

# **Substitute for Chapter 12**

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# Chapter Outline

## **The Foreign Accounts**

The balance of payments (BOP) records of a country's economic transactions with the rest of the world.

- Definitions and Measurement
- Relationship to National Accounts
- Determinants of the Current Account

**Table 5.1**  
Balance of  
Payments  
Accounts of the  
United States,  
2011 (Billions of  
Dollars)

Current Account		
<b>Net exports of goods and services (NX)</b>		<b>-560.0</b>
Exports of goods and services	2105.1	
Goods	1497.4	
Services	607.7	
Imports of goods and services	-2665.0	
Goods	-2235.7	
Services	-429.3	
<b>Net income from abroad (NFP)</b>		<b>221.1</b>
Income receipts from abroad	738.7	
Income payments to residents of other countries	-517.7	
<b>Net unilateral transfers</b>		<b>-134.6</b>
<b>Current Account Balance (CA)</b>		<b>-473.4</b>
Capital and Financial Account		
<b>Capital Account</b>		
<b>Net capital account transactions</b>		<b>- 1.2</b>
<b>Financial Account</b>		
<b>Net financial flows</b>		<b>387.3</b>
Increase in U.S.-owned assets abroad (financial outflow)	-396.4	
U.S. official reserve assets	-15.9	
Other U.S.-owned assets abroad	-380.5	
Increase in foreign-owned assets in U.S. (financial inflow)	783.7	
Foreign official assets	164.8	
Other foreign-owned assets	618.9	
<b>Financial derivatives</b>		<b>6.8</b>
<b>Capital and Financial Account Balance (KFA)</b>		<b>392.9</b>
<b>Statistical Discrepancy</b>		<b>80.5</b>
<i>Memoranda:</i>		
Balance on goods and services (trade balance)		-560.0
Balance on goods, services, and income		-338.9
Official settlements balance =		
Balance of payments =		
Increase in U.S. official reserve assets minus increase in foreign official assets = 15.9 - 164.8		-148.9
<i>Note:</i> Numbers may not add to totals shown owing to rounding.		
<i>Source:</i> "U.S. International Transactions: Fourth Quarter and Year 2011," Table I, p. 30 and Table J, p. 31, <i>Survey of Current Business</i> , April 2012.		

**TABLE 12.2**  
Simplified  
Balance of  
Payments of  
Switzerland  
(in Billions  
CHF)

	2008	2012
<b>Current Account</b>	<b>11.9</b>	<b>66.3</b>
Goods Trade	15.1	15.5
Services	50.2	41.2
Labor Income	-13.2	-18
Investment Income	-26.2	39.6
Unilateral Transfers	-14	-11.9
<b>Financial Account</b>	<b>-7.9</b>	<b>-96.8</b>
Direct Investment	-32.6	-27.1
Portfolio Investment	-38.5	13.2
Other Investment	67.4	91
Derivatives and structured products	7.4	5
Commercial Bank Lending	62.8	57.6
Corporate Lending	-12.3	1.3
Swiss National Bank lending	-35.1	22.8
Other claims and liabilities abroad	39.2	5.4
Reserves	-4.1	-174.6
<b>Capital Account</b>	<b>-3.8</b>	<b>-1.9</b>
<b>Statistical error</b>	<b>-0.2</b>	<b>32.3</b>

# Balance of Payments Accounting

- Basic Principles

- Credit item (+)

- Funds flow into the country
    - Example: exports of goods
    - Example: A German resident buys property in DC

- Debit item (–)

- Funds flow out of the country
    - Example: imports of goods
    - Example: an American buys Mexican stocks

The balance of payments has three components:

- the current account
- the financial account
- the capital account

Current Account Balance + Financial Account Balance + Capital Account Balance = 0

This distinction between the financial and capital account is made by the IMF and other international organizations. Most practitioners include the financial account in the capital account

# Balance of Payments Accounting

- The **current account** records exports and imports of goods and services, international receipts or payments of income and unilateral transfers
  - Net exports of goods and services –trade balance- (*NX*)
  - Net income from abroad (*NFP*)
  - Net unilateral transfers (*NUT*)

# Balance of Payments Accounting

## The Income Balance (NFP) of the CA

### 1. Net investment income

It represents the difference between the income US people receive on their foreign assets (dividends, rents,..) and the income payments made to foreign holders of US assets

### 2. Net international compensation to employees

Income received from abroad is a credit item, since it causes funds to flow into the United States

Payment of income to foreigners is a debit item



# Balance of Payments Accounting

- The unilateral transfer balance of the CA
  - Net unilateral transfers (*NUT*)
    - Payments made from one country to another
    - Negative net unilateral transfers for United States, since United States is a net donor to other countries
    - Example: Foreign aid, reparation payments

# Balance of Payments Accounting

- Sum of net exports of goods and services, net income from abroad, and net unilateral transfers is the current account balance
- $CA = NX + NFP + NUT$ 
  - Positive current account balance implies current account surplus
  - Negative current account balance implies current account deficit

# Balance of Payments Accounting

- The capital and financial account
  - The capital and financial account records trades in existing assets, either real (for example, houses) or financial (for example, stocks and bonds)
  - The capital account records the net flow of *unilateral* transfers of assets into the country. Essentially, debt forgiveness and entering-departing migrants' transfers

# Balance of Payments Accounting

- The Capital and Financial Account
  - Capital Account (unilateral transfers of assets)
  - Financial Account
    - Financial Inflow
      - Credit item (+)
      - Sale of U.S. assets to foreigners
    - Financial Outflow
      - Debit item (–)
      - Purchase of foreign assets by U.S. residents
- $KFA$  = capital and financial account balance

# Balance of Payments Accounting

The **financial account** contains

- **Foreign direct investment (FDI)**

A foreign firm buys or builds capital goods. It causes an increase in capital and financial account balance

- **Portfolio investment**

It refers to the purchase of shares and bonds. also increases capital and financial account balance

- **Other investment includes capital flows into bank accounts or provided as loans**

- **Reserve account (official settlement balance):** keeps track of central banks' reserve asset transactions with each other. It records transactions involving gold, foreign exchange reserves, bank deposits and SDRs

# Balance of Payments Accounting

- The official settlements balance
  - Also called the balance of payments, it equals the net increase in a country's official reserve assets
  - For the United States, the net increase in official reserve assets is the rise in U.S. government reserve assets minus foreign central bank holdings of U.S. dollar assets
  - Having a balance of payments surplus means a country is increasing its official reserve assets; a balance of payments deficit is a reduction in official reserve assets

# Balance of Payments Accounting

- The relationship between the current account and the capital and financial account
  - Current account balance ( $CA$ ) + capital and financial account balance ( $KFA$ ) = 0 (5.1)
  - $CA + KFA = 0$  by accounting; every transaction involves offsetting effects

Roughly, if a country imports more than she exports ( $NX < 0$ ) she must either reduce (sell) some of its foreign assets or borrow from the exporting country in order to finance this trade gap. In either case, a matching  $KFA$  surplus must be created.

# Balance of Payments Accounting

- Examples given of offsetting transactions (text Table 5.2)
- In practice, measurement problems, recorded as a statistical discrepancy, prevent  $CA + KFA = 0$  from holding exactly.



# Table 5.2 Why the Current Account Balance and the Capital and Financial Account Balance Sum to Zero: An Example

(Balance of Payments Data Refer to the United States)

**Case I: United States Imports \$75 Sweater from Britain;  
Britain Imports \$75 Computer Game from United States**

**Current Account**

Exports	+\$75
Imports	-\$75
Current account balance, <i>CA</i>	<u>0</u>

**Capital and Financial Account**

No transaction	
Capital and financial account balance, <i>KFA</i>	0
Sum of current and capital and financial account balances, <i>CA + KFA</i>	0

**Case II: United States Imports \$75 Sweater from Britain;  
Britain Buys \$75 Bond from United States**

**Current Account**

Imports	-\$75
Current account balance, <i>CA</i>	<u>-\$75</u>

**Capital and Financial Account**

Financial inflow	+\$75
Capital and financial account balance, <i>KFA</i>	<u>+\$75</u>
Sum of current and capital and financial account balances, <i>CA + KFA</i>	0

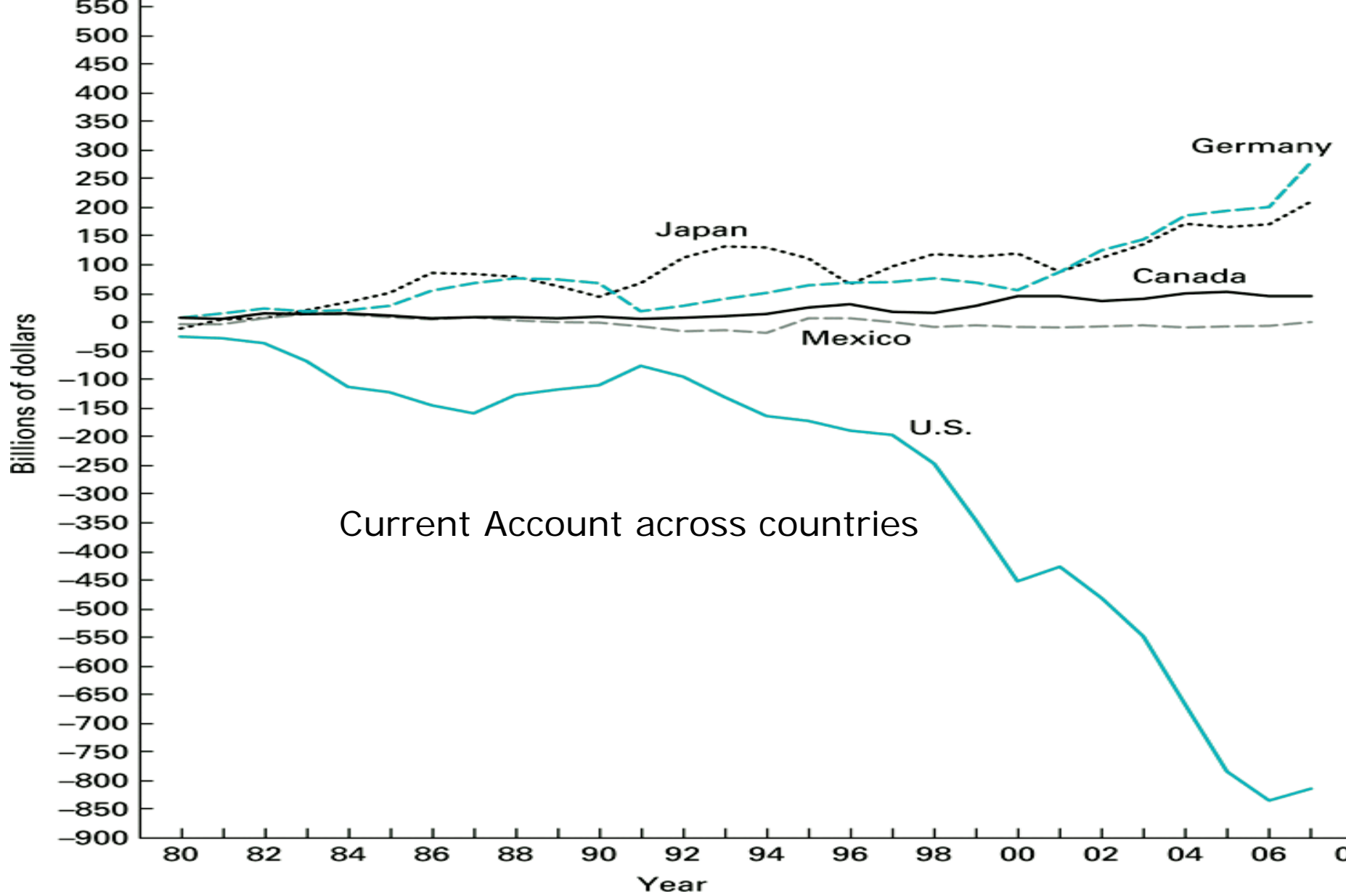
**Case III: United States Imports \$75 Sweater from Britain;  
Federal Reserve Sells \$75 of British Pounds to British Bank**

**Current Account**

Imports	-\$75
Current account balance, <i>CA</i>	<u>-\$75</u>

**Capital and Financial Account**

Financial inflow (reduction in U.S. official reserve assets)	+\$75
Capital and financial account balance, <i>KFA</i>	<u>+\$75</u>
Sum of current and capital and financial account balances, <i>CA + KFA</i>	0



# Balance of Payments Accounting

- **Net foreign assets** and the balance of payments accounts

Net foreign assets are a country's foreign assets minus its foreign liabilities

- Net foreign assets may change in value (example: change in stock prices)
- Net foreign assets may change through acquisition of new assets or liabilities

# Balance of Payments Accounting

- The financial account gives the change in the country's net foreign assets,  $-KFA = \Delta(NFA)$

(Recall that an increase in the NFA, say, through a purchase of foreign securities, represents a negative change in the KFA)

- **The net *increase* in foreign assets  $\Delta(NFA)$  thus equals a country's current account *surplus***

$$CA + KFA = 0 \rightarrow \Delta(NFA) = -KFA = CA$$

- A current account surplus implies a capital and financial account deficit, and thus a net increase in holdings of foreign assets (a financial outflow)
- A current account deficit implies a capital and financial account surplus, and thus a net decline in holdings of foreign assets (a financial inflow)

# Balance of Payments Accounting

- Summary: Equivalent measures of a country's international trade and lending

Current account surplus

= capital and financial account deficit

= net acquisition of foreign assets

= net foreign lending

= net exports (if *NFP* and net unilateral transfers are zero)

# Summary 7

## Equivalent Measures of a Country's International Trade and Lending

### Each Item Describes the Same Situation

A current account surplus of \$10 billion

A capital and financial account deficit of \$10 billion

Net acquisition of foreign assets of \$10 billion

Net foreign lending of \$10 billion

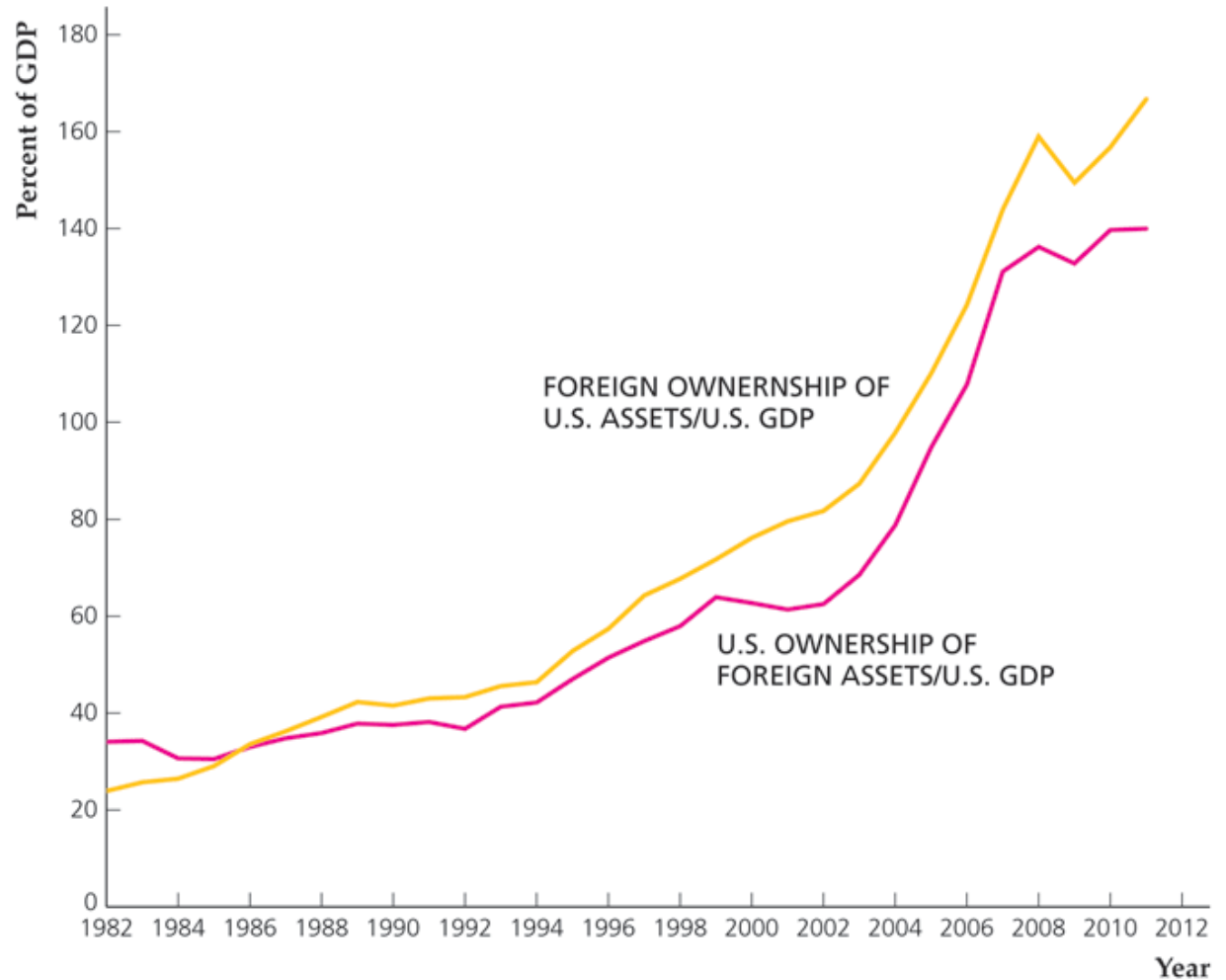
Net exports of \$10 billion (if net factor payments, *NFP*, and net unilateral transfers equal zero)

# Balance of Payments Accounting

- Application: The United States as international debtor
  - The rise in foreign liabilities by the United States since the early 1980s has been very large (Figure 5.1)
  - The United States has become the world's largest international debtor
- The Net International Investment Position (NIIP): NIIP is a country's net foreign wealth, that is, the difference between foreign assets owned by domestic residents and domestic assets owned by foreigners.
- In the absence of valuation changes,

$$\Delta (\text{NIIP}) = -\text{KFA} = \text{CA}$$

# Figure 5.1 International ownership of assets relative to U.S. GDP, 1982-2011



Sources: *International ownership of assets*: Bureau of Economic Analysis, International Economic Accounts, International Investment Position, Table 2, available at [www.bea.gov/international/xls/intinv11\\_t2.xls](http://www.bea.gov/international/xls/intinv11_t2.xls). GDP: Bureau of Economic Analysis, National Income and Product Accounts, available at [research.stlouisfed.org/fred2/series/GDPA](http://research.stlouisfed.org/fred2/series/GDPA).



# Balance of Payments Accounting

- Application: The United States as international "debtor" (negative NIIP)
  - The net foreign debt of the United States relative to U.S. GDP is relatively small (29%) compared to other countries (some of whom have net foreign debt of over 100% of GDP)
  - But it represents a liability of the country. The country has to eventually transfer 29% of the goods it produces (GDP) to foreigners.

Table 5.3 shows size of foreign countries' holdings of U.S. debt

# Table 5.3 Foreign Holdings of U.S. Treasury Securities

Yearend (billions)	2009	2010	2011
China	1036.4	1277.4	1283.7
Japan	750.2	860.9	1050.1
Belgium and Luxembourg	111.3	167.7	239.7
Brazil	169.5	181.7	222.7
OPEC Asia	166.1	173.2	201.5
United Kingdom	29.7	101.8	180.7
Russia	156.3	169.1	152.2
Taiwan	125.8	150.8	147.1
Switzerland	91.0	109.0	132.2
Cayman Islands	70.4	103.3	127.5
Other countries	963.9	1171.7	1333.7
<b>Total Holdings</b>	<b>3670.6</b>	<b>4466.6</b>	<b>5071.1</b>

*Source:* Elena L. Nguyen, "The International Investment Position of the United States at Yearend 2011," *Survey of Current Business* (July 2012), Table K, p. 14.

## Net International Investment Position 2013 (2014)

Singapore	182
Norway	170.9
Switzerland	119.6
S. Arabia	106.6
Japan	74.8
Belgium	49.7
Germany	36.4
Venezuela	30.5
China	17.1
Argentina	14.2
Canada	6.9
Chile	-13.8
France	-19.5

## Net International Investment Position 2013 (2014)

UK	-24.8
Italy	-27.7
Brazil	-33.1
Mexico	-33.3
US	-39.7
Australia	-55.6
Spain	-94.5
Ireland	-106.7
Portugal	-111.6
Greece	-121.9

# US NIIP

Nonetheless the US has done well. The change in NIIP much smaller than the cumulative Current Accounts

(about 6 trillion less during over the last 40 years)

It has not fully paid for its large trade deficits- large imports!

Sources of discrepancy between historical and market values over 2002-2007

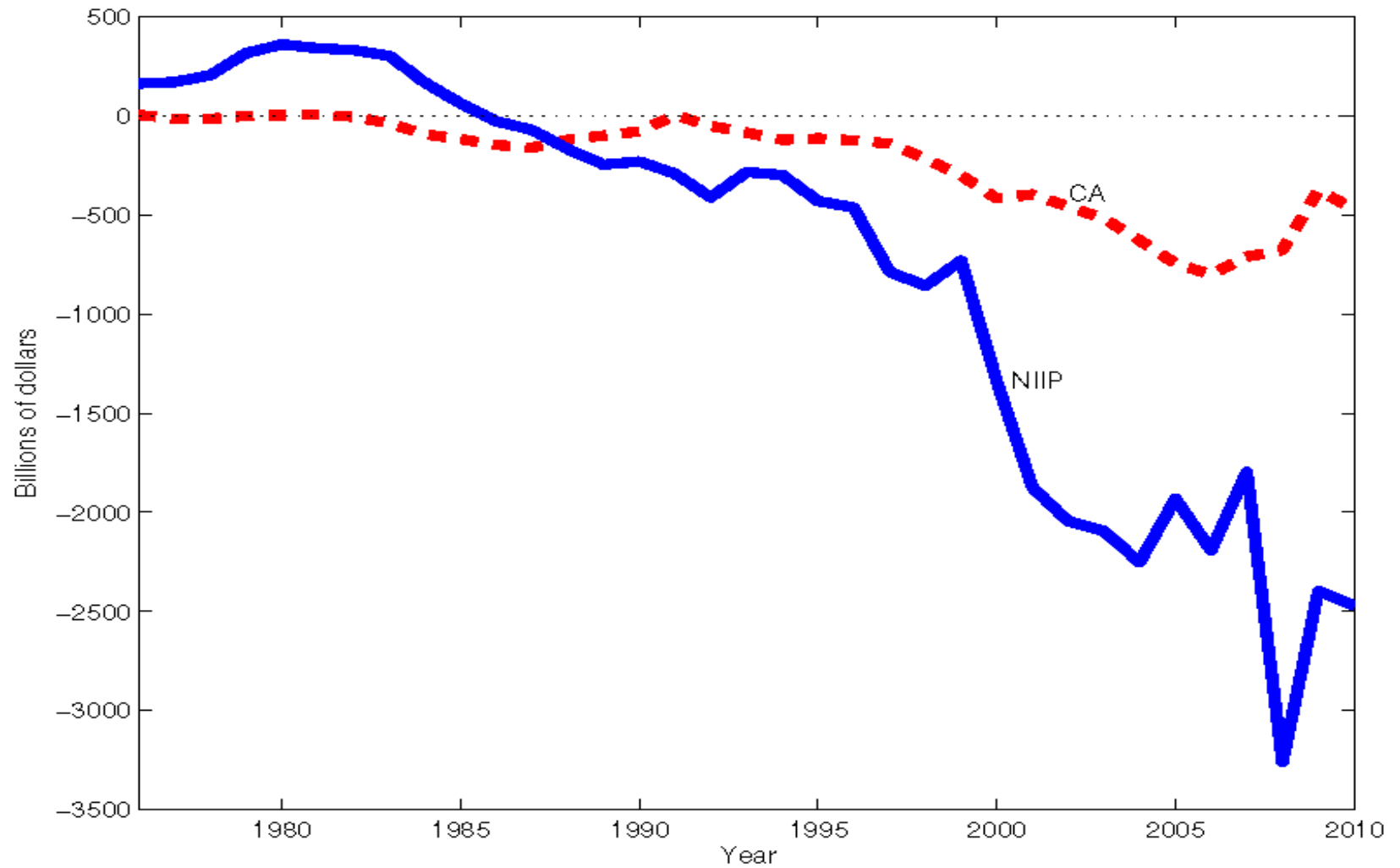
a) Real USD depreciation (20%)

b) Out-performance of US equity markets by foreign equity markets

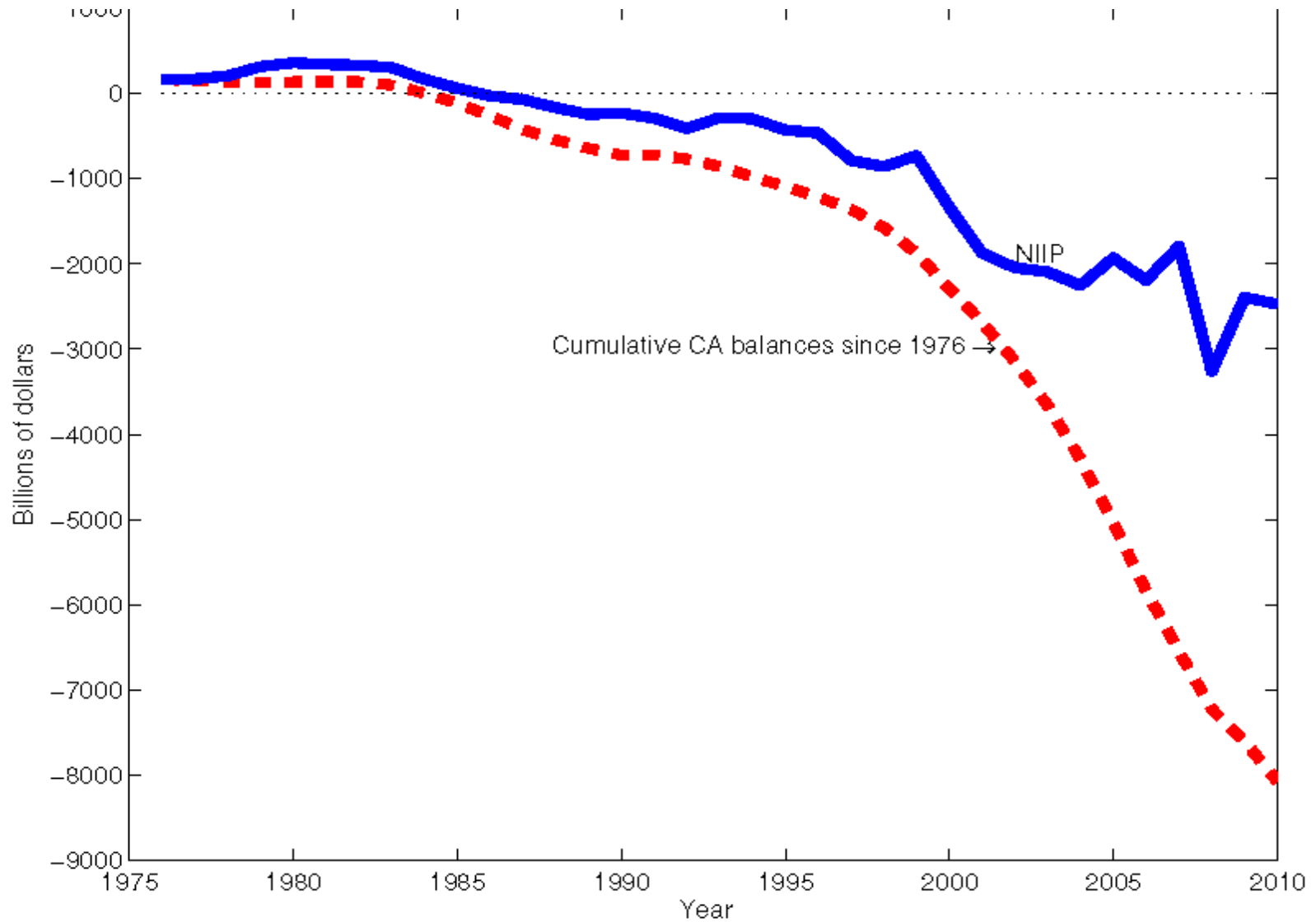
1 USD invested in foreign stock markets in 2002 delivered 2.9 by 2007

1 USD invested in US stock markets in 2002 delivered 1.9 by 2007

Value of net US equity position went from 0.04 to 3 trillion



US Current Account, CA, and Net International Investment Position, NIIP, Market Values.  
 Source: M. Uribe, International Macroeconomics



US Cumulative Current Account balances vs Net International Investment Position, NIIP.  
 Source: M. Uribe, International Macroeconomics

# US NIIP vs NII

A puzzle: Negative NIIP but positive NII (net investment income). Two explanations

Explanation 1. Dark Matter: Unreported assets

(True) TNIIP = (Actual) NIIP + Dark Matter

Let  $R$  denote interest rate on net foreign assets. Assume  $R=5\%=0.05$

$$NII = R \times TNIIP \quad \rightarrow \quad TNIIP = NII/R$$

$$TNIIP = 171.3/0.05 = 3.4 \text{ trillion}$$

$$NII(2010)=171.3$$

Dark matter =  $TNIIP - NIIP = 3.4 - (-2.5) = 5.9$  trillion dollars  
 $NIIP(2010) = -2.5$  trillion dollars



Explanation 2. Difference in rates of return:  
Americans hold more risky- higher rate of return  
assets (equity vs G-bonds)

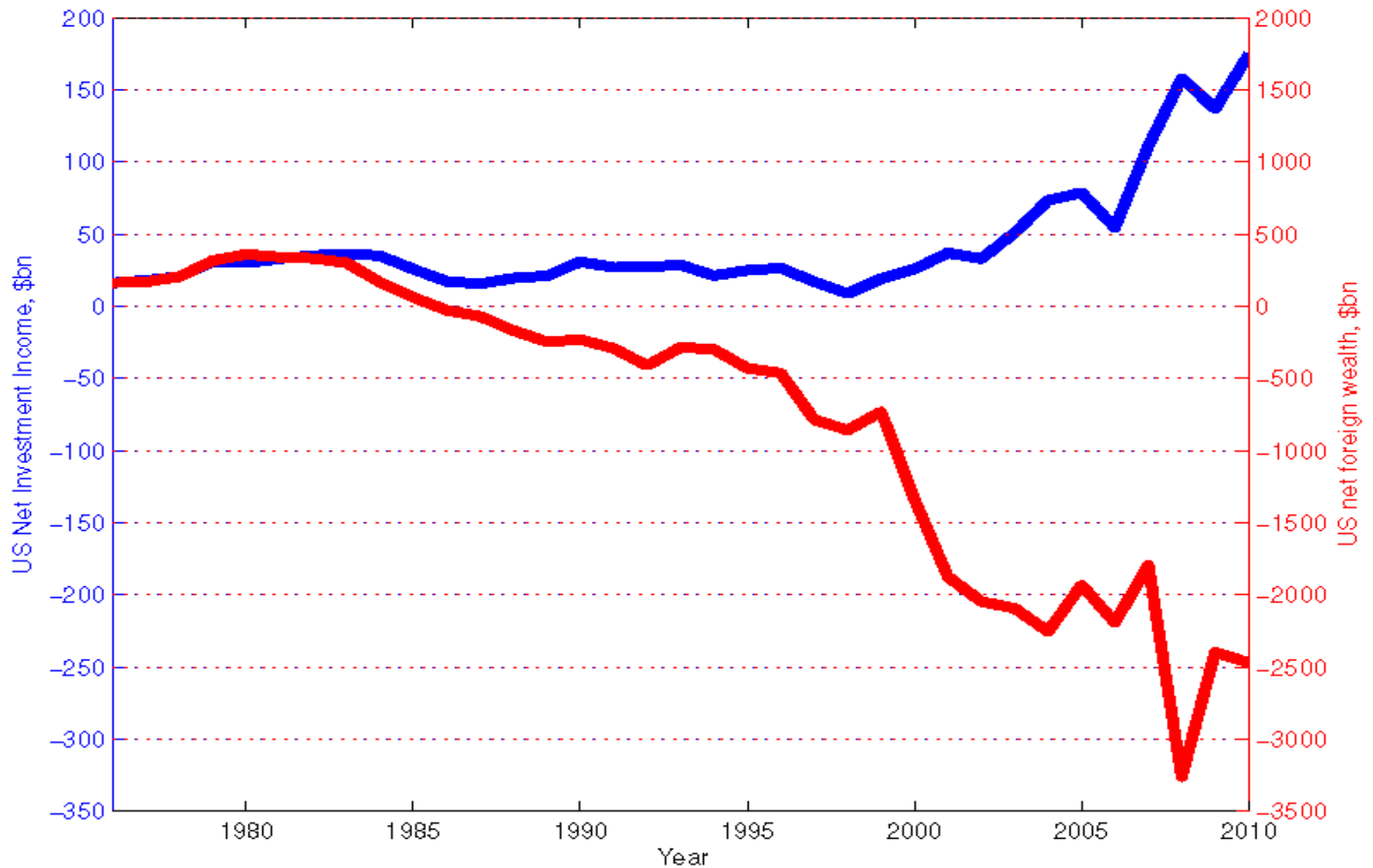
$$NII = R_A \times \text{ASSETS} - R_L \times \text{LIABILITIES}$$

Let  $R_A$ ,  $R_L$  be the average rate of return on US gross foreign assets, liabilities. What  $R_A$  resolves the puzzle, that is, it generates NII of 0.171 trillion USD?

$$0.171 = R_A \times 20.3 - 0.0032 \times 22.8 \rightarrow R_A = 1.2\% \rightarrow R_A - R_L \text{ about } 1\%$$

That is a 1% return differential in favor of US held foreign assets suffices to solve the puzzle!

Data: 2010: U.S. gross foreign asset position 20.3 trillion dollars (140% GDP), gross foreign liability position 22.8 trillion dollars (160% GDP), net investment income (NII) 171 billion, one-year Treasury securities rate 0.0032 (0.32%)



Net International Investment Position(Net Foreign Wealth)vs Net International Income (NII).

Source: M. Uribe, International Macroeconomics

## An interesting scenario

The implications for wealth redistribution between China and the US of China's capital account liberalization and a potential large appreciation of the RMB

It would lead to a substantial transfer of wealth from China to the US

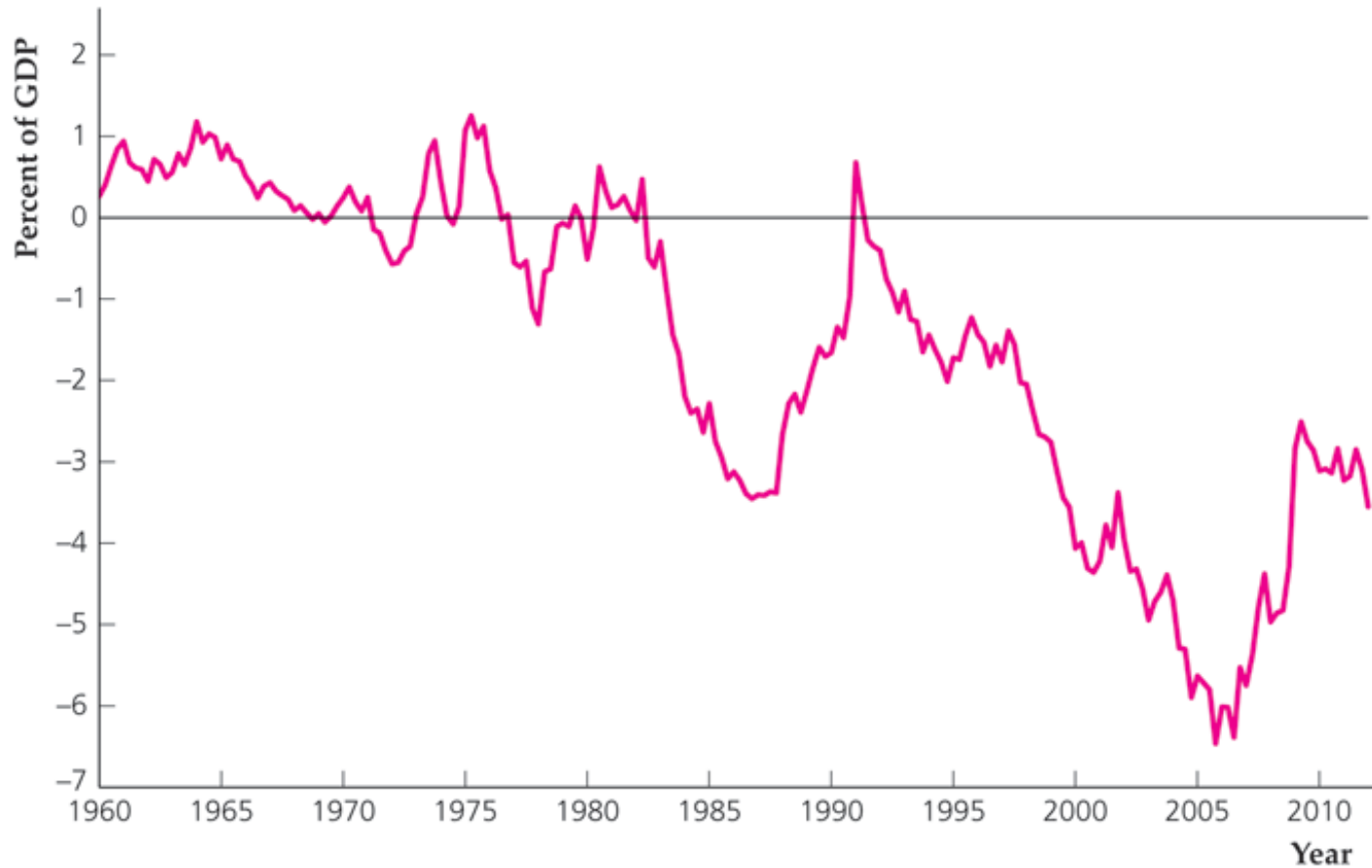
Assuming that the current value of USD reserves is about 2 trillion a 30% appreciation vis a vis the USD would imply an immediate indirect transfer of about 600 billion from China to the US ( $= 0.3 \times 2\text{tr}$ ).

This is about 150% of the value of the Chinese exports to the US in 2013. Or, about 7% of China's 2012 GDP!

# U.S. Current Account Deficit

- U.S. current account deficit is large (text Fig. 5.8)

# Figure 5.8 Current account balance as a percent of GDP, 1960-2012



Sources: Balance on current account: Bureau of Economic Analysis, available on-line at [research.stlouisfed.org/fred2/series/BOPBCA](http://research.stlouisfed.org/fred2/series/BOPBCA). GDP: Bureau of Economic Analysis, available at [research.stlouisfed.org/fred2/series/GDP](http://research.stlouisfed.org/fred2/series/GDP).

# U.S. Current Account Deficit

- Increased saving by developing countries
  - Many developing nations want to invest in safe places like U.S., rather than borrowing and getting into financial crises
  - They changed from being international borrowers to being international lenders

# U.S. Current Account Deficit

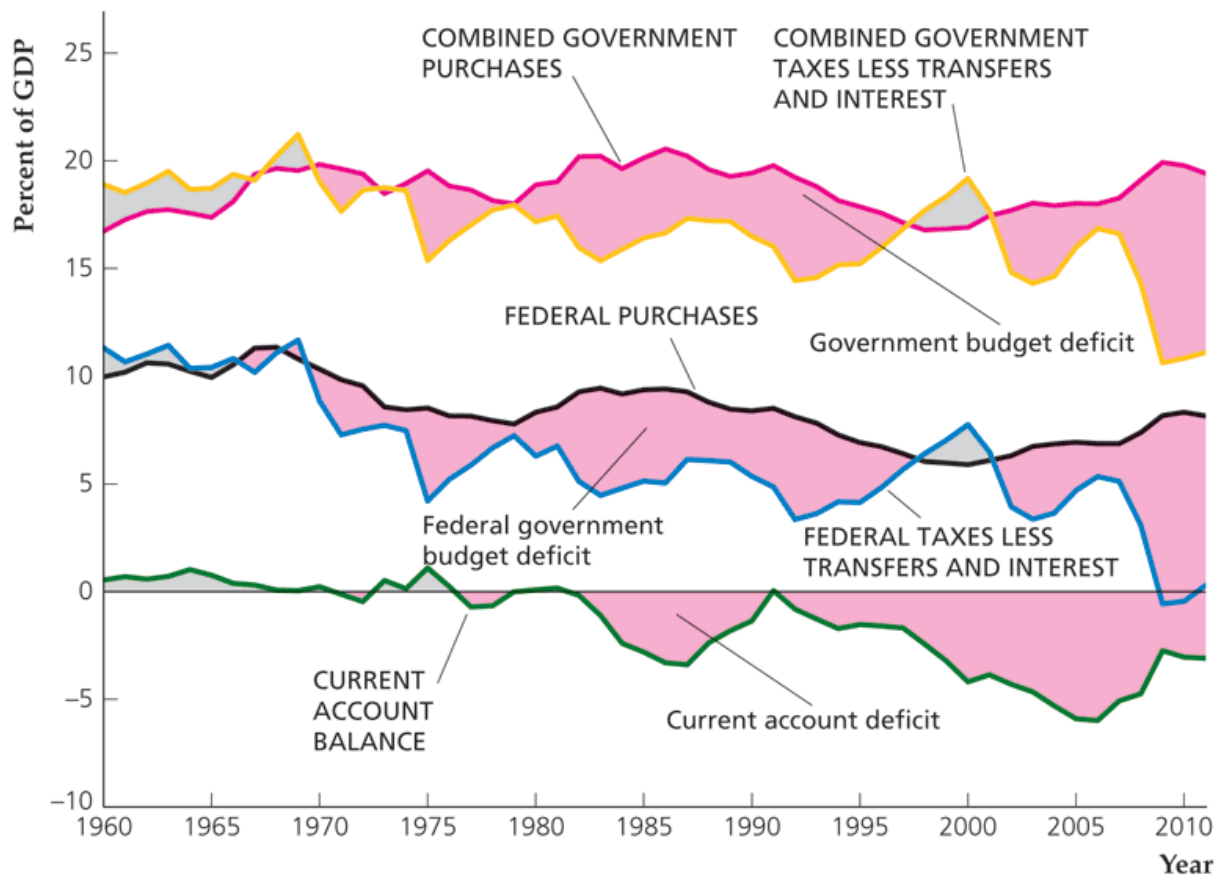
- Some people also blame U.S. government deficit—twin deficits argument
  - But in late 1990s, U.S. government ran surpluses, and current account deficit got larger
  - Other countries with current account surpluses also run larger government budget deficits than U.S.

# Fiscal Policy and the Current Account

- Application: the twin deficits
  - Relationship between the U.S. government budget deficit and U.S. current account deficit
  - Text Fig. 5.12 shows data
  - The deficits appear to be twins in the 1980s and early 1990s, moving closely together
  - But at other times (during World Wars I and II, and during 1975) government budget deficits grew, yet the current account balance increased
  - The evidence is also mixed for foreign countries



**Figure 5.12** The government budget deficit and the current account in the United States, 1960-2011



Sources: Total government and Federal government receipts, current expenditures, interest, and transfers: BEA Web site, [www.bea.gov](http://www.bea.gov), NIPA Tables 3.1 and 3.2. GDP: BEA Web site, NIPA Table 1.1.5. Current account balance: BEA Web site, International transactions accounts Table 1.

# Fiscal Policy and the Current Account

- Application: the twin deficits
  - U.S. experience
    - Early and mid 1980s: supports twin deficits
    - Federal tax rebate, 1975: contrary to twin deficits
    - Recent experience: contrary to twin deficits
  - Experience of other countries
    - Germany: increased CA deficit and budget deficit
    - Canada, Italy mid 1980s large budget deficits without severe CA deficits

Clearing up some confusion. "Competing" claims about the origins of the CA position (source Uribe, 2015)

(1) Large current account deficits originate from too much borrowing by the residents of a country from the rest of the world.

(2) Large current account deficits originate from too much borrowing by a government.

(3) The current account deficits are caused by large trade imbalances: The country is importing too much and exporting too little.

(4) The current account deficit is due to the fact that people are not saving much or investing too much.

(5) The root of the current account is in the fact that the country is living beyond its means; domestic absorption of goods and services exceeds national income.

All these "different" explanations are not explanations but simply accounting identities that are all always satisfied.

$$B_{t-1} + r_{t-1} B_{t-1} + TB_t = B_t \quad B = \text{NIIP}$$

$$CA_t = r_{t-1} B_{t-1} + TB_t = B_t - B_{t-1}$$

$$GDP_t \equiv Q_t = \{C_t + I_t + G_t\} + TB_t = A_t + TB_t \quad A = \text{Absorption}$$

$$GNP_t \equiv Y_t = GDP_t + r_{t-1} B_{t-1} = Q_t + r_{t-1} B_{t-1}$$

$$Y_t \equiv Q_t + r_{t-1} B_{t-1} = A_t + TB_t + r_{t-1} B_{t-1} \rightarrow Y_t = A_t + CA_t \rightarrow$$

$$CA_t = Y_t - A_t$$

$$Y_t = C_t + S_t + T_t$$

$$Y_t = Q_t + r_{t-1} B_{t-1} = C_t + I_t + G_t + TB_t + r_{t-1} B_{t-1}$$

Combine to get

$$S_t + T_t = I_t + G_t + CA_t \rightarrow CA_t = S_t - I_t + T_t - G_t$$

## National Accounts

# Can a Country Run a Perpetual Trade Balance deficit?

- Yes if the country's initial net foreign asset position is positive.
- For instance, because the CH is currently a net foreign creditor to the rest of the world, it can run perpetual trade balance deficits in the future by running down its international assets.

# Can a Country Run a Perpetual Current Account Deficit?

- Yes. And this independent of the sign of the country's initial net foreign asset position given a long enough time horizon.
- But is harder than running perpetual TB deficits as we need to have partial repayment of interest obligations on international debt so that the country's net foreign debt grows at a rate less than the interest rate.
- Need sufficient output growth and large enough trade surpluses.

# What are the main determinants of the CA?

- The basic insight is that the CA is determined using the permanent income hypothesis
- The permanent income describes how people's savings responds to changes in current, future and permanent (the average over the lifetime) income.
- The response of savings then determines the change in the trade balance and the current account.
- A country saves by accumulating foreign assets.  $CA = \text{change in NIIP}$ .

# Examples

- A temporary increase in income now increases consumption by less than one to one as people spread this increase over time. Savings goes up and the CA improves.
- A permanent increase in income increases consumption one to one. There is no effect on savings and the current account.
- An expected future increase in income increases current consumption as people enjoy some of the future gains in income. Savings decreases and the CA worsens.



# Implications for the CA of LDCs and rich countries

- Based on the permanent income theory one expects that:
- The LDCs would be running CA deficits as their current income is below their future income (they expect to be richer in the longer term).
- The rich countries would be running CA surpluses
- The same theory predicts that CA should deteriorate during recessions (as people dis-save) and improve during booms.

# An important question

- Are large, sustained trade decits bad?
- This is equivalent to asking whether borrowing heavily is generally a bad idea.
- The answer depends on the reason for the debt and on how the borrowed funds are used.
- The source of trade imbalance: A boom in investment causes in general no problem. (qualification: type of investment? sector?)