Lecture Five
Balance of Payments

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Outline

1. Measuring Macroeconomic Activity

2. The Balance of Payments (BOP)

3. BOP and Global Imbalances

4. BOP and External Wealth

5. Exercise

Definitions in National Accounts

$$GNDI = \underbrace{C + I + G}_{GNE} + \underbrace{NX + NFIA + NUT}_{CA}$$

- Gross National Expenditure(GNE): $GNE = C + I + G$

- Net Export(or Trade Balance) and Gross Domestic Product:

$$GDP = GNE + NX$$

- Net Factor Income from Abroad and Gross National Income:

$$GNI = GDP + NFIA$$

- Net Unilateral Transfer and Gross National Disposable Income:

$$GNDI = GNI + NUT$$

U.S. Economic Aggregates in 2012

TABLE 5-1

U.S. Economic Aggregates in 2012 The table shows the computation of GDP, GNI, and GNDI in 2012 in billions of dollars using the components of gross national expenditure, the trade balance, international income payments, and unilateral transfers.

Line	Category	Symbol	$ billions
1	Consumption (personal consumption expenditures)	C	11,120
2	+ Investment (gross private domestic investment)	I	2,062
3	+ Government consumption (government expenditures)	G	3,063
4	= Gross national expenditure	GNE	16,245
5	+ Trade balance	TB	−560
6	= Gross domestic product	GDP	15,685
7	+ Net factor income from abroad	NFIA	243
8	= Gross national income	GNI	15,928
9	+ Net unilateral transfers	NUT	−157
10	= Gross national disposable income	GNDI	15,771

Note: Details may not add to totals because of rounding.

Source: U.S. Bureau of Economic Analysis, NIPA Tables 1.1.5 and 4.1, using the NIPA definition of the United States. Data revised as of March 28, 2013.

# GNE of U.S. Economy (1990 ∼ 2012)

FIGURE 5-5
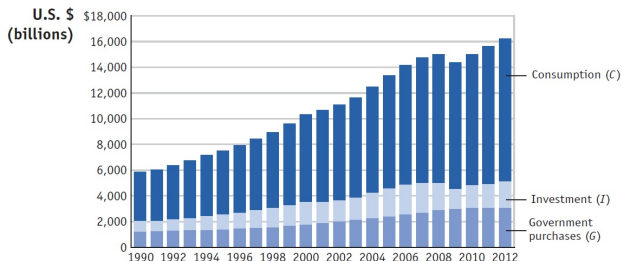
U.S. Gross National Expenditure and Its Components, 1990–2012 The figure shows consumption (C), investment (I), and government purchases (G), in billions of dollars.

Source: U.S. Bureau of Economic Analysis, NIPA Table 1.1.5, using the NIPA definition of the United States, which excludes U.S. territories. Data revised as of March 28, 2013.

U.S. Current Accounts and Its Components: 1990~2012

FIGURE 5-6
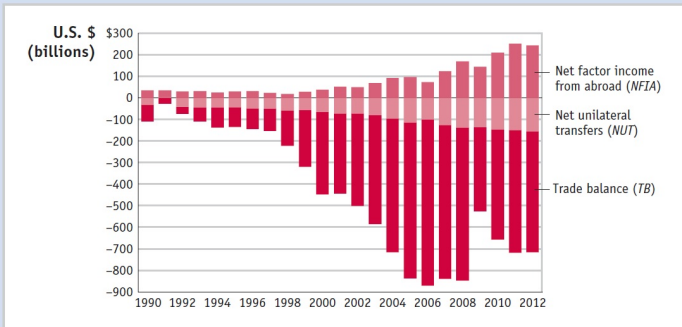
U.S. Current Accounts and Its Components, 1990–2012 The figure shows the trade balance (*TB*), net factor income from abroad (*NFIA*), and net unilateral transfers (*NUT*), in billions of dollars.

Source: U.S. Bureau of Economic Analysis, NIPA Table 4.1, using the NIPA definition of the United States, which includes U.S. territories. Data revised as of March 28, 2013.

IMF: The Balance of Payments (BOP)

- The Balance of Payments (BOP) is a statistical statement that summarizes transactions between residents and nonresidents during a period.
- It consists of:
  - Current Account(CA), including the goods and services account, the primary income account, and the secondary income account.
  - Capital and Financial Account(KFA). The Reserve Account(RA) is a sub-account of the Financial Account according to BPM6, IMF.
 - Net errors and omissions(ERR).
- Identity of BOP:

$$CA + KFA + RA + ERR = 0$$

The Double-Entry Principle in BOP

IMF: Under the double-entry accouting system that underlies the balance of payments, each transaction is recorded as consisting of two entries, the credit and the debit. The sum of the credit entries and the sum of the debit entries is the same.

Item	Debit	Credit	Balance=Credit−Debit
CA	Fund Flowout	Fund Flowin	Net Flowin of Fund$(+)$
KFA	Capital Flowout	Capital Flowin	Net Flowin of Capital$(+)$
RA	Increase of Assets	Decrease of Assets	Net Increase of Assets$(-)$
ERR	≈ 0	≈ 0	≈ 0
Total	Total Credit	Total Debit	0

Something you'd know behind the i...'s
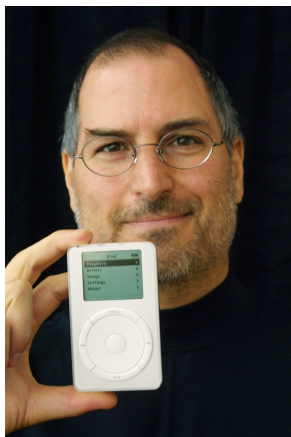
Foxconn suicides in Wikiwand:

- Within 2010, there were 18 attempted suicides by Foxconn employees resulting in 14 deaths in the same year.

- Foxconn–one of the world's largest contract electronics manufacturers–were investigated by several of its customers, including Apple and Hewlett-Packard (HP).

Is the trade with Apple FAIR?

In the study of Kraemer et al.(2011), it is found that:

- Like the iPod, the iPad and the iPhone are big money makers for Apple. Among countries, China's economy continues to play a surprisingly small role in comparison to the U.S., Korea, Japan and Taiwan.

- While each unit sold in the U.S. adds from \$229 to \$275 to the U.S.-China trade deficit.
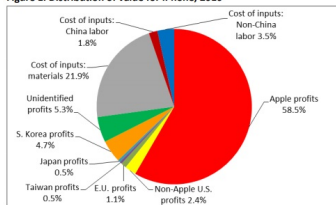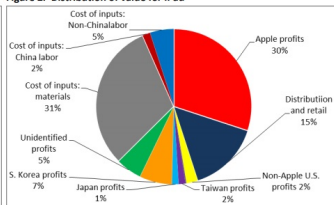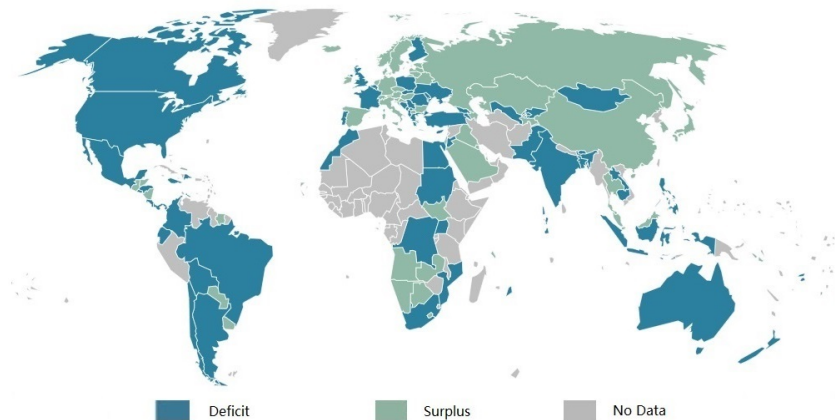

Figure 1. Distribution of value for iPhone, 2010
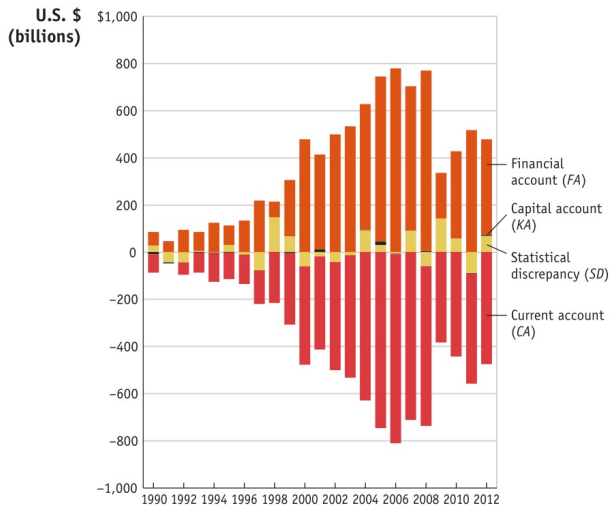

Figure 2. Distribution of value for iPad

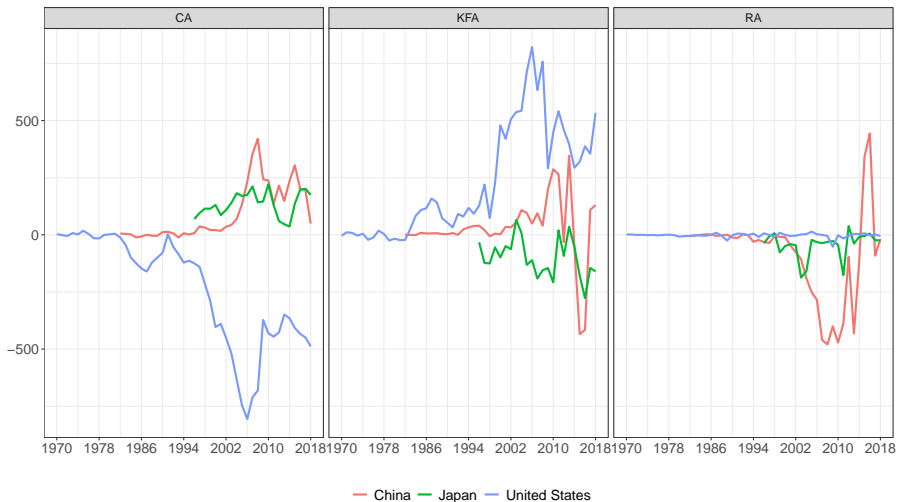# Worldwide Balance of Current Account in 2018

Source: BOP/IIP Statistics, IMF.

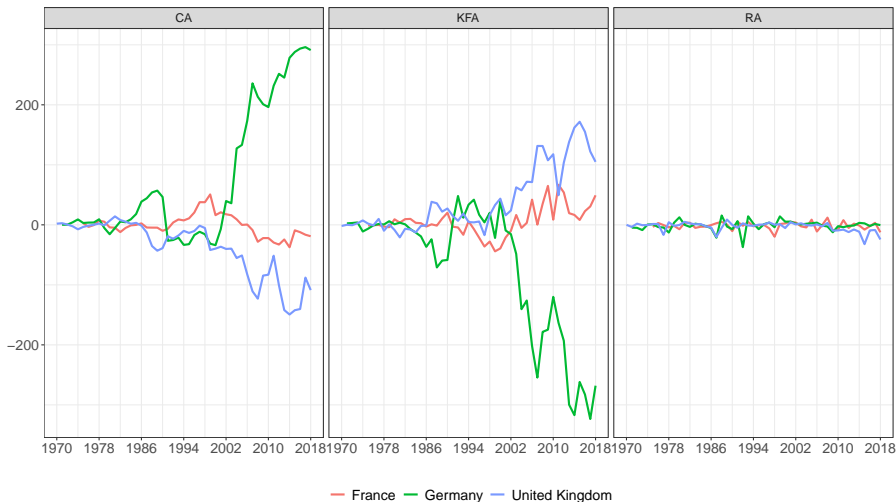# Balance of Payments of United States: 1990∼2012

BOP of China, Japan, and United States

Note: Data download from IMF BOP/IIP, in billions of USD.

BOP of France, Germany, and United Kingdom

Note: Data download from IMF BOP/IIP, in billions of USD.

Current Account Identity

$$\underbrace{Y}_{GNDI} = \underbrace{C + I + G}_{GNE} + \underbrace{NX + NFIA + NUT}_{CA}$$

$$I + CA = Y - C - G = \underbrace{Y - T - C}_{S_p} + \underbrace{T - G}_{S_g}$$

$$CA = S - I$$

- A current account deficit measures how much a country spends in excess of its income or – equivalently – how it saves too little relative to its investment needs.
- We can now understand the widespread use of the current account deficit in the media as a measure of how a country is "spending more than it earns" or "saving too little" or "living beyond its means."

S, I, and CA of Industrial Countries

(a) United States

(b) Japan

(c) Euro Area

(d) Other Industrial

Current account (right scale) — Saving — Investment
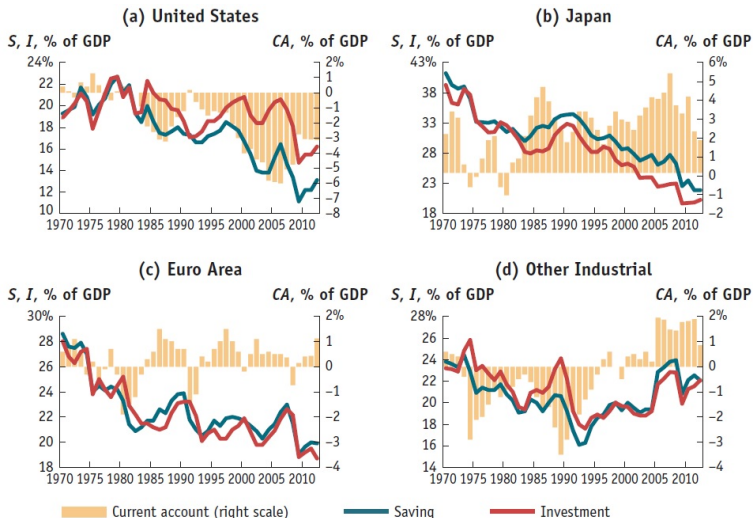
Private and Public Saving of Industrial Countries

FIGURE 5-8

(a) Private Saving, S_p
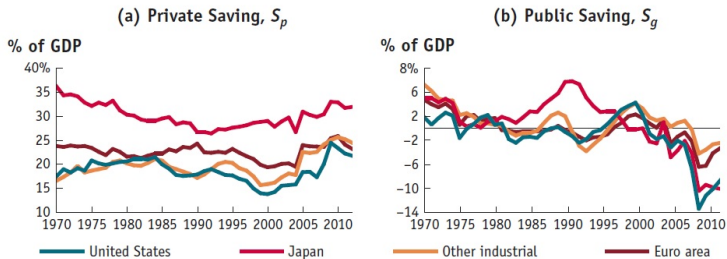
(b) Public Saving, S_g

Private and Public Saving Trends: Industrial Countries The chart on the left shows private saving and the chart on the right public saving, both as a percent of GDP. Private saving has been declining in the industrial countries, especially in Japan (since the 1970s) and in the United States (since the 1980s). Private saving has been more stable in the Euro area and other countries. Public saving is clearly more volatile than private saving. Japan has been mostly in surplus and massively so in the late 1980s and early 1990s. The United States briefly ran a government surplus in the late 1990s but then returned to a deficit position. All advanced countries have moved sharply toward lower public saving (in fact, larger deficits) and higher private saving since the 2008 crisis and recession.

Source: IMF, World Economic Outlook, September 2005, and updates.

Global Imbalances
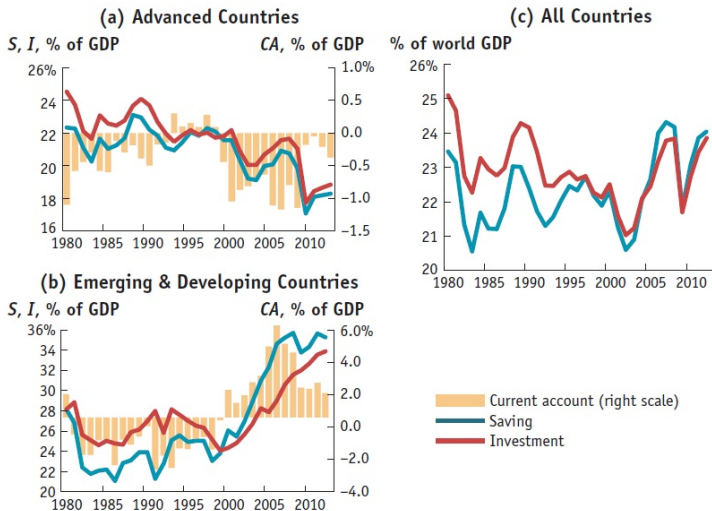
The Level of External Wealth

External wealth equals the value of total external assets minus the value of total external liabilities, which is also called net international investment position or net foreign assets.

$$W = A - L$$

- A: what the rest of the world owes to the home country;

- L: what the home country owes to the ROW.

- W: a stock measure, not a flow measure. The country is a net creditor with $W > 0$, and a net debtor with $W < 0$.

Worldwide Balance of Current Account and IIP in 2018
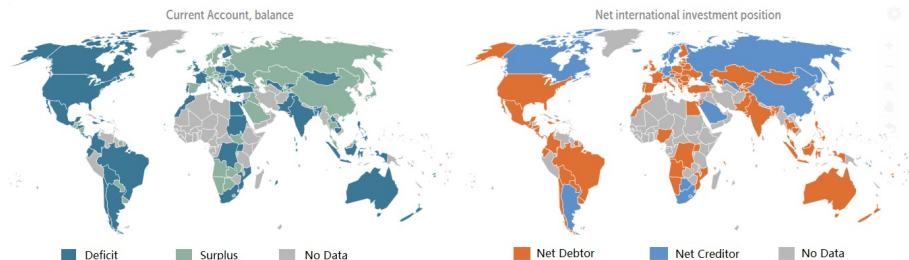
Source: IMF BOP/IIP Statistics. The International Investment Position(IIP) is a statistical statement that shows at a point in time the value of financial assets of residents of an economy that are claims on nonresidents or are gold bullion held as reserve assets; and the liabilities of residents of an economy to nonresidents.

Current Account and Foreign Exchange Reserves: China
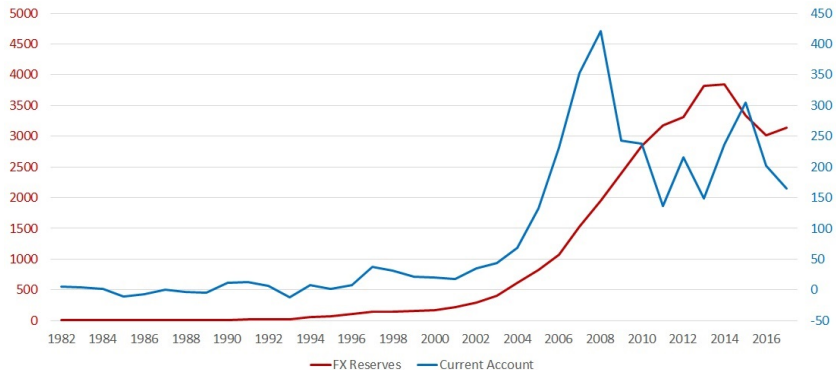
Note: Data download from SAFE, in Billions of USD.

Current Account and External Wealth: USA
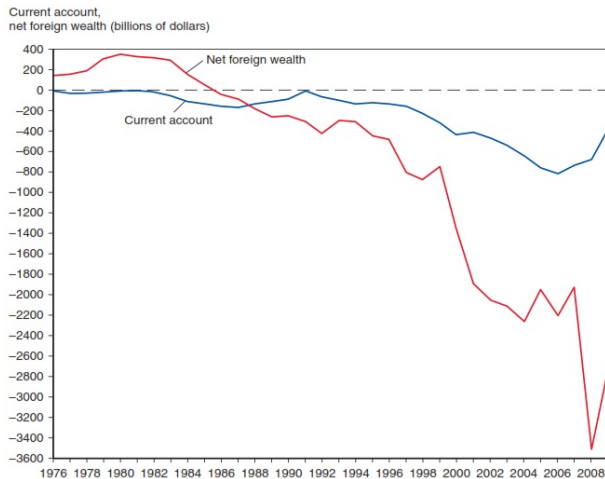
Source: Krugman et al.(2011).

Changes in External Wealth

$$\Delta W = VAL - KFA = VAL + CA$$

There are two reasons a country's level of external wealth changes over time:

- Valuation effects(VAL): the capital gains(or losses) due to price effects or exchange rate.

- Financial flows($-KFA$): the result of asset trades. When $RA = 0$, the BoP identity means $CA = -KFA$. The surplus of current account will increase a country's external wealth.

U.S. External Wealth in 2008∼2009

| Category | Position, end 2008 ($ billions) | Financial Flows (a) | Changes in Position during 2009 ($ billions) | | | Total (a + b + c + d) | Position, end 2009 ($ billions) |
| | | | Of Which Valuation Effects | | | | |
			Price Changes (b)	Exchange Rate Changes (c)	Other Changes (d)		
1. External Assets	**$13,117**	**140**	**1,066**	**358**	**185**	**1,750**	**14,867**
= U.S.-owned assets abroad, of which:							
U.S. official reserve assets	294	52	57	1	0	110	404
U.S. government assets, other	624	−541	—	0	0	−541	83
U.S. private assets	12,200	630	1,009	357	185	2,181	14,380
2. External Liabilities	**16,771**	**306**	**534**	**81**	**32**	**962**	**17,733**
= Foreign-owned assets in the United States, of which:							
Foreign official assets in the United States	3,940	450	−14	0	−3	434	4,374
Other foreign assets	12,831	−144	557	81	35	528	13,359

U.S. External Wealth in 2008∼2009

| | | Changes in Position during 2009 ($ billions) | | | | | |
| | | | Of Which Valuation Effects | | | | |
Category	Position, end 2008 ($ billions)	Financial Flows (a)	Price Changes (b)	Exchange Rate Changes (c)	Other Changes (d)	Total (a + b + c + d)	Position, end 2009 ($ billions)
3. External Wealth							
= (i) minus (ii) = Net international investment position of the United States	−3,654	−165	523	277	153	788	−2,866
Symbol	W (end 2008)	−FA		Capital gains			W (end 2009)

Note: Financial derivatives are excluded.

About 95% of US external liabilities are accounted in US dollars, and approximately 65% of US external assets are accounted in foreign currencies. Therefore, the US stock market crash caused by the 2008 financial crisis and the depreciation of the US dollar brought huge capital gains to the United States.

U.S. External Wealth in 2011~2012

Category	Position, end 2011 ($ billions)	Financial Flows (a)	Price Changes (b)	Exchange Rate Changes (c)	Other Changes (d)	Total (a + b + c + d)	Position, end 2012 ($ billions)
			Changes in Position during 2012 ($ billions)				
			Of Which Valuation Effects				
1. External Assets	16,920	97	991	6	4	1,098	18,018
= U.S.-owned assets abroad, of which:							
U.S. official reserve assets	537	4	33	−2	0	35	572
U.S. government assets, other	179	−85	—	0	0	−85	94
U.S. private assets	16,204	178	958	8	4	1,148	17,352
2. External Liabilities	20,736	544	501	1	157	1,203	21,940
= Foreign-owned assets in the United States, of which:							
Foreign official assets in the United States	5,256	394	42	0	0	436	5,692
Other foreign assets	15,480	150	459	1	157	767	16,247

U.S. External Wealth in 2011∼2012

Category	Position, end 2011 ($ billions)	Financial Flows (a)	Price Changes (b)	Exchange Rate Changes (c)	Other Changes (d)	Total (a + b + c + d)	Position, end 2012 ($ billions)
3. External Wealth							
= Line 1 minus Line 2	−3,817	−446	490	5	−153	−105	−3,922
= *Net international investment position of the United States*							
Symbol	*W* (end 2011)	*−FA*		Capital gains		*ΔW*	*W* (end 2012)

The exchange rate is quite stable in 2011∼2012, so the capital gains due to the exchange rate effect are tiny, but the recovery of global equity market has significant efftcts. The overseas assets of the United States increased 6%, much larger than the 2.5% increase of the overseas liabilities. Therefore, the United States had $490 billion in capital gains due to the price effect.

Exercise: BOP and FX

Please answer the following questions according to the video "The relationship between the Current Account Balance and Exchange Rates":

1. Why the status of a country's balance of payments could affect the exchange rate?

2. Will the exchange rate influence a country's balance of payments? Give brief explanations.

3. It is stated in the video that the People's Bank of China manipulates the exchange rate by purchasing US Treasury bonds, what's your comment?

4. In order to rebalance the global economy, both China and United States should adjust their balance of payments. What is your suggestion?