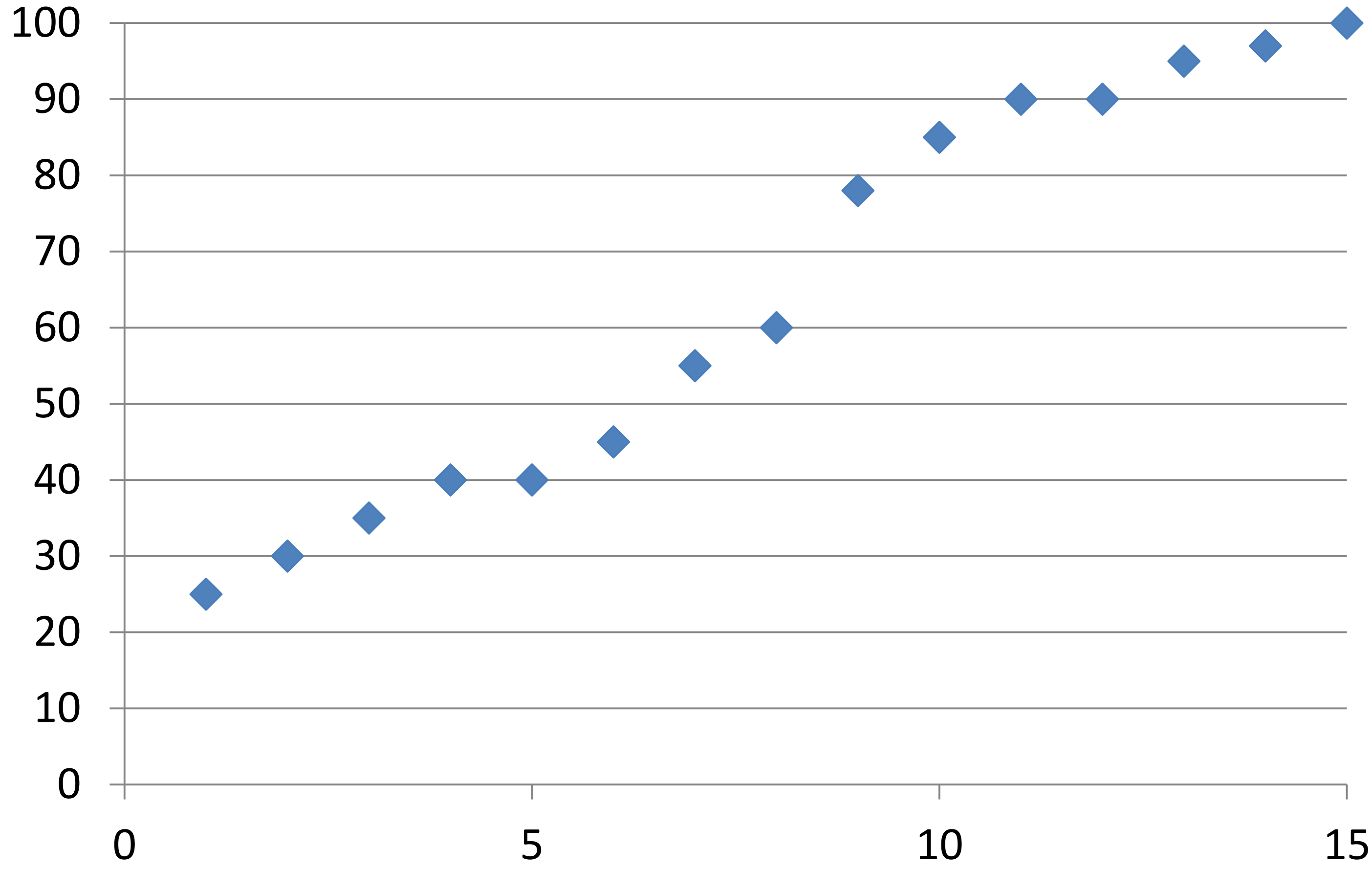
MACROECONOMICS I

Class 8. The Open Economy

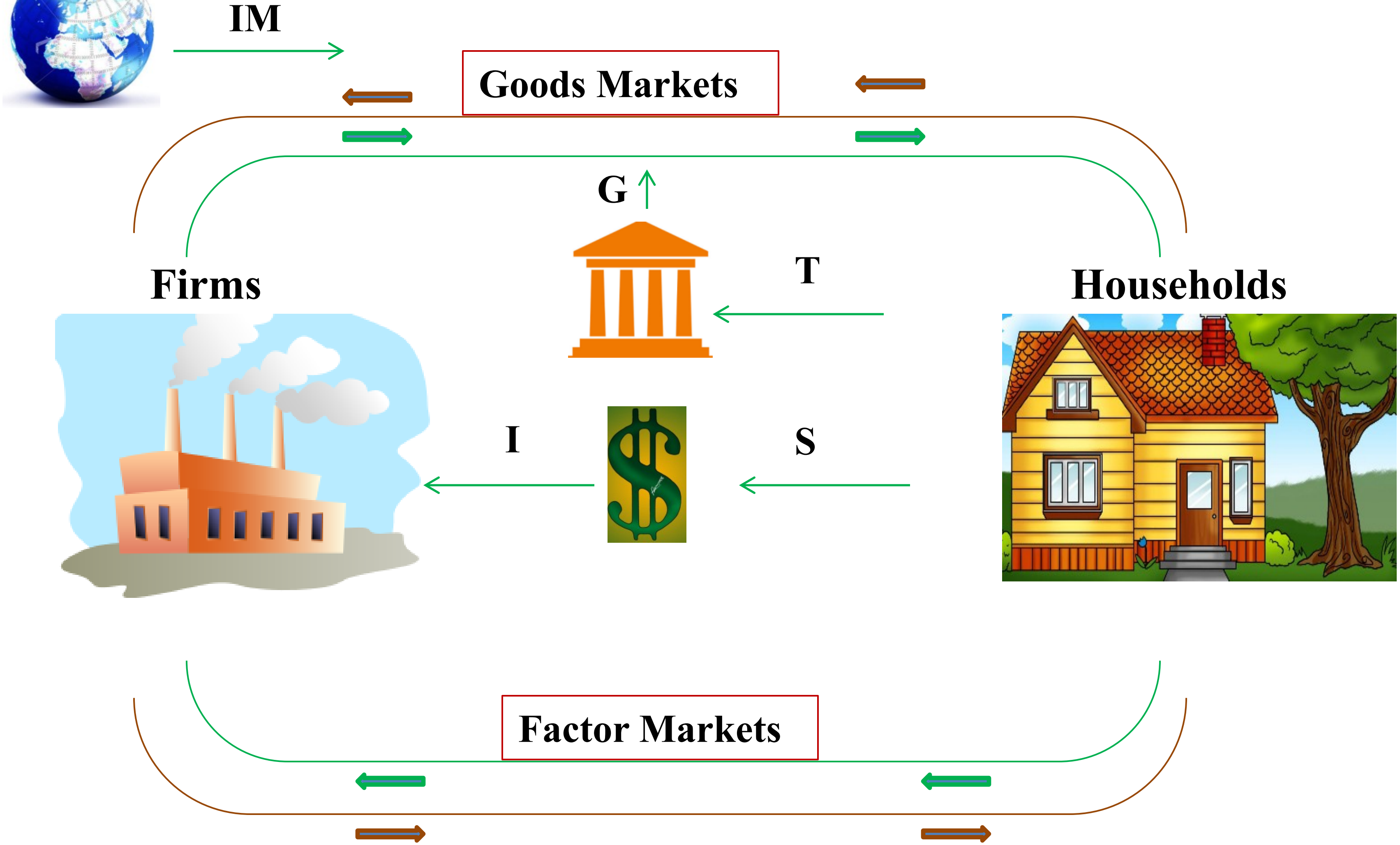
April 18th, 2014

Midterm Exam: Grades



Total Income =Total Spending

Open Economy



$Y = \quad + \quad + \quad + \quad - \quad$

The Balance of Payments (Czech Republic)

millions USD	IV. Q 2013
A. Current Account	-504
Trade balance	1902
Exports	35600
Imports	-33698
Balance of services	741
Credit	6148
Debit	-5407
Income balance	-3949
Credit	1493
Debit	-5442
Current transfers	802
Credit	1816
Debit	-1014
B. Capital Account	1072
Credit	1099
Debit	-27
Total, Groups A plus B	568

millions USD	IV. Q 2013
C. Financial Account	9903
Direct investment	126
Abroad	-728
In the Czech Republic	854
Portfolio investment	1667
Assets	-20
Liabilities	1687
Financial derivatives	109
Assets	357
Liabilities	-248
Other investment	7999
Assets	174
Liabilities	7825
Total, Groups A through C	10471
D. Net errors and omissions, valuation changes	-958
Total, Groups A through D	9513
E. Change in reserves (-increase)	-9513

The Balance of Payments (BoP)

- International accounting record (accounting tool)

- **All** international transactions of a country over a period of time

(year/ quarter/ month)

- A list of all ways national currency is coming in or going our of a country
- Compiled by a central bank or finance ministry

  In the US: The US Bureau of Economic Analysis (BEA)

  http://www.bea.doc.gov

  In Czech Republic: Czech National Bank www.cnb.cz

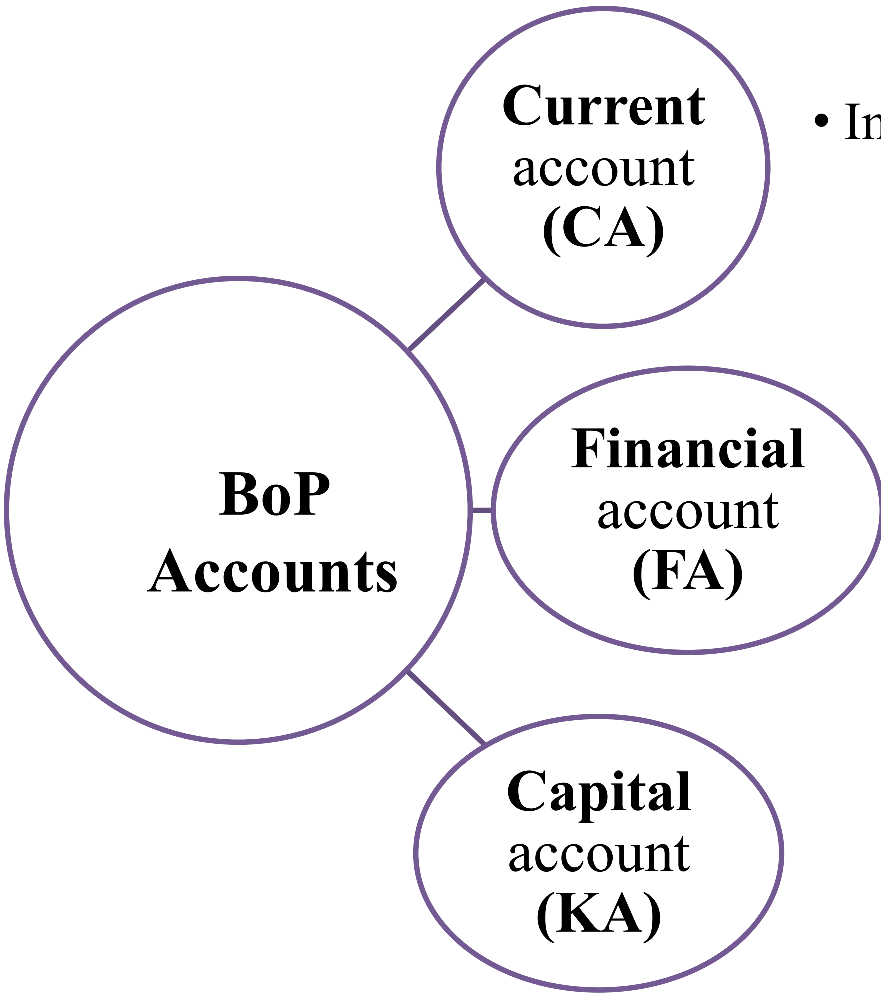
- **N!B!** Any transaction enters the BoP **twice:**

  Credit (+): receipt from foreigners;

  Debit (-): payment to foreigners

The Balance of Payments (Cont.)

- **Three** components



- Imports/Exports + Income receipts/payments
- Sales/purchases of financial assets
- Capital transfers

N!B! The **fundamental BoP identity**: $BoP = \quad + \quad + \quad =$

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The Balance of Payments (USA)

billion USD	IV. Q 2013
A. Current Account	-80
Trade balance	-172
Exports	405
Imports	-577
Balance of services	58
Credit	173
Debit	-115
Income balance	65
Credit	206
Debit	-141
Current transfers	-31
Credit	1
Debit	-32
B. Capital Account	-146
Credit	n.a.
Debit	n.a.
Total, Groups A plus B	-226

billion USD	IV. Q 2013
C. Financial Account	174
Direct investment	-18
Abroad	-86
To the U.S.	68
Portfolio investment	-41
Assets	-133
Liabilities	92
Financial derivatives	-3
Assets	
Liabilities	
	236
Other investment	
Assets	
Liabilities	
Total, Groups A through C	
D. Net errors and omissions, valuation changes	-9
Total, Groups A through D	
E. Change in reserves (-increase)	95

A. Current Account	**9.02**
Goods: exports f.o.b.	80.03
Goods: imports f.o.b.	-74.13
Balance on Goods	*5.90*
Services: credit	11.79
Services: debit	-10.99
Balance on Services	*0.81*
Income: credit	6.02
Income: debit	-2.55
Balance on Income	*3.47*
Current transfers: credit	1.33
Current transfers: debit	-2.49
Balance on Current Transfers	*-1.16*
B. Capital Account	**-0.02**
Capital account: credit	0.00
Capital account: debit	-0.02
Total, Groups A plus B	*8.99*
C. Financial Account	**-5.01**
D. Net Errors And Omissions	**0.93**
Total, Groups A through D	*4.90*
E. Reserve Assets	**-4.90**

China’s Balance of Payments, 2011

The Trade Balance

- A net flow of goods and services
- The main component of the **Current Account**

Net Flow of Goods = Exports (EX) – Imports (IM)

- Trade balance **surplus:** Exports > Imports
- Trade balance **deficit:** Exports < Imports
- Balanced trade: Exports = Imports => NX=0

What affects the trade balance of a country?

✓Consumers' preferences;

✓Prices and exchange rate;

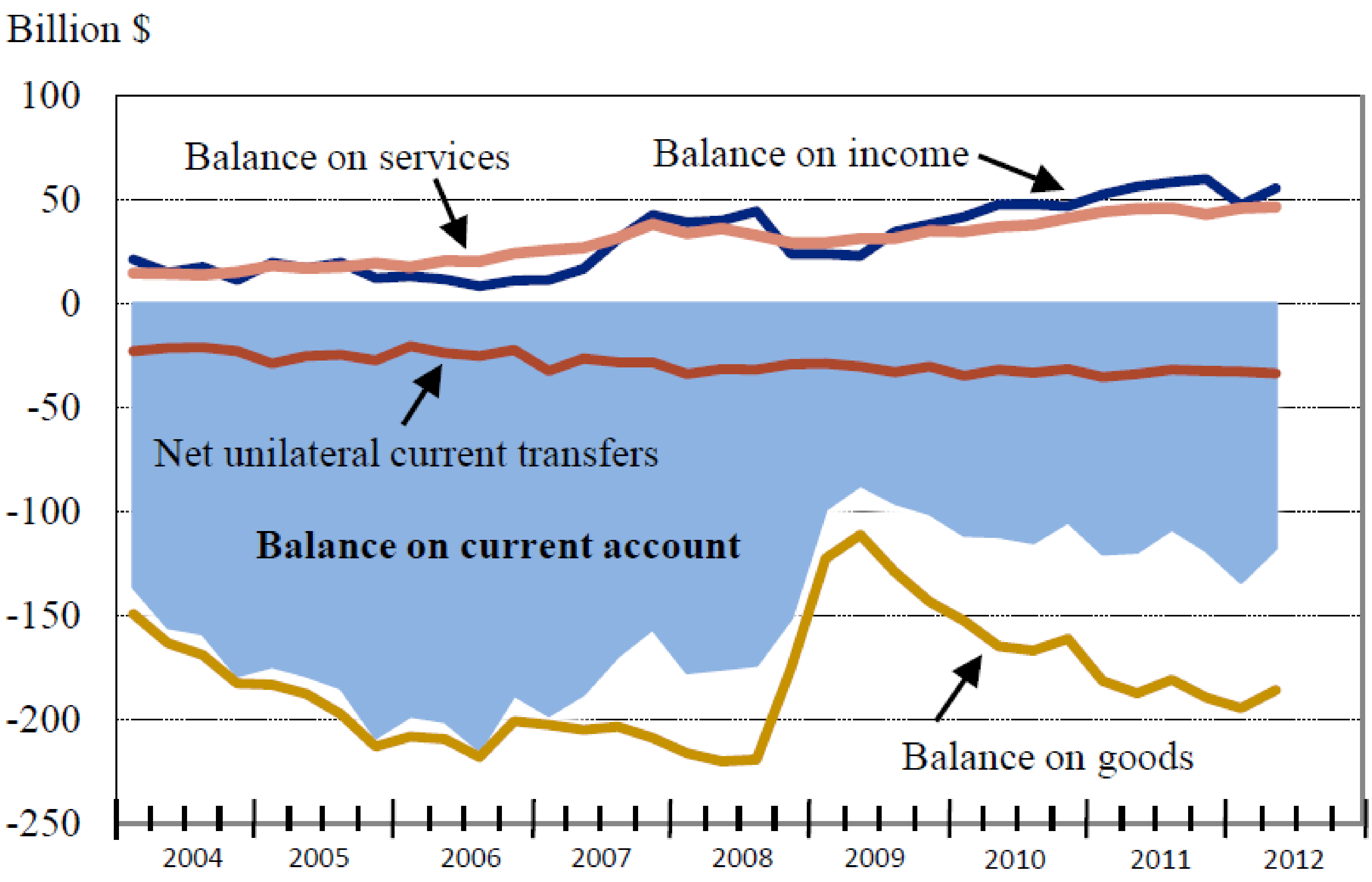
✓Government regulation;

N!B! Trade balance is the largest component of the CA

The US Current Account Balance

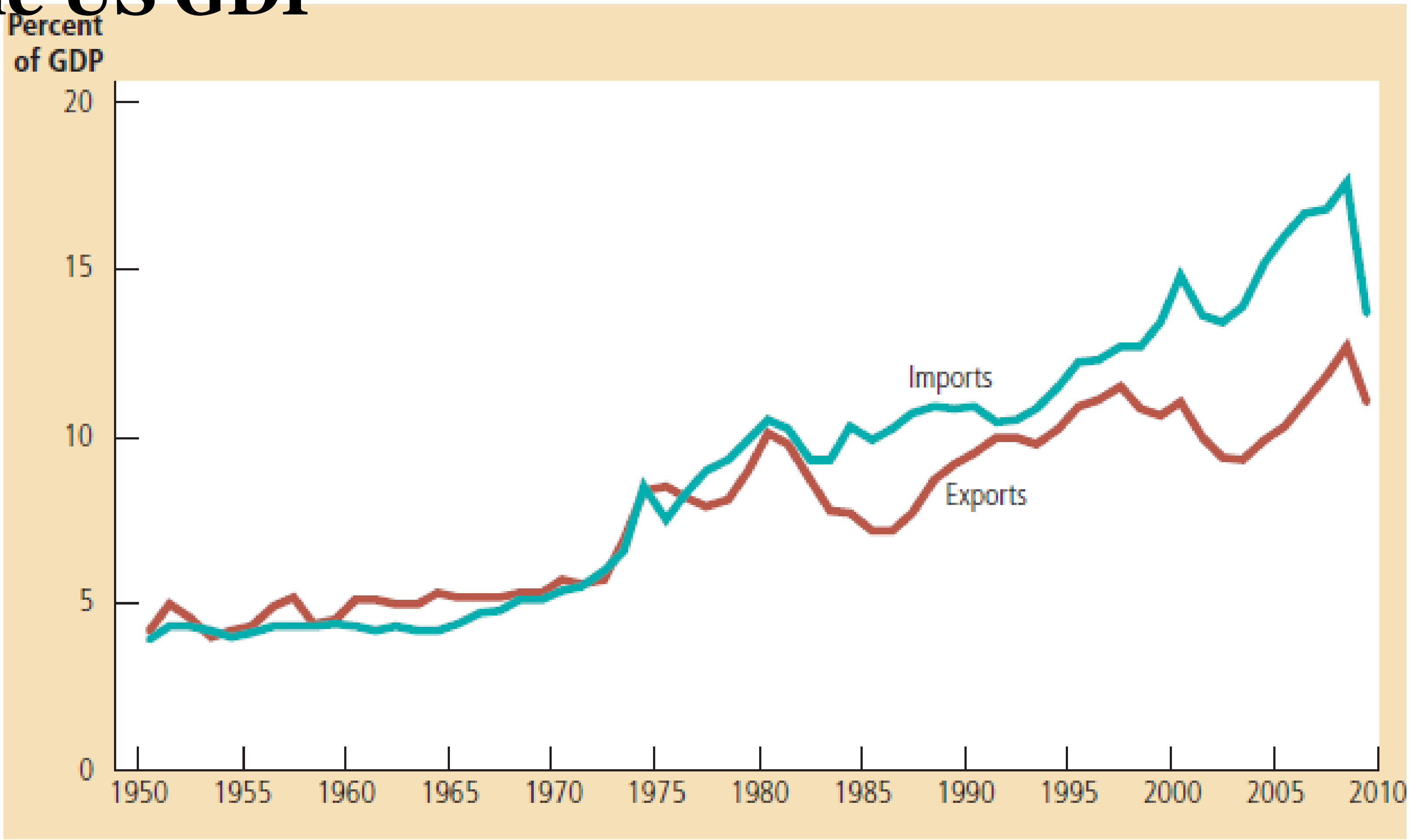
Source: www.bea.gov

The US Current Account Balance & Its Components



Source: www.bea.gov

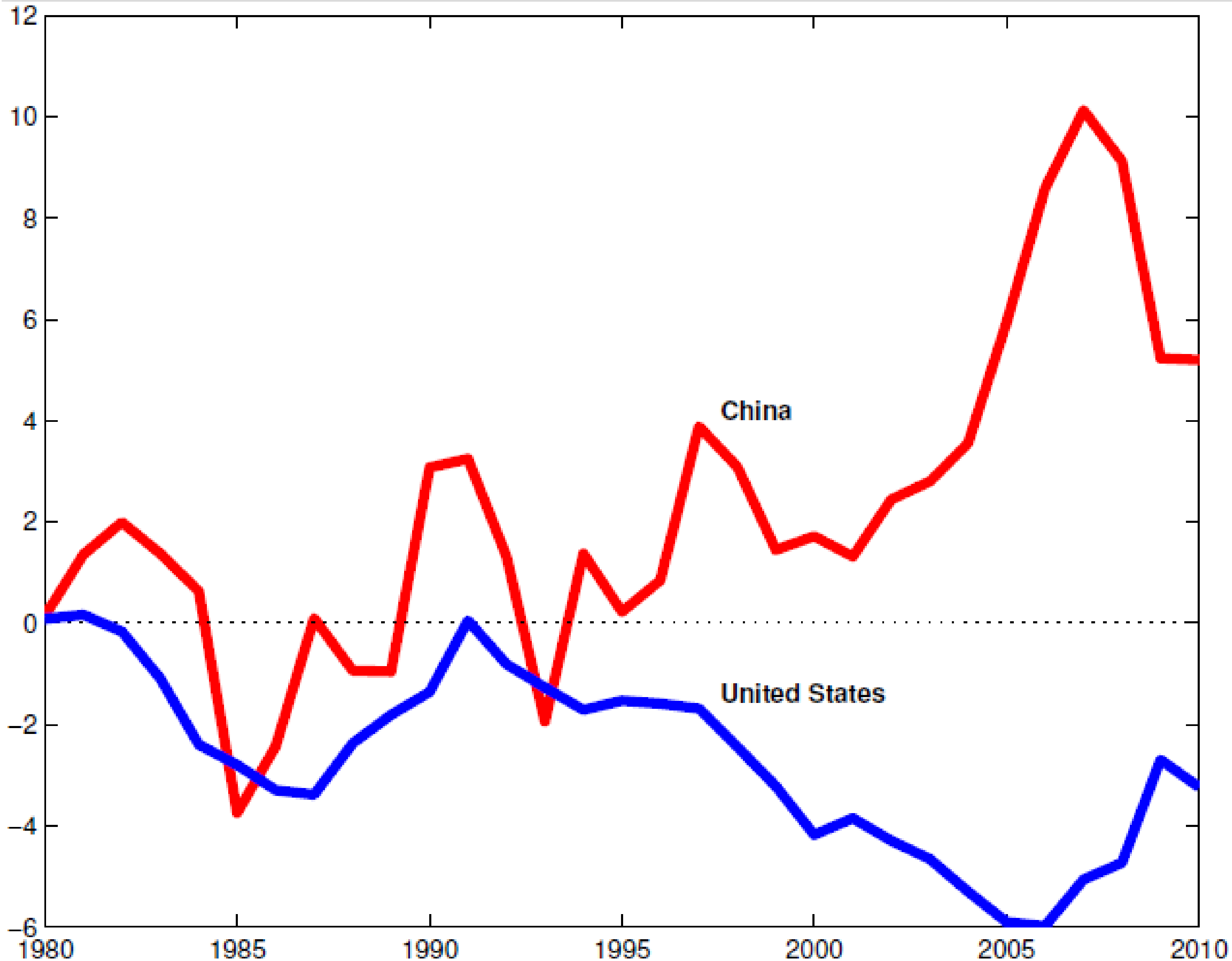
The US Imports and Exports as a share of the US GDP



Source: Mankiw, 2011

What can we say about the trade balance of the US?

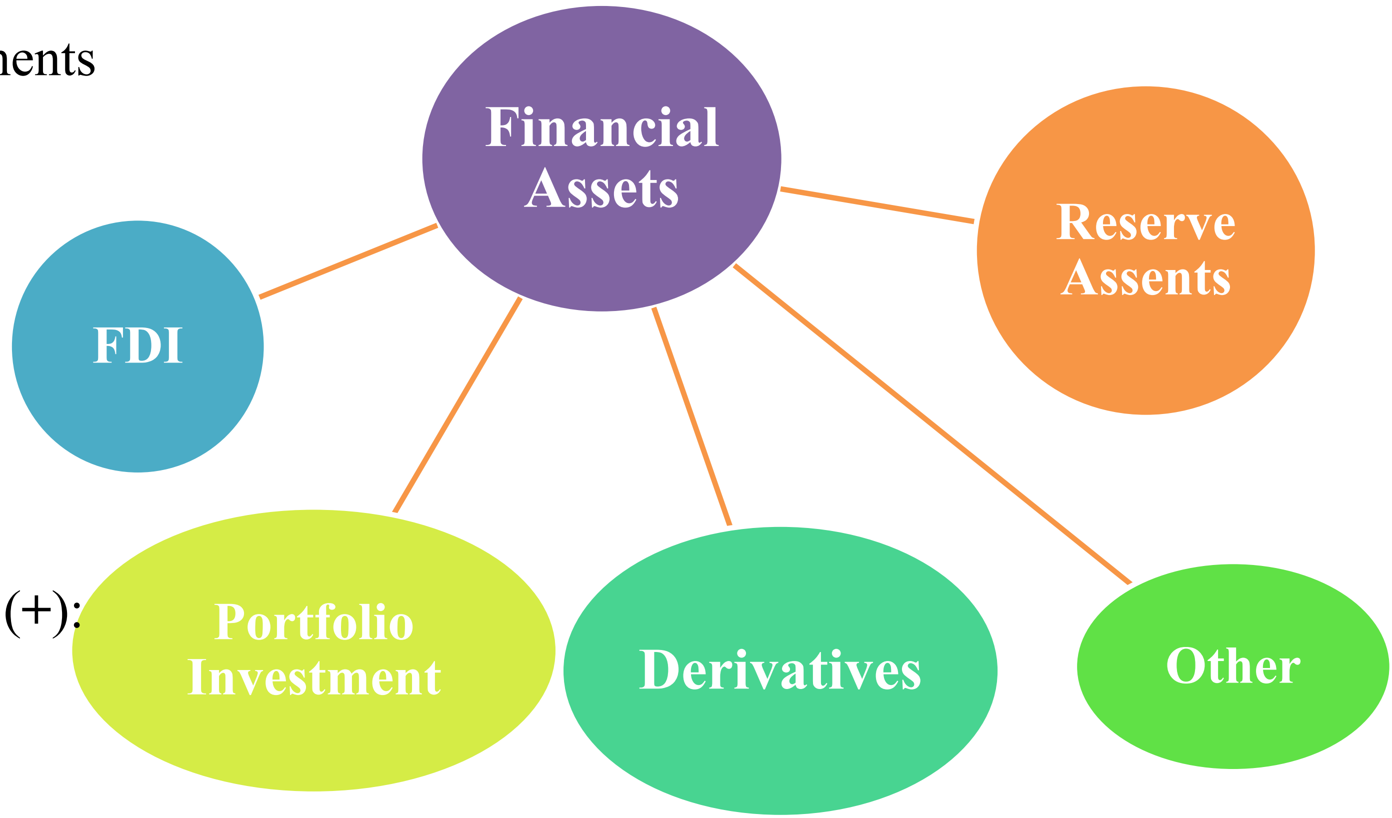
• Current Account Balance as a % of GDP in China and the United States



Source: S. Schmitt-Grohe & Uribe, 2012

Financial Account

- Acquisition of assets in one country by residents of another
- Changes in country's **net foreign assets position**
- By **types** of investments



- **Debit/ Assets** (-): Purchases of foreign securities
- **Credit/ Liabilities** (+): Sales of assets to foreigners

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Double-Entry Bookkeeping

- Each transaction enters the BoP **twice**

- once with **positive sign (Credit)**
- once with **negative sign (Debit)**
- Entries into the CA are balances by entries into FA or CA and vs.

TE A Czech resident buys a SONY MP3 player from Japan for 2000 CZK

Czech CA: The Czech resident imports a player worth 2000 CZK

❖ **Debit (-)** : Import of goods

Czech FA: A Japanese resident (SONY) is getting a Czech asset (currency) worth 2000 CZK

❖ **Liability (+)**: Other investment (sold currency as an asset)

Back to Trade Deficit

- *What does it mean that the US is running a trade deficit?*

US dollars leave the country and they are not used to:

  - Purchase the US goods/ services
  - Payments to the US investments
  - Unilateral transfers

N!B! The US dollars are the legal tender only in the United States

- The US dollars are **traded in the foreign exchange** market for a national currency
- The US dollars are **invested** into the US assets (stocks, bonds, securities, property)
- The US dollars are **kept in a bank** (purchase of the US currency)

Net Capital Outflow (NCO)

The **difference** between:

- The purchase of foreign assets by domestic residents

- The purchase of domestic assets by foreigners

If **NCO > 0**: capital is flowing out of the country

If **NCO < 0**: capital is flowing into the country

- **The big fact of accounting**

Net Exports = Net Capital Outflow

The Net International Investment Position

Trade surplus: Foreign currency is used to buy foreign assets

Trade deficit: Imports are financed by selling the domestic assets

- The US dollars **invested** into the US assets ≡ The US is borrowing dollars

Trade deficit ≡ Borrowing (investment) from abroad

Trade surplus ≡ Lending (investment) to abroad

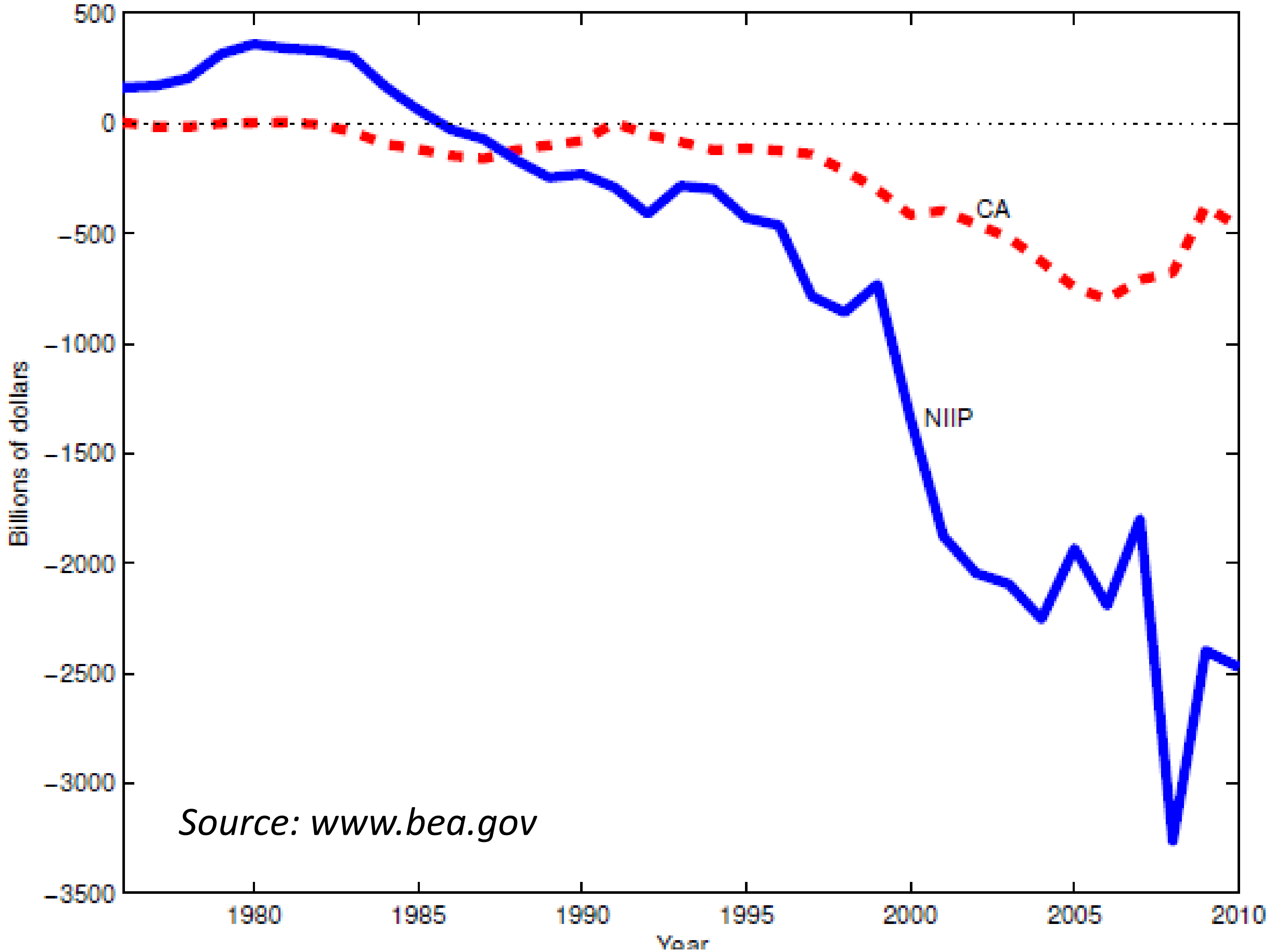
- The Net International Investment Position **(NIIP): CA=ΔNIIP**

If NIIP > 0 => *creditor nations*

If NIIP < 0 => *debtor nations*

- A country's overall fiscal responsibility

The US CA and NIIP



National Savings and Investment Identity

$$\underbrace{\textbf{Domestic Savings} + \textbf{Inflows of Foreign Capital}}_{\textbf{Supply}\text{ of financial capital}} = \underbrace{\textbf{Domestic Investment} + \textbf{Government Borrowing}}_{\textbf{Demand}\text{ of financial capital}}$$

S – I = NX

- **Trade deficit**: an **extra source** of **money** flowing into the economy

  an **extra source** of **capital** which can be borrowed

- What are the possible causes of a current account deficit?

National Savings and Investment Identity(Cont.)

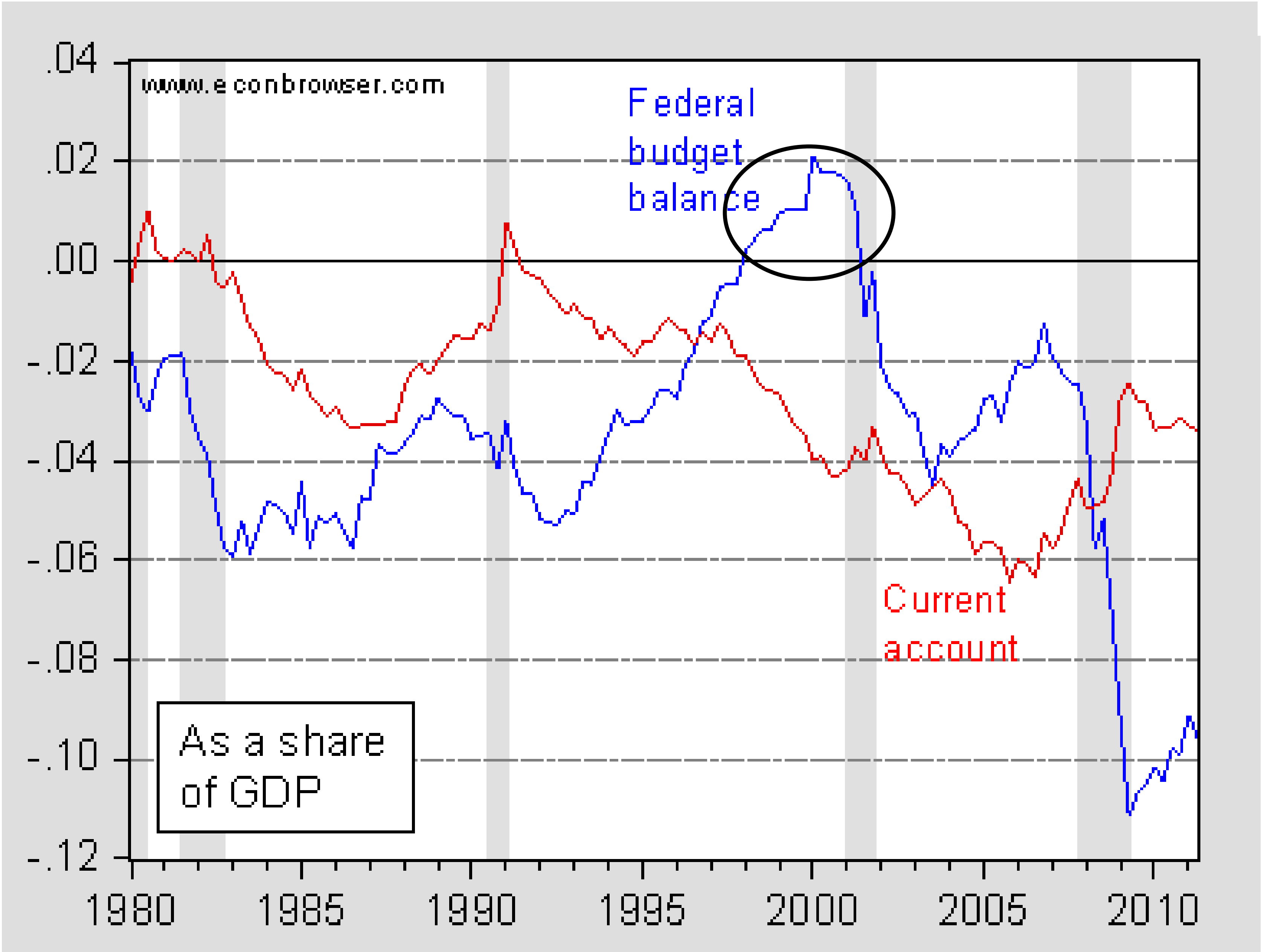
Domestic Savings		**Domestic Investment**
+	=	+
Inflows of Foreign Capital		**Government Borrowing**

Possible causes for Current Account deficit:

- Economy is running a large budget deficit (↑ in government borrowing)
- A surge of domestic investments (↑ inflow of foreign investments)
- A sharp drop in private savings rate (↑ inflow of foreign savings)

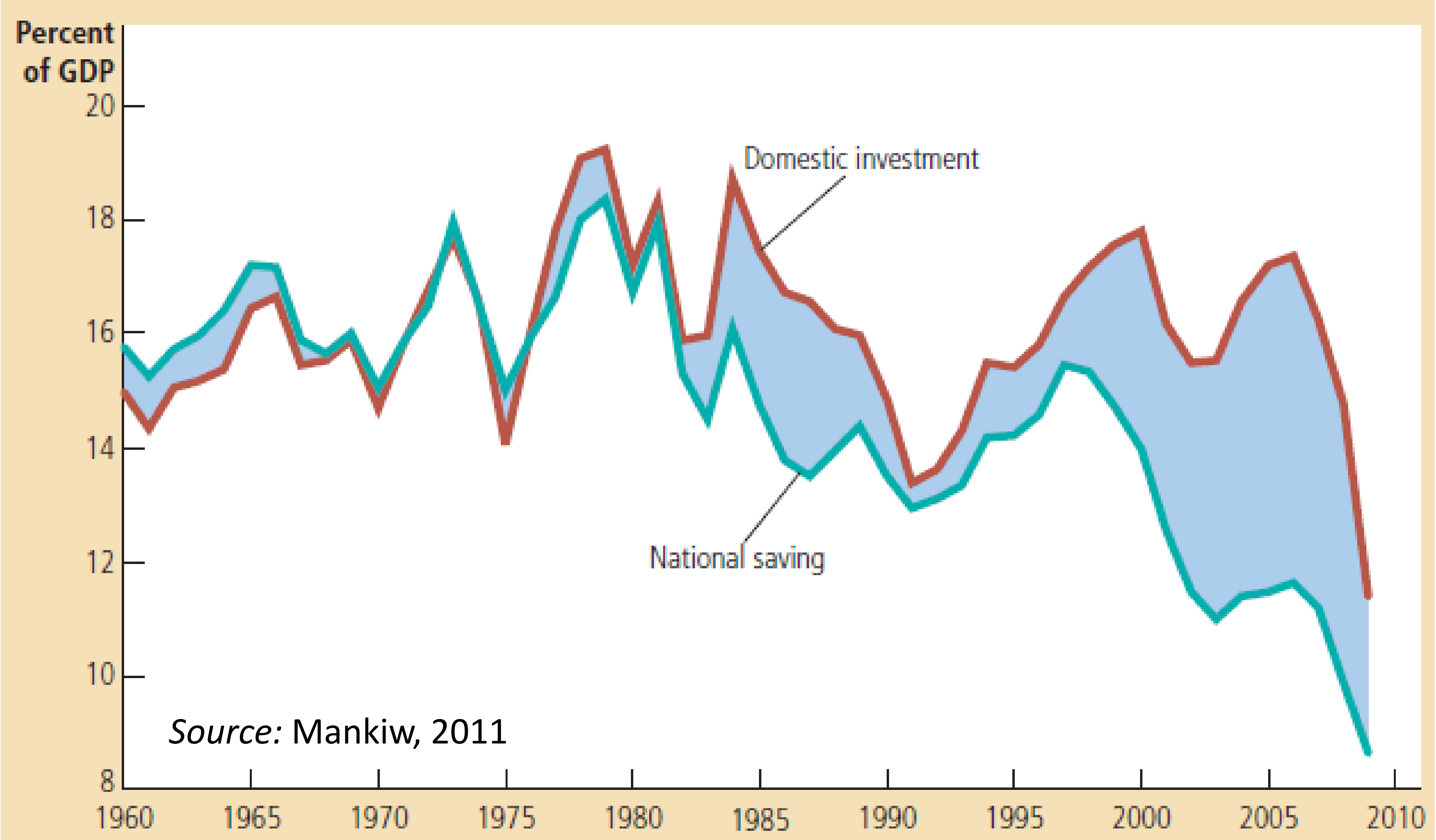
N!B! For the identity to hold, at least one should happen, or a combination of three

Conclusion: Macroeconomic factors are driving the trade deficits



.04
.02
.00
-.02
-.04
-.06
-.08
-.10
-.12
www.econbrowser.com
Federal budget balance
Current account
As a share of GDP
1980
1985
1990
1995
2000
2005
2010

The US Net Capital Outflow



=> Very low domestic savings in the US

Exchange Rate (ER)

- A **price** of one currency in terms of another
- Comparison of prices of goods/services produced in different countries

▪ Two **representation** of ER

Direct (American): a price of foreign currency in terms of national currency

CZK

$$E_{CZK/\$} =$$

- Exchange rate between CZK & US dollar: 1 USD = 18 CZK

Indirect (European): a price of national currency in terms of foreign currency

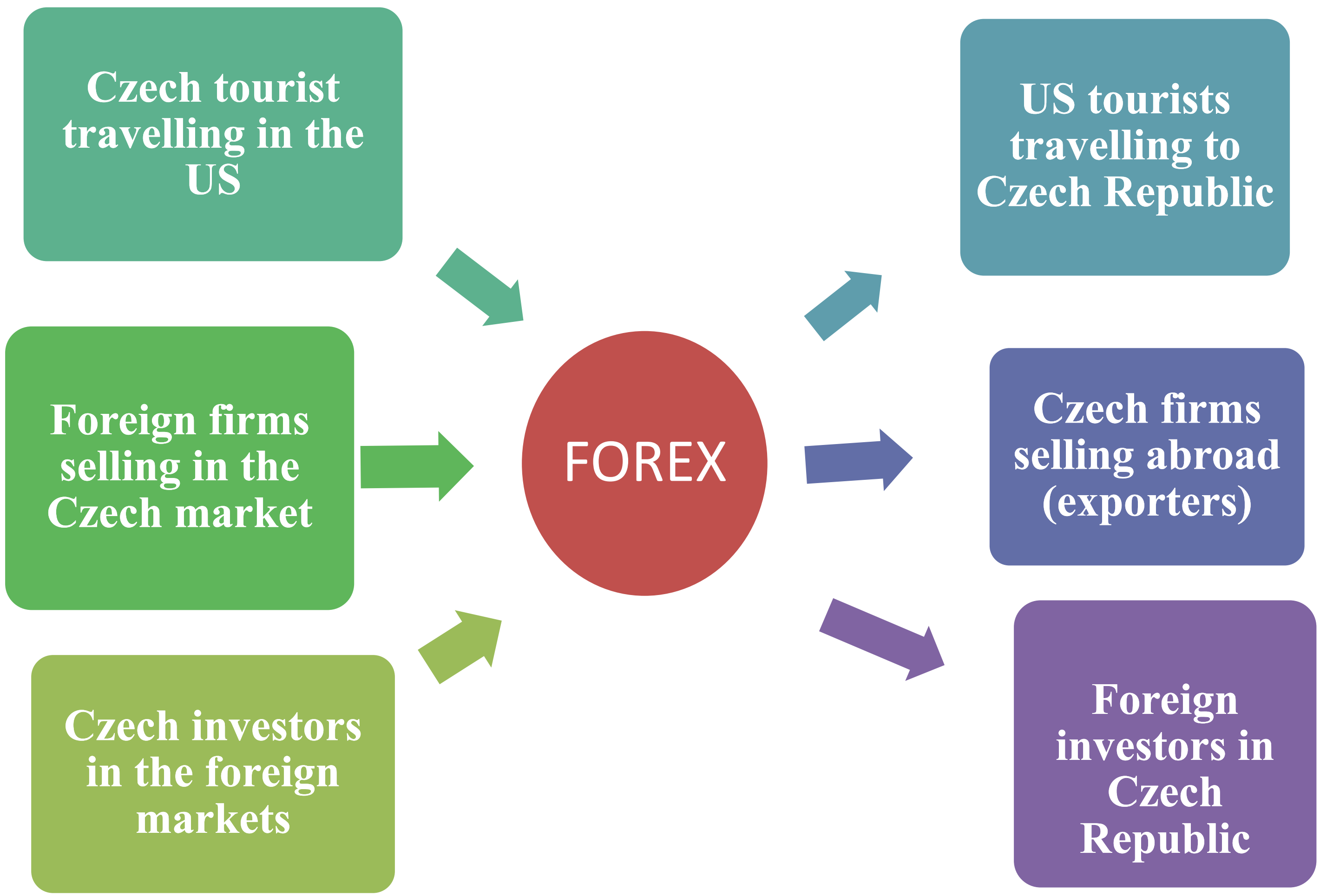
$

$$E_{CZK/\$} =$$

- Exchange rate between CZK and US dollar: 1 CZK = 0.05 USD

The Foreign Exchange Market (FOREX)

Supply of CZK **Demand for CZK**



The Foreign Exchange Market (Cont.)

- Financial centers: London, New York, Japan, Frankfurt, and Singapore
- The US dollar is a **vehicle currency** (80 % of foreign exchange)
- Other major currencies: Euro and Japanese yen
- Daily volume of FOREX is around **4 trillion USD**
- **"Cross-rates":** exchange rates between non-dollar currencies

▪ Major **participants**

➢**Commercial banks**: the exchange of deposits denominated in different currencies; interbank trading (90 %).

➢**Corporations:** making or receiving payments in different currencies

➢**Central banks**: foreign exchange interventions

➢**Nonbank** financial institutions: insurance companies, pension funds, etc.

Changes in Exchange Rates

TE The price of Levi's jeans for Czech consumers

The exchange rate: **1 USD = 18 CZK**

- The price of Levi's jeans in CZK

$$\$45 \times \qquad =$$

A NEW exchange rate: 1 USD = 15 CZK

$$\$45 \times \qquad =$$

$\Rightarrow$ A <u>depreciation of USD </u>against CZK (a fall in CZK price of the USD)

N! B! *All else equal*, a **depreciation** of a country's currency makes its **goods cheaper for foreigners**

Changes in Exchange Rates (Cont.)

The exchange rate: **1 USD = 18 CZK**

- The price of Levi's jeans in CZK

$$\$45 \times \qquad =$$

A **NEW** exchange rate: **1 USD = 20 CZK**

$$\$45 \times \qquad =$$

=> An <u>appreciation of the USD </u>against CZK (an increase in CZK price of the USD)

N!B! All else equal, an **appreciation** of a country's currency makes its **goods more expensive for foreigners**

Changes in Exchange Rates (Cont.)

TE The price of Czech beer for American consumers

The exchange rate: **1 USD = 18 CZK**

- The price of Czech beer in the US dollars

$$\frac{100 CZK/\$}{18 CZK} =$$

A NEW exchange rate: **1 USD = 15 CZK**

$$\frac{100 CZK/\$}{15 CZK} =$$

⇒ An <u>appreciation of the CZK</u> against the USD

The Czech beer becomes **more expensive** for the US consumers

Changes in Exchange Rates (Cont.)

TE The price of Czech beer for American consumers

The exchange rate: **1 USD = 18 CZK**

- The price of Czech beer in the US dollars

$$\frac{100\,CZK/\$}{18\,CZK} =$$

A NEW exchange rate: **1 USD = 20 CZK**

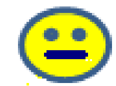
$$\frac{100\,CZK/\$}{20\,CZK} =$$

$\Rightarrow$ A <u>depreciation of the CZK </u>against the USD

- The Czech beer becomes **cheaper** for the US consumers

Winners and Losers

- How do the exchange rate movements affect participants of FOREX?

	Strong CZK (appreciation)	**Weak CZK** (depreciation)
A Czech tourist abroad		
An American tourist in Czech Rep.		
A foreign firm exporting to Czech Rep.		
A Czech exporting firm		
A foreign investor in Czech Rep.		
A Czech investor abroad		

Winners and Losers (Cont.)

N!B! The gain or loss from the exchange rate movements **depends** on whether you are a buyer or a seller!

▪ Macroeconomic consequences

• A strong currency *encourages* foreign investments

• A strong currency *causes* a trade deficit : cheaper imports and expensive exports

• A strong currency encourages the inflow of the foreign capital

Next class: The open economy (Cont.)

N!B! Reading Assignment: Textbook + Handout