Índice general

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.
  - Central bank
  - Δm_2
- Fiscal policy: policy related to taxes and government spending.
  - Taxes and government spending
  - G > T: deficit

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:

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

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:

$$\text{Inflation rate } (\pi) = \frac{(\text{ Price Level in new year } - \text{ Price Level in prior year })}{\text{Level in prior year}} \times 100$$

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: n inflation rate calculated using a fixed basket of goods over time tends to overstate the true rise in the cost of living, becuase it doesn't take into account that the person can substitute away from goods whose prices rise considerably.
- Quality / new goods bias: inflation calculate using a fixed basket of goods over time tends to overstate the true rise in cost of living, because it doesn't account for improvements in the quality of existing goods or the invention of new goods.

4.4. Additional price indices

- Producers Price Index (PPI): a measure of inflation based on prices paid for supplies and inputs by producers of goods and services.
- Internationl price index: a measure of inflation based on the prices of merchandise that are exported or imported.
- Employment cost index: measure of inflation based on wages paid in the labor market.
- GDP deflator: a measure of inflation based on the prices of all the GDP components.

4.5. 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.

4.6. Indexing and its limitations

- Indexed - a price, wage, or interest rate is adjusted automatically for inflation.
- Cost of living adjustments (COLAs): wages increase as inflation increases.
- Adjustable-rate mortgage (ARM): a type of loan a borrower uses to purchase a home in which the interest rate varies with market interest rates.

4.7. Real interest rate

Real interest paid (Fischer equation):

$$i_{rt} = r - \pi$$

- i_{rt} Long term nominal interest rate
- r: Nominal interest rate
- π: 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
▪ Loans ▪ Government securities ▪ Reserves	▪ Deposits ▪ Net worth (assets - liabilities)

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.

For calculating the total money created:

$$\text{Total Money Created } = \text{ Monetary multiplier } \times \text{ Excess reserves}$$

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.

Capítulo 6

Presentation 7

6.1. Central bank of Guatemala

6.1.1. Bank structure

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

Capítulo 7

Video Review

7.1. Determinants of worker productivity

- Human capital: accumulated knowledge, skill, and expertise that the average worker in an economy possesses.
- Technological change: a combination of invention and innovation.
  - Invention - advances in knowledge
  - Innovation - putting advances in knowledge to use in a new product or service.
- Economy of scale: the cost advantages that industries obtain due to size.

7.2. Sources of economic growth

- Production function: the process whereby a firm turns economic inputs like labor, machinery, and raw material into outputs like goods and services that consumers use.
- Aggregate production function: the process whereby an economy as a whole turns economic inputs such as human capital, physical capital, and technology into output measured as GDP per capita.
- In macroeconomics, we call the connection from inputs to outputs for the entire economy an aggregate production function.
- Growth of productivity is linked to GDP per capita.

7.3. Funding investment

$$\underbrace{I}_{\text{US Capital}} = \underbrace{S}_{\text{Private saving}} + \underbrace{(T-G)}_{\text{Government saving}} + \underbrace{(IM-EX)}_{\text{Foreign saving}}$$

7.4. Three tools of central bank to $\Delta m2$

1. ΔRRr $\downarrow$RRd $\rightarrow \uparrow$m2
2. Δ discount rate
   - Interest rate the central bank charges banks for loans.
   - $\downarrow$ discount rate $\rightarrow \uparrow$m2

- Open market operations
  - Buying or selling of bonds.

Capítulo 8

Quiz

Examen Corto 1 – 01-Jun-20

1) Consumption, as measured in GDP, is the purchase of goods and services by:
   A. A. households.
   B. B. government.
   C. C. business firms.
   D. D. foreign buyers.

2) Gross Domestic Product equals $1.2 trillion. If consumption equals $690 billion, investment equals $200 billion, and government spending equals $260 billion, then:
   A A. exports exceed imports by $50 billion.
   B B. imports exceed exports by $50 billion.
   C. C. imports exceed exports by $150 billion.
   D. D. exports exceed imports by $150 billion.

3) The importance of having a high score in the EFW index is:
   A. A. Countries with better scores have a better international reputation.
   B. B. A better score makes it easier for the country to get loans.
   C. C. There is a relationship between economic freedom and economic growth
   D. D. None of the above.

4) In order to avoid double counting, statisticians just count the _____.
   A. A. final inventories
   B. B. final goods and services
   C. C. intermediate goods and services
   D. D. durable goods and nondurable goods

6) GDP does not directly include:
   A. A. the value of goods produced domestically and sold abroad.
   B. B. the value of intermediate goods sold during a period.
   C. C. the value of services rendered during a period.
   D. D. the value of final goods and services produced, but not sold, during a period.

7) Investment (I) includes:
   A. A. the amount spent on new factories and machinery.
   B. B. the amount spent on stocks and bonds.
   C. C. the amount spent on consumer goods that last more than one year.
   D. D. the amount spent on purchases of art.

8) Which of the following is not counted as a part of GDP?
   A. A. the purchase of 100 shares of Apple stock.
   B. B. the purchase of a snow plough by Guatemala City.
   C. C. the unsold additions to inventory at an appliances store
   D. D. the purchase of a loaf of bread by a consumer

9) The Czech Republic has a GDP of 2,000 billion koruny. The exchange rate is 20 koruny per U.S. dollar. The Czech population is 20 million. Calculate the per capita GDP of the Czech Republic in U.S. dollars.

A. A. $5
B. B. $100,000
C. C. $500
D. D. $5000

10) In the EFW Index, Guatemala has a higher score in which of the components?
A. A. Size of Government
B. B. Legal System and Property Rights
C. C. Sound Money
D. E. Freedom to Trade

11) Having Sound Money means:
A. A. Having low and stable inflation.
B. B. Prices do not change.
C. C. Having high and stable inflation.
D. D. Not having inflation at all.

12) A business cycle reflects changes in economic activity, particularly real GDP. The stages of a
business cycle are:
A. A. trough, expansion, recession, peak
B. B. contraction, recession, expansion, boom
C. C. expansion, trough, recession, peak
D. D. expansion, peak, recession, trough

Examen Corto 2 – TMBCE

1) For Banks, people who borrow money are an:
   A. Liability
   B. Asset

2) The amount of money a bank can create depends on:
   A. What is permitted by law.
   B. The number of costumers a bank has.
   C. The required reserve rates
   D. None of the above.

3) M2 can be defined as:
   A. M1 plus bank reserves.
   B. M1 plus saving accounts.
   C. M1 plus checking accounts.
   D. None of the above.

4) M1 can be defined as:
   A. Currency in circulation y checkable deposits.
   B. Currency in circulation, checkable deposits, and savings deposits.
   C. Bank reserves and checkable deposits.
   D. Bank reserves and saving deposits.

5) Money is:
   A. An accepted means of exchange.
   B. Anything you can use to buy something else.
   C. Accepted because the government tells us to.
   D. None of the answers are correct.

6) Banks make money trough:
   A. The difference between the active and passive interest rate.
   B. Money Market Funds Investments.
   C. Credit card costs.
   D. None of the above.

7) Which one is not a function of money:
   A. Medium of exchange.
   B. Standard of value.
   C. Unit of account.
   D. Store of value.

8) For banks, clients checking accounts are:
   A. Assets
   B. Liabilities

9) Which of the following is NOT a function of banks?
   A. Financial Intermediaries
   B. Deposit Institutions.
   C. Payment system intermediaries
   D. Lenders of last resort.

10) What is fiat money?
   A. Money with no intrinsic value
   B. Money that has value form another uses.
   C. Money backed up by gold.
   D. None of the above.

TAREA 2 - DAVID CORZO - 20190432

1, 2, 8, 13, 15, 18, 21, 24, 28, 32

1)

EX	20 b
GP	1,000 b
I	50 b
IM	40 b
CS	2,000 b

GDP

$= -20b + 1{,}000 + 50 + 2000$

$= 3030$ b

2)

a) included
b) not included
c) included
d) included if grandma is payed and reports it as income.
e) not included
f) included
g) not included
h) not included

8) If the population increases faster than GDP, GDP increases and GDP per capita decreases;
If the population decreases faster than GDP, GDP decreases and GDP per capita increases.

13) the GDP demanded and the GDP suplied are equal to each other, thus it should not matter.

15) Nominal: takes only price (current price) into account.
Real: fixes the price of a given year and adjusts for inflation.

18) Currency and size of populations.

21) Non-market activity, illegal activity, intangables, distribution of weath, health and education, product variety and techology, if grow th in GDP is due to a natural disaster for example, auto production.

24) Part of the bvsiness cycle are these ups and downs, in a bvsiness cycle you can have recetions, investment, expansion, growth, traught and all of these can happen in a business cycle for a great variety of reasons such as government policy, weather, economic stability, etcetera and GDP is measured in business cycle terms this is why.

28)

$100 trees
$50 lumber
$250 book shelves

GDP: $400

32)

Year	GPP	Population
1980	70 b → 70,000,000,000	5.1m → 5,100,000
2000	160 b → 160,000,000,000	5.3m → 5,300,000

GDP's per capita

1980: $\frac{70,000,000,000}{5,100,000} \approx 13,725.49$

2000: $\frac{160,000,000,009}{5,300,000} \approx 30,188.68$

$\%\Delta = \frac{30,188.68 - 13,725.49}{13,725.49} \approx 1.20 \rightarrow 120\%$ increase

Capítulo 9

Areas compared 2017

Areas	Country
Size of government	GT
Legal system and property rights	USA
Sound money	USA
Freedom to trade internationally	GT
Regulation	USA

Capítulo 10

Formulary

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

Productivity:

$$\text{Productivity } = \frac{\#\text{Output}}{\#\text{Input}}$$

Equation of exchange:

$$P_L \cdot \text{ RGDP } = \underbrace{m}_{\text{Money supply}} \cdot \underbrace{v}_{\text{Velocity average a dollar is spent}}$$

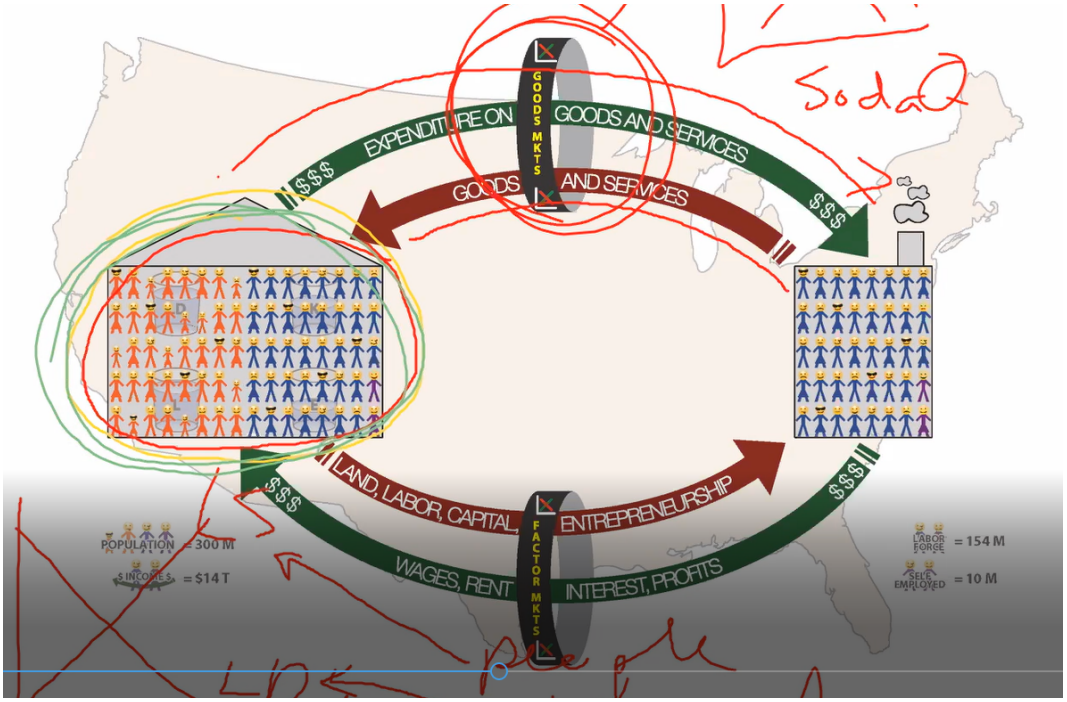
- Bitcoin has a fixed money supply thus m is zero.

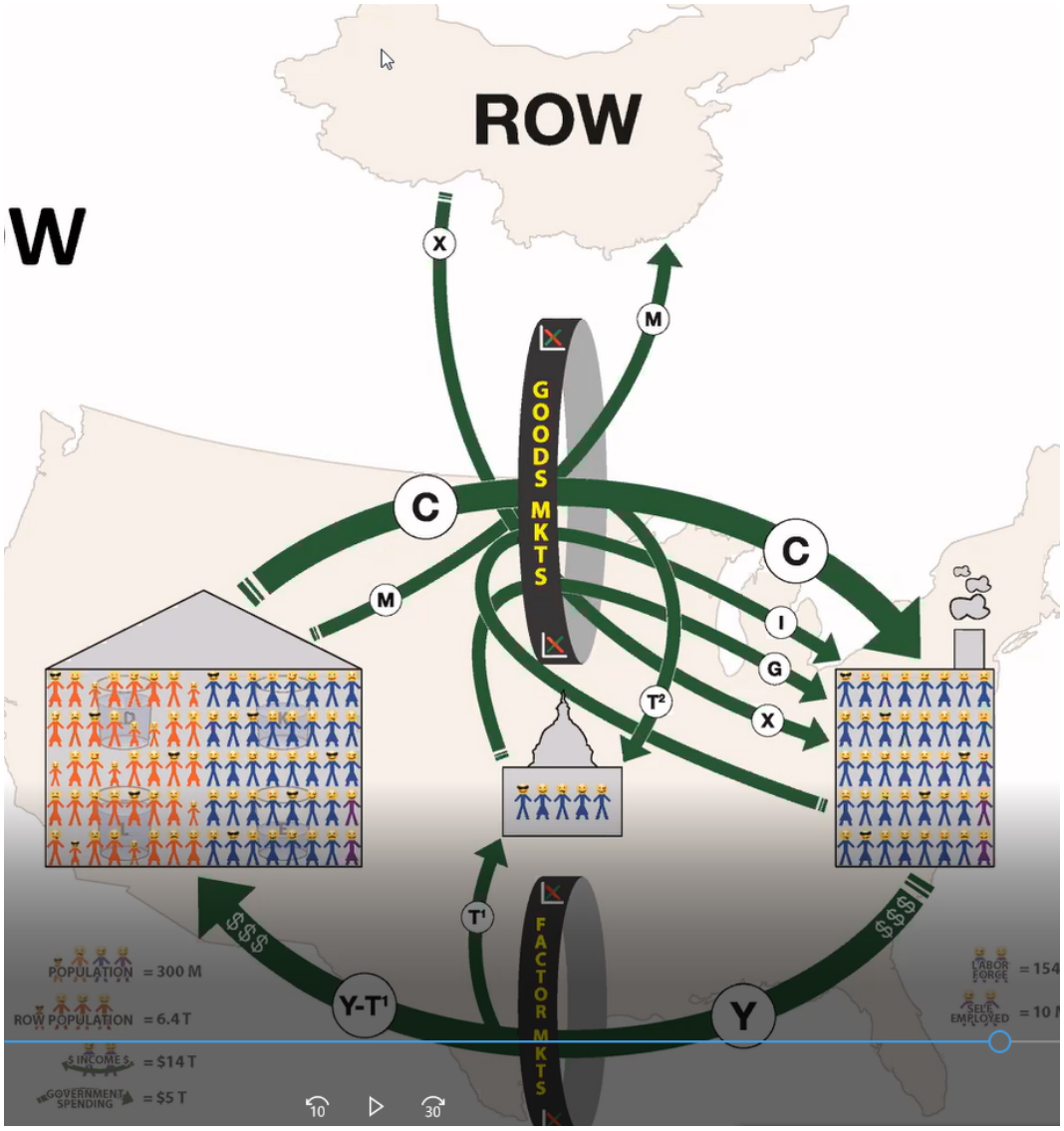
Nominal GDP:

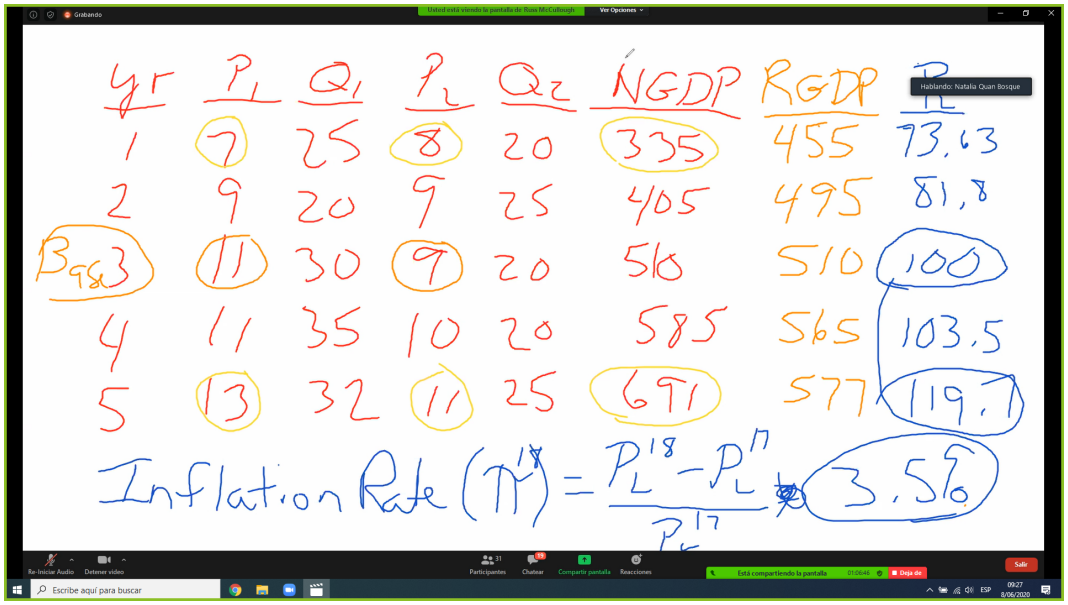
$$\text{NGDP} = P_L \cdot \text{ RGDP}$$

Capítulo 11

Figures




ROW
X
M
GOODS MKTS
C
C
M
I
G
X
T²
T¹
FACTOR MKTS
Y-T¹
Y
POPULATION = 300 M
ROW POPULATION = 6.4 T
$ INCOMES = $14 T
GOVERNMENT SPENDING = $5 T
LABOR FORCE = 154
SELF EMPLOYED = 10 M


Grabando
Usted está viendo la pantalla de Ross McCullough
Ver Opciones
Hablando: Natalia Quan Bosque
yr P1 Q1 P2 Q2 NGDP RGDP PL
1 7 25 8 20 335 455 73.63
2 9 20 9 25 405 495 81.8
Base 11 30 9 20 510 100
4 11 35 10 20 585 565 103.5
5 13 32 11 25 691 577 119.7
Inflation Rate (π18) = PL18 − PL17 / PL17 3.5%
Re-iniciar Audio
Detener video
Participantes
Chatear
Compartir pantalla
Reacciones
Está compartiendo la pantalla
01:06:46
Deja de
Salir
Escribe aquí para buscar
ESP
09:27
8/06/2020

Capítulo 12

Summary on chapter 6

Microeconomics summary chap 6

David Gabriel Corzo Mcmath

2020 May 30, 06:12PM

1. How is the economy doing? How can we tell?

- During the great depression, **Simon Kuznets** won the novel price for comming up with a way of measuring how bad the situation was, his invention was GDP.

2. Introduction to the macroeconomics perspective

- Macroeconomics involves adding up the economic activity of all households and all businesses in all markets to obtain the overall demand and supply in the economy.
- What seems sensible from a microeconomic point of view can have unexpected or counterproductive results at the macroeconomic level.
- Three different perspectives of macroeconomics as a subject of study:
  1. **Goals** (what are the goals): Economic growth, low unemployment, low inflation.
  2. **Framework** (in order to analyze the economy): Aggregate demand / aggregate supply, Keynesian model, Neoclassical model.
  3. **Policy Tools** (policy tools for governments to use): Monetary policy, Fiscal policy.

2.1. Goals: economic growth

- Determines the prevailing standard of living in a country.
- Economists measure growth by the percentage change in real (inflation-adjusted) gross domestic product.
- Growth rate of more than 3 % is considered good.

Economic growth:

- Frameworks are usually theories and models.
- In microeconomics we had supply and demand, in macroeconomics we have aggregate supply and aggregate demand.
- AS and AD have two perspectives: the Keynesian and the neoclassical.

Unemployment:

- Measured by the unemployment rate.
- Unemployment is unlikely to be zero.
- Economists consider a measured unemployment rate of 5 % or less low (good).

Inflation:

- Measured by the consumer price index.
- If prices are rising much faster than the wages workers receive for their labor, there will be widespread unhappiness as their standard of living declines
- Low inflation—an inflation rate of 1–2 %—is a major goal.

2.2. Frameworks

- The principal tool are theories that interpret aggregate supply and aggregate demand, two interpretations in this book are the Neoclassical and the Keynesian.

2.3. Policy tools

- Monetary policy: managing the money supply and interest rates.
- Fiscal policy: changes in government spending/purchases and taxes.

3. Measuring the size of the economy: gross domestic product

- GDP is the way to measure the size of the economy.
- GDP: the value ot all final goods and services produced within a country in a given year.
- GDP can be measured by: total dollar value of what consumers purchase in the economy; or; total dollar value of what is the country produces. And adding all the income from all the businesses.

3.0.1. GDP measured by components of demand

Who buys all of the production is divided in to four groups:

1. Consumer spending (consumption): about 2/3 of GDP, it doesn's fluctuate a lot, it changes gradually over time.
2. Business spending (investment): about 15 % to 18 % of GDP, it fluctuates more noticeably than consumption, this is because the unpredictable changes in technology and/or consumer confidence.
3. Government spending on goods and services: slightly under 20 %, it includes spending on all levels (federal, state and local), government also gives benefits for social security and other things, this is not accounted for inside GDP because it doesn't produce and good or service, what's included in GDP are things like a new public school construction, a new fighter jet for the Air Force.
4. Spending on net exports: net exports are all exports minus the imports.
   - We call the difference or gap between the imports and the exports the **trade balance**.
   - if **(exports > imports)** then a **trade surplus** exists.
   - if **(exports < imports)** then a **trade deficit** exists.
   - If exports and imports are equal, foreign trade has no effect on total GDP. (Since exports and imports would be zero). How ever foreign trade can have an influence on the country even if the country is balanced.

Based on the four components of demand:

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Trade balance}$$

$$\text{GDP} = C + I + G + (X - M)$$

3.0.2. What does the word "investment" mean?

- It refers to purchasing new capital goods, new commercial real estate, for example: buildings, factories, stores, equipment, residential housing, construction, and inventories.
- Inventories are included even if they haven't yet been sold.
- Investment does **not** mean: purchasing stocks and bonds or trading financial assets.

3.1. GDP Measured by what is produced

What countries produce are divided into five categories:

- Durable goods: this category has been increasing.
- Nondurable goods: this category has been dropping.
- Services: this category has been increasing.
- Structures: span everything from buildings, shoping malls and factories.
- Change in inventories: this is the smallest category, it includes all the inventory which has not yet been sold. Inventories rise if businesses are bad.

GDP measured according to what is produced is exactly equal the same as the GDP measured by looking at the five components of demand. This is because every transaction must have a **buyer** and a **seller**.

3.1.1. Another way to measure GDP: National income approach

- Add all the income produced in a yeat provides a second way of measuring GDP.
- This is why the terms GDP and national income are sometimes used interchangeably.

3.2. The problem of double counting

- To avoid this problem, which would overstate the size of the economy considerably, government statisticians count just the value of final goods and services in the chain of production that are sold for consumption, investment, government,and trade purposes.
- Statisticians exclude intermediate goods, which are goods that go into producingothergoods,from GDP calculations.

3.3. Other ways to measure the economy

Gross National Product (GNP):

- GNP: based more on what a country's citizens and firms produce, wherever they are located.
- GDP vs. GNP: GDP is strictly what a country produces inside the borders, GNP is what is produced inside and outside of the borders.

Net National Product (NNP):

- NNP: is the value of the GNP minus the depreciation.

4. Adjusting Nominal values to Real Values

- Nominal value: measure the statistic in terms of actual prices that exist at the time.
- Real value: the same statistic after it has been adjusted for inflation.
- GDP Deflator: is a price index measuring the average prices of all goods and services included in the economy.

$$\text{Real GDP } = \frac{\text{Nominal GDP}}{\text{Price Index}}$$

Round to two decimal places or multiply times 100.

$$\text{Real GDP } = \frac{\text{Nominal GDP}}{\left(\frac{\text{Price Index}}{100}\right)}$$

4.0.1. Find the real GDP growth rate

Computing change or real GDP growth between 1960 to 2010:

$$\frac{\text{2010 real GDP } - \text{ 1960 real GDP}}{\text{1960 real GDP}} \times 100 = \text{ \% change}$$

Nominal:

$$\text{Nominal } = \text{ Price } \times \text{ Quantity}$$

$$\text{\% change in Nominal } = \text{ \% change in price } + \text{ \% change in quantity}$$

or

$$\text{\% change in quantity } = \text{ \% change in nominal } - \text{ \% change in Price}$$

5. Tracking Real GDP over time

- GDP is reported anually, however a GDP number is reported every quarter, as a quarter GDP number is compiled it's multiplied by four to report it as annual.
- We call a significant decline in real GDP a recession. A lenghty and deep recession a depression.
- Peak: the highest point in the economy before the recession begins.
- Trough: lowest point of the recession before recovery.
- Business cycle: the economy's movement from peak to trough and trough to peak.

6. Comparing GDP among countries

- Problems: Different populations and different currencies.
- Exchange rate: value of a currency in terms of another. There are two types, market exchange rate and purchasing power parity (PPP).

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

7. GDP per capita

GDP per capita:

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

8. How well GDP Measures the well-being of society

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

GDP does not measure:

- Leisure time
- Levels of environmental cleanliness, health and learning
- Life expectancy, infant mortality, literacy rates
- Production that isn't exchanged in the market, autoproduction
- Inequality in a society
- Variety available
- Technology and products available

It is possible for GDP to rise and standard of living decrease.

9. Does a rise in GDP overstate or understate the rise in the standard of living?

- GDP doesn't measure a lot of things, thus it isn't a good indicator for measuring standards of living, it is helpful for measuring production, measuring if we are materially better off on terms of jobs and incoms.
- No single number can capture all the elements of a term as broad as "standard of living." Nonetheless, GDP per capita is a reasonable, rough-and-ready measure of the standard of living.