Decline of classical economics and the rise of neoclassical economics

- From 1870s on, classical economics has been declining
- Transformation from classical into neo-classical economics
- Marginalist revolution of 1870s - introduction of marginal analysis – concepts like MU, MP, MC and others
- Marginal concepts illustrate effects of the adding of one more unit to total consumption or production
  - E.g. marginal utility (MU) = increase in total utility due to consuming one more unit of a good

Internal problems in classical economics

- Theory of exchange value (price)
  - Labour theory of value of Ricardo and Marx rejected by J. S. Mill
  - Cost of production theory of price accepted by Smith and Mill does not account for the role of demand in determining prices (graph)
- Wage fund theory of wages – Mill attempted to reject it, but unsuccessfully
- Dynamic problems with capitalism pointed out by Marx

Marginal revolution

- First application of marginal analysis – theory of demand and the concept of marginal utility (MU)
- Later – other applications (to the analysis of firm, costs, production, revenues, distribution etc.) using concepts like marginal product, marginal cost, marginal revenue
- Contributed to the popularization of mathematics in economics
- In 1870s-1900s almost all microeconomic theory was transformed with the help of marginal analysis
- Classical microeconomics became rejected
- Microeconomics (e.g. problem of allocation) became the main focus of economists

Introduction of marginal analysis

- Marginalist economists:
  - William Stanley Jevons (1835-82), *Theory of Political Economy*, 1871
  - Carl Menger (1840-1921), *Principles of Economics*, 1871
  - Leon Walras (1834-1910), *Elements of Pure Economics*, 1874

Marginalists

- Marginalists on economic methodology:
  - Walras – economics should be a mathematical science
  - Jevons – more empirical work in economics
  - Menger – deductive, but not mathematical approach

- Walras introduced also general equilibrium theory in economics, while Menger founded the so-called Austrian school of economics.
- All three of them thought that they discovered new, revolutionary theory of relative prices (theory of exchange value), inconsistent with classical cost-of-production theory

Marginalist theory of exchange value (market prices)

- According to this (marginalist) theory, exchange value depends entirely on marginal utility from the consumption of the good.
- MU is the increase in total utility as a result of consuming one more unit of the good.

- This theory contradicts classical theory of value – theory based on costs of production.

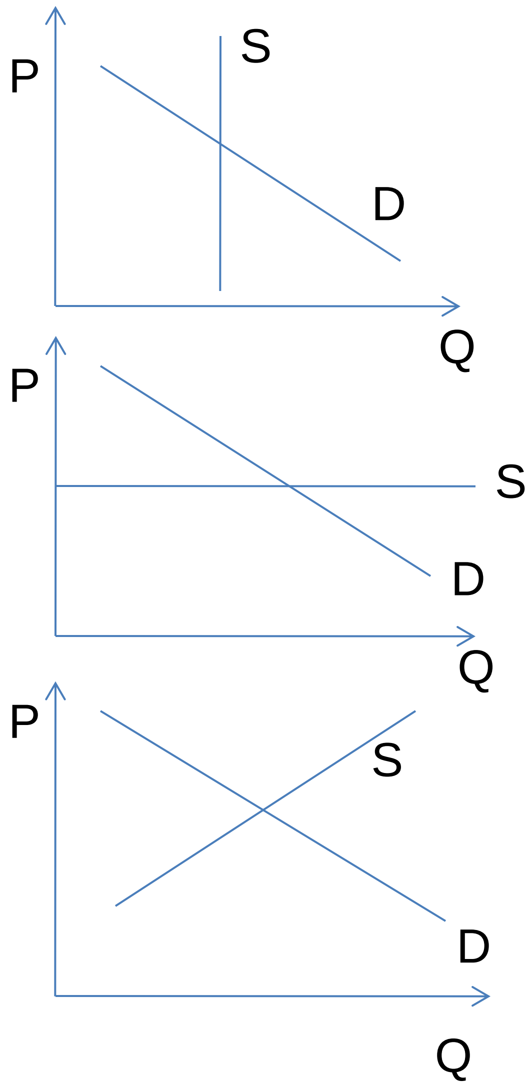
Marginalist theory of value

- Marginalist theory of value explains prices from the demand (consumer's) side of the market, while classical theory – from the supply (producer's) side of the market.
- Jevons: *„Cost of production determines supply; Supply determines final degree of utility; Final degree of utility determines value."*
- What do you think about this statement?

Marginalist theory of value

- Marginalists thought that you can measure utility without any problems and that *the principle of diminishing MU* operates.
- Aso assumed that the utility from the consumption of any good depends only on the quantity of this good consumed (excluded relations of complementarity or substitution between goods.
- With those assumptions they were able to prove that the familiar now condition must be fulfilled if consumers are to maximize utility:
- $MU_a/P_a = MU_b/P_b \ldots = MU_x/P_x$
- Walras argued that the above condition implies that demand curve is negatively sloped (increase in P_a implies a fall in Q_a so that MU is increased as well), but…
- An increase in P_a may also lead to increase in Q_a if *a* makes a large proportion of a person's consumption and falling real income (I/P_a) makes it impossible to buy other goods (*Giffen goods*)

Evaluation of marginalist theory of value from the modern point of view



- The theory can not explain prices in case of perfectly elastic (horizontal) supply curve (second case on the left panel), so it is not general enough to be a correct theory of value.

Contribution of the first marginalists

- Focused on microeconomics
- New theory of value based on MU
- Inventing and application of marginal analysis in economics – contributed to mathematization of economics

Second generation of marginalists

- Application of marginal analysis to other parts of economic theory (1870s-1890s):
  - production theory,
  - production costs theory,
  - theory of the prices of factors of production, and
  - distribution theory
- Scientific progress thanks to the use of mathematics (clarification of concepts, rigorous analysis of relations etc.)

Marginalist theory of production

- Marginal product (MP) = increase in total product (TP) due to additional unit of a factor of production.
- MP_L = increase in TP due to one more unit of labour.
- Principle of diminishing marginal productivity
- In theory of production they have established the condition for optimal employment of factors of production:
  - (for labour): $w = MP_L * p$
  - (for capital): $r = MP_K * p$, and similarly for other factors
- Also established conditions for optimal employment of several factors of production at once, and derived demands functions for factors of production
- Above conditions describe not only prices of the factors of production, but also the functional distribution of income in the economy.

Marginalist theory of distribution

- Functional distribution of income in the economy.
- Income share of labour (wL/Y) and income share of capital (rK/Y).
- The conditions describing prices of factors of production:
  - $w = MP_L * p$, $r = MP_K * p$, etc.

  are used also in marginal productivity theory of distribution – it explains relative incomes of the factors of production (they are proportional to the values of MP of the factors)

Ethical implications of marginalist distribution theory

- John Bates Clark (1847-1938), *The Distribution of Wealth*, 1899
- He investigated ethical implications of marginal productivity theory of distribution.

- According to J. B. Clark under perfectly competitive markets, each factor of production receives a return equal to the value of its MP (e.g. $r = MP_K * p$, $w = MP_L * p$)

J. B. Clark on ethics of distribution in capitalism

- So, each factor of production receives a return equal to the value of its MP
- Therefore, returns to factors of production (their prices) measure the contribution of a factor both to 1) particular product being produced in the firm; 2) the society and its income (national income).
- Clark concluded that <u>the distribution of income in capitalism (with competitive markets) is an ethically correct distribution</u> (it rewards the factors of production according to their economic contribution to the social product - national income).
- Directed against Marx's claim that capitalism is exploitative for labourers.
- Was Clark correct?

J. B. Clark on ethics of distribution in capitalism

- Problems with Clark's claim:
  - violates distinction between positive and normative economics
  - concerns only functional distribution of income
  - assumes perfectly competitive markets

MP theory as a theory of demand for labour

- Marginal productivity theory was also used by the second generation of marginalists as a theory of demand for labour.
- Demand curve is a curve for $MVP_L = MP_L * p$
- Market forces bring about an equilibrium on labour market
- Unemployment (over frictional) is caused only by government actions

Marginalist policy against unemployment

- Wages should be kept flexible (long-term wage contracts, minimum wages legislation are undesirable)
- Unions and minimum wages legislation cause unemployment
- Best policy is to keep government out of the economy and let markets work the way to full employment by lowering wages

Summary of marginalism

- Marginal analysis applied to the whole body of microeconomics
- Progress in mathematatization of economics
- Only input to the new era of economic thinking – neoclassical economics (starting in 1890s), which produced a complete and consistend new microeconomic theory
- So, marginal economics was only a transitory period between classical and neoclassical schools