

The Balance of Payments

Costas Arkolakis
teaching fellow: Federico Esposito

Economics 407, Yale

January 2014

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows
 - International Finance mostly interested in the second whereas International Trade in the first

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows
 - International Finance mostly interested in the second whereas International Trade in the first
- **This class will study important large-scale economic problems**

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows
 - International Finance mostly interested in the second whereas International Trade in the first
- **This class will study important large-scale economic problems**
 - Focus on capital flows, but need to be understood in conjunction with trade flows

Motivation: International Economics

- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows
 - International Finance mostly interested in the second whereas International Trade in the first
- **This class will study important large-scale economic problems**
 - Focus on capital flows, but need to be understood in conjunction with trade flows
 - How these flows affect economic activity and the economic fate of countries

Motivation: International Economics

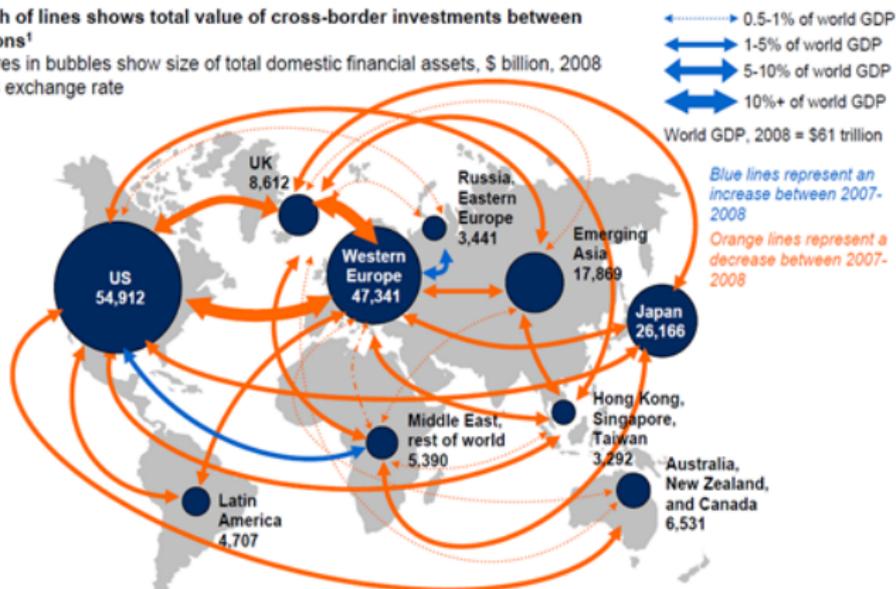
- **The study of micro and macro issues in interdependent countries**
 - Dependence through trade and capital flows
 - International Finance mostly interested in the second whereas International Trade in the first

- **This class will study important large-scale economic problems**
 - Focus on capital flows, but need to be understood in conjunction with trade flows
 - How these flows affect economic activity and the economic fate of countries
 - We pay some more focus on recent global events: macroeconomic imbalances, debt crises, macroeconomic comevement, currency crises etc

The Links: Trade in 2009

Width of lines shows total value of cross-border investments between regions¹

Figures in bubbles show size of total domestic financial assets, \$ billion, 2008
2008 exchange rate



¹ Includes total value of cross-border investments in equity and debt securities, lending and deposits, and foreign direct investment.

SOURCE: McKinsey Global Institute Cross-Border Investments database

This Class

- **Balance of Payments Accounting**
- **Current Account and National Accounting**
- **Global Imbalances**

Balance of Payments Accounting

- **Balance of Payment: records a country's international transactions**
 - Current Account: records trade transactions and income from abroad
 -
 - Financial Account (sometimes called Capital Account): records net change in ownership of assets
 -

Balance of Payments Accounting

- **Balance of Payment: records a country's international transactions**
 - Current Account: records trade transactions and income from abroad
 - Exports - Imports + International income receipts - Payments to foreigners
e.g. Japanese TV imported: negative entry/ An American CEO makes income from a trip to Germany to advise a company: positive entry.
 - Financial Account (sometimes called Capital Account): records net change in ownership of assets
 - Change in foreign ownership of domestic assets - Change in domestic ownership of foreign assets
e.g. purchasing a residence abroad: negative entry (since they need to transfer money to the foreigners)/ purchases of domestic stocks by foreigners: positive entry.

Balance of Payments... Balances

- **Balance of Payment**=Current Account+Financial Account=0
 - Fundamental balance of payments identity
 - Every movement of goods is offset by a balancing movement of capital (financial asset)
 - E.g. a U.S. retailer imports \$1 of Japanese TVs, US current account goes down by \$1, there is a corresponding movement of money to the Japanese producer and the US financial account increases by \$1
- Now let's study the Current Account and the Financial Account in more detail

Current Account

- $\text{Current Account} = \text{Trade Balance} + \text{Net income from abroad} = \text{Trade Balance} + \text{Income Balance} + \text{Net Unilateral Transfers}$

Current Account

- $\text{Current Account} = \text{Trade Balance} + \text{Net income from abroad} = \text{Trade Balance} + \text{Income Balance} + \text{Net Unilateral Transfers}$
- **Trade Balance**
 - **Merchandise:** Exports - Imports of goods
 - **Services:** Exports - Imports of services
- **Income Balance**
 - **Net investment income:** Net income receipts from assets
 - **Net international compensation to employees:** Net compensation of employees
- **Net Unilateral Transfers**
 - Gifts or grants received from foreign countries minus gifts or grants to foreign countries

Current Account: Examples (from the perspective of the US)

- **Trade Balance**

- Merchandise: Imports of Nokia phones from Finland (-)/ Export of ipods to France (+)
- Services: Drinks in Paris Bar (-)/ German tourist watching Broadway (+)

- **Income Balance**

- Fage yogurts US subsidiary makes profits and rebates them to Greece (-)
Dividends for US Bondholders of German stocks (+)

- **Net Unilateral Transfers**

- Charity gift to Haiti (-) Greek sends money to relatives in the US (+)

Current Account

- **Current Account**

Figure: US Current Account, 2012. Source: Bureau of Economic Analysis

Item	Billions of dollars	Percentage of GDP
Current Account	-475.0	-3.0
Trade Balance	-539.5	-3.4
Merchandise Trade Balance	-735.3	-4.7
Services Balance	195.8	1.2
Income Balance	198.6	1.3
Net Investment Income	206.2	1.3
Net International Compensation to Employees	-7.6	-0.0
Net Unilateral Transfers	-134.1	-0.9
Private Remittances	-77.6	-0.5
U.S. Government Transfers	-56.5	-0.4

Trade Balance and the Current Account

- In most countries, trade balance is the main driver of the current account
 - Except in cases where debt forgiveness and direct transfers are large amounts

Figure: Trade Balance and Current Account as a Fraction of GDP. Source, IMF

Country	TB/GDP	CA/GDP
Argentina	6.8	3.1
China	5.5	7.1
Ireland	11.8	-2.0
Mexico	-1.7	-0.6
Philippines	-8.9	2.3
United States	-5.7	-6.2

Current Account and National Accounting

National Accounting

- $GDP = \text{Gross National Expenditure} + \text{Trade Balance}$

National Accounting

- $GDP = \text{Gross National Expenditure} + \text{Trade Balance}$
- $GNI (\text{Gross National Income}) = GDP + \text{Income Balance}$

National Accounting

- $GDP = \text{Gross National Expenditure} + \text{Trade Balance}$
- $GNI \text{ (Gross National Income)} = GDP + \text{Income Balance}$
- $GNDI \text{ (Gross National Disposable Income)} = GNI + \text{Net Unil. Transfers}$

National Accounting and the Current Account

- $GDP = \text{Gross National Expenditure} + \text{Trade Balance} = (\text{Consumption} + \text{Investment} + \text{Government Spending}) + \text{Trade Balance}$
- $GNI \text{ (Gross National Income)} = GDP + \text{Income Balance}$
- $GNDI \text{ (Gross National Disposable Income)} = GNI + \text{Net Unil. Transfers}$

- $GNDI = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Current Account Balance} = C + I + G + CA \implies$
 - $\text{National Saving} = S \equiv GNDI - C - G = I + CA$
 - Thus $S = I + CA$ so that if $CA > 0$ (CA Surplus) $\iff S > I$

Current Account, Savings and Investment

- CA Surplus: the country saves more than it's investment needs
- CA Deficit: the country saves less than it's investment needs
 - Wealth decreases
 - Analogy to household

Current Account, Savings and Investment

- CA Surplus: the country saves more than it's investment needs
- CA Deficit: the country saves less than it's investment needs
 - Wealth decreases
 - Analogy to household
- Non-zero CA implies changes in the Net International Investment Position (NIIP) of a Country
 - $NIIP = \text{foreign assets owned by US residents} - \text{US assets owned by foreigners}$
 - CA is a flow NIIP is a stock. Thus, $CA = \Delta NIIP$
 - In a sense, NIIP is the accumulation of the financial account positions over time, but not exactly because of the changes in the prices of the assets over time.

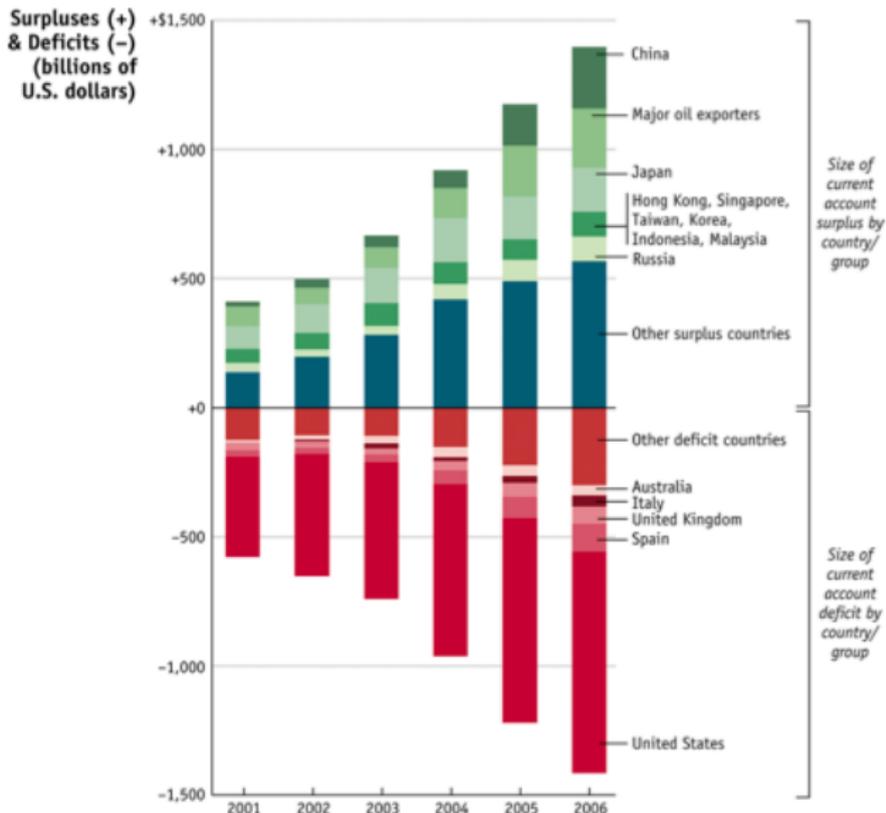
Global Imbalances

Global Imbalances over time

- Refers to the phenomenon of persistent current account surpluses or deficits for some countries, that leads eventually to the accumulation of assets or financial liabilities from those countries
 - How does this come about?

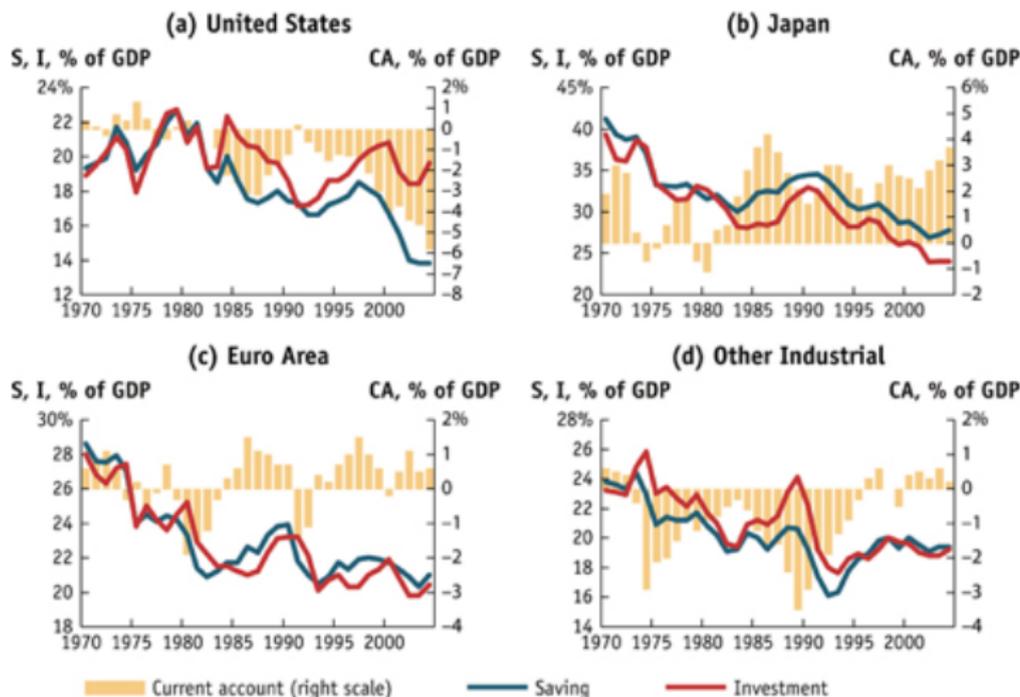
Global Imbalances over time

Figure: Current Account Imbalances. Source Feenstra and Taylor, 2010 (F&T)



Global Imbalances over time

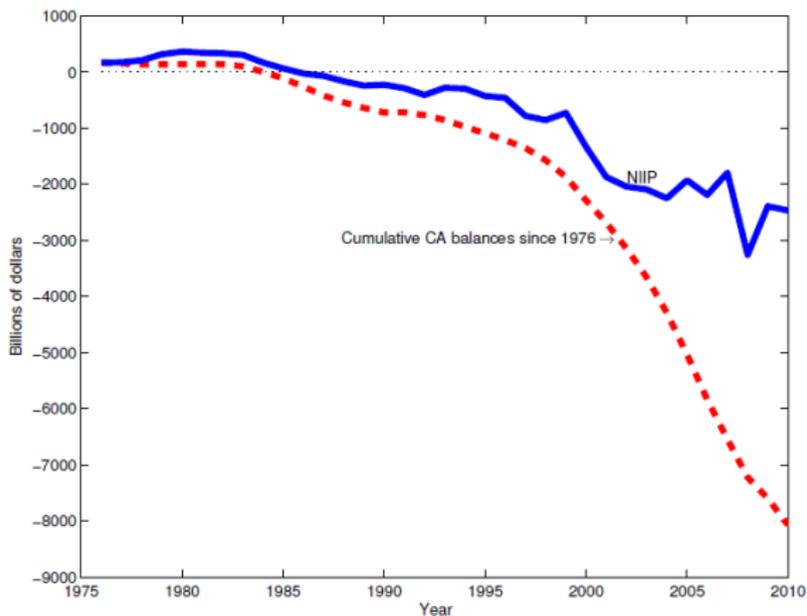
Figure: Current Account, Saving and Investment as a Fraction of GDP. Source: F&T.



CA and NIIP for the US

- A dramatic change in the US NIIP.
 - Surprisingly, it could be much more than that if the value of US owned domestic assets did not appreciate so much!

Figure: The U.S. NIIP and the Hypothetical NIIP with No Valuation Changes Since 1976. Source: BEA and S-U



Study case: US CA and China

- What are the implications of the rise of the Chinese economy for the US CA?
- A large part of US Trade deficit is accounted by Chinese imports
 - In 2008 US trade balance with China was -\$268 **Billion!** (census.gov)
 - (more than 1/3 of the total US deficit)
 - In 1985 the same statistic was a mere -\$6 **Million!**
- In this sense, a main driver of the CA imbalance of the US is the rise of the Chinese economy

CA and NIIP for the US

- A dramatic change in the NIIP of the US
 - In the past, many cases of large CA deficits proved not sustainable
 - In fact, Asian countries in 90s and Latin American countries in 80s experience large reversals in the international capital flows
 - Vivid debate of whether the US CA deficit is sustainable