



ECONOMIC CONJUNCTURE
ANALYSIS IN DISRUPTIVE
TECHNOLOGY SCENARIOS II

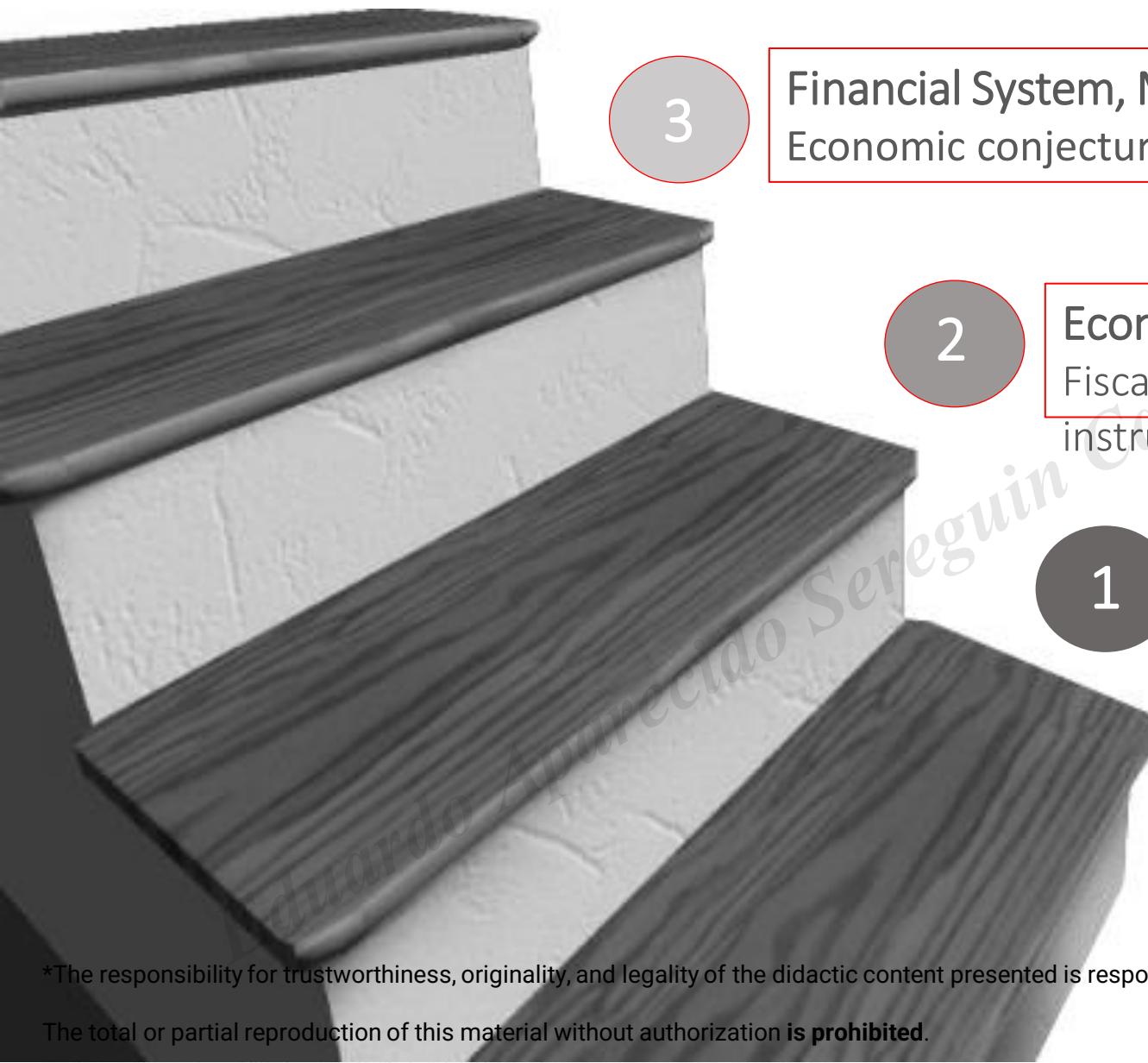
Prof. Dr. Fernando S. Coelho

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Organization of the Subject in 2 Classes



3

Financial System, Markets and Economic Environment (09/27)
Economic conjecture analysis and projection of scenarios

2

Economic Policy Principles (09/27)
Fiscal, Monetary, Exchange, and their
instruments

1

Fundamentals on Activity Level (09/20)
GDP, Inflation, Unemployment, and their indexes

0. Introduction to Economic Analysis
Preamble and some usual definitions

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**Recordar
é viver!**

What did we learn in class 1, on Tuesday (September 20)?

Macroenvironment and Economics

Political Environment

Economic Environment

Social Environment

Technological Environment

Eco-environment

Legal Environment



Elements of Economic Analysis

1. Economic Environment

Microeconomic Analysis: agents and market
Macroeconomic Analysis: aggregates and policies

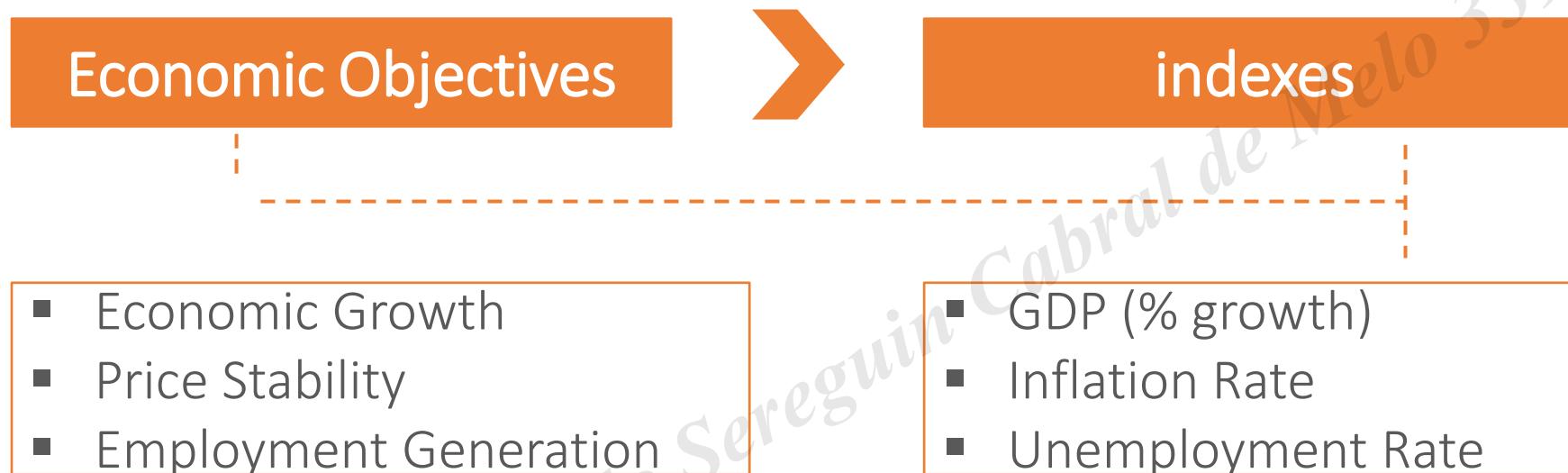
2. Approach Type

Conjunctural: short/medium term, oscillations in the panorama
Structural: long-term, changes in the economy base

3. Toolbox

Concepts: usual definitions in economics
Models: operationalization of economic concepts for analysis.
Indexes: numeric expressions (rates, indicators etc.) that express the economy.

In summary: the level of activity of an economy



GDP: operationalizing the concept in a model*

$$GDP = C + I + G + (Ex - Im)$$

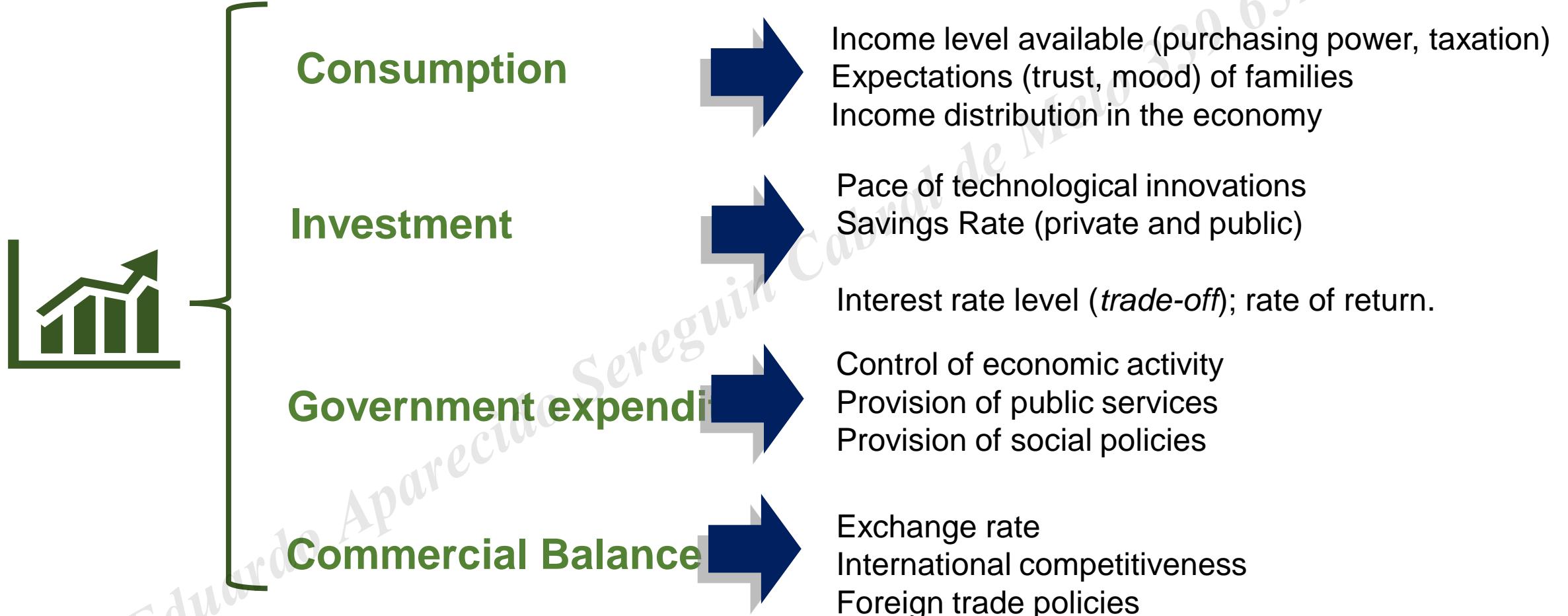
Consumption
Investment
Government expenditure
Export
Import

*The point of the GDP of expenditure

Similarly, there are the points of supply/production and income

For more information: <https://www.ibge.gov.br/explica/pib.php>

GDP components and its impact factors



What is Inflation and what are the types?

Inflation: the increase in the price level of an economy.

Demand-pull inflation

- Wage level
- Credit availability
- Means of Payment

Cost-Push Inflation

- Supply shock (-)
- Administered prices
- Cost of prod./adm.

Inertial Inflation

- Inertial inflation
- Expectation of agents
- Economy indexing

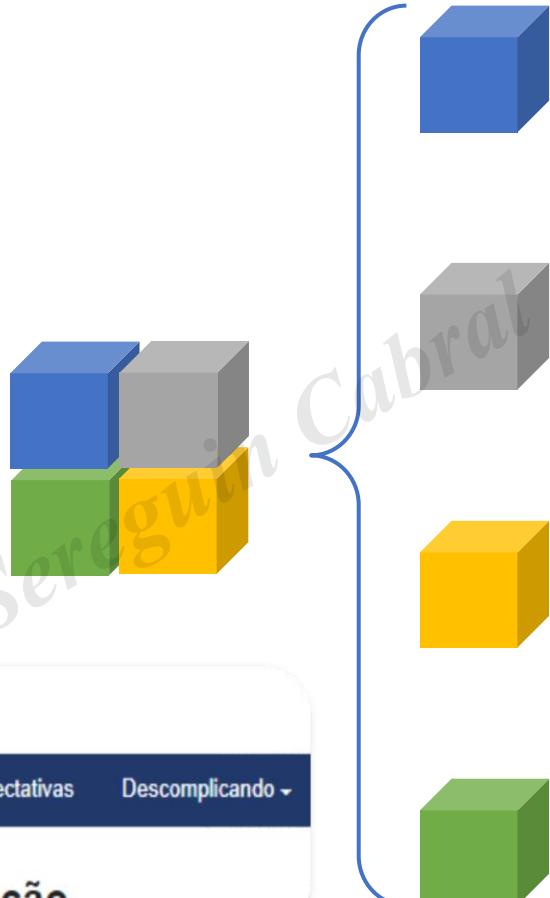
Brazil: the main consumer price index

For more information: <https://portal-da-inflacao-ibre.fgv.br/#/>



Painel da Inflação Análise da Inflação Índices FGV Sua Inflação Expectativas Descomplicando

Portal da Inflação



IPCA - IBGE

Usage: Inflation targeting

IGPM - FGV

Usage: Contracts

IPC - FIPE

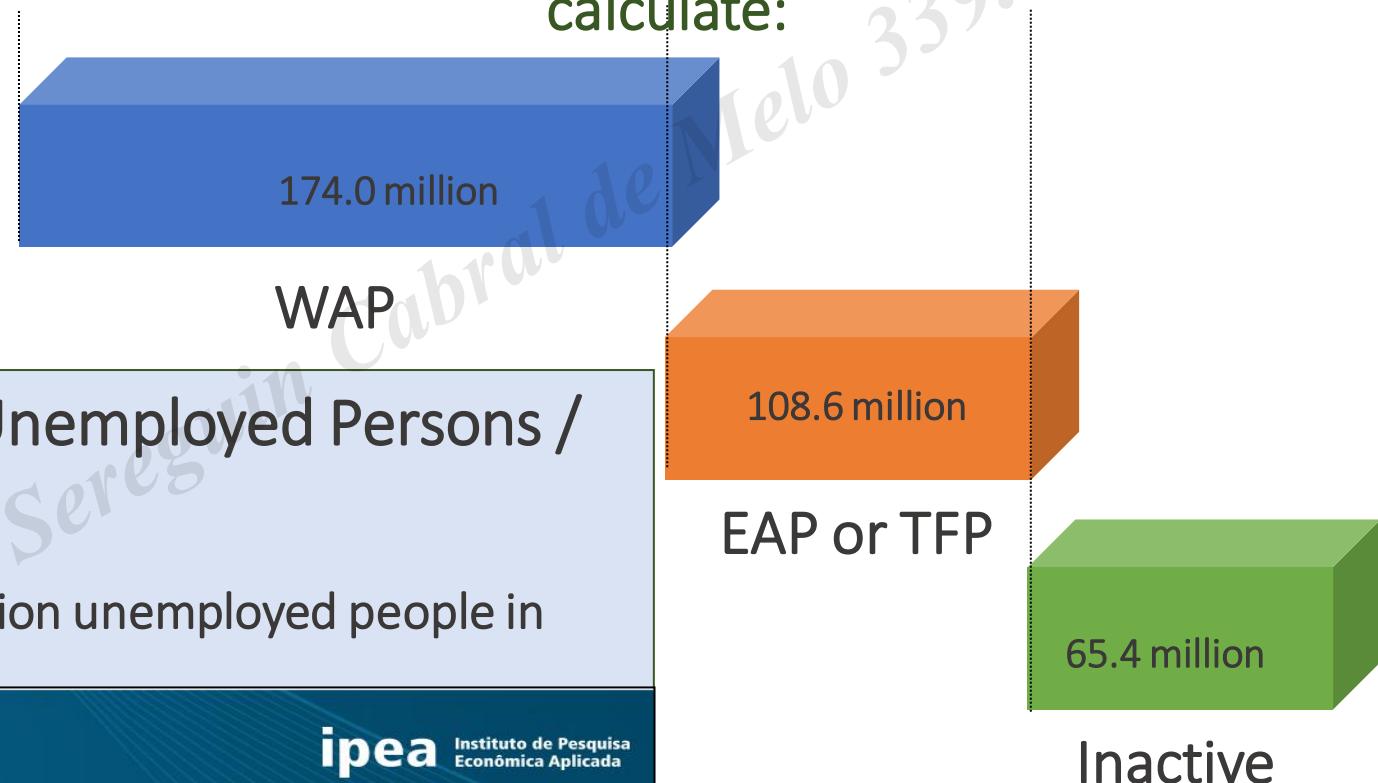
Usage: SP Taxes

ICV - DIEESE

Usage: Wage Agreements

Labour Market and Unemployment Rate

From the total population of the country (214 million), we calculate:



Unemployment Rate = No. of Unemployed Persons /
EAP

Brazil (2nd tri. 2022): 9.1%, with 9.9 million unemployed people in
EAP. 98.7 million are occupied

Carta de Conjuntura

ipea Instituto de Pesquisa
Econômica Aplicada

Visão Geral Indicadores Ipea Atividade Econômica Mercado de Trabalho Inflação Setor Externo Moeda e Crédito Finanças Públicas Economia Mundial Agropecuária Equipe



Types of Unemployment & Unemployment Rate in Brazil

Friction

- Incompatibilities (...)
- Information Asymmetry
- Rotational

Conjuncture

- Economic crisis
- Seasonality
- External shock

Structure

- Agricultural mechanics
- Industrial automation
- Artificial intelligence



Continuous PNAD - IBGE

Methodology:

- Pop. Working Age Population (PIA): 14 years
- Unoccupied: unoccupied, available
- 211 thousand households in 3,500 municipalities
- Around 2000 interviewers, by phone
- Quarterly Average (month data with the two months previous)



Brazil: Activity Level projection 2022 (base August 31)



GDP (% growth)

Projection 2022

2.4% (market); and 2.5% (government)

(Average) Unemployment Rate

9.5% (average); 9.0% (end of year)

Inflation rate

**IPCA: 6.4% (3.5% CMN inflation targeting);
IGPM: 9.6%**

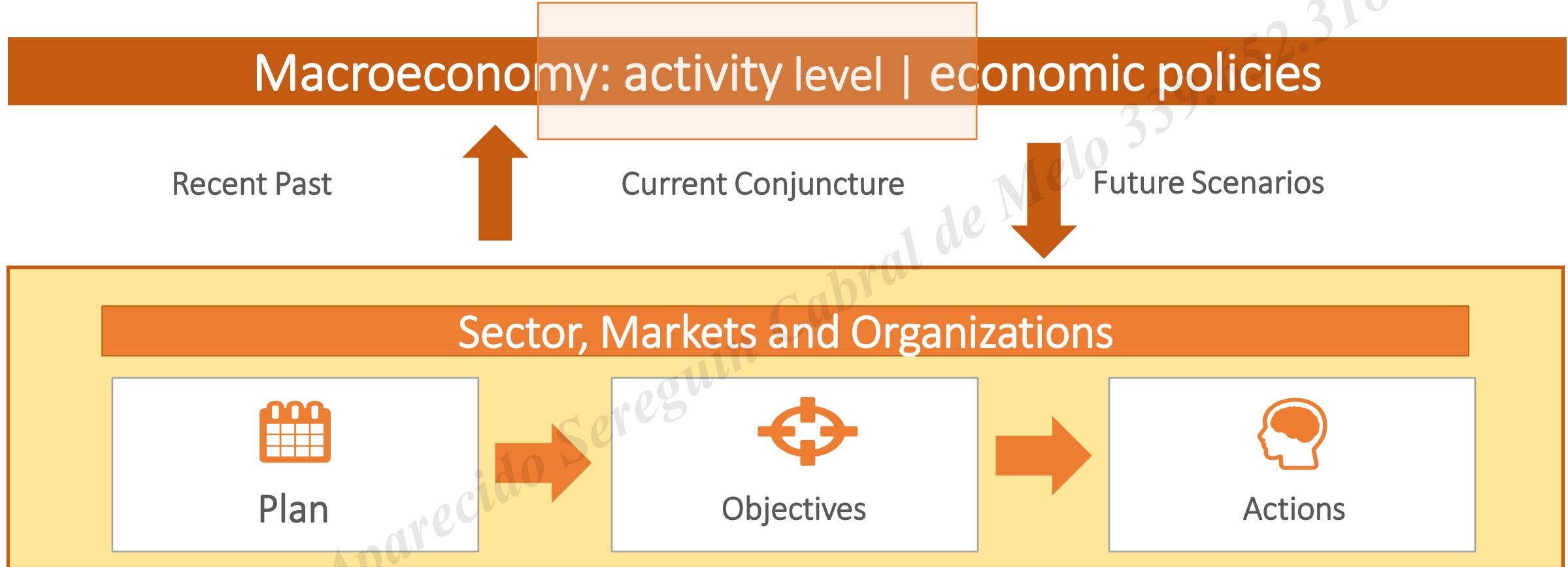
Assumptions



Today's class: our 2nd step!

Principles of Economic Policy: Fiscal, Monetary, Exchange, and their instruments

Macroeconomy & Business Environment



Economic Problems and its *trade-off* !?



How to promote economic growth without risking prices stability (considering the inflation in the last 18 months)?

How to determine the country interest rate in 2022/2, considering a neutral rate (or equilibrium rate)?

How to balance government revenue and expenditure facing social demands after the pandemic?

Finally, these are economic policy matters, the theme of our today's class.

Economic Problems require Economic Policies!

Economic Policy: government intervention in the economy



Conjunctural

- Fiscal Policy
- Monetary Policy
- Exchange rate Policy

Structure

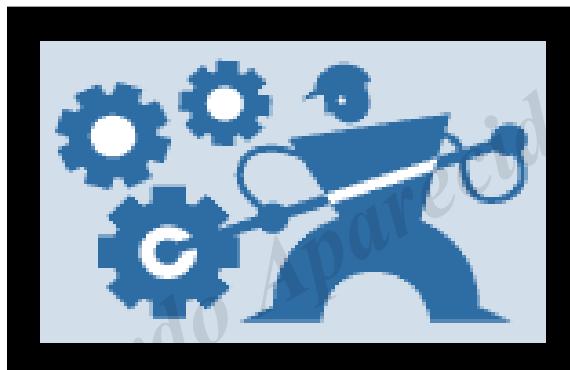
- Agricultural Policy
- Industrial Policy
- Pension Policy
- (...)

Economic Functions of a Government

Allocation Function

Supply of public goods, financed by taxes and evaluated by electoral results.

For example: Infrastructure and social policies.



Stabilization Function

Tackle unemployment, price stability maintenance, and search for economic growth.

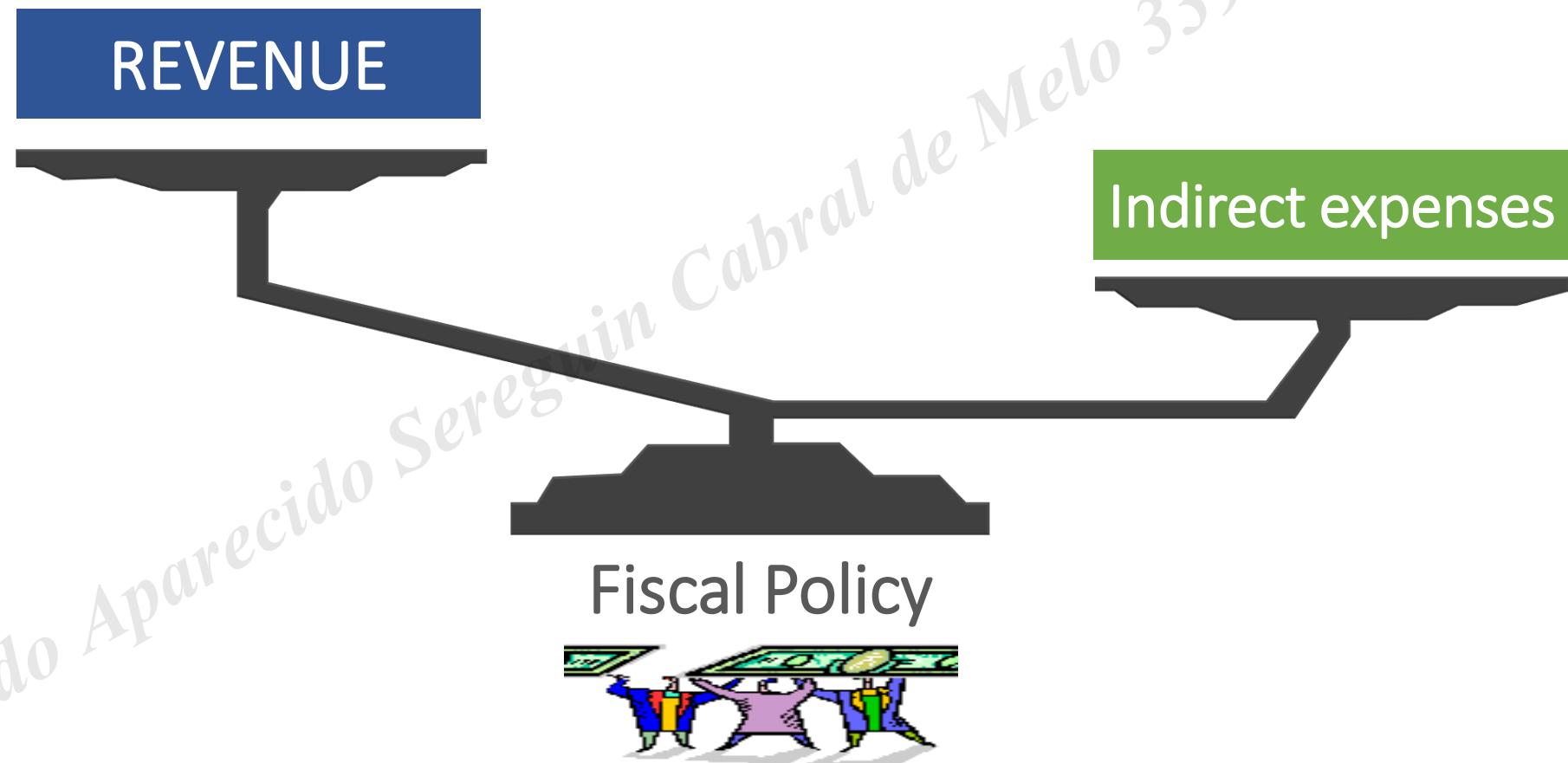
For example: Aggregated Demand Control

Distribution Function

Adjustment in income distribution aiming at the reduction of social inequality

For example: Transfers and Taxes

The Fiscal Problem in the Public Sector



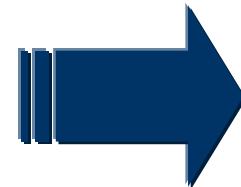
Simplified Balance Sheet of a Government

REVENUE	Indirect expenses
Direct Taxes of individuals of Companies Indirect Taxes Production Consumption Contributions Funds Rates Intergovernmental Transfers	Government Expenditure National Goods and Services Goods and Services Imported Paid Wages Transfers To individuals To companies abroad Subsidies Public Investments Interest Payments



Types of taxes and Regressive Tax Policy in Brazil

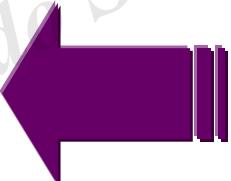
Direct Taxes



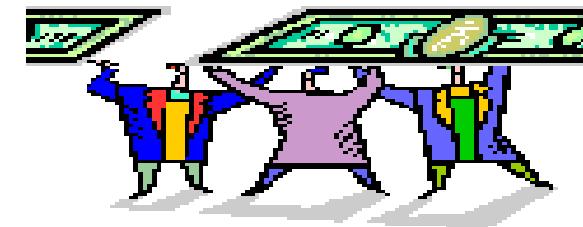
About income and property
(respecting the principle of
progressivity)

For example: IRPF, IPTU,
IPVA

About the sale of services
and goods (contrary to
the principle of progressivity)
For example: ICMS, IPI, ISS

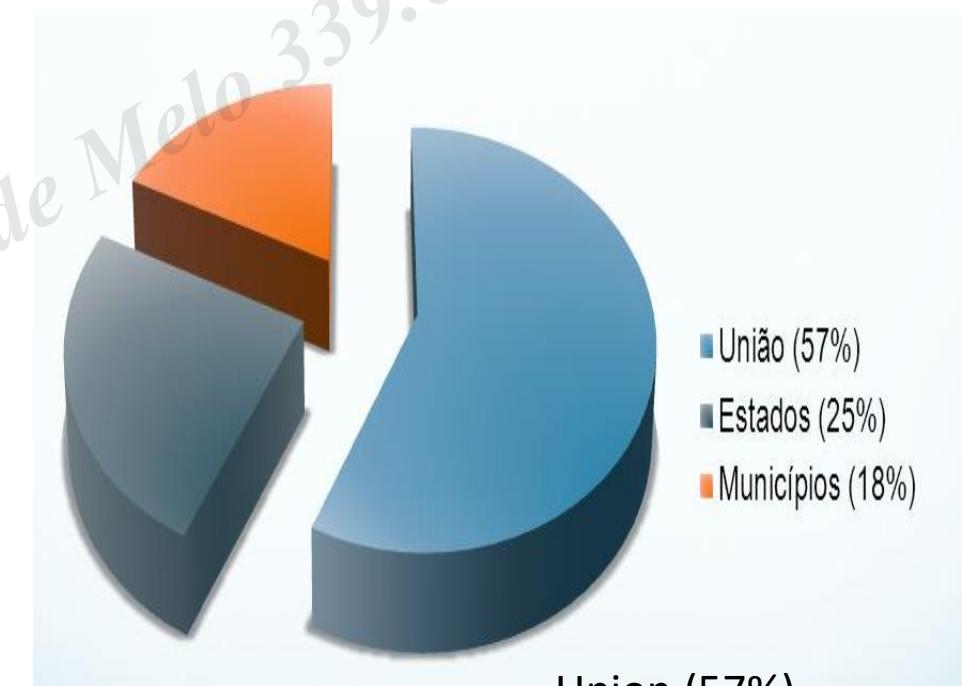


Indirect Taxes



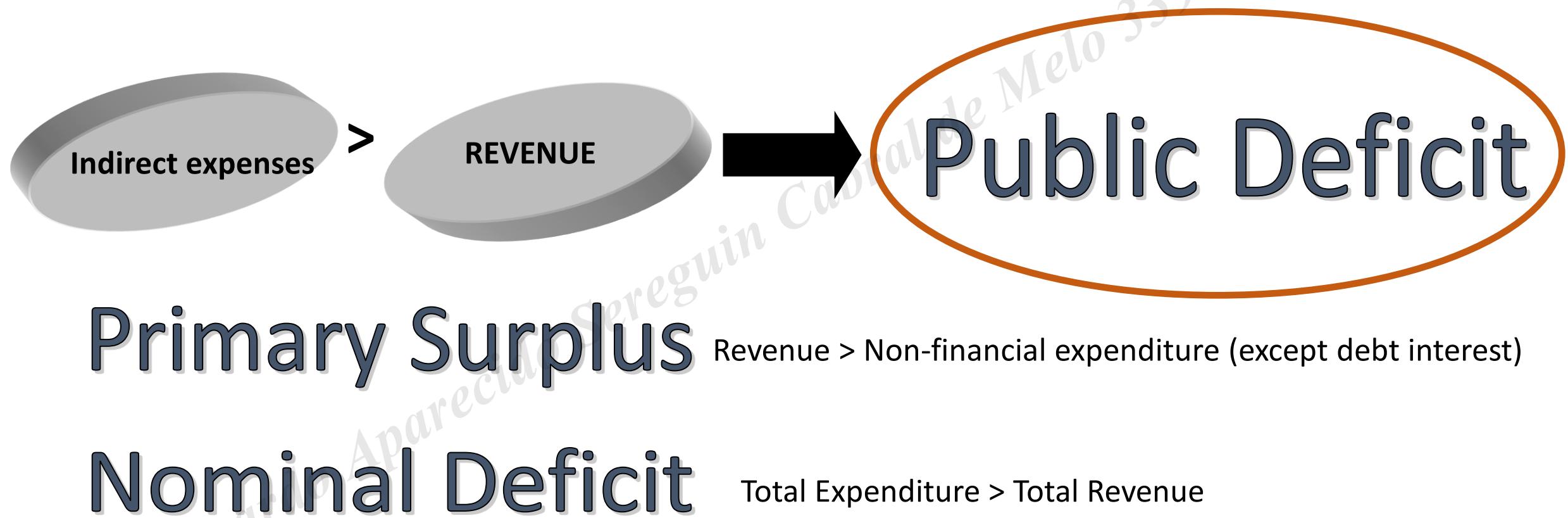
Taxes in Brazil by Level of Government & Collection Division

Administrative Sphere	Tax
UNION	1. Income 2. Pension contribution 3. Contribution to Occupation Accident Insurance 4. Contribution to Educational Allowance 5. Contribution to S System 6. Rural territorial property tax 7. Tax on big fortunes 8. Improvement Contribution 9. Tax on Industrial Products 10. Tax on Financial Operations 11. Import Tax 12. Export Tax 13. Social Security Contribution 14. Social Integration Program 15. Social Contribution on Net Profits 16. Contribution for intervention on Economic Domain
STATES	1. Tax on Cause Mortis and Donation Transmission (ITCMD) 2. Motor-vehicle Tax 3. Improvement Contribution 4. Tax on Circulation of Goods and Services
MUNICIPALITIES	1. Tax on Urban Property (IPTU) 2. Property Transfer Tax (ITBI) 3. Improvement Contribution 4. Tax on Services (ISS)



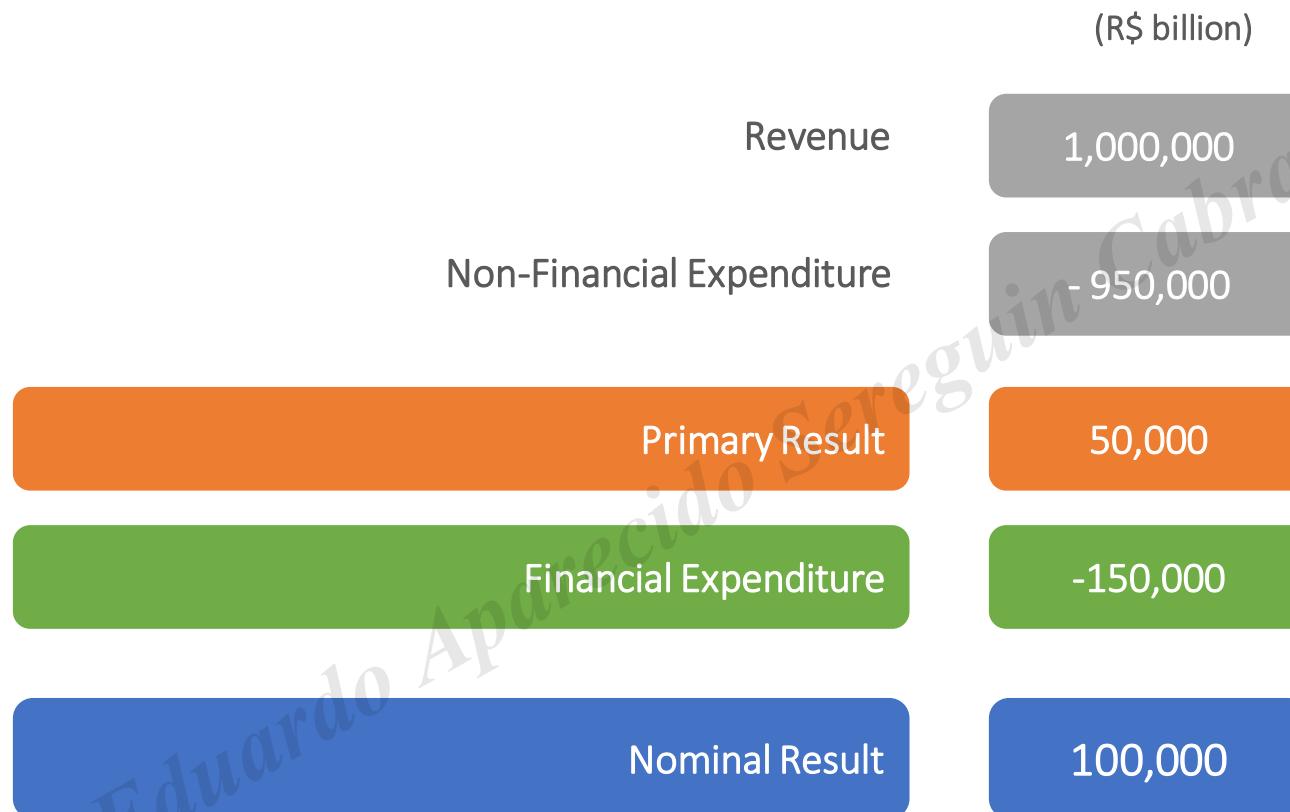
Union (57%)
States (25%)
Municipalities (18%)

Result of Public Accounts



Primary & Nominal Result

Illustrating the public accounts of a fictional country



How can governments finance the public deficit?

NFSP = Currency Emission and/or Titles Emission

(Central Bank, not usual)

(Government, traditional)



- Pressure on Aggregated Demand
- Inflation

- Impact on the Interest Rate
- Public Debt Increase

Public Accounts in Brazil in recent years



	2015	2016	2017	2018	2019	2020	2021	2022P
Public Finances								
Primary Result - % of GDP	-1,9	-2,5	-1,7	-1,5	-0,8	-9,4	0,7	0,3
Nominal Result - % of GDP	-10,2	-9,0	-7,8	-7,0	-5,8	-13,6	-4,4	-7,0
Gross Public Debt - % of GDP	65,5	69,9	73,7	75,3	74,3	88,8	80,3	78,9

Source: National Treasury

Visit the National Treasury website

Remuneration Type	Title	
	New Nomenclature	Original Nomenclature
Sale Tax	Tesouro Selic	LFT
Prefixed	Tesouro Prefixado	LTN
	Tesouro Prefixado com Juros Semestrais	NTN-F
IPCA + Interest	Tesouro IPCA+	NTN-B Principal
	Tesouro IPCA+ com Juros Semestrais	NTN-B Principal



Video: contextualizing Monetary Policy

Interview, TV Brazil, September 22, 2022.

<https://www.youtube.com/watch?v=u8RU3sox3nc>



The Monetary Problem in Economy

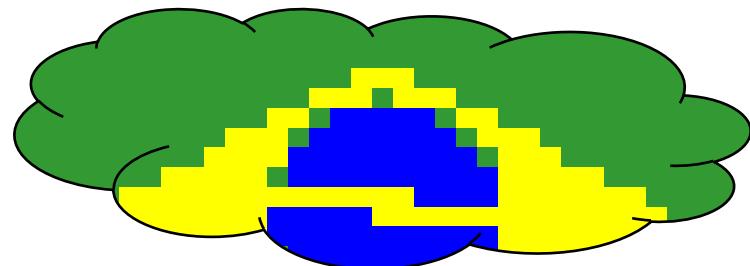
To reconcile economic growth with price stability,
the Bacen must:

- Administer the basic interest rate
 - for investments < long-term return rate
 - for working capital < margins
 - for consumption: not prohibitive
- Manage the inflation targeting range
 - Control the monetary offering (means of payment)



BACEN determines the basic interest rate (SELIC); 13.75% (Sept. 2022).

National Conjuncture



Growth & Product Gap

Inflation: behavior and goal

Domestic financial market



External Outlook



◦ Country-risk (EMBI, CDS)

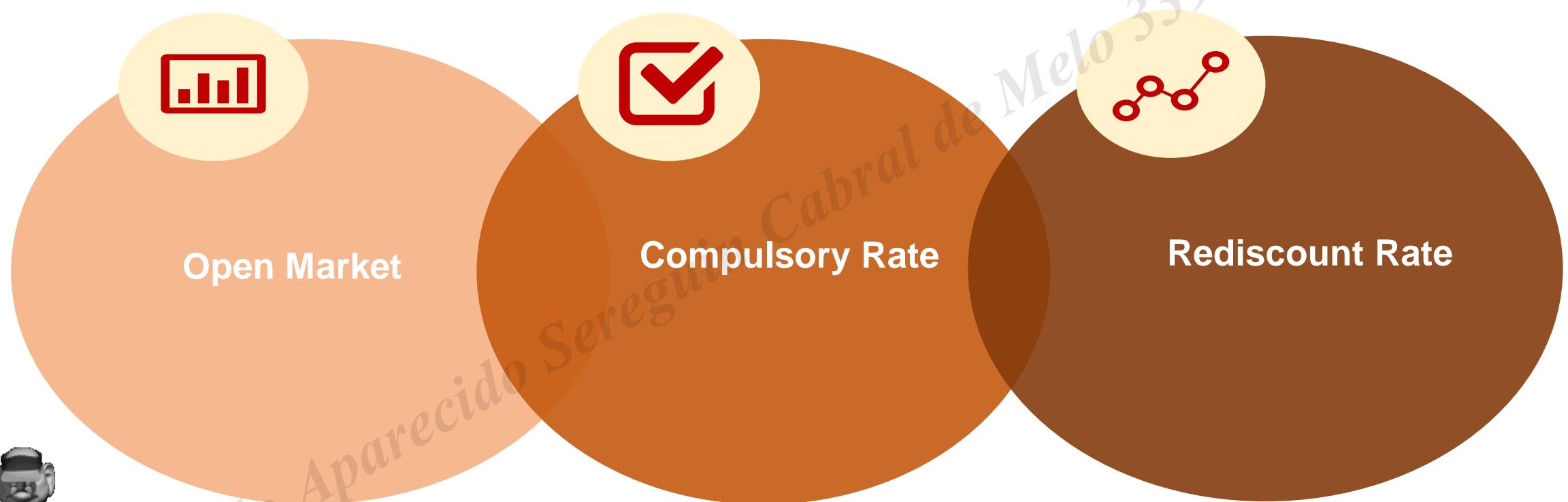
International interest rate (USA)

International Financial Market

	2015	2016	2017	2018	2019	2020	2021	2022P
Interest Rate								
Selic – end of year - %	14,25	13,75	7,00	6,50	4,50	2,00	9,25	13,75

Source: Central Bank

Monetary Policy Instruments



What are Open Market Operations?

They are operations of purchase and sale of titles in the secondary market (papers previously issued by the government already in circulation). These operations are carried out by the Central Bank with the objective of managing the means of payment (and the economy liquidity).



PS: Bacen exclusively uses federal public titles in these open market operations.

Some Monetary Policy instruments for controlling the monetary supply of the country

CENTRAL BANK

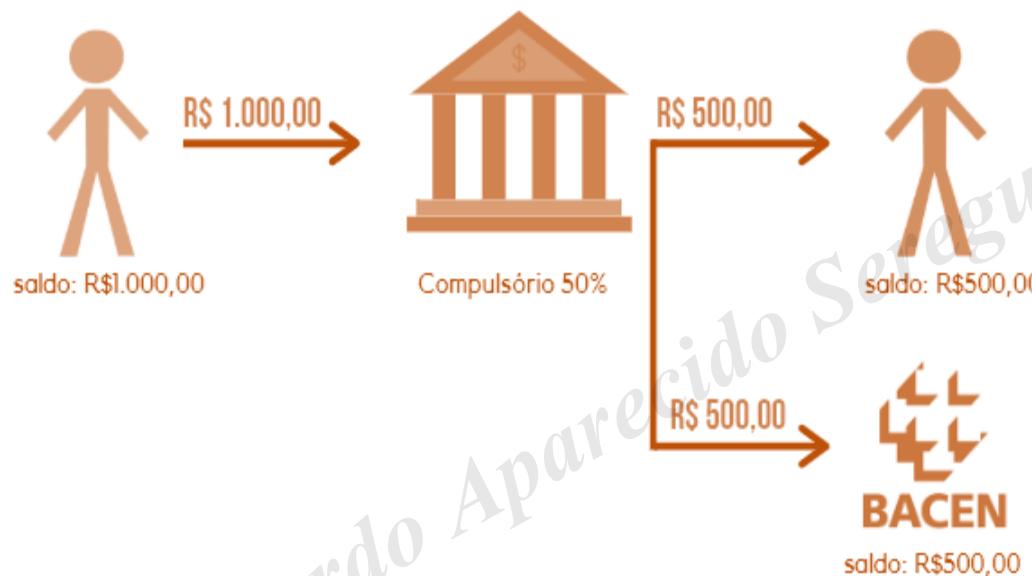
Open Market: Securities Operations



What is Compulsory?

Percentual of bank deposits that are collected at Bacen to control the monetary supply.

Example:



Brazil - 2022: demand deposit: 25%; time deposit: 20%; savings deposit: 20%

Demonstration: with and without compulsory rate in the demand deposit

0%, 1000 of paper money

Bank 1

Loans	Demand deposit
R\$1.000	R\$1.000

Bank 2

Loans	Demand deposit
R\$1.000	R\$1.000

Bank 3

Loans	Demand deposit
R\$1.000	R\$1.000

MP = 4,000

Means of Payment = Paper Money in circulation + Demand deposit

25%, 1000 of paper money

Bank 1

Compulsory	Demand deposit
R\$250	R\$ 1.000

Bank 2

Compulsory	Demand deposit
R\$ 187.50	R\$750

Bank 3

Compulsory	Demand deposit
R\$ 140.62	R\$ 562.50

MP = 3,3312.50

Visit the BACEN website

gov.br CORONAVÍRUS (COVID-19) ACESSO À INFORMAÇÃO PARTICIPE LEGISLAÇÃO ÓRGÃOS DO GOVERNO ACESSIBILIDADE ALTO CONTRASTE ENGLISH

Acesso à informação Política monetária Estabilidade financeira

BANCO CENTRAL DO BRASIL

Estatísticas Cédulas e moedas Publicações e pesquisa

TAXA SELIC
REUNIÃO DO COPOM 3/8/2022

13,75%

Mensal	Semanal	Hoje				
SET 22 >						
DOM	SEG	TER	QUA	QUI	SEX	SÁB
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1

Set., 05 8:30 Relatório Focus Projeções semanais do mercado para a economia brasileira. Acesse o Relatório Focus.

Set., 12 8:30 Relatório Focus Projeções semanais do mercado para a economia brasileira. Acesse o Relatório Focus.

Set., 15 9:00 Índice de atividade econômica (IBC-Br) BC divulga o IBC-Br de julho de 2022

Source: <https://www.bcb.gov.br>

Video: contextualizing the Exchange Policy

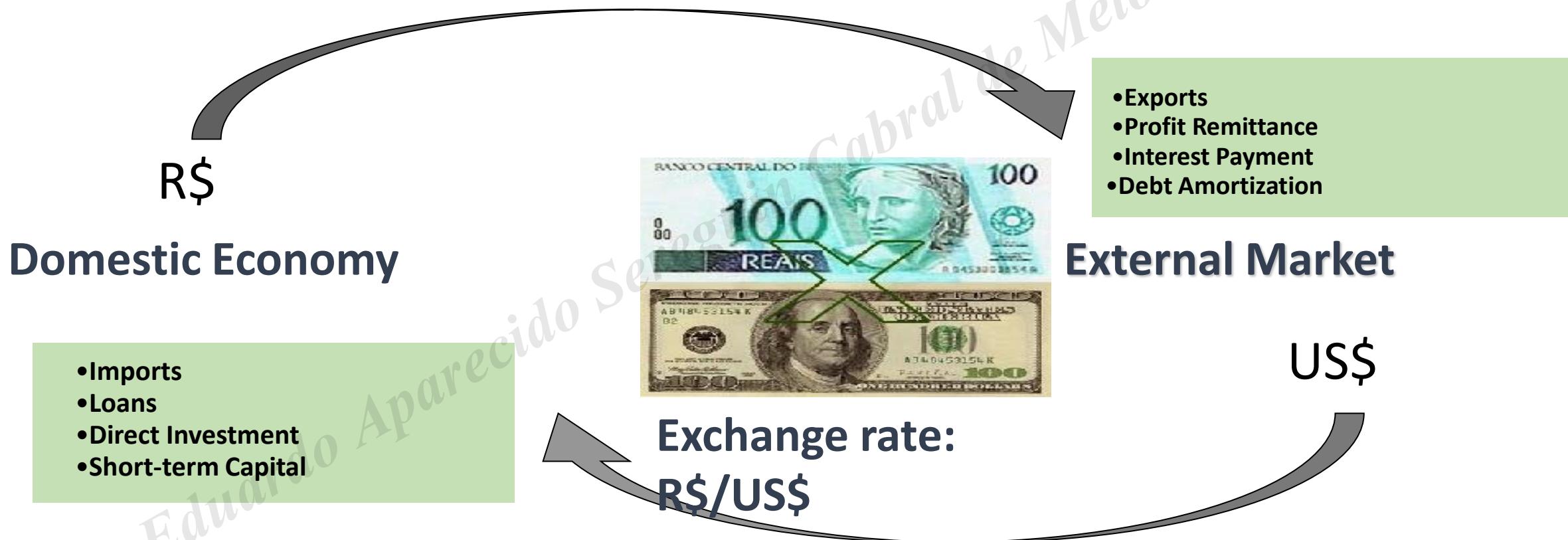
Interview, Canal Rural, January 3, 2022.

Access the interview video via link:

<https://www.canalrural.com.br/noticias/quais-as-projcoes-do-dolar-para-2022-veja-analise-de-5-economistas/>



External Transactions and Exchange Rate



What are the exchange regimes?

Fixed Exchange

- Bacen stipulates a fixed exchange rate
- Advantage: Exchange predictability
- Disadvantage: Loss of Bacen credibility because of the absence of exchange freedom

Crawling Peg

- Bacen defines maximum and minimum limits for exchange
- Advantage: Some exchange predictability
- Disadvantage: Loss of Bacen credibility because of the intervention in the market

Dirty Float

- Bacen negotiates swaps in stress moments
- Advantage: Certain credibility gain
- Disadvantage: Uncertainty about the role of Bacen

Floating Exchange Rate

- Bacen does not interfere in the exchange market
- Advantage: Credibility gain
- Disadvantage: Exchange unpredictability

Balance of Payment: external transactions record

Commercial Balance (I)

- Exports
- Imports

Balance of Services and Incomes (II)

- Services (Interest, Profit remittance, Rentals, Freight, Insurance, International trips)

Unilateral Transfers (III)

Current Account Balance (IV = I + II + III)

Capital and Financial Account (V)

- Direct Investments
- External Loans and Financing
- Amortization
- Short-term Capital



Balance of Balance of Payments (VI = IV + V)

Balance of Payment Calculation

Illustrating the Balance of Payments of a fictional country

	(R\$ millions)
Commercial Balance	1,736
Balance of Services and Incomes	5,470
Current Account	7,206
Capital and Financial Account	(4,132)
Balance of Payments	3,074



What is the relationship between the BP and the exch

International Reserves and Floating Exchange Rate

If the Balance of Payments balance is **positive**:

- The International Reserves Increase
- Valorization of the National Currency
- Exchange Appreciation

If the Balance of Payment Balance is **negative**:

- The International Reserves Decrease
- Devaluation of the National Currency
- Exchange Depreciation

Exchange rate: R\$/US\$
↑↓



Exchange rate: R\$/US\$
↑↓

Illustrating the Balance of Payments of Brazil, didactically:

(in US\$ billion, selected years 2011-2014, source: Bacen)

Balance of Payments

Exports	
Imports	
Commercial Balance	
Net trips	
Transports	
Equipment Rent	
Profit/Dividend	
Net Interest	
Others	
Services and Incomes Balance	
Unilateral Transfers	
Current Transactions Balance	
Capital and Financial Account	
Errors and Omissions	
Balance of Payments Balance	

	2011	2012	2013	2014
Exportação	256,0	242,6	242,2	225,1
Importação	(226,2)	(223,1)	(239,6)	(229,0)
Saldo Comercial	29,8	19,5	2,6	(3,9)
Viagens Líquidas	(14,7)	(15,6)	(18,6)	(18,7)
Transportes	(8,3)	(8,8)	(9,8)	(8,9)
Aluguel de Equipamentos	(16,7)	(18,7)	(19,4)	(22,6)
Lucro/Dividendos	(38,2)	(24,1)	(26,0)	(26,5)
Juros Líquidos	(9,7)	(11,8)	(14,2)	(14,1)
Outros	2,4	2,5	0,7	1,8
Saldo de Serviços e Rendas	(85,2)	(76,5)	(87,3)	(89,0)
Transferências Unilaterais	2,9	2,8	3,3	2,0
Saldo de Transações Correntes	(52,5)	(54,2)	(81,4)	(90,9)
Conta de Capital e Financeira	112,4	72,8	73,8	99,6
Erros e Omissões	(1,3)	0,3	1,7	2,1
Saldo do Balanço de Pagamentos	58,6	18,9	(5,9)	10,8

External Accounts in Brazil in recent years



Brasil

	2015	2016	2017	2018	2019	2020	2021
External Accounts							
Exchange Rate (R\$/US\$) – end of the period	3,96	3,26	3,31	3,88	4,03	5,19	5,57
Commercial balance – US\$ billion	13,7	40,2	56,0	46,6	35,2	50,4	61,0
Checking account - % GDP	-3,0	-1,4	-1,1	-2,7	-3,5	-1,7	-1,75
Direct investment in the country - % GDP	3,6	4,1	3,3	4,1	3,7	3,1	2,9
International Reserves – US\$ billion	369,0	372,2	381,6	387,0	366,9	355,6	362,2

Source: Bacen



Survey 1: applying the knowledge of this class.

Suppose that a country with annual exports of US\$ 505 billion and annual imports equal to US\$ 495 billion. In addition, consider that the capital account has an annual surplus of US\$ 15 billion and that the balance of services presents a US\$ 15 billion deficit. What is the Balance of Payments balance of this country?

- (A) Positive balance of US\$ 10 billion.
- (B) Negative balance of US\$ 10 billion.
- (C) Positive balance of US\$ 20 billion.
- (D) Negative balance of US\$ 20 billion.



In summary: conjunctural economic policies



Fiscal Policy

- Primary Result
- Nominal Result
- Target: % primary surplus / GDP



Monetary Policy

- Basic Interest Rate
- Open Market and Compulsory Deposit Balance of Payments
- Target: Inflation Targeting



Exchange rate Policy

- Exchange rate
- Balance of Payments
- Target: floating exchange rate regime

Macroeconomic Tripod



Our 3rd and last step!

Financial System, Markets and Economic Environment

Economic conjecture analysis and projection of scenarios

The National Financial System (SFN) and its Markets

SFN is composed of institutions responsible for **the collection of financial resources, distribution and circulation of values and the standardization and supervision** of the process. The set of these functions and its organizations forms the **Financial Market**, subdivided into:

Monetary Market

It provides paper money and scriptural currency, which is deposited in current account.

Credit Market

It provides resources for the consumption by people in general and for the companies functioning.

Capital Market

It allows companies in general to obtain resources of third parties, and therefore, to share the gain and the risks.

Exchange Market

It allows the purchase and the sale of foreign currency.

Structure of the National Financial System in Brazil

Regulatory Bodies

- CMN
(National Monetary Council)
- CNSP
(National Council of Private Insurance)
- CNPC
(National Board of Complementary Pension)

Supervisory Entities

- BACEN
- CVM
(Brazilian Securities and Exchange Commission)
- SUSEP
(Superintendence of Private Insurance)
- PREVI
(National Superintendence of Complementary Pension)

Operators

- Banks, Cooperatives and Fintechs
 - Insurance Companies
 - Reinsurers
 - Other Financial Institutions
 - Stock Exchange
 - Commodities and Futures Exchanges
- Other Financial Intermediaries and Third Party Resources Managers.
- Open Entities of Complementary Pension.
 - Pension Funds

Brazil: Economic Conjecture, 2022 projection (base Sept./2022)

GDP (% growth)

2022 Projection

2.5 %

Projected (mid/2021) vs. Performed 2021

4.0% – 4.6%

Unemployment rate (Dec.)

8.5%

13.5% – 11.8%

Inflation rate (IPCA)

6.4% (3.5% CMN inflation targeting);

6.5% – 10.1%

Interest rate (the end of year)

13.75%

7.5% – 9.25%

Public Accounts

0.3% (Primary) | 6.8% (Nominal)

-1.0% – 0.8% (Primary)

Exchange rate (the end of year)

5.20 (R\$/US\$)

5.00 – 5.57

To finish our second class!

LEARN MORE: orientation to learn more!

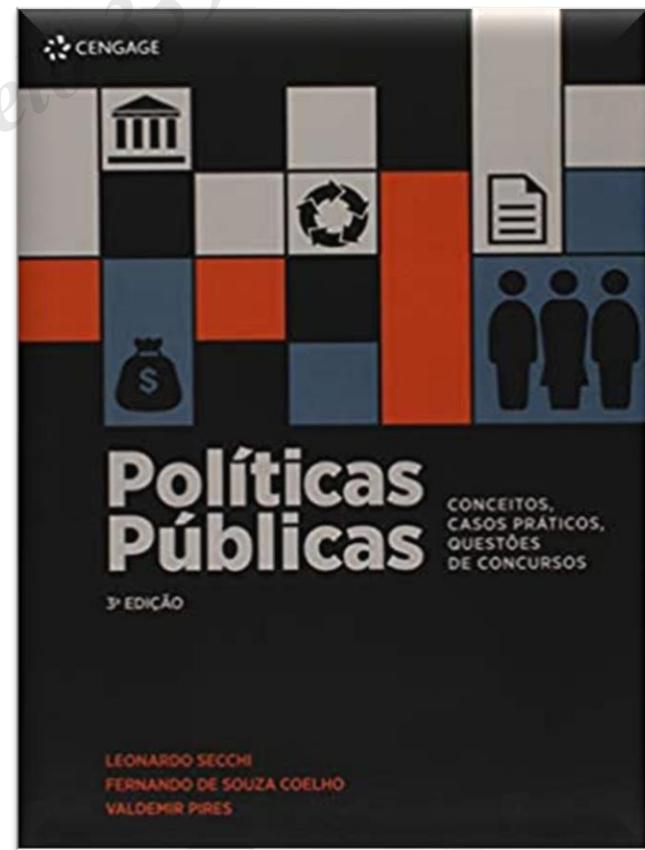
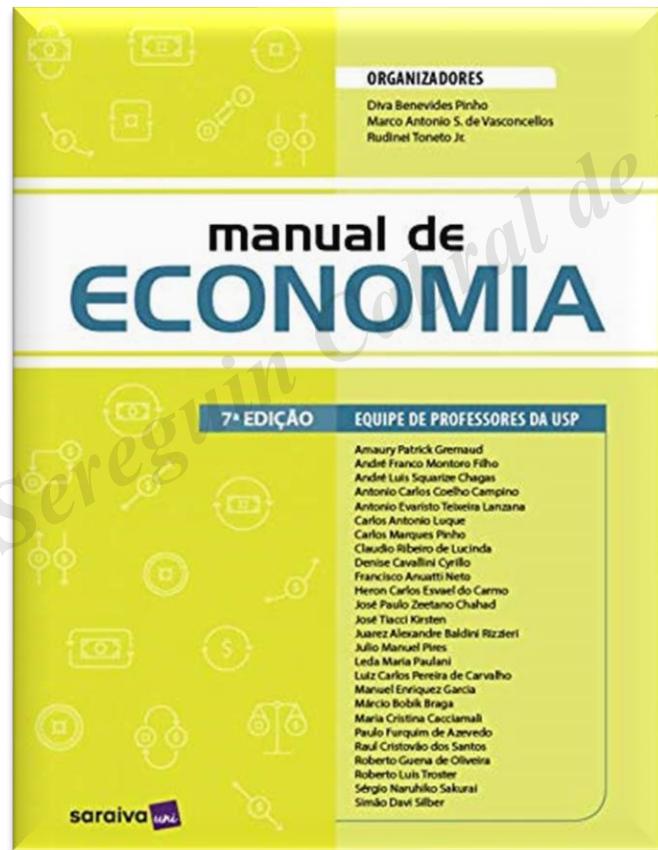
Some indications

Documentary and Movies



Some indications

Books





To finish our lesson!

Let's check if we achieve our objectives

Reviewing the objectives of this subject and thinking about it:



Did I get a brief overview of the functioning of the Economy?

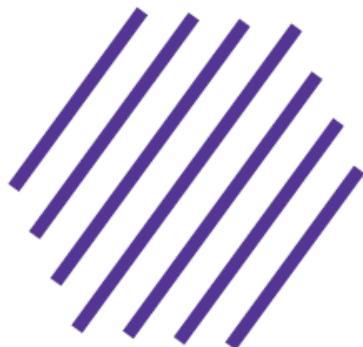


Did I understand in an uncomplicated way some relationships of cause and effect in the economic conjuncture and the dynamics of conjunctural economic policies?



If you did, you are capable to think the relationship between the economic environment and its organization, including its markets and business.

**Thank you very much for your attention
durina todav's class and our subject.**



**DATA SCIENCE
AND ANALYTICS**



www.facebook.com/fernandosouzacoelho

I wish you good luck in your MBA and in your professional trajectory post-course!