# Capítulo 1

# Presentation 1

## 1.1.   Production possibility frontier

- It's curved outward because of:
    - Law of diminishing marginal returns and law of increasing opportunity cost.
- Tom and Jen:
    - Specialization, are when each individual dedicates all of his time and resources on producing the thing that has the less opportunity cost.
    - All combinations that are without specialization are less than potential.

## 1.2.   Economic freedom

Economic freedom means:

- Property rights
- Freedom to exchange
- Give their property willingly
- All of this only if their actions don't violate other peoples' liberties.

To achieve high economic freedom:

- Keep government spending and taxes low
- Sound money
- Property rights
- Enforce contracts evenhandedly
- Refrain from imposing trade barriers

## 1.3.   Five areas of EFW Index

1. Size of government
2. Legal system and protection of property rights
3. Access to sound money

4. Freedom to trade internationally

5. Regulation of capital, labor and business (my freedom to do whatever with whats mine)

## 1.4.  Three lessons from the EFW

1. Economic freedom has increased since 1980.

2. Income gap between high-income and developing countries has narrowed.

3. Economic freedom matters, high economic freedom means high GDP, rapid growth.

# Capítulo 2

# Presentation 2

## 2.1. Stock and flow variables

- Stock: una variable que se acumula (riqueza de la nación).
- Flows: es una variable que se reinicia cuando termina un periodo. (GDP) se puede medir en un periodo de tiempo.

## 2.2. Macroeconomic goals, framework, and policies

Goals: the most important objectives for the macro economy.

- Economic growth: increment in real GDP.
- Low unemployment: rate of unemployment is equal to the natural rate of unemployment $\approx 5\,\%$
- Low and stable inflation: more important for it to be stable.

Framework: used to analyze macroeconomic changes.

- Aggregate demand / aggregate supply
- Keynesian model
- Neoclassical model

Policy tools: tools of the government and central bank to influence money.

- Monetary policy: printing money, supplying money, policy on monetary multiplier (RRr), these policies control inflation.
- Fiscal policy: policy related to taxes and government spending.

## 2.3. GDP

- Gross Domestic Product (GDP): dollar value of all output of all goods and services produced **within** a countries borders.
- An economy's GDP can be measured (they both have to be equal, if there is a difference it's because of the informal sector):
  - Total dollar value of what consumers **purchase**, expenditure approach.
  - Total dollar value of what a country **produces** income approach.
  - Value added approach (gross value of output - value of intermediate consumption)

## 2.4. GDP Measured by components of demand (expenditure approach)

- The consumer buys all the country's production.

- Demand for production can be divided into four main parts:
  - Consumer spending (consumption)
  - Business spending (investment)
  - Government spending on goods and services
  - Spending on net exports

### 2.4.1. New export component

- Trade balance: gap between exports and imports.

$$\text{Trade balance } = (X - M)$$

- Trade surplus: exports > imports, positive quantity.

- Trade deficit: exports < imports, negative quantity.

### 2.4.2. GDP Using demand

$$\text{GDP } = \text{ Consumption } + \text{ Investment } + \text{ Government } + \text{ Trade balance}$$
$$\text{GDP } = C + I + G + (X - M)$$

## 2.5. GDP measured by what is produced (income approach)

Because every transaction must have a buyer and a seller.

- Durable goods

- Non-durable goods

- Services

- Structures

- Change in inventories

$$\text{Income approach } = \text{ Total national income } + \text{ Sales taxes } + \text{ Net foreign income}$$

## 2.6. GNP and NNP

- Gross National Product (GNP): it's GDP + Business abroad.

- Net National Income (NNP): GNP - depreciation

- NNP

## 2.7. Real GDP vs Nominal GDP

- Real GDP: GDP after it has been adjusted for inflation

- Nominal GDP: GDP announced at the time, not adjusted for inflation.

### 2.7.1. GDP Deflator

- GDP deflator is a price index calculated by the average price of all goods and services in an economy (it's the ratio of nominal and real GDP, also called price index)

Real GDP:

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\dfrac{\text{GDP Deflator}}{100}}$$

## 2.8. GDP over time

- Recession: a significant decline in national output / GDP

- Depression: lengthy and deep decline in output.

## 2.9. Patterns of recessions and expansions

- Order: Peak → Recession → Trough → Expansion.

- Business cycle: the economy's short term movement in and out of recession.

## 2.10. Comparing GDP among countries

- Exchange rate: value of one currency in terms of another.

$$\text{Brazil's GDP in \$U.S} = \frac{\text{Brazils GDP in reals}}{\text{Exchange rate (reals to USD)}}$$

## 2.11. GDP per capita

$$\text{GDP per capita} = \frac{\text{GDP}}{\text{Population}}$$

## 2.12. How well GDP measures the well-being of society

- GDP isn't good for measuring happiness nor standard of living but it's the closest thing we've got to measure.

- Standard of living: all elements that affect people's happiness and well-being, whether they are bought and sold in the market or not.

GDP vs standard of living, GDP doesn't include a lot:

- Leisure time

- Environmental cleanliness, health and learning

- Production not exchange in the market

- Level of inequality

- Technologies and availability of products.

# Capítulo 3

# Presentation 3

## 3.1.   Unemployment rate

- Employed: Currently working

- Unemployed: out of work and actively looking for a job.

- Labor force = Employed + Unemployed

- Unemplyment rate:
$$\text{Unemployment rate } = \frac{\text{Unemployed people}}{\text{Total labor force}} \times 100$$

### 3.1.1.   Hidden unemployment

Mislabeled people:

- Part-time: temporary.

- Underemployed: economist working at mc donald's.

- Discouraged workers: those who have stopped looking for employment due to the lack of suitable positions available.

- *Extra Transition: person who quits their job to go to another one.

### 3.1.2.   Labor force participation

Labor force participation rate: in proportion to all adults in a country how many people are in the labor force (can work).

$$\text{Labor force participation rate } = \frac{\text{Total labor force}}{\text{Total adult population}} \times 100$$

### 3.1.3.   Patterns of unemployment

Unemployment moves up and down as the economy moves in and out of recessions and business cycles.

## 3.2.   Unemployment facts

- Unemployment in a gender comparison are relatively equal, and they used to be lower for men.

- Unemployment tends to be higher in ages 16-19.

## 3.3.  Cyclical unemployment

- Cyclical unemployment: closely related to the business cycle, higher unemployment during a recession is cyclical unemployment.

## 3.4.  Unemployment and equilibrium in the labor market

- Labor market is the same as any other market with the subtle difference of the y-axis having wage rate and the x-axis having Quantity of labor.

### 3.4.1.  Sticky wages

- The minimum wage creates sticky wages above the equilibrium.

## 3.5.  Changes in unemployment on the long run

Natural rate of unemployment:

- Frictional unemployment: unemployment "between jobs".

- Structural unemployment: individuals lack skills valued by employers thus they are unemployed.

Full unemployment: when the unemployment rate is equal to the natural unemployment rate.

### 3.5.1.  Productivity shifts and the natural rate of unemployment

- At some point the wage rate (based on productivity) will be grater than the demand of labor (grater than the optimal point).

- This increase in wage and demand will eventually create unemployment.

# Capítulo 4

# Presentation 4

## 4.1. Tracking inflation

- Inflation: general rise in the level of prices in an entire economy.
- Basket of goods and services: hypothetical group of items, with specified quantities of each one meant to represent a "typical" set of consumer purchases.
  - Used to calculate price levels.

## 4.2. Index Numbers

- Index number: a unit-free number derived from the price level over a number of years, which makes computing inflation rates easier, since the index number has values around 100.
  - It doesn't have any unit.
- Base year: arbitrary year whose value as an index number economists define as 100.

Inflation:
$$\text{Percentage change } = \frac{(\text{ Level in new year } - \text{ Level in prior year })}{\text{Level in prior year}} \times 100$$

## 4.3. Measure changes in the cost of living

- Consumer price index (CPI): to measure inflation government statisticians calculate based on the price level from a fixed basket of goods and services that represent an average consumer's purchases.
- Substitution bias:
- Quality / new goods bias:

## 4.4. The confusion over inflation

- The problem with inflation is that it doesn't sync in real time to measurements, this causes economic problems:
  - Unintended redistributions of purchasing power.
  - Blurred price signals.
  - Difficulties in long-term planning.
- There is a time lag in prices, wages and interest rates.

## 4.5.  Real interest rate

Real interest paid (Fischer equation):
$$i_{rt} = r - \pi$$

- $i_{rt}$ Long term nominal interest rate

- $r$: Nominal interest rate

- $\pi$: actual or expected rate of inflation or deflation

# Capítulo 5

# Presentation 5

## 5.1.   Functions of money

Before money, we had:

- Barter: trading one good or service for another (without using money).

- Double coincidence of wants: situation of one individual wanting one good or service that the other can provide.

Money serves:

- Medium of exchange: generally accepted as payment.

- Store of value: preserves economic value across time.

- Unit of account: common way to measure value.

- Standard of deferred payment: acceptable in the future.

## 5.2.   Commodity vs Fiat money

- Commodity money: item used for money but can also serve as something other than money.

- Commodity-backed currencies: currency backed by other commodity such as gold.

- Fiat money: has n intrinsic value, declared by a country as legal tender. Meaning the only thing backing our money is faith and trust.

## 5.3.   Measuring money: currency M1 and M2

Central bank:

- The federal reserve

- Bank regulator and responsible for monetary policy.

- Defines money according to its liquidity.

Two definitions of money:

- M1 money supply (Medio circulante): currency in circulation + checkable (demand) accounts + traveler's checks

- Currency in circulation: currency circulating in an economy not held at the Treasury, the central bank, or the bank vaults.

- Checkable (demand) deposits: checkable deposit in banks that is available by making a cash withdrawal or writing a check.

- M2 money supply: M1 + savings deposits + money market funds + certificates of deposit + other time deposits

  - Saving deposits: savings, not easily transferable to cash.

  - Money market fund: deposits of many investors to be invested in projects. (They are secure investments)

  - Certificates of deposit: leave your money in a bank but you can't withdraw it for a period of time.

## 5.4.   How do banks make profit

- Financial intermediary: an institution that operates between a saver with financial assets to invest and an entity who will borrow those assets and pay a rate of return. (banks stand between savers and borrowers)

- Deposit institution: institution that accepts money deposits and then uses these to make loans.

For the bank: a loan is an asset, a deposit is a liability. Banks balance sheet:

| Assets | Liabilities + Net worth |
|---|---|
| <ul><li>Loans</li><li>Government securities</li><li>Reserves</li></ul> | <ul><li>Deposits</li><li>Net worth (assets - liabilities)</li></ul> |

## 5.5.   Reserves and bankruptcy

- Reserves: funds that a bank keeps on hand and that it does not loan out or invest in bonds.

## 5.6.   How banks go bankrupt

- High rate of loan defaults

- Asset-liability time mismatch: we all go to the bank at once.

To reduce risk:

- Diversify: loans to a lot of people (don't have all your eggs in the same basket).

- Sell loans in a secondary loan market

- Hold a greater share of assets (government bonds or reserves)

## 5.7.   Banks create money

- The monetary multiplier depends on the fraction of the reserve they are obligated to keep.

Monetary multiplier:

$$\text{Monetary multiplier formula } = \frac{1}{\text{Reserved Requirement}}$$

This formula is the supply of money created by the banking system, how many times money can be multiplied.

### 5.7.1.   Cautions about the money multiplier

Banks may decide to vary how much they hold in reserves for two reasons:

- Macroeconomic conditions
- Government rules

Cautions:

- Banks usually hold more reserves do to greater uncertainty.
- Federal reserves can raise or lower reserve ratio.

## 5.8.   Presentation 7

## 5.9.   Central bank of Guatemala

### 5.9.1.   Bank structure

- Objective: garantizar la estabilidad monetaria, cambiaraia y crediticia del pais.
- Governed by the "Junta Monetaria"

# Capítulo 6

# Formulary

| |
|---|
| 1 billon = 0.001 million |
| $$\text{GDP } = C + I + G + (X - M)$$ |
| $$\text{Trade balance } = (X - M)$$ |
| $$\text{Real GDP } = \frac{\text{Nominal GDP}}{\dfrac{\text{GDP Deflator}}{100}}$$ |
| $$\text{Unemployment rate } = \frac{\text{Unemployed people}}{\text{Total labor force}} \times 100$$ |
| $$\text{Labor force participation rate } = \frac{\text{Total labor force}}{\text{Total adult population}} \times 100$$ |
| Inflation: $$\text{Percentage change } = \frac{(\text{ Level in new year } - \text{ Level in prior year })}{\text{Level in prior year}} \times 100$$ |
| $$i_{rt} = r - \pi$$ |
| $$\text{Monetary multiplier formula } = \frac{1}{\text{Reserved Requirement}}$$ |
| RGDP con el base year y price level. $$RGDP^{19} = \sum_{i=0}^{n} P_i^{14} Q_i^{19}$$ |
| Productivity: $$\text{Productivity } = \frac{\#\text{Input}}{\#\text{Output}}$$ |