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:
  – 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:
  \[
  \frac{MU_a}{P_a} = \frac{MU_b}{P_b} \ldots = \frac{MU_x}{P_x}
  \]
• 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.
- $MP_L = \text{increase in TP due to one more unit of labour.}$
- Principle of diminishing marginal productivity
- In theory of production they have established the condition for optimal employment of factors of production:
  - (for labour): $w = MP_L \cdot p$
  - (for capital): $r = MP_K \cdot p$, 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:
  \[ w = MP_L \times p \text{, } r = MP_K \times p \text{, etc.} \]

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.  \( r = MP_K \cdot p \), \( w = MP_L \cdot p \))
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 the distribution of income in capitalism (with competitive markets) is an ethically correct distribution (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 \( MVP_L = MP_L \times p \)

• 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 mathematization 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