

# Topic 1 : Balance of Payments

By

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# Definition

Balance of payments (BOP) refer to the system of accounts kept by each country that tracks payments and receipts between residents and nonresidents of a country.

Residents are economic agents who normally reside in a country (even if they are temporarily such as diplomats, migrant workers or students).

BOP represent flows (quantities measured per unit of time, e.g., month, quarter, annual). (Stocks refer to quantities measured at fixed points in time).

# Transactions in BOP

- Current Account (CA)
  1. Exports and imports of goods
  2. Exports and imports of services
  3. Primary income (PI)
    - compensation of employees
    - investment income  
(consisting of direct investment income, portfolio investment income, other investment income, and investment income on reserve assets)
  4. Secondary income (SI)
    - Transfer of General Government ((Gift/Aid/ Donation)
    - transfers of financial corporations, nonfinancial corporations

|                                      | 2016      | 2017      |
|--------------------------------------|-----------|-----------|
| <b>Current account</b>               | 48,207.8  | 50,211.1  |
| <b>Goods and services</b>            | 60,820.9  | 63,018.0  |
| <b>Goods</b>                         | 36,539.4  | 34,160.6  |
| Credit                               | 214,250.8 | 235,267.4 |
| General merchandise: export          | 206,930.3 | 229,460.7 |
| Non-monetary gold: export            | 7,320.5   | 5,806.7   |
| Debit                                | 177,711.4 | 201,106.8 |
| General merchandise: import          | 172,283.6 | 191,153.4 |
| Non-monetary gold: import            | 5,427.8   | 9,953.5   |
| <b>Services</b>                      | 24,281.5  | 28,857.4  |
| Credit                               | 67,792.9  | 75,525.8  |
| Debit                                | 43,511.4  | 46,668.4  |
| Transport, credit                    | 5,724.1   | 6,873.9   |
| Passenger                            | 3,672.8   | 4,681.4   |
| Freight                              | 1,608.7   | 1,723.8   |
| Other (including postal and courier) | 442.6     | 468.8     |
| Transport, debit                     | 15,063.1  | 16,829.4  |
| Passenger                            | 2,195.2   | 2,172.0   |
| Freight                              | 12,202.7  | 13,943.0  |
| Other (including postal and courier) | 665.2     | 714.4     |
| Travel, credit                       | 48,792.4  | 56,937.6  |
| Travel, debit                        | 9,072.2   | 10,504.0  |

|                                                                               | 2016         | 2017           |
|-------------------------------------------------------------------------------|--------------|----------------|
| <b>Primary income</b>                                                         | -19,427.5    | -20,339.9      |
| Compensation of employees, credit                                             | 2,230.2      | 2,060.6        |
| Compensation of employees, debit                                              | 1,606.9      | 1,789.8        |
| <b>Investment income, credit</b>                                              | 4,080.8      | 6,339.9        |
| <u>Direct investment income</u>                                               | 774.0        | 2,400.3        |
| Income on equity and investment fund shares                                   | 774.0        | 2,400.3        |
| Dividends and withdrawals from income of quasi-corporations                   | 637.5        | 1,060.6        |
| <b>Reinvested earnings (direct investor in direct investment enterprises)</b> | <b>136.5</b> | <b>1,339.7</b> |
| Interest                                                                      | 0.0          | 0.0            |
| <u>Portfolio investment income</u>                                            | 1,315.6      | 1,360.0        |
| <u>Other investment income</u>                                                | 1,991.2      | 2,579.6        |
| Interest                                                                      | 1,991.2      | 2,579.6        |
| <b>Investment income, debit</b>                                               | 24,283.8     | 27,096.7       |
| <u>Direct investment income</u>                                               | 14,143.9     | 15,692.3       |
| Income on equity and investment fund shares                                   | 13,970.2     | 15,539.9       |
| Dividends and withdrawals from income of quasi-corporations                   | 11,540.4     | 11,786.7       |
| Reinvested earnings (direct investor in direct investment enterprises)        | 2,429.8      | 3,753.2        |
| Interest                                                                      | 173.7        | 152.3          |
| <u>Portfolio investment income</u>                                            | 9,173.4      | 10,479.5       |
| <u>Other investment income</u>                                                | 966.5        | 924.9          |
| Interest                                                                      | 966.5        | 924.9          |
| Other primary income, credit                                                  | 152.2        | 146.1          |
| Other primary income, debit                                                   | ...          | ...            |

|                                                                           | 2016     | 2017     |
|---------------------------------------------------------------------------|----------|----------|
| <b>Secondary income</b>                                                   | 6,814.5  | 7,533.0  |
| Credit                                                                    | 10,585.3 | 11,157.5 |
| General government                                                        | 85.2     | 72.4     |
| Financial corporations, nonfinancial corporations, households, and NPISHs | 10,500.1 | 11,085.1 |
| Personal transfers                                                        | 4,039.8  | 4,659.5  |
| Other current transfers                                                   | 6,460.3  | 6,425.5  |
| Debit                                                                     | 3,770.8  | 3,624.5  |
| General government                                                        | 70.5     | 2.1      |
| Financial corporations, nonfinancial corporations, households, and NPISHs | 3,700.3  | 3,622.4  |
| Personal transfers                                                        | 2,548.3  | 2,607.0  |
| Other current transfers                                                   | 1,152.0  | 1,015.5  |

- Capital and Financial Account
  - **Capital Account**
- Covers two key components.
  1. flows arising from nonfinancial assets
    - two types of assets: tangible and intangible assets
      - (1) Tangible assets include the rights to natural resources, such as mineral rights, offshore drilling rights.
      - (2) Intangible assets include patents, franchises, copyrights, and trademarks.

## 2. Capital transfer

- debt forgiveness

the principal and any overdue interest payments

|                                                               | 2016 | 2017 |
|---------------------------------------------------------------|------|------|
| <b>Capital account</b>                                        | 12.7 | 0.0  |
| Gross disposals of nonproduced, nonfinancial assets, credit   | ...  | ...  |
| Gross acquisitions of nonproduced, nonfinancial assets, debit | ...  | ...  |
| <b>Capital transfers, credit</b>                              | ...  | 0.0  |
| General government                                            | ...  | 0.0  |
| Debt forgiveness                                              | ...  | ...  |
| Other capital transfers                                       | ...  | ...  |
| <b>Capital transfers, debit</b>                               | ...  | 0.0  |
| General government                                            | ...  | 0.0  |
| Debt forgiveness                                              | ...  | ...  |
| Other capital transfers                                       | ...  | ...  |

# - Financial Account

- Sales of financial claims to foreign residents by domestic residents are called “Liabilities”.
  - Gross capital inflows
  - Gross capital outflows
  - Net capital inflows
- Purchases of financial assets by domestic residents from foreign residents are called “Assets”.
  - Gross capital inflows
  - Gross capital outflows
  - Net capital outflows

Net capital flows

## Four types of financial transactions;

### 1. Foreign Direct Investment (FDI):

Honda of Japan establishes the factory in Thailand (Greenfield investment)

Thai union frozen goes to invest (canned tuna) in Pacific Island

**3 important parts** (1) purchases of equity associated with ownership of at least 10 % of the market capitalization are treated as FDI (2) Intercompany loan (3) Reinvested/Retained Earnings

2. Portfolio Flows : purchase or sale without involving control of domestic firms (debt and equity).
3. Financial Derivatives:, e.g., currency options, swap.
4. Other investments- Loans (government and financial sector);

# BOT

|    |                                                             | 2016       | 2017       |
|----|-------------------------------------------------------------|------------|------------|
| 64 | b. Financial account                                        | -20,839.74 | -12,497.70 |
| 65 | 1. Direct investment                                        | -10,551.60 | -10,301.47 |
| 66 | (1) Abroad (inflows-outflows)                               | -13,361.79 | -18,530.62 |
| 67 | 1.1 Equity capital                                          | -9,181.65  | -10,539.78 |
| 71 | 1.1.2 Other depository corporations                         | -529.62    | -134.26    |
| 72 | Inflow                                                      | 13.81      | 412.65     |
| 73 | Outflow                                                     | 543.42     | 546.90     |
| 74 | 1.1.3 Other sectors : Non-depository financial corporations | -1,024.35  | 534.36     |
| 75 | Inflow                                                      | 413.09     | 1,251.30   |
| 76 | Outflow                                                     | 1,437.45   | 716.94     |
| 87 | (2) In reporting economy                                    | 2,810.18   | 8,229.15   |
| 88 | 1.3 Equity capital                                          | 4,326.53   | 9,058.91   |
| 89 | 1.3.1 Other depository corporations                         | 919.06     | 1,006.01   |
| 90 | Inflow                                                      | 929.31     | 1,006.01   |
| 91 | Outflow                                                     | 10.25      | 0.00       |
| 92 | 1.3.2 Other sectors : Non-depository financial corporations | 245.40     | 2,554.55   |
| 93 | Inflow                                                      | 2,057.11   | 2,999.35   |
| 94 | Outflow                                                     | 1,811.71   | 444.79     |

|     |                                     | 2016      | 2017       |
|-----|-------------------------------------|-----------|------------|
| 105 | <b>2. Portfolio investment</b>      | -2,797.59 | -2,149.85  |
| 106 | (1) Assets                          | -4,279.03 | -11,550.53 |
| 107 | 2.1 Equity securities               | -1,816.91 | -7,668.23  |
| 108 | 2.1.1 General government            | -37.15    | 118.41     |
| 109 | Inflow                              | 79.93     | 146.79     |
| 110 | Outflow                             | 117.08    | 28.37      |
| 120 | 2.2 Debt securities                 | -2,462.13 | -3,882.30  |
| 121 | 2.2.1 General government            | -25.17    | -148.55    |
| 122 | Inflow                              | 1,471.18  | 2,631.34   |
| 123 | Outflow                             | 1,496.35  | 2,779.90   |
| 133 | (2) Liabilities                     | 1,481.44  | 9,400.68   |
| 134 | 2.3 Equity securities               | -786.10   | 598.39     |
| 135 | 2.3.1 Other depository corporations | -601.50   | 975.93     |
| 136 | Inflow                              | 18,777.22 | 21,138.27  |
| 137 | Outflow                             | 19,378.72 | 20,162.34  |
| 144 | 2.4 Debt securities                 | 2,267.54  | 8,802.29   |
| 145 | 2.4.1 General government            | 744.92    | 3,027.25   |
| 146 | Inflow                              | 11,601.44 | 15,592.18  |
| 147 | Outflow                             | 10,856.52 | 12,564.93  |
| 160 | <b>3. Financial Derivatives</b>     | 303.31    | 118.29     |
| 161 | (1) Assets                          | 5,548.40  | 4,418.08   |
| 162 | (2) Liabilities                     | -5,245.09 | -4,299.79  |

|     |                          | 2016      | 2017      |
|-----|--------------------------|-----------|-----------|
| 163 | 4. Other investment      | -7,793.85 | -164.67   |
| 164 | (1) Assets               | -7,233.98 | -9,700.42 |
| 168 | 4.2 Loans                | 1,340.28  | -827.11   |
| 169 | 4.2.1 General government | -16.60    | -14.96    |
| 170 | Inflow                   | 6.79      | 5.84      |
| 171 | Outflow                  | 23.39     | 20.81     |
| 191 | (2) Liabilities          | -559.87   | 9,535.74  |
| 195 | 5.2 Loans                | 78.32     | 5,239.59  |
| 196 | 5.2.1 General government | 257.36    | 234.62    |
| 197 | Inflow                   | 368.20    | 354.02    |
| 198 | Outflow                  | 110.84    | 119.40    |

# IFS

|                                                                                                     | 2016     | 2017     |
|-----------------------------------------------------------------------------------------------------|----------|----------|
| Financial account                                                                                   | 33,683.4 | 38,385.8 |
| Direct investment (Assets - Liabilities) + = outflows                                               | 10,551.6 | 10,586.0 |
| <u>Net acquisition of financial assets</u>                                                          | 13,361.8 | 18,631.6 |
| Equity and investment fund shares                                                                   | 9,181.7  | 10,640.7 |
| Equity other than reinvestment of earnings                                                          | 9,045.1  | 9,301.0  |
| <b>Reinvestment of earnings (direct investor in direct investment enterprises) --- Credit in CA</b> | 136.5    | 1,339.7  |
| Debt instruments                                                                                    | 4,180.1  | 7,990.8  |
| Direct investor in direct investment enterprises                                                    | ...      | ...      |
| <u>Net incurrence of liabilities</u>                                                                | 2,810.2  | 8,045.5  |
| Equity and investment fund shares                                                                   | 4,326.5  | 8,875.3  |
| Equity other than reinvestment of earnings                                                          | 1,896.7  | 5,122.1  |
| <b>Reinvestment of earnings (direct investor in direct investment enterprises) --- debit in CA</b>  | 2,429.8  | 3,753.2  |
| Debt instruments                                                                                    | -1,516.3 | -829.8   |

|                                            | 2016     | 2017     |
|--------------------------------------------|----------|----------|
| <b>Portfolio investment</b>                | 2,797.6  | 2,149.9  |
| Net acquisition of financial <u>assets</u> | 4,279.0  | 11,550.5 |
| Equity and investment fund shares          | 1,816.9  | 7,668.2  |
| Debt securities                            | 2,462.1  | 3,882.3  |
| Net incurrence of <u>liabilities</u>       | 1,481.4  | 9,400.7  |
| Equity and investment fund shares          | -786.1   | 598.4    |
| Debt securities                            | 2,267.5  | 8,802.3  |
| <b>Financial derivatives</b>               | -303.3   | -118.3   |
| Net acquisition of financial assets        | -5,548.4 | -4,418.1 |
| Net incurrence of liabilities              | -5,245.1 | -4,299.8 |
| <b>Other investment</b>                    | 7,793.8  | -188.1   |
| Net acquisition of financial assets        | 7,234.0  | 9,347.6  |
| Net incurrence of liabilities              | -559.9   | 9,535.7  |

- Statistical Discrepancy-errors and omissions:

Data in the accounts are collected from different sources, measurement errors (including unrecorded transactions) and timing problems.

# Conclude Sub-items in Balance of Payment

- Balance on goods and services (N)
- Primary income (PI)
- Secondary income (SI)

= Current Account (CA)

- Capital Account (Net flows)
- Financial Account (Net flows)
  - FDI
  - Port-folio (debt, equity)
  - Financial derivatives
  - Other
- Net errors and omissions

= Balance of Payments

# BOT

|     |                                 | 2016       | 2017       |
|-----|---------------------------------|------------|------------|
| 1   | Current account [A]             | 43,438.00  | 43,951.86  |
| 62  | Capital and financial account   | -20,827.02 | -12,638.64 |
| 63  | a. Capital account [B]          | 12.72      | -140.94    |
| 64  | b. Financial account [C]        | -20,839.74 | -12,497.70 |
| 219 | Net errors and omissions [D]    | -9,766.48  | -5,356.52  |
| 220 | Overall balance [A+B+C+D]       | 12,844.50  | 25,956.70  |
| 221 | Reserve assets                  | 12,844.50  | 25,956.70  |
| 222 | a. Reserve position in the Fund | 96.00      | -58.25     |
| 223 | b. Foreign exchange             | 12,747.50  | 26,011.59  |
| 224 | c. Monetary gold                | 0.00       | 0.00       |
| 225 | d. SDRs                         | 1.00       | 3.36       |

# IFS

|                            | 2016     | 2017     |
|----------------------------|----------|----------|
| A. Current account         | 48,207.8 | 50,211.1 |
| B. Capital account         | 12.7     | 0.0      |
| C. Financial account       | 33,683.4 | 38,385.8 |
|                            |          |          |
| Balance of payment (A+B-C) | 14,537.2 | 11,825.3 |

|                             | 2016      | 2017      |
|-----------------------------|-----------|-----------|
| Reserve assets              | 12,843.7  | 25,956.3  |
| Monetary gold               | 0.0       | 0.0       |
| Special drawing rights      | 0.3       | 2.9       |
| Reserve position in the IMF | 95.9      | -58.2     |
| Other reserve assets        | 12,747.5  | 26,011.6  |
| Net errors and omissions    | -14,537.2 | -11,825.3 |
| (should be)                 | 1,693.5   | -14,131.0 |

- Foreign exchange reserves are usually maintained in the form of vehicle currencies and gold, such as US dollar (80-85%).

- Generally, central banks hold foreign exchange reserves in order to have the option to engage in foreign exchange market intervention

(to buy or sell their own currencies in the foreign exchange market). Why?

# Is it possible for a given country to always have zero (or close to) BOP?

- It depends on the country's exchange rate regime.
- In theory, BOP under free floating exchange rate regime (where exchange rate is purely determined by a market) is nearly zero.
- Under the fixed exchange rate regime (regardless the extent to which exchange rate is fixed), BOP can be positive or negative.

# Explain (Reserve = 0)

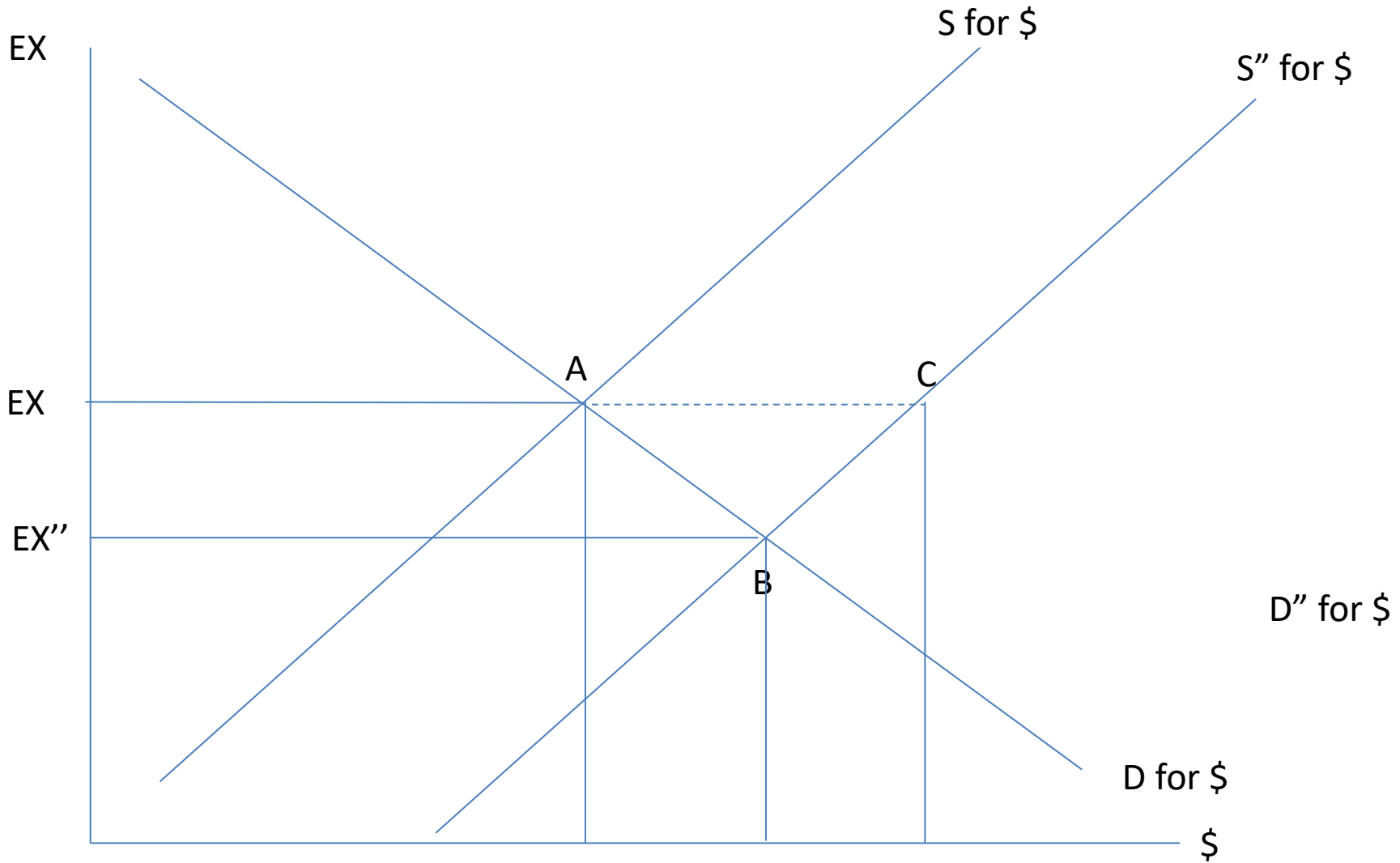
Suppose Exchange rate (EX) is the price of a domestic currency expressed in terms of a foreign currency.

*30 Baht/US\$ → we have to use 30 baht to get 1 US\$*

*6.8 Yuan/US\$ → we have to use 6.8 yuan to get 1 US\$*

*From 30 Baht/\$ to 25 Baht/\$, we call baht appreciates*

*From 30 Baht/\$ to 35 Baht/\$, we call baht depreciates*



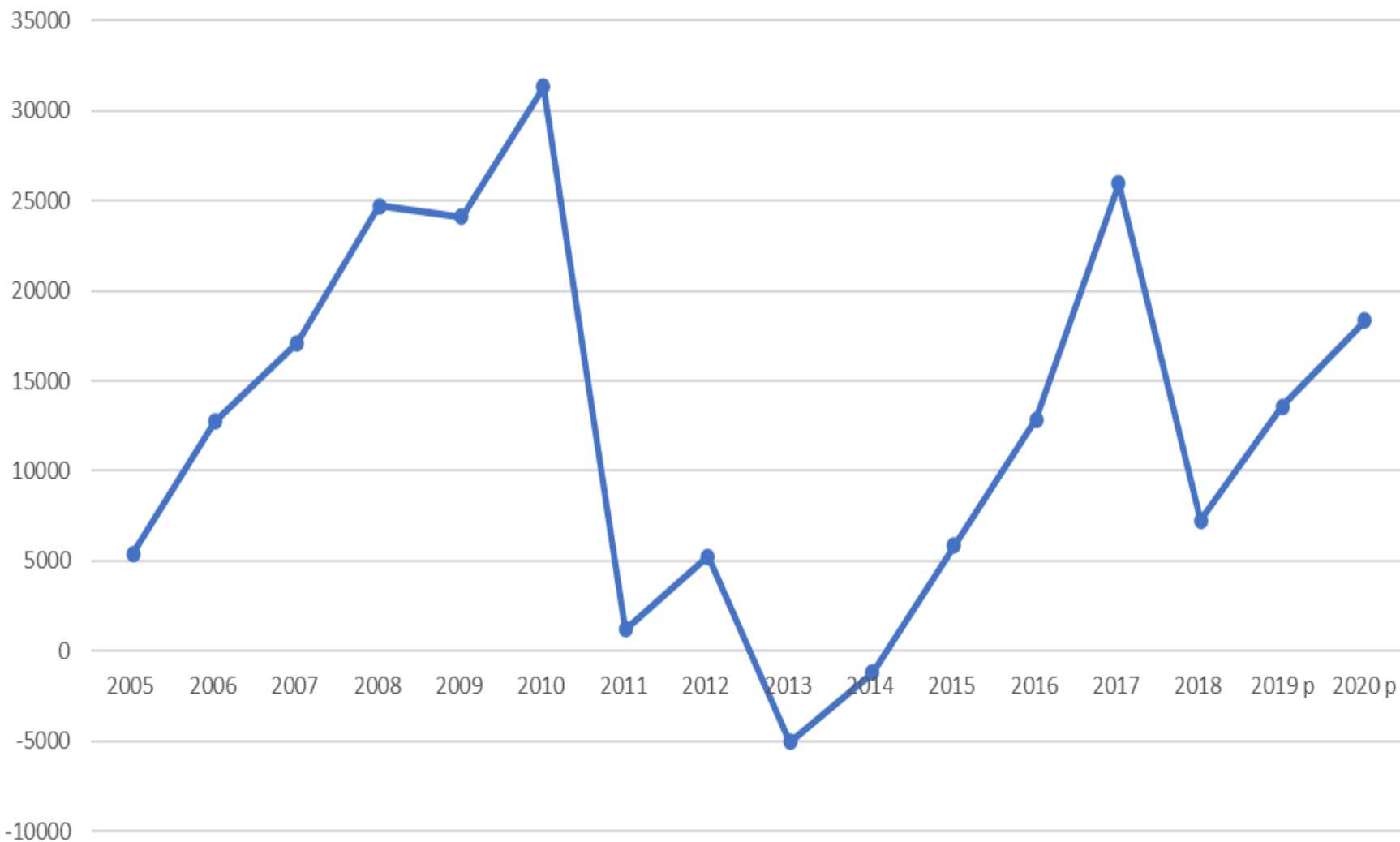
Demand for \$ --- Importer, Capital outflows

Supply of \$ --- Exporter, Capital inflows

Buy \$ -- build up reserves

# During 2005-2010, using freely floating regime?

Changes in Reserve assets (\$ million)



# Does BOP composition matter?

- Are two countries having same amount of BOP different in the view of economic analyst?

| Country | CA  | CAP | BOP |
|---------|-----|-----|-----|
| A       | +40 | -20 | 20  |
| B       | -20 | +40 | 20  |

- What is the major difference between current account and capital account?

$$CA = S - I \text{ Gap}$$

# GDP: Value added (Vd)

Total = 200

Profit = 50  
Labour = 150

Cotton

Total = 400  
Profit = 40  
Capital and land = 120  
Labour = 40  
Cotton = 200

Yarn

Total = 600  
Profit = 40  
Capital and land = 120  
Labour = 40  
Yarn = 400

Fabric

Total = 1000  
Profit = 50  
Capital and land = 200  
Labour = 150  
Fabric = 600

Clothing

Value added concept is introduced to avoid double counting in overall economic activity

Total output value =  $200+400+600+1000 = 2,200$

Value added =  $200+200+200+400 = 1,000$

# Nominal and Real GDP

- Gross Domestic Product (GDP) and its components
  - Nominal GDP (at current market prices)

$$NGDP_t = P_t \cdot Q_t$$

- Real GDP (at constant XX prices, 2002)

$$RGDP_t = P_0 \cdot Q_t$$

- GDP deflator (relative prices)  $\approx$  CPI index

$$GDP \text{ deflator} = NGDP_t / RGDP_t = P_t / P_0$$

## Gross national products (GNP)

equals GDP plus income receipts from the rest of the world minus income payments to the rest of the world [**Primary income**]

GDP is product produced within a country's borders;

GNP is product produced by enterprises owned by a country's residents.

# GDP and GNP

Situation: A lot of Filipinos work in Malaysia

- Malaysia

- Philippines

GDP > GNP

GNP > GDP

# Current Account and Saving Investment Gap

Absorption (A) = C+I+G [expenditure side]

GDP = A+X-IM

GNP = GDP+PI

GNP = A+X-IM+PI

GNP+SI = A+**X-IM+PI+SI**

Note: X-IM+PI+SI = CA under assumption SI → 0

CA = GNP-A or CA = GNP - C - I - G

GNP - C - G = CA + I

$$S = S^P + S^G$$
$$S^P = GNP - T - C$$
$$S^G = T - G$$

$$S^P + S^G = GNP - C - G$$
$$= I + CA$$

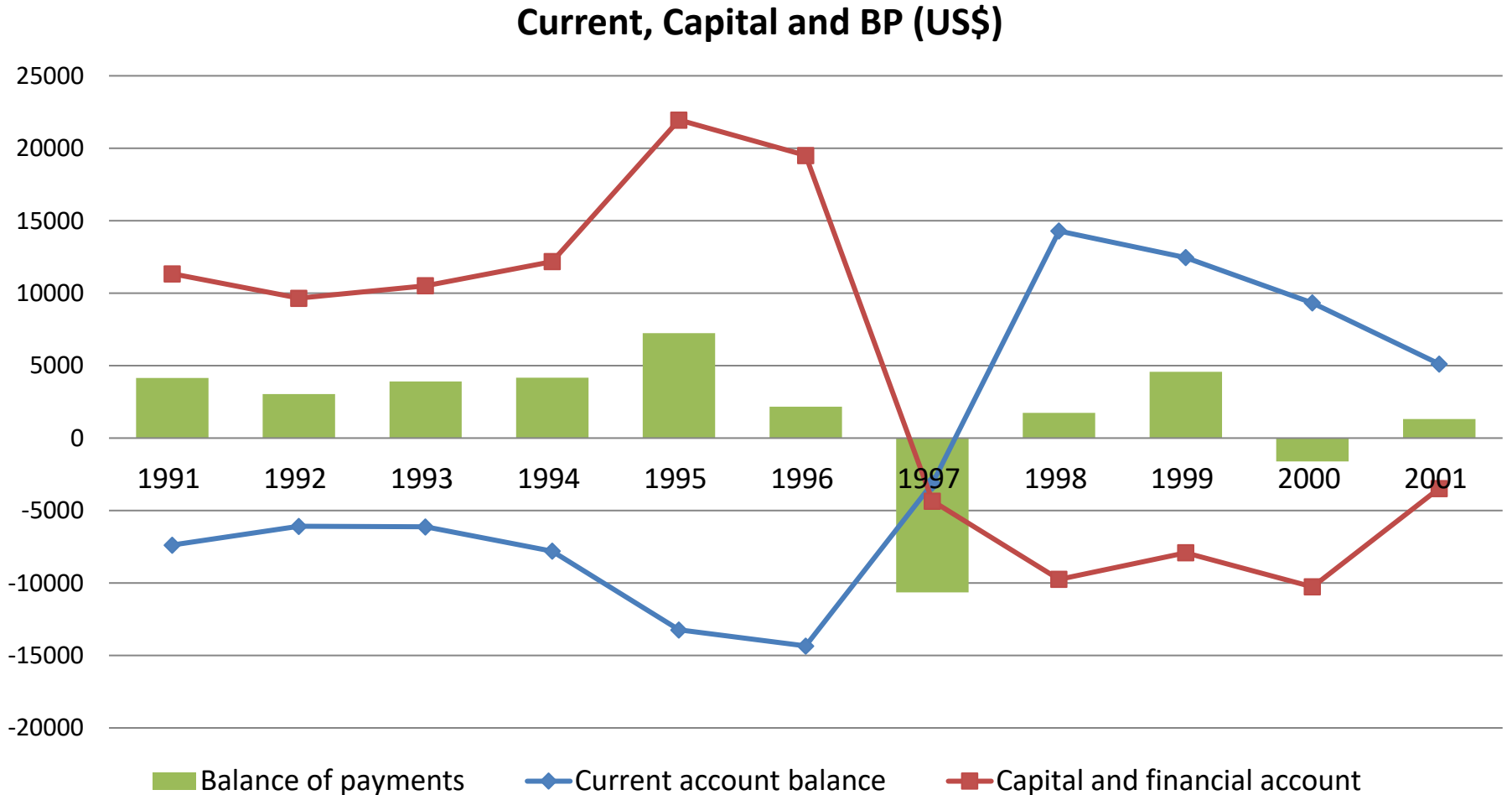
$$CA = (S^P - I) + (T - G)$$

# What is the meaning of saving-investment gap at the firm level?

- Firms might see some market potentials and need to invest beyond their own saving.
- If the project is well developed, firms would borrow today and pay back their loan later (tomorrow).
- Can it be generalized to the country level?

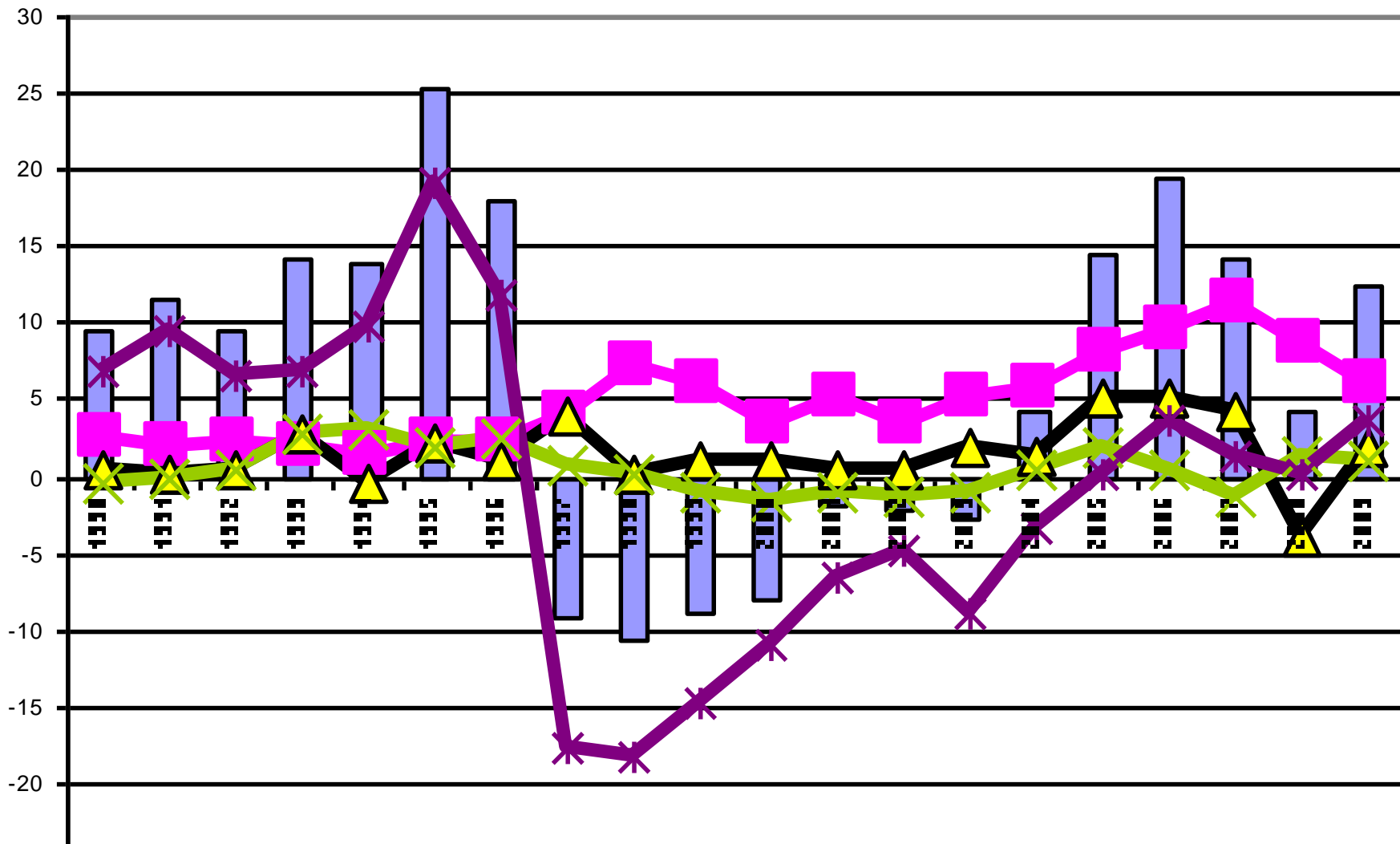
# What CA and balance of Payment tell us?

- If a country has (successive) Current Account Deficit but Balance of Payment surplus, what does this mean?



- It would be vulnerable to have successive current account deficit (from lit around 5 years)
  - Investment > saving [need funds --- capital inflows]
- A country becomes less vulnerable when capital inflows are FDI

Net Capital Inflows (\$ billion), 1990-2009



Total
  FDI
 
 Equity
  Debt
  Other

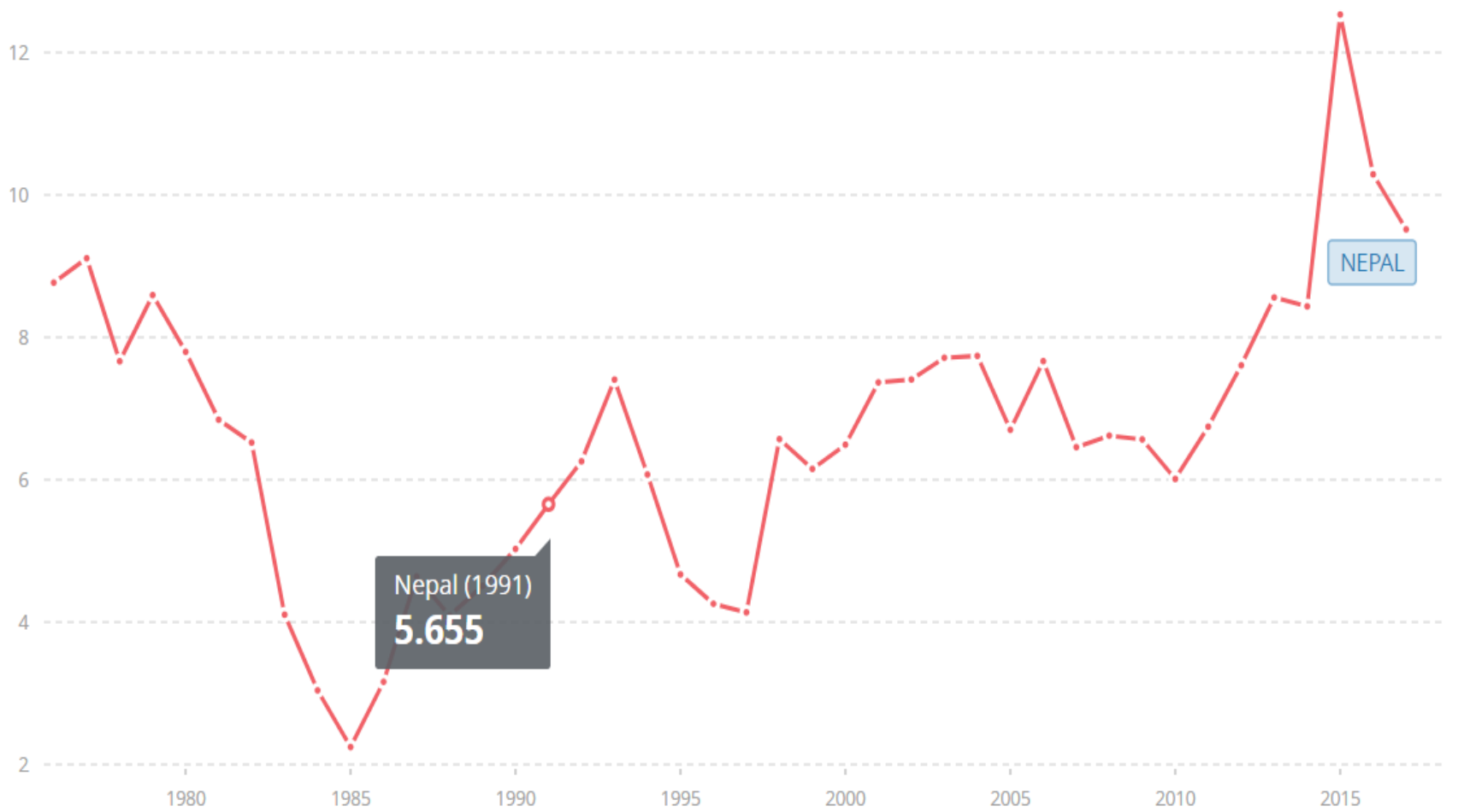
# Other indicators – show vulnerabilities compare Reserves (stock) to possible loss of foreign exchange

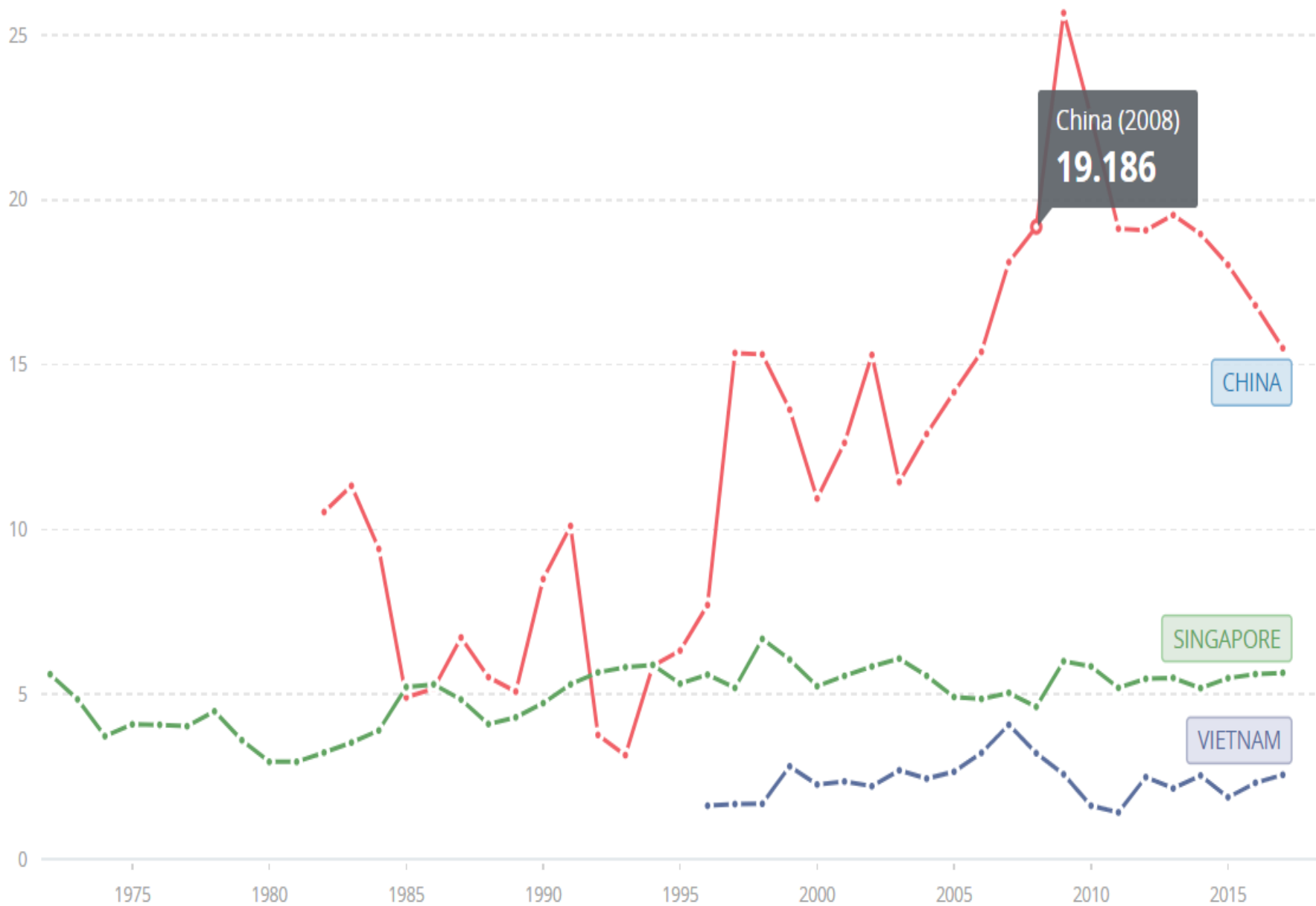
- Months of imports (Total reserves in months of imports)
- Short-term capital (Total reserves to **cumulative** short-term capital movements)
  - Others investment
  - Other + portfolio

# Total reserves in months of imports



# Nepal





# Total reserves to (cumulative) short-term capital movements

TABLE 1  
Reserve Adequacy ( $R/V$ ): Foreign Exchange Reserves ( $R$ ) as a Percentage of Stock of Mobile Capital ( $V$ )

|                             | 1988     | 1989    | 1990    | 1991    | 1992     | 1993    | 1994    | 1995    | 1996    | 1997 <sup>1</sup> |
|-----------------------------|----------|---------|---------|---------|----------|---------|---------|---------|---------|-------------------|
| <b>Crisis countries</b>     |          |         |         |         |          |         |         |         |         |                   |
| Indonesia                   | 434.8    | 285.7   | 125.0   | 156.3   | 144.9    | 106.4   | 76.9    | 68.5    | 70.4    | 70.5              |
| Korea                       | 126.6    | 153.8   | 116.3   | 71.9    | 60.2     | 49.0    | 43.7    | 37.7    | 29.4    | 17.8              |
| Malaysia                    | 142.9    | 153.8   | 158.7   | 171.3   | 148.8    | 124.3   | 93.7    | 80.4    | 72.5    | 56.2              |
| Philippines <sup>2</sup>    | 476.2    | 434.8   | 416.7   | 243.9   | 270.3    | 208.3   | 147.1   | 125.0   | 93.5    | 39.5              |
|                             | (714.3)  | (714.3) | (667.7) | (370.4) | (769.2)  | (333.3) | (222.2) | (178.6) | (149.3) | (64.1)            |
| Thailand                    | 133.3    | 161.3   | 175.4   | 227.3   | 169.5    | 105.3   | 70.4    | 61.3    | 54.1    | 45.0              |
| <b>Non-crisis countries</b> |          |         |         |         |          |         |         |         |         |                   |
| China                       | 135.1    | 181.8   | 555.6   | 625.0   | 666.7    | 476.2   | 1111.1  | 3333.3  | 1000.0  | 769.2             |
| India                       | 54.3     | 35.5    | 12.8    | 22.6    | 31.7     | 48.3    | 72.5    | 59.9    | 45.9    | 48.3              |
|                             | (2500.0) | **      | **      | **      | (1428.6) | (256.4) | (181.8) | (140.8) | (133.5) | (155.3)           |
| Singapore                   | 52.9     | 45.0    | 66.7    | 93.5    | 81.3     | 104.2   | 126.6   | 153.8   | 158.7   | 101.0             |
| Sri Lanka                   | 17.7     | 18.1    | 27.2    | 40.5    | 46.5     | 77.5    | 87.7    | 92.6    | 87.0    | 79.4              |
|                             | (114.9)  | (222.2) | (416.7) | (263.2) | (476.2)  | **      | **      | **      | **      | **                |
| Taiwan                      | 1111.1   | 3333.3  | **      | **      | 3333.3   | 2500.0  | 1666.7  | 2000.0  | **      | **                |

Notes:

<sup>1</sup> Data for 1997 relate to the first half of the year only, preceding the Thai crisis in July of that year.

<sup>2</sup> Data in parentheses give the  $R/V$  ratio estimated after excluding accumulated balances on non-resident foreign currency accounts in commercial banks.

\*\* Stock of mobile capital is negative (cumulative outflow was greater than cumulative inflow).

# Is it true that CA surplus is always better?

| country  | Exports | Imports | CA (suppose<br>PI and SI =0) |
|----------|---------|---------|------------------------------|
| A Year 1 | 100     | 70      | 30                           |
| Year 2   | 80      | 40      | 40                           |

|                 |            |           |           |
|-----------------|------------|-----------|-----------|
| <b>B Year 1</b> | <b>100</b> | <b>70</b> | <b>30</b> |
| Year 2          | 120        | 80        | 40        |

CA surplus that comes from higher exports tend to be better for growth than from reduction of imports