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Is the U.S. current account sustainable?

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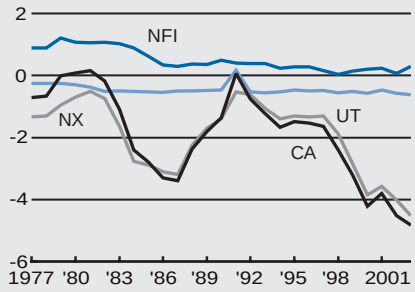
This article clearly defines what economists mean by a sustainable current account. The author provides an estimate of the sustainable current account balance for the U.S. economy and assesses the implications of this estimate for the existing current account and level of foreign indebtedness.

1. NIPA current account



NOTES: CA is current account; NX is net exports; NFI is net foreign income; and UT is unilateral transfers.

SOURCE: Author's calculation based on data from U.S. Department of Commerce, Bureau of Economic Analysis, U.S. International Transactions.

What is the current account? The balance in the current account (CA) represents the sum of net exports (NX), net foreign income (NFI), and unilateral transfers (UT). A nation has a current account deficit if the sum of these three account balances is negative. The size of the current account deficit reflects the amount by which a nation's gross domestic expenditure exceeds its income from all sources domestic and foreign (gross national product, GNP).

Net exports are simply exports minus imports. If a nation has a net export deficit, then imports are greater than exports. The size of the net exports deficit reflects the amount by which a nation's gross domestic expenditure (GDE, which is consumption, plus investment, plus government spending) exceeds the value of its gross domestic production (GDP).

Net foreign income, which I describe more fully later, is the balance of international income receipts and payments. In addition to the income they generate domestically, countries receive income from abroad and pay income to foreign residents. For the U.S., these international income flows are largely explained by interest receipts on foreign assets owned by U.S. residents and interest payments on U.S. assets owned by foreigners.

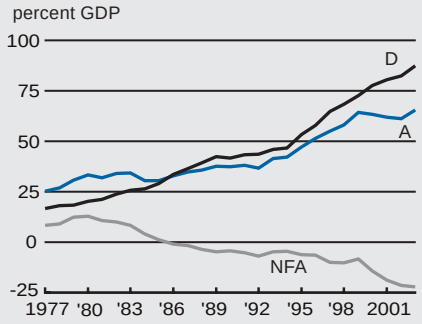
Another important income flow is lump sum transfers from the U.S. to foreign countries or international organizations and receipts by the U.S. from foreign governments or international organizations, called unilateral transfers. These transfers are more commonly known as foreign aid. The U.S. typically runs a deficit on this account, meaning it pays out more than it takes in. The sum of gross domestic product, the balance on net foreign income, and unilateral transfers is gross national product.

Figure 1 plots the evolution of the U.S. current account over the past 27 years. According to the National Income and Product Accounts (NIPA), the U.S. has run a current account deficit for 24 of the past 27 years—the exceptions being 1980, 1981, and 1991. Figure 1 reveals that the NIPA ratio of the current account to gross domestic product is essentially driven by fluctuations in net exports, since net foreign income and unilateral transfers have been fairly constant percentages of GDP. In 2003, the last year for which we have estimates of the U.S.'s net international investment position, the current account deficit was estimated at 4.8% of GDP.

Foreign debt and the current account

The value of assets owned by U.S. residents held abroad (A) minus the value of U.S. liabilities to the rest of the world (D) is called the U.S. net foreign asset position (NFA). If its net foreign asset position is positive ($NFA > 0$), the U.S. is a net creditor to the rest of the world. Conversely, if NFA is negative ($NFA < 0$), then the U.S. is a net debtor, because its

2. Net foreign asset position (NFA)



NOTES: A is assets owned by U.S. citizens held abroad; D is U.S. liabilities to the rest of the world; and NFA is net foreign assets.

SOURCE: Author's calculation based on data from U.S. Department of Commerce, Bureau of Economic Analysis, U.S. Net International Investment Position at Yearend.

outstanding liabilities to the rest of the world exceed its claims on the rest of the world.

The U.S., like all nations, is subject to a budget constraint that requires that the value of U.S. gross domestic expenditures plus the change in the stock of foreign assets owned by U.S. residents equals the value of gross national product plus the change in the stock of U.S. debt owed to foreigners. Combining this relationship with the definition of the current account, it follows that the change in the net foreign asset position is the same as the balance on the current account (see box 1 for details). Therefore, if the current account is in deficit ($CA < 0$), as indeed it is, the change in the net foreign asset position is negative, indicating that the increase in foreign debt was greater than the increase in foreign assets over the year. A negative change in the net foreign asset position is referred to as a net capital inflow, since more capital flowed into the country through additions to the level of foreign debt than flowed out through purchases of foreign assets.

Figure 2 plots the evolution of the U.S. net foreign asset position over the past 27 years. Prior to 1986, the U.S. was an international net creditor. Since then, it has been a net debtor. The gap between the value of A and the value of D widened considerably in 1999, in terms of dollar value and as a percentage of GDP, indicating that there has been a sizable net capital inflow to the U.S. since 1998. Figure 2 also reveals that the increased net inflow in the late 1990s reflected a sharp decline in the value of U.S. foreign assets, as indicated by the decline in the ratio of the value of A to GDP.

Current and future debt levels

In the U.S. case, net foreign income is largely explained by interest receipts on foreign assets owned by U.S. residents and interest payments on U.S. assets owned by foreigners. Therefore, future current account and net foreign asset positions are related to the present current account and net foreign asset positions through future net foreign income flows. The extent of these flows is influenced by the rates of return on foreign assets and foreign debt. Over the past 27 years, the rates of return on foreign assets owned by U.S. residents and the rates paid on U.S. debt owned by foreigners are roughly equal for portfolio and banking investments. In contrast, the U.S. return on foreign direct investment has on average been 6 percentage points higher than other countries' return on their direct investments in the U.S., while the return on U.S. official investment has on average been 4 percentage points lower than official foreign investment in the U.S. When weighted by their respective asset and debt levels (the official positions being much smaller than the privately held positions), these interest differentials have favored the U.S., in so far as the U.S. has been able to maintain a net income surplus over the last 27 years, despite growing as a net debtor over this period.

Figure 1 plots the NIPA estimate of U.S. net income flows since 1977. During this time, the gap between receipts (inflows) and payments (outflows) has narrowed as a percentage of GDP. The narrowing gap largely reflects increased foreign net indebtedness, rather than a narrowing of the differential rates of return.

How do we determine sustainability?

When economists want to assess sustainability of the current account, they begin by calculating the net exports to GDP ratio that would be required to maintain the current net foreign assets to GDP ratio, NFA*. I refer to this as the *critical net exports to GDP ratio, NX**. Net exports to GDP ratios above NX* will increase the nation's net foreign assets to GDP ratio above NFA*, while net exports to GDP ratios below NX* will decrease it. For reasons that I explain below, negative net foreign asset positions are typically associated with a positive NX*. Another way of stating this is that a country must give up a fraction of all future GDP equal to NX* to maintain its current negative net foreign asset position. A country's current net foreign asset position is considered unsustainable if the associated NX* is a relatively large fraction of GDP. Similarly, a current account deficit is considered unsustainable if it maintains or leads to an unsustainable net foreign asset position.

So, to answer the question of whether the U.S. current account is sustainable, I need to determine NX*. I do this in box 1 by combining the nation's flow budget constraint with definitions of the current account, net foreign asset position, and net foreign income. According to this analysis, NX* depends not only on NFA*, which is weighted by the difference between the growth rate of nominal GDP and the interest rate on U.S. foreign debt, but also the current ratio of U.S. gross foreign assets to GDP, A*, which is weighted by the difference between the interest rates on U.S. foreign debt and U.S. foreign assets, and the typical ratio of unilateral transfers to GDP, UT*. A byproduct of this analysis is the current account to GDP ratio, CA*, that would be required to maintain NFA*. CA* only depends on NFA*, which is weighted by the growth rate of nominal GDP.

Theoretical analyses typically assume that there is no differential between the interest rate on U.S. foreign assets and debt, and that the interest rate on U.S. foreign debt exceeds the growth rate of U.S. nominal GDP, which suggests that the U.S. must shift to a net export surplus to maintain its current negative net foreign asset position. This is the reasoning behind much of the analysis arguing that the U.S. must eventually run a trade surplus to finance its current level of international indebtedness. However, this argument overlooks the fact that the U.S. experience is inconsistent with standard theoretical assumptions. First, as noted above, the return the U.S. earns on its private foreign assets exceeds the rate it

pays on its private foreign debt. While it is true that the reverse holds for returns on official assets and debt, they have a very low weight since the U.S. has a relatively small official foreign asset position. Ignoring other factors for the moment, if these interest differentials were to persist at their present levels, the U.S. could maintain a stable negative net foreign asset position, while running a persistent net export deficit. Second, on average, rates of return on most classes of U.S. foreign debt have been roughly equal to the growth rate of nominal GDP. The only exception is the return on direct investment in the U.S. by foreign residents, which has averaged below the growth rate of nominal GDP. As it turns out, the U.S. has a positive, net foreign direct investment position, so this term offsets the interest differential term, but only slightly because the net asset position is relatively small when compared with the gross asset position.

Assuming that the rates of return of the past 27 years will persist, I calculate that the U.S. could maintain its current net foreign debt position of about 22% of GDP by running a persistent net exports deficit of about 0.9% of GDP (see box 1). The associated critical current account deficit is 1.3% of GDP. Although these estimates imply that both the net exports and current account deficits are sustainable, they are sustainable at levels that are considerably lower in absolute terms than the headline net exports and current account deficit to GDP ratios of 4.5% and 4.8%, respectively, reported for 2003 in the NIPA.

The differences between the critical current account and the headline current account to GDP ratios imply that the U.S. net foreign asset position decreased by about 4% of GDP in 2003. One of the problems associated with this asset position calculation is that the headline current account figures reported by the U.S. Bureau of Economic Analysis (BEA) come from the NIPA and they only include realized returns on foreign assets, while the BEA's foreign asset and foreign debt stock estimates reported in its annual Net International Investment Position (NIIP) release take into account the unrealized capital gains from both changes in local currency prices and exchange rate adjustments. This would not be an issue if the revaluations to the stocks of U.S. assets abroad and U.S. liabilities to other countries washed out over time, but it is well-known that the U.S. has enjoyed significantly higher capital gains on its foreign assets than have foreigners on their assets held in the U.S.[1]

In 2003 the net effect of these price revaluations raised the value of the U.S. NFA position by 3.2% of GDP, which is sizable when you consider that net purchases of foreign assets (U.S. purchases of foreign assets minus foreign purchases of U.S. assets) implied by the current account represented 4.8% of GDP (with foreign purchases of U.S. assets exceeding U.S. purchases of foreign assets). If one were to include these unrealized gains as an item in the foreign income account, U.S. NFI would have been roughly 3.5% of GDP and the U.S. current account deficit for 2003 would have been just 1.7% of GDP, which is only 0.4 percentage points above my estimate of the critical current account deficit to GDP ratio. This suggests that the U.S. current account to GDP ratio is actually close to its sustainable level, with the relatively high net exports deficit being offset by a relatively high NFI surplus. Adding some credibility to this estimate is the fact that the actual change in the NFA to GDP ratio reported in the NIIP was a decrease of 0.8 percentage points in 2003, well below the 4.8 percentage points implied by the NIPA current account.[2]

These revaluations also have implications for the rates of return used in calculating the critical net exports to GDP ratio. Using these returns, I calculate a sustainable critical net exports deficit of 1.4% of GDP (see box 1). This is some 0.5 percentage points above the estimate based on NIPA NFI data alone. Revaluations have no bearing on the critical current account deficit, which remains at 1.3% of GDP, roughly 0.1 percentage points below the critical net exports to GDP ratio.

Conclusion

Regardless of the method used to calculate it, the size of the net exports deficit that would allow the U.S. to maintain its current level of international indebtedness as a percentage of GDP is well below that of the current net export deficit. My estimates suggest that the U.S. net export deficit must fall by 3% to 3.5% of GDP to maintain the current net foreign asset to GDP ratio. However, I also note that if the U.S. continues to enjoy relatively high rates of return on its foreign assets, the resulting net foreign income surplus would allow it to run relatively large net export deficits without much change in the net foreign asset to GDP ratio.

[1] See P. R. Lane and G. M. Milesi-Ferretti, 2001, "The external wealth of nations: Measures of foreign assets and liabilities for industrial and developing countries," *Journal of International Economics*, No 55, pp. 263–294, and C. Tille, 2003, "The impact of exchange rate movements on U.S. foreign debt," New York Fed *Current Issues in Economics and Finance*, No. 9, pp. 1–7, for detailed discussion of the size and history of valuation effects for the U.S. and other nations.

[2] See P. R. Lane and G. M. Milesi-Ferretti, 2002, "External wealth, the trade balance, and the real exchange rate," *European Economic Review*, No. 42, pp. 1049–1071, and P. O. Gourinchas and H. Rey, 2005, "International financial adjustment," National Bureau of Economic Research, working paper, No. 11155, and references therein for a more complete discussion of the longer term relationship between the U.S. net exports deficit and revaluations of the U.S. net foreign asset position.

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Box 1: Calculating the critical NX to GDP ratio

All nations are subject to a flow budget constraint, which in the U.S. case requires that the value of U.S. gross domestic expenditure (GDE) plus the change in the stock of foreign assets owned by U.S. residents ($A - A_{-1}$) equals the value of gross national product (GNP) plus the change in the stock of U.S. debt owed to foreigners ($D - D_{-1}$), where a –1 subscript denotes the value of the stock in the previous year. After some manipulation it follows that:
$(GDP - GDE) + NFI + UT = (A - D) - (A_{-1} - D_{-1})$.
Substituting in the definition of the net export balance ($NX = GDP - GDE$) and net foreign asset position ($NFA = A - D$), this simplifies to:
$NX + NFI + UT = CA = NFA - NFA_{-1}$,
which says that the change in the net foreign asset position is the sum of net exports, net foreign income, and unilateral transfers or the balance on the current account.

Another important definition is net foreign income, which in the U.S. case is essentially the difference between interest earned on foreign assets and interest paid on foreign liabilities:
$NFI = r^A A_{-1} - r^D D_{-1}$,
where r^A is the rate of interest U.S. residents earn on their foreign assets and r^D is the rate of interest that the U.S. pays on its foreign liabilities. In textbook examples there is no distinction between r^A and r^D, because they assume there is only one traded asset. However, this assumption is far from reality, so it is important to allow for differences between r^A and r^D:
$NFI = (r^A - r^D)A_{-1} + r^D(A_{-1} - D_{-1}) = (r^A - r^D)A_{-1} + r^D NFA_{-1}$.
Substituting this expression into the one above, it follows that:
$NX = NFA - (1 + r^D)NFA_{-1} - (r^A - r^D)A_{-1} - UT$.

Dividing through by the level of GDP and imposing the foreign debt sustainability condition that the ratio of NFA to GDP be constant at NFA*, we find that the critical net exports to GDP ratio, NX* at the current gross foreign asset to GDP ratio A* and typical unilateral transfer to GDP ratio UT* is
$NX^* = (g - r^D)NFA^* - (r^A - r^D)A^* - UT^*$,
where g is the growth rate of nominal GDP. Through a similar analysis, one can show that the critical current account to GDP ratio CA* is:
$CA^* = gNFA^*$.

Rates of return differ significantly across different types of assets, so I divide the total net foreign asset position and stock of foreign debt into three categories: foreign direct investment (DI); other private foreign investment (PI); and government or official investment (G). Using the same approach used above it follows that:

$$NX^* = \sum_{i=DI,PI,G} (g - r_i^D)NFA_i^* - (r_i^A - r_i^D)A_i^* - UT^*.$$

With the exception of 1991, the balance on unilateral transfers has been negative for the past 27 years with an average balance of around 0.5% of GDP, so UT* = –0.005. The average percentage growth rate of nominal GDP over the past 27 years has been 6.9%, so $g = 6.9$. According to the latest NIIP release:

$NFA_{DI}^* = 0.05$, $NFA_{PI}^* = -0.08$, $NFA_G^* = -0.19$, $A_{DI}^* = 0.19$, $A_{PI}^* = 0.44$,

and $A_G^* = 0.02$ in 2003.
Average implicit percentage rates of return over the past 27 years are as follows: Based on NIPA: $r_{DI}^A = 10.3$, $r_{DI}^D = 3.9$, $r_{PI}^A = 7.3$, $r_{PI}^D = 6.7$, $r_G^A = 2.1$, and $r_G^D = 6.2$.
Based on NIIP: $r_{DI}^A = 11.0$, $r_{DI}^D = 4.9$, $r_{PI}^A = 11.1$, $r_{PI}^D = 8.5$, $r_G^A = 5.6$, and $r_G^D = 7.4$.

Combining these inputs, the NIPA returns imply a critical net export deficit of 0.9% of GDP, while the NIIP returns imply a critical net export deficit of 1.4% of GDP.