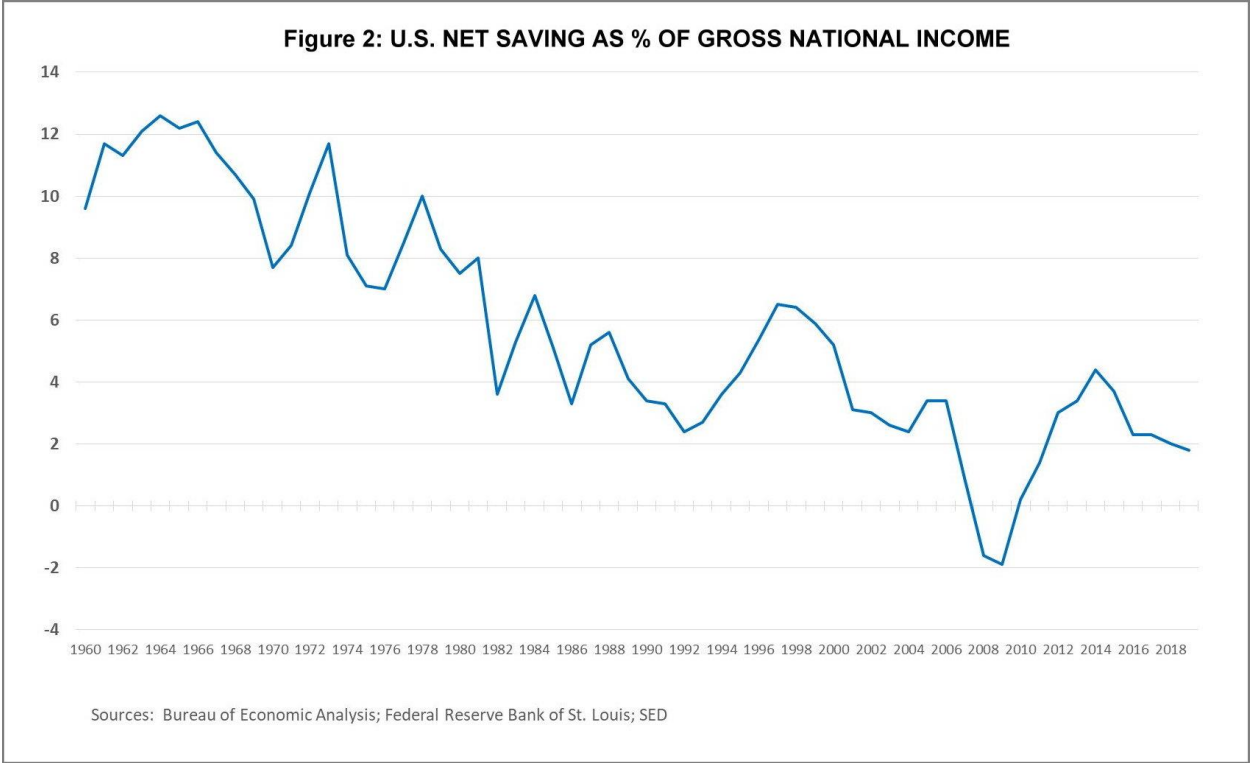


Figure 3: The components of the nation’s net savings rate are net household savings, net business savings, and net government savings. Business savings is “net” in that capital consumption or depreciation of the capital stock has been netted out from gross savings by businesses. Government savings is “net” in the sense that it encompasses both federal and state savings. The latter are often positive whereas the federal deficit is always negative. Compared to other major economies, most all of these US sector-specific savings rates are low.

Household and business net savings have both trended gently downward over 60 years. But government savings have plummeted, and this has played the major role in the significant decline of total net savings. See that net government savings was -7.2% of GDP in 2018 when the economy was booming and unemployment was 3.5%. Now, with staggering federal deficits for both 2020 and 2021 of some 14% – 16%, and with a collapse of earnings and savings by corporations, the overall net national savings rate could soon fall to -7%. Of course, today’s increase in *household* savings could reduce this decline if it continues, but it did not do so in the 2009 crisis. All this is shattering. The net savings rate fell to nearly -2% in 2009 at the height of the Global Financial Crisis, the *only* other time it has ever been negative.

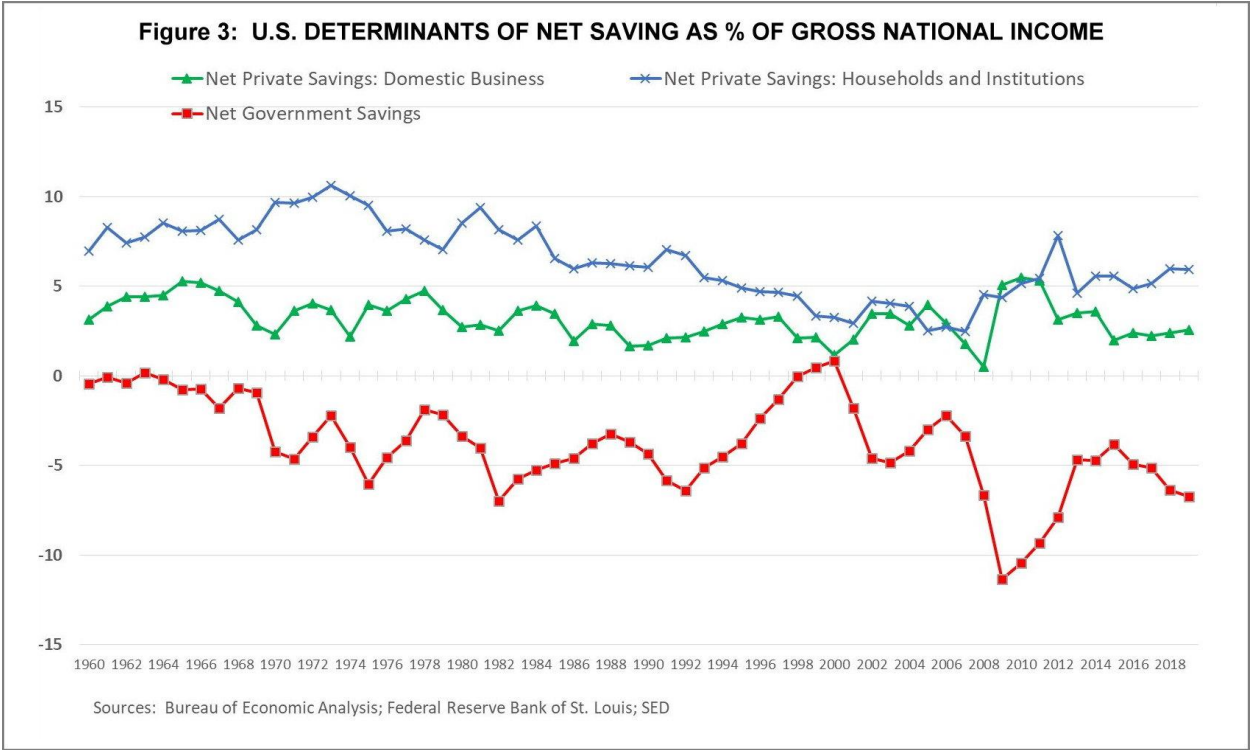


Figure 4: Here we see a 60-year downward trend in US net investment spending (all sectors) from around 11% in 1960 to some 4% before the COVID-19 virus. This also bodes ill for the future. However, the data are not as bad as they seem. This is because the need for traditional investment spending has fallen with the significant decline in costly bricks-and-mortar investment in favor of software and investments. We know of no convincing research as to how serious this rate of substitution of human for physical capital stock has been. But whatever the correct number is, it surely has impacted investment. Also, this downward trend in investment has been exacerbated by the increased rate of depreciation of capital stock that several developments have hastened.

Note: A good introduction to the difficult issues arising here can be found in the book *Capitalism without Capital* by Jonathan Haskel and Stian Westlake (Princeton Press, 2018).

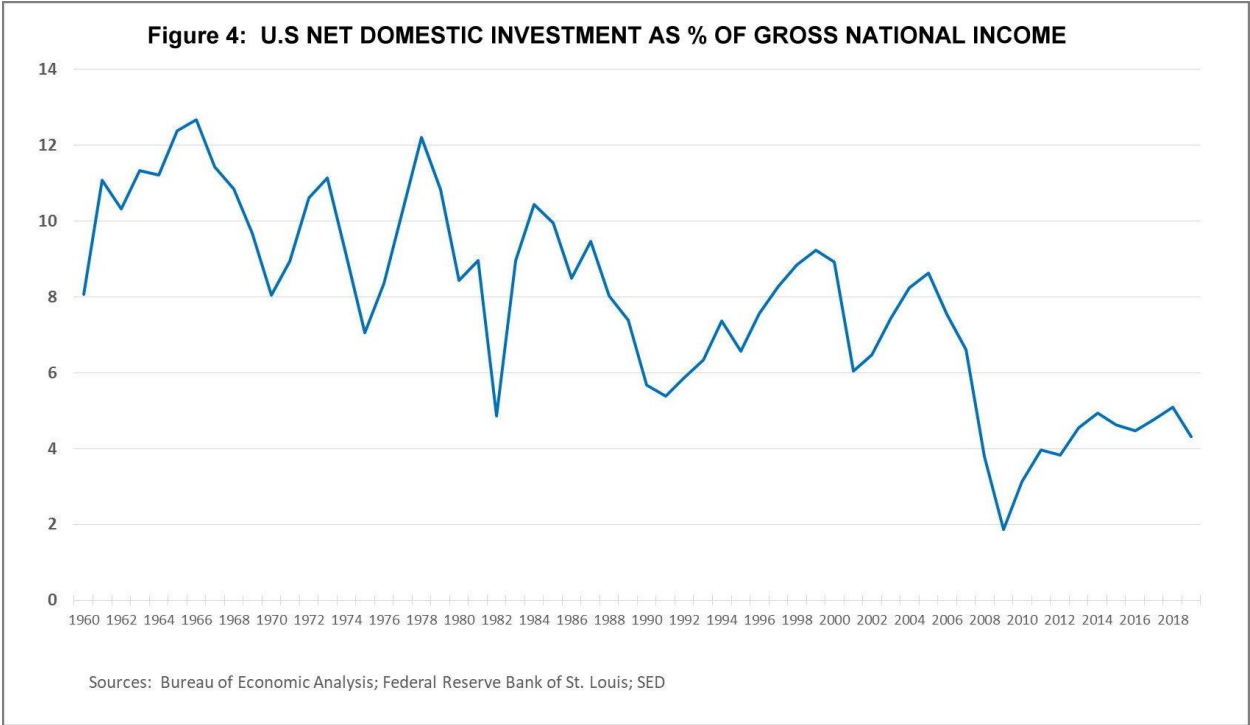
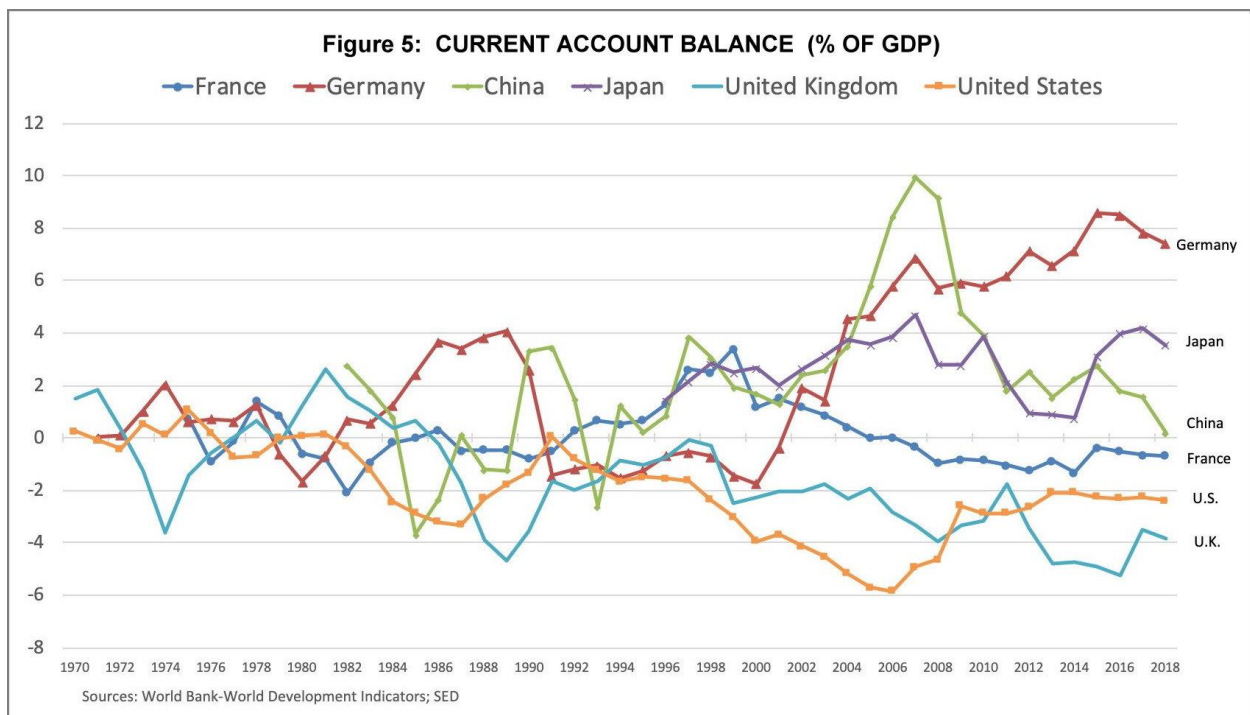


Figure 5: Here we see an international comparison of the current account deficits (and thus the net capital inflows/outflows) of the world's six big economies. The US and the UK have by far the highest current account deficits (negative trade balances) of any of these nations. One result of this, as everyone knows, is that the US has become the world's largest "debtor" in that it has required large ongoing net capital inflows in order to balance its annual current account (trade) deficits for the last 40 years.



Yet Another Misunderstanding: It is usually asserted that the US funds its trade deficits by selling vast numbers of debt instruments (Treasuries) to the nations that have trade surpluses. However, conventional wisdom is *wrong* here yet again. For much of the funding of our current account deficit has come from selling *hard assets* to foreigners, as we already pointed out in passing. That is, the US not only sells them Treasuries (debt instruments), but the Empire State Building, Monet paintings, corporations, New York apartments, etc. The US incurs no debt whatsoever for these kinds of transactions.

Three things jump out from the data in Figure 5.

1. Back around 1960, current account surpluses and deficits were very *small*, and quite similar in magnitude to one another, when properly measured as percentages of GDP. [Note that any points of data above the 0% line are current account surpluses, and any points below this line are deficits.] Were all nations rather than only the six shown here, then the sum of all surpluses and deficits in every year would naturally add to zero.

2. As time went on, the *magnitude* of surpluses in some countries and deficits in others *exploded* as percentages of GDP. Back in 1970s, surpluses and deficits were usually less than 2% of GDP for most countries. In recent decades, however, surpluses were often 4% (7% in the case of Germany), and deficits were regularly 4%.

3. The nations who have had trade surpluses in the distant past continue to have them almost every year, and likewise for deficit nations. China is an exception in that its current account surplus was 10% of GDP in 2007 and it has now collapsed to 0%. Overall, there is little change in which nations are trade debtors versus creditors.

Part D: Forecast of the Economic Impact of the COVID-19 Virus on: Net National Savings, the Current Account, the Dollar, GDP Growth, and Trade Policy

In this final part of this **PROFILE**, we present our forecast. Let us first analyze what will happen to net national savings and to the current account deficit as a result of the huge increase in the US fiscal deficit (net government savings) caused by the advent of the virus and the collapse of GDP. To quote Stephen Roach:

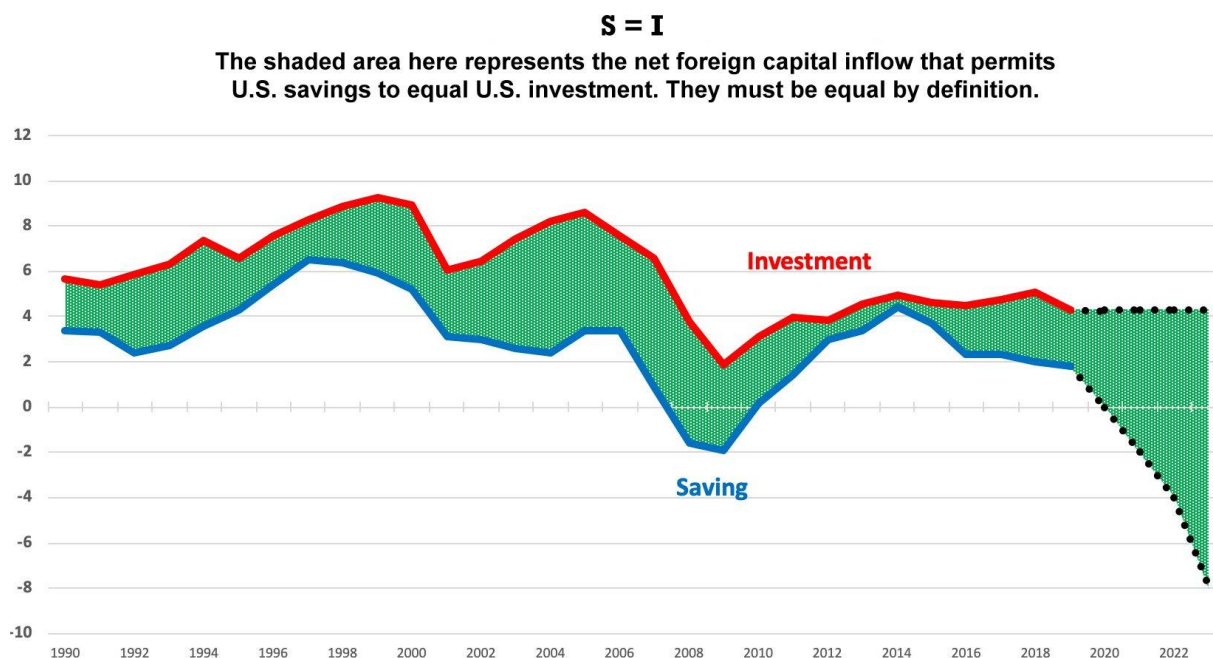
The US Congress has moved with uncharacteristic speed to provide massive relief amid a record-setting economic free-fall. The Congressional Budget Office expects unprecedented federal budget deficits averaging 14% of GDP over 2020-2021 – up from about 5% for fiscal year 2019. And additional fiscal measures are quite likely.

As a result, the net domestic savings rate should be pushed deep into negative territory. This has happened only once before: during and after the global financial crisis of 2008-2009 when net savings averaged -1.8% of GDP, while federal budget deficits averaged 10% of GDP. In the COVID-19 era, the net national savings rate could fall as low as -5% or even -10% of GDP over the next 2-3 years.

Now what does all this mean? To begin with, be sure to understand what Roach is saying: With a huge increase in the fiscal deficit due to fighting the COVID pandemic, the net savings rate of the country will tumble by the same amount. Of course, should both businesses and households sharply *increase* their net savings, then this would offset some of the greater red ink of the government. But as our Figure 3 above showed, these two categories of savings are quite stable, even in recessions.

This time, of course, there is the possibility that business savings will drop sharply due to the level of bankruptcies and poor earnings prospects in the corporate sector. This would make the drop in net national savings *even greater* than Roach suggests. This business sector decline could be offset by higher household savings this time around. But we simply do not yet know what will happen to aggregate savings, except that net government savings will deteriorate in an unprecedented manner.

Figure 6: U.S. NET SAVING AND INVESTMENT AS % OF GROSS NATIONAL INCOME
(dotted portion of lines are SED estimates)



Sources: Bureau of Economic Analysis; Federal Reserve Bank of St. Louis; SED

Now what does this fall in net national savings imply? First, consider what it means for the US current account (trade) deficit. To understand this, consider Figure 6 which shows *how* the Savings = Investment identity is satisfied. To begin with, in a one-nation world without trade, there is no such thing as a capital account = current account identity, nor are there any “foreign” capital inflows since there is no foreign anything. Net savings will always equal investment. In

this case, the two lines in Figure 6 would be one and the same. But the real-world is not one of a single nation.

So consider the data in the figure. The “gap” between the two lines at any point in time represents the degree to which the US *cannot* fund the investment it needs and wants on its own. There are not enough net domestic savings. So the difference is made up by foreign capital inflows, which by the current account = capital account identity means there *must* be corresponding trade deficits of the same size. We described all this in detail in previous sections of this essay.

Thus if the low-savings (and now negative-savings US) is going to be able to keep investing and upgrading its depreciating capital stock as it should, then the money needed to do so must come from larger net inflows and thus correspondingly larger trade deficits.

The shaded area between the two lines shows the magnitude of the shortfall between domestic savings on the one hand, and investment on the other. We can see here how, over time, the US has remained dependent on ongoing foreign capital inflows – and correspondingly greater trade deficits. All in all, it is net domestic savings *plus* foreign capital inflows that must exactly equal and fund US investment.

The magnitude of the problem that the US now faces during the 2020 – 2023 period can be seen at the far right of Figure 6. The current account deficit (the shaded area) soars reflecting the vast reduction in net government savings. The only way this could be mitigated would be for both household and business savings to increase, thus offsetting the impact of soaring government deficits on total net savings. But in the figure, we have assumed that business and household savings continue at their current rate. We have also assumed constant net investment.

This leads to the next part of the story: Implications for the dollar. But first, there is one somewhat technical point to be made.

The “Printing Money” Fallacy: A few commentators have suggested that the story we have told is flawed because of the new way in which government deficits can be financed. Specifically, whereas fiscal deficits were once financed by selling US Treasuries to domestic and foreign investors, they no longer are to the same extent. That is because the Treasury can now sell its new debt securities to the Federal Reserve Bank. It might *seem* that this development reduces the pressure on the US to sell securities to foreigners to the extent that the Fed buys in some of the new debt.

But this is not correct. For the way in which the US funds its fiscal deficits is *irrelevant* to the reality that the nation’s net savings deficiency *must* be funded by foreigners. That is, the *size* of the savings shortfall of the nation is not impacted by *how* the nation funds its deficit.

This size depends only on the spending and savings decisions of households, businesses, and government. Period.

Implications for the US Dollar

What are the implications of our previous discussion about Figure 6 for the US Dollar? The main point made by Stephen Roach is that the dollar has remained quite strong during the past few years because of foreigners' belief that the US really is "exceptional". They have been willing to pay a premium for the dollar. But during the next few years, the huge increase in the number of dollar assets which foreigners *must* buy in order to fund our exploding current account (trade deficit) will cause a 30% depreciation in the value of the dollar, if not more.

How can the US "bribe" foreigners to buy the US assets that they will have to buy?

The Bribe the US Has to Pay: This bribe takes the form of a lower dollar. A lower dollar means two things. First, foreigners can buy *more* US assets (including Treasuries) needed to fund the growing US current account deficit with *less* of their own currencies.

The second form of bribe offered by a drop in the dollar is that foreign investors can say: "Well, now that the dollar has fallen significantly, the new *currency risk* of investing in US assets is much lower than before – so this makes US assets more attractive.

Roach's views are persuasive. However, he does assume that the problems in other nations are not as extreme as they are for the US. If this is true, then the US does indeed become a more rotten apple than it used to be. But it is all relative. For example, if there is evidence of civil disorder or of a collapse in the Rule of Law in other nations, the dollar could *rise* despite the US current account problem.

Implications for GDP Growth

There is further bad news. As we have noted, the US trade deficit will rise significantly as a consequence of increasingly negative US net savings. The problem for GDP growth is that a sharply rising trade deficit means US consumers make less and less of what they consume, while consuming more and more products made overseas.

But by the *definition* of GDP growth, a rising trade deficit (formally, a decrease in net exports) *reduces* GDP by a corresponding amount. This means fewer jobs, and possibly reduced profits for US firms.

Longer run, of course, one impact of a falling dollar *should* be that the US trade deficit will begin to shrink because a lower dollar reduces the price of US goods to foreigners. Then they buy more of them.

However, such intuitively reasonable adjustments have proven very “sticky” during the last thirty years due to institutional rigidities, and trade deficits do not respond quickly if at all to currency changes.

Bizarre Implications for Trade Policy

We conclude with a particularly counter-intuitive reality. President Trump is no different from many other leaders who believe that trade deficits are not good, and should be driven down via the kinds of policies (e.g., tariffs) that Trump has espoused.

The problem is that such policies are doomed to fail from the start unless policies having nothing to do with trade are adopted that increase net national savings by the same amount that a leader wishes to reduce his nation’s trade deficit. For as Figure 6 shows so clearly, for a given deficiency in net national savings, foreign capital inflows (the shaded area) must make up the difference between net US investment and net US domestic savings.

Looking forward, suppose that our dotted line assumptions at the far right of Figure 6 are correct. Then net capital inflow must increase sharply implying that the US trade deficit must widen by a corresponding amount. *And this is true regardless of US trade policy and tariffs.* For this reason, virtually everything one reads about “trade policy” is not only wrong, but without meaning. Reducing trade deficits in the case of a net debtor like the US requires increasing net national savings.

Conclusion

In this **PROFILE**, we have tried to arrive at convincing forecasts of four important variables. But in doing so, it was necessary that we both *respect* and *exploit* several National Income Accounting identities that are almost always ignored in standard forecasts. For this reason, our forecasts have come at the end of this report – *after* clarifying the meaning of the identities. This essay will hopefully offer yet another example of the power of *deductive* logic. All of our conclusions have been deduced from the identities.