Classical Economics after Adam Smith

• David Ricardo (1772-1823)

• Thomas Malthus (1766-1834)

• Malthus vs. Ricardo on the problem of stability of capitalism

• Ricardo – contributions to methodology of economics, theory of value, international trade theory, public finance, distribution theory etc.
David Ricardo (1772-1823)
Thomas Malthus (1766-1834)
Thomas Malthus’ principle of population


• Malthus’s population principle (population thesis) - population tends to increase faster than the food supply

• Assumptions:
  – Food is necessary for the existence of humankind;
  – Passion between sexes is necessary and will remain unchanged.
Thomas Malthus’ principle of population, cont.

• In absence of checks on population growth it will grow in geometric progression (i.e. 1, 2, 4, 8, 16…), while food supply increases arithmetically (i.e. 1, 2, 3, 4, 5,…).

• But, in reality checks on population will develop in society to keep the rate of population growth in line with the growth rate of food supply.
Thomas Malthus’ principle of population, cont.

• Population checks:

• ‘Positive’ – increases in the death rate in result of wars, famines, diseases etc.

• Preventive – postponement of marriage, prostitution, contraception, moral restraint etc.
Thomas Malthus’ principle of population, cont.

- Economic implication of Malthus’s population principle:
  - There is mass poverty in the society and you cannot help it; if the welfare of the poor is increased above the subsistence level, they start to reproduce at a higher rate than the rate of growth of their welfare and in the end the welfare of the poor returns to the subsistence level.

- Malthus’s principle was used to defend the so-called ‘iron law of wages’ – wages of labourers can never rise above the subsistence level (it allows the labourers barely to survive).
Economics of David Ricardo (1772-1823)

• Major work – *Principles of Political Economy and Taxation*, 1817

• Ricardo’s views on methodology of economics
  – Pure theorist, built very abstract models of the economy.
  – Did not use mathematics, but still produced abstract, logical theories.
  – Pure theorist, but policy-oriented – used abstract models to resolve practical policy issues
Ricardo on the methodology of economics

• Non-contextual economic policy

• Ricardo’s approach was followed by mainstream economics in 20\textsuperscript{th} century.

• ‘Ricardian vice’ – tendency in modern economics to apply overly abstract models in policy considerations
The proper subject of economics according to Ricardo

- Functional distribution of national income over time = distribution of national income among social classes (landlords, capitalists, labourers) over time.

- Interested in the impact of changes in functional distribution of national income on the rate of profit and the rate of economic growth.

- Main conclusion: in the long-run both rates will diminish to zero.
Theoretical contributions of Ricardo

- Theory of land rent
- Value theory (theory of relative prices)
- Distribution theory
- International trade theory
- Debate with Malthus on stability of capitalism
Ricardo’s land rent theory

• Principle of diminishing returns – if one factor of production is steadily increased, while others are held constant, than the rate of growth of total product will eventually diminish.

• Assumption of the theory: capital and labour are combined into one factor – doses of capital and labour.

• Land rent (payment to land used as a factor of production) exists because of:
  – Scarcity of fertile land
  – Law of diminishing returns
Ricardo’s land rent theory

<table>
<thead>
<tr>
<th>Plot A</th>
<th>Plot B</th>
<th>Plot C</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>90</td>
<td>80</td>
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<td>90</td>
<td>80</td>
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<td>80</td>
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Increases of the total product from subsequent doses of labour and capital (in bushels)

Land rent = maximal sum, which a farmer working on a less fertile land would be willing to pay to the owner of a more fertile land.

What is the amount of land rent on land of various types in the example?

30 bushels on plot type A, 10 – on plot type B
Ricardo’s land rent theory, cont.

• What is the price of wheat in the model, if one dose of capital and labour costs 100 dollars?

• Conclusions of the model:
  – Market price of wheat equals marginal cost of production of most inefficient producer.
  – Owner of the more fertile ground receive land rent
  – The market price of wheat is set on the least fertile land, where there is no land rent, so the price of wheat does not depend on land rent.
Ricardo’s value theory

• Ricardo’s aim – to explain changes in relative prices over time
  – (Adam Smith – to explain relative prices at given point in time)

• Distinction between (a) scarce, not freely reproducible commodities; and (b) freely reproducible commodities.
Ricardo’s value theory

• Ricardo rejected Adam Smith’s cost of production theory of value in favour of labour theory of value.

• Labour theory of value = value of a commodity depends solely on the quantity of labour, which is necessary for its production.
Four problems with Ricardo’s labour theory of value.

1. How to measure the necessary quantity of labour?
   – Ricardo’s answer – number of clock hours devoted to labour

2. Does capital have no impact on the values of goods produced with its use?
   – Ricardo’s answer – treat capital as stored-up labour (every capital good is treated as a stock of labour applied to production of this good in previous periods.)
   – Labour stored-up in a commodity is called indirect labour.
Does capital have no impact on the values of goods produced with its use?

- Therefore, quantity of labour in a commodity produced today by both labour and capital = quantity of direct labour applied today + indirect labour (applied in previous periods to produce a capital good)

- Example: producing spoons with a tool (capital good)
  - Production of the tool requires 100 hours of pure labour
  - The tool depreciates at the rate of one percent of its cost for each spoon it produces.
  - You are able to produce 1 spoon in 1 hour of (direct) labour using this tool

So the total labour cost of 1 spoon is...
Treating capital as a stored-up labour

• But this solution is wrong...

• If labour has been applied in the past to produce capital goods, the value of goods produced today with the use of these capital goods, must include not only indirect (stored-up) labour, but also the interest on funds paid to the indirect labour from the beginning of the production process until the final good is sold.
Why treating capital as a stored-up labour is not enough: an example

- Two goods, $x_1$ and $x_2$ are produced by the use of labour only, but there is circulating capital to cover for wages of labourers during production process.
  - $a_1$ and $a_2$ are the coefficients of labour – number of hours needed to produce a unit of, respectively, good 1 and 2.
  - $t_1$ and $t_2$ are periods in which units of goods 1 and 2 are produced.
  - $i$ – is the interest rate on circulating capital,

- Then, the prices of commodities are given by:
  $$P_1=a_1(1+i)^{t_1} \quad P_1=a_2(1+i)^{t_2}$$
- And, the relative price of these commodities is given by:
  $$p_1/p_2 = a_1/a_2*(1+i)^{t_1-t_2}$$
- If $t_1 \neq t_2$, then it is not an exact (pure) labour theory of value.
The last two problems with labour theory of value

3. Does land rent influence relative prices?

No, land rent does not influence prices (from Ricardo’s land rent theory)

4. You should take into account also the role of profits in determining relative prices.

Relative prices depend on relative quantities of direct and indirect labour

In money terms: relative prices depend on relative labour and capital costs (wages and profits)
The role of profits in Ricardo’s labour theory of value

- Problem of different labour to capital ratios in different industries — if these differ, relative prices can be affected by changes in wage rates even if the quantities of labour and capital used remain the same. Example:

<table>
<thead>
<tr>
<th>Initial situation</th>
<th>Wage rate is increasing (by 10%)</th>
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<tbody>
<tr>
<td>Good A produced using labour worth $900 and capital worth $100</td>
<td>But relative quantities of labour and capital used remain the same</td>
</tr>
<tr>
<td>Good B produced using labour worth $500 and capital worth $500</td>
<td>Now, $P_A = (900*1.1+100)*1.1 = 1199</td>
</tr>
<tr>
<td>There is equality in profit rates (10%)</td>
<td>While $P_B = (500*1.1+500)*1.1 = 1155</td>
</tr>
<tr>
<td>So $P_A=(900+100)*1.1=1100</td>
<td>And $P_A/P_B$ is greater than 1</td>
</tr>
<tr>
<td>And $P_B=(500+500)*1.1=1100</td>
<td>So the profit rate in sector producing A has to fall to maintain equality implied by LTV</td>
</tr>
<tr>
<td>And $P_A/P_B=1</td>
<td>But this contradicts equality in rates of profit implied by the free competition</td>
</tr>
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The role of profits in Ricardo’s labour theory of value

- Ricardo realized that the labour theory of value would only work if the degree of capital-intensity (capital to labour ratios) was the same across all sectors.
- But this casts doubt on the generality of his theory, and it becomes unrealistic.
- Ricardo’s answer to the problem – different capital intensity in various industries do influence relative prices, but causes only very small differences in relative prices (less than 7%).
- So his theory is only approximately correct – Stigler called it 93% labour theory of value.
Ricardo’s theory of distribution

• Interested in changes in the functional distribution of national income in the long-run

• Society made up of 3 classes: capitalists receiving profits, landlords receiving land rents and labourers receiving wages

• Capitalists contribute most to the economic growth; labourers receive wages at the subsistence level; landlords are ‘parasites’ – do not serve socially useful functions.
Ricardo’s theory of distribution

MP (marginal product) – an increase in TP resulting from the employment of additional unit of a factor of production (another dose of L&C)

The rate of profit is the difference between MP of the last dose of L&C used and the wage rate (CD for $X_1$)

For $x_1$:

- ABC – the sum of rents
- wACD – the sum of profits
- 0wDX₁ – the sum of wages
Ricardo’s theory of distribution

When rate of profit (CD) is high, the stock of capital increases, wage fund rises, the number of labourers increases, the supply of food is greater, the cost of food increases, land rents are greater, the price of food increases and the rate of profit falls, up to the point S when it is 0.

S – stationary state of the economy
Ricardo vs. Malthus on the stability of capitalism

• The debate is also known as controversy over Say’s Law.

• Jean Baptiste Say (1767-1832), formulated a ‘law’ that there could be no underutilization of resources in market economy (“supply creates its own demand”)

• The ‘law’ excludes the possibility that people hoard the money (hoarding = accumulating money without any purpose instead of spending it on savings or consumption)
Malthus’s arguments against the stability of capitalism

1. Labour does not receive the whole product produced in the economy – demand created by the labour class is not sufficient to purchase all final goods at market prices.

2. Too much savings in capitalism can produce troubles in the long-run

Today’s savings reduce the demand for consumer’s goods, but the process of investment leads to production of more consumer’s goods in the future – but the demand for those goods is already reduced. So in the long-run consumer’s demand will not be sufficient to purchase all final goods produced.
Summary of David Ricardo’s contributions to economics:

• Introduction of abstract modelling
• Theory of the land rent
• Theory of distribution of income over time (prediction – coming of stationary state)
• Advanced labour theory of value
• The lot of lower income classes can not be improved
• Defended Say’s Law
• International trade theory – comparative advantage theory
John Stuart Mill (1806-1873)

- *Principles of Political Economy*, 1848

- Contributed to economics, logic, political science, philosophy of science, ethics and political philosophy.

- A scientist, but also a social philosopher and a social reformer
John Stuart Mill (1806-1873)
Two social movements that influenced Mill

1. Socialism
2. Utilitarianism

• Early (utopian) socialism (beginning of 19th century):
  – Very diverse movement
  – Insisted that capitalism is disharmonious
  – Objected to capitalism on ethical basis (capitalism is unjust, there is too much poverty and inequality)
What are capitalism, socialism and communism?

• **Capitalism:**
  – Private ownership of economic resources
  – Market is an allocation and distribution mechanism

• **Socialism:**
  – State or public ownership of resources (capital)
  – Market still serves to some extent as mechanism of allocation and distribution

• **Communism:**
  – State ownership of resources
  – State (or central planner) decides on the allocation of resources and on the distribution of incomes (“to each according to her needs”)
What is utilitarianism?

- Leader of the movement – Jeremy Bentham (1748-1832), economist and philosopher
- Utilitarianism is an ethical view that the only standard by which moral rules, civil laws, and economic actions or outcomes should be evaluated is the principle of utility: maximization of the sum of the happiness (utility) of all members of the society.
- In formal terms: $\max \sum u_i$
- Money as an instrument in measuring utility
Mill on the role of government in the economy, economic policy and socialism

• Introduced the distinction between the laws of production (LP) and the laws of distribution (LD)
• LP are laws of nature, cannot be changed by human will or institutional arrangements
• LD are not fixed, can be changed by human will
Is the distinction valid?

• Introduced to argue that you can redesign the institutions of capitalism to improve the well-being of the poor.

• Two meanings of distribution of income in economic theory: 1) functional distribution of income; 2) personal distribution of income

• Personal distribution of income therefore can be influenced by the society or the government.
Reforms proposed by Mill (to achieve more equality)

• High rates of taxation on inheritances (but he opposed progressive taxation)

• Formation of industrial cooperatives, firms in which workers would participate in profits or shared the ownership of capital with capitalists.

• To reduce the growth of the population (enlighten the working class through education about birth control).

• To limit the right of property in land. A tax on all increases in land rent.
Mill on economic policy

- eclectic inspirations;
- his view on economic policy are a mixture of various opinions and he can not be easily classified as an advocate of laissez-faire policy or a proponent of government interventionism;
- subtle, complex, but ambiguous writer;
- represents a midpoint between classical liberalism and socialism
Detailed analysis of Mill’s economic policy

• In ‘On Liberty’ (1859) claimed that individual freedom is the most important social value (freedom is restricted only by not harming other people),

• ‘Laissez-faire, in short, should be general practice, every departure form it, unless required by some great good, is a certain evil’.

• But, in discussion of practical social actions Mill abandoned such strong liberal position and found exception upon exception to the general rule of freedom.

• Classified exceptions from laissez-faire as ‘large’ and listed 5 classes of justified government interventions in the economy
Exceptions to laissez-faire

• Cases when individuals are not the best judges of their own interest (e.g. education)
• Cases when individuals may not be able to judge future consequences of their actions (e.g. long-term job contracts)
• State can intervene in joint-stock companies (corporations)
• State can intervene when coordinated action is required (e.g. in case of reducing time of work for labourers)
• Regulation of public charity, colonization and supplying some public goods like public roads, lighthouses etc.
• Many exceptions to laissez-faire, so many claim that Mill was a socialist thinker.
Mill on socialism vs. capitalism

• Ideal (theoretical) socialism is better than existing capitalism, but reformed capitalism is better even than the ideal socialism.

• Capitalism should be reformed – provision of universal education, limit the population growth, eliminate poverty and reduce inequality.

• Such reformed capitalism is better than ideal socialism, because capitalism assures greater individual freedom and diversity (of opinion, lifestyles etc.) among members of society.
Mill on the concept of stationary state

• Ever-growing economy has several objectionable properties – mainly people are too egoistic, competitive, treat others in a ruthless manner in order to become rich.

• On the other hand (Mill’s view), the stationary state could be a highly desirable place to live – people could focus more on non-economic aspects of well-being, less materialistic culture develops.
Mill’s contributions to economic theory

- *Principles of Political Economy*, 1848
- Thought that Ricardo’s economic was too abstract and tried to temper it by an awareness of historically prevailing institutions (i.e. distribution of incomes is governed by market forces, but also by *custom and tradition*).
- Historical-institutional analysis should be complementary to abstract theoretical reasoning in economics.
Mill’s specific contributions to economic theory

- Supported Say’s Law in the discussion of long-run growth.
- In value theory rejected Ricardo’s labour theory of value. Proposed cost of production theory of value instead.
- In international trade theory he analyzed the division of gains from international trade among trading countries. Stated that it depends of the relative strengths of the demands for import in trading countries.
- Later in his life rejected wages fund doctrine (classical theory of wage rate).
Summary of Mill’s economic thought

• Tried to combine classical economic with humanism of social reform to promote the improvement of welfare of the underprivileged

• Distinction between the laws of production and the laws of distribution

• Represents a midpoint between classical liberalism (laissez-faire policy) and socialism in matters of economic policy

• Argued that reformed capitalism is better even than ideal socialism

• Contributed to value theory, international trade theory and theory of wages.