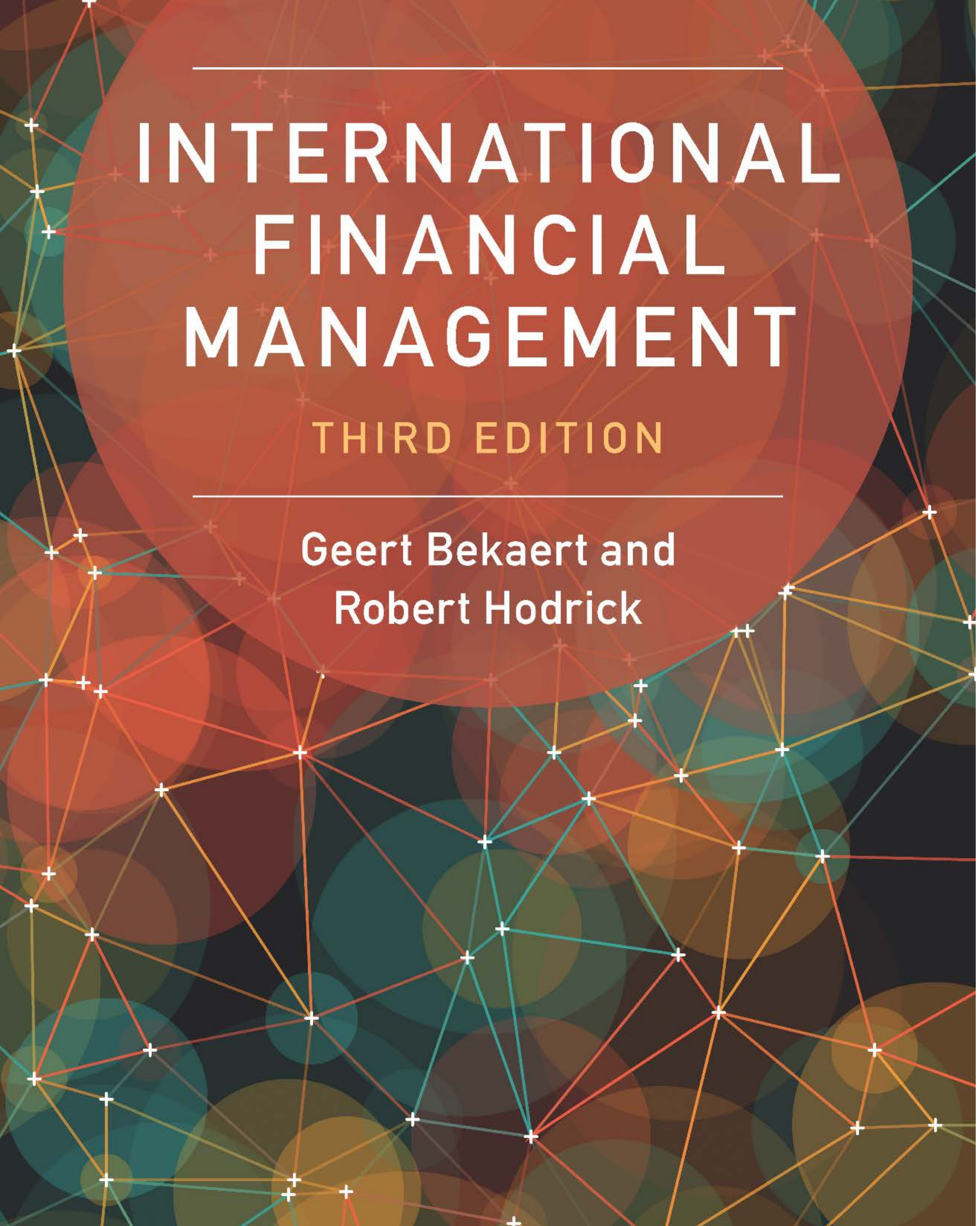


Chapter 4

The Balance of Payments

4.1 The Balance of Payments: Concepts and Terminology

- Balance of Payments (BOP)
  - Accounting statement that summarizes all the economic transactions between residents of the home country and residents of all other countries
  - Kind of like a company income statement

4.1 The Balance of Payments: Concepts and Terminology

- Major accounts of the Balance of Payments
  - Current account
    - Imports / exports (Goods and services)
    - Income flows (From ownership of foreign assets)
    - Transfers of money
  - Capital account
    - Purchases / sales of foreign assets
  - Official settlements / reserves account
- Double-entry accounting system
  - Each transaction gives rise to a credit (inflows) and a debit (outflows), both of equal value

4.1 The Balance of Payments: Concepts and Terminology

- An intuitive rule for determining credits and debits
  - Credit transactions give rise to conceptual inflows or sources of foreign exchange
    - The purchases of goods and assets by foreign residents from domestic residents are credits because they are a source of foreign exchange
  - Debit transactions give rise to conceptual outflows or uses of foreign exchange
    - The purchases of goods and assets by domestic residents from foreign residents are debits because they cause an outflow of foreign exchange

4.1 The Balance of Payments: Concepts and Terminology

- Current Account transactions
  - Purchases of goods / services
  - Interest and dividend receipts and payments
  - Transfer payments between countries (e.g., gifts or aid)
- Capital (or "Financial") Account transactions
  - Capital outflow – when residents invest in foreign assets
    - Capital flight – when money leaves a country quickly
  - Capital inflow – when foreigners invest in domestic assets
- Official Reserves Account transactions
  - Changes in the official international reserves
  - Implications for fixed exchange rates

Exhibit 4.1 Summary of a Country's Accounts of the Balance of Payments

Exhibit 4.1 Summary of a country's accounts of the balance of payments

Debits (recorded with a –)	Credits (recorded with a +)
I. CURRENT ACCOUNT	
(A) TRADE BALANCE	
(Transactions in goods, services, and transfers)	
Imports into the country	Exports from the country
(B) INVESTMENT INCOME ACCOUNT	
Payment by the country of dividends and interest to foreigners	Receipt by the country of dividends and interest from foreigners
II. CAPITAL ACCOUNT	
Capital outflows	Capital inflows
Increase in the country's ownership of foreign assets	Increase in foreign ownership of the country's assets
Decrease of foreign ownership of the country's assets	Decrease in the country's ownership of foreign assets
III. OFFICIAL RESERVES ACCOUNT	
Increase in official international reserves of the country's central bank	Decrease of official international reserves of the country's central bank

Suppose a country has the following five trades:

(1) Exports $10,000 wheat, receives a $10,000 bank deposit.
(2) Imports $50,000 machine, pays with a $50,000 bank deposit.
(3) The country's residents make some trips abroad and spend $12,000, paying in cash.
(4) Country receives a $40,000 bank deposit as royalties for licensing one of its movies abroad.
(5) A citizen receives $5,000 in cash from a rich aunt in Hong Kong.
(6) An American receives a deposit of $8,000 as interest from a U.K. government bond.

Here is the country's balance of payments:

Debits	Credits
Current Account	
(2) machine $50,000 (3) tourism $12,000	(1) wheat $10,000 (4) royalties $40,000 (5) unilateral transfer $5,000 (6) income from bond $8,000
Financial Account	
(1) bank deposit $10,000 (4) bank deposit $40,000 (5) cash $5,000 (6) bank deposit $8,000	(2) bank deposit $50,000 (3) cash $12,000
Total debits $125,000	**Total credits** $125,000

The total debits are equal to the total credits for this country. That must be true because for every debit, we also recorded a credit. This style of bookkeeping is known as *double-entry accounting*.

This country does not have a zero current account balance. Its credits on the current account total $63,000, while its debits total $62,000. It has a current account surplus of $1,000 ($63,000-$62,000).

The financial account balance is the sum of the credits less the sum of the debits on the financial account. Here, the credits on the financial account total $62,000 and the debits total $63,000, so the country's financial account deficit is $1,000. Because the sum of all the debits must equal the sum of all the credits, the sum of the current account and financial account (which equals the sum of all the credits less the sum of all the debits) must be zero. We will use the notation *FA* to refer to the financial account. We must have

$$FA + CA = 0.$$

It follows that $FA = -CA$. Here, $CA = \$1,000$, so $FA = -CA = -\$1,000$.

A more detailed table for our balance of payments:

Debits	**Credits**
Current Account	
Imports of Goods and Services	**Exports of Goods and Services**
(2) machine $50,000 (3) tourism $12,000	(1) wheat $10,000 (4) royalties $40,000
Income Payments to Foreigners	**Income Payments from Foreigners**
	(6) income from bond $8,000
Unilateral Transfers to Foreigners	**Unilateral Transfers from Foreigners**
	(5) unilateral transfer $5,000
Total debits on current account $62,000	**Total credits on current account** $63,000
Financial Account	
(1) bank deposit $10,000 (4) bank deposit $40,000 (5) cash $5,000 (6) bank deposit $8,000	(2) bank deposit $50,000 (3) cash $12,000
Total debits on financial account $63,000	**Total credits on financial account** $62,000
Total debits $125,000	**Total credits** $125,000

Here are some additional examples of transactions:

(7) The U.S. exports $15,000 of wheat to Cambodia in exchange for $15,000 of shirts.

(8) An American buys a life insurance policy that costs $10,000, pays by transfer to the account of the British insurance company.

(9) An Italian buys $33,000 of shares in Google, pays by bank transfer.

(10) An American buys an acre of land in Canada, pays $41,000 by bank transfer.

(11) An American pays $100,000 to buy a U.K. government bond by making bank transfer to U.K. government.

(12) An American sells $7,000 of shares in a French corporation he had previously bought to a Nigerian, receiving the payment as a bank deposit.

(13) The Federal Reserve buys $50,000 of Japanese Treasury bonds from a Japanese citizen, pays by bank transfer.

Debits	Credits
Current Account	
Imports of Goods and Services	**Exports of Goods and Services**
(2) machine $50,000 (3) tourism $12,000 (7) shirts $15,000	(1) wheat $10,000 (4) royalties $40,000 (7) wheat $15,000
Income Payments to Foreigners	**Income Payments from Foreigner**
	(6) income from bond $8,000
Unilateral Transfers to Foreigners	**Unilateral Transfers from Foreigne**
	(5) unilateral transfer $5,000
Total debits on current account $77,000	Total credits on current account $78,000

Financial Account	
(1) bank deposit $10,000 (4) bank deposit $40,000 (5) cash $5,000 (6) bank deposit $8,000 (8) life insurance $10,000 (9) bank deposit $33,000 (10) title to land $41,000 (11) U.K. bonds $100,000 (12) bank deposit $7,000 (13) Japanese bonds $50,000	(2) bank deposit $50,000 (3) cash $12,000 (8) bank deposit $10,000 (9) Shares of Google $33,000 (10) bank deposit $41,000 (11) bank deposit $100,000 (12) Shares in French corporation $7,000 (13) bank deposit $50,000
Total debits on financial account $304,000	**Total credits on financial account** $303,000
Total debits $381,000	**Total credits** $381,000

This country has a current account surplus of $1,000 and a financial account deficit of $1,000. Note the difference in how the purchase of the U.K. government bond (item #11) is recorded compared to the income received on a U.K. government bond (item #6).

Also consider transaction #12. The American sells a French stock to a Nigerian. The sale of the stock is recorded as a credit on the U.S. financial account. Even though the shares are in a French company, not an American company, there is still a credit on the U.S. accounts. The location of the company doesn't matter – what matters is whether the American is selling an asset to a foreign resident.

In practice there may be large statistical discrepancies.

Exhibit 4.1 Summary of a Country's Accounts of the Balance of Payments

Exhibit 4.1 Summary of a country's accounts of the balance of payments

Debits (recorded with a –)	Credits (recorded with a +)
I. CURRENT ACCOUNT	
(A) TRADE BALANCE	
(Transactions in goods, services, and transfers)	
Imports into the country	Exports from the country
(B) INVESTMENT INCOME ACCOUNT	
Payment by the country of dividends and interest to foreigners	Receipt by the country of dividends and interest from foreigners
II. CAPITAL ACCOUNT	
Capital outflows	Capital inflows
Increase in the country's ownership of foreign assets	Increase in foreign ownership of the country's assets
Decrease of foreign ownership of the country's assets	Decrease in the country's ownership of foreign assets
III. OFFICIAL RESERVES ACCOUNT	
Increase in official international reserves of the country's central bank	Decrease of official international reserves of the country's central bank

4.2 Surpluses and Deficits in the Balance of Payment Accounts

- Surplus/deficit
  - Surplus results when the credit exceed the debit transactions
  - Deficit results when the debits exceed the credit transactions
- An important Balance of Payments identity:
  - $Current\ Account\ +\ Capital\ Account\ =\ 0$
  - Implication is current account deficits (of which the U.S. suffers) must have a capital account surplus

4.2 Surpluses and Deficits in the Balance of Payment Accounts

- The U.S. Current Account ($M)
  - Goods / Services
    - Levels and balances
  - Investment income
  - Unilateral current transfers, Net
  - Balance on current account

Exhibit 4.2 The U.S. Current Account, 1970–2014 (billions of dollars; credits, +; debits, –)

Exhibit 4.2 The US Current Account, 1970–2014 (billions of dollars, credits, +; debits, –)

	Goods			Services		Income Receipts and payments				
Year	Exports	Imports	Balance on goods	Balance on services	Balance on goods and services	Receipts	Payments	Balance on income	Unilateral current transfers, net	Balance on current account
1970	42	–40	2	0	2	12	–6	6	–6	2
1980	224	–250	–26	6	–20	73	–43	30	–8	2
1990	389	–498	–109	30	–79	172	–143	29	–27	–77
2000	772	–1,224	–452	74	–378	353	–331	22	–54	–410
2005	895	–1,677	–782	66	–716	475	–463	12	–86	–790
2010	1,290	–1,939	–649	154	–495	685	–507	178	–125	–442
2014	1,633	–2,374	–741	233	–508	823	–585	238	–119	–389

4.2 Surpluses and Deficits in the Balance of Payment Accounts

- The U.S. Capital and Financial Accounts ($M)
  - U.S.-owned assets abroad and foreign assets in the U.S., net
  - Net foreign assets in the U.S.
  - Net financial derivatives (starting in 2006)
  - Capital account transfers (e.g., forgiveness of debt)
  - Balance on the capital account
  - The statistical discrepancy
  - The official settlements, or reserves, account

Exhibit 4.3 The U.S. Capital and Financial Accounts, 2000–2014 (billions of dollars; credits, +; debits, –)

Exhibit 4.3 The US capital and financial accounts, 2000–2014 (billions of dollars, credits, +; debits, –)

	US-owned assets abroad, net, [increase/financial outflow (–)]					Foreign-owned assets in the US, net, [increase/financial inflow (+)]							
Year	Total	Direct	Portfolio	Other	Reserve assets	Total	Direct	Portfolio	Other	Financial derivatives, net	Capital account transfers	Balance on capital account	Statistical discrepancy
2000	–589	–188	–160	–241	–0.3	1,067	350	442	275	n.a.	0.001	478	–68
2005	–572	–62	–267	–257	14	1,273	138	832	303	n.a.	–13.1	688	102
2010	–963	–355	–200	–407	–1.8	1,386	259	820	307	14	0.157	437	5
2014	–792	–357	–538	99	3.6	978	132	705	141	54	0.45	240	149

Exhibit 4.4 U.S. Balance of Payment for 2014 (billions of dollars; credits, +; debits, –)

Exhibit 4.4 US balance of payments for 2014 (billions of dollars) (credits recorded with a (+), debits recorded with a (–))

Current account	
Trade account	
Exports of goods	1,633
Imports of goods	–2,374
Net exports of services	233
Net unilateral transfers	–119
(A)Trade balance	**–627**
Investment income account	
Receipts on US assets abroad	823
Payments on foreign assets in the US	–585
(B)Investment account balance	**238**
Current account balance (A) + (B)	**–389**
Regular capital account	
US assets abroad, net	–795.6
Foreign private assets in the US (net)	978
Financial derivatives, net	54
Capital account transfers, net	0
Balance on regular capital account	**236.4**
Official settlements account	
US official reserve assets	3.6
Balance on capital account	**240**
Statistical discrepancy	**149**
(Sum of all the items with the sign reversed)	

Exhibit 4.5 Current Account Balances for the G7 Countries as a Percentage of GDP

Exhibit 4.5 Current account balances for the G7 countries as a percentage of GDP

Year	United States	United Kingdom	Japan	Italy	Germany	France	Canada
1960	0.6	−1.0	0.5	0.6	1.6	2.2	−3.2
1970	0.4	1.3	1.0	0.8	0.6	0.8	0.9
1980	0.4	1.5	−1.0	−2.4	−1.7	−0.6	−0.9
1990	−1.3	−3.4	1.5	−1.5	3.5	−0.8	−3.5
2000	−4.3	−2.6	2.5	−0.5	−1.6	1.4	2.8
2010	−3.0	−2.6	4.0	−3.5	5.7	−0.8	−3.5
2014	−2.4	−5.5	0.5	1.8	7.5	−1.1	−2.2

Exhibit 4.6 Current Account Balances as a Percentage of GDP for Some Emerging Market Countries

Exhibit 4.6 Current account balances as a percentage of GDP for some emerging market countries

	Brazil	China	India	Indonesia	Korea	Malaysia	Philippines	Singapore	Russia	Thailand
1990	−0.7	3.1	−2.4	−2.5	−0.7	−2.1	−6.1	8.0	n/a	−8.3
1996	−2.8	0.8	−1.6	−2.9	−4.0	−4.4	−4.6	14.7	2.8	−7.9
2000	−3.8	1.7	−1.0	4.8	2.3	9.0	−2.9	10.8	18.0	7.6
2005	1.6	5.8	−1.2	0.5	1.4	14.4	1.9	21.8	11.1	−4.3
2010	−2.1	4.0	−2.8	0.7	2.6	10.9	3.6	23.7	4.4	3.1
2014	−3.9	3.2	−1.3	−3.0	6.3	2.1	5.5	19.1	5.4	4.4

4.2 Surpluses and Deficits in the Balance of Payment Accounts

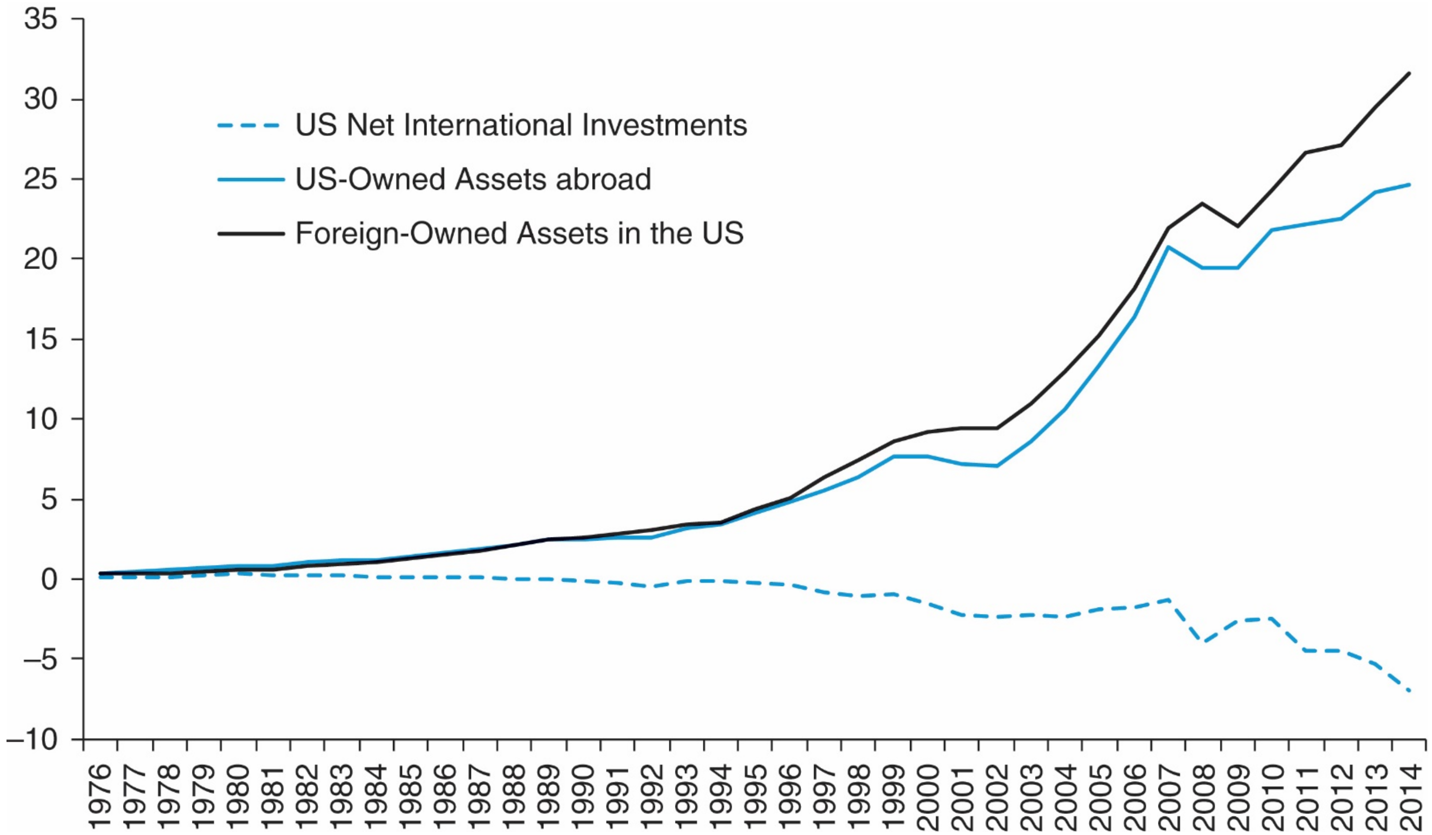
- *current account + regular capital account + official reserves account = 0*
- *current account + regular capital account = − official reserves account*
- If the sum of private and government transactions on the current and ***regular*** capital accounts is …
  - Positive (a “balance of payments surplus”)
    - The central bank must have increased its holdings of foreign money / assets. That is, the official reserves account must be in deficit.
  - Negative (a “balance of payments deficit”)
    - The central bank must have decreased its holdings of foreign money / assets. That is, the official reserves account must be in surplus.
  - The “balance of payments” = − official reserves account

4.3 The Current Account and Net Investment Position

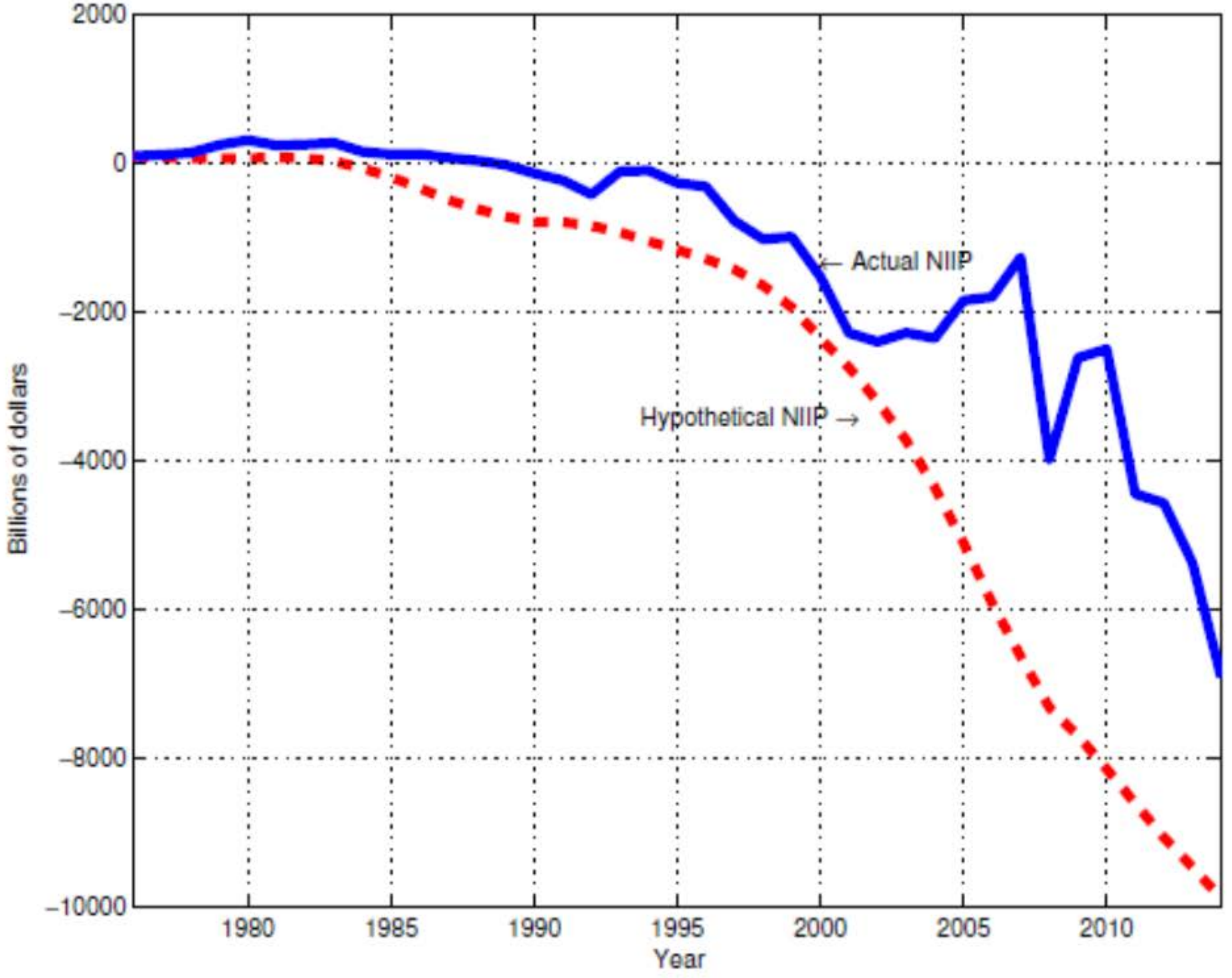
- The Trade Account and the Investment Income Account
  - $Current\ Account\ =\ Trade\ Account\ +\ Int'l\ Inv.Income\ Account$
  - $Current\ Account\ +\ Capital\ Account\ =\ 0$
  - $Current\ Account = -\ Capital\ Account$
  - Current account surplus implies capital account deficit. The country is acquiring claims on the rest of the world (lending to the rest of the world).
  - Current account deficit implies the rest of the world is, on net, acquiring claims on this country. The country is borrowing from the rest of the world.
- Countries as net creditors or net debtors
  - Net creditor if the net international investment position is positive
  - Net debtor if the net international investment position is negative

** Definition from IMF*

Exhibit 4.7 International Investment Positions



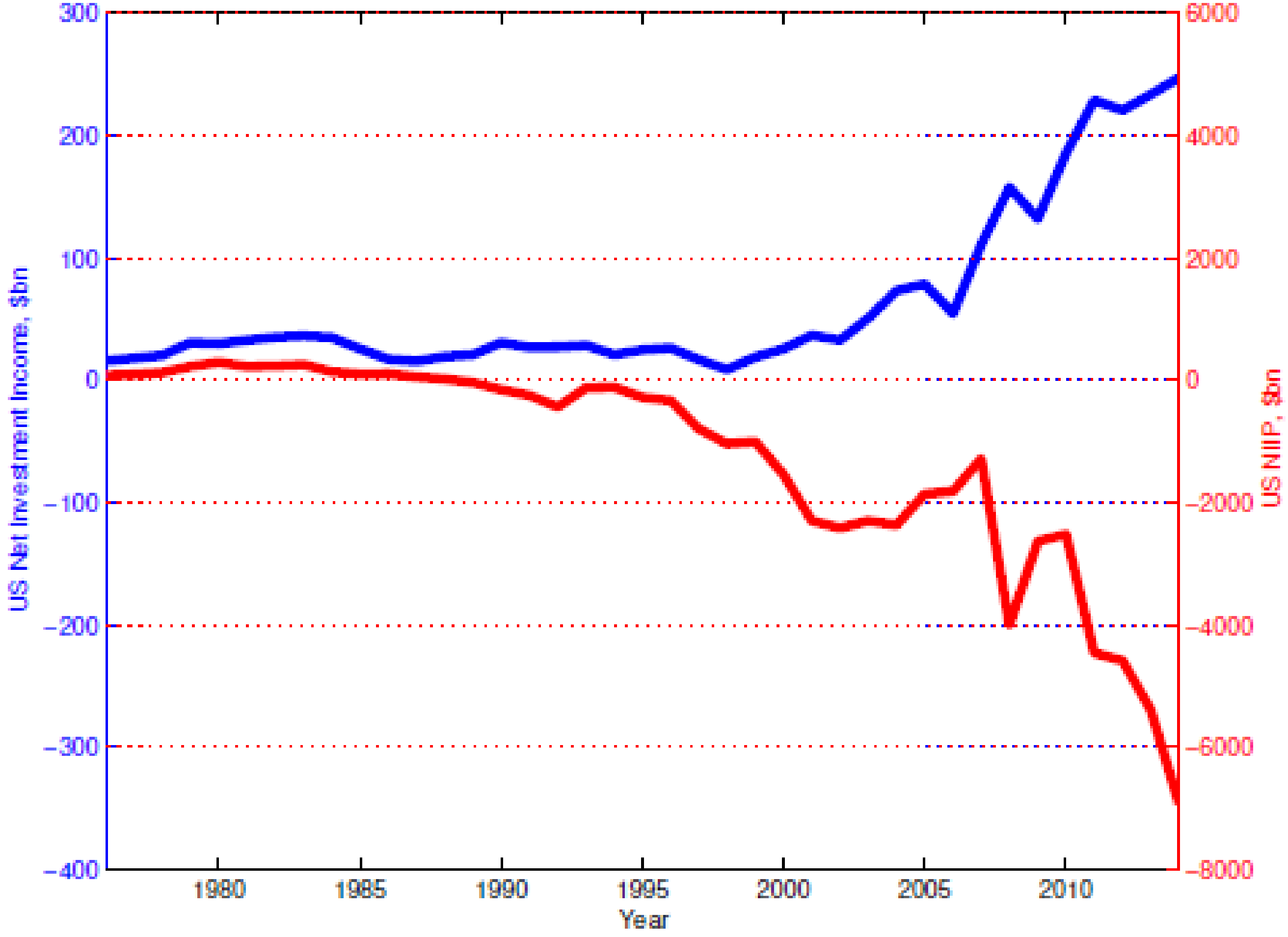
The U.S. NIIP and the Hypothetical NIIP Since 1976 (billions of dollars)



4.3 The Dynamics of the BOP

- Economists worry about the U.S. international investment position because of its implications on the current account
- However, it has not been an issue because the net income balance has remained positive, financing spending
  - Positive due to composition and return effects
  - Sustainability of the situation
    - Though the international investment position has deteriorated, wealth in the U.S. has grown
    - Current account deficit is negative but small (2.4%)
    - Foreign ownership can change though – what if they diversify?

Positive Net Investment Income And Negative NIIP: A Paradox?



Data Source: BEA, bea.gov, ITA, Table 1.1., (December 17, 2015 release)

4.4 Savings, Investment, Income, and the BOP

- Linking the Current Account to National Income
  - $Gross\ National\ Income = GDP + Net\ Foreign\ Income$
  - Subtracting expenditures (consumption, investment and government purchases) and using $GDP = C + I + G + NX$ to obtain:
    - $GNI - (C + I + G) = GDP + NFI - (C + I + G) = NX + NFI$
    - $Gross\ National\ Income - National\ Expenditures = Current\ Account$
      - If a country has a CA surplus, income exceeds expenditures
      - If a country has a CA deficit, expenditures exceed income
    - $Current\ account = Change\ in\ net\ foreign\ assets$
      - If country has a CA surplus, it is acquiring assets
      - If country has a CA deficit, it is losing assets

4.4 Savings, Investment, Income, and the BOP

- National Savings, Investment, and the Current Account
  - $National\ savings\ =\ Gross\ National\ Income - \ Consumption$
    - Consumption here denotes consumption by both its citizens and the government
    - If a country spends more than its income, its savings are negative
  - Using the definitions of GNI and GDP we can rearrange terms to find that
    - $Private\ Saving\ = National\ Income + Transfers\ + interest\ on\ government\ debt - Taxes - Private\ Consumption$
    - $Government\ Saving = Taxes - Transfers - interest\ on\ government\ debt - Government\ purchases$
    - $National\ Saving = Private\ Saving + Government\ Saving = National\ Income - Private\ Consumption - Government\ Purchases$
    - $National\ Saving - National\ Investment = Current\ Account$

4.4 Savings, Investment, Income, and the BOP

- So what causes Current Account deficits and surpluses?
  - Government financing
    - Why doesn't the government tax based on its budget?
      - They choose a rate that balances the budget over the long-run
      - It's not politically popular to do so
  - Ricardian Equivalence
    - Taxpayers do not think about the fact that their taxes will go up down the road to pay off the National Debt
    - Private savings do not increase one for one with the government budget deficit
  - Consumer choices about consumption and savings
    - Decisions are intertemporal and influenced by current and expectations about prices and opportunities
  - Investment spending decisions are intertemporal and pro-cyclical