


## Chapter 12 National Income Accounting and the Balance of Payments



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To Accompany  
**International Economics: Theory and Policy, Sixth Edition**  
by **Paul R. Krugman and Maurice Obstfeld**

## Chapter Organization

- Introduction
- The National Income Accounts
- National Income Accounting for an Open Economy
- The Balance of Payment Accounts
- Summary

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## Introduction

- The national income accounts and the balance of payments accounts are essential tools for studying the macroeconomics of open, interdependent economies.
- **National income accounting**
  - Records all the expenditures that contribute to a country's income and output
- **Balance of payments accounting**
  - Helps us keep track of both changes in a country's indebtedness to foreigners and the fortunes of its export- and import-competing industries

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## The National Income Accounts

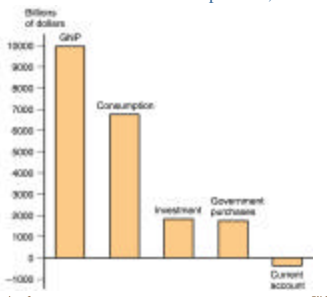
- **Gross national product (GNP)**
  - The value of all final goods and services produced by a country's factors of production and sold on the market in a given time period
  - It is the basic measure of a country's output.

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## The National Income Accounts

**Figure 12-1: U.S. GNP and Its Components, 2000**

America's \$9.9 trillion 2000 gross national product can be broken down into the four components shown. Source: Economic Indicators, U.S. Government Printing Office, April 2001.



Component	Value (billions of dollars)
GNP	10000
Consumption	7000
Investment	2000
Government purchases	2000
Current account	-1000

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## The National Income Accounts

- **Gross Domestic Product (GDP)**
  - It measures the volume of production within a country's borders.
  - It equals GNP minus net receipts of factor income from the rest of the world.
  - It does not correct for the portion of countries' production carried out using services provided by foreign-owned capital.

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## National Income Accounting for an Open Economy

- **Consumption**
  - The portion of GNP purchased by the private sector to fulfill current wants
- **Investment**
  - The part of output used by private firms to produce future output
- **Government Purchases**
  - Any goods and services purchased by federal, state, or local governments

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## National Income Accounting for an Open Economy

### ■ The National Income Identity for an Open Economy

- It is the sum of domestic and foreign expenditure on the goods and services produced by domestic factors of production:

$$Y = C + I + G + EX - IM \quad (12-1)$$

where:

- $Y$  is GNP
- $C$  is consumption
- $I$  is investment
- $G$  is government purchases
- $EX$  is exports
- $IM$  is imports
- In a closed economy,  $EX = IM = 0$ .

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## National Income Accounting for an Open Economy

- **The Current Account and Foreign Indebtedness**
  - **Current account (CA) balance**
    - The difference between exports of goods and services and imports of goods and services ( $CA = EX - IM$ )
    - A country has a CA surplus when its  $CA > 0$ .
    - A country has a CA deficit when its  $CA < 0$ .
    - CA measures the size and direction of international borrowing.
      - A country's current account balance equals the change in its net foreign wealth.

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## National Income Accounting for an Open Economy

- CA balance is equal to the difference between national income and domestic residents' spending:

$$Y - (C + I + G) = CA$$

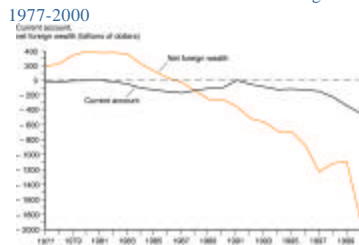
- CA balance is goods production less domestic demand.
- CA balance is the excess supply of domestic financing.
  - **Example:** Agraria imports 20 bushels of wheat and exports only 10 bushels of wheat (Table 12-1). The current account deficit of 10 bushels is the value of Agraria's borrowing from foreigners, which the country will have to repay in the future.

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## National Income Accounting for an Open Economy

**Figure 12-2: The U.S. Current Account and Net Foreign Wealth Position, 1977-2000**



A string of current account deficits in the 1980s reduced America's net foreign wealth until, by the decade's end, the country had accumulated a substantial net foreign debt.  
Source: U.S. Government Printing Office, Economic Indicators, March 1996, April 2001.

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## National Income Accounting for an Open Economy

### ■ Saving and the Current Account

- **National saving (S)**
  - The portion of output,  $Y$ , that is not devoted to household consumption,  $C$ , or government purchases,  $G$ .
  - It always equals investment in a closed economy.
    - A closed economy can save only by building up its capital stock ( $S = I$ ).
    - An open economy can save either by building up its capital stock or by acquiring foreign wealth ( $S = I + CA$ ).
  - A country's CA surplus is referred to as its net foreign investment.

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## National Income Accounting for an Open Economy



### Private and Government Saving

#### Private saving ( $S^p$ )

- The part of disposable income that is saved rather than consumed

$$S^p = I + CA - S^g = I + CA - (T - G) = I + CA + (G - T) \quad (12-2)$$

- $T$  is the government's "income" (its net tax revenue)
- $S^g$  is government savings ( $T - G$ )

#### Government budget deficit ( $G - T$ )

- It measures the extent to which the government is borrowing to finance its expenditures.

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## The Balance of Payments Accounts



- A country's balance of payments accounts keep track of both its payments to and its receipts from foreigners.
- Every international transaction automatically enters the balance of payments twice: once as a credit (+) and once as a debit (-).

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## The Balance of Payments Accounts



### Three types of international transactions are recorded in the balance of payments:

- Exports or imports of goods or services
- Purchases or sales of **financial assets**
- Transfers of wealth between countries
  - They are recorded in the **capital account**.

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## The Balance of Payments Accounts



### Examples of Paired Transactions

- A U.S. citizen buys a \$1000 typewriter from an Italian company, and the Italian company deposits the \$1000 in its account at Citibank in New York.
  - That is, the U.S. trades assets for goods.
  - This transaction creates the following two offsetting entries in the U.S. balance of payments:
    - It enters the U.S. CA with a negative sign (-\$1000).
    - It shows up as a \$1000 credit in the U.S. financial account.

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## The Balance of Payments Accounts



### The Fundamental Balance of Payments Identity

- Any international transaction automatically gives rise to two offsetting entries in the balance of payments resulting in a fundamental identity:

$$\text{Current account} + \text{financial account} + \text{capital account} = 0 \quad (12-3)$$

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## The Balance of Payments Accounts



### The Capital Account

- It records asset transfers and tends to be small for the United States.

### The Financial Account

- It measures the difference between sales of assets to foreigners and purchases of assets located abroad.
  - **Financial inflow (capital inflow)**
    - A loan from the foreigners with a promise that they will be repaid
  - **Financial outflow (capital outflow)**
    - A transaction involving the purchase of an asset from foreigners

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## The Balance of Payments Accounts



- **Official Reserve Transactions**
  - **Central bank**
    - The institution responsible for managing the supply of money
  - **Official international reserves**
    - Foreign assets held by central banks as a cushion against national economic misfortune
  - **Official foreign exchange intervention**
    - Central banks often buy or sell international reserves in private asset markets to affect macroeconomic conditions in their economies.

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## The Balance of Payments Accounts



- **Case Study: Is the United States the World's Biggest Debtor?**
  - At the end of 1999, the United States had a negative net foreign wealth position far greater than that of any other single country.
  - The United States is the world's biggest debtor.
  - However, the United States has the world's largest GNP.

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## Summary



- A country's GNP is equal to the income received by its factors of production.
  - GDP is equal to GNP less net receipts of factor income from abroad, measures the output produced within a country's territorial borders.
- In a closed economy, GNP must be consumed, invested, or purchased by the government
  - In an open economy, GNP equals the sum of consumption, investment, government purchases, and net exports of goods and services.

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## Summary



- All transactions between a country and the rest of the world are recorded in its balance of payments accounts.
- The current account equals the country's net lending to foreigners.
  - National saving equals domestic investment plus the current account.
  - Transactions involving goods and services appear in the current account of the balance of payments, while international sales or purchases of assets appear in the financial account.

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## Summary



- The capital account records asset transfers and tends to be small in the United States.
- Any current account deficit must be matched by an equal surplus in the other two accounts of the balance of payments, and any current account surplus by a deficit somewhere else.
- International asset transactions carried out by central banks are included in the financial account.

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