Ministry of Education of Ukraine Private higher educational establishment-institute "Ukrainian – American Concordia University"



for entrance exam on ECONOMICS for Master program Field of study 07 – Management and Administration

Speciality 073 - Management Specialization – Business Administration

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The program of entrance exam on subjects for obtaining a master's degree in the field of knowledge 07 "Management and administration" of the specialty 073 "Management" of the educational and specialization "Business Administration" is based on the curricula of the UACU.

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INTRODUCTION

The program of entrance exam on professional disciplines for obtaining the degree of "master" in a field of study 07 – Management and Administration, speciality 073 – Management, specialization – Business Administration compiled in accordance with the requirements of the standard of higher education. The program contains the main directions, components and tasks of basic economic disciplines.

To ensure the effective implementation of the tasks of the educational and professional training of the Master in the competitive selection of students to the Master program are put forward requirements for their abilities and preparedness in accordance with the test of system knowledge, skills and abilities defined by the programs of normative disciplines.

The program of tests on disciplines of professional orientation is based on the educational disciplines of the standard and is compiled according to the place in the logical sequencing of the study envisaged by the educational program of the bachelor of specialty 073 "Management".

An introductory test consists of a test check of knowledge that forms the competencies that a bachelor must possess.

The program contains the main directions, components and tasks of the economy and consists of four sections:

- 1. Macroeconomics.
- 2. Microeconomics.
- 3. The world economy

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Part 1. MACROECONOMICS

Macroeconomics is a branch of the economics that studies how the aggregate economy behaves. In macroeconomics, a variety of economy-wide phenomena is thoroughly examined such as inflation, price levels, rate of growth, national income, gross domestic product (GDP) and changes in unemployment.

The Study of Macroeconomics. Those working in the field of macroeconomics study aggregated indicators such as unemployment rates, GDP and price indices, and then analyze how different sectors of the economy relate to one another to understand how the economy functions.

Macroeconomists develop models explaining relationships between a variety of factors such as consumption, inflation, savings, investments, international trade and finance, national income and output. Such macroeconomic models, and what the models forecast, are used by government entities to aid in the construction and evaluation of economic policy.

Specific Areas of Research. Macroeconomics is a rather broad field, but two specific areas of research are representative of this discipline. One area involves the process of understanding the causation and consequences of short-term fluctuations in national income, also known as the business cycle. The other area involves the process by which macroeconomics attempts to understand the factors that determine long-term economic growth, or increases in the national income.

History of Macroeconomics. Macroeconomics, as it is in its modern form, started with John Maynard Keynes and the publication of his book "The General Theory of Employment, Interest and Money" in 1936. Keynes offered an explanation for fallout from the Great Depression, when goods remained unsold and workers unemployed, a feat that left classical economists stumped. Keynes' theory explained why markets may not clear. This theory evolved throughout the 20th century, diverting into several macroeconomic schools of thought known as Keynesian economics, often referred to as Keynesian theory or Keynesianism.

There is a list of main topics:

- The Measurement and Structure of the National Economy: Definitions & Description of important terms like GDP, CPI, PPI, BOP, etc. Short video on composition of national economies.
- Global Economy and Globalization Class discussion on aspects of

globalization.

- **Productivity, Output, and Employment**: conceptualization, comprehension and application of above concepts in Macroeconomics & national economies. Discussion on current status of Ukrainian economy.
- Consumption, Saving, and Investment: salient aspects, application as potential Macroeconomic factors to stimulate & boost economic growth
- GDP, National Income, Business Cycles: Detailed comprehension of macroeconomic environment and tools to develop economy. Interactive question & answer session. Group exercises
- Inflation and Unemployment: impact of macroeconomic indicators on the national economy-causes, conclusions & recommendations
- **Fiscal Policy** Conceptualization & Application of Fiscal policy as a measure of regulating & revitalizing the national economy
- **Monetary Policy** Description and understanding of monetary policy as a potent tool and process to boost, stimulate and inject liquidity in the national economy
- **Drivers of Growth**: Technology, Policy, and Institutions: Analysis of Macroeconomic indicators of various countries & discussing growth factors in context of external factors.

10 principles of economics:

How people make decisions.

- 1. People face tradeoffs.
- 2. The cost of something is what you give up to get it.
- 3. Rational people think at the margin.
- 4. People respond to incentives.

How people interact with each other.

- 5. Trade can make everyone better off.
- 6. Markets are usually a good way to organize economic activity.
- 7. Governments can sometimes improve economic outcomes.

 The forces and trends that affect how the economy as a whole works.
- 8. The standard of living depends on a country's production.
- 9. Prices rise when the government prints too much money.
- 10. Society faces a short-run tradeoff between inflation and unemployment.

Key terms

Inflation is an increase in the overall price level.

Hyperinflation is a period of very rapid increases in the overall price level. Hyperinflations are rare, but have been used to study the costs and consequences of even moderate inflation.

Deflation is a decrease in the overall price level. Prolonged periods of deflation can be just as damaging for the economy as sustained inflation. The business cycle is the cycle of short-term ups and downs in the economy.

Aggregate output is the total quantity of goods and services produced in an economy in a given period

Aggregate demand is the total demand for goods and services in an economy. Aggregate supply is the total supply of goods and services in an economy. Stagflation occurs when the overall price level rises rapidly (inflation) during periods of recession or high and persistent unemployment (stagnation).

Business Cycle

Peak: at the peak of the business cycle, Real GDP is at a temporary high.

Contraction: A decline in the real GDP. If it falls for two consecutive quarters, it is said the economy to be in a recession.

Trough: The Low Point of the GDP, just before it begins to turn up.

Recovery: When the GDP is rising from the trough.

Expansion: when the real GDP expands beyond the recovery Recession: two consecutive quarter declines in Real DP

National Income Accounting

The national income accounts is an accounting framework used in measuring current economic activity.

- The product approach measures the amount of output produced, excluding output used up in intermediate stages of production.
- The income approach measures the incomes received by the producers of output
- The expenditure approach measures the amount of spending by the ultimate purchasers of output

The fundamental identity of national income accounting:

Total production = Total income = Total expenditure

GDP (gross domestic product) is the market value of final goods and services newly produced within a nation during a fixed period of time

GNP (Gross National Product) = output produced by domestically owned factors of production

GDP = GNP - NFP

NFP – Net Factor Payments from abroad (Payments to domestically owned factors located abroad - Payments to foreign factors located domestically)

GNI (Gross National Income) – measures income received by a country both domestically and from overseas.

GNI = Value added by all + Product taxes + Income received from producers who are residents in a nation nation + Product taxes + Income received from abroad (employee abroad (employee compensation and property income)

The expenditure approach to measuring GDP

Measures total spending on final goods and services produced within a nation during

a specified period of time

Four main categories of spending: consumption (C), investment (I), Government purchases of goods and services (G), and net exports (NX)

$$Y = C + I + G + NX$$

The income approach to measuring GDP. Adds up income generated by production (including profits and taxes paid to the government)

National Income = (compensation of employees (including benefits) + (proprietors' income) + (rental income of persons) + (corporate profits) + (net interest) + (taxes on production and imports) + (business current transfer payments) + (current surplus of government enterprises)

National Income + statistical discrepancy = Net National Product

Net National Product + Depreciation (the value of capital that wears out in the period) = Gross National Product (GNP)

GNP - Net Factor Payments (NFP) = GDP

Private sector and government sector income

Private Disposable Income = Income of the Private Sector = =Y + NFP + TR + INT - T

Y or GDP – private sector income earned at home

NFP -net factor payments from abroad

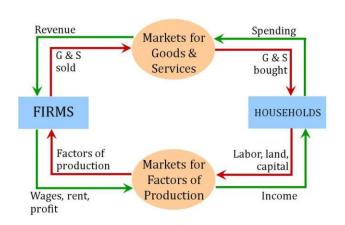
TR – payments from the government sector (transfers)

INT – interest on government debt

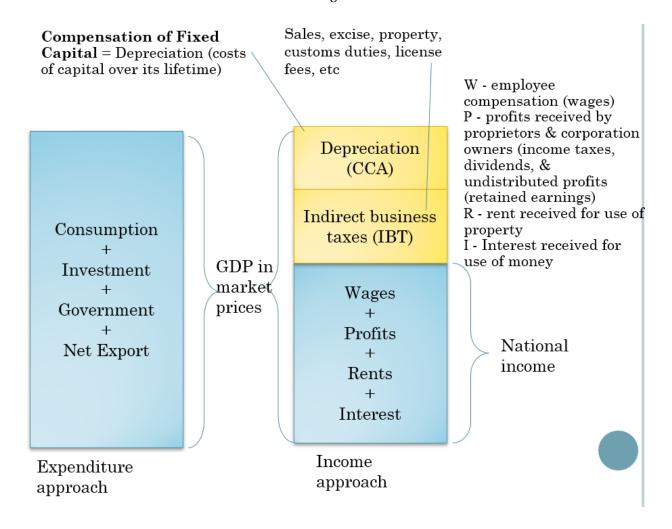
T – taxes paid to government

Government's net income = Taxes – TRansfers – INTerest payments = **T – TR – INT**

Private disposable income + government's net income = **GDP** + **NFP** = **GNP** *GDP calculation*



(I - S) + (G - T) + (X - M) = 0 Investment (I) – Saving (S) Government purchases (G) – Taxes (T) Exports (X) – Imports (M)



Globalization. Globalization is defined as a process that, based on international strategies, aims to expand business operations on a worldwide level, and was precipitated by the facilitation of global communications due to technological advancements, and socioeconomic, political and environmental developments.

- economic globalization
- cultural globalization
- political globalization

In 2000, the International Monetary Fund (IMF) identified four basic aspects of globalization:

- trade and transactions,
- capital and investment movements,
- migration and movement of people,
- the dissemination of knowledge.

There are two types of globalization:

Consumption: The nation in which a product was made becomes independent of the nationality of the consumer

Production: The nationality of the owner and controller of productive assets is independent of the nation housing them

Pros and Cons of Globalization

1. Free trade is supposed to reduce barriers such as tariffs, value added taxes,

subsidies, and other barriers between nations. This is not true. There are still many barriers to free trade. The Washington Post story says "the problem is that the big G20 countries added more than 1,200 restrictive export and import measures since 2008

- 2. The proponents say globalization represents free trade which promotes global economic growth; creates jobs, makes companies more competitive, and lowers prices for consumers.
- 3. Competition between countries is supposed to drive prices down. In many cases this is not working because countries manipulate their currency to get a price advantage.
- 4. It also provides poor countries, through infusions of foreign capital and technology, with the chance to develop economically and by spreading prosperity, creates the conditions in which democracy and respect for human rights may flourish. This is an ethereal goal which hasn't been achieved in most countries
- 5. According to supporters of globalization and democracy should go hand in hand. It should be pure business with no colonialist designs.
- 6. There is now a worldwide market for companies and consumers who have access to products of different countries.
- 7. Gradually there is a world power that is being created instead of compartmentalized power sectors. Politics is merging and decisions that are being taken are actually beneficial for people all over the world. This is simply a romanticized view of what is actually happening.
- 8. There is more influx of information between two countries, which do not have anything in common between them.
- 9. There is cultural intermingling and each country is learning more about other cultures.
- 10. Since we share financial interests, corporations and governments are trying to sort out ecological problems for each other.

Productivity, Output & Employment. Factors affecting productivity

- Technology
- Inputs (Labor / Capital / Land / Raw materials / Machinery / Power)
- Time period

The production function. There are several main issues: The quantity of inputs does not completely determine the amount of output produced; How effectively the factors of production are used is also important; The effectiveness with which factors of production are used may be expressed by a relationship called the production function.

Mathematically, we express production function as-

$$Y = A f(K, N, L, ...)$$

Where, Y stands for output, A - number that indicated productivity, K - capital, N – number of labors employed, L - land. Other factors could be, machinery, energy,

building etc.

The symbol "A" in the equation above captures the overall effectiveness of the factors of production. It is called the "total factor productivity"

Studies show that the relationship between outputs and inputs in the US economy is described reasonably well by the following production function:

$$Y = A \cdot K^{1-\alpha} \cdot N^{\alpha} \quad (R^2 \ge 0.94)$$

This type of production function is called the Cobb-Douglas production function. Historical GDP data of US for the period 1899 - 1922 showed that the production function for US followed the form:

$$\mathbf{Y} = \mathbf{A} \cdot \mathbf{K}^{0.30} \cdot \mathbf{N}^{0.70}$$

Marginal Productivity of Capital: means additional output produced by each additional unit of capital.

Marginal Productivity of Labor: means additional output produced by each additional unit of labor.

Because of diminishing marginal productivity for both labor and capital the slope of production function becomes flatter from left to right.

If the marginal productivity were increasing, slope of the production function would become steeper from left to right.

If the marginal productivity were constant, the slope would be constant and the shape of the curve of production function would be a straight line.

The production function does not remain fixed over time. It may change.

Economists use the term "supply shock" or "productivity shock" to refer to change in an economy's production function.

A positive supply shock raises the amount of output, and a negative supply shock reduces the amount of output.

Sources of supply shock: natural calamities, changes in governmental regulation, innovations etc.

Unemployment:

Full-employment level implies that all the workers who are willing to work at the equilibrium wage rate will find a job.

All workers in real life do not find jobs even if they want to. When workers are unemployed for a long time the sum of all such workers constitute structural unemployment

If workers are unemployed for a brief period (for example: the brief period in which they search for a suitable job) we call it frictional unemployment.

The rate of unemployment that prevails when output and unemployment rate the full-employment level, we call it natural rate of unemployment.

The difference between actual unemployment rate and natural unemployment rate is called cyclical unemployment.

If workers are not willing to work, this will not constitute unemployment. We

shall consider these workers as out of work force.

Productivity / **GDP per capita & GDP** (**PPP**). The per capita GDP is especially useful when comparing one country to another, because it shows the relative performance of the countries. A rise in per capita GDP signals growth in the economy and tends to reflect an increase in productivity.

GDP per capita = **GDP** / **Population** (number of people in the country)

GDP per capita sometimes used as an indicator of standard of living, with higher per capita GDP equating to a higher standard of living.

A standard of living is the level of wealth, comfort, material goods and necessities available to a certain socioeconomic class or a certain geographic area. The standard of living includes factors such as income, gross domestic product, national economic growth, economic and political stability, political and religious freedom, environmental quality, climate, and safety. The standard of living is closely related to quality of life.

GDP per capita can also be used to measure the productivity of a country's workforce, as it measures the total output of goods and services per each member of the workforce in a given nation.

Productivity is calculated by dividing each country's GDP by the average number of hours worked annually by all employed citizens. Hours worked include full-time and part-time workers, excluding holidays and vacation time.

Labor productivity is defined as real gross domestic product (GDP) per hour worked.

This captures the use of labor inputs better than just output per employee, with labor input defined as total hours worked by all persons involved.

The data are derived as average hours worked multiplied by the corresponding and consistent measure of employment for each particular country. Forecast is based on an assessment of the economic climate in individual countries and the world economy, using a combination of model-based analyses and expert judgement. This indicator is measured as an index with 2010=1.

Multifactor productivity (MFP) reflects the overall efficiency with which labor and capital inputs are used together in the production process. Changes in MFP reflect the effects of changes in management practices, brand names, organizational change, general knowledge, network effects, spillovers from production factors, adjustment costs, economies of scale, the effects of imperfect competition and measurement errors.

Growth in MFP is measured as a residual, i.e. that part of GDP growth that cannot be explained by changes in labor and capital inputs. In simple terms therefore, if labor and capital inputs remained unchanged between two periods, any changes in output would reflect changes in MFP. This indicator is measured as an index and in annual growth rates.

Purchasing Power Parity (PPP) is an economic theory that compares different

countries' currencies through a market "basket of goods" approach. According to this concept, two currencies are in equilibrium or at par when a market basket of goods (taking into account the exchange rate) is priced the same in both countries

S = P1/P2

Where:

S represents exchange rate of currency 1 to currency 2

P₁ represents the cost of good "x" in currency 1

P₂ represents the cost of good "x" in currency

PPP calculation

Problem: To make a comparison of prices across countries that holds any type of meaning, a wide range of goods and services must be considered. The amount of data that must be collected, and the complexity of drawing comparisons makes this process difficult.

Solution: To facilitate this, the International Comparisons Program (ICP) (established in 1968 by the University of Pennsylvania and UN). Purchasing power parities generated by the ICP are based on a worldwide price survey that compares the prices of hundreds of various goods. This data, in turn, helps international macroeconomists come up with estimates of global productivity and growth.

Correction & Updating: Every three years, the World Bank constructs and releases a report that compares various countries in terms of PPP and U.S. dollars.

Usage: Both the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) use weights based on PPP metrics to make predictions and recommend economic policy.

Consumption, Savings & Investment. Consumption can be defined in different ways, but is usually best described as the final purchase of goods and services by individuals. It is also often referred to as consumer spending

Every time you purchase food at the drive-thru or pull out your debit or credit card or cash to buy something, you are adding to consumption.

Consumption is one of the biggest concepts in economics and is extremely important because it helps determine the growth and success of the economy.

Businesses can open up and offer all kinds of great products, but if we don't purchase or consume their products, they won't stay in business very long

Theories of consumption

Relative Income Theory of Consumption. Consumption expenditure depends on income of an individual relative to incomes of others rather than the absolute size of his own income

Life Cycle Theory of Consumption. Individual plans his even consumption profile in his lifetime which depends not so much on his current income but on his expectations of income in the whole lifetime

Permanent Income Theory of Consumption. Consumption of an individual depends on permanent income rather than current level of income.

Real income VS nominal income. The term 'real' that is used in describing income refers to how your income is affected by inflation, or the natural rise in prices of goods and services. So, to elaborate, if your income went up 5% in a year, but the price of goods or inflation went up 5% also, your real income remained flat. You can't really buy or consume any more goods than you could before.

Savings. Savings, according to Keynesian economics, consists of the amount left over when the cost of a person's consumer expenditure is subtracted from the amount of disposable income he earns in a given period of time. For those who are financially prudent, the amount of money left over after personal expenses have been met can be positive; for those who tend to rely on credit and loans to make ends meet, there is no money left for savings.

Saving involves income that is not consumed

Savings can be turned into further increased income through investing in different investment vehicles.

Saving is often confused with investing, but they are not the same.

Although most people think of purchases of stocks and bonds as investments, economists use the term "investment" to mean additions to the real stock of capital: plants, factories, equipment, and so on

Types of savings

Personal savings. What people save, avoiding to consume all their income, is called "personal savings". These savings can remain on the bank accounts for future use or be actively invested in houses, real estate, bonds, shares and other financial instruments

National savings. National savings = personal savings + the business savings + public savings. Business savings can be measured by the value of undistributed corporate profits. Public savings are basically tax revenues less public expenditure.

*Investments - m*oney committed or property acquired for future income.

An investment is an asset or item that is purchased with the hope that it will generate income or will appreciate in the future. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or will be sold at a higher price for a profit.

Types of investments:

Traditional investments. In finance, the notion of traditional investments refers to putting money into well-known assets (such as bonds, cash, real estate, and shares) with the expectation of capital appreciation, dividends, and interest earnings

Alternative investment. Alternative investments include hedge funds, managed futures, real estate, commodities and properties.

GDP / Business Cycle / Unemployment

Business cycle terms:

As the economy fluctuates around the trend, the economy is experiencing business cycles.

When economy is moving from a peak level to trough level, the economy is in a contractionary phase.

When economy is moving from trough to peak, the economy is in an expansionary phase.

When economy is moving from peak to trough the economy is in a contractionary phase.

Business Cycles & Sub-Categories. Different sub-categories of GDP tend to co-move with business cycles though to different degree. Business cycles tend to co-move across countries though not as strongly as within countries

Expenditure. Consumption and Investment co-move with output. Investment is more volatile than consumption. Consumer durables are most volatile part of consumption.

Production – Production sectors co-move with business cycles. Manufacturing & Construction most volatile. Services least volatile.

Income – Worker Compensation & Capital Income are both pro-cyclical. Capital Income tends to be more volatile.

Unemployment.is defined by the International Labor Organization (ILO) as a situation in which people are without jobs and they have actively looked for a job for the past four weeks. According to this definition, people who do not look for a job will not be considered unemployed

Types of Unemployment:

Cyclical unemployment - Unemployment associated with business cycles. When demand falls, demand for labor falls. Workers may not be at first willing to work at new market wage rate and may sit idle

Structural unemployment - When specific demands for workers (location or skills) does not match the characteristics of the workforce. Restrictions on job conditions may make it difficult for firms to find workers that match their needs under given conditions. Minimum wage means only high skill workers may be hired. Firing costs may mean that jobs for young or difficult to evaluate workers may not appear.

Frictional unemployment - Unemployment that occurs as a part of the movement in and out of the workforce. Very frequently when a worker changes their employment situation there is some period of unemployment.

Disguised unemployment exists where part of the labor force is either left without work or is working in a redundant manner where worker productivity is essentially zero. It is unemployment that does not affect aggregate output. An economy demonstrates disguised unemployment when productivity is low and too

many workers are filling too few jobs.

Aggregated supply and demand.

Aggregate demand is the total demand for goods and services is an economic measurement of the sum of all final goods and services produced in an economy, expressed as the total amount of money exchanged for those goods and services.

AD = total spending on goods and services = Real GDP

$$AD = C + I + G + NX$$

- **C** Consumer spending on goods and services
- **I** Private investment and corporate spending for non-final capital goods (factories, equipment, etc.)
- **G** Government spending for public goods and social services (infrastructure, Medicare, etc.)

NX = Net exports (exports minus imports)

Aggregate supply - (or total output) is the total supply of goods and services produced within an economy at a given overall price level in a given time period.

Elements of AS:

Consumer goods. Private consumer goods and services, such as motor vehicles, computers, clothes and entertainment, are supplied by the private sector, and consumed by households.

Capital goods. Capital goods, such as machinery, equipment, and plant, are supplied to other firms.

Public and merit goods. Goods and services produced by private firms for use by central or local government, such as education and healthcare, are also a significant component of aggregate supply.

Traded goods. Goods and services for export, such as chemicals, entertainment, and financial services are also a key component of aggregate supply.

The aggregate demand/aggregate supply model is a model that shows what determines total supply or total demand for the economy and how total demand and total supply interact at the macroeconomic level.

Movements of either the aggregate supply or aggregate demand curve in an AD/AS diagram will result in a different equilibrium output and price level.

The aggregate supply curve shifts to the right as productivity increases or the price of key inputs falls, making a combination of lower inflation, higher output, and lower unemployment possible. The aggregate supply curve shifts to the left as the price of key inputs rises, making a combination of lower output, higher unemployment, and higher inflation possible. When an economy experiences stagnant growth and high inflation at the same time it is referred to as stagflation.

The aggregate demand curve shifts to the right as the components of aggregate demand—consumption spending, investment spending, government spending, and spending on exports minus imports—rise. The AD curve will shift back to the left as these components fall. AD components can change because of different personal choices—like those resulting from consumer or business confidence—or from policy choices like changes in government spending and taxes. If the AD curve shifts to the

right, then the equilibrium quantity of output and the price level will rise. If the AD curve shifts to the left, then the equilibrium quantity of output and the price level will fall.

Whether equilibrium output changes relatively more than the price level or whether the price level changes relatively more than output is determined by where the AD curve intersects with the AS curve.

LITERATURE SOURCES

Rudiger Dornbusch, Stanley Fischer and Richard Startz, "Macroeconomics" McGraw-Hill Irwin, Tenth edition.

Additional reading material

David C Colander, "Macroeconomics" McGraw-Hill Education Learning, Eight edition - ISBN: 0077247175

Karl E. Case, Ray C. Fair, Principles of Macroeconomics, Seventh Edition, Pearson/Prentice Hall

On-line Resources:

https://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=33

http://crl.du.ac.in/Social%20Sicence%20Resources/Online%20Macroeconomics%20Textbook.htm

https://www.thoughtco.com/online-macroeconomics-textbook-resources-1147693

http://www.j-bradford-delong.net/macro_online/

Part 2. MICROECONOMICS

The course introduces students to the basic tools of economic analysis, and the principles necessary to appreciate economic relationships, business behavior, and consumer choice. Special emphasis will be given to the areas of supply and demand, marginal analysis, the theory of the firm, and market externalities.

We will also be concerned with aggregate economic performance and explore aggregate measures, such as gross domestic product, inflation, unemployment, and trade. In addition, we will spend some time on economic development, globalization, and the role of international lending institutions.

There is a list of main topics:

- General understanding of Microeconomics
- The supply and demand demand, supply and equilibrium; shifts in demand and supply; changes in equilibrium; price ceilings and price floors.
- The Elasticity of supply and demand the price elasticity of demand and it's determinants; the variety of demand curves; elasticity and total revenue along a

linear demand curve; the price elasticity and it's determinants; variety of supply curves.

- Labor and Financial Markets demand and supply at work in labor markets; demand and supply in financial markets.
- **Consumer choices** consumption choices; how changes in income and prices affect consumption choices; labor-leisure choices.
- **Perfect competition** perfect completion and why its matters; entry and exit decisions in the long run; efficiency in perfectly competitive markets.
- **Monopoly** barriers to entry formation; profit-maximizing monopoly chooses output and price.

General understanding of Microeconomics. The macro looks at things through a wide-angle lens; the micro uses a narrow-focus lens. This is also true in economics and its two branches – macroeconomics and microeconomics.

In general, economics studies how individuals, businesses, governments and nations make choices on allocating resources to satisfy their wants and needs. Macroeconomics studies the large-scale phenomena in the national and global economies. These include central bank interest rates, national employment numbers, gross national product figures, trade deficits or surpluses, foreign currency exchange rates, and other major economic activity and data.

By contrast, microeconomics studies a limited, smaller area of economics, including the actions of individual consumers and businesses, and the processes they use to make economic decisions – buying, selling, the prices businesses charge for their goods and services and how many of these goods and services they produce and offer.

Microeconomic analysis attempts to answer these questions by studying the behavior of individual economic units. By answering questions about how consumers and producers behave, microeconomics helps us understand the pieces that collectively make up a model of an entire economy. Microeconomic analysis also provides the foundation for examining the role of the government in the economy and the effects of government actions. Microeconomic tools are commonly used to address some of the most important issues in contemporary society. These include (but are not limited to) pollution, rent controls, minimum wage laws, import tariffs and quotas, taxes and subsidies, food stamps, government housing and educational assistance programs, government health care programs, workplace safety, and the regulation of private firms.

The supply and demand. Supply and demand is perhaps one of the most fundamental concepts of economics and it is the backbone of a market economy. Demand refers to how much (quantity) of a product or service is desired by buyers. The quantity demanded is the amount of a product people are willing to buy at a certain price; the relationship between price and quantity demanded is

known as the demand relationship. Supply represents how much the market can offer. The quantity supplied refers to the amount of a certain good producers are willing to supply when receiving a certain price. The correlation between price and how much of a good or service is supplied to the market is known as the supply relationship. Price, therefore, is a reflection of supply and demand.

The relationship between demand and supply underlie the forces behind the allocation of resources. In market economy theories, demand and supply theory will allocate resources in the most efficient way possible. How? Let us take a closer look at the law of demand and the law of supply.

The Law of Demand. The law of demand states that, if all other factors remain equal, the higher the price of a good, the less people will demand that good. In other words, the higher the price, the lower the quantity demanded. The amount of a good that buyers purchase at a higher price is less because as the price of a good goes up, so does the opportunity cost of buying that good. As a result, people will naturally avoid buying a product that will force them to forgo the consumption of something else they value more. The chart below shows that the curve is a downward slope.

The Law of Supply. Like the law of demand, the law of supply demonstrates the quantities that will be sold at a certain price. But unlike the law of demand, the supply relationship shows an upward slope. This means that the higher the price, the higher the quantity supplied. Producers supply more at a higher price because selling a higher quantity at a higher price increases revenue

Time and Supply Unlike the demand relationship, however, the supply relationship is a factor of time. Time is important to supply because suppliers must, but cannot always, react quickly to a change in demand or price. So, it is important to try and determine whether a price change that is caused by demand will be temporary or permanent.

Let's say there's a sudden increase in the demand and price for umbrellas in an unexpected rainy season; suppliers may simply accommodate demand by using their production equipment more intensively. If, however, there is a climate change, and the population will need umbrellas year-round, the change in demand and price will be expected to be long term; suppliers will have to change their equipment and production facilities in order to meet the long-term levels of demand.

Supply and Demand Relationship. Now that we know the laws of supply and demand, let's turn to an example to show how supply and demand affect price. Imagine that a special edition CD of your favorite band is released for \$20. Because the record company's previous analysis showed that consumers will not demand CDs at a price higher than \$20, only ten CDs were released because the opportunity cost is too high for suppliers to produce more. If, however, the ten CDs are demanded by 20 people, the price will subsequently rise because, according to the demand relationship, as demand increases, so does the price. Consequently, the rise in price should prompt more CDs to be supplied as the supply relationship shows that the

higher the price, the higher the quantity supplied.

If, however, there are 30 CDs produced and demand is still at 20, the price will not be pushed up because the supply more than accommodates demand. In fact, after the 20 consumers have been satisfied with their CD purchases, the price of the leftover CDs may drop as CD producers attempt to sell the remaining ten CDs. The lower price will then make the CD more available to people who had previously decided that the opportunity cost of buying the CD at \$20 was too high.

Equilibrium When supply and demand are equal (i.e. when the supply function and demand function intersect) the economy is said to be at equilibrium. At this point, the allocation of goods is at its most efficient because the amount of goods being supplied is exactly the same as the amount of goods being demanded. Thus, everyone (individuals, firms, or countries) is satisfied with the current economic condition. At the given price, suppliers are selling all the goods that they have produced and consumers are getting all the goods that they are demanding.

In the real market place equilibrium can only ever be reached in theory, so the prices of goods and services are constantly changing in relation to fluctuations in demand and supply.

Shifts vs. Movement For economics, the "movements" and "shifts" in relation to the supply and demand curves represent very different market phenomena:

A *movement* refers to a change along a curve. On the demand curve, a movement denotes a change in both price and quantity demanded from one point to another on the curve. The movement implies that the demand relationship remains consistent. Therefore, a movement along the demand curve will occur when the price of the good changes and the quantity demanded changes in accordance to the original demand relationship. In other words, a movement occurs when a change in the quantity demanded is caused only by a change in price, and vice versa.

Like a movement along the demand curve, a movement along the supply curve means that the supply relationship remains consistent. Therefore, a movement along the supply curve will occur when the price of the good changes and the quantity supplied changes in accordance to the original supply relationship. In other words, a movement occurs when a change in quantity supplied is caused only by a change in price, and vice versa.

A *shift* in a demand or supply curve occurs when a good's quantity demanded or supplied changes even though price remains the same. For instance, if the price for a bottle of beer was \$2 and the quantity of beer demanded increased from Q1 to Q2, then there would be a shift in the demand for beer. Shifts in the demand curve imply that the original demand relationship has changed, meaning that quantity demand is affected by a factor other than price. A shift in the demand relationship would occur if, for instance, beer suddenly became the only type of alcohol available for consumption.

The Elasticity of supply and demand.

Key terms:

This measure of elasticity, which is based on percentage changes relative to the average value of each variable between two points, is called Arc Elasticity. The arc elasticity method has the advantage that it yields the same elasticity whether we go from point A to point B or from point B to point A. It is the method we shall use to compute elasticity.

If the absolute value of the price elasticity of demand is greater than 1 $(e_D>1)$, demand is termed price elastic

If it is equal to 1 (e_D =1), demand is unit price elastic.

And if it is less than 1 ($e_D < 1$), demand is price inelastic.

The income elasticity of demand (e_Y) as the percentage change in quantity demanded at a specific price divided by the percentage change in income that produced the demand change, all other things unchanged

The cross price elasticity of demand $(e_{A, B})$ uses to describe the responsiveness of demand for a good or service to a change in the price of another good or service. It equals the percentage change in the quantity demanded of one good or service at a specific price divided by the percentage change in the price of a related good or service

Price elasticity of supply as the ratio of the percentage change in quantity supplied of a good or service to the percentage change in its price, all other things unchanged

The demand and supply of goods react to changes in price, and that prices in turn move along with changes in quantity. We've also seen that the utility, or satisfaction received from consuming or acquiring goods diminishes with each additional unit consumed. The degree to which demand or supply reacts to a change in price is called elasticity.

Elasticity varies from product to product because some products may be more essential to the consumer than others. Demand for products that are considered necessities is less sensitive to price changes because consumers will still continue buying these products despite price increases. On the other hand, an increase in price of a good or service that is far less of a necessity will deter consumers because the opportunity cost of buying the product will become too high.

A good or service is considered highly elastic if even a slight change in price leads to a sharp change in the quantity demanded or supplied. Usually these kinds of products are readily available in the market and a person may not necessarily need them in his or her daily life, or if there are good substitutes. For example, if the price of Coke rises, people may readily switch over to Pepsi. On the other hand, an inelastic good or service is one in which large changes in price produce only modest changes in the quantity demanded or supplied, if any at all. These goods tend to be things that are more of a necessity to the consumer in his or her daily life, such as gasoline.

To determine the elasticity of the supply or demand of something, we can use this simple equation:

Elasticity = (% change in quantity / % change in price)

If the elasticity is greater than or equal to 1, the curve is considered to be elastic. If it is less than one, the curve is said to be inelastic.

The demand curve has a negative slope. If a large drop in the quantity demanded is accompanied by only a small increase in price, the demand curve will appear looks flatter, or more horizontal. People would rather stop consuming this product or switch to some alternative rather than pay a higher price. A flatter curve means that the good or service in question is quite elastic.

Elasticity of supply works similarly. If a change in price results in a big change in the amount supplied, the supply curve appears flatter and is considered elastic. Elasticity in this case would be greater than or equal to one. The elasticity of supply works similarly to that of demand. Remember that the supply curve is upward sloping. If a small change in price results in a big change in the amount supplied, the supply curve appears flatter and is considered elastic. Elasticity in this case would be greater than or equal to one.

Factors Affecting Demand Elasticity There are three main factors that influence a good's price elasticity of demand:

1. Availability of Substitutes In general, the more good substitutes there are, the more elastic the demand will be. For example, if the price of a cup of coffee went up by \$0.25, consumers might replace their morning caffeine fix with a cup of strong tea. This means that coffee is an elastic good because a small increase in price will cause a large decrease in demand as consumers start buying more tea instead of coffee.

However, if the price of caffeine itself were to go up, we would probably see little change in the consumption of coffee or tea because there may be few good substitutes for caffeine. Most people in this case might not willing to give up their morning cup of caffeine no matter what the price. We would say, therefore, that caffeine is an inelastic product. While a specific product within an industry can be elastic due to the availability of substitutes, an entire industry itself tends to be inelastic. Usually, unique goods such as diamonds are inelastic because they have few if any substitutes.

- 2. Necessity As we saw above, if something is needed for survival or comfort, people will continue to pay higher prices for it. For example, people need to get to work or drive for any number of reasons. Therefore, even if the price of gas doubles or even triples, people will still need to fill up their tanks.
- 3. Time The third influential factor is time. If the price of cigarettes goes up \$2 per pack, a smoker with very few available substitutes will most likely continue buying his or her daily cigarettes. This means that tobacco is inelastic because the change in price will not have a significant influence on the quantity demanded. However, if that smoker finds that he or she cannot afford to spend the extra \$2 per day and begins to kick the habit over a period of time, the price elasticity of cigarettes for that consumer becomes elastic in the long run.

Income Elasticity of Demand. Income elasticity of demand is the amount of income available to spend on goods and services. This also affects demand since it regulates how much people can spend in general. Thus, if the price of a car goes up from \$25,000 to \$30,000 and income stays the same, the consumer is forced to reduce his or her demand for that car. If there is an increase in price and no change in the amount of income available to spend on the good, there will be an elastic reaction in demand: demand will be sensitive to a change in price if there is no change in income. It follows, then, that if there is an increase in income, demand in general tends to increase as well. The degree to which an increase in income will cause an increase in demand is called the "income elasticity of demand," which can be expressed in the following equation:

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EDy= ((Q current -Q previous) / (Q previous))
------
((Y current-Y previous) / Y previous))

ED = Elasticity of Demand
Q = Quantity
Y = Income
EDy = Income Elasticity of Demand
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If EDy is greater than 1, demand for the item is considered to have a high income elasticity. If EDy is less than 1, demand is considered to be income inelastic. Luxury items usually have higher income elasticity because when people have a higher income, they don't have to forfeit as much to buy these luxury items.

Labor Market.

Key terms:

Minimum wage - a price floor that makes it illegal for an employer to pay employees less than a certain hourly rate

Usury laws - laws that impose an upper limit on the interest rate that lenders can charge

The theories of supply and demand do not apply just to markets for goods. They apply to any market, even markets for labor and financial services. Labor markets are markets for employees or jobs. Financial services markets are markets for saving or borrowing.

When we think about demand and supply curves in goods and services markets, it is easy to picture who the demanders and suppliers are: businesses produce the products and households buy them. Who are the demanders and suppliers in labor and financial service markets? In labor markets job seekers (individuals) are the suppliers of labor, while firms and other employers who hire labor are the demanders for labor. In financial markets, any individual or firm who saves contributes to the supply of money, and any who borrows (person, firm, or government) contributes to the demand for money.

Markets for labor have demand and supply curves, just like markets for goods. The law of demand applies in labor markets this way: A higher salary or wage—that is, a higher price in the labor market—leads to a decrease in the quantity of labor demanded by employers, while a lower salary or wage leads to an increase in the quantity of labor demanded. The law of supply functions in labor markets, too: A higher price for labor leads to a higher quantity of labor supplied; a lower price leads to a lower quantity supplied.

The demand curve for labor shows the quantity of labor employers wish to hire at any given salary or wage rate, under the ceteris paribus assumption. A change in the wage or salary will result in a change in the quantity demanded of labor. If the wage rate increases, employers will want to hire fewer employees. The quantity of labor demanded will decrease, and there will be a movement upward along the demand curve. If the wages and salaries decrease, employers are more likely to hire a greater number of workers. The quantity of labor demanded will increase, resulting in a downward movement along the demand curve.

Financial market.

Key terms

Financial Capital most commonly refers to assets needed by a company to provide goods or services, as measured in terms of money value. Money raised from debt and equity issues is normally referred to as capital.

Supply - those who save money (or make financial investments, which is the same thing), whether individuals or businesses

Demand - those who borrow money are on the demand side of the financial market

In any market, the price is what suppliers receive and what demanders pay. In financial markets, those who supply financial capital through saving expect to receive a rate of return, while those who demand financial capital by receiving funds expect to pay a rate of return. This rate of return can come in a variety of forms, depending on the type of investment. The simplest example of a rate of return is the interest rate. For example, when you supply money into a savings account at a bank, you receive interest on your deposit. The interest paid to you as a percent of your deposits is the interest rate. Similarly, if you demand a loan to buy a car or a computer, you will need to pay interest on the money you borrow.

Those who supply financial capital face two broad decisions: how much to save, and how to divide up their savings among different forms of financial investments. Participants in financial markets must decide when they prefer to consume goods: now or in the future. Economists call this intertemporal decision making because it involves decisions across time. Unlike a decision about what to buy from the grocery store, decisions about investment or saving are made across a period of time, sometimes a long period.

Most workers save for retirement because their income in the present is greater than their needs, while the opposite will be true once they retire. So they save today and supply financial markets. If their income increases, they save more. If their perceived situation in the future changes, they change the amount of their saving. For example, there is some evidence that Social Security, the program that workers pay into in order to qualify for government checks after retirement, has tended to reduce the quantity of financial capital that workers save. If this is true, Social Security has shifted the supply of financial capital at any interest rate to the left. By contrast, many college students need money today when their income is low (or nonexistent) to pay their college expenses. As a result, they borrow today and demand from financial markets. Once they graduate and become employed, they will pay back the loans. Individuals borrow money to purchase homes or cars. A business seeks financial investment so that it has the funds to build a factory or invest in a research and development project that will not pay off for five years, ten years, or even more. So, when consumers and businesses have greater confidence that they will be able to repay in the future, the quantity demanded of financial capital at any given interest rate will shift to the right.

Consumer choices.

Key terms:

Backward-bending supply curve for labor - the situation when high-wage people can earn so much that they respond to a still-higher wage by working fewer hours

Budget constrain line shows the possible combinations of two goods that are affordable given a consumer's limited income

Consumer equilibrium – when the ratio of the prices of goods is equal to the ratio of the marginal utilities (point at which the consumer can get the most satisfaction)

Diminishing marginal utility – the common pattern that each marginal unit of a good consumed provides less of an addition to utility than the previous unit Income effect – higher price means that, in effect, the buying power of income has been reduced, even though actual income has not changed; always happens simultaneously with a substitution effect

Substitution effect - when a price changes, consumers have an incentive to consume less of the good with a relatively higher price and more of the good with a relatively lower price

Marginal utility – the additional utility provided by one additional unit of consumption

Marginal utility per dollar - the additional satisfaction gained from purchasing a good given the price of the product; MU/Price

Total utility – satisfaction derived from consumer choices

To understand how a household will make its choices, economists look at what consumers can afford, as shown in a *budget constraint line*, and the total utility or

satisfaction derived from those choices. In a budget constraint line, the quantity of one good is measured on the horizontal axis and the quantity of the other good is measured on the vertical axis. The budget constraint line shows the various combinations of two goods that are affordable given consumer income.

The most common pattern of total utility, as shown here, is that consuming additional goods leads to greater total utility, but at a decreasing rate. The third column shows marginal utility, which is the additional utility provided by one additional unit of consumption. This equation for marginal utility is:

MU = (Change in total utility) / (Change in quantity)

Notice that MU diminishes as additional units are consumed, which means that each subsequent unit of a good consumed provides less additional utility. This is an example of the *law of diminishing marginal utility*, which holds that the additional utility decreases with each unit added.

In the budget constraint framework, all decisions involve what will happen next: that is, what quantities of goods will you consume, how many hours will you work, or how much will you save. These decisions do not look back to past choices. Thus, the budget constraint framework assumes that *sunk costs*, *which are costs that were incurred in the past and cannot be recovered, should not affect the current decision*.

Another way to look at this is by focusing on satisfaction per dollar. Marginal utility per dollar is the amount of additional utility that receives given the price of the product.

Marginal utility per dollar = (Marginal utility) / Price

A rule for maximizing utility

$$(MU_1/P_1) = (MU_2/P_2)$$

The utility-maximizing choice between consumption goods occurs where the marginal utility per dollar is the same for both goods.

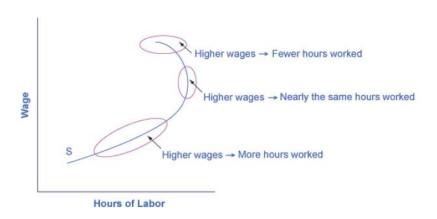
Labor-leisure choice. People do not obtain utility just from products they purchase. They also obtain utility from leisure time. Leisure time is time not spent at work. The decision-making process of a utility-maximizing household applies to what quantity of hours to work in much the same way that it applies to purchases of goods and services.

Choices made along the labor-leisure budget constraint, as wages shift, provide the logical underpinning for the labor supply curve. The discussion also offers some insights about the range of possible reactions when people receive higher wages, and specifically about the claim that if people are paid higher wages, they will work a greater quantity of hours – assuming that they have a say in the matter.

The bottom-left portion of the labor supply curve slopes upward, which reflects the situation of a person who reacts to a higher wage by supplying a greater quantity of labor.

The middle, close-to-vertical portion of the labor supply curve reflects the situation of a person who reacts to a higher wage by supplying about the same quantity of labor.

The very top portion of the labor supply curve is called a backward-bending supply curve for labor, which is the situation of high-wage people who can earn so much that they respond to a still-higher wage by working fewer hours.



Perfect competition.

Key terms

Entry - the long-run process of firms entering an industry in response to industry profits

Exit - the long-run process of firms reducing production and shutting down in response to industry losses

long-run equilibrium - where all firms earn zero economic profits producing the output level where P = MR = MC and P = AC

Marginal revenue - the additional revenue gained from selling one more unit

Market structure - the conditions in an industry, such as number of sellers, how easy or difficult it is for a new firm to enter, and the type of products that are sold

Perfect competition - each firm faces many competitors that sell identical products

Price taker – a firm in a perfectly competitive market that must take the prevailing market price as given

Shutdown point - level of output where the marginal cost curve intersects the average variable cost curve at the minimum point of AVC; if the price is below this point, the firm should shut down immediately

Conditions for perfect competition:

many firms produce identical products;

many buyers are available to buy the product, and many sellers are available to sell the product;

sellers and buyers have all relevant information to make rational decisions about the product being bought and sold;

firms can enter and leave the market without any restrictions—in other words, there is free entry and exit into and out of the market.

The **marginal revenue** curve shows the additional revenue gained from selling one more unit.

This condition only holds for price taking firms in perfect competition where:

Marginal Revenue = Price

The formula for marginal revenue is:

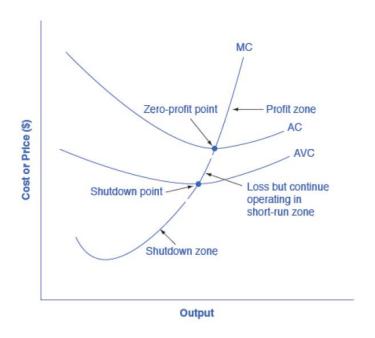
Marginal Revenue = (Change in Total Revenue / Change in Quantity)

Since a perfectly competitive firm is a price taker, it can sell whatever quantity it wishes at the market-determined price. Marginal cost, the cost per additional unit sold, is calculated by dividing the change in total cost by the change in quantity. The formula for marginal cost is:

Marginal Cost = (Change in Total Cost) / (Change in Quantity)

Competitive firm will choose the level of output where Price = MR = MC. At this price and output level, where the marginal cost curve is crossing the average cost curve, the price received by the firm is exactly equal to its average cost of production.

Short-Run Outcomes for Perfectly Competitive Firms. The marginal cost curve can be divided into three zones, based on where it is crossed by the average cost and average variable cost curves. The point where MC crosses AC is called the zero-profit point.



If the firm is operating at a level of output where the market price is at a level higher than the zero-profit point, then price will be greater than average cost and the firm is earning profits.

If the price is exactly at the zero-profit point, then the firm is making zero profits.

If price falls in the zone between the shutdown point and the zero-profit point, then the firm is making losses but will continue to operate in the short run, since it is covering its variable costs.

If price falls below the price at the shutdown point, then the firm will shut down immediately, since it is not even covering its variable costs.

Monopoly.

Key terms

Allocative efficiency – producing the optimal quantity of some output; the quantity where the marginal benefit to society of one more unit just equals the

marginal cost

Barriers to entry – the legal, technological, or market forces that may discourage or prevent potential competitors from entering a market

Copyright – a form of legal protection to prevent copying, for commercial purposes, original works of authorship, including books and music

Deregulation – removing government controls over setting prices and quantities in certain industries

Intellectual property – the body of law including patents, trademarks, copyrights, and trade secret law that protect the right of inventors to produce and sell their inventions

Legal monopoly – legal prohibitions against competition, such as regulated monopolies and intellectual property protection

Marginal profit – profit of one more unit of output, computed as marginal revenue minus marginal cost

Monopoly – a situation in which one firm produces all of the output in a market

Natural monopoly – economic conditions in the industry, for example, economies of scale or control of a critical resource, that limit effective competition

Patent – a government rule that gives the inventor the exclusive legal right to make, use, or sell the invention for a limited time

Predatory pricing – when an existing firm uses sharp but temporary price cuts to discourage new competition

Trade secrets – methods of production kept secret by the producing firm

Trademark – an identifying symbol or name for a particular good and can
only be used by the firm that registered that trademark

Natural monopoly - this situation, when economies of scale are large relative to the quantity demanded in the market, is called a natural monopoly.

Natural monopolies often arise in industries where the marginal cost of adding an additional customer is very low, once the fixed costs of the overall system are in place. E.g., because of economies of scale, one producer can serve the entire market more efficiently than a number of smaller producers that would need to make duplicate physical capital investments.

A natural monopoly can also arise in smaller local markets for products that are difficult to transport.

Another type of natural monopoly occurs when a company has control of a scarce physical resource.

Barrier to Entry	Governmental role	Examples
Natural Monopoly	Government often responds with regulation	Water and electric companies

	(or ownership)	
Control on physical resources	No	DeBeers
Legal monopoly	Yes	Post office, regulations of airlines
Patent, trademark and ©	Yes, through protection of intellectual property	New drugs, software
Intimidating potential competitors	somewhat	Predatory pricing; well-known brand names

In the real world, a monopolist often does not have enough information to analyze its entire total revenues or total costs curves; after all, the firm does not know exactly what would happen if it were to alter production dramatically. But a monopolist often has fairly reliable information about how changing output by small or moderate amounts will affect its marginal revenues and marginal costs, because it has had experience with such changes over time and because modest changes are easier to extrapolate from current experience. A monopolist can use information on marginal revenue and marginal cost to seek out the profit-maximizing combination of quantity and price.

LITERATURE SOURCES

Principles of Economics – N. Gregory Mankiw

Introduction to microeconomics (2004) Dr. David A. Dilts

Additional reading material

Online Microeconomics Textbook - https://www.thoughtco.com/online-microeconomics-textbook-1147732

Intermediate Microeconomics. A modern approach. 8th addition by Hal V. Varian

Part 3. WORLD ECONOMICS

The International Economy is a basic course that will give the general picture of the world from the economic perspective, will explore key drivers making global players look for new instruments to implement their strategy within the radically changing environment; growing importance of regionalization, sustainable development and equality are to be considered as a reaction to lower development rates and squeezing consumption; the impact of the current trends in population security and well-being and also over growth potential of the world economy.

There is a list of main topics:

What is International Economics: economic in news; scarcity and the fundamental economic questions; new drivers and challenges vs. previous managerial skills

Meaning of development: defining development and undevelopment; how to measure (approaches by IMF, UNDP, WTO); qualitative and factors of development (GDP vs Inclusive development); obstacles of development; problems facing developing countries

Theoretical background of international economics: linear stages of growth models; structural change theories; international dependence theories; neoclassical, free-market theories.

Modern factors of economic growth and economic development: economic growth: definition and measurement; economic development of different countries; interdependence between level of growth and development

Microfinance: social impact of Banks; basic mechanism of capital accumulation; public and private investments; human development index (HDI); development indicators

Foreign trade imbalance: effectiveness of foreign trade aid; foreign direct investments; capital demand and capital demand specialty; macroeconomic stability

Globalization and Growing Trend to Regionalization: globalization – definition, spreading, influence and consequences and opportunities for rich and poor countries equality and economic growth, poverty and inequality, corruption as a global issue

Sustainable Development: definition and evolution, new economic concept and its applicable variations, climate and environment factors of sustainable economic growth.

The main tendencies of economic development of the world in accordance with GDP per capita.

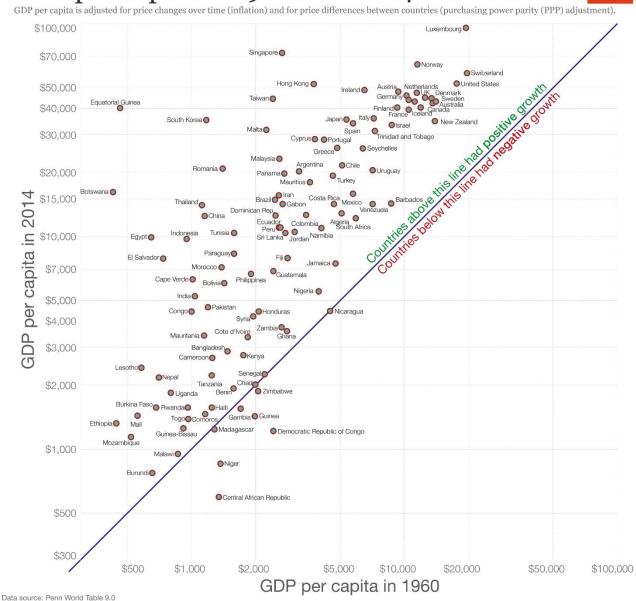
The fastest growing economies:

- The US may not dominate for much longer, however.
- Although China trails the US by \$7 trillion, it's catching up. China's economy grew by 6.7% in 2016, compared with America's 1.6%, according to the IMF.
- China has also overtaken India as the fastest-growing large economy. The IMF's World Economic Outlook estimated China's economy grew at 6.7% in 2016, compared with India's 6.6%.

- Brazil's economy has contracted in the last year by 3.5%, the only one in the top 10 to do so.
- The Asian bloc clearly has a larger share than anywhere else, representing just over a third (33.84%) of global GDP. That's compared to North America, which represents just over a quarter, at 27.95%.
- Europe comes third with just over one-fifth of global GDP (21.37%).
- Together, these three blocs generate more than four-fifths (83.16%) of the world's total output.

GDP per capita in 1960 and 2014





The visualization is available at OurWorldinData.org where you find more visualizations and research on global development

Licensed under CC-BY-SA by the author Max Roser

Income Earned	GDP	GNI	GNP
by:			

Residents in Country	Personal consumption (C) + business investment (I) +	GDP +(income from citizens and businesses earned abroad) – (income	GDP + (income earned on all foreign assets) – (income earned by
	government spending	remitted by foreigners	foreigners in the
	(G) + [exports - imports	living in the country	country)
	(X)]	back to their home	
		countries)	
		GNP + (income spent by	
		foreigners within the	
		country) – (foreign income	
		not remitted by citizens)	
Foreigners in	Includes	Includes If Spent in	Excludes All
Country		Country	
Residents Out of	Excludes	Includes If Remitted Back	Includes All
Country			

Megatrends: 5 global shifts changing the way we live and do business

- Rapid urbanization
- Climate change & resource scarcity
- Shift in global economic power
- Demographic and social change
- Technological breakthroughs

Developed Word. The US economy is in good shape, and we have revised up economic growth in 2018 to 2.5%, from 2.3% previously. Wage growth is showing signs of accelerating, and the unemployment rate is at its lowest level since 2000.

Expects the US economy to show signs of overheating in the next two years, as a result of which the Fed will quicken the pace of monetary tightening, especially given the recent tax changes. Unable to cope with this, the economy will face a downturn in early 2020.

The recent revival of the euro zone economy is likely to be sustained, but political risk will remain high. EU leaders are currently boosting the region's resilience to shocks, in part by renewing their push for further integration of the economic and monetary union.

A decision on reform proposals will be made at the EU summit in June 2018. Following the renewed landslide secured by the ruling Liberal Democratic Party (LDP) in Japan, Shinzo Abe is in a strong position to secure another term as LDP leader when the party votes in late 2018. This comes in the context of the country's mild economic recovery under the prime minister's recovery plan.

Difference between growth and development:

- Economic growth means an increase in real national income / national output.
- Economic development means an improvement in the quality of life and living standards, e.g. measures of literacy, life-expectancy and health care.

Ceteris paribus, we would expect economic growth to enable more economic development. Higher real GDP enables more to be spent on health care and education.

However, the link is not guaranteed. The proceeds of economic growth could be wasted or retained by a small wealthy elite.

The primary factor used to distinguish developed countries from developing countries is gross domestic product (GDP) per capita, a figure calculated by dividing a country's GDP by its population.

One unofficial threshold for a country with a developed economy is a GDP per capita of \$12,000. Some economists prefer to see a per capita GDP of at least \$25,000 to be comfortable declaring a country as developed, however. Many highly developed countries, including the United States, have high per capita GDPs of \$40,000 or above.

Exceeding even the \$12,000 GDP does not automatically qualify a country as being developed. Developed countries share several other characteristics:

- They are highly industrialized.
- Their birth and death rates are stable. They do not have excessively high birth rates because, thanks to quality medical care and high living standards, infant mortality rates are low. Families do not feel the need to have high numbers of children with the expectation that some will not survive. No developed country has an infant mortality rate higher than 10 per 1,000 live births. In terms of life expectancy, all developed countries boast numbers greater than 70 years; many average 80.
- They have more women working, particularly in high-ranking executive positions. These career-oriented women frequently choose to have smaller families or eschew having children altogether.
- They use a disproportionate amount of the world's resources, such as oil. In developed countries, more people drive cars, fly on airplanes, and power their homes with electricity and gas. Inhabitants of developing countries often do not have access to technologies that require the use of these resources.
- They have higher levels of debt. Nations with developing economies cannot obtain the kind of seemingly bottomless financing that more developed nations can.

Institutions measure a country's level of development in many different ways. For instance, the United Nations has few conventions for distinguishing between "developed" and "developing" countries, while the World Bank makes specific distinctions using gross national income (GNI) per capita, although other analytical tools may be used in the process.

The International Monetary Fund's (IMF) definition is often considered to be the most comprehensive measure since it takes into account per capita income, export diversification, and the degree of integration into the global financial system. In 2011, the organization published a research report on the topic of classification titled "Classification of Countries Based on Their Level of Development" that outlines its methodologies for classifying a country's level of development.

The World Bank has a much more concrete methodology as it considers countries with per capita income of less than US\$12,275 as "developing" countries. But the organization also divides these developing countries into numerous income classes, ranging from low-income to upper-middle-income countries, meaning there

are other gray areas for international investors to consider.

There are no WTO definitions of "developed" and "developing" countries. Members announce for themselves whether they are "developed" or "developing" countries.

Emerging markets is a term that was coined in the 1980s to represent countries transitioning from developing to developed status. While the term is commonly used among investors, there is no universally accepted definition of emerging markets.

When emerging market economies began to mature, the term frontier markets were coined to represent investable countries with lower market capitalizations and liquidity. These countries are widely considered to be the up-and-coming emerging markets, but are a bit more hazardous to investors in terms of political risk, market maturity, and transparency.

Frontier and emerging markets offer investors higher potential returns, but they also involve greater risk than developed countries like the United States. These attributes make them ideal for investors with a medium to long-term time horizon.

There is no single definition of a frontier market or emerging market, but instead, there are several different indices. Many of these indices have ETFs that offer investors a quick way to diversify in these high growth markets.

Investors looking for either more specific exposure or broader exposure have several alternatives to all-world funds

Emerging markets. Conditions for emerging markets to become more challenging in the first half of the forecast period as US interest rates continue to rise. India will be Asia's fastest-growing large economy in 2018-22, expanding at an average annual rate of 7.9%. Growth will also remain on track in the Association of South-East Asian Nations (ASEAN) member states, with an average annual expansion of 4.8%. Vietnam, Cambodia and Myanmar, in particular, will continue to record growth rates above 6%, owing to relatively low wage costs and advantageous geographic locations.

the Chinese economy to slowly slightly in 2018, to 6.4%, from an estimated 6.9% in 2017. The government's long-held target of doubling real GDP between 2010 and 2020 is within its grasp; it requires annual average GDP growth of 6.3% in 2018-20. We believe that it will meet this target without requiring significant economic stimulus. We expect China to move away from GDP targeting in the next decade. This is ideologically consistent with the call of the president, Xi Jinping, for more inclusive growth in his landmark speech at the party congress at the end of 2017. As such, we expect growth to continue to slow steadily in the forecast period, reaching 5.2% in 2022.

Linear-Stages-of-Growth Models

Development theory is a conglomeration of theories about how desirable

change in society is best achieved.

The Linear Stages of Growth model is an economic model which is heavily inspired by the Marshall Plan of the US which was used to rehabilitate Europe's economy after the Post-World War II Crisis.

The linear stages of growth models are the oldest and most traditional of all development plans. It was an attempt by economists to come up with a suitable concept as to how underdeveloped countries of Asia, Africa and Latin America can transform their agrarian economy into an industrialized one.

The most popular of the linear stage models are Rostow's Stages of Growth Model and the Harrod-Domar Growth Model.

Rostow - Five Stages of Economic Growth Model

Traditional society. This is an agricultural economy of mainly subsistence farming, little of which is traded. The size of the capital stock is limited and of low quality resulting in very low labor productivity and little surplus output left to sell in domestic and overseas markets

Pre-conditions for take-off. Agriculture becomes more mechanized and more output is traded. Savings and investment grow although they are still a small percentage of national income (GDP). Some external funding is required - for example in the form of overseas aid or perhaps remittance incomes from migrant workers living overseas

Take-off. Manufacturing industry assumes greater importance, although the number of industries remains small. Political and social institutions start to develop - external finance may still be required. Savings and investment grow, perhaps to 15% of GDP. Agriculture assumes lesser importance in relative terms although the majority of people may remain employed in the farming sector. There is often a dual economy apparent with rising productivity and wealth in manufacturing and other industries contrasted with stubbornly low productivity and real incomes in rural agriculture.

Drive to maturity. Industry becomes more diverse. Growth should spread to different parts of the country as the state of technology improves - the economy moves from being dependent on factor inputs for growth towards making better use of innovation to bring about increases in real per capita incomes

Age of mass consumption. Output levels grow, enabling increased consumer expenditure. There is a shift towards tertiary sector activity and the growth is sustained by the expansion of a middle class of consumers

Harrod-Domar model. The Harrod-Domar model is based on the following assumptions:

- Laissez-faire; where there is no government intervention
- A closed economy; no participation in foreign trade
- Capital goods do not depreciate as they possess a boundless timeline
- Constant marginal propensity to save
- Interest rate remains unchanged, etc.

The Harrod-Domar model makes use of a Capital-output Ratio (COR). If the COR is low a country can produce more with little capital but if it is high, more capital is required for production and value of output is less. This can be denoted in a simple formula of K/Y=COR; where K is the Capital stock and Y is Output because there is a direct proportional relationship between both variables.

Rate of growth of GDP = Savings Ratio / Capital Output Ratio

Numerical examples:

- If the savings rate is 10% and the capital output ratio is 2, then a country would grow at 5% per year.
- If the savings rate is 20% and the capital output ratio is 1.5, then a country would grow at 13.3% per year.
- If the savings rate is 8% and the capital output ratio is 4, then the country would grow at 2% per year.

Limitations of the model:

Increasing the savings ratio in lower-income countries is not easy. Many developing countries have low marginal propensities to save. Extra income gained is often spent on increased consumption rather than saved. Many countries suffer from a persistent domestic savings gap.

Many developing countries lack a sound financial system. Increased saving by households does not necessarily mean there will be greater funds available for firms to borrow to invest.

Efficiency gains that reduce the capital/output ratio are difficult to achieve in developing countries due to weaknesses in human capital, causing capital to be used inefficiently

Research and development (R&D) needed to improve the capital/output ratio is often under-funded - this is a cause of market failure

Borrowing from overseas to fill the savings gap causes external debt repayment problems later.

The accumulation of capital will increase if the economy starts growing dynamically – a rise in capital spending is not necessarily a pre-condition for economic growth and development – as a country gets richer, incomes rise, so too does saving, and the higher income fuels rising demand which itself prompts a rise in capital investment spending.

Lewis 2-sectors Model

Arthur Lewis put forward a development model of a dualistic economy, consisting of rural agricultural and urban manufacturing sectors

Initially, the majority of labor is employed upon the land, which is a fixed resource. labor is a variable resource and, as more labor is put to work on the land, diminishing marginal returns eventually set in: there may be insufficient tasks for the marginal worker to undertake, resulting in reduced marginal product (output produced by an additional worker) and underemployment.

Urban workers, engaged in manufacturing, tend to produce a higher value of output than their agricultural counterparts. The resultant higher urban wages (Lewis

stated that a 30% premium was required) might therefore tempt surplus agricultural workers to migrate to cities and engage in manufacturing activity. High urban profits would encourage firms to expand and hence result in further rural-urban migration

Patterns of Demand theory

Chenery's model defines economic development as a set of interrelated changes in the structure of an underdeveloped economy that are required for its transformation from an agricultural economy into an industrial economy for continued growth in addition to accumulation of capital both human and physical.

Chenery's model requires an altering of the existing structures within an underdeveloped economy to pave way for the penetration of new industries and modern structures to attain the status of an industrial nation. It is quite similar to Lewis' model but in its opinion investment and savings although necessary are not enough to drive the degree of growth that is required. Chenery's model adopts four main strategies to achieve economic growth:

- Transformation of production from agricultural to industrial production
- Changing composition of the consumer demand from emphasis on food commodities and other consumables to desire for multiple manufactured goods and services
- International trade; creating a market for its exports
- Using resources as well as changes in socio-economic factors as the distribution of the country's population.

Neo-colonial dependence model

The neocolonial dependence model is basically a Marxist approach.

- Underdevelopment is due to the historical evolution of a highly unequal international capitalist system of rich country-poor country relationships.
- Developed nations are intentionally exploitative or unintentionally neglectful towards developing countries. Underdevelopment is thus externally induced.
- Developing countries are destined to be the sweatshops of the rich nations (through their multinationals for example) and depend on developed nations for manufacturing goods that are high-value-added.

Many developing countries were forced to become exporters of primary commodities by their colonial masters. Many of these countries still depend on primary commodities after independence. However, with average prices of primary commodities falling substantially (by half in many cases) since 1950s, dependence on primary commodities export is impoverishing to these countries. The economies of Zambia and Nigeria had been negatively affected by falling prices for their commodities exports. However, countries like Thailand and Malaysia who used to depend heavily on tin, rubber and palm oil are able to diversified into manufacturing exports. These countries went on to develop strong manufacturing sector.

False paradigm model

Underdevelopment is due to faulty and inappropriate advice provided by well-meaning but often uninformed, biased, and ethnocentric international (often western) expert advisers to developing countries.

IMF and World Banks took a lot of blame from the advocators of this model. Joseph Stiglitz in Making Globalization Works and Jeffrey Sachs in The End of Poverty documented some cases where inappropriate advices were given by expert advisers from developed countries to developing nations.

If the advice of these international advisers were helpful they usually benefit the urban elites. Some economists argue that loans provided to developing countries in the 1960s and 1970s contribute to debt crisis in some developing countries in the 1980s.

Neoclassical Growth Model

Neoclassical Growth Model owed its origin to Robert Solow (in 1956) and Trevor Swan (in 1956). The neoclassical growth model says that grow due to increased capital stock as in Harrod-Domar Model can only be temporary because capital is subjected to diminishing marginal returns. The economy can achieve a higher long-run growth path only with a grow in labor supply, labor productivity or capital productivity. Variation in growth rate is explained by difference in the rate of technological change which affects labor and capital productivity. Advances in technology however is independent of the rate of investment, that is technology is exogenous to the model.

In the 1980s, Reaganomics and Thatcherism were the buzzwords. These policies recommended small government with little government intervention in the market, reduced distortions in the market, promoted free markets, encouraged competition and regarded multinationals in favorable lights.

Underdevelopment is seen as the product of poor resource allocation, incorrect pricing policies and too much state interventions that cause market distortion.

The answer is promotion of free markets and laissez-faire economics through privatization and deregulation.

Governments should also have market-friendly approaches to address externality problems. Governments should invest in physical and social infrastructure, health care facilities, education and provide suitable climate for private enterprises. Governments should also be friendly towards multinationals and attract Foreign Direct Investment (FDI) as this policy brings injection into the economy.

Economic growth. Factors of Economic Growth

Boom and Bust Business Cycles. If economic growth is high-speed and inflationary, then the level of growth will become unsustainable. This could lead to a recession like the Great Recession in 2008. However, this type of growth is typical of a business cycle.

Export-led. The Japanese and Chinese economy have experienced export-led

growth thanks to a high current account surplus. This is because they have significantly more exports than imports.

Consumer. The US economy is dependent on consumer spending for economic growth. As a result, they also have a higher current account deficit.

Commodity exports. These economies are dependent on their natural resources like oil or iron ore. For example, Saudi Arabia has a had a very prosperous economy thanks to their oil exports. However, this can cause a problem when commodity prices fall, and there aren't other industries to balance things out.

Path dependency is an idea that tries to explain the continued use of a product or practice based on historical preference or use. This holds true even if newer, more efficient products or practices are available due to the previous commitment made. Path dependency occurs because it is often easier or more cost effective to simply continue along an already set path than to create an entirely new one.

Middle class is a description given to individuals and households who fall between the working class and the upper class within a societal hierarchy. In Western cultures, persons in the middle class tend to have a higher proportion of college degrees than those in the working class, have more income available for consumption and may own property. Those in the middle class often are employed as professionals, managers and civil servants:

- no single OECD definition of the 'middle-class' analogue that what we use for income poverty (40, 50, 60% of median household disposable income), i.e. various OECD studies used different definitions
- general definition of the middle class used here: people in 5th to 9th decile of the distribution (Palma ratio). At this stage, not much evidence that alternative definitions would lead to similar conclusions

Microfinance also called microcredit, is a type of banking service that is provided to unemployed or low-income individuals or groups who otherwise have no other access to financial services.

While institutions participating in the area of microfinance are most often associated with lending (microloans can be anywhere from \$100 to \$25,000), many offer additional services, including bank accounts and micro-insurance products, and provide financial and business education.

Ultimately, the goal of microfinance is to give impoverished people an opportunity to become self-sufficient.

Microfinancing organizations support a wide range of activities, ranging from business start-up capital to educational programs that allow people to develop the skills necessary to succeed as an entrepreneur.

These programs can focus on such skills as

- bookkeeping,
- cash flow management
- technical or professional skills

Middle-income trap. Middle-income countries are often more accurately described as mixed-income economies.

Shaping the mix are at least four possible sources of growth in GDP per person.

- moving workers from overmanned fields to more productive factories (structural transformation).
- adding more capital such as machinery per worker (capital-deepening).
- augmenting capital or labor by making it more sophisticated, perhaps by adopting techniques that a firm, industry or country has not previously embraced (technological diffusion).
- the final source of growth derives from advances in technology that introduce something new to the world at large (technological innovation).

So, development does not proceed in discrete stages that require a nationwide leap from one stage to the next. It is more like a long-distance race, with a leading pack and many stragglers, in which the result is an average of everyone's finishing times. The more stragglers in the race, the more room for improvement.

The trappists' proof

Income per person relative to United States, 1960 v 2008, %



Globalization. In simple terms, globalization is the process by which people and goods move easily across borders. Principally, it's an economic concept – the integration of markets, trade and investments with few barriers to slow the flow of products and services between nations. There is also a cultural element, as ideas and traditions are traded and assimilated.

Globalization has brought many benefits to many people. But not to everyone. *Globalization or De-globalization*

- Globalization and easier access to information and disclosure are too often seen as solely positive, whereas they are also creating a world that is more volatile with increased economic uncertainty.
- In the current volatile environment, globalization and de-globalization may alternate, and even co-exist. Across localities, countries, regions, but also sectors and industries, globalization and de-globalization are considered less and less mutually exclusive.
- There is a loss of trust in the ability of governments, even if democratically elected, as well as business leaders to resolve crises and improve lives in their communities.
- Success of global governance as a central pillar of globalization is much more outcomes-driven than process-driven. Trust will only be earned if solutions are delivered.
- Globalization is continuing in migration, global food production systems and the tertiary education sector (student flows, global outreach of universities). However, examples of de-globalization can be seen in the manufacturing and production sector.

Equality

Social equality is a state of affairs in which all people within a specific society or isolated group have the same status in certain respects, including civil rights, freedom of speech, property rights and equal access to certain social goods and services. It also includes concepts of health equality, economic equality and other social securities. It also includes equal opportunities and obligations, and so involves the whole of society.

Social equality requires the absence of legally enforced social class or caste boundaries and the absence of discrimination motivated by an inalienable part of a person's identity. (For example, sex, gender, race, age, sexual orientation, origin, caste or class, income or property, language, religion, convictions, opinions, health or disability must absolutely not result in unequal treatment under the law and should not reduce opportunities unjustifiably).

The standard of equality that states everyone is created equal at birth is called ontological equality.

Equality of opportunity - the idea that everyone has an equal chance to achieve wealth, social prestige, and power because the rules of the game, so to speak, are the same for everyone

Equality of condition - the idea that everyone should have an equal starting point to create fairer competition in society. Here is where social engineering comes into play where we change society in order to give an equality of condition to everyone based on race, gender, class, religion etc. when it is made justifiable that the proponents of the society make it unfair for them.

Freedom of individuals – in order to have individual freedom there needs to

be equality of condition which requires much more than the elimination of legal barriers: it requires the creation of a level playing field that eliminates structural barriers to opportunity

Equality of outcome - a position that argues each player must end up with the same amount regardless of the fairness (nobody will earn more power, prestige, and wealth by working harder).

Contributing Factors to Income Inequality

Education is known to affect equality in societies. Certain social-economic groups of people do not have access to quality education in the United States, especially at the secondary school level. In countries that provide higher-quality secondary education across the economic spectrum, there is much less income disparity.

Competition for talent creates a salary divide. There is much more competition for high-quality executive talent, which has driven salaries for executives higher relative to the level of generated productivity. Big bonuses and other incentives have led to an inflation of executive salaries.

Stagnant wages play a big role in inequality. The median income for low- to middle- income workers has been mostly flat since 2007, while executive compensation has increased. The diminished influence of labor unions has also led to flat or declining wages among workers.

Family and social interactions impact earning potential. Social and emotional skills critical to leading a quality life are not sufficiently developed in economically distressed areas with a high percentage of unstable families.

Increased demand for high-skilled workers adds to a widening wage gap. Companies are investing more heavily in developing a high-skilled workforce, driving wages up for high-skilled workers. This leads to de-emphasizing or automating low-skilled functions, pushing wages for low-skilled workers down

Measure economic inequality

Gini Coefficient - coefficient measures inequality across the whole of society rather than simply comparing different income groups.

Ratio Measures - compare how much people at one level of the income distribution have compared to people at another. For instance, the 20:20 ratio compares how much richer the top 20% of people are, compared to the bottom 20%.

Palma Ratio - as the ratio of the richest 10% of the population's share of gross national income divided by the poorest 40%'s share. It is based on the work of Chilean economist Gabriel Palma who found that middle class incomes almost always represent about half of gross national income while the other half is split between the richest 10% and poorest 40%, but the share of those two groups varies considerably across countries.

Poverty. One of the problems with discussing poverty is clarifying what it means and how it can be defined. At the EU level, the notions of absolute and relative

poverty are both used to describe poverty. Since 2010, the composite notion of Risk of Poverty or Social Exclusion, which brings together relative monetary poverty, material deprivation and exclusion from the labor market, is also used.

Fundamentally, **poverty** is the inability of getting choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means *insecurity*, *powerlessness and exclusion* of individuals, households and communities. It means susceptibility *to violence*, and it often implies living in marginal or fragile environments, without access to clean water or sanitation.

Causes of poverty and inequality

- unemployment or having a poor quality (i.e. low paid or precarious) job as this limits access to a decent income and cuts people off from social networks;
- low levels of education and skills because this limits people's ability to access decent jobs to develop themselves and participate fully in society;
- the size and type of family i.e. large families and lone parent families tend to be at greater risk of poverty because they have higher costs, lower incomes and more difficulty in gaining well paid employment;
- gender women are generally at higher risk of poverty than men as they are less likely to be in paid employment, tend to have lower pensions, are more involved in unpaid caring responsibilities and when they are in work, are frequently paid less even for the same job;
- disability or ill-health because this limits ability to access employment and also leads to increased day to day costs;
- being a member of minority ethnic groups such as the Roma and immigrants/undocumented migrants as they suffer particularly from discrimination and racism and thus have less chance to access employment, often are forced to live in worse physical environments and have poorer access to essential services;
- living in a remote or very disadvantaged community where access to services is worse.

Corruption. Corruption is a complex phenomenon. Its roots lie deep in bureaucratic and political institutions, and its effect on development varies with country conditions.

A corrupt practice is the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.

Types of corruptive behavior

Fraud. A fraudulent practice is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.

Corruption. A corrupt practice is the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of

another party.

Collusion. A collusive practice is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

Coercion. A coercive practice is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.

Obstruction. An obstructive practice is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation.

How to fight corruption. Three guiding principles are:

- build partnerships,
- proceed step-by-step
- stay non-confrontational

Sustainable development – development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

Sustainable Development Goals

- 1. End poverty in all its forms everywhere
- 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- 3. Ensure healthy lives and promote well-being for all at all ages
- 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- 5. Achieve gender equality and empower all women and girls
- 6. Ensure availability and sustainable management of water and sanitation for all
- 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- 10. Reduce inequality within and among countries
- 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- 12. Ensure sustainable consumption and production patterns
- 13. Take urgent action to combat climate change and its impacts*
- 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- 17. Strengthen the means of implementation

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