

# Lecture 2   National Income Accounting and Balance of Payments

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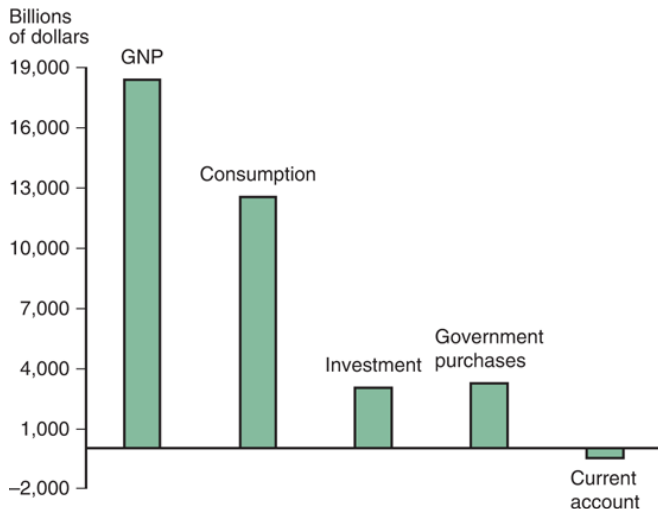
# What Is National Income Accounting?

- ▶ A classification of transactions that contribute to national income according to types of expenditure
  - ▶ consumption (C): expenditure by consumers
  - ▶ investment (I): expenditure by firms
  - ▶ government purchases (G): expenditure by gov't, not including transfer payments
  - ▶ current account balance (CA): net expenditure by foreigners, exports (EX) – imports (IM)
- ▶ An important identity
  - ▶ national income = expenditure = production

# Measuring National Income

- ▶ Value of all final goods and services in a given period
  - ▶ gross national product (GNP): produced by a nation's factors of production, e.g. labor & capital (our focus)
  - ▶ gross domestic product (GDP): produced within a country's borders
- ▶ GNP & GDP are approximate measures, but not precise
- ▶ A more precise measure
  - ▶ net national product (NNP) =  $\text{GNP} - \text{depreciation}$
  - ▶ national income =  $\text{NNP} + \text{net unilateral transfers}$

# U.S. GNP



- ▶ 2016:Q1, Billions of dollars (source: BEA)
- ▶ Consumption is largest component of U.S. GNP

## The Road Ahead...

- ▶ National income identity
- ▶ Saving and current account
- ▶ Balance of payments
- ▶ Double-entry bookkeeping

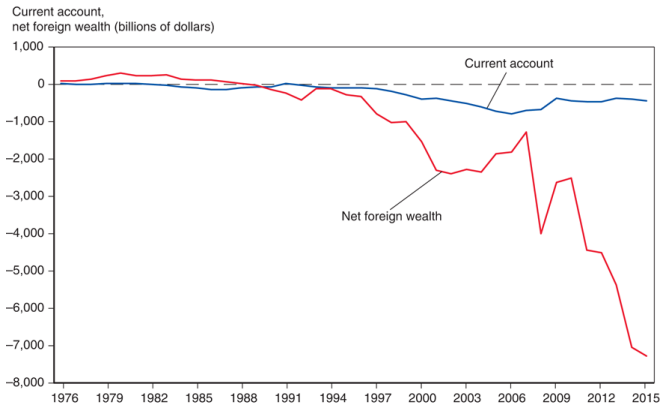
# National Income Accounting

## National income identity

$$\underbrace{Y}_{\text{GNP}} = \underbrace{C + I + G}_{\text{domestic expenditure}} + \underbrace{EX - IM}_{\text{net foreign expenditure}}$$
$$\Rightarrow \underbrace{EX - IM}_{\text{current account (CA)}} = Y - (C + I + G)$$

- ▶ When production  $>$  domestic expenditure
  - ▶ surplus:  $CA > 0 \Leftrightarrow EX > IM$
  - ▶ lending  $\Rightarrow$  net foreign wealth  $\uparrow$
- ▶ When production  $<$  domestic expenditure
  - ▶ deficit:  $CA < 0 \Leftrightarrow EX < IM$
  - ▶ borrowing  $\Rightarrow$  net foreign wealth  $\downarrow$
- ▶ International lending/borrowing  $\Rightarrow$  *intertemporal* trade

# U.S. Current Account, 1976–2015



- ▶ CA & net foreign wealth (or net international investment position), billions of dollars (source: BEA)
- ▶ Sustained CA deficits since early 1980s added up to large foreign debt

# Saving and Current Account

## National income identity

$$\underbrace{S}_{\text{national saving}} = \underbrace{Y - T - C}_{\text{private saving}} + \underbrace{T - G}_{\text{gov't saving}} = \underbrace{I + CA}_{\text{total investment}}$$

- ▶ Some notations
  - ▶  $T$  = taxes net of transfers (net taxes)
  - ▶  $Y - T$  = disposable income
  - ▶  $S^p$  = private saving,  $S^g$  = gov't saving
  - ▶  $G - T$  = primary deficit/newly issued gov't debt
- ▶ Ways to raise national wealth
  - ▶ Closed economy: only accumulate capital ( $S = I$ )
  - ▶ Open economy: also net foreign investment ( $CA$ )
- ▶ Borrow ( $CA < 0$ ) to invest more ( $I > S$ )



# Balance of Payments

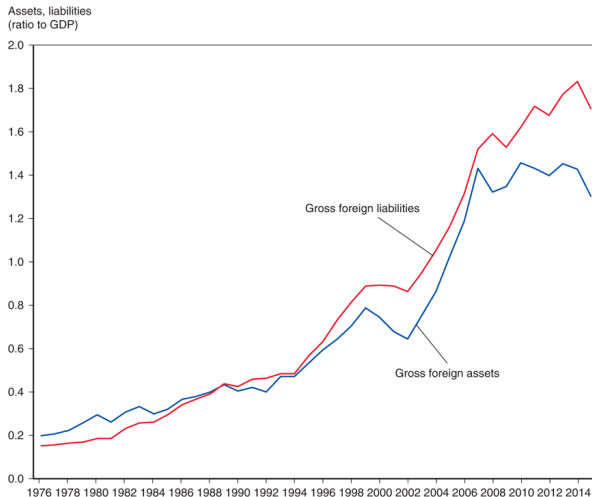
- ▶ A set of accounts recording a country's receipts (credit) from and payments (debit) to foreigners
  - ▶ current account = exports – imports + net unilateral transfers of goods and services
  - ▶ financial account = sales (exports) of domestic assets to foreigners – domestic purchases (imports) of foreign assets
  - ▶ capital account: special transfers of assets (small in quantity), e.g. debt forgiveness, migrants' transfers
- ▶ Principle of double-entry bookkeeping
  - ▶ each transaction enters accounts twice, once as credit (+) and once as debit (–)
  - ▶ current acc't + capital acc't = – financial acc't

# U.S. Balance of Payments, 2015

<b>A. Current Account</b> [(1) – (2) + (3)]	<b>–462.97</b>
(1) Exports	<b>3,044.08</b>
Goods	1,510.30
Services	750.86
Income receipts (primary income)	782.92
(2) Imports	<b>3,362.06</b>
Goods	2,272.87
Services	488.66
Income payments (primary income)	600.53
(3) Net unilateral transfers (secondary income)	<b>–144.99</b>
<b>B. Financial Account</b> [(1) – (2) + (3)]	<b>195.23</b>
(1) Net U.S. incurrence of liabilities, excluding financial derivatives	<b>395.23</b>
Official reserve assets	–98.10
Other assets	493.33
(2) Net U.S. acquisition of financial assets, excluding financial derivatives	<b>225.40</b>
Official reserve assets	–6.29
Other assets	231.69
(3) Financial derivatives, net	<b>25.39</b>
<b>C. Capital Account</b>	<b>–0.04</b>
<b>Statistical Discrepancy</b> [–(A + B + C)]	<b>267.78</b>

Source: U.S. Department of Commerce, BEA, June 16, 2016, release (billions of dollars).

# U.S. Gross Foreign Assets & Liabilities



- ▶ Ratio to GDP, 1976-2015 (source: BEA)
- ▶ U.S. is world's largest debtor nation

## Double-entry Bookkeeping: Example 1

	<b>Credit</b>	<b>Debit</b>
Current account, U.S. goods import (Fax machine purchase)		\$1,000
Financial account, U.S. asset sale (Sale of bank deposit)	\$1,000	

- ▶ We purchase a fax machine from Italian company Olivetti
- ▶ Olivetti deposits our check in a U.S. bank

## Double-entry Bookkeeping: Example 2

	<b>Credit</b>	<b>Debit</b>
Current account, U.S. service import (Meal purchase)		\$200
Financial account, U.S. asset sale (Sale of credit card claim)	\$200	

- ▶ We buy lunch in France and pay by credit card issued by American bank

## Double-entry Bookkeeping: Example 3

	<b>Credit</b>	<b>Debit</b>
Financial account, U.S. asset purchase (Stock purchase)		\$95
Financial account, U.S. asset sale (Sale of bank deposit)	\$95	

- ▶ We purchase a share of British Petroleum (BP) stock
- ▶ BP deposits money in a U.S. bank

## Double-entry Bookkeeping: Example 4

	<b>Credit</b>	<b>Debit</b>
Financial account, U.S. asset purchase (Stock purchase)		\$80
Financial account, U.S. asset purchase (Reduction in foreign check claim)	\$80	

- ▶ We purchase a share of German stock and pay by check on Swiss bank account

## Double-entry Bookkeeping: Example 5

	<b>Credit</b>	<b>Debit</b>
Financial account, U.S. asset sale (Reduction in sale of dollars)		\$1,000
Current account, U.S. goods export (Goods sale)	\$1,000	

- ▶ Foreign exchange intervention: Korean government uses dollars in American bank account to buy Korean currency from its citizens
- ▶ Korean citizens use dollars to buy American goods



## Double-entry Bookkeeping: Example 6

	<b>Credit</b>	<b>Debit</b>
Capital account, U.S. transfer payment (Debt forgiveness)		\$5,000
Financial account, U.S. asset purchase (Reduction in foreign assets holding)	\$5,000	

- ▶ U.S. bank forgives debt owed by Argentina government through debt restructuring

# Readings & Exercises

- ▶ Readings
  - ▶ KOM: chapter 13
- ▶ Exercises
  - ▶ KOM: problem 1, 2, 3 (in-class quiz), 4