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| History of Economic Thought – Antonio Paradiso |

Exam: 3 June - The exam is written and consists of 6 (short) questions. Time duration: 60 minutes.

Sample exam questions

* Explain the quantity theory of money.
* Explain why for Ricardo an economy tends towards a stationary state.
* Explain why Marx believes in a tendency of the rate of profit to fall. Comment this argument.

For each question, the maximum length of the answer is limited to few rows. The marks are also related to the length and accuracy of the answers.

Questions in the exam of the 13th

1. Why was Adam Smith critical of mercantilism?
2. Explain briefly Marx’s argument regarding the inevitable fall of capitalism
3. Describe how the method of German historical school differs from that used by classical and neoclassical schools
4. Explain the concept of ‘Creative destruction’ of Shumpert and give examples from the real world
5. Explain the Keynesian concept of ‘Marginal Propensity to Consume’ (MPC)

Smith’s labour embodied = lavoro contenuto, produzione del manufatto è misurabile soltanto in termini delle ore di lavoro necessarie per produrlo

Labour commanded = lavoro comandato, produzione delle merci misurabile sia dalle ore di lavoro impiegate che dal capitale di produzione

**David Ricardo – London, 1772**

Main target of political economy is to explain how national income is divided btw the three social classes. And tries to resolve the problem of the vicious cycle of Smith using the theory of labour embodied.

He adopts the notions of:

‘Subsistence level’ to explain wages

‘Differential rent’ to explain rents

Profit is a residual magnitude, the part of the income not absorbed by rent and wages.

Analytical Programme:

1. Society based on division of labour, two broad sectors (agriculture and manufacturing) and three classes, corresponding to three income categories (workers = wages, landowners=rents, capitalists=profits)
2. Wages=subsistence consumption, necessary expenses of production; rent + profit = surplus
3. Landowners’ rent → luxury consumption; Capitalists’ profit → investment. Economic development stems from accumulation of capital.

Wages – set at subsistence level, determined by historical level of minimum standard of living → tot output – wages = surplus (divided btw rent and profit)

Rent and profit – btw them is divided the surplus – to understand his theoretical system we need to create a simple model of economy:

Agricultural system produces: one good → Corn; by the means of Seeds and Labour. There are 3 lots of land 1, 2, 3, each of equal size but descending quality. 3 stages:

1 – only land 1 cultivated, no rent paid and entire net product of land (surplus) goes to capitalists

2 – pop increases, need of more production, land 1 creates competition btw capitalists and is rented to the winner – the landlord receives the rent, surplus divided btw them. Rent = Net output land 1 – net output land 2

3 – pop increases, need of more prod, same process of stage 2, Rent = net output land 1 – net output land 3.

The difference ‘Net product land 1 – net product land 2’ is called “Marginal Land”

Profits are residual, it’s what remains to the capitalist when he paid wages and rent. This is a constraint binding on the total income. So, for a fixed level of rent, an increase in wages is a reduction of profits.

Ricardo, with the differential rent and the determination of profits as residual, was able to solve the logical consistency problem of Smith.

**Falling rate of Profits**

Rate of profits in agriculture: it falls because more of it is given to the rent, and the bigger the production gets, the more lands (and less fertile) need to be cultivated and more rent it’s got to be paid, causing the RATE of profits to go down. This happens on the whole economy bc of competition btw capitalists and all sectors have a similar dynamic. This for Ricardo would lead to a stationary state in the economy.

**Theory of comparative advantages**

It was a period with dominant mercantilism, and international trade policies, to enrich the country with gold. But the falling rate of profits given by the cultivation of less fertile land renders opportune to trade. International division of labour offers commodities everywhere. If trade works, a country a specializes in a task, for which it has a relative advantage in the cost of production, and b in another it saves time while more goods are produced. But goods need to have a higher cost in a country rather than in the other.

Example of Portugal and England and cloth and wine: trading they get the same Q of the goods at a lower cost.

**Technological Changes**

Ricardo underestimates it in the theory of falling rate of profits: it can prevent the stationary state.

The capitalist introduces new machinery with a view to generating an increase in profits. The net product of the economy, identified with profits and rents, increases. However, the investment in machinery implies the decision to employ in the production of machinery a certain number of workers, previously employed in producing subsistence goods. We thus have a lower production of subsistence goods. As a consequence, the number of labourers that the economy can maintain necessarily decreases. Thus, employment decreases

**Theory of Value**

2 stages in his analysis:

Stage 1 – focuses on agricultural: output and capital are different quantities of the same commodity. Corn = input (seeds), Wages and Profits = Q of corn (other key variables).

Since under competition the profit rate (π/k) must be the same in all sectors of the economy, the relative prices of all commodities produced in the economy must adjust in such a way as to ensure the uniformity of the rate of profits. But it does not consider the complexity of the economy and interdependence among sectors. And that to produce a commodity you may need another one.

Stage 2 – Labour embodied theory of value: the exchange ratio btw 2 commodities corresponds to the ratio btw the Q of labour directly and indirectly needed to produce each of them. Smith proposes that this theory holds the ‘early and rude state’, but Ricardo says it’s ok even for modern economies, bc commodities can always be expressed in terms of labour embodied,

Example → the economy produces 2 goods, corn and bread: According to Ricardo, the relative prices of goods are approximately proportional (≈) to the relative quantities of labour that were spent for their production:

The two commodities contain different proportions of direct and indirect labour, and their exchange rate depends on the profit rate r of the economy. If profit rate rises, so does exchange rate, but leaves labour employed in cr and br unchanged.

The profit rate changes reflect a change in income distribution among classes. In our simplified exercise without rents, a rise in profit rate occurs because a decrease in wages. Remember that the price of a generic commodity using only itself as a mean of production can be written as: p = l · w + p · k + r · p · k. It is immediate to see that a negative relationship between w and r occurs: r = (1/k) − [l · w/ (p · k)] − 1. In particular, a decrease in w is accomplished by an increase in r

So, the exchange ratio depends even on the income distribution, but that is not considered in the theory of labour embodied, so it doesn’t really work to explain the exchange ratio. The only way to make it work is to find a commodity that is an invariable measure of value, and doesn’t change Q of lab and price, but it’s impossible to find.

**Borrowing and Debt**

Gov spending should be financed by borrowing or taxation? Ricardo says it makes no difference: gov borrowing today leads to more taxation in the future. **Ricardian Equivalence** is the fact that taxpayers know they will eventually be taxed either if is now or later (after some years of borrowing) and so spend accordingly.

**Karl Marx (1818-1883)**

German, ideologist of communist movement, together with Engels he published the Communist manifesto.

Close relationship btw him and classical economists:

* He adopts the analytical apparatus of Classical eco (theory of surplus, lab theory of value, behaviour of social classes)
* He added the ‘exploitation’ of workers in the capitalism, which wasn’t cared for by clas eco

Socialism is a consequence of Industrial revolution, leaving little rich and lots of poor workers, he wanted them to fight their oppressors. The product was sold for more than its cost and of worker’s wages.

He predicts capitalism to fall bc of instability, crises and tendency of rate of profit to fall.

**Exploitation and value**

True nature of capital-labour relationship:

Worker sells its labour power = value of means of subsistence for survival.

Capitalist pays this labour power and acquires its using power, so, after the exchange, labour becomes a mean of production, but the product of labour (goods produced) belongs to the capitalist.

But the cost of the product of l is higher than its cost in labour power, and that is called the ‘surplus value’, becoming profit, and this surplus value expresses the exploitation of workers, bc capitalists make workers produce a product with an higher value of that he pays to them as a wage.

Algebra – to analyse exploitation he uses the ‘labour-theory of value’. Surplus value produced by labour. Value of product should be equal to the labour needed to produce it.

Corn. To produce it you have → λ = l + λ · k, lambda being the labour-value

By some formulas, you get that sigma, the rate of exploitation goes to zero when v (value of labour power) = 1, so when workers spend their time working for themselves (and not for capitalists).

The Rate of Profit is a ratio btw surplus and sum of constant and variable capital, and it rises when the rate of exploitation increases, and it falls when **value composition of capital** (**q,** the ratio of constant capital to the total capital invested) increases.

Competition leads to equalization of rate of profit = equalization of value composition of capital and so = equal exploitation of workers in all sectors. In those sectors where q is higher, so is exploitation.

**The transformation of values into prices**

in general, the ratio btw production prices of two goods doesn’t coincide with Q of labour embodied in them.

Example: economy with 2 goods, one capital good and one consumer good. But from the formulas I didn’t get the point.

**The dynamics of the capitalist system**

Marx analyses the conditions for an economic growth of the economic system with 2 schemes:

1. The Simple reproduction scheme – economy in stationary state, where levels of production remain constant and surplus is entirely consumed, no net investment
2. The expanded reproduction – the surplus is partially invested for additional demand and max growth of economy is when whole surplus is invested.

To get to a self-reproductive eco you need equal supply and demand. Any surplus over subsistence consumption is absorbed by luxury goods.

Here enters Say’s rule: if supply and demand are equal in each sector (equilibrium), they must be equal on aggregate, but Marx doesn’t believe eco is in equilibrium, but that it moves in disequilibrium.

The process of expanded reproduction of capital generates crisis bc:

* Investment is an increasing function of the rate of profit.
* The rate of profit is a decreasing function of wages

So, if wages increase, investment wold be discouraged and thus reducing the aggregate demand and crisis; then mrkt price falls with the levels of output and the average rate of profit goes down, deepening the crisis.

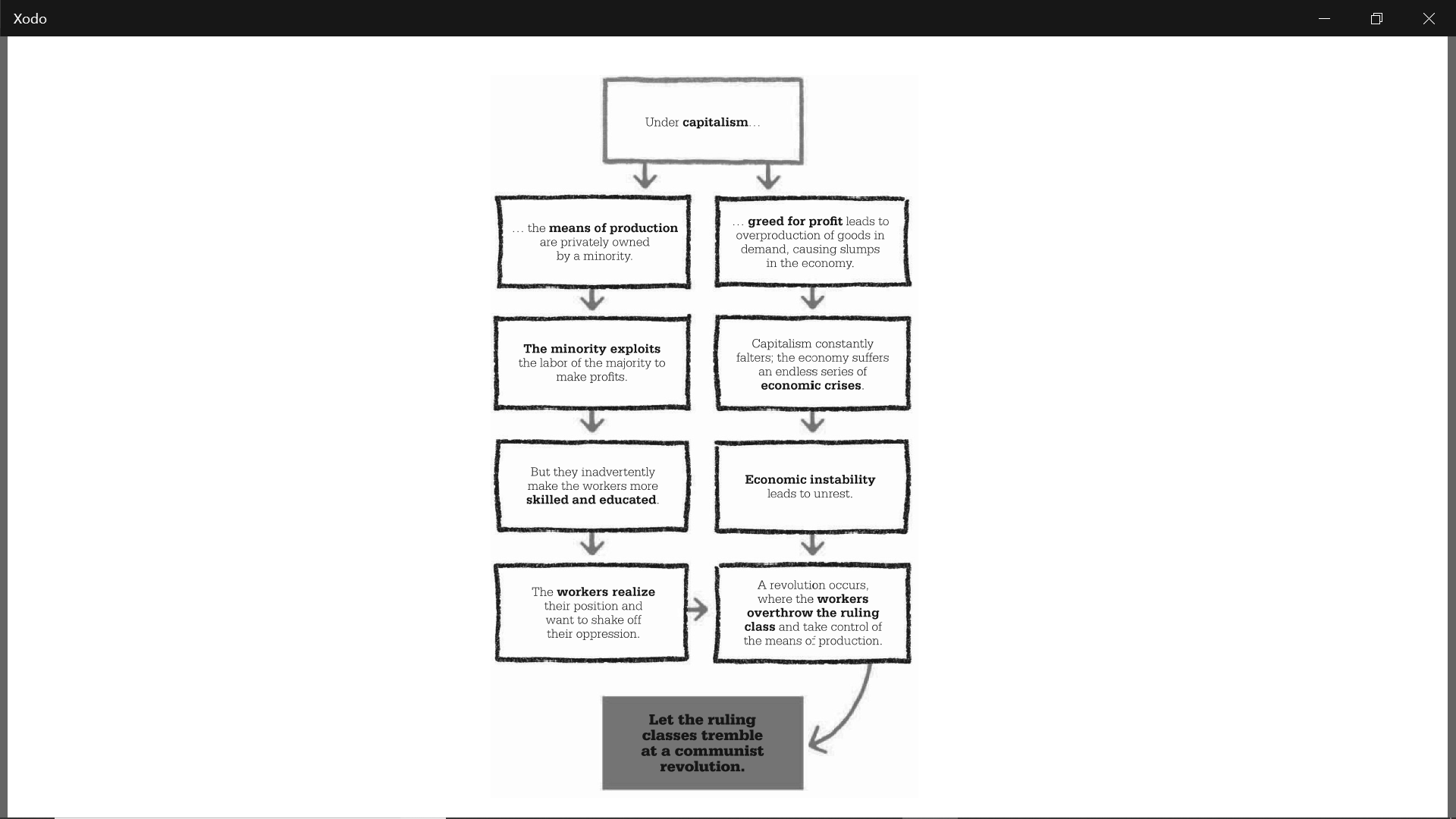
But a reduction of investment causes a decrease in the demand of labour and unemployment rise, leading to decline in wages and thus increase in profit, creating a new expansionary phase. (this presupposes then the instability of capitalism, determined by constant crisis and new expansionary phases)

But it’s not those periodical crises that make capitalism collapse: it’s the long run structure that leads to it:

In the long run technical progress will lead capitalists to replace labour by machines. This will reduce the labour demand increasing the unemployment and will raise the productivity of labour more than wages. The result will be a falling share of wages on the aggregate output. The falling share of wages leads to the “increasing immiseration” of the proletariat. Moreover, workers will become increasingly subordinated to (alienated by) mechanized production processes.

The increased mechanization process (i.e., the substitution of machines for labour) brings to a falling rate of profit over the long run.

So, the decline in the profit rate and the growing immiseration of workers and the middle class in the wake of the cyclical crises would, sooner or later, lead to stagnation of investment, militant class struggle and finally the socialist revolution.



**Neoclassical Economics**

Dated from the 1870s, this school of economics is called with the term ‘**Marginalism**’ – because it uses marginal concepts, like Marginal Utility, MPC, Marginal cost… to determine the behaviour that drives the market forces of supply and demand.

Neo-classical, because these economists have a new vision on reality, but still take much from classical.

Differences btw the classical and neoclassical

Scope:

* Classical economists: Economics investigates the functioning conditions of an economic system, focusing on the following aspects: production, distribution, accumulation, and income uses.
* Neoclassical economists: Economics investigates the optimal utilization of scarce available resources needed to satisfy the wants and desires of economic agents.

Method of analysis:

* Classical economists: Historical-deductive method. In addition, they use contributions coming from various disciplines such as history, politics, sociology, and anthropology. The historical-deductive method starts from observation of a complex, shifting reality. 1 observation; 2 general propositions; 3 theory and Hypothesis testing.
* Neoclassical: Hypothetical-deductive method in which mathematics plays an important role. The hypothetical-deductive method starts from abstract propositions. From these assumptions – principally the maximizing agent –, neoclassical economists deduce a consistent and mathematical theory.

Economic Laws:

* Classical: economic body as an evolving system, and it is an historical process.
* Neoclassical: eco based upon mathematic laws – given the universal validity of math laws, eco is a non-historical science.

Economic Agents

* Classical: economic analysis centered in collective agents, social classes, and political bodies (aggregate forces of the economic system). Classicals classify economic agents in terms of their factor contribution (labour, land and capital)
* Neoclassical – eco analysis focused on individual agents (households and companies, where the decision makers are individuals) able to make optimal utilization of scarce resources. In neoclas framework, class division is replaced by the distinction btw consuming(households) and producing (firms).

Exchange value (prices)

* Classical – emphasis on the cost of production (embodied Q of labour) as determining prices. (demand affects Mrkt prices only on the long run)
* Neoclassical – Price is determined by fundamental data of ‘tastes and technology’. By consumer preferences and the available techniques of production.

Gov Interventions

* Classical – suggest minimum interventions, to maintain infrastructure, education, defence and justice.
* Neoclassical – emphasize ‘invisible hand’ and reject most gov intervention of business in favour of laissez-faire. Free markets allocate resources in the most efficient manner if left to themselves. Implying self-regulating mechanism in the economy

**Forerunners**

* Utilitarianism ⇒ Bentham; Gossen.
* Marginal principle ⇒ Ricardo; von Thunen; Cournot; Dupuit; Gossen.
* Laissez-faire ⇒ Smith; Mill.
* Say’s law ⇒ Say

**Utilitarianism**

**Jeremy Bentham** (English, principle of ‘greatest happiness’, opens the way to the marginal revolution)

Moral rightness or wrongness depends on the amount of pleasure or pain it produces. Pleasure and pain govern both how humans act and how they ought to act.

Principle of Utility – I ought to do what bring me the most happiness = desire to maximize utility.

He wants to construct a ‘science of human happiness’, with mathematical precision.

Method for quantification of pleasures: ‘value of pleasure or pain depends on its **intensity, direction, certainty or uncertainty, propinquity or remoteness, fecundity, purity and its extent**.

**Hermann Heinrich Gossen** (Prussian, ‘subjective theory of value’)

‘subjective theory of value’ – the value of a thing reflects the utility or enjoyment that the individual experiences by that thing.

2 laws:

1. Law of diminishing returns: the added utility of a good decreases as more of it is consumed.
2. The second law of Gossen: it presumes that utility is at least weakly identified – in equilibrium, an agent will allocate expenditures so that the ratio of marginal utility to price is equal across all goods and services:

Where MUx and MUy are the respective marginal utilities of the goods x and y, and Px, Py its prices.

**Johann Heinrich von Thunen** (German agriculturalist, founder of location theory and agricultural economics)

He applied the marginal principle of Ricardo in a theory of employment – added units of labour lead to successively smaller increases in tot agricultural products (diminishing marginal returns).

The farmer must take care not to hire labour beyond that point at which the cost of the last addiction of labour is matched by the value of the added agricultural yield (harvest).

In contemporary terms, Von Thunen suggests that the employer should add units of labour until the marginal revenue product of labour equals the expense of hiring the worker – principle that profit is maximized when resources are employed to the extent that the cost of the last unit of a resource equals the value of its contribution to output.

**Augustine Cournot**

He analyses Monopoly, when the firm is price-maker without considering the reaction of rival producers.

Considering a monopoly where costs are negligible, and the problem consists only of maximizing revenues: Tot profits are maximized at the Q of output where tot revenue (P x Q) is the greatest.

**Arsene-Jules-Emile Dupuit** (French engineer, focusing in diminishing marginal utility, consumer surplus and price discrimination)

He connects the marginal utility to the demand curve. The utility that an individual obtains from a homogenous stock of goods is determined by the use to which the last units of stock are put. So, he points out how the marginal utility of a good diminishes with increase in quantity.

Each unit of a stock has a different utility: each increment of the same commodity carries different utility bc additional units will allow ‘less pressing, less essential’ needs to be met. So, the additional utility derived from additional units of the same commodity must decline. Form this, he establishes the general theory of consumer demand: An inverse (negative) relationship btw a product’s price and the amount of it ppl want to buy.

So, for him, a demand curve is a marginal utility curve. Consuming successive units of a good yields increasingly less extra satisfaction, thus consumers will not buy it unless the price falls.

**John Stuart Mill** (British, classical eco)

‘Principles of political economy’, book containing most influential affirmations of laissez-faire, free trade and economic liberalization. Economic Liberty, Laissez-fair is the only general practice.

All the above-mentioned authors are forerunners of the key ideas of neoclassicism. They don’t form a school bc:

Most of them are classical economists, and some of their ideas are extrapolated by classical framework and adapted to the marginalist framework.

Others don’t belong to any economic school, are either sporadically writers, or just economic-related articles writers.

**The Neoclassical Breakthrough**

Marginalism, originated with Jevons, Menger, Walras.

Some characteristics of Neoclassical economy

* Much lower interest in the problems of economic growth, than in the classical thought.
* The attention is allocated in the **Allocation of given resources among alternative uses.** And Scarcity then has a big role.
* Acceptance of the utilitarian approach: human behaviour is exclusively reducible to rational calculation aimed at maximization of utility.

This maximization of utility by consumers and of profit by firms leads to chose the optimal alternative btw the available resources. The individual then becomes dominant in determining economic values: individuals, and not social classes, are at the centre of economic neoclassical analysis.

It was seen that the classical school of thought led to Marx and the capitalist exploitation, and that classical school was unable to solve the labour theory of value and the wage-subsistence theory.

* The classical idea that wage payments are fixed at subsistence level and that wages have to fall when the population grows and vice versa, could be a reasonable idea only in an agricultural economy.
* The wage-subsistence theory is incompatible with utility-based theories of prices and factor supplies. The labour theory of value (in all various classical formulations) suffers from difficulties related to “vicious cycle” and “logical consistency” (Smith’s analysis), and divergence between prices and labour value ratio (Ricardo’s and Marx’s analysis).
* The labour theory is unable to solve the paradox of sandcastle. If sandcastle are made by labour, why they do not have any value? Neoclassicals hold that the value of any good or service is determined by its (marginal) utility

**William Stanley Jevons** (British, professor)

He takes from Bentham the economy as a calculus of pain and pleasure and gets to the concept of utility – Utility denotes the abstract quality whereby an object serves our purposes. Whatever that can cause pleasure or prevent pain has an utility.

The Marginal Utility is the decreasing function of the Q consumed of a good. Decreasing Marginal Utility (DMU) = the more you consume of a good, the less is the increase of satisfaction. DMU leads to the theory of Prices – the more we consume something the less we want it, so we shall buy it only if prices fall. Demand then is negatively related to price, and, along with the supply, it helps determining the equilibrium, or ‘natural price’ of a good.

**Carl Menger** (Austrian economist)

Bases his theory on the concept of utility, but he doesn’t use mathematics, and doesn’t construct it with a Benhamite base.

He discusses needs and satisfaction, illustrating the marginal principle in a table with declining numbers show the additional satisfaction from marginal units of different commodities. He then puts forward the hypothesis of decreasing marginal utility, but without using that term: maximum tot satisfaction requires that the last unit of money spent on each good makes the same contribution on tot utility.

He empathises the role of information in the economy, and he analysed the time-structure of production, which becomes important for the development of the theory of capital.

He regards Market Process, as phenomena where equilibrium does not prevail in reality. He describes price formation as a struggle, in which a unique market price is not normally achieved.

**Léon Walras** (French marginalist economist, economy is pure mathematical science)

Theory of the general Economic Equilibrium – he creates a general theoretical structure capable of accounting for the multiplicity of relationships linking one market to another.

Walras focuses on how exchanges work – how P, Q of goods and demand interact. His idea is that any change in the economy causes further changes that radiate outward with gradually diminishing forces. This process of ‘reverberation’ continues through the entire system until the equilibrium is achieved simultaneously in all markets

In the economy are present balancing forces (like in Newton’s law of motion), and in his general equilibrium theory he presents a framework consisting of the basic price and output interrelationships for the economy as a whole, including commodities and factors of production. SO, **everything** in the economy **is interlinked and dependant on everything else.**

When prices change, so does the rest, and one small change somewhere can have effect on the entire economy.

˹Example: Suppose that the price of oil (Poil) increases. The demand for substitute goods such as coal (Dcoal) will rise causing an increse in prices (Pcoal). The prices of all goods obtained from oil, such as gasoline (Pgas), will increase. The demand for complementary goods, such as cars (Dcar) and car washes (Dwas), will fall causing a decrease in prices (Pcar and Pwas). With all these changes in the markets for consumer goods, the derived demands for factors of production will shift, causing reallocations of resources. Less labour will be needed in some industries (cars and car washes); more will be needed in others (coal industry). Capital will also shift in response to differing rates of return on investment in differing industries; for example, producers will build more oil drilling rigs and fewer new gasoline stations.

At some point, the changes generated by original shock on oil price will end; a general equilibrium will be reached.˺

For Walras the economy is made up of a plurality of agents who are present on the market, either as consumers or suppliers or entrepreneurs. Each consumer has a double role: buys commodities and sells services of factors to firms →

for each consumer we have two equations:

1. for his demand,
2. describing his supplies of factory input;

For each firm we have two equations

1. Quantities of commodities it produces
2. Demand for factor inputs for each commodity produced.

These equations are simultaneous or interdependent. So in his equilibrium model Demand and Supply of each commodity depend on the prices of all the other commodities (not of just one).

In equilibrium, D and S must be equal and they are two commodities in two markets M and N, the unknown of this system is the M + N equilibrium. The situation all markets in equil is called ‘General Equilibrium’. But there is no solution to the general equilibrium, bc the n of unknowns is greater than the n of independent equations.

The solution consists in choosing arbitrarily the P of a commodity as a unit of account and express all the other prices in the terms of that. With this device, prices are determined only as Ratios = each price is a ratio of the unit of account.

What governs the process of adjustment of the prices to their general equilibrium level is a process of **Trial and error** led by the auctioneer. The auctioneer announces the prices of M + N markets and the others, price takers, take it as given, and declare how much of it are willing to supply and to buy.

Then the auctioneer calculates aggregate demand D and aggregate supply S, for each commodity. If M + N markets are in equilibrium trades can be carried out. If not, the auctioneer declares new prices, and by trial and error, eventually general equilibrium will be reached.

Walras auctioneer, a centralized collector of information can allocate all commodities appropriately, but in the actual barter economy information in dispersed.

This theory has been criticized for various aspects:

* The theory assumes that all markets in the economy are perfectly competitive, which they are not.
* It assumes trades are carried out only when prices are in general equilibrium. It rarely happens, but trades are carried out anyway.
* The functional forms of D and S are unspecified. It’s not specified the dependence btw them.
* The general equilibrium theory assumes many unknowns, so the solution is extremely complex, too difficult to elaborate even with modern computers.

**The second Generation**

Marginalists working from the end of the 19th century to the early 1920s, called the second generation of marginalists, contributed to the creation of a new, dominant, theoretical system.

This 2nd gen considers both demand and supply factors for determining prices (while the 1st considered only demand). Plus, they deepened the analysis, adding modern concepts (For example: the indifference curve and the contract curve (Edgeworth); supply and demand schedules, consumer and producer surplus, perfect competition, economies of scale (Marshall); Pigouvian tax; Pareto efficiency)

**Alfred Marshall** (British, mathematician)

Promotes the partial equilibrium approach (the analysis of an equilibrium in a single market, rather than the general equilibrium in a system of markets), and he gives the demand and supply curve equal weight.

Supply and Demand diagram

D and S work together to generate the market price.

‘MARSHALLIAN CROSS’ to explain how P of a good is determined: it’s a diagram illustrating the market model of a single commodity, with price on the vertical axis, and Q on y, with demand a downward sloped curve, and supply an upward sloped curve.

This Marshallian cross model focuses on the eq of one market so it’s easier to work than in a general analysis.

D and S curve are derived in a two-step procedure: individual curves are obtained as a result of an optimization problem (max of utility for consumer and min costs for producers). Aggregate curves are then created by adding-up individual behaviour relationships.

* Individual **demand** function identifies the max P the consumer is willing to pay for a given Q of good. In Marshall’s approach, Q is the independent variable while P is the dependent. The Demand curve is downward sloping bc of the decreasing marginal utility.
* Individual **supply** function identifies min price the producer is willing to produce and sell the Q related. Q is always independent variable. It’s upward sloping bc the Marginal Cost is increasing: to produce more Q of good, more labour and work needs to be done, rising costs of production. *Diminishing Returns*: assumptions that costs rise more than proportionally as output increases.

The intersection, or cross, of the demand curve and supply curve represents the Market equilibrium level of P and Q.

The mrkt is in disequilibrium if Psupply is different from the Pdemand, and in the short run it causes a variation in Q, and only in the long-run a variation of P.

The relative importance of D and S in determining the P of a commodity depends on the length of the period which is taken to account.

* In the short period, some are fixed costs, and limited, so Q supplied is difficult to increase; it’s very steep then, almost vertical, bc same amount is produced regardless of price.
* In the long period, all production factors are variable, supplier is adaptable and efficient. Supply is almost flat, and very elastic, easy to respond to an increase in Q demanded.

Perfect Competition

A perfectly competitive market is formed by lots of agents operating. In SR, firms are price-takers, then they maximize profit by equating MC = P, profit attracts new firms in the market, Tot supply is increased, and price decreased. In the LR equilibrium we find P just enough to cover production costs. → the assumptions for this PC are that: 1 – large n of firms; 2 selling identical product; 3 free entry and exit. And few markets satisfy these assumptions.

Consumer and Producer Surplus

* Producer surplus is defined as the difference between what producers actually receive when selling a product and the amount they would be willing to accept for a unit of the good.

Tot producer surplus is the area where P > MC, bc there is profit for the supplier.

* Consumer surplus is defined as the difference between what consumers are willing to pay for a unit of the good and the amount consumers actually do pay for the product.

Tot consumer surplus is the area where Decreasing Marginal Utility < P

Consumer and Producer Surpluses are maximized at the equilibrium. The welfare of all participants in the Competitive Market is efficient in equilibrium.

Price Elasticity of Demand

Defined as the responsiveness of the Q demanded of a good to a change in Price.

**Price Elasticity = PE =**

* Demand is elastic → PE > 1
* Demand is Inelastic → PE < 1
* Demand is Unit elastic → PE = 1

The factors determining if and why is a good elastic are:

* Availability of close substitutes: goods which typically have close or perfect substitutes have highly elasticity demand curves.
* Position of a commodity in a consumer’s budget: the greater the proportion of income spent on a commodity, the greater will be its elasticity of demand and vice-versa.
* Nature of the good: luxury goods are price elastic, whereas necessity goods are inelastic.
* Consumer habits: if a consumer is a habitual consumer of a commodity, no matter how much its price change, the demand for the commodity will be inelastic.
* Number of uses of a commodity: the more the possible uses of a commodity, the greater will be its price elasticity and vice-versa.

Economies of Scale

This economic phenomenon occurs when increasing output is translated into a decline of the firm’s average cost of production. There are internal and external economies of scale:

* Internal EcoOfScal – due to better organization and productivity in companies. So benefits only the individual industry.
* External EcoOfScal – Development of industry, happens outside a single company, and benefits all the firms in the market.

Diseconomies of Scale may appear due to the excessive scale of a firm; it happens when average cost per unit increases due to excessive size of production.

**Arthur Cecil Pigou** (English, welfare state)

For him, a competitive market works well only if D and S take into account all types of social Benefits and Costs. Some market transactions don’t take into account them costs and benefits, which Pigou defines *Externalities*. Production and consumption may impose costs or benefits on parties other than the producer and consumer. These Externalities spill over to other parties, and are referred to as ‘SPILL OVER EFFECTS’

Positive Externalities are when a provided good benefits the provider, but at the same time, freely, produces benefits for others. (ex, new knowledge, benefits those who later will need it for free). These social benefits are not considered by the market.

Negative externalities are when a provided good benefits the provider but harms others. (ex. Pollution around a firm. (the social cost of production is not reflected in any cost of the market)

Pigou wants to subsidize (Pigouvian subsidy) the activities producing good externalities and tax (Pigouvian tax) those producing negative ones.

Ex. The tax on pollution, the environmental Tax, is a Pigouvian tax.

Ex. Subsidy on the introduction of new knowledge, ‘knowledge subsidy’, is a Pigouvian subsidy.

**Francis Y. Edgeworth** (Irish economist and statistician, utility theory, monopoly, analysis of exchange)

**Analysis of exchange**

Bilateral and Multilateral trade, assumption that traders are not Price-Takers. He introduces two tools necessary for later economics: Indifference Curves and Edgeworth Box.

Two agents in the economy need one money and the other labour force. Exchange is voluntary, so both must consent to move from the initial point to the final point, and this exchange must increase the utility of both. An equilibrium of exchange in when they both consent to do and no one goes further than that.

But in this analysis there is no fixed price at which the exchange must happen, and the exchange may happen in a multiplicity of points so satisfy the equilibrium condition. The set of points where the condition might be satisfied is a set of points where one’s utility can be increased only by diminishing the other’s person utility = the Contract Curve.

But not all points can be exchange equilibria: in some points one of the two agents would have less utility than in their initial endowment and thus would refuse them.

The Equilibrium is then where the exchange takes place in the subset of the contract curve where both the agents have an utility not smaller than the utility they have in their initial endowment. This is called Set of Final Settlements (now, Core of the Economy)

But there is a multiplicity of final settlements, and if both agents are price takers then the real equilibrium lies in one of these points.

(You can see it in the indifference curves graph)

Immagine che contiene screenshot

Descrizione generata con affidabilità elevata

When the n of traders increases, the number of final points acceptable by all parties decreases, and if traders are infinite, there would be a single point.

This point would be the one reached under the assumption of price-taking behaviour, when the equilibrium reached under PC.

**Vilfredo Pareto** (Italian, utility theory and theory of general eco equilibrium)

Utility Theory

Instead of measuring and comparing utility, he constructs indifference maps showing various levels of satisfaction. Utility can be used in economics as an index to represent the preferences ranking of an individual. The problem of the consumer’s choice is still to move to the highest level of utility given the budget constrain, but it’s not necessary to give numbers to it, just to order utility levels.

Instead of Maximizing the sum of individual utilities, he uses the idea of ‘**Efficient allocations**’ = an allocation of resources is socially efficient when it’s impossible to change it to improve the welfare of a person without worsening that of another.

Pareto put the indifference curves in their modern form: 2 graphs, one for each trading partner in which the indifference curves for the two good were convex to the origin. Then he overlaps the two graphs, to form a box, one origin being at the northeast.

Welfare economics

Another contribution in the Walras theory of General Economic Equilibrium. Pareto’s fundamental result is that each allocation associated with a general competitive equilibrium is efficient, and, given an initial distribution in the allocation of the endowment of different goods among economic agents a perfectly competitive general equilibrium of the Walras type would lead the economy to an efficient allocation of resources = First Theorem of Welfare Economics.

There are however many possible efficient competitive equilibria. There can be efficient allocations provided by a competitive Walras equilibrium that are not fair from income and resource distribution, so, Pareto Efficiency doesn’t imply equity. Upgrade: ‘Second theorem of the Welfare Economics’ = it’s possible to change the initial distribution of endowments across eco agents into a less Unequal one, and then leave the competitive market to operate to achieve an efficient allocation. To avoid individuals market decision for the initial distribution an initial transfer of wealth can be done through a Lump-Sum taxation. So a new efficient allocation of resources will be achieved, making Equity more compatible with efficiency.

**Neoclassical Theory of Investment**

Dynamics of aggregate business investment, which allows output and productivity to grow in the long run. Idea that Investment decision are negatively affected by interest rate (bc they use capital) → the flow of investment moves the capital stock from the current to the desired amount, and the firm will keep investing until the Marginal Productivity of capital = interest rate.

What’s the relationship btw interest rate and investment?

**Eugen von Bohm-Bawerk**

Analysis of interest rate in time.

Interest rate = Price that compensate an agent for waiting for future flows of income. This interest rate arises for 3 reasons:

1. Present Orientation: goods are more appreciated in the present than in the future.
2. Expectation of rising wealth: expecting to be richer in the future, we are prepared to pay interest for the future.
3. Roundabout methods of Production: (capitalistic production process whereby capital goods are produced first and then, with those, desired consumer goods are produced.) here the rate of interest is the P that compensated for the waiting of fruitful methods of production. Interest can be paid by the entrepreneur bc the more roundabout the process of production, the more efficient it is.

**Irving Fisher**

Interest rate = the impatience to spend income and opportunity to invest it. Time preference is the cause of interest payment. The greater the degree of impatience for present, the higher will be the rate of interest.

**Knut Wicksell** (Swedish, btw the founders of Macroeconomics)

Focuses on Real and Natural Interest Rates, Marginal Productivity of Capital and determinants of the price level.

The Market rate of interest ≠ its equilibrium value (natural rate of interest)

The natural Rate of interest is

1. The rate of interest that equates savings with investment
2. The marginal productivity of capital
3. The rate of interest that is consistent with aggregate price stability

He gives 3 properties of the natural rate of interest:

1. The notion that the natural rate is consistent with equilibrium
2. The natural Rate is characteristic of the economy in the long-run
3. The assumption that the Natural Rate fluctuates due to changes in technologies (affecting the productivity of capital)

**Imperfect competition, growth, and capital controversies**

Neoclassical models have usually been based on either Monopoly or PC, but from the 30s even monopolistic competition and oligopoly.

**Imperfect Competition**

It became evident that welfare and trade policy had to be modified if assumptions on imperfect competition was introduced.

**Growth**

Solow’s model was based on aggregate production function and built on the assumption that 1. Certain proportion of tot income is saved; 2. The labour force grows independently od other factors; 3. Technical progress is exogenous (occurs independently of capital accumulation and changes in the labour supply. Demonstration that eco growth is stable.

Capital accumulation converges towards long term steady state equilibrium, determined by growth rate of pop and productivity (and thus by consumer preferences and the state of technology.

So saving and capital accumulation don’t matter for growth in the Long Run. Per capita income remains constant, it grows only id there is a big technical progress.

2 optimistic predictions about economic development of **poor** countries in Solow’s Model:

1. As their capital stock is small, they have potential to catch up richer countries. Bc in neoclassical production function, growth rates are higher when capital stock is smaller.
2. They can benefit from a technological transfer from the richer countries without extra investment.

But this highly aggregated model may result in too much concentrated capital and technological transfers, too little attention to institutional factors and SR disturbances.

**Capital Controversies**

Macro-eco production function (well defined value of aggregate capital stock) was challenged: in a world of so different goods you need to know the price of capital in order to determine the quantity after (depending on the price). In Neoclassical eco you need to use the q of capital to determine the P, and it creates a fundamental problem for capital.

Do capitalists deserve the profit they make?

**Historical Schools and Institutionalism**

Critics to Classical and neo-classical schools:

1. The idea of Universal laws (applicable in all places at all times)
2. The presence of principles of economic behaviour (self-interest mitigated by sympathy for clas eco) or Optimal utilization of sources by agents.
3. The use of Deductive Method.

These laws and principles apply only under specific circumstances – they presuppose institutional frameworks present in some developed nations but not in all.

This ‘relativism’ was developed in 19th in German Historical Schools and American Institutionalism in the 20th

*Historical School* denotes a movement in the study of German Law, it had 4 principles:

1. Evolutionary approach to economics – dynamic prospective, social organism is born, develops and dies, and different countries are in different stages, so no eco doctrine is universal.
2. Positive Role of Gov – Nationalistic school, society and state are at the centre of the study, not the individual.
3. Inductive/Historical approach – importance of economic History, it is interconnected with the times it was in; there are only apparent the ‘Laws of development’ the others aren’t valid.
4. Advocacy of Conservative Reform – Political economy must weight and compare the moral merits of motives that prompt eco activity and their outcomes.

**Forerunners**

**Cameralists**

German Mercantilists, also known as Cameralists, emphasize the role of the state as primary eco subject. Central issues in their work is public finance and administration, pop growth.

**German Subjectivists**

Karl Rau: he empathises the importance of historical investigation for the understanding of the present economy.

**Romantic Economists**

Group of writers rejecting the ‘Vulgar Materialism’, and rationalism of classical political economy, its quantification of value in terms of physical labour. They suggest value defined as ‘Moral Contribution’ of the citizens to the ‘Organism of the state’, the nation.

**Friedrich List**

He used classical, mercantilist and romantic concepts, while rejecting the core ideas of these schools.

Critics:

* Classical School (smith) – too naïve cosmopolitan view, nations are associations of individuals all benefiting from peaceful division of lab and free trade.
* Nations are actually the relevant subjects to be studied, productive forces of associations of industries are as strong as the effects of division of lab.

Smith claims universal doctrines those who are only appropriate for England and not anywhere else.

Stages theories are a base for development policy. Every nation, with resource potential, can pass through 5 stages, from hunting to commerce and manufacturing.

Development is ‘progressive use of productive forces’ – he criticizes the reduction of those forces in lab, land and capital, and he included in the respective state social order, science and art, degree of liberty.

He introduces the ‘infant industry protection’ – small industries just born need protection before competing with international ones, until they become mature and stable.

Free trade – yes, but high tariffs for manufacturing goods in competition with the emerging domestic industries.

**Historical school**

4 historical Schools: Older German, the younger German, the English and the French schools.

Only the younger German was an actual school, but they all have some ideas in common.

**The older historical German School**

**Bruno Hildebrand** (consistent opponent of classicism and laws of eco development)

Classical school is too static, too wrongly universal, no eco theory applies everywhere anytime.

Plus, he criticizes its materialistic tendency, saying that the scheme would have to aim at the welfare of the State. Economics is a historical discipline.

He sketches an evolutionary model of eco, suggesting three stages of development:

1. Natural Economy – identified with eco in middle ages, little trade, surplus produced by serfs.
2. Money Economy – early modern period
3. Credit Economy – will dominate the future: high productivity, mutual trust and social policies for the welfare of workers.

**Wilhelm Roscher**

Eco theory should be supplemented with history and studied close to law, political science and history of civilization.

He denies absolute truths, general eco laws, the economist should therorize about only his country and his economy.

He sees interrelated factors in different nations:

1. Different stages of development of human culture
2. Different endowments with nat resources
3. Different technological knowledge
4. Different amounts of capital accumulated.

**Karl Knies**

Historical Method, rejects classical political economists, doubts the existence of Natural and historical Laws of eco development of nations. Difference btw laws of social science (including economics) and natural science (this is universal, the other is not, not sure it’s recurring), and it happens bc of the irrationality and subjectivity of human action. So the laws of economics are actually ‘laws of analogy’

Final consideration on the older Historical School:

1. The three older historicists criticized Smith and Ricardo’s methods, but in their work they use the same methods instead of the historical and Interdisciplinary approach.
2. Roscher and Knies develop notions on the Marginal Utility and subjective theories of value that anticipate neo-class, so they may be labelled ‘proto-neoclassical’

**Younger historical School in Germany**

**Gustav Von Schmoller**

Opponent of the deductive approach, tries to find an alternative.

Class and neo-class schools don’t take into account the knowledge of historical facts and materials. By an historical research of social classes and weavers corporations in Strasburg, he tries to show how political economy needs to be liberated from abstractions and anchored to empirical foundations. But his work will be lacking analytical grounds, failing in finding the formulation of a new way of doing economic theories.

**Max Weber (**One of Three founders of sociology with Durkheim and Marx)

His method is based on the definition of ‘Ideal Types’ = an analytical construct that serves the investigator as a measuring rod(asta) to ascertain similarities as well as deviations in concrete cases – an abstract model, and when used as a standard of comparison it can help us see the real world in a clearer and more systematic way. This abstract model mustn’t be constructed with mathematical tools.

Weber believes that in the historical process of development the main link goes from the institutions to the material condition of economic reproduction.

The Protestantism ideas are crucial in the origin of capitalism and growth process, and that Eu and Us do better than south Europe and America bc they’re protestant, culture favouriting working hard.

The reformation made northern EU protestant and believed only the elected were predestined for salvation, these elected manifested hard working and frugality, so ppl to be elected worked hard and invested profits, growing the economy and wealth of nations.

**Joseph Schumpeter**

He thinks analytical scheme can’t explain the dynamic evolution of eco. Economic development is a disequilibrium process in which the innovating entrepreneur is the main figure, by innovating. Walras theory of general equ didn’t take into account these technological innovations and predicted a stable growth, and doesn’t deal with change.

The function of the entroponeour is to introduce innovations in the economic activity: 5 forms of innovations:

1. Introduction of a new good
2. Introduction of a new method of production
3. Opening of a new market
4. Conquest or discovery of a new source of raw or semi-processed materials
5. New organization of industry

These 5 types of innovation have the same effect: they disturb an already existing equilibrium: they create a ‘Creative Destruction’, bc the new destroys and invigorates existing industrial structures as part of the dynamics of development.

Not all heads of firms or managers are entrepreneurs, bc these are innovators and may have only temporary connections with individual firms as financiers or promoters, they seize opportunities through daring and imagination.

Without innovation, economic would be in static equilibrium. Seeking profit trough innovation transforms static into dynamic development.

Innovations don’t happen continuously, entrepreneurs need financing and credit, obtained by the banking system. Banks then have a crucial role in innovations.

The business cycle is a logical consequence of the discontinuity in Schumpeter innovation Process:

* From Equilibrium, innovations increase eco activity, credit expands, prices and income rise and prosperity
* This eco Boom is doomed to stop, rising prices deter investment, competition of new products causes business losses. When businessman repay their debt, big deflation, and depression
* Business fluctuations represent adaptations process to the innovation
* The system tends toward a new equilibrium in the LR.

Innovation of the entrepreneur alters stationary state, but Schumpeter doesn’t analyse innovation, just what it causes, so his theory of development is limited.

British Historical School

Here we find the **spouses Beatrice and Sidney Webb**, founders of the Fabian Society, socialist movement aiming at establishing a welfare state, redistributing rents to various ends of social policy.

They introduced the term ‘collective Bargaining’, how workers organize in unions (it works for both workers and employers). Simplifies process of agreeing conditions, one agreement can be applied industrywide.

French Historical School

**Clement Juglar** is one of the first discovering empirical regularity of the business cycles. Medium term cycles of 7-11 years named after him.

**Institutionalism**

American School, strongly influenced by German Historical School. Based on the critique of Neoclassical reduction of institutions to products of rational behaviour determined by consumer preferences and technology.

They try to explain how it is Institutions that shape tastes, technology and eco behaviour, defined a system of ‘habits of thought’, rules and organization that constitute the ‘social order’

They want to understand the evolution of institutions as system of social control of the economy.

**Thorstein Veblen**

Eco behaviour is driven by psychological factors (fear and status-seeking) as much as rational self-interest.

1899 “The theory of the leisure classes”, the rich buy things to flex not bc they need them = “Conspicuous Consumption”

Satisfaction increases if you have things others don’t possess. Rich societies suffer from ‘Relative Consumption Trap’, where production is wasted on these types of goods. As many ppl consume them, there may be no gains in the overall well-being.

**Wesley Clair Mitchell**

Studies characteristics of US business cycles. Seeks recurring patterns and regularities in time series, and his NBER, National Bureau of Eco Research is still doing so.

**Frank Hyneman Knight**

Distinguishes btw Economic Risk and Uncertainty:

* Risk – when the outcome of a course of action is unknown, but it’s possible to determine the probability of the various possible outcomes. This allows a mathematical level of risk, that can be insured.
* Uncertainty – when it’s unknown the probability of outcomes. Risk can’t be measured.

There is a spectrum of risk preferences, from risk-loving to risk-averse, and a various levels of risk that give out different levels of outcomes.

**John Kenneth Galbraith** (Canadian)

Attack on neoclassical economic thought and analysis of modern capitalism.

Need of great Role of Gov in modern economy. Gov has power to offset the role of corporations in the eco and subsidize various activities, such as the arts.

A new Socialism is Urgent in major sectors of economy.

What remains of historicism and Institutionalism?

Histories and institutions thanks to their works and research institutes, and further progress in eco thinking.

Plus 2 things:

1. Development economics, which owes much to ideas inherited from these schools.
2. A differentiation of disciplines, ironically arising from the holistic view (i.e., the view that the parts of something are intimately interconnected) of economic, cultural and other social phenomena

**Monetary Macroeconomics**

In the Analysis of price formation in market economies, neoclassical eco has divided in a dichotomy:

1. Micro-eco framework (based on individual decisions of producers and consumers): prices determined by Marginal Principle
2. Macro-eco determination of aggregate production: a version of the Quantity theory of money (M x V = P x Y ) is used to explain changes in general level of prices (as a result of changes in the volume of money in the same direction.

This analytical separation btw money prices and value prices implies money is neutral with regard to real eco activity = increase in money volume can make tot demand exceed supply, causing price level to fall (and vice-versa) – so monetary changes can create disequilibrium in supply and demand but can’t put it out of order permanently.

In the 20s-30s the gap btw pure price theory and monetary theory is seen as a challenge to the validity of neoclassical theory: micro eco needed macro-theoretical fundamentals

Wicksell & Fisher’s solution: they develop models accordingly with neoclassical approach → monetary sphere shaped in a way or another for a certain period of time independently of the real sphere – the real in the end dominates while the monetary sphere adjusts to it. Monetary sphere in the Short and Medium term is a disturbing factor for the real sphere.

**Wicksell’s monetary theory**

Theory of the business cycle (1898)

He distinguished btw two rates:

1. Natural rate of interest, *r*
2. Bank rate of interest *I* (market rate), rate at which banks lend money

In equilibrium the two rates coincide, but it’s not always the case.

* If banks set their rate below natural rate I < r , entrepreneurs invest more bc they expect a higher return from the investment they pay to the banks on borrowed money.
* More investments mean increase in demand for production factors. If eco is operating at full employment level Y\*, the increased demand for production factors increases their price, so increases production costs.
* Rise in production costs, determines a rise in the P of consumption good. Eventually, the P level P rises.
* As long as i < r, this process continues. It’s called Cumulative process, and corresponds to the expansive phase of the economy.

But if i < r the bank reserves shrink:

1. Bank lend money to investors, reducing their reserves
2. As prices increase, consumers in the economy demand more money to carry out their transactions, and thus reduce their bank deposits.

To stop this, banks increase their interest rate.

The cumulative process stops when i = r and a new equilibrium is reached. In moving from initial equilibrium, the real eco variables r and Y(aggregate output, remaining at its full employment Y\*) didn’t change.

i and P have changed: the general P level is higher than before (inflation)

Characteristics of this model:

1. In accord with the Quantity theory of money. Monetary base doesn’t increase but actual money does. Issuing money (what banks do) creates money.
2. P and Y are aggregate variables (characteristic of macro-eco)
3. In Classical political eco, I < I

In his model I > S (thanks to bank loans)

1. He assumes Y\* (economy operating at full employement), as class and neo-class, but it changes with Keyne

**Fisher’s monetary theory**

Money and Fisher Equation

Fisher’s theory of price level was the variant of the Q theory of money:

M = stock of money

P = Price Level

T = amount of transactions carried out using money

V = velocity of circulation of money.

M x V = P x T

It’s interpreted as a functional relationship since V and T are considered constant.

Fisher distinguished btw real interest rate and nominal interest rate:

Rnominal = Rreal + infl (Inflation rate)

Inflation causes Rnominal to change proportionally in the LR.

Real interest rate is somewhat stable and independent of changes in the monetary sphere.

Theory of business fluctuations

Increase in money supply leads to first a fall in real interest rates, stimulating growth in Q of goods produced, then a rise in inflation and thus in real interest rates. A large growth in money supply has positive effects in the SR but real nasty in the LR.

During ‘Transition Periods’, when the Q theory of money is not strictly true there is non-neutrality of the money shocks, which returns only in the long run.

From them, two strands of eco developed:

1. **Fisherian Strand:** 2 waves of thought, Monetarism and new classical economics –macroeconomic theories in which eco is in intertemporal equilibrium, money is neutral.
2. **Wicksellian Strand:** he influenced the Austrian School – macro-eco theories in which market rate of interest can’t keep the eco in equilibriums, and monetary variables can affect real eco activity.

**Austrian School**

**Auguste Von Hayek (1899-1992)**

Theory of Business cycle: he connected it with money disturbances , retrieving many elements of Wicksell’s business cycle theory:

Hayek model: general equilibrium model with two sectors: 1 producing consumption goods, 2 producing capital goods. And there is a modification of the relative price btw the two types of goods.

He stressed the contradiction btw the Quantity theory of money (QTM) and the rest of Marginal economic theory(MT). The QTM imposes a direct causal connection btw aggregate variables such as M and P, but according to the MT individual decisions don’t depend on the general level of P or other aggregate variables.

MT says individual decisions are influenced by relative process, and Money influences relative prices, and a proper QTM should explain how:

By relative prices Hayek means relative prices btw current goods (px,t/py,t) AND relative prices btw present and future goods (px,t/py,t+1) (intertemporal relative prices) – these are determinant for investment decisions: production takes time, and the entrepreneur profits by buying input x in the present at its current price and selling it as output at future price.

Wicksell said consumption goods may be produced with methods of different lengths: more lengthy or indirect methods, requiring larger investments, produce larger output – then their interest is larger, an when interest rate increases they are less convenient, when it decreases profit is bigger.

From Wicksell, Hayek took the idea of 2 interest rates, r(natural) and i(bank): r is such at which S = I (S = saving and I investment), and the business cycle starts when i < r – here entrepreneurs shift Production to more indirect methods (in the SR there is less supply, to get a higher S in the LR), relocating resources accordingly. Hayek too assumes that economy operates at full employment Y\*.

As there is less supply in the SR and demand increases, Pconsumption goods gets higher. This is the EXPANSION PHASE OF THE BUSINESS CYCLE.

In this phase, Pcapital goods doesn’t change or even decreases (bc indirect methods need capital). Since supply of capital goods increases, their P may even decrease. Bc Pconsumption goods increases while Pcapital goods decreases, the relative P btw them increases.

Now indirect methods for entrepreneurs are less convenient bc relative Pconsumption goods is higher, so they may switch to direct methods. This happens even bc Pconsumption goods increases, consumer demand more money to carry out their transactions, and it shrinks bank deposits. So banks higher i, and it makes indirect methods even less profitable.

Now entrepreneurs abandoning indirect methods leave investment projects uncompleted, ppl unemployed and cyclical downturn begins – this has a monetary origin: i < r. But for Hayek this cycle hasn’t real effects: initially a distortion of production for capital goods, then a temporary unemployment of resources.

Two drawbacks in Hayek model:

1. Why can’t resources be immediately re-allocated from production of capital goods to prod of consumption goods?
2. Pcapital goods and Pconsumption goods move in opposite directions for him, but empirical evidence shows they both rise during expansion and both decrease during recessions.

Stockholm School

Lindahl, Myrdal, Ohlin and Lundberg (Swedish economists)

They develop a dynamic macro-eco theory in which is essential the formation of expectations. Firms and producers base their transactions on their expectation of prices, quantities and other outcomes of Market Process. But those outcomes sometimes differ from their plans, and might have to be adjusted in following periods. This adjustment process may be a cumulative process of inflation or deflation in which output may change and unemployment emerge (depending on initial conditions)

Myrdal coined terms ‘ex ante’ (planned values) and ‘ex post’ (effective values) of relevant variables.

Contributions of the Stockholm school:

1. Ex ante/ex post terminology
2. Scenario technique (distinction btw different sequences of plans and adjustments)

**John Maynard Keynes**

(1883-1946, Cambridge, wrote ‘*General theory of Employment, Interest and Money)*

The general Theory displays a General Equilibrium flavour, interrelations btw 4 markets:

1. Aggregate commodity market
2. Capital market
3. Money market
4. Labour market (only this one can be in disequilibrium)

He posits that some Q can influence other Q (I.e. aggregate investment I can affect output Y) but he doesn’t say how these influences pass through prices modifications and individual incentives.

Consumer behaviour is for Keynes determined by a ‘Psychological Inclination’, that makes consumer spend only a fixed fraction c of their earnings (MPC) and doesn’t consider Utility maximization under budget constraint.

The General Theory concentrates on simultaneous equilibria in different markets, comparative statics and Short run analysis.

Keynes provides 2 explanations of his ‘General Theory’

1. It considers the economy as a whole
2. Removes Say’s law assumption (which marginalists followed). For him aggregate demand can be smaller than aggregate supply

Major characterstics and principles of Keynesian economics:

1. **Macroeconomic Emphasis** – concern with determinants of Tot aggregate consumption, saving, income, output and employment.
2. **Demand Orientation** – importance of ‘effective demand’ (now called aggregate expenditures) as immediate determinant of national income, output and employment.

Aggregate expenditures (AE) consist of sum of consumption C, investment I, gov and net exports (AE = C + I + G + X – IM). Firms collectively produce a level of real output Y that they expect to sell. If AE < Y\* (output at full employment) there will be involuntary unemployment.

1. **Instability in the economy** – eco is giving recurring booms and busts bc planned investment spending is erratic. Changing in I causes national income and Y to change by greater amounts than the initial changes in investment. Equilibrium levels of I and S (saving) are achieved through changes in national income, opposed to changes in interest rate.
2. **Wage and Price rigidity** – Wages tend to be inflexible downward bc of institutional factors, as union contracts, min wage level and implicit contracts. Prices are also sticky downward. Declines in effective demand causes reductions in Y and Employment rather than declines in Plevel.
3. **Active fiscal and monetary policies** – the Gov should intervene actively through fiscal and monetary policies to promote full employment, price stability and eco growth.

Consumption Function

‘Psychological law’ concerning relationship btw consumption and income. Men increase C as income rises, but not as much as their income growth.

1. Positive functional relationship btw C and Y:

C = f(Y)

1. Positive and less than one Ratio of change in C to change in income = Marginal Propensity to Consume

MPC = c = ∆C/∆Y

1. This implies that saving (S) also rises with income, so positive function of income

S = f(Y)

1. Like the MPC, the MPS is greater than 0 and less than 1

MPS = s = ∆S/∆Y

1. This is the consumption function, showing the amounts that consumers will spend for goods and services at different income levels in a hypothetical economy. The curve slope (∆C/∆Y) is the MPC

Immagine che contiene testo, screenshot

Descrizione generata con affidabilità molto elevata

**Investment**

Economic investment = purchase of capital goods.

Investment: depends on the marginal efficiency of capital (MEC) in relation to the interest rate. When an entrepreneur buys Investment goods, he buys the right to a series of future incomes that expects to earn selling the product after subtraction of current expenditures. A firm which purchases an additional unit of capital good (ex. A machine) and expected returns are equal to Qi where i=1,2… n are the years.

The MEC is equal to the **discount rate r.**

Investment will continue till the marginal efficiency of capital is equal to the rate of interest (cost of borrowing the funds with which to invest. (If the Marginal efficiency of capital is 2.5%, investment won’t occur when interest rate is 3% but when it’s 2%.)

MEC is highly variable – it fluctuates with every change in ppl’s expectations of future profits from investment.

His idea on MEC can be used to create an investment demand curve, I = f(i)

Immagine che contiene screenshot

Descrizione generata con affidabilità molto elevata

Inverse relationship btw i and I in an economy where relevant investments were arrayed in decreasing order of their MEC. If market i is i1, the amount of investment will be I1. For all investments till I1 MEC exceeds the cost of borrowing, if I beyond I1, borrowing exceeds MEC.

**Liquidity Preference**

Liquidity preferences depends on 3 motives for holding money:

1. Transaction Motive – the need of cash to pay for current consumptions and business needs
2. Precautionary Motive – desire to keep some cash on hand for emergencies
3. Speculative Motive – desire to hold cash while waiting for interest rates to rise, or stock to fall, or general price level to fall. (only this depends on the rate of interest, others on income)

Interest rate is determinate by relationship btw public for cash and remunerative stuff like bonds. Holding cash vantage is for flexibility of transactions, but no interest earned.

Individual decision on cash or bonds depends on expected and current interest rate:

* if rate is low and individual expects it to rise, he would prefer cash.
* high interest rate = expected lower rate in LR, so better bonds. ( = reduction in money demand)

Inverse relation btw interest rate and demand of money.

Graph:

Immagine che contiene screenshot

Descrizione generata con affidabilità molto elevata

Demand Curve (L) slopes downward, ppl will desire to hold more cash at lower interest rate.

Q of money supplied depends on the policy of the central Bank, and it’s supposed to be independent of the interest rate. Hence in the graph is vertical.

Equilibrium is i1 – an increase in Q of money, rightward shift of M, would lower the interest rate.

A lower rate of interest doesn’t **reduce** savings. It stimulates investment spending. If eco works at less than Y\*, national income and savings would rise.

**In summary**, the level of investment in the economy depends on interactions of 1 MEC (which defines investment demand curve) and 2 Market rate of interest (depends on the demand for money (liquidity preference) and supply of money).

**Equilibrium, income and employment**

If we ignore Gov and international trade, the immediate determinants of income and employment are Consumption and Investment Spending. This 2 constitute the aggregate expenditures in the economy.

Equilibrium National income occurs where the combined levels of consumption and investment spending equal to the current level of income.

Y = C + I

Bc savings is different btw income and consumption S = Y – C,

S = I

Here we get the Keynesian cross.

Immagine che contiene screenshot, mappa

Descrizione generata con affidabilità elevata

AE shows combined level of C and I at each income level. Vertical distance btw AE and consumption function C = f(Y) is the level of I.

How might depression occur? If Y1 is the full employment level of income, and entrepreneurs are pessimistic about future business prospects this results in a downward revision in the marginal efficiency of capital and leftward switch in the investment demand curve.

Declined I reduces aggregate expenditures, declining sales and rising inventories, firms then reduce employment and production. National income then recedes. Equilibrium income declines by more than the drop in I itself bc of the Multiplier effect.

The multiplier measures the ultimate effect on income of a change in spending.

**Policies to promote full employment and stability**

Keynes proposes large Gov role in stabilizing eco at full employment level of national income.

The gov should for ex stimulate private I during a depression by forcing down rate of interest, accomplishing it by central bank policy, but there are limits to that.

Another way to overcome depression by gov is to undertake expansionary fiscal policy. Gov spending, like private investment, serves as aggregate expenditure. This could be increased, increasing AE and producing multiple increase in national income.

Keynesianism

Soon after the General Theory there was a ‘Keynesian Revolution’. It went out of fashion in the 70s-80s and came bac in the 90s, with the New Keynesianism.

1936: Trying to translate GenTheo into a system of equations:

**Hick’s IS-LM Model**

1. I = I(i, Y) – Investments I depends negatively on interest rate i and positively on output Y
2. S = S(i, Y) – savings S depends positively on i and positively on Y
3. Md = k · Y + L(i) – demand for money Mdgiven by demand transaction purposes k x Y and liquidity preference L (L depends negatively on i)
4. Ms = M - supply of money Ms is given at level M decided by bank

The IS function is given by combination of i and Y such that I and aggregate investment I and saving S are equal – S = I

LM function given by combination of i and Y, such that Md = Ms

Macro-eco equilibrium is defined as the combination of interest and income at which the IS curve intersects the LM curve

Depending on the slopes and positions of the curves, IS-LM equilibrium can be at full employment Y\* or underemployment

equilibrium Y0

Immagine che contiene screenshot

Descrizione generata con affidabilità molto elevata

IS-LM analysis shows both key features of the GenTheo and standard approach of Noclassical eco (which Keynes considered incompatible)

The IS-LM model, labeled neoclassical synthesis by Samuelson, presented the neoclassical full-employment equilibrium as the benchmark case and reduced the theoretical domain of Keynes to three special cases in which underemployment equilibria could develop from: (i) a liquidity trap, (ii) an investment trap, or (iii) from rigid wages and prices.

This IS-LM model was doubted by micro-theoretical models, bc the traps couldn’t persist in the LR – so only wage and price rigidity offered an explanation of underemployment equilibria.

This model was thought as a correct representation of the business cycle problem and it analyses various effects of combination of fiscal and monetary policies on the level of national income and employment. But it doesn’t explain general levels of prices.

It was then supplemented by:

The **Phillips Curve:** single equation empirical model, describing a hypothetical inverse relationship btw rates of unemployment and corresponding rates of rising wages, that result within an economy – it indicated a stable trade-off btw inflation and unemployment.

Immagine che contiene mappa, testo

Descrizione generata con affidabilità elevata

Another reason for Gov intervention – it has to control inflation and unemployment.

IS-LM model was rejected in the 70s:

1. Doesn’t explain Inflation
2. Not formulated in terms of General equilibrium (GE) model

Counter Revolutions

Counter-reactions to Keynesian revolution in the 50s-60s:

**Milton Friedman** – Quantity Theory, a Restatement.

Based on microtheoretical reinterpretation of Keynes and Q theories: the Q theory was a theory of money demand, and not a hypothesis about price-level determination.

Major contiributions of monetarists to scientific economics:

1. **Money supply as major cause of business cycle** – and movements in agg demand for goods have little impact.
2. **Natural rate of Unemployment Hypotesis** – there exists an unique rate of unem associated with non-accellerating inflation and in the LR economy will settle at this Unem rate.
3. **Superiority of Monetary policy rules** – Monetary policy is more effective than Fiscal policy in fighting business cycle; following a steady money-supply growth rule is, in the LR, better that a counter-cyclical monetary policy.

Monetarism died in the 80s bc

* you can’t control money supply
* money is able to exert a persistent influence on real variables (not only SR)
* no basis on micro-eco theory (GE)

monetarists thought non-neutrality of Money as a SR phenomena, resulting from wrong monetary policies and ‘friction’ in market process.

Those frictions expressed as time-lags in adjustments of expectations to actual changes in P. Those Lags were part of the hypothesis of ‘adaptive expectations’ = ppl forms their expectations about future inflation by taking into account their earlier errors.

**New Classical Economic School**

**Lucas and Sargent** – eco firmly based on Micro-eco of Walras GE

All changes in prod and employment levels explained as results of rational behaviour – full price flexibility and continuous market clearing.

Adaptive expectations inconsistent with rational behaviour. (agents don’t learn, make same mistakes)

Market agents try to maximize utility or profit – they are rational about expectations and systematic errors are eliminated to find profits and utility gains - only a completely erratic, unpredictable type of monetary policy could be non-neutral with regard to unemployment. No systematic (anticipated) monetary policy has any real influence on the economy both in SR and LR.

**Real Business Cycle (RBC), by Kydland and Prescott** (declined in the 80s)

(Walras followers) explained fluctuations of macro-eco variables from changes in data of tastes and technology – modelled business cycle as optimal responses to tech shocks and shifts in preferences. For them money is neutral, irrelevant to explain changes in Y and employment.

* In RBC tech shocks are random, unpredictable by gov and no role in Gov to fight BC. Radically Anti-interventionists, no role in Gov to stabilize eco in macro level.
* Eco is continuously adjusting to changing tech
* Monetary and fiscal policies can’t reduce fluctuations in tech and Y; those are costy and just reduce welfare.

Criticisms:

* No evidence depression is caused by tech regress
* In RBC models unemployment is absent or a result of voluntary choices of economic agents, who adjust to changing technology. But it is hard to treat as such unemployment in times like the Great Depression or high unemployment in Europe in 1980s.
* Evidence suggests that money is not neutral in the SR
* Empirical evidence in support of RBC theory was “too fragile to be believable”.

**New Keynesians**

Mid 80s, revival of Keynesian. New Keynesian Macro-eco (NKM)

NKM agreed with all “old” Keynesian propositions:

* Unregulated market economy will exhibit involuntary unemployment equilibrium.
* Business cycles are caused by aggregate demand fluctuations (investments for Keynes).
* “Money matters” – monetary policy can be effective in fighting depressions.
* Gov intervention has the potential to improve macroeconomic stability.

But it’s different from 60s Keynesianism bc they have new classical macro premises:

* Use microfoundations from GE theory.
* Assume rational expectations

So NKM provides different explanations of BC than NCM and RBC.

Approaches of NKM to explain BC, focusing on different causes:

* Nominal wage rigidity: wages do not change in a flexible way. In such a situation monetary policy can have real effects.
* Nominal price rigidity: changing prices is costly (menu costs) and therefore

prices are not changed always when demand or cost of production changes. New Keynesians have shown that such menu costs (even small) can produce large macroeconomic fluctuations.

* Real price rigidities: real (not nominal) prices do not change in a flexible way.
* Real wage rigidities: real wages are not flexible, can not be easily lowered for various reasons.

But BC are irregular and unpredictable, they see a need of gov in deep cases of recession, but it has to be limited at some discretionary actions.

Conclusions:

* Agreement that business cycle theories (BCT) should possess GE microfoundations.
* Agreement on methods used to verify BCT (calibration, empirical modeling).
* Agreement that monetary policy can have systematic real effects in the short run (but not in the long run).
* Disagreement whether active government management of demand can help economy to adjust in the short run.
* But, in early 1990s all those problems became suddenly less interesting for macroeconomists.

Now, let’s all go to hell with Paradiso.