INTRODUCTION

External sector is “the rest of the world”: non-residents of an economic

- economic transactions
- financial claims
- financial liabilities

INTRODUCTION

Inter-temporal Decisions

How much to borrow (lend) from (to) the rest of the world?

Intra-temporal Decisions

Where to buy/produce: at home or in the rest of the world?

Are these decisions sustainable over time?

INTRODUCTION

The Balance of Payments

- economic transactions
- with the rest of the world
- during a *period* of time

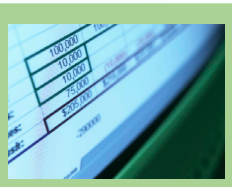
The International Investment Position

- stock of financial assets and liabilities
- on and to the rest of the world
- at a *point* in time

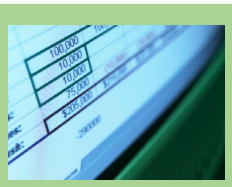
OBJECTIVES

- Identify and explain the main items in the BOP and IIP, how these are recorded, and how these are related
- Compute key economic indicators from the BOP and IIP
- Analyze developments in these indicators
- Give an economic interpretation to these developments

OUTLINE



BOP accounting

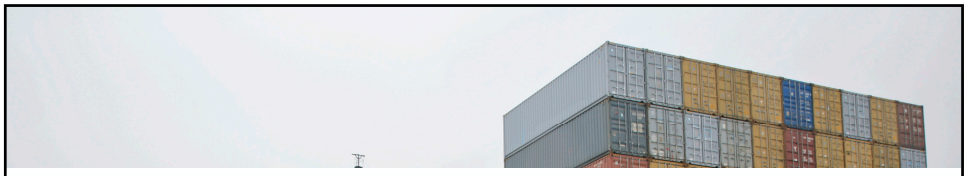


IIP accounting

Balances

Analysis

External and other sectors



External Sector

1. Principles of BOP accounting (I)

INTERNATIONAL MONETARY FUND

THE BOP

The BOP records:

- the transactions of an economy…
- with the rest of the world
- during a specific period of time

Flows
associated to transactions

RECORDED TRANSACTIONS

- Goods cars, food, energy, commodities
- Services legal, transportation, fin. intermediation
- Factors of production labour, fin. capital, land and nat. resources
- Non-produced non-financial assets
- Financial assets and liabilities property rights, radio bands
  gold & claims: currency, bonds, credit, securities, loan

Must occur between residents and non-residents

RESIDENCY

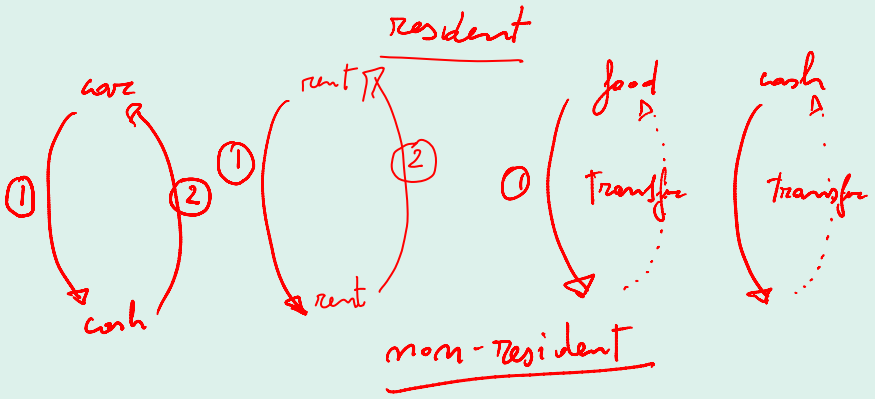
Residency is based on center of predominant economic interest (not on citizenship)

- Households and individuals reside for one year or longer
- Enterprises significant amount of production
- The government of a country (by default) resident
- Non-profit organizations residents of country where they are legally created & recognized
- International organizations

TYPES OF TRANSACTIONS

Exchanges: two-sided (either monetary or non-monetary)

Transfers: one-sided (either monetary or non-monetary)



RECORDED TRANSACTIONS

Real transactions
(reflecting flows of goods, services, and income, including transfers)

Current Account

a. Account on goods

b. Account on services

c. Primary income account

d. Secondary income account

Capital Account

Financial transactions
(reflecting transactions in assets, and the creation, repayment or extinction of claims and liabilities)

Financial Account

a. Direct investments

b. Portfolio investments

c. Other investment

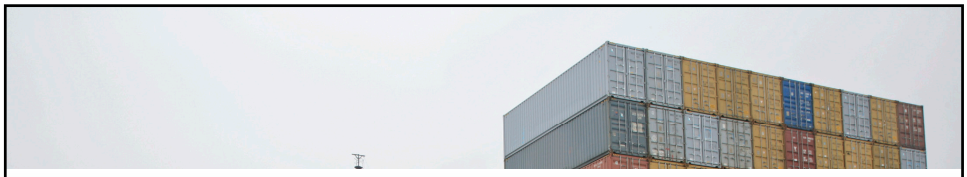
d. Reserve assets

6th edition of the IMF BOP Manual (2009)

UNIT OF ACCOUNTING

The BOP is generally reported:

- in domestic currency
- in a foreign currency



External Sector

2. Principles of BOP accounting (II)

INTERNATIONAL MONETARY FUND

DOUBLE-ENTRY ACCOUNTING

TRANSACTIONS

2 entries:
- equal value
- opposite sign

CREDIT (+)

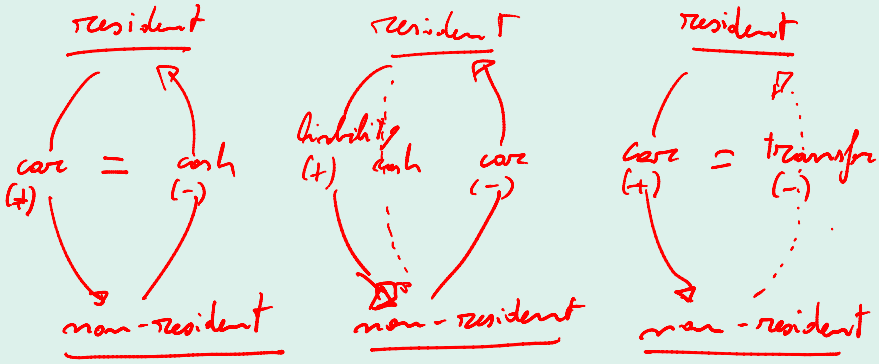
DEBIT (-)

The BOP records both sides of a transaction:
- **the value of what is transacted**
- **"how this is paid."**

DOUBLE-ENTRY ACCOUNTING

EXCHANGE

TRANSFER



DOUBLE-ENTRY ACCOUNTING

Credits (+)

- Exports of goods & services
- Return accrued for providing labor, financial assets, and natural resources to non-residents
- Disposal of assets (gold and claims) on the world
- Incurrence of liabilities to the world
- Donations received

Debits (-)

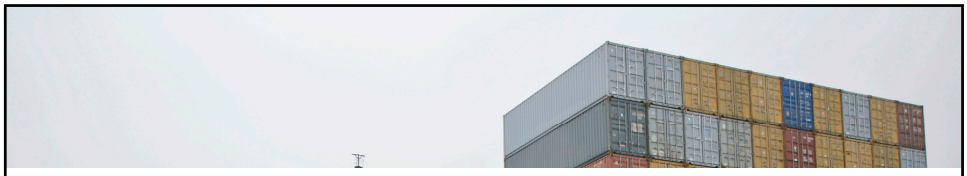
- Imports of goods & services
- Return payable for using labor, financial assets, and natural resources of non-residents
- Acquisition of gold and claims on the world
- Decrease in liabilities to the world
- Donations made

ERRORS AND OMISSIONS

IN PRACTICE
Sum of credits ≠ sum of debits

"Errors and omissions" restore the balance, with opposite sign but equal value to the overall residual

sum of credit − sum of debit + HE 0 = 0



External Sector

3. Principles of BOP accounting (II)

INTERNATIONAL MONETARY FUND

EXAMPLE 1

Goods of value 100 are imported. These are paid by drawing down 10 of foreign currency deposits, and obtaining trade credit for 90

	Credit	Debit
Goods (imports)		100
Assets, currency and deposits	10	
Liabilities, trade credit	90	
	100	100

EXAMPLE 2

The economy receives a donation in goods (medicines) for a value of 20. It also donates foreign currency to a third country for a value of 50.

	Credit	Debit
Goods (imports)		20
Current Transfers	20	50
Assets, currency and deposits	50	
	70	= 70

EXAMPLE 3

200 of repayment of long-term debt fall due; 50 is paid using foreign currency deposits, and 150 is paid by borrowing short term

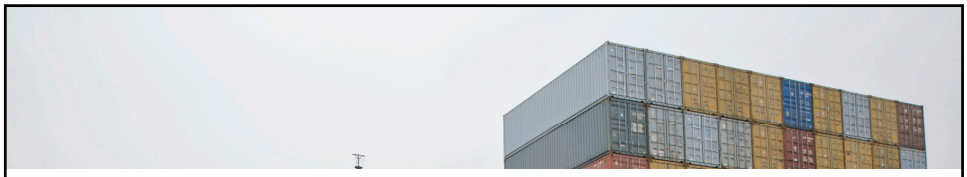
	Credit	Debit
Assets, currency and deposits	50	
Liabilities, long term loans		200
Liabilities, short term loans	150	
	200	200

ERRORS & OMISSIONS

	Credit	Debit
(goods)		100
(Liabilities)	80	
Errors and omissions	+20	

80 − 100 + 20 = 0

	Credit	Debit
(goods)	80	
(Assets)		100
Errors and omissions	20	



External Sector

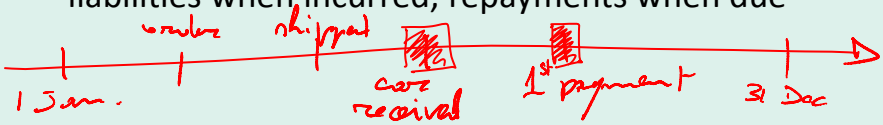
4. Principles of BOP accounting (III)

INTERNATIONAL MONETARY FUND

TIME OF RECORDING

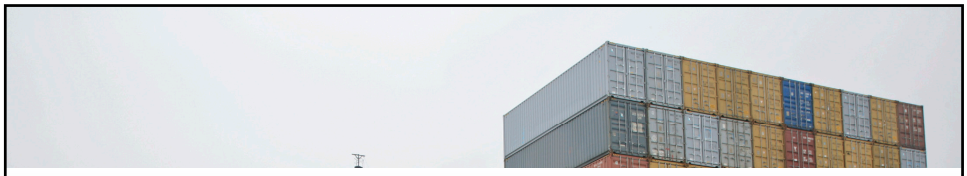
Accrual basis

- Goods and services: when change of ownership and provision occurs
- Primary income: when claim arises or becomes due
- Secondary income: when made
- Financial: when ownership changes, claim created, liabilities when incurred, repayments when due



VALUATION

Transactions are recorded at the value and exchange rate of they day when they accrue.



External Sector

5. The Current Account

INTERNATIONAL MONETARY FUND

CURRENT ACCOUNT

Current Account

a. Goods and Services account
   - Goods
   - Services

b. Primary income account

c. Secondary income account

GOODS AND SERVICES

Transaction in goods

Goods
- Exports
- Imports

Transaction in services

Services
- Manufacturing
- Maintenance and repairs
- Transport
- Travel
- Other

PRIMARY INCOME

Returns for providing labor, financial assets, and natural resources

Primary Income
- Compensation of employees
- Investment income
  - Of which: Dividends
  - Reinvested earnings
  - Interest
- Other primary income
  - Of which: Rent
  - Taxes/subsidies on products

SECONDARY INCOME

Current transfers

Secondary income

Of which:

- Personal transfers
- Taxes on income, wealth
- International cooperation
- Social benefits and contribution

CURRENT ACCOUNT BALANCE

Current Account Balance

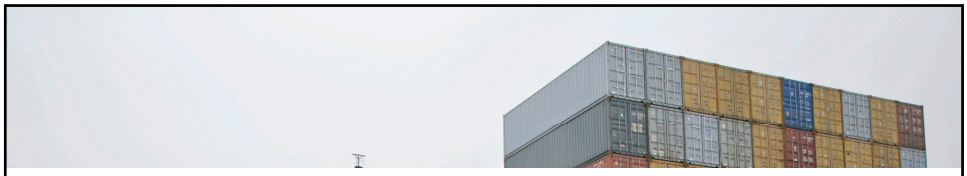
Balance on Goods and Services

- Total Credit (exports)
- Total Debit (imports)

Balance on Primary income

Balance on Secondary income

$$CAB = X - M + PIB + SIB$$



External Sector

6. The Capital Account

INTERNATIONAL MONETARY FUND

CAPITAL ACCOUNT

Acquisition/disposal of non-produced non-financial assets and capital transfers

Capital Account

- Acq./disposal of non-produced non-financial assets
- Capital transfers
  - Of which: debt forgiveness

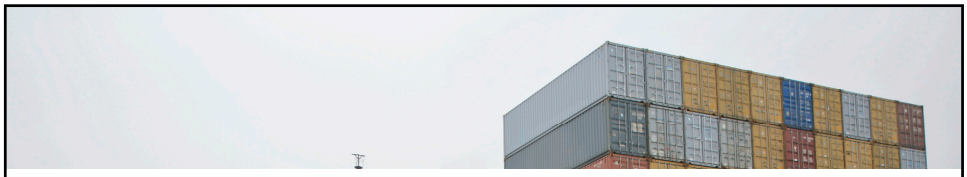
CURRENT AND CAPITAL ACCOUNTBALANCE

Current Account Balance +

Capital Account Balance −

=

<0 paid in cash ⇒ assets ↓
borrowing ⇒ liabilities ↑
net acquisition of fin assets <0
net incurrence of liabilities >0



External Sector

7. The Financial Account

INTERNATIONAL MONETARY FUND

FINANCIAL ACCOUNT

Financial Account

a. Direct Investment
b. Portfolio Investment
c. Financial Derivatives (other than reserves) and Employee Stock Options
d. Other Investment
e. Reserves

CLASSIFICATION OF CREDIT AND DEBT ENTRIES

Credits (+)	Debits (-)
• Disposal of assets (gold and claims) on the world	• Acquisition of gold and claims on the world
• Incurrence of liabilities to the world	• Decrease in liabilities to the world

net acq. of assets = acq. (disposals) − (debit − credit)

net. incurrence of liab. = inc. (decrease) − (credit − debit)

DIRECT INVESTMENT

Investment reflecting long lasting interests in an enterprise

Direct investment

- Equity and investment fund shares
  - Equity other than reinvested earnings
  - Reinvested earnings
- Debt instruments

PORTFOLIO INVESTMENT

Transaction in equity and debt securities that are not direct investment

Portfolio investment

- Equity and investment fund shares
- Debt Securities

DERIVATIVES AND OPTIONS

Transaction in financial derivatives and employee stock options

Financial Derivatives and Employee Stock Options

OTHER INVESTMENT

Other claims/liabilities on the rest of the world (loans/borrowing)

Other investments

- Net acquisition of assets
  - …
- Net incurrence of liabilities
  - Trade credit and advances
  - Loans
  - Currency and deposits
  - Others

RESERVE ASSETS

Reserves assets consist of assets that are:

- under the control of the central bank
- readily available
- usable for direct financing of payments imbalances

Reserves

- Monetary gold
- SDR
- Reserve position in the IMF
- Foreign exchange assets
- Other assets

FINANCIAL ACCOUNT BALANCE

CAB **Current Account Balance** +

KAB **Capital Account Balance** =

< 0

FAB

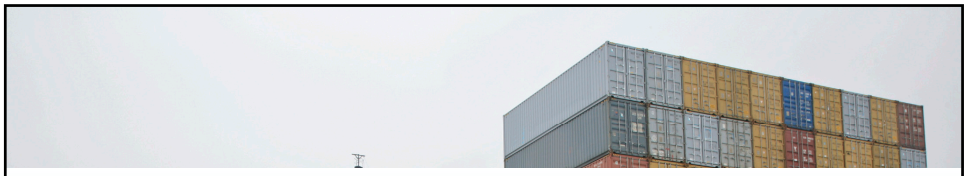
< 0 Financial account balance =

↓ net acq. of fin. assets −

↑ net incurrence of liabilities

CAB +
KAB =
FAB −
NEO

CAB +
KAB (−)
FAB +
NEO =
0



External Sector

8. The International Investment Position

INTERNATIONAL MONETARY FUND

THE IIP

The International Investment Position (IIP) records:

- external assets (gold and claims on the rest of the world)
- liabilities to the rest of the world
- outstanding at the end of the period
- at value prevailing at the end of the period
- in the same currency as the BOP is recorded

Stocks

STRUCTURE

Assets

- Direct investment
- Portfolio investment
- Financial derivatives and E.S.O.
- Other investment
- Reserve assets

Liabilities

- Direct investment
- Portfolio investment
- Financial derivatives and E.S.O.
- Other investment

NET IIP

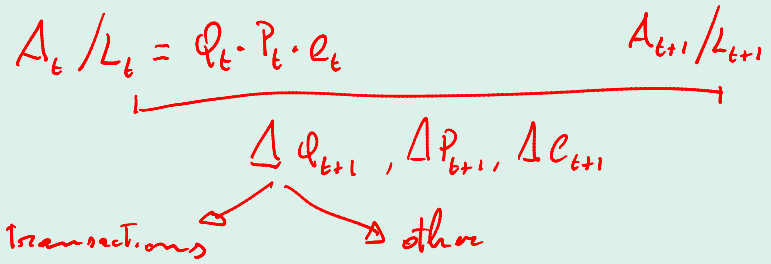
$NIIP_t = A_t - L_t$

$NIIP_t > 0 \Rightarrow A_t > L_t$ net creditor

$< 0 \Rightarrow L_t > A_t$

The net IIP indicates if a country is a net creditor (>0) or borrower (<0) to the rest of the world

CHANGES IN ASSETS AND LIABILITIES



Change in net IIP = transactions + valuation changes + other volume changes

EXAMPLE 1

A country reports its IIP in US$.

	Position at end-2008	Trans-actions	Valuation change	Position at end-2009
Holdings of Euros	1 bn	0.5 bn	…	1.5bn
Reserves (US$)	1.39	0.68	0.21	2.28
US$ per Euro	End 2008: 1.39			
	Average 2009: 1.36			
	End 2009: 1.52			

+ 0.89

EXAMPLE 2

Loan are written-off entirely. The central bank purchases 15 of foreign currency from residents.

	IIP end 2008	BOP	Other vol. changes	IIP end 2009
ASSETS	**110**			80
Other investment	100	0		55
Currency and deposits	70	0	-15	55
Loans	30	0	-30	0
Reserves	10	0	+15	25
LIABILITIES	**0**	**0**		0

RELATION WITH BOP

$$NIIP_t = A_t - L_t$$

$$\Delta NIIP_{t+1} = \Delta A_{t+1} - \Delta L_{t+1}$$

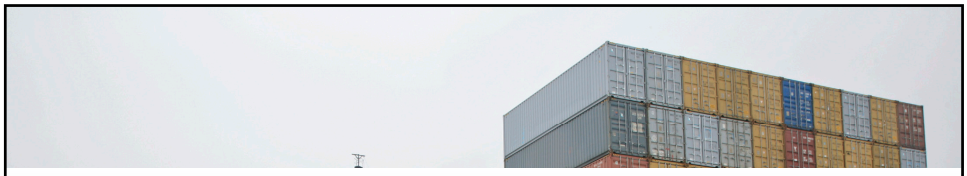
$$(A_{t+1} - A_t)$$

= transactions in A − transactions in L + VC + OVC

$$(L_{t+1} - L_t)$$

$$= NAA - NIL$$

$$\Delta NIIP_{t+1} = FAB_{t+1} + VC_{t+1} + OVC_{t+1}$$



External Sector

9. Standard and analytic presentation

INTERNATIONAL MONETARY FUND

ANALYTIC PRESENTATION

The analytic presentation re-organizes some items. It is designed to focus on the management of reserves and other related financing items.

The analytic presentation identifies “below the line”:

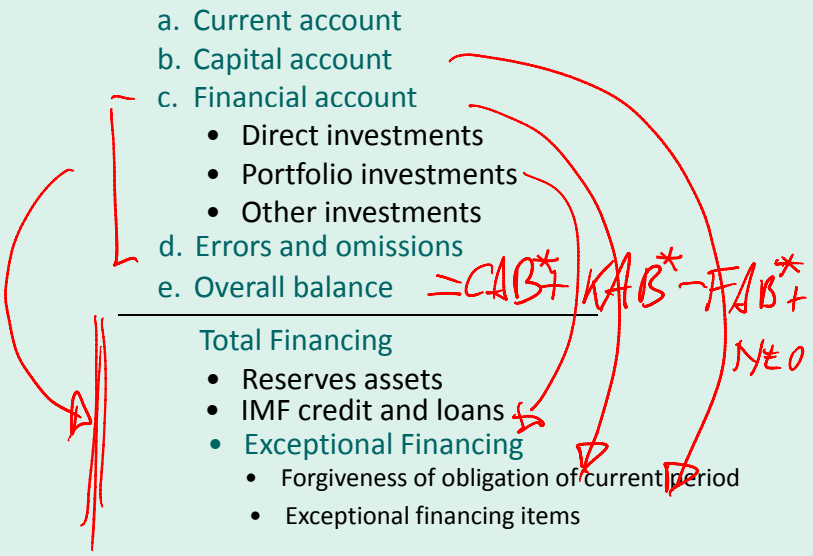
- reserves assets
- loans and credit from the IMF
- exceptional financing

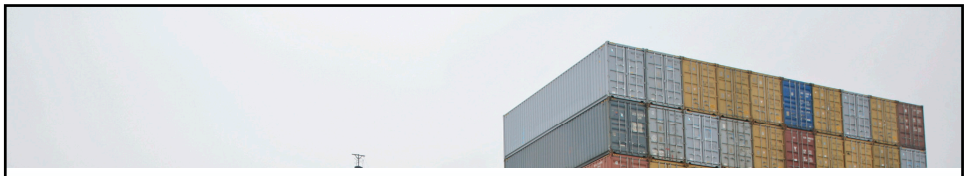
EXCEPTIONAL FINANCING

Exceptional financing includes:

- debt forgiveness and intergovernmental grants
- debt/equity swaps
- borrowing for BOP support
- debt rescheduling/refinancing
- debt prepayment and buyback
- accumulation/repayment of arrears
- debt-for-development swap

ANALYTIC PRESENTATION





External Sector

10. Balances and their interpretation

INTERNATIONAL MONETARY FUND

THE TRADE BALANCE

$$GDP = (C + I) + X - M$$

$$GDP - (C + I) = X - M$$

$GDP - (C + I) \gtrless 0$; $X - M \gtrless 0$

Trade balance = GDP minus absorption

Is domestic production sufficient to meet the overall demand for consumption and investment goods?

CURRENT ACCOUNT BALANCE

$$GDP = C + I + X - M$$

$$GDP + PIB + SIB = C + I + X - M + PIB + SIB$$

$$GNDI = C + I + CAB$$

$$GNDI - (C + I) = CAB$$

$$S - I = CAB$$

CA BALANCE = S – I

Is the country a net saver or borrower?

- If CAB ≥ 0 the country is a net saver
- If CAB ≤ 0 the country is a net borrower

CURRENT ACCOUNT BALANCE

$$CAB + KAB - FAB + NEO = 0$$

$$FAB = CAB + KAB + NEO$$

$$\Delta NIIP = FAB + VC + OVC$$

$$\Delta NIIP \cong CAB$$

CAB is almost equal to change in net IIP

- If CAB + KAB ≥ 0 the country is a net saver and its net foreign assets increase
- If CAB + KAB ≤ 0 the country is a net borrower and its net foreign assets decrease

OVERALL BALANCE

$$\underbrace{CAB + KAB - FAB^{*} + NEO}_{OB} = RES + CLINF + EFIM$$

Overall balance

Are capital flows sufficient to finance the current account or does the country need to use the central bank reserves?

External Sector

11. The IIP and the BOP

INTERNATIONAL MONETARY FUND

IIP AND BOP

Italy 136

Table 3. INTERN

Data reported to the IMF o

ASSETS
Direct investment
Equity and investment fund shares
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises
Debt instruments
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises
Portfolio investment

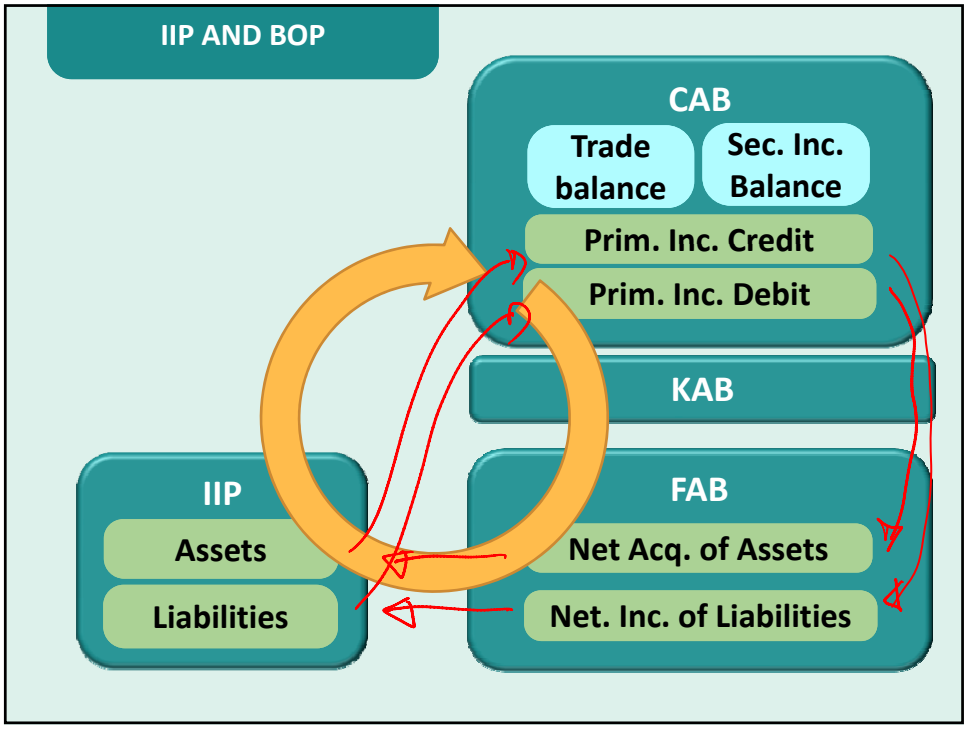
FINANCIAL ACCOUNT
DIRECT INVESTMENT
Net acquisition of financial assets
Equity and investment fund shares
Equity other than reinvestment of earnings
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises
Reinvestment of earnings (direct investor in DIEnt)
Debt instruments
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises

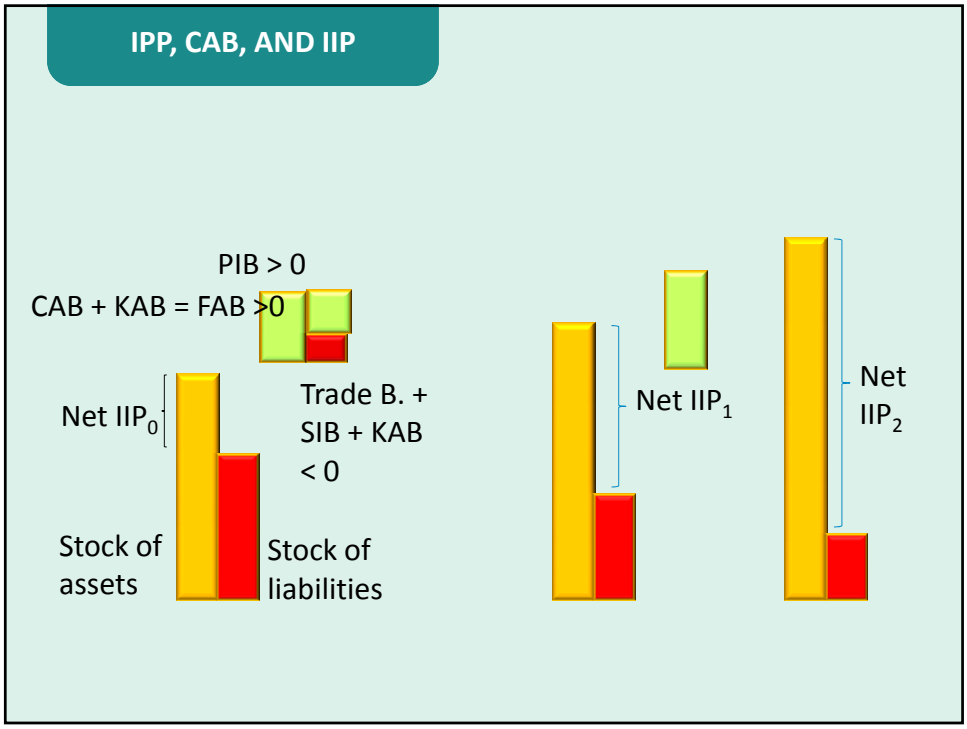
IIP AND BOP

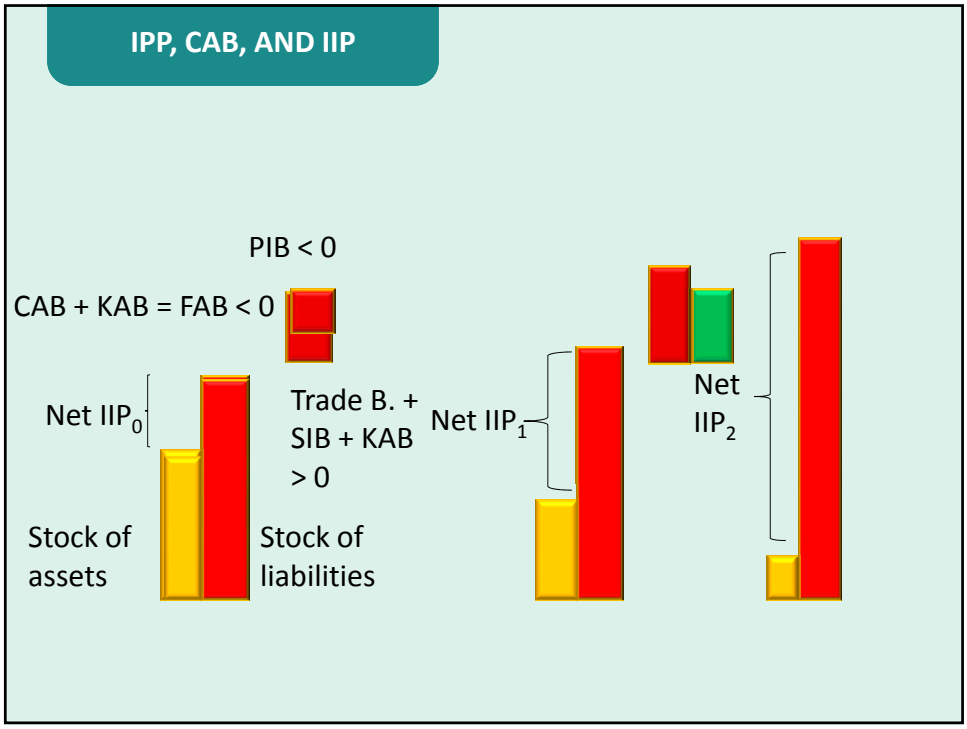
LIABILITIES
Direct investment
Equity and investment fund shares
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises
Debt instruments
Direct investor in DIEnt
DIEnt in direct investor (reverse investment)
Between fellow enterprises
Portfolio investment
Equity and investment fund shares
Central bank
Deposit-taking corporations, exc. the central bank
General government
Other sectors
of which: Other financial corporations
Debt securities
Central bank
Deposit-taking corporations, exc. the central bank
General government
Other sectors
of which: Other financial corporations

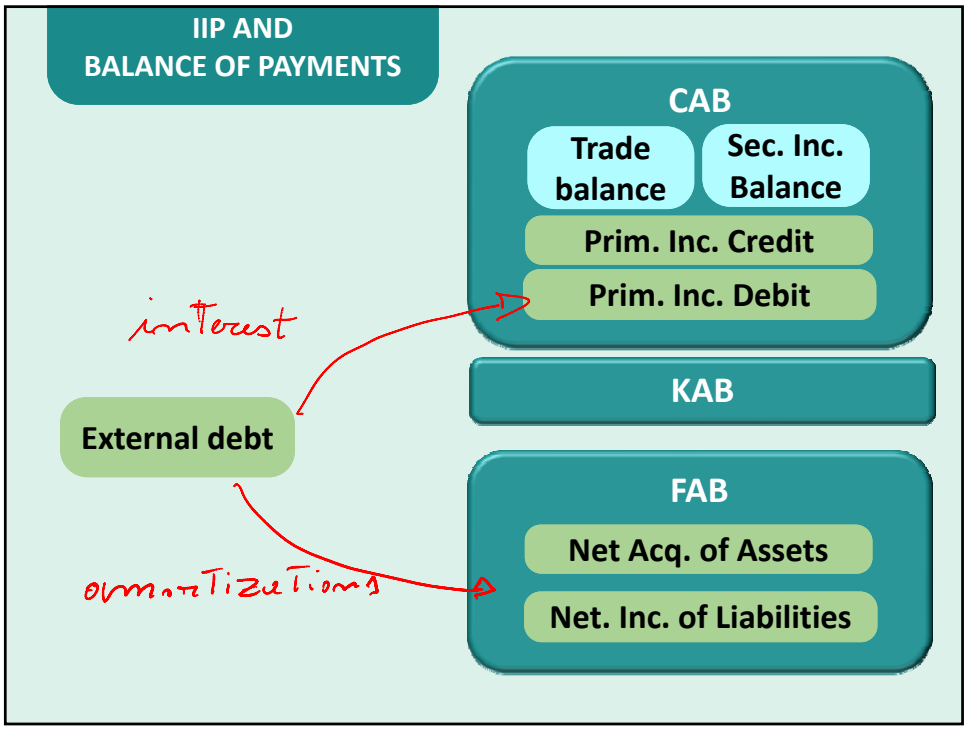
PRIMARY INCOME
Total credit
Total debit
Compensation of employees, credit
Compensation of employees, debit
Investment income, credit
Direct investment income
Income on equity and investment fund shares

Investment income, debit
Direct investment income
Income on equity and investment fund shares
Dividends and withdr. from income of quasi-corp
Reinvested earnings (direct investor in DIEnt)
Interest
Portfolio investment income
Investment income on equity and invest. fund shares
Dividends on equity exc. invest. fund shares
Income attr. to invest. fund shareholders
Interest
Other investment income
Withdrawals from income of quasi-corporations
Interest
Income attr. to policyholders in insurance, etc

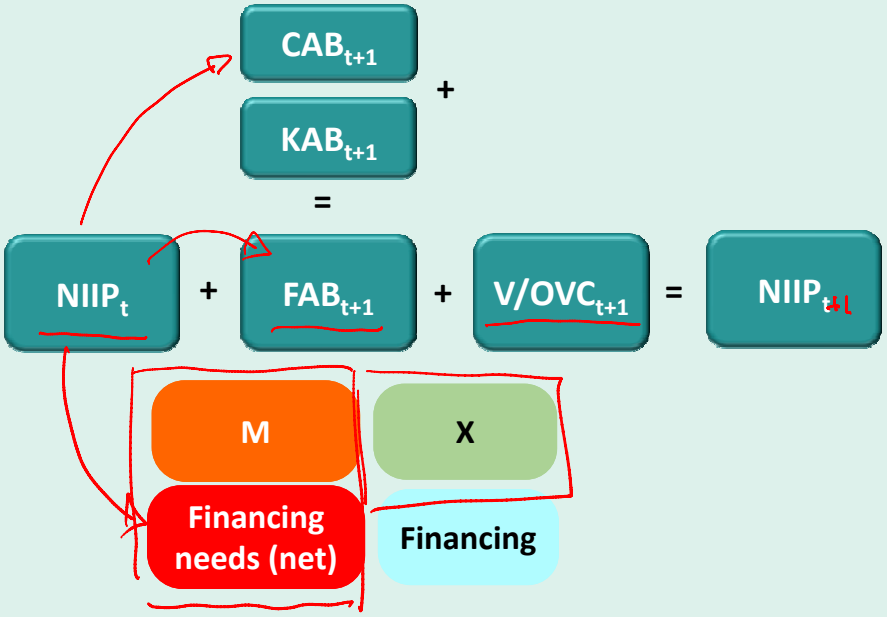

IIP AND BOP
CAB
Trade balance
Sec. Inc. Balance
Prim. Inc. Credit
Prim. Inc. Debit
KAB
IIP
Assets
Liabilities
FAB
Net Acq. of Assets
Net. Inc. of Liabilities


IPP, CAB, AND IIP
PIB > 0
CAB + KAB = FAB >0
Net IIP0
Trade B. + SIB + KAB < 0
Stock of assets
Stock of liabilities
Net IIP1
Net IIP2


IPP, CAB, AND IIP
PIB < 0
CAB + KAB = FAB < 0
Net IIP0
Trade B. + SIB + KAB > 0
Stock of assets
Stock of liabilities
Net IIP1
Net IIP2


IIP AND BALANCE OF PAYMENTS
CAB
Trade balance
Sec. Inc. Balance
Prim. Inc. Credit
Prim. Inc. Debit
interest
KAB
External debt
FAB
Net Acq. of Assets
Net. Inc. of Liabilities
amortizations

IIP AND BOP



FINANCING THE BOP

How large are the financial obligations?

How stable are the sources of external financing?

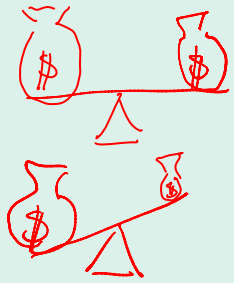
Does the economy have enough liquid external assets to finance its external obligations if external financing halts or reverts?

How difficult is it to reduce other sources of financing needs?

BOP RISKS

M

X



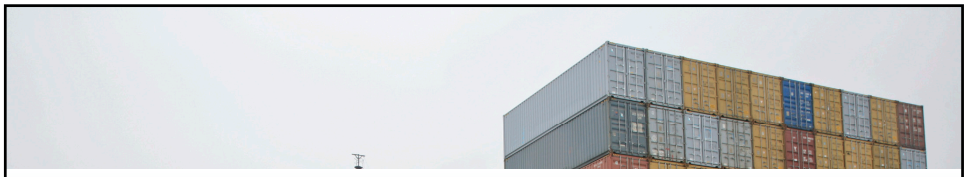
Financing needs (net)

Borrowing and other inflows

(Net) sale of other assets

Sale of reserves

Exchange rate



External Sector

12. Stock and other indicators

INTERNATIONAL MONETARY FUND

FINANCING THE BOP

How large are the financial obligations?

How stable are the sources of external financing?

Does the economy have enough liquid external assets to finance its external obligations if external financing halts or reverts?

How difficult is it to reduce other sources of financing needs?

STOCK INDICATORS

- Net IIP position (in percent of GDP)
- Stock of external debt (in percent of GDP or exports)
- Debt service (in percent of GDP or exports)
- Reserves (in months of imports or in percent of short term debt at remaining maturity)

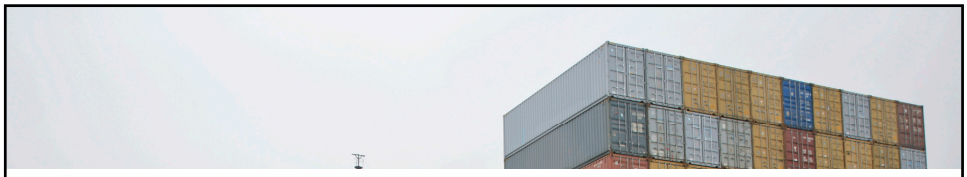
$S_{t-1} + am._t$

OTHER INDICATORS RELATED TO DEBT

$$\text{Implicit interest rate}_t = \frac{\text{interest paymets}_t}{\text{average stock of debt}_{t-1,t}}$$

$$\text{Average maturity}_t = \frac{\text{Stock of debt}_{t-1}}{\text{Amortization}_t}$$

$$\text{Roll-over rate}_t = \frac{\text{Disbursment}_t}{\text{Amortization}_t}\%$$



External Sector

13. Analysis of the trade balance

INTERNATIONAL MONETARY FUND

PRICES AND VOLUMES

The change in the value of exports (imports) reflect the change in both prices (P) and quantities (Q)

$$\frac{X_t}{X_{t-1}} = \frac{Q_t P_t}{Q_{t-1} P_{t-1}}$$

$$\%\Delta \text{Value} = \left[\left(1+\frac{\%\Delta P}{100}\right)\times\left(1+\frac{\%\Delta Q}{100}\right)-1\right]\times 100$$

$$\%\Delta Q = \left[\left(1+\frac{\%\Delta \text{Value}}{100}\right)/\left(1+\frac{\%\Delta P}{100}\right)-1\right]\times 100$$

PRICES AND VOLUMES

- Export and import price indexes
- Export and import volume indexes
- Terms of trade: ratio of export to import prices

These indices take value 100 in a base year (or period) and are updated using the percent change of the underlying variables

PRICES

- Is the country a price taker or a price maker?
- How diversified is the export/import base?
- How volatile are the prices of the exported and of the imported goods?

EXPORT VOLUMES

Supply of exports

- Productive capacity
- Recent economic developments
- Other factors (for example, availability of credit, business cycle)

Demand for exports

- Relative prices (real exchange rate)
- External demand (income abroad)

Important:

- **Sensitivity of exports to relative prices**
- **Sensitivity of exports to Income**

IMPORT VOLUMES

Supply of imports

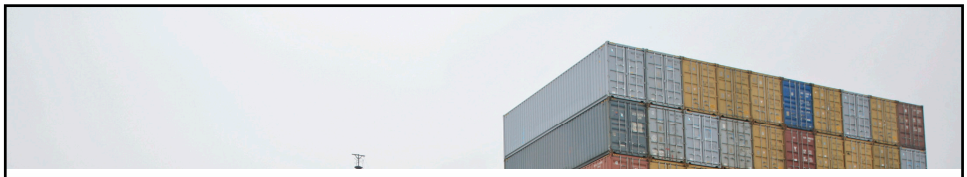
- Productive capacity abroad
- Recent economic developments abroad

Demand for imports

- Relative prices (real exchange rate)
- Domestic demand (disposable income)

Important:

- **Sensitivity of imports to relative prices**
- **Sensitivity of imports to Income**



External Sector

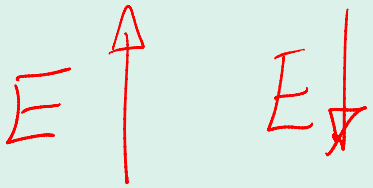
14. Trade balance and the exchange rate

INTERNATIONAL MONETARY FUND

EXCHANGE RATE

The price of one unit of a currency in terms of units of another currency

E: units of the foreign currency per one unit of domestic currency (ex.: 0.77 € = 1 US$)



EXAMPLE 1

Consider the price of a bag of rice produced in the domestic economy and in a foreign country

	Price expressed in respective local currency	Exchange rate	Price expressed in foreign currency
Domestic economy	1	E = 2	2
Foreign country	1.5		1.5

Where is it more convenient to purchase rice?

EXAMPLE 1

	Price expressed in respective local currency	Exchange rate	Price expressed in same foreign currency
Domestic economy	2	E = 0.5	1
Foreign country	2		2

Both changes in the exchange rate and changes in domestic and foreign prices determine where, over time, it is convenient to purchase goods and services.

REAL EXCHANGE RATE

Consider:

- E: exchange rate
- P*: price level in the foreign country
- P: price level in the domestic economy

$$\text{Real Exchange Rate} = E\,\frac{p}{p^*}$$

If RER ↑ there is a real *appreciation*
If RER ↓ there is a real *depreciation*

REAL EXCHANGE RATE

The RER is an index that takes value 100 in a base year (or period)

$$\text{RER}_t = E_t \frac{p_t}{p_t^*} \Rightarrow \frac{\text{RER}_t}{\text{RER}_{t-1}} = \frac{E_t}{E_{t-1}} \frac{\frac{p_t}{p_t^*}}{\frac{p_{t-1}}{p_{t-1}^*}} = \frac{E_t}{E_{t-1}} \frac{\frac{p_t}{p_{t-1}}}{\frac{p_t^*}{p_{t-1}^*}}$$

$$(1+\%\Delta \text{RER}_t) = (1+\%\Delta E_t)\frac{(1+\%\Delta p_t)}{(1+\%\Delta p_t^*)} - 1$$

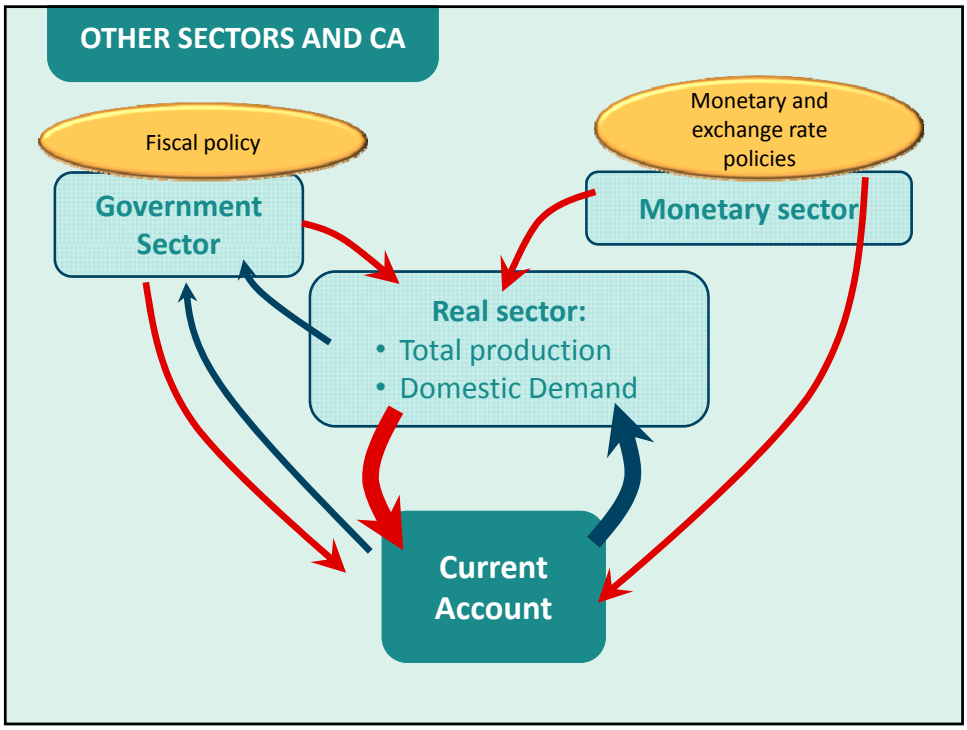
REAL EXCHANGE RATE AND THE TRADE BALANCE

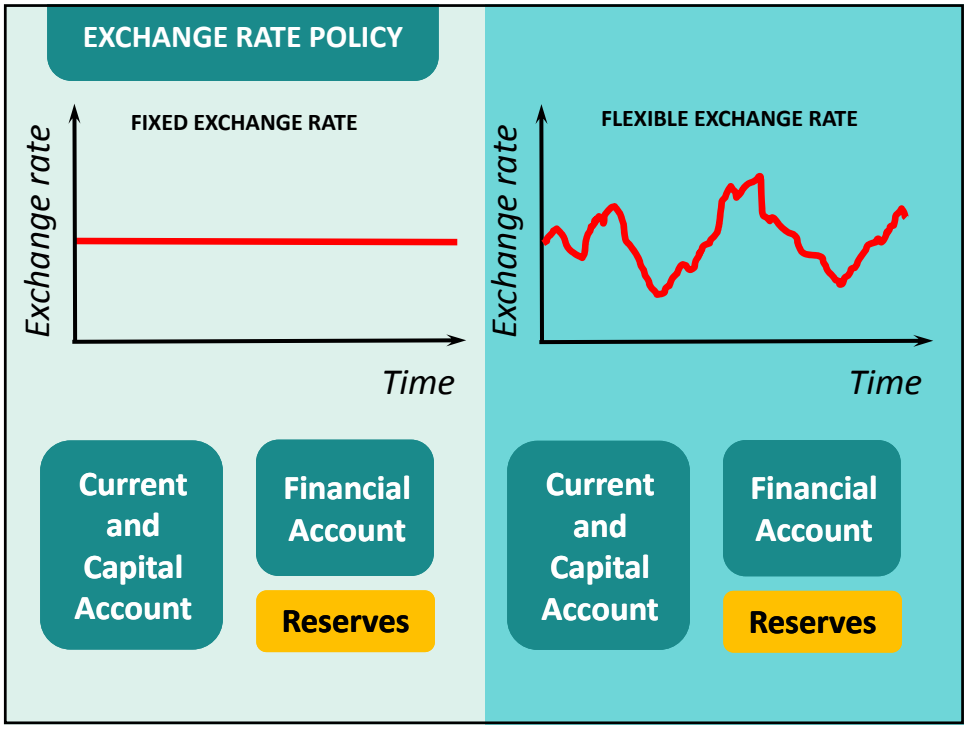
If RER ↑ (↓) domestic goods become more (less) expensive (in real terms) relative to foreign goods

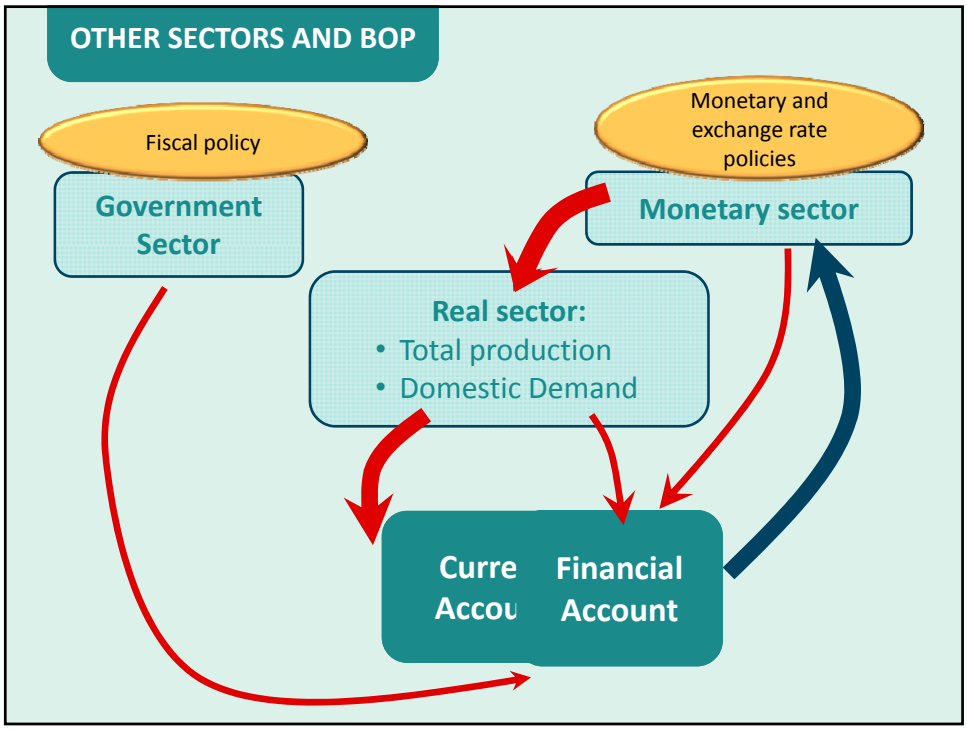
Over the medium term

- a RER depreciation is likely to lead to an improvement in the trade balance (external demand for exports increases and domestic demand for imports decreases)
- a RER appreciation is likely to lead to a deterioration in the trade balance


External Sector
15. Links with other sectors
INTERNATIONAL MONETARY FUND


OTHER SECTORS AND CA
Fiscal policy
Monetary and exchange rate policies
Government Sector
Monetary sector
Real sector:
• Total production
• Domestic Demand
Current Account


EXCHANGE RATE POLICY
FIXED EXCHANGE RATE
Exchange rate
Time
Current and Capital Account
Financial Account
Reserves
FLEXIBLE EXCHANGE RATE
Exchange rate
Time
Current and Capital Account
Financial Account
Reserves


OTHER SECTORS AND BOP
Fiscal policy
Government Sector
Monetary and exchange rate policies
Monetary sector
Real sector:
• Total production
• Domestic Demand
Curre
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Financial Account