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Valuation Effects, Asymmetric Returns, and Economic Net Foreign Assets

US Valuation Effects

If the biggest paradox for the traditional debt cycle is that the largest and richest economy in the world is also the largest debtor economy, there are two additional smaller paradoxes that may help explain the larger one. The first is that valuation changes have predominantly tended to limit the extent of US external indebtedness to less than would have been expected solely from its chronic current account deficits. The second is that higher returns on US assets abroad than on foreign holdings of assets in the United States have similarly kept the net external debt position from being as much of a burden as would otherwise have been expected.[1] As quantified below, the United States has indeed remained an ''economic'' creditor despite becoming an ''accounting'' net debtor. To a considerable degree it has been true that the United States has enjoyed ''debt without pain,'' or even ''free debt.'' Both of these second-level paradoxes are driven by the fact, emphasized in chapter 1, that net external debt is the residual between large external assets and even larger external liabilities, such that influences on the large gross stocks have highly leveraged effects on net debt as the residual.

This chapter first examines the valuation effects, and then considers asymmetric returns on capital. It closes with an analysis of alternative concepts of net external liabilities, proposing an ''economic'' measure

1. Chapter 5 discusses the findings of an important recent study by Gourinchas and Rey (2005) that emphasizes these valuation effects.

of net foreign assets as opposed to the ''accounting'' net international investment position (NIIP), as well as other metrics of debt burden and vulnerability.

To foreshadow the key results of this chapter, it will first be shown that although favorable price and exchange rate valuation effects over time can be expected to provide some mitigation to the pace of buildup of net external liabilities for the United States, in the absence of major adjustment, the size of these effects is too small on an ongoing basis to provide a fundamental deflection of the US net position from the strongly negative trend imposed by large current account deficits. In a scenario of major external adjustment, exchange rate valuation gains could provide as much as one-third of the cutback in NIIP net liabilities by 2010 from the baseline level they would otherwise reach. For capital returns, the earnings rate on US direct investment abroad has systematically been much higher than that on foreign direct investment in the United States, and this phenomenon has kept the capital income account in surplus despite the swing of the US NIIP into deficit. Finally, when capitalized net capital income is used as a gauge of economically meaningful net international assets, the United States was found to still be a net creditor nation at about +7 percent of GDP at the end of 2004, rather than a debtor with net assets of about −22 percent of GDP in accounting terms.

Prices

The United States has enjoyed systematic accounting advantages in the sense that valuation effects have typically adjusted foreign assets relative to liabilities upward from what would have been expected solely from the path of the current account deficit. There are two principal reasons for this. First, US external assets tend to be more heavily in equities and US external liabilities more heavily in debt obligations. Equities appreciate in nominal terms with inflation and stock market booms; in contrast, the nominal value of existing debt is unaffected by either. Second, unlike developing countries (and to a greater degree than most other industrial countries), the external liabilities of the United States are denominated in its own currency, whereas external assets are much more heavily denominated in foreign currency. As a result, when the dollar depreciates against other major industrial-country currencies, the dollar value of US foreign assets has risen while that of US foreign liabilities has not been affected as much. What the US NIIP loses from annual current account deficits, it has thus tended to gain back at least partially through valuation effects from the slide in the dollar's value. In an extreme formulation, the United States could be said to have been able to devalue away a significant part of its external debt.

Table 2.1 reports the US current account balance and NIIP for 1991–2004. It also shows the ''statistical discrepancy'' in the balance of payments data. There are three ''flow'' concepts in the balance of payments: the current account (exports of goods, services, and income receipts, minus imports of goods, services, and income payments, minus net unilateral transfers abroad); the ''capital account,'' which involves de minimus transactions for the United States and can basically be ignored;[2] and the ''financial account,'' which is the flow concept for foreign acquisition of home-country assets minus US residents' acquisition of assets abroad. Because net financing from abroad must cover the deficit on goods, services, and transfers, the sum of the three accounts should be zero. Any difference from zero is the statistical discrepancy.

The change in the NIIP equals the amount contributed from the financial account *flows*, plus the change in dollar valuation of asset and liability *stocks* resulting from changes in their local currency prices and from exchange rate changes. Table 2.1 shows that from 1991 through 2004, the cumulative total current account outcome for the United States amounted to −$3.61 trillion. This deficit was financed by net financial inflows of $3.63 trillion (offset slightly by a cumulative ''capital account'' deficit of $25 billion). The $3.6 trillion in cumulative net financial account flows comprised $8.68 trillion in foreign financial inflows less US financial outflows of $5.05 trillion.

The actual increase in the US net international liability position from end-1990 to end-2004 was $2.38 trillion, or $1.26 trillion less than the cumulative total of the financial account flows (table 2.1). This difference represented gains for the NIIP from valuation changes.

The paradox of large current account deficits but small increases in net external liabilities was acute from 2002–04, during which the cumulative US current account deficit was $1.66 trillion. Yet net international liabilities increased by only $203 billion. Seven-eighths of the US imbalance in current transactions with the rest of the world in this period was in effect obtained for free because of huge favorable asset valuation changes. This is also why the US NIIP paradoxically improved relative to GDP from a trough of −23.4 percent of GDP at the end of 2002 to −21.7 percent at the end of 2004, despite current account deficits averaging 5 percent of GDP during that period.

This recent experience constitutes an extraordinary free ride that is highly unlikely to continue. There is a longer-term favorable valuation

2. Introduced into the International Monetary Fund's (IMF) balance of payments methodology in 1995, the ''capital account'' perhaps unfortunately appropriated—for what usually appear to be trivial transactions in fixed capital—a term traditionally used to refer to what is now called the financial account. The economic concept that goods and services deficits must be covered by ''capital inflows'' remains valid, but the IMF terminology must now be used with care.

Table 2.1 US balance of payments and net international investment position (NIIP), 1991–2004
(billions of dollars)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Sum 1991–2004
Current account	2.9	−50.1	−84.8	−121.6	−113.7	−124.9	−140.9	−214.1	−300.1	−416.0	−389.5	−475.2	−519.7	−668.1	−3,615.6
Percent GDP	0.0	−0.8	−1.3	−1.7	−1.5	−1.6	−1.7	−2.4	−3.2	−4.2	−3.8	−4.5	−4.7	−5.7	
Statistical discrepancy	−44.8	−45.6	4.6	−3.7	28.3	−12.2	−79.4	145.0	68.8	−69.4	−9.6	−23.7	−37.8	85.1	5.6
Subtotal	−41.9	−95.7	−80.2	−125.3	−85.4	−137.1	−220.3	−69.0	−231.3	−485.4	−399.0	−499.0	−557.4	−582.9	−3,610.0
Capital account	−4.5	−0.6	−1.3	−1.7	−0.9	−0.6	−1.0	−0.7	−4.9	−0.9	−1.2	−1.4	−3.2	−1.6	−24.6
Financial account (FA)	46.4	96.3	81.5	127.1	86.3	137.7	221.3	69.7	236.1	486.4	400.2	500.3	560.6	584.6	3,634.6
Outflows	−64.4	−74.4	−200.6	−178.9	−352.3	−413.4	−485.5	−353.8	−504.1	−560.5	−382.6	−294.0	−328.4	−855.5	−5,048.4
Inflows	110.8	170.7	282.0	306.0	438.6	551.1	706.8	423.6	740.2	1,046.9	782.9	794.3	889.0	1,440.1	8,683.0
Subtotal	41.9	95.7	80.2	125.3	85.4	137.1	220.3	69.0	231.3	485.4	399.0	499.0	557.4	582.9	3,610.0
NIIP															
Begin year	−164.5	−260.8	−452.3	−144.3	−135.3	−305.8	−360.0	−822.7	−1,070.8	−1,037.4	−1,581.0	−2,339.4	−2,455.1	−2,372.4	
−FA	−46.4	−96.3	−81.5	−127.1	−86.3	−137.7	−221.3	−69.7	−236.1	−486.4	−400.2	−500.3	−560.6	−584.6	−3,634.6
+Valuation change (VC)	−49.9	−95.2	389.5	136.1	−84.3	83.5	−241.4	−178.3	269.5	−57.2	−358.2	384.7	643.4	414.7	1,256.9
Price	−95.8	−75.6	292.7	23.2	−152.5	84.2	−92.1	−287.9	329.7	133.7	−224.2	−59.6	−1.7	146.5	20.8
Exchange rate	4.6	−75.0	−22.0	73.1	39.0	−66.1	−207.6	68.1	−126.0	−270.6	−151.7	231.3	415.5	272.3	185.0
Other	41.2	55.3	118.8	39.8	29.2	65.4	58.3	41.5	65.8	79.7	17.7	213.0	229.6	−4.1	1,051.1
End year	−260.8	−452.3	−144.3	−135.3	−305.8	−360.0	−822.7	−1,070.8	−1,037.4	−1,581.0	−2,339.4	−2,455.1	−2,372.4	−2,542.2	
Percent GDP	−4.3	−7.1	−2.2	−1.9	−4.1	−4.6	−9.9	−12.2	−11.2	−16.1	−23.1	−23.4	−21.6	−21.7	

Source: BEA (2005b, c, e).

Table 2.2 Composition of US international assets and liabilities,[a] 1990 and 2004 (in billions of dollars and in percent)

	1990		2004	
	Value	Share	Value	Share
Assets	2,294.1	100.0	9,972.8	100.0
Official reserves	174.7	7.6	189.6	1.9
Other US government	84.3	3.7	83.6	0.8
US private				
Direct investment abroad	731.8	31.9	3,287.4	33.0
Bonds	144.7	6.3	916.7	9.2
Corporate stocks	197.6	8.6	2,520.1	25.3
US nonbank claims	265.3	11.6	801.5	8.0
US bank claims	695.7	30.3	2,174	21.8
Liabilities	2,458.6	100.0	12,515.0	100.0
Foreign official assets	373.3	15.2	1,982.0	15.8
Foreign private assets				
Direct investment in US	539.6	21.9	2,686.9	21.5
US Treasury securities	152.5	6.2	639.7	5.1
Corporate and other bonds	238.9	9.7	2,059.2	16.5
Corporate stocks	221.7	9.0	1,928.5	15.4
US currency	85.9	3.5	332.7	2.7
US nonbank liabilities	213.4	8.7	581.3	4.6
US bank liabilities	633.3	25.8	2,304.6	18.4
Assets minus liabilities (NIIP)	−164.5		−2,542.2	

a. With direct investment valued at market prices.

Source: BEA (2005e).

drift, but it is likely to be much smaller, except in periods of sharp dollar depreciation. Some favorable trends can be expected because the composition of US foreign assets is more heavily weighted toward direct investment and portfolio equities than the composition of US liabilities to foreigners (table 2.2). At the end of 2004, 58.3 percent of US assets abroad were in direct investment and portfolio equities, compared with only 36.9 percent of foreign assets in the United States. Direct and portfolio equity prices tend to rise both with inflation and with real earnings growth. In contrast, nominal values of debt obligations typically remain unchanged. In principle, this should mean that the United States has a structural advantage in price valuation adjustments that tend to increase the value of assets held abroad by more than the corresponding valuation adjustment for foreign holdings in the United States. The greater proportion of direct and portfolio equity in US assets abroad than in liabilities to foreigners also means there should be sizable favorable exchange rate valuation changes when the dollar declines.

The big surprise in table 2.1, however, is that in sharp contrast to the experience of the most recent three years, the US Commerce Department's estimate of valuation change over 1991–2004 as a whole attributes the great bulk (five-sixths) of the windfall difference between cumulative

current account deficits and the decline in the NIIP to ''other'' effects, rather than to either price or exchange rate effects.

The minimal cumulative price valuation effect over 1991–2004 reflects two influences. First, even though direct and portfolio equity constitute a larger share of US foreign assets than foreign holdings of assets in the United States, the absolute magnitudes for equity are relatively close on the two sides. Thus, in both 1990 and 2004, US equity holdings abroad exceeded foreign holdings in the United States by 22 percent (at $5.8 trillion external equity assets versus $4.6 trillion liabilities at end-2004). Second, the boom in equity prices was larger in the United States than abroad during this period, so foreigners' gains on holdings of US equities were about the same in absolute terms as US gains on foreign holdings, even though the foreign holders had a smaller base. Thus, from end-1990 to end-2004, the US S&P 500 index rose 267 percent, whereas the increases in major foreign stock indexes were smaller: 184 percent for the German DAX; 154 percent for the French CAC 40; 125 percent for the UK FTSE 100; and a decline of 52 percent for the Japanese Nikkei 225 (Bloomberg LP 2005).

The large favorable valuation effect ($1.05 trillion) from end-1990 to end-2004 in the category labeled ''other'' (table 2.1) unfortunately remains basically a puzzle. This category is defined by Commerce as comprising ''changes in coverage, capital gains and losses of direct investment affiliates, and other statistical adjustments to the value of assets'' (Abaroa 2004, table 1). It is not clear why capital gains and losses would not be already included in the price changes.[3] When the Commerce Department obtains new data on assets previously not recorded, the changes typically tend to be greater on the side of assets abroad than on the side of foreign-held assets in the United States. The ''other'' valuation changes averaged a relatively steady $60 billion annually over 1991–2000. The annual average rose to $114 billion during 2001–04, but there were much wider swings. In the absence of further information, it is useful to take note of the relatively persistent statistical ''manna from heaven'' on the order of perhaps about $60 billion annually or more, which acts to limit the buildup of net external liabilities beyond amounts otherwise expected.

Returning to price effects, and looking forward, it is possible to obtain a plausible magnitude for the annual valuation adjustment to the US NIIP that might be expected from the asymmetric weight of equity in US

3. A regression of the ''other'' valuation change on the price and exchange rate valuation change during 1991–2003 shows statistically significant coefficients on the price valuation component (a $1 price valuation change is associated with a 14-cent ''other'' valuation change) and the exchange rate component (a $1 exchange rate valuation change is associated with a 24-cent ''other'' valuation change), but these relationships turn insignificant when the data for 2004 are added. That would suggest that prior to 2004, a modest part of the ''other'' change has been from interaction effects with the main price and exchange rate valuation impacts.

external assets versus liabilities. Portfolio equity prices would be expected to rise at the pace of nominal earnings per share. Earnings in turn can be expected to rise along with nominal profits in GDP. Nominal profits have risen relative to GDP in recent years, but as a longer-term pattern, the share of profits in GDP is likely to be relatively constant. This suggests that a reasonable assumption is that equity prices rise at the pace of nominal GDP. For the United States, this would mean perhaps a 6 percent price increase on average. For Japan and the European Union, the nominal pace would be slower, but for developing countries (and especially Asia) the pace would be faster. So a reasonable assumption is that equity prices rise by 6 percent in nominal terms for both external assets and liabilities. It is also reasonable to assume that the market value of direct investment rises at the same pace as portfolio equity prices.

The total (direct and portfolio) equity share in US foreign assets is approximately 58 percent; in US foreign liabilities, approximately 37 percent. A 6 percent price appreciation path might thus be expected to raise the valuation of total external assets by 3.48 percent annually (6 percent $\times$ 0.58) and the valuation of total external liabilities by 2.22 percent annually (6 percent $\times$ 0.37). Applied to the end-2004 external asset and liability bases of $10 trillion and $12.5 trillion respectively (table 2.2), these estimates imply total asset revaluation of about $350 billion annually, and total liability revaluation of about $280 billion annually. This means that the larger base of foreign liabilities largely offsets the higher weight of equity in foreign assets, leaving only a moderate natural favorable drift in the range of about $50 billion annually from price valuation effects of asymmetric portfolio composition between US external assets and liabilities. Moreover, even this prospective modest, positive secular contribution of price change to NIIP change assumes that US equity prices begin to rise at only the same rate as foreign equity prices, rather than outpace them as in the past 15 years. If instead US equity prices continue to rise faster than those abroad, the price valuation effect could be smaller or even negative. Thus, for 1991 to 2003, the annual average price valuation effect was $-$$9.7 billion (table 2.1).

Exchange Rates

The potential help from favorable valuation effects should be considerably greater for exchange rates if a large further decline is in store for the dollar.[4] US debts tend to be denominated in dollars, and equity assets

4. Tille (2003) provided an early analysis of the importance of exchange rate valuation effects in the NIIP. He attributed almost one-third of the deterioration of the US NIIP during 1999–2001 to the appreciation of the dollar. He inferred that the large downswing in the NIIP might thus be less of a cause for concern than at first appearance, because a likely subsequent depreciation of the dollar (already under way in 2002) could be expected to reverse some of the deterioration.

are priced in dollars, whereas US assets abroad (especially in industrial countries rather than emerging markets) are likely to be denominated in euros, yen, and other foreign currencies rather than dollars. When the dollar depreciates, the result is to balloon the dollar value of foreign assets without much impact on the dollar value of liabilities to foreigners. When this is combined with the likelihood of some degree of secular dollar decline—because of both the eventual need to restrain or reduce the size of the US current account deficit and at least some degree of ''elasticity asymmetry'' whereby US exports tend to respond less to foreign income growth than do US imports to US income growth—the result is some natural secular drift in valuation that boosts foreign assets more than foreign liabilities in dollar terms.[5]

The actual record for end-1990 to end-2004 instead shows only a minor positive exchange rate valuation effect, as noted above. This outcome reflects the fact that for much of this period, the dollar was rising rather than falling. The Federal Reserve's real index of the dollar against ''major currencies'' (with March 1973 = 100) was higher in December 2004 (at 85.1) than in December 1990 (80.7). So for the period as a whole, little exchange rate valuation effect would have been expected (and it might have been expected to be mildly negative rather than positive). It was only from the end of 2001 to the end of 2004 that a large decline of the dollar occurred, yielding massive exchange rate valuation gains in this more recent period.

In contrast to the experience of 1991–2004 as a whole, it is likely that this effect will make a sizable positive contribution to valuation change over the next few years. The reason is simply that the United States will almost certainly need to enter a period of at least stabilizing, and more likely reducing, the large current account deficit—just the opposite of the trend in the past 15 years. It will require substantial further depreciation of the dollar to arrest and especially to reverse the widening current account deficit.

It is possible to develop a parameter for the impact of dollar depreciation on the exchange rate valuation of the US NIIP by considering the currency composition of foreign assets and liabilities. As a first approximation, US external liabilities are heavily in dollars. All equity liabilities (direct and indirect) are dollar based, and so is practically all US debt. So examination of currency composition can appropriately focus on the asset side.

Table 2.3 shows the percentage composition of end-2001 US private external assets by currency of the country in question (or, for the euro, for all counties in the euro bloc). All equity is treated as being denominated in the host country's currency. As a memorandum item, the table also

5. The elasticity asymmetry is known as the ''Houthakker-Magee effect,'' for the first econometric study that identified it.

Table 2.3 Estimated currency composition of US private external assets (percent)

Currency	Direct investment	Portfolio equity	Bonds	Bank claims	Nonbank claims	Weighted total
US dollar	0	0	70.40	100	100	37.3
Euro	30.4	29.1	14.90	0	0	19.3
Japanese yen	4.1	10.5	5.70	0	0	4.7
Canadian dollar	10.8	5.6	3.50	0	0	5.4
UK pound	15.2	21.7	2.90	0	0	11.1
Other	39.5	33.1	2.60	0	0	22.2
Norwegian krone	0.5	0.5	0.04	0	0	0.3
Swedish krona	1.6	1.5	0.12	0	0	0.9
Swiss franc	4.8	4.7	0.37	0	0	2.9
Australian dollar	2.3	2.3	0.18	0	0	1.4
New Zealand dollar	0.2	0.1	0.01	0	0	0.1
Singapore dollar	3.2	1.3	0.10	0	0	1.4
Chinese yuan	0.7	0.1	0.01	0	0	0.3
Hong Kong dollar	2.5	1.9	0.15	0	0	1.4
Taiwanese dollar	0.6	1.2	0.09	0	0	0.5
Korean won	0.7	1.8	0.14	0	0	0.7
Thai baht	0.4	0.1	0.01	0	0	0.2
Malaysian ringgit	0.4	0.2	0.02	0	0	0.2
Philippine peso	0.3	0.1	0.01	0	0	0.1
Indonesian rupiah	0.6	0.01	0.00	0	0	0.2
Argentine peso	0.6	0.04	0.00	0	0	0.2
Brazlian real	1.7	1.4	0.11	0	0	1.0
Chilean peso	0.6	0.01	0.00	0	0	0.2
Colombian peso	0.2	0	0.00	0	0	0.1
Mexican peso	3.4	1.6	0.13	0	0	1.6
Peruvian new sol	0.2	0	0.00	0	0	0.1
Venezuelan bolivar	0.6	0	0.00	0	0	0.2
Israeli sheqalim	0.3	0.8	0.06	0	0	0.3
Russian ruble	0.1	0.3	0.02	0	0	0.1
South African rand	0.2	0.4	0.03	0	0	0.2
Other	12.80	12.74	1.00	0	0	7.7
Memorandum:						
Billions of dollars (end 2004)	3,287.4	2,520.1	916.7	2,174	801.5	9,699.7

Sources: Table 2.2; BEA (2004d); US Treasury (2003, 2004a).

shows the value of the stock of assets for each category at the end of 2004.[6] Data from the US Commerce Department provide detail on direct investment abroad (BEA 2004d). Data compiled by the US Treasury (2003) are used for the country composition of portfolio equity and for the currency denomination of credit securities (''bonds'' in the table).[7] It is

6. The modest amount of US official reserve and other foreign assets, totaling $273.2 billion at end-2004, is omitted.

7. The Treasury survey data are for 2001 and are part of the IMF's Coordinated Portfolio Investment Survey (CPIS) covering 67 countries. The credit securities currency composition is also summarized in Bertraut and Griever (2004, 25). Note that for credit securities the details are available only for the first five currencies in table 2.3. The country decomposition of the rest is assumed proportional to that of portfolio equity securities.

assumed that all bank and nonbank claims (i.e., all loans) are denominated in dollars. Although the Treasury Department's International Capital System (TIC) does show some bank claims in foreign currency, they are small at only 6 percent of the total at end-2003 (US Treasury 2004a). Moreover, banks typically balance foreign currency claims and liabilities, making the net impact on the NIIP from exchange valuation change close to zero for bank claims.

The estimates of table 2.3 indicate that 37 percent of US external assets are denominated in dollars. Because 63 percent of US external assets are in foreign currency, a uniform 1 percent depreciation of the dollar would be expected to raise the dollar value of US external assets by 0.63 percent, or by $61 billion (0.52 percent of GDP) when applied to the end-2004 gross external asset stock.[8]

To test this approach to estimating foreign exchange valuation effects, table 2.4 examines the rise of foreign currencies against the dollar from end-2001 to end-2003. The first column shows the share of each currency in total US foreign currency assets. (This share is the same as the final column of table 2.3, but expanded for the removal of dollar assets.) The second column shows the percent rise of the currency in question against the dollar over this period, and the third column indicates these increases after weighting by the share of the currency in question. (It is assumed that all currencies not shown individually kept unchanged exchange rates against the dollar.) The total external-asset-weighted rise in foreign currencies amounted to 24.2 percent.

It is useful to pause and consider the implications of table 2.4 for adjustment of the overvalued US dollar. The data graphically confirm that there has been a sharply differentiated process of exchange realignment, with three tiers of adjustment. The highest tier has been for Europe, Australia, and New Zealand. The euro, Norwegian krone, Swedish krona, Swiss franc, Australian dollar, and New Zealand dollar appreciated by an average of 44 percent from end-2001 to end-2003.[9] In the second tier, the Japanese yen, Canadian dollar, and UK pound sterling all appreciated by a virtually identical 23 percent against the dollar.

The third tier is, broadly, the developing countries as a group. Weighting by each developing country's share in non-dollar US external assets, table 2.4 shows that the developing countries depreciated against the dollar by 3.5 percent over this period. The best known case is that of the Chinese yuan (renminbi), which has been fixed against the dollar, but Hong Kong,

8. The projection model of chapter 3 simplifies by applying the exchange rate valuation effect only to US foreign equity assets (direct and portfolio). This omits a modest amount of US bond holdings denominated in foreign currency, and generates a valuation gain of 0.5 percent of GDP for 1 percent uniform foreign currency appreciation.

9. Note that table 2.4 includes the Danish krone in the euro bloc because of its narrow intervention band around the euro.

Table 2.4 Change in currencies against the dollar, weighted by US external assets from end–2001 to end–2003 (percent)

Currency	Weight in non-dollar external assets	Change against the dollar	Contribution to weighted change
Euro	30.75	43.0	13.2
Japanese yen	7.43	23.1	1.7
Canadian dollar	8.69	23.3	2.0
UK pound	17.65	22.8	4.0
Other			
Norwegian krone	0.48	34.9	0.2
Swedish krona	1.50	48.4	0.7
Swiss franc	4.60	35.5	1.6
Australian dollar	2.22	47.1	1.0
New Zealand dollar	0.15	57.1	0.1
Singapore dollar	2.28	8.8	0.2
Chinese yuan	0.42	0.0	0.0
Hong Kong dollar	2.16	0.5	0.0
Taiwanese dollar	0.84	1.8	0.0
Korean won	1.15	10.1	0.1
Thai baht	0.26	11.7	0.0
Malaysian ringgit	0.30	0.0	0.0
Philippine peso	0.20	−7.5	0.0
Indonesian rupiah	0.33	22.9	0.1
Argentine peso	0.34	−65.6	−0.2
Brazilian real	1.52	−19.7	−0.3
Chilean peso	0.33	9.5	0.0
Colombian peso	0.11	−17.2	0.0
Mexican peso	2.52	−18.7	−0.5
Peruvian new sol	0.11	−0.6	0.0
Venezuelan bolivar	0.32	−52.3	−0.2
Israeli sheqalim	0.50	0.9	0.0
Russian ruble	0.18	2.3	0.0
South African rand	0.28	82.7	0.2
Other	12.35	0.0	0.0
Total	100.00		24.2

Sources: Table 2.3; IMF (2004b).

Taiwan, and Malaysia have also kept their currencies unchanged against the dollar (with formal pegs for Hong Kong and Malaysia). Through the end of 2003, Singapore, Korea, and Thailand had appreciated against the dollar but only by a modest average of 10 percent. The exceptional appreciations of Indonesia (23 percent) and South Africa (83 percent) are more than offset by the large depreciations of Argentina (with the collapse of its dollar parity), Brazil, Colombia, and Mexico. In short, only the first tier of mainly European countries had moved exchange rates by the large amount likely to be needed to correct the dollar. The East Asian economies, in particular, have been laggards in the adjustment process relative to the strength of their external sectors. These patterns and developments through early 2005 are examined further in chapter 6.

Returning to the exchange rate valuation estimates for US external assets, the 24.2 percent increase in the weighted average exchange rate

against the dollar can be applied to the estimated 63 percent of external assets in non-dollar assets to arrive at a magnitude for the expected valuation effect. With gross external private assets at $6.71 trillion at the end of 2001, the exchange rate valuation impact should have amounted to $1.02 trillion (= 0.63 × $6.71 trillion × 24.2 percent). Instead, the Commerce Department estimates that the gross exchange valuation effect on US external assets amounted to $231 billion in 2002 and $416 billion in 2003 (table 2.1).[10] The total of $647 billion is in the same order of magnitude as the estimate here of $1.02 trillion, but is nonetheless considerably smaller. This is partly due to the fact that Commerce Department estimates indicate that there is an offset from higher dollar valuation of foreign liabilities (ignored here) that amounts to about one-seventh of the valuation gain on external non-dollar assets (Abaroa 2004, 32).

If the Commerce Department's relationship of liability to asset adjustments is applied (an offset of one-seventh), then the summary parameter implied by the analysis of table 2.3 is the following: a 1 percent depreciation of the dollar increases the dollar valuation of external assets by 0.45 percent of GDP.[11] For its part, the International Monetary Fund (IMF) has estimated that a 20 percent decline in the nominal effective exchange rate of the dollar would increase the US net foreign asset position by 7 percent of GDP, gauged against the end-2001 asset position (IMF 2002, 73).[12] A 20 percent dollar depreciation is a 25 percent foreign currency appreciation, so the IMF estimate implies that each percentage point of foreign appreciation provides net exchange valuation gains on US external assets amounting to 0.28 percent of GDP (= 7/25).

If we focus on the 2002–03 Commerce Department estimates of exchange valuation effects, the parameter is almost the same. The net valuation effect for the two years is only $647 billion. Applying the 24.2 percent external-asset-weighted appreciation of other currencies against the dollar (table 2.4), the impact amounts to $26.8 billion per percentage point. Against GDP in 2001 (the proper comparison), this amounts to 0.26 percent of GDP. On this basis, and in light of the estimates here and the earlier IMF estimate, *each percentage point rise in foreign currencies against the dollar contributes an exchange valuation improvement in the US NIIP of 0.26 to 0.45 percent of GDP, with a preferred estimate of 0.33 percent of GDP*.[13]

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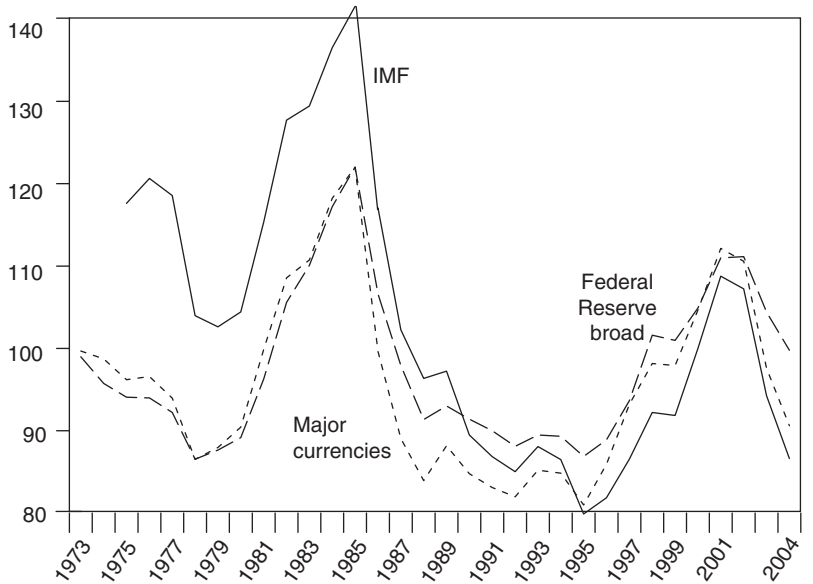
10. The figure originally reported for 2003, $469 billion, was mainly from direct investment ($200 billion) and corporate stocks ($201.8 billion), tending to confirm the assumption here that other claims are largely in dollars (Abaroa 2004).

11. That is, six-sevenths of the 0.52 percent of GDP identified above.

12. The study also stated that there was a 25 percent effective appreciation of the dollar from end-1995 to end-2001, and that this had reduced the dollar value of US assets held abroad by 12 percent. The 20 percent depreciation indicated here is characterized by the IMF (2002) as a ''reversal of the appreciation of the dollar. . . .''

13. The average for the three estimates. Note again that the projection model of chapter 3 directly applies the foreign appreciation to the stock of direct and portfolio assets abroad,

Figure 2.1 US real effective exchange rate, 1973–2004



IMF = International Monetary Fund

Sources: IMF (2005a), 2000 = 100; Federal Reserve Board (2005d), March 1973 = 100.

Combined Valuation Drift

The earlier discussion of price valuation effects suggested a future favorable drift of about $50 billion annually for the US NIIP because of greater concentration of assets than liabilities in equities rather than fixed income obligations. In addition, some secular drift can be expected to the extent that the dollar follows a long-term downward trend. An even larger dollar valuation effect might arise in the medium term because of the likelihood of a substantial further depreciation of the dollar when and if capital markets decide the large and growing current account deficit is not sustainable.

The IMF's real effective exchange rate index for the dollar against 17 industrial countries, based on unit labor costs in manufacturing and 1989–91 trade weights for manufactured goods, shows a secular downward trend (figure 2.1). Based on a simple (log-linear) regression, the trend line shows a highly significant decrease of 0.48 percent annually during 1975–2004. In contrast, both the ''broad'' and ''major currency'' real effective exchange

which amounted to $5.81 trillion, or 49.5 percent of GDP at the end of 2004. The resulting coefficient of 0.50 percent GDP exchange valuation gain for each 1 percent foreign appreciation is modestly higher than the range estimated here. The projection model omits any secular ''other'' valuation changes (discussed above), however.

rate indexes for the dollar estimated by the Federal Reserve show no secular trend during 1973–2004. Part of the difference may be the use of consumer price indexes to deflate, in the Federal Reserve series, rather than unit labor costs as in the IMF index. All three series move generally together after about 1993. The drop from an initially higher level in the IMF index in the 1970s, absent in the Federal Reserve series, would be consistent with more rapidly rising real wages in other major industrial countries than in the United States in this period, and hence more rapidly rising unit labor costs than in the United States.

Taking a simple average between the IMF series trend and the zero trend in the Federal Reserve series, the secular decline of the dollar can be placed at about 0.25 percent per year. Applied to a coefficient of 0.33 percent of GDP NIIP improvement per 1 percent dollar depreciation, this implies an annual drift of 0.082 percent of GDP, or $10 billion, from the long-term downward trend in the dollar. When this is combined with a +$50 billion annual valuation trend from the asymmetric portfolio composition effect, it would appear that the US NIIP enjoys a positive valuation drift of about $60 billion annually, or about 0.5 percent of GDP.

The future favorable valuation drift is even larger if, in addition, the statistical ''manna from heaven'' (''other'' valuation changes) continues at its seemingly persistent level of about $60 billion annually. This would boost the valuation drift to about 1 percent of GDP. However, it would seem imprudent to count on this large an effect, particularly because experience has shown that differential equity price appreciation has left the price effect less favorable than might otherwise be expected, in addition to the dubious comfort of relying on a persistent statistical discrepancy embodied in ''other'' valuation changes.

In short, whereas the sign of the valuation trend is favorable, the size of the effect—at about .5 percent to at most about 1 percent of GDP annually—is too small to provide much comfort about moderating the US net international liability position in the face of a current account deficit running at about 6 percent of GDP. These rough calculations establish an important point. Despite the experience of favorable valuation effects that have held the US net liability position below what otherwise might have been expected from the cumulative current account deficit, *the secular trend of valuation gains is simply too small compared with the large current account deficit to make much difference in the underlying trend in US net external indebtedness.*

Valuation Impact of a Major Dollar Adjustment

Potentially much larger is the boost to the US NIIP that would occur solely from exchange rate valuation in the event of a major depreciation

of the dollar that constituted part of an external adjustment process. Various experts have suggested that the real value of the dollar needs to fall about 30 percent from its early 2002 peak if the US current account deficit is to be constrained to a level that is more comfortable from a sustainability standpoint, or perhaps to 2 percent of GDP.[14] This would amount to a foreign real appreciation of 43 percent. By end-2004, the real trade-weighted appreciation of foreign currencies against the dollar from the February 2002 dollar peak amounted to 19 percent (Federal Reserve Board 2005b), suggesting another 20 percent to go.

Based on a parameter of 0.33 percent of GDP NIIP valuation improvement from 1 percent depreciation, an additional foreign appreciation against the dollar by 20 percent would contribute a reduction of about 6.6 percent of GDP in the net international liability position (i.e., from about 22 to 15 percent). However, an ongoing current account deficit still at 2 to 3 percent of GDP would reverse this valuation effect in just two to three years.

The projections in chapter 3 provide a more specific estimate for the role of further dollar depreciation. In the favorable adjustment scenario set forth in table 3.4, foreign currencies appreciate by an additional 21 percent from their average level of the first five months of 2005. (In addition, foreign growth is temporarily modestly higher than in the baseline.) The NIIP for end-2010 improves from a baseline −$8.1 trillion to −$4.8 trillion as a result. The contribution from exchange rate valuation effects is $1.23 trillion, or 36 percent of the total improvement. On this basis, *in a successful US external adjustment scenario with 20 percent additional foreign appreciation against the dollar, exchange rate valuation effects can be expected to contribute about one-third of the total adjustment in the NIIP from the baseline level otherwise reached.*[15]

Nonetheless, even with a large further dollar depreciation, the effects from exchange rate valuation would be one-time gains, and an ongoing current account deficit of, say, 3 percent of GDP would continue to raise net external liabilities (albeit not relative to GDP). Moreover, the country composition of the next phase of foreign appreciation could mean a somewhat lower favorable exchange rate valuation effect. Roubini and Setser (2004) argue that the bulk of the exchange valuation gains that the United

14. For example, Mussa (2005) uses a rough parameter of 1 percent of GDP external adjustment for 10 percent real decline in the dollar, and calls for reducing the current account deficit from $500 billion to $200 billion annually.

15. As discussed in chapter 5, this fraction is about the same as that identified by Gourinchas and Rey (2005) for the role of exchange rate valuation effects in past US adjustments, even though their modeling approach is radically different. Note, however, that if the temporary acceleration in foreign growth is omitted, leaving only exchange rate change (scenario ER21 in figure 3.7 in chapter 3), the NIIP adjustment is smaller and the fraction contributed by the exchange rate valuation effect is even larger at 45 percent.

States can expect from dollar correction has already occurred. This is based on their view that these gains could has been expected mainly from the European and other industrial-country currency movements, and that these are the currencies that have already moved about as far as can be expected in the US external adjustment process.

This question can be examined by considering the optimal exchange realignment analysis set forth in chapter 6. The model there constrains overall foreign appreciation to reach a target level needed for US external adjustment, and then identifies which countries should appreciate and by how much in order to keep the resulting country changes in current accounts as close as possible to a desired profile of current account adjustments. The results do show much greater appreciation by countries that have not yet appreciated much against the dollar (e.g., a 45 percent appreciation against the dollar by the Chinese renminbi) than by those that have already appreciated sharply (e.g., only a 5 percent appreciation of the euro against the dollar from its March 2005 level). Even so, when the menu of ''optimal'' exchange realignments is weighted by the currency denomination shares in US external assets from table 2.3, the result is a weighted average foreign real appreciation that is three-fourths as large as when weighting by trade.[16] Moreover, in practice it seems highly likely that the US adjustment will involve some continuation of the pattern of relatively greater appreciation of the euro and other industrial-country currencies, compared to developing country-currencies, than would be recommended by the type of optimal realignment exercise conducted in chapter 6.[17] In short, considerable exchange rate valuation gains for the NIIP seem likely to play a role in US external adjustment, even after taking account of the fact that it has been the industrial-country currencies that have already appreciated the most.

US Asymmetric Capital Returns

The true economic meaning of US net external liabilities has been even more enigmatic because of differential returns on capital than because of secularly-ameliorating valuation effects. The implicit average rate of

16. Applying the Salomon Smith Barney (2001) trade weights normalized for the same country inclusion as for foreign assets in table 2.3, remaining appreciation against the dollar beyond March 2005 as identified in table 6.2 amounts to 17.2 percent. Weighting instead by the non-dollar weights in table 2.3, the weighted remaining foreign appreciation against the dollar is 12.9 percent.

17. For example, the optimal profile identified in chapter 6 calls for a depreciation of the Canadian dollar against the US dollar by 8.4 percent. Just setting this currency's change to zero would boost the foreign (equity) asset-weighted foreign appreciation to 13.9 percent, or 81 percent of the trade-weighted appreciation.

return on US foreign assets has systematically exceeded that on US foreign liabilities by enough to more than compensate for the excess of liabilities over assets, leaving net receipts on capital income positive rather than negative. To the extent that this differential return could be relied upon, the implication would seem to be considerably less of a real economic burden than would be expected based solely on the NIIP balance sheets, because they would not generate correspondingly higher net capital earnings payments to foreigners.

At the outset of this analysis, it is essential to recognize that there is a key structural reason why the rate of return on US foreign assets should be expected to exceed that on US foreign liabilities. The theory of portfolio balance (Markowitz 1952, Tobin 1958) holds that investors optimize their portfolios by holding a mixture of higher-risk, higher-return assets and lower-risk, lower-return assets.[18] The large and liquid US asset market, with its legal guarantees and (despite Enron) transparency, make the United States the natural place for foreign investors to place the lower-risk spectrum of their portfolios. Conversely, US investors will tend to seek foreign assets to obtain the higher-risk, higher-return spectrum of their portfolios. The result will be a systematic excess of observed rates of return on US assets abroad over those on foreign assets in the United States (even though the risk-adjusted rates of return might be equal).

As shown in figure 2.2, whatever the global interest rate environment—extremely high in the early 1980s, extremely low in the most recent three years—the rate of return on US foreign assets has exceeded that on foreign liabilities.[19] The excess annual return on assets averaged 1.2 percent in the period 1983–90, 1.3 percent in 1991–95, 0.9 percent in 1996–2000, and 1.3 percent in 2001–04. Average annual rates of return on external liabilities in these periods were 6.9 percent, 4.4 percent, 4.2 percent, and 2.9 percent, respectively.

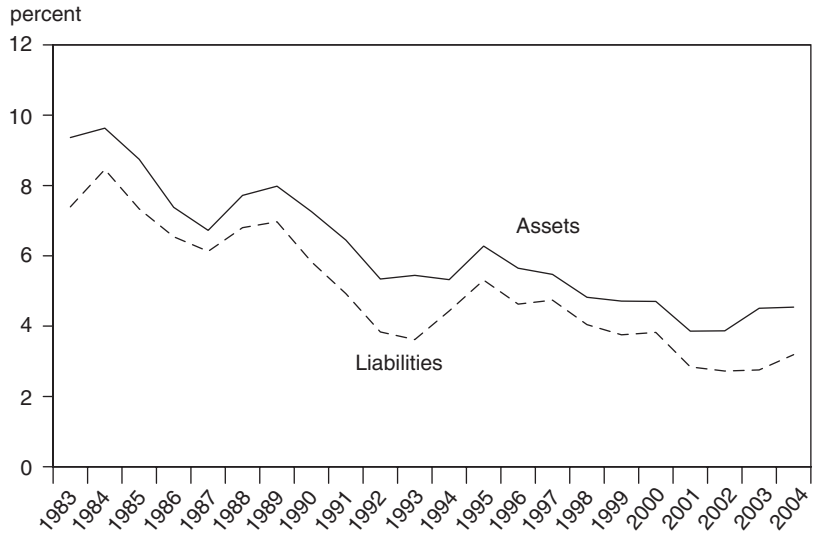
As shown in the figure, US rates of return on foreign assets were higher than the rates of return earned by foreigners on assets in the United States in all 22 years considered. The probability of this outcome happening randomly is 1 in 4 million ($1/2^{22}$), so this record lends support to the portfolio-balance hypothesis as to why to expect an ongoing favorable differential in the rates of return.

Higher return on foreign assets than on liabilities is consistent with the greater concentration of foreign assets in equities, given the normal presence of a risk premium for equities over bonds. Moreover, the fraction

18. The optimal allocation depends on the degree of risk aversion and the correlation between returns on alternative assets.

19. The rates of return are obtained by dividing capital income received on foreign assets (or paid on liabilities to foreigners), as reported in the US balance of payments, by the gross external asset position (or liability position) at the end of the preceding year.

Figure 2.2 Return on US external assets and liabilities, 1983–2004 (percent)



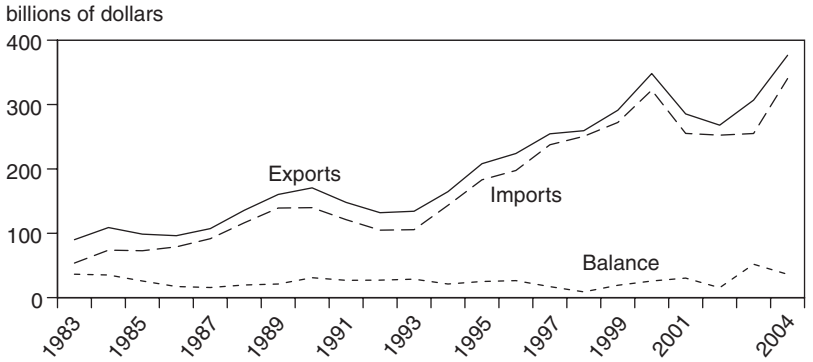
Source: BEA (2005c, e).

of foreign official and private holdings in US government obligations (17.2 percent; see BEA 2005e) is much higher than the fraction of US foreign holdings even in all bonds (9.2 percent; see table 2.2), and foreign government bonds likely comprise a minority of this bond total. So even within the lower-return component of portfolios (bonds), there is an asymmetry showing a higher concentration of foreign holdings in the lower-return component (government obligations).

A somewhat surprising feature of the differential return is that its magnitude appears to have been much more stable than the underlying levels of the rates of return. Thus, the absolute differential in the 1980s was almost the same as in 2001–04. But this means that the ratio of the *level* of the rate of return on assets to that on liabilities has risen substantially. The ratio of the rate of return on foreign assets to that on liabilities to foreigners stood at 1.17 in the 1980s, rose to 1.26 in the 1990s, and reached 1.45 over 2001–04.

The relative stability of the differential return also suggests that the problem is not primarily one of poor data, because in contrast the statistical discrepancy in the balance of payments has been highly unstable. Thus, in 1998 there was a statistical discrepancy of +$145 billion; in contrast, in 2000, the discrepancy was −$69 billion. If there were a steady negative statistical discrepancy, approximately of the same size as the difference between reported capital service payments and a higher amount that would occur if the return on foreign liabilities were as high as that on

Figure 2.3 US capital services exports, imports, and balance, 1983–2004 (billions of dollars)



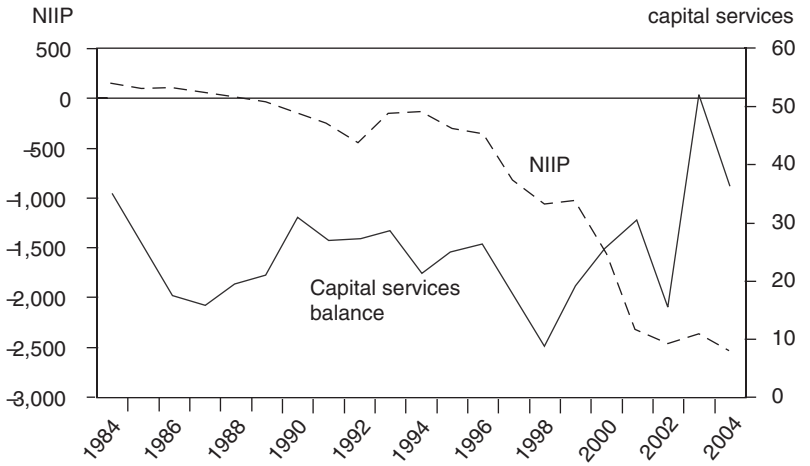
Source: BEA (2005c).

foreign assets, then it would be tempting to conclude that the differential return is an illusion and the problem is one of poor data. An extra 1.2 percentage point return on foreign liabilities (i.e., closing the gap between rates of return) would have amounted to an average statistical discrepancy of about −$40 billion annually in the early 1990s, and about −$115 billion annually during 2001–04. But the statistical discrepancy averaged +$4 billion in the period 2001–04 (with a large positive swing in 2004), and +$11 billion annually in 1996–2000. Not only has the size of the statistical discrepancy been too small to make it the explanation of the missing payments on external liabilities that would be required to eliminate the capital return differential. In addition, and more dramatically, its wide swings from positive to negative would have necessitated correspondingly wide swings in the opposite direction in capital earnings to provide a strong clue about a persistent data bias of this sort. But these swings have not occurred, as is evident in the nearly strictly parallel paths of the two rates of return in figure 2.2.

The paradox of a persistent capital services surplus despite a large swing from net international assets to net international liabilities reflects the fact that, like the balance on stocks and hence the NIIP, the balance on payments is a small differential between two large and growing aggregates. As shown in figure 2.3, both earnings on foreign assets (capital service exports) and payments on foreign liabilities (capital service imports) have risen in close parallel, from around $50 billion to $90 billion annually in 1983 to around $250 billion to $350 billion in 1999–2004. The figure also shows the balance, which has remained positive in every year and moreover was about the same in nominal dollar terms in 2003 and 2004 as in 1983.

Figure 2.4 shows the corresponding paths of the NIIP itself and the capital services balance. If the rate of return were identical on both the

Figure 2.4 US NIIP and capital services, 1984–2004
(billions of dollars)



NIIP = net international investment position

Source: BEA (2005c, e).

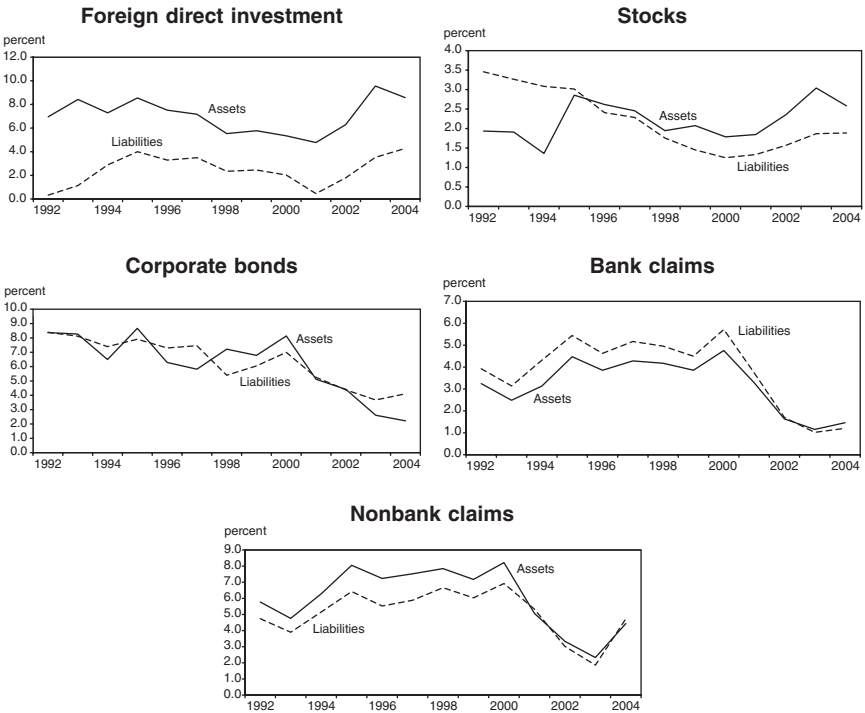
asset and liability sides, there would be a lockstep decline in capital services earnings paralleling that in the NIIP. Moreover, capital services would have been negative in every year since 1990, when the NIIP turned negative. Instead, the capital services account remained in surplus and was essentially flat in nominal dollar magnitude, despite wide fluctuation over the past two decades. A simple statistical regression of the capital services balance against the NIIP shows no relationship whatsoever, whereas if there were a single rate of return applicable to both assets and liabilities, there would be a highly significant coefficient and its magnitude would be the rate of return.[20]

Disaggregation of the capital services accounts and rates of return provides a clearer picture of the main cause of the capital services puzzle: the behavior of income on direct foreign investment. Appendix table 2A.1 reports the stock and income flow data for the components of the NIIP and the capital services account for 1992–2004, as well as the implied rate of return for each category.[21] Figure 2.5 summarizes the data on rates of

20. The regression for 1983–2003 yields: $ksb = 23.2\ (11.2) - 0.00059\ NIIP_{-1}\ (-0.3)$; adj. $R^2 = -0.05$, where *ksb* is the capital services balance in billions of current dollars, and $NIIP_{-1}$ is the net international investment position at the end of the previous year, also in billions of dollars, with t-statistics in parentheses. The regression coefficient has the wrong sign and is statistically insignificant. The inclusion of a time trend variable does not change this result, and the time trend is insignificant.

21. Calculated as the ratio of income in year t to the corresponding category of capital stock at the end of year $t-1$.

Figure 2.5 Rates of return on foreign assets and liabilities, 1992–2004 (percent)



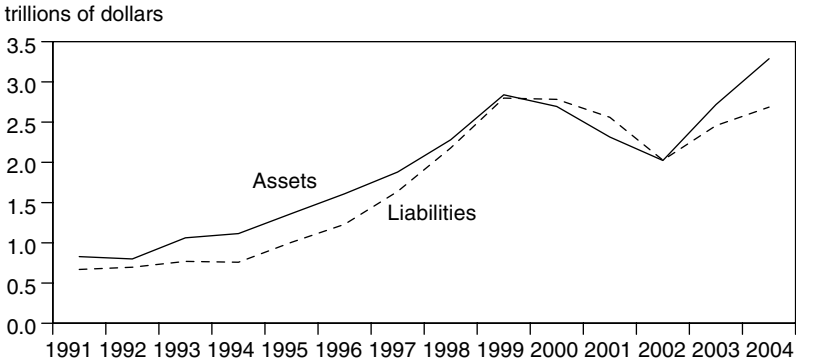
Source: See appendix table 2A.1.

return. (The return paid on US government liabilities is not shown, and US government assets abroad are negligible and can be ignored.)

It is immediately evident in figure 2.5 that the key source of advantageous differential return is in earnings on direct investment. Over the 13-year period 1992–2004, the rate of return on US direct investment abroad averaged 7.06 percent, while that on foreign direct investment in the United States averaged only 2.46 percent. During the early 1990s, this favorable differential was compounded by the fact that the stock of direct investment abroad exceeded that of foreign direct investment in the United States. Although by 1998–2000 the two stock magnitudes were virtually the same, by 2003–04 a favorable gap in the stock appeared again (see figure 2.6).[22] Even without the benefit of a larger asset stock, however, the differential return of about 4.6 percentage points on the average stock of about $3 trillion on both the asset and liability sides

22. End-2004 US direct investment assets abroad stood at $3.29 trillion, and liabilities stood at $2.69 trillion, a ratio of 1.22 to 1.

Figure 2.6 US direct investment assets and liabilities, 1991–2004 (trillions of dollars)



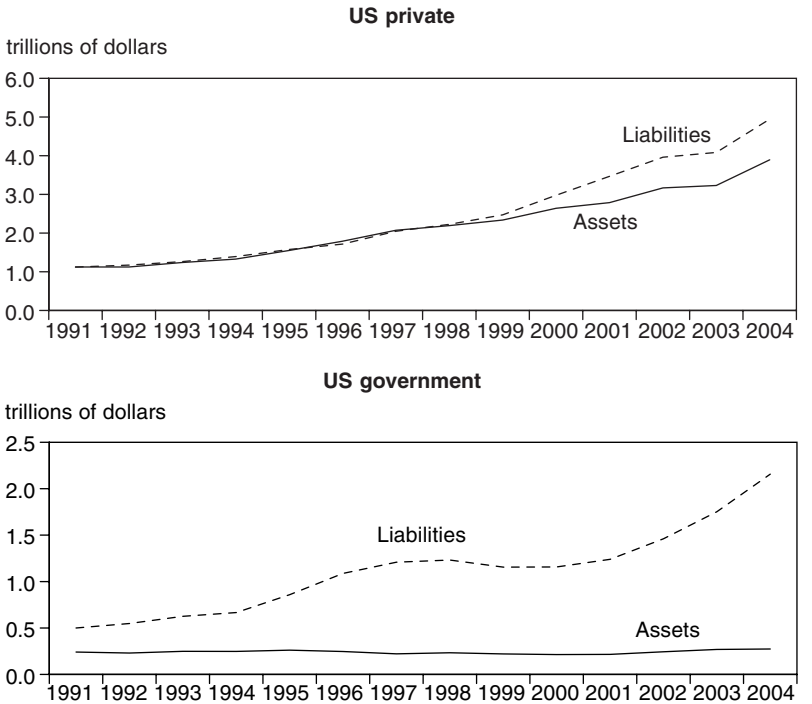
Source: BEA (2005e).

means that the balance on capital services for direct investment tends to be a large positive amount (about $140 billion annually). In a nutshell, the United States is not a net international debtor in terms of economic burden because the high return on its direct investment abroad more than offsets the deficit it runs on interest paid on debt.

It is equally striking in figure 2.5 that the rates of return on both the asset and liability sides are extremely close (and growing closer) for bank and nonbank claims, and (to a lesser extent) for corporate bonds. Here, however, there is a potential vulnerability to a rebound in international interest rates, because it is in fixed-income assets that the stock magnitude has grown much more rapidly for US external liabilities than for US foreign assets. Thus, figure 2.7 shows total bond, bank, and nonbank credit assets and liabilities for the US private sector (first panel) and the US government (second panel), and the now large and growing gap clearly shows the United States as a net debtor in fixed-income obligations.

Thus, whereas in 1991 the sum of non-equity (i.e., bond and other credit) US private and government foreign liabilities was only 31 percent larger than corresponding US foreign assets (at $1.79 trillion versus $1.36 trillion), by 2004 the excess of foreign liabilities was 90 percent ($7.9 trillion versus $4.16 trillion). The absolute buildup over this period in net credit liabilities was somewhat greater for the US government (an increase of $1.9 trillion) than for the US private sector (an increase of $1.5 trillion). The end-2004 position in net credit liabilities of $3.7 trillion (private plus US government, excluding US currency on the liability side and US official reserves—mainly gold—on the asset side) means that *each percentage point increase in US and foreign interest rates now raises net interest payments abroad by about $37 billion annually.* Considering that the capital services account stood in surplus at $36 billion in 2004, this means that it would take

Figure 2.7 Bonds and other credit foreign assets and liabilities, 1991–2004



Source: BEA (2005e).

only about a 100 basis point rise in interest rates to eliminate the capital services surplus.

Finally, the rates of return in dividends on portfolio equities have shifted from being higher on US liabilities at the beginning of the 1990s to being higher on foreign equities since the late 1990s. The dividend rates are relatively low on both sides, however, reflecting the fact that the main return to stocks has been in price appreciation, an effect accounted for in balance sheet price valuation adjustments each year rather than in the earnings flows. The underlying portfolio equity stocks are about three-fourths as large as the direct investment amounts on both sides. With a somewhat larger absolute level as well as somewhat higher returns on the asset side, there were net positive earnings abroad for portfolio equities amounting to about $20 billion annually by 2003–04.

Table 2.5 recapitulates the overall effect of differential rates of return and underlying asset and liability stocks to show the recent trends in the components of the US capital services accounts. The table makes it clear that the capital services account has been kept positive by a chronic large surplus on direct foreign investment earnings, which has persistently more than offset the negative balance on all other capital service items.

Table 2.5 US capital services accounts, 1999–2004
(billions of dollars)

	1999	2000	2001	2002	2003	2004
Income receipts	291.2	348.1	285.4	267.8	306.9	376.5
Direct investment	131.6	151.8	128.7	145.6	193.3	233.1
Other private[a]	156.4	192.4	153.1	119.0	108.9	140.4
Bonds	40.3	44.6	29.3	24.6	18.4	19.4
Stocks	30.6	35.8	34.2	38.0	41.8	53.7
Nonbank claims	42.2	57.9	42.4	28.0	21.0	26.5
Bank claims	38.9	51.5	40.5	22.7	18.0	25.7
US government assets	3.2	3.8	3.6	3.3	4.7	3.0
Income payments	272.1	322.3	255.0	252.4	255.0	340.3
Direct investment	53.4	56.9	12.8	45.8	71.4	105.1
Other private[a]	138.1	180.9	159.8	129.9	110.1	145.4
Bonds	43.8	57.7	56.1	58.8	56.2	70.0
Stocks	17.1	19.1	20.7	23.2	23.3	32.1
Nonbank claims	29.3	40.0	39.4	24.1	16.6	21.5
Bank claims	45.6	61.0	43.7	22.5	15.7	23.1
US government liabilities	80.5	84.5	82.4	76.6	73.5	89.7
Net capital income	19.1	25.7	30.3	15.5	51.8	36.2
Of which:						
Direct investment	78.2	94.9	115.9	99.8	121.9	128.0
All other	−59.1	−69.2	−85.6	−84.3	−70.1	−91.8

a. Components are before latest data revisions and may not add up to total.

Sources: BEA (2005c); *Survey of Current Business*, various issues.

The data also show that the decline in interest rates has led to a relatively constant nominal level of US government interest payments despite the rapidly rising US government external debt.

Because the differential return on direct investment plays such an important role, it warrants a closer look, in particular to consider whether it can be expected to continue in the future. One strand of the relevant literature concerns the differential return on direct investment in the United States between foreign-held and domestic firms. Mataloni (2000) examines these returns (on a basis that includes interest paid on debt) and finds lower returns for foreign-held firms, but the differential is relatively modest and falling: from 2 percent in 1988 to 1 percent by 1997. Moreover, there is no difference in the rate of return for firms with a market share of 30 percent or higher, suggesting that a major source of the lower return for foreign firms in the US market is their lesser degree of oligopoly power than for the large US firms. Industry composition has little effect on the differential return, whereas age of establishment does matter: The differential declines as the firm's experience increases. Analysis of intensity of imported inputs from affiliates does not confirm profit shifting abroad through transfer pricing, tending to discount that possible source of the differential. Grubert (1997) also finds that profit shifting

does not explain much of the differential, and that firm age is an important determinant of return.

The literature on the differential return between foreign direct investment in the United States and US direct investment abroad is even slimmer. In a now somewhat dated study, Landefeld, Lawson, and Weinberg (1992) suggested several possible reasons for this differential, although they did not empirically demonstrate them. They hypothesized that foreign firms might accept low profits to gain access to the large US market, including for imported inputs from home firms. They noted that foreign firms tended to buy distressed US firms, leading to low or negative initial returns. They emphasized that in the face of the decline of the dollar, many foreign firms saw direct investment in the United States as a bargain. The authors also suggested that expansion into the US market could permit economies of scale that primarily boosted profits in the home firm rather than in the US subsidiary. They noted that with US corporate taxes higher than those in most other industrial countries, foreign multinationals would have an incentive to channel profits out of the United States (although the more recent studies previously cited tend not to confirm this pattern).

Returning to figure 2.5, the extremely wide gap between the return on US direct investment abroad and that on foreign direct investment in the United States in 1992–93 is consistent with the ''war stories'' about disastrous foreign efforts to invest in the United States (most colorfully, perhaps, the Japanese investments in the Pebble Beach golf course in California and in Rockefeller Plaza in New York, both later sold at large losses). However, by 1994 and thereafter, the gap had settled down to a more moderate but persistent differential that averaged 4.2 percent in the period 1994–97, 3.3 percent in 1998–2000, and 4.8 percent in 2001–04. This would suggest that, for example, the ''age'' factor cannot be counted on to remove the large differential in the return on the two sides of the direct investment picture, because large differences persist even though foreign firms by now have had a long and growing presence in the United States.

Capital Services and Economic Versus Accounting Net Foreign Assets

Turning from rates of return to the actual outcome for the capital services balance, whether income on assets exceeds income payments on liabilities depends on whether the ratio of the rates of return for assets relative to liabilities exceeds or falls short of the ratio of the stock of assets to liabilities. When the product of these two ratios exceeds unity, there is a surplus on the capital income account; when the product is less than unity, there is a deficit. For the last two decades the return ratio has exceeded the stock ratio by enough to generate chronic, albeit falling, capital income

Table 2.6 Relative stocks and rates of return for US foreign assets and liabilities, 1983–2004 (in ratios and in billions of dollars)

	1983–90	1991–95	1996–2000	2001–04
Stock year	1986	1993	1998	2003
Foreign assets	1,595	3,091	6,179	8,297
Foreign liabilities	1,494	3,236	7,250	10,669
Assets/liabilities (RS)	1.07	0.96	0.85	0.78
Average return (percent) on:				
Assets	8.10	5.77	5.07	4.19
Liabilities	6.93	4.42	4.20	2.88
Ratio (RR)	1.17	1.31	1.21	1.45
Product of ratios (RS x RR)	1.25	1.26	1.03	1.13
Memorandum:				
Average capital services balance	25.2	25.8	19.4	33.5

Source: BEA (2005c, e).

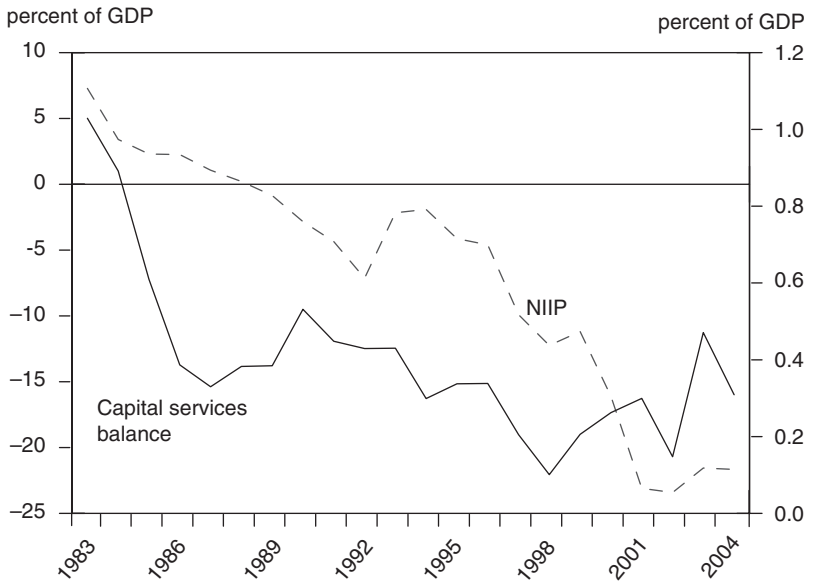
surpluses (table 2.6). This is the crowning irony of the United States as an external debtor: Judged by capital earnings, it remains a net creditor rather than a net debtor. Thus, in 2004, there was a surplus of $36 billion on the capital income account, even with net liabilities at $2.37 trillion at end-2003.

Figure 2.8 shows the path of the NIIP as a percent of GDP for the United States over the past two decades, along with the corresponding path of the capital services balance as a percent of GDP (on a different scale, right hand side). The figure shows that there has been a sharp downward trend in both. However, net capital income has still not fallen below zero. Net capital earnings were about 1 percent of GDP in 1983 and fell as low as 0.1 percent in 1998 and 0.15 in 2002 before rebounding to 0.47 percent of GDP in 2003 and 0.31 percent in 2004.

The fact that the capital services balance has not yet turned negative despite the large move into net debtor status does not mean that there has been no cost from higher external debt. The United States has already lost nearly 1 percent of GDP in annual net capital income from abroad as a consequence of the deterioration in its international investment position. It is at least conceivable that the extra investment domestically made possible by borrowing from abroad has increased US domestic income by enough to offset this loss of foreign income. This is unlikely, however, because the average gross investment rate in the United States has fallen rather than increased during the period when the United States has shifted from net creditor to net debtor (figure 2.9). Instead, private consumption has steadily risen as a percent of GDP over the past three decades, albeit partly with an offset in falling government consumption, thanks to the ''peace dividend.''[23] The broad pattern is more consistent with the deple-

23. Government consumption fell from 17.2 percent of GDP on average over 1970–85 to 14.9 percent over 1991–2003 (IMF 2005a).

Figure 2.8 US NIIP (left) **and capital services balance** (right) **as percent of GDP, 1983–2004**



NIIP = net international investment position

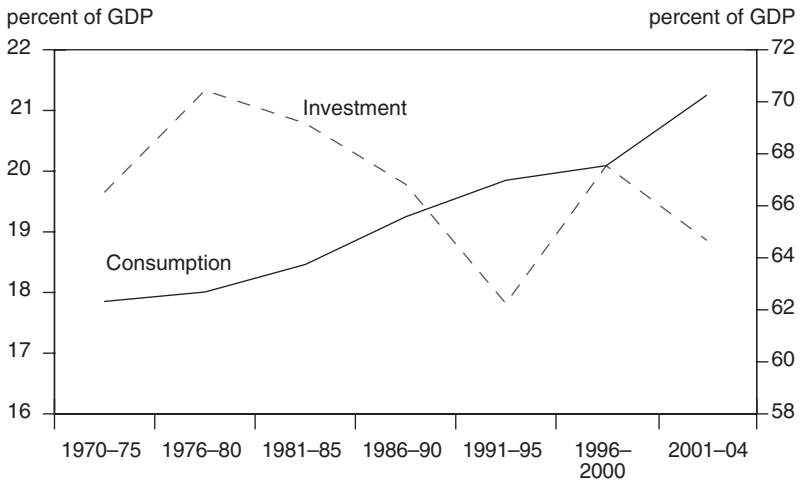
Source: BEA (2005c, e).

tion of net foreign assets and erosion of net capital income from abroad as a means of paying for rising consumption rather than a shift toward investing for the future domestically.

The jury is still out, moreover, on how long the paradox of a large net external debt coinciding with positive net capital income can persist. As US monetary policy returns interest rates to more normal levels (following their reduction to the lowest level for the past 40 years in order to promote recovery from the 2001 recession), there will be a leveraged erosion in the ''ratios product'' (RS × RR) of table 2.6. The rise in US interest rates will tend to narrow the gap between the rate earned on foreign assets and the rate paid on external liabilities. Moreover, the rise in the base level will mean that the ratio of the absolute levels will shrink even more than if the same narrowing of the spread occurred with an unchanged domestic base rate.

Thus, suppose that the rates of return on foreign assets and liabilities revert to their averages in the 1990s. At 5.42 percent on assets and 4.31 percent on liabilities, the spread would narrow to 1.11 percent from the 2001–04 average of 1.31 percent, and the ratio would shrink from 1.45 to 1.26. Because the ratio of assets to liabilities at end-2004 was not much different from that at the end of 2003 (thanks to rescue by exchange rate valuation effects), the result would be that the ratios product would sink

Figure 2.9 US gross investment (left) **and private consumption** (right) **as percent of GDP, 1970–75 to 2001–04**



Source: IMF (2005a).

to unity, meaning that asset earnings would no longer exceed liability income payments. Thus, using the end-2004 ratio of assets to liabilities of 0.80 ($9.973 trillion/$12.515 trillion), the product of RS and RR would reach $0.80 \times 1.26 = 1.008$. The expected capital services balance would collapse to $1 billion. This would be a downswing of $35 billion from the outcome in 2004, or about 0.3 percent of GDP, and would represent an important milestone by marking the end of surpluses in the capital income account.

To summarize, the asymmetric return on foreign assets and liabilities for the United States is no panacea that removes any reason to be concerned about rising net external indebtedness. Although it means that the deterioration from capital service surpluses has been smaller than would have been expected just based on the NIIP, there has nonetheless been a downward trend relative to GDP that is now on the verge of reaching actual negative balances on capital income. Nevertheless, there is an underlying validity to the notion that the differential return makes the net debt less burdensome than would be indicated by face value. Indeed, one way to calculate the ''quasi net debt'' is to take the annual capital services flow and capitalize it at an appropriate interest rate.

Illusory external debt is present, of course, in other international contexts, most notably low interest rates on development assistance. Thus, at end-2002, sub-Saharan Africa had a face value of $210 billion in long-term external debt, yet its interest payable on this debt in 2003 was only $3.65 billion, for an average interest rate of 1.7 percent (World Bank 2004b).

If this interest is capitalized at 5 percent, the imputed debt stock is only $73 billion, or about one-third of the face value of the debt. US external debt is like that of sub-Saharan Africa in that the real burden is less than the face value because of a low effective interest rate. The difference is that for Africa the overstatement of the burden from looking at the accounting face value of debt stems from concessional interest rates, whereas for the United States it comes from the fact that net debt is a residual between assets and liabilities, and return is higher on assets than on liabilities.

This approach can be pushed to its logical conclusion by estimating a measure of economically meaningful net foreign assets based on the capitalization of annual net capital income flows (capitalized net capital income, CNCI). Capitalized value equals the year's net capital income divided by the long-term interest rate.[24] This measure shows that *the United States has remained a persistent ''economic'' net creditor throughout the past three decades* despite its transit into net debtor status in accounting face values 15 years ago.

The economic net foreign asset position as measured by the CNCI will be equal to the NIIP only if the rates of return on all assets and liabilities are equal, and if all are equal to the long-term bond rate. If all assets and liabilities in 2004 had earned exactly the long-term bond rate of 4.27 percent on the end-2003 principal amounts, then gross capital income would have been about $354 billion, gross capital income payments about $456 billion, net capital income about −$102 billion, and capitalized net capital income about −$2.4 trillion, the same as the NIIP.[25]

Figure 2.10 shows the results of such an exercise. It obtains the CNCI net foreign assets by capitalizing each year's net capital services income at the average US long-term bond rate (10-year US Treasury bond) for that year. By this method, US economic net assets held broadly steady at about 5 percent of GDP over almost the full period.[26] In 2004, the CNCI was +7.2 percent of GDP, whereas the NIIP was −21.7 percent of GDP. As examined in chapter 3, however, it is likely that the CNCI will turn negative and trend downward parallel to the NIIP in the coming years.

In terms of the debt cycle, using the ''economic net asset'' position suggested in figure 2.10, the United States was a mature creditor throughout the past two decades. Now, however, the United States is on the verge of beginning the cycle anew as a young debtor, as it shifts to the sizable quasi net debt (chapter 3).

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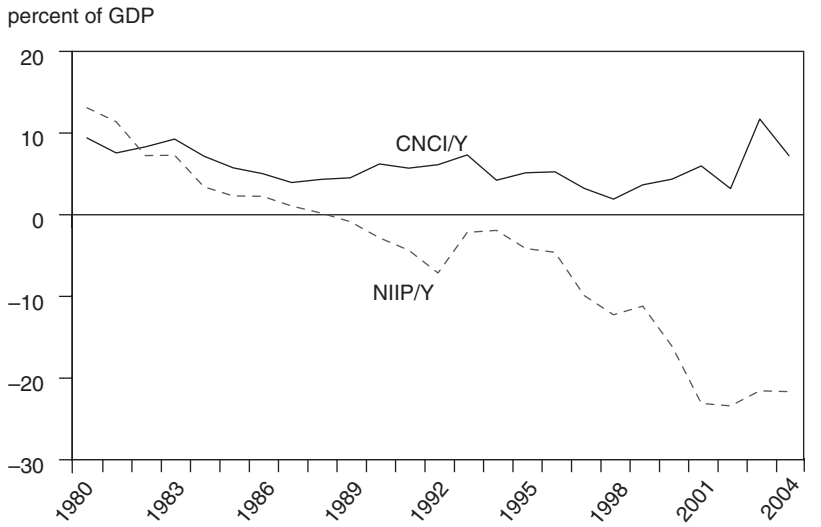
24. The present value of an infinite stream of income x discounted at interest rate r is x/r.

25. Based on gross foreign assets of $8.3 trillion and liabilities of $10.7 trillion at the end of 2003.

26. The spike of CNCI to 11.7 percent of GDP in 2003 (figure 2.10) reflected high capital services income that year (figure 2.8) combined with the lowest bond rate for the past four decades (4.02 percent).

Figure 2.10 US net foreign assets: Accounting (NIIP) and economic (CNCI), 1980–2004 (percent of GDP)



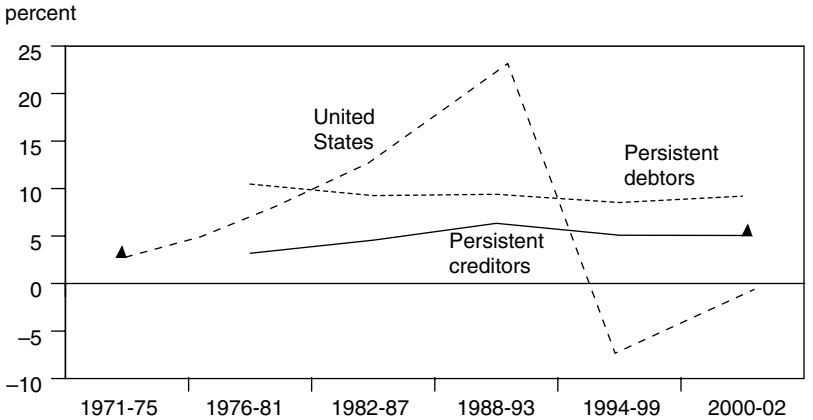
CNCI = capitalized net capital income
NIIP = net international investment position

Source: BEA (2005c, e).

Another perspective on the US position of asymmetric returns on assets and liabilities can be obtained by comparing the US returns with those of other industrial countries to determine whether the United States is unusual. Figure 2.11 examines average rates of return on the NIIP for each of the three groups of industrial countries by debt cycle stage as discussed in chapter 1. The rates of return are obtained by dividing the capital services balance for the year by the NIIP of the previous year, with the group averages weighted by the share of each member country in the total NIIP for the group. For the group of persistent creditors (Switzerland, Belgium, France, Germany, and Japan), the rate of return rises from about 3 percent in the late 1970s to 6 percent by 1988–93 and then plateaus at about 5 percent. For the group of persistent debtors (Australia, Canada, Denmark, Finland, Ireland, New Zealand, Spain, and Sweden), the rate of return is relatively stable over the full period, in the range of 9 to 10 percent. Calculation of a rate of return is ambiguous for the creditors-to-debtors group because at some point in time the NIIP base shifts from positive to negative. The figure only shows the rate of return for the initial period as creditors (Austria, Netherlands, and the United Kingdom), and for the final period for debtors (Austria, Greece, Netherlands, and Portugal).[27] For the initial and final periods, the creditor-to-debtor group shows a rate of return of about 5 percent.

27. The UK rates of return for the latter period fluctuate wildly as the NIIP turns to small negative values while capital services remain sizable and positive.

Figure 2.11 Industrial-country rates of return on NIIP by group, 1971–75 to 2000–02 (percent)



Note: Two ▲s represent creditors-to-debtors (excluding the United States).
Sources: IMF (2005a); appendix table 1A.1.

Figure 2.11 shows that, whether the country is a net debtor or net creditor, the rate of return will be positive if the capital services balance has the same sign as net external assets. For all of the countries except the United States, the rate of return is reasonably stable. The time path for the United States, in contrast, shows a sharp increase in the rate of return as the net asset position fell toward zero, and then a plunge to negative returns by 1994–99, when net assets turned negative but the capital services balance was still positive. The swing into negative rates of return for the net asset position makes the United States unique, and the contrast with other countries suggests that other net debtors (based on NIIPs) do not enjoy a comparably favorable differential in rates of return on external assets versus liabilities.[28] This contrast underscores the importance of evaluating the ''economic'' net asset position of the United States because of its apparently unique, or nearly unique, large favorable differential in rates of return on assets as opposed to liabilities.

Alternative Measures: Cash Flow Versus Debt Burden

This chapter has argued that a country with positive net capital services earnings does not have a net external debt burden in a meaningful eco-

28. Martin Wolf has called my attention to the fact that the United Kingdom seems to be another important exception. Like the United States, it appears to be highly efficient in the intermediation of capital services, achieving positive net capital services income despite a negative NIIP. The UK NIIP averaged −$100 billion over 1995–2003, yet net capital income averaged $19 billion annually over 1996–2004 (IMF 2005a).

nomic sense. The CNCI measure of net investment position is the amount of the capital services surplus divided by the long-term bond rate. It captures the net international assets as gauged by an infinite ongoing stream of capital services continuing at the rate in the most recent year.

However, some would argue that it is instead the accounting NIIP that reflects the nation's vulnerability to an external sector crisis. Implicitly, the grounds for this argument are that it is not the long-term economic burden of the net external ''debt'' that matters, but the amount of demands that might be placed on the capital markets if the foreign holders of assets in the United States decided to sell them off for repatriation. This section further considers alternative measures of ''debt'' in terms of different approaches to measuring vulnerability.

Although the CNCI has not been used as a debt measure, the international official community has widely used the concept of net present value of debt (NPVD). This is the measure that is used to evaluate the debt burden of nations that qualify for relief under the Heavily Indebted Poor Countries (HIPC) initiative. Essentially, this concept differs from CNCI by including principal repayments along with interest payments before obtaining the present value by capitalizing at a market interest rate. The discussion above suggests that it is only interest (capital services income) that matters for the true burden of debt, because principal can be rolled over. However, it is useful to consider the NPVD concept as well, or its closest analogue as applied to the United States, by taking into account equity as well as debt.

It is possible to construct a multiyear schedule of plausible capital earnings and principal payments to arrive at an NPVD type of concept for the United States. Chapter 3 develops a projection model for the US current account and international assets and liabilities. The data and parameters of the model can be applied to evaluate what can be called the present value of net foreign assets (PVNFA) at a given point in time (end-2004, in the estimate here). This is the best analogue of NPVD for debt alone. The estimate assumes that all short-term debt is paid at the end of year 1; medium-term debt in year 5; and long-term debt in year 10. It applies the interest rates identified in chapter 3 for these categories.[29] All portfolio equity is treated as being repayable at the end of one year, because in effect it is ''footloose.'' In contrast, the calculation here treats all direct investment as the equivalent of 20-year, single-repayment loans, but with annual increases for inflation in the stock of this loan-equivalent (set at the 1.8 percent US GDP deflator rate used in chapter 3).

The estimates in chapter 3 place the share of short-term debt at about one-third for US liabilities and two-thirds for US credit assets; medium-

29. The interest rate on short-term debt is set at 1.77 percent below the 10-year bond rate, and on medium-term debt at 0.79 percent below the 10-year rate.

term debt at 12 percent for liabilities and 19 percent for assets; and long-term debt at 54 percent for liabilities and 16 percent for assets. These ''maturities'' can be applied to the $7.9 trillion of end-2004 US debt liabilities and $4.2 trillion in credit assets to obtain principal payments due at the end of years 1, 5, and 10. The $1.9 trillion in portfolio equity liabilities and $2.5 trillion in portfolio equity assets are assumed to be ''repaid'' at the end of one year. The $2.7 trillion in direct foreign investment liabilities and $3.3 trillion in direct investment assets are ''repaid'' in year 20 (with the inflation adjustment noted). The rates of return on all of these categories are those reported in table 3.1 in chapter 3. The resulting streams of interest and principal ''payments'' on both the asset and liability sides are then consolidated to present value applying the US long-term bond rate of 2004 (4.27 percent; see IMF 2005a). *The result of this exercise is an estimated present value of net foreign assets of −$179 billion or −1.5 percent of GDP for 2004.*

This means that when the ''principal'' is taken into account, instead of just capital services income, the United States is found to have been a net international debtor at the end of 2004. However, the size of the net present value of debt is small, at 1.5 percent of GDP rather than about 22 percent as measured by the NIIP. The concept most widely used in official international deliberations for evaluating the ''burden'' of external debt thus generates only a small net liability position for the United States. The CNCI amounted to a positive $849 billion or 7.2 percent of GDP, indicating that by this measure *there was no economic burden yet of net external liabilities*.[30] The small negative PVNFA in turn indicates that at the end of 2004, there was still only a small economic burden of net liabilities, even after taking account the potential ''principal repayments.'' The present value of the higher earnings on direct investment abroad than on foreign direct investment in the United States accounts for the much smaller PVNFA net debt than NIIP net debt.

To underscore the importance of direct investment (and to a much lesser degree portfolio equity) in enabling the United States to continue to have virtually no long-term debt ''burden'' in economic terms, it is useful to exclude these equity components from the PVNFA calculation. When this is done, the United States does show a net debt position that is even larger than the NIIP. The present value of non-equity net foreign assets (PVNFA-NE) turns out to have been −$3.7 trillion at end-2004, or about −32 percent of GDP. However, it would be highly misleading to exclude equity investment in determining the overall economic burden (or benefit) of the United States' foreign assets and liabilities.

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30. Capital income in 2004 was $376.5 billion and capital income payments were $340.3 billion (table 2.5). The capital services net income of $36.2 billion has a capitalized value of $849 billion when the discount rate is 4.27 percent.

Table 2.7 Alternative concepts of US net external assets, 2004

Concept	Billions of dollars	Percent of GDP
Net international investment position	−2,542.2	−21.7
Capitalized net capital income	848.6	7.2
Present value of net foreign assets	−179.4	−1.5
Present value of net foreign assets excluding equity	−3,709.2	−31.6
Net receivable credit payments due within one year	−123.7	−1.1

Source: See text.

If the concern instead is vulnerability to cash flow problems, then presumably the best analogy is to ''short-term debt,'' essentially the category of liability that got countries such as Korea into serious trouble during the East Asian debt crisis. The measure used for this concept here is short-term debt plus interest on short- and long-term debt. These ''net receivable credit payments within one year'' (NRCPOY) turn out to have been −$124 billion at the end of 2004, or −1.1 percent of GDP. Once again, although this figure suggests a net short-term debtor position, and hence cash-flow liability rather than an asset situation, its magnitude is small, at only about one-twentieth the size of the NIIP. On this basis, even the concern about cash-flow vulnerability would seem to fail as a basis for resurrecting the NIIP. Instead, the NIIP would appear to seriously overstate the economic burden of the debt, especially when gauged by the CNCI, but also when measured by present value including principal (PVNFA) as well as by a short-term cash flow measure (NRCPOY).

Table 2.7 summarizes the estimates for these various concepts of net foreign assets. It is essential to emphasize, however, that whereas the core of the argument here is that the NIIP overstates the present extent of the United States' net foreign liability position, all of the projection analysis of chapter 3 will show a serious negative trend in the US position going forward because of large (and in the baseline, growing) current account deficits. The point of the analysis of alternative measures is not to dismiss the problem of US external imbalances, but instead to clarify that their accumulated burden from the past remains minor and it is their unfavorable prospects for the future that warrant the true concern.

Appendix 2A

Table 2A.1 Stocks, earnings flows, and rates of return, 1992–2004 (in billions of dollars and in percent)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average
Total external assets	**2,466.5**	**3,091.4**	**3,315.1**	**3,964.6**	**4,650.8**	**5,379.1**	**6,179.1**	**7,399.7**	**7,401.2**	**6,930.5**	**6,807.8**	**8,296.6**	**9,972.8**	
Private assets abroad														
Direct investment	798.6	1,061.3	1,114.6	1,363.8	1,608.3	1,879.3	2,279.6	2,839.6	2,694.0	2,314.9	2,022.6	2,718.2	3,287.4	
Income receipts	57.5	67.2	77.3	95.3	102.5	115.3	104.0	131.6	151.8	128.7	145.6	193.3	233.1	
Rate	7.0	8.4	7.3	8.5	7.5	7.2	5.5	5.8	5.3	4.8	6.3	9.6	8.6	7.1
Bonds	200.8	309.7	310.4	413.3	481.4	543.4	594.4	548.2	572.7	557.1	705.2	874.4	916.7	
Income receipts	14.8	16.6	20.1	26.9	26.0	28.0	39.2	40.3	44.6	29.3	24.6	18.4	19.4	
Rate	8.4	8.3	6.5	8.7	6.3	5.8	7.2	6.8	8.1	5.1	4.4	2.6	2.2	6.2
Corporate stocks	314.3	543.9	626.8	790.6	1,006.1	1,207.8	1,475.0	2,003.7	1,852.8	1,612.7	1,374.7	2,079.4	2,520.1	
Dividends	5.4	6.0	7.4	17.9	20.7	24.7	23.5	30.6	35.8	34.2	38.0	41.8	53.7	
Rate	1.9	1.9	1.4	2.9	2.6	2.5	1.9	2.1	1.8	1.8	2.4	3.0	2.6	2.2
Nonbank credits	254.3	242.0	323.0	367.6	450.6	545.5	588.3	704.5	836.6	839.3	902.0	597.0	801.5	
Income receipts	14.8	12.1	15.2	26.0	26.6	33.9	42.8	42.2	57.9	42.4	28.0	21.0	26.5	
Rate	5.8	4.8	6.3	8.1	7.2	7.5	7.8	7.2	8.2	5.1	3.3	2.3	4.4	6.0
Bank credits	668.0	686.2	693.1	768.1	857.5	982.1	1,009.0	1,082.9	1,231.5	1,390.9	1,559.5	1,759.3	2,174.0	
Income receipts	22.4	16.6	21.5	31.0	29.6	36.7	41.0	38.9	51.5	40.5	22.7	18.0	25.7	
Rate	3.2	2.5	3.1	4.5	3.9	4.3	4.2	3.9	4.8	3.3	1.6	1.2	1.5	3.2
Total external liabilities	**2,918.8**	**3,235.7**	**3,450.4**	**4,270.4**	**5,010.9**	**6,201.9**	**7,249.9**	**8,437.1**	**8,982.2**	**9,269.9**	**9,263.0**	**10,669.0**	**12,515.0**	
Government liabilities to foreigners														
Securities and other[a]	547.9	625.3	666.5	858.0	1,087.6	1,208.0	1,231.5	1,155.6	1,157.1	1,239.1	1,461.0	1,752.1	2,156.4	
Income payments	39.1	39.4	44.2	55.6	66.6	81.7	84.2	80.5	84.5	82.4	76.6	73.5	89.7	
Rate	7.8	7.2	7.1	8.3	7.8	7.5	7.0	6.5	7.3	7.1	6.2	5.0	5.1	6.9
Private liabilities to foreigners														
Direct investment	696.2	768.4	757.9	1,005.7	1,229.1	1,637.4	2,179.0	2,798.2	2,783.2	2,560.3	2,027.4	2,457.2	2,686.9	
Income payments	2.2	7.9	22.2	30.3	33.1	43.0	38.4	53.4	56.9	12.8	45.8	71.4	105.1	
Rate	0.3	1.1	2.9	4.0	3.3	3.5	2.3	2.5	2.0	0.5	1.8	3.5	4.3	2.5
Bonds	299.3	355.8	368.1	459.1	539.3	618.8	724.6	825.2	1,068.6	1,343.1	1,531.0	1,707.2	2,059.3	
Income payments	23.0	24.3	26.3	29.1	33.5	40.2	33.4	43.8	57.7	56.1	58.8	56.2	70.0	
Rate	8.4	8.1	7.4	7.9	7.3	7.5	5.4	6.0	7.0	5.3	4.4	3.7	4.1	6.3
Corporate stocks	300.2	340.6	371.6	510.8	625.8	893.9	1,178.8	1,526.1	1,554.4	1,478.3	1,248.1	1,700.9	1,928.5	
Dividends	9.4	9.8	10.5	11.2	12.3	14.3	15.7	17.1	19.1	20.7	23.2	23.3	32.1	
Rate	3.5	3.3	3.1	3.0	2.4	2.3	1.8	1.5	1.3	1.3	1.6	1.9	1.9	2.2
Nonbank liabilities	220.7	229.0	239.8	300.4	346.8	459.4	485.7	578.0	738.9	798.3	892.6	454.3	581.3	
Income payments	9.9	8.6	11.8	15.4	16.6	20.4	30.6	29.3	40.0	39.4	24.1	16.6	21.5	
Rate	4.7	3.9	5.2	6.4	5.5	5.9	6.7	6.0	6.9	5.3	3.0	1.9	4.7	5.1
Bank liabilities	652.7	677.1	784.9	815.0	828.2	968.8	1,014.0	1,067.2	1,168.7	1,326.1	1,538.2	1,921.1	2,304.6	
Income payments	25.0	20.5	29.2	42.7	37.7	42.8	48.0	45.6	61.0	43.7	22.5	15.7	23.1	
Rate	3.9	3.1	4.3	5.4	4.6	5.2	5.0	4.5	5.7	3.7	1.7	1.0	1.2	3.8

a. Excludes currency.

Sources: BEA (2005c, e); *Survey of Current Business,* various issues.