HISTORY OF ECONOMIC THOUGHT

Lecture Notes for Week 3

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Classical Thought

In the middle of the 18th century, the British economy entered a period of rapid industrialization that is now known as the Industrial Revolution. The economy was still primarily based on agriculture, but advancements in technology and the development of factories led to an increased emphasis on the manufacturing sector, particularly in textiles. The introduction of innovative machinery like the spinning jenny and the steam engine greatly amplified production capabilities. A developing transport network, including the creation of canals, improved the connectivity across the country, facilitating trade and the movement of goods. The growth in trade was further supported by expanding colonial markets and the dominance of the British Navy. Britain also benefited from its vast reserves of coal and iron, fueling industrial growth.

There was an increasing shift of population from rural areas to towns and cities as people sought employment in the burgeoning factory system of the early capitalism. However, this period was also marked by harsh working conditions, lower living standards for many, and a significant rich-poor divide. All these changes influenced the change of economic thought. A new period known as the Classical political economy started and its start is generally marked by the publication of Adam Smith's "The Wealth of Nations" in 1776.

Adam Smith, Jeremy Bentham and Jean Baptiste Say

Adam Smith (1723-1790) will be covered in detail later. For now, it is sufficient to introduce his seminal economic work *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) commonly known as *The Wealth of Nations*. This book is considered one of the foundational texts in the field of modern economics.

- Book 1 concerns: the division of labor and the theory of value and income distribution,
- Book 2 concerns: money and accumulation,

- Book 3 concerns: history of institutions and economic history since the fall of Roman empire,
- Book 4 concerns: criticism of mercantilists and physiocrats,
- Book 5 concerns: public expenses and receipts and the role of state in the economy.

Prior to Smith's work, precious metals had been considered to be the wealth of a nation. The prevailing economic theory was mercantilism, which emphasized the accumulation of heavy metals through international trade, with a support of exports and restrictions on imports. Smith, however, argued that the wealth of a nation is created by its economic production that is supported by free trade and competition, asserting that this would lead to a prosperous economy.

Let us present some of his ideas from *The Wealth of Nations,* Book 1 Chapters 1-4:

- "Division of labor is the most important factor in improving the productive powers of labor."
- "Invention of a great number of machines is the effect of the division of labor."
- "In a well-governed society universal opulence extends itself to the lowest ranks of the people."
- "Division of labor is originally effect of some propensity to exchange, not effect of wisdom."
- "We cannot expect our dinner from the benevolence of the butcher."
- "The differences in different men are mostly effects of habit, custom and education."
- "A philosopher is by nature in genius and disposition not very different from a street porter."
- "The extent of the market has an impact on the division of labor."
- "The on-the-see areas have a better position for development than the inland areas.
- "Metal and other goods have been used for facilitating exchanges."
- Adam Smith in these chapters also:
    - Explains the difference between use value and value in exchange,
    - Uses comparisons – e.g. compares the production of corn in England, France and Poland,
    - Illustrates the advantage of the water-carriage on the example of transport between London and Edinburgh.

Jeremy Bentham (1748-1832) entered the history because of his development of Utilitarianism in his *An Introduction to the Principles of Morals and Legislation* (1789). But he presented also notable critiques of economic theories. In his work *Defense of Usury* (1787), he challenged the arguments against interest rates presented by Smith and other classical economists. An important difference with Smith is his stress on use value in the explanation of value; Smith was more inclined to base value on the value of inputs.

Jean Baptiste Say (1767-1832) was a prominent French economist and businessman. He is best known for Say's Law, often summarized by the phrase "supply creates its own demand," which posits that production inherently creates the means for consumption. This principle was influential in classical economic theory. Say contributed significantly to the development of economic thought with his major work, *Traité d'économie politique (Treatise on Political Economy)* (1803), where he articulated ideas on markets, competition, and entrepreneurship. His work helped popularize and refine Adam Smith's theories in continental Europe. Let us illustrate that Say´s explanation of value was closer to Bentham than to Smith: „The value of products is not founded upon that of productive agency [that is, not the rates of profit and wages], as some authors have erroneously affirmed; . . . Since the desire of an object, and consequently its value, originates in its utility, it is the ability to create the utility . . . that gives value to a productive agency; which value is proportionate to the importance of its co-operation in the business of production.“

The Age of Ricardo

General background: The period spanning from the 1815 Congress of Vienna to the revolutions of 1848, called the Age of Restoration, was a pivotal period in European history marked by efforts to re-establish monarchical and conservative order following the tumult of the Napoleonic Wars. The Congress of Vienna in 1815 aimed to redraw Europe’s political map and create a balance of power to prevent future conflicts. Major powers such as Austria, Russia, Prussia, and Great Britain played key roles. Their efforts led to the restoration of monarchies, the redrawing of national boundaries, and the establishment of the diplomatic framework called the Concert of Europe, a system designed to regulate international relations and maintain peace.

During this time, capitalism was developing, bringing significant economic change, urbanization, and social challenges. Rapid industrialization led to growing discontent among working and middle classes due to poor working conditions, economic disparity, and a lack of political representation, igniting calls for reform.

Politically, three forces existed in this period: conservative, liberal and democratic. Conservatism clearly dominated between 1815 – 1830 as leaders sought to uphold traditional monarchical structures and suppress liberal and democratic movements. After 1830, liberal forces gained on importance and democratic forces radicalized in a socialist sense. The widespread unrest culminated in the Revolutions of 1848. In France, the February Revolution resulted in the overthrow of King Louis-Philippe and the establishment of the Second French Republic. In Britain, although it avoided revolution, there were significant social and political reforms, influenced by movements like Chartism, which demanded electoral changes.

Overall, the revolutionary gains were temporary. By 1849, conservative forces had largely regained control, and the old regimes were restored with varying degrees of reform.

Cultural background: The center of European culture shifted from Paris to London. In 1821, The Political Economy Club was founded there. Economic debate intersected with political debate. The Corn Laws were debated from 1816 to 1846. Proponents of the high tariff on corn (e.g. Malthus) were against the proponents of no tariffs on corn (e.g. Ricardo). Concerning monetary policy:

- On the beginning of the period, Bullionists that believed that the monetary regime ought to be based on precious metals were standing against the Anti – Bullionists that admitted paper money, either convertible to metal or even inconvertible.

- During the period, two schools crystalized: The Currency School and the Banking School.
    - The Currency school´s position:
        - Convertibility of paper money into gold is a necessary, but not a sufficient condition for the stability of the monetary system.
        - Rigorous limitations must be given to issues of paper money; reserve requirement must be established.
        - The Bank of England ought to be divided into an issue department and a banking department (this was accomplished with the Peel act of 1844).
    - The banking school´s position:
        - The amount of paper notes in circulation is adequately controlled by the ordinary processes of competitive banking, and if the requirement of convertibility is maintained, the amount of money cannot exceed the needs of business for any appreciable length of time.
        - Opposition to the reserve requirement on banknotes.

David Ricardo (1772 – 1823), was the British economist and a pivotal figure in classical political economy. He is best known for his theory of comparative advantage, which explains how nations benefit from trade by specializing in goods they can produce most efficiently. His influential work *Principles of Political Economy and Taxation* appeared in (1817). **Thomas Robert Malthus (1766 – 1834)** was his personal friend but opponent in many areas.

- Theory of differential rent: Ricardo took this theory from Malthus. It explains how variations in land productivity determine rent. It is categorized into extensive and intensive differential rent.
    - Extensive differential rent arises when rent differences are due to the varying quality and fertility of different plots of land. Cultivation typically starts with the most fertile plots. As the demand for agricultural products increases, less

fertile land is utilized. The rent on each plot is based on its productivity compared to the least fertile land in use, which earns no rent.

  - Intensive differential rent, on the other hand, occurs when additional resources or labor or some other variable factor are applied to a single plot to boost its productivity. For instance, using fertilizers or irrigation on the same land can yield more output. The rent is based on the productivity difference between these intensively cultivated areas and the baseline productivity of the land without extra investment. Ricardo was aware of the decreasing marginal productivity of the variable factor – as Turgot before him.

Both types of rent illustrate how differences in land productivity, whether through natural fertility or additional investment, influence land value.

- Profits and wages: Ricardo uses the Malthusian population principle from Malthus´s *An Essay on the Principle of Population* (1798). Malthus argued that populations tend to grow exponentially (doubling regularly), while food supply grows arithmetically (incrementally). This mismatch suggests that, without checks, populations could exceed available resources, leading to shortages. Malthus identified "positive checks" like famine, disease, and war, which increase mortality and curb population growth, alongside "preventive checks" such as moral restraint and delayed marriage to reduce birth rates. Malthus did not believe in the efficiency of preventive checks what made him a strong opponent of any poverty relieves. Any increase in wages just increases the birth rate and this brings the wage inevitably back to the subsistence level.

  Ricardo considers wages to be on the subsistence level. He considers profits to be residuum between prices and wages. He was afraid of the so-called secular stagnation - let us cite from his “*Principles”*:

  - “The natural tendency of profits then is to fall; for, in the progress of society and wealth, the additional quantity of food required is obtained by the sacrifice of more and more labor. “
  - “[As profits fell, eventually] there would be no motive for accumulation; …. Without a motive there could be no accumulation. “

- Possibility of Overproduction: Where Malthus is afraid of general gluts, Ricardo accepts the Say´s law of markets. Let us cite from Malthus´s *Principles of Political Economy* (1820) what Malthus considered to be helpful to avoid gluts:
    - “There must therefore be a considerable class of persons who have both the will and power to consume more material wealth than they produce, or the mercantile classes could not continue profitably to produce so much more than they consume. In this class the landlords no doubt stand preeminent. “

- Ricardo´s value theory: In his labor theory of value, he believed that embodied labor sets the natural price. Embodied labor refers to the total amount of labor required to produce a good or service. This includes all labor directly and indirectly used throughout the production process, such as the labor needed to produce raw materials, intermediate goods, and the final product. Market price fluctuates around the natural price based on supply and demand dynamics. For comparison: Adam Smith used commanded labor that refers to the amount of labor that can be obtained or "commanded" in exchange for a good or service. It represents the purchasing power of a commodity in terms of labor.

Classical Approach to Prices

Basic Concepts: *Value* refers to the worth of a good or service. Opinions differ if value is objective or subjective, intrinsic or extrinsic. Proponents of an objective value believe that it exists independently of the person that is interested in the good or service. Proponents of an intrinsic value believe that it is inherently linked with the good or service, that it exists independently of any person. Proponents of the extrinsic value believe that value exist only as a relation to some person, either subjectively or objectively. If you believe that the evaluations of individual persons are in principle the same, as Bentham believed, you can believe in an extrinsic objective value. If you believe that the evaluations of individual persons differ, as e.g. the economists of the Austrian School believe and as is commonly accepted nowadays, you can believe in an extrinsic subjective value.

Use value represents the utility or usefulness of a good. It is the qualitative aspect that meets a need or satisfies a desire. For instance, the use value of water is high for quenching thirst, while a painting may have significant use value as a piece of art and aesthetic enrichment. Nowadays we believe that use value is subjective and varies among individuals based on their preferences, needs, and circumstances.

Exchange value is the quantifiable worth of a good or service in the marketplace, typically expressed in terms of other goods, services, or money for which it can be traded. Unlike use value, exchange value is an objective measure.

The paradox of value, also known as the water-diamond paradox, is a classic economic puzzle that highlights the difference between use value and exchange value. Before Adam Smith, it was formulated e.g. by William Petty or in Italy by San Bernardino in the 15^{th} century. It poses an intriguing question: Why do essential items like water, which are crucial for survival, often have a lower price compared to luxury goods like diamonds, which are not necessary for basic living? This paradox underscores the idea that exchange value of goods is determined not just by their overall usefulness, but also by their scarcity. Nowadays, the resolution to this paradox lies in the concept of marginal utility, but the marginal analysis started to be used after the classical time (with some exceptions).

Before the classical time: In the School of Salamanca, we can find elements of the subjective value approach. Between the School of Salamanca and the Marginalist Revolution in the second half of the 19^{th} century, mainstream approach was the objective value approach.

- William Petty´s opinion:
  - Price oscillates around the natural value of commodities that is given by labor and land inputs. Petty writes: „Labor is the Father and active principle of Wealth, as Lands are the Mother. “
  - With different inputs, recalculation of value to a homogeneous unit is necessary; Petty used corn.

- Richard Cantillon´s opinion:
    - Intrinsic value depends on the quantity of labor and land required to produce it.
    - Value of capital or material are determined by the land and labor used to produce them.
    - Recalculation of costs to land is used for comparison of intrinsic values.
    - Current market price depends also on demand.
- Francois Quesnay´s opinion:
    - Fundamental price depends on costs of production – profit is not included.
    - „Bon prix“ ought to generate profit for producers but not to be as high as to be a burden for consumers.
    - Market price fluctuates around the „bon prix“.

In the classical time:

- Adam Smith´s opinion:
    - Labor theory of value is valid in „primitive economies“, e.g. in hunters´ economy (Smith illustrated this with the exchange of a beaver and a deer).
    - In developed societies, natural price depends on costs of production – wages, profit, and rent.
- David Ricardo´ opinion:
    - Exchange value has three basic elements: utility, scarcity, and labor.
    - No good has exchange value unless it is useful, but once it has exchange value, utility does not determine it.
    - Scarcity plays a role only for non-reproducible goods, e.g. paintings
    - The main determinant of exchange value is labor.
    - Relative quantity of labor is a reasonable approximation for relative prices, except of:
        - Goods with inelastic supply (e.g. paintings),
        - Paper money,
        - Monopolized goods,

- Goods entering international trade (because free movement of labor and capital cannot be assumed here).

Ricardo never succeeded in finding a good unit for the recalculation of costs of different inputs. He concluded that gold provided a suitable, though imperfect, unit for such recalculation.

Classical Approach to Recessions

Pre-Classical Theories were based on the non-neutrality of money, recessions were believed to be caused by monetary factors. Cantillon effect is an example of this opinion.

Classical Theories: Classical economists believed in the neutrality of money; today, we call this the classical dichotomy (between the real economy and the monetary economy). Some of them admitted the non-neutrality of money in the short run (what is close to the today´s mainstream opinion). With the neutrality of money, non-monetary explanation of recessions is necessary. "Can Aggregate Supply be different than Aggregate Demand?" becomes the basic question.

- Adam Smith´s opinion:
    - „What is annually saved, is as regularly consumed as what is annually spent, and nearly in the same time too: but it is consumed by a different set of people. "
- Jean Baptiste Say´s opinion:
    - Supply creates its own demand (this formulation is from James Mill, the father of John Stuart Mill, today we call this the Say´s Law of Markets).
- David Ricardo:
    - He accepted the Say´s Law of Markets
- Thomas Robert Malthus
    - He was the most prominent classical critic of the Say´s Law of Markets.
    - He believed that the general glut – not enough demand – can occur.

- Debate between Ricardo and Malthus:
    - Malthus in his argumentation evaluated positively landlords as people increasing demand without creating supply, this was different from Ricardo´s evaluation of landlords. Ricardo considered the rents going to landlords as a factor decreasing profits and accumulation of capital.

Summary

In the mid-18th century, Britain experienced rapid industrialization known as the Industrial Revolution, transitioning from an agriculture-based economy to an emphasis on manufacturing, particularly textiles. Innovations like the spinning jenny and steam engine boosted production, while an improved transport network, including canals, enhanced trade. The expansion of colonial markets and British naval superiority further supported growth, alongside abundant coal, and iron resources. This period saw significant rural-to-urban migration for factory jobs, harsh working conditions and a widening wealth gap. It also marked a shift in economic thought, ushering in the Classical political economy era.

Adam Smith, Jeremy Bentham, and Jean Baptiste Say significantly contributed to economic thought. Smith's seminal work, *The Wealth of Nations* (1776), laid the foundation for modern economics. Jeremy Bentham, known for developing Utilitarianism, disputing Smith's views on interest rates. Jean Baptiste Say, a French economist, is best known for Say's Law, stating "supply creates its own demand". His *Treatise on Political Economy*, advanced economic theory in Europe and aligned more with Bentham's views on value derived from utility rather than Smith's focus on inputs.

The Age of Ricardo, spanning 1815 to 1848, was a transformative period marked by efforts to restore monarchical order in Europe after the Napoleonic Wars. This era, known as the Age of Restoration, involved redrawing political boundaries and establishing the Concert of Europe to maintain peace. Economic and social changes accompanied rapid industrialization, leading to urbanization, economic disparity, and calls for reform. Politically, conservatism dominated until 1830, when liberal and democratic forces gained influence, culminating in the Revolutions of 1848.

During this period, economic debate intensified, particularly surrounding the Corn Laws and monetary policy. The Currency and Banking Schools emerged with differing views on the use of paper money and monetary stability. David Ricardo, a prominent economist, highlighted the political debates with his theory of comparative advantage. Ricardo debated with his friend Thomas Malthus on many subjects, e.g. on the possibility of general gluts.

The classical approach to prices is centered around the concepts of value, which can be intrinsic or extrinsic, and objective or subjective. Use value is about the utility of a good and exchange value is the quantifiable market worth of a good. The paradox of value, exemplified by the water-diamond paradox, highlights that scarcity, not just usefulness, influences exchange value. Prior to classical economics, thinkers like William Petty and Richard Cantillon proposed that labor and land inputs determine a good's intrinsic value, with market prices fluctuating around this value. Francois Quesnay believed that the fundamental price of a good is based on its production costs, excluding profit. He introduced the concept of "bon prix," a price level that should allow producers to earn a profit without imposing a significant burden on consumers. The market price, according to Quesnay, fluctuates around this "bon prix.". During the classical period, Adam Smith and David Ricardo further developed these ideas. Smith accepted the labor theory of value for primitive economies but noted that in developed economies, natural price depends on wages, profits, and rent. Ricardo identified utility, scarcity, and labor as elements of exchange value, emphasizing labor as the primary determinant of value, except for non-reproducible goods and monopolized markets. All these economists struggled with finding a standard unit for valuing diverse inputs, with Ricardo suggesting gold as an imperfect solution.

The classical approach to recessions focused on the neutrality of money, contrary to pre-classical theories that attributed recessions to monetary factors. Classical economists generally believed that while money might have short-term effects, it was neutral in the long run, leading to a focus on non-monetary explanations for recessions. The central question became whether aggregate supply can differ from aggregate demand. Adam Smith believed that what is annually saved, is as regularly consumed as what is annually spent, even if by different people. Jean Baptiste Say proposed that supply inherently creates its own demand, an idea known as Say's Law, which was accepted by David Ricardo. However, Thomas Robert Malthus criticized Say's Law, arguing that a general glut, or in-sufficient demand, could occur. The debate between Ricardo and Malthus highlighted differing views on landlords' roles, with Malthus viewing them as positive demand drivers, while Ricardo saw them as impediments to profits and capital accumulation.

Roots of Current Ideas on Public Finance

Basic Currently Used Concepts

A public budget is a government's financial plan, detailing expected revenue from taxes and other sources, and outlining planned expenditures for government purchases, transfers, debt service and other outlays.

Uses		**Sources**	
Purchases	**700**	**Taxes**	**1000**
Transfers	**1000**		
Debt Service	**100**		
Others	**300**	**Others**	**1000**
		Deficit	**100**
Total	**2100**	**Total**	**2100**

A public deficit occurs when a government's expenditures exceed its revenues in a given fiscal year, meaning it spends more than it earns. Public deficit is a flow that balances sources and uses. We distinguish planned deficit and ex-post deficit.

Public debt is the total amount the government owes, accumulated over time from borrowing to cover past deficits. It is a stock. It represents the sum of all outstanding government borrowings. Debt service is the flow of interest payments for public debt.

Deficit can be decreased with the increase of taxes or other sources or with the decrease of outlays. Deficit must be financed, either through loans or through Seignorage – printing of money. Deficits and debts are usually expressed as a percent of GDP. For entering the Eurozone, deficit must not be higher than 3 percent of GDP and debt not higher than 60 percent of GDP.

Contribution-based and benefit-based tax systems differ fundamentally in how they raise revenue. In contribution-based systems, taxes are levied according to an individual's ability to pay. Examples include income and wealth taxes, where individuals contribute based on their income or assets. This approach aims to achieve equity by ensuring those with greater financial resources contribute more to public finances. In contrast, benefit-based tax systems impose taxes based on the benefits individuals receive from public services. Examples include tolls for road usage or fees for accessing public parks, where individuals pay proportionally to the services they use. The goal here is to align tax payments with service usage, ensuring that those who utilize services more contribute directly to their costs.

Direct taxes are levied on individuals or organizations and are paid directly to the government. These taxes are based on income or wealth, such as income tax, corporate tax, and property tax. The taxpayer bears the burden of these taxes, and they cannot be shifted to someone else. Indirect taxes, on the other hand, are levied on goods and services. Examples include sales tax, value-added tax (VAT), and excise duties. These taxes are typically included in the price of goods and services, meaning the tax burden can be shifted from the seller to the consumer. The consumer indirectly pays the tax when purchasing the product.

Taxes have side effects, they create inefficiencies. Deadweight loss of taxes refers to the economic inefficiency that occurs when the imposition of a tax reduces the quantity of a good traded below the market equilibrium level. This loss happens because the tax creates a wedge between what consumers pay and what producers receive, leading to less trade. As a result, some mutually beneficial transactions do not occur, causing a loss of total welfare in the economy that neither the government nor the market participants can recover. Essentially, it is the cost to society created by market inefficiency attributable to the tax.

The deadweight loss from a tax is closely related to the elasticities of the demand and supply curves. Specifically, when demand or supply is elastic, the curves respond significantly to price changes. This means that even a small tax can lead to a considerable reduction in the quantity traded, resulting in a larger deadweight loss. Conversely, when demand or supply is inelastic, the curves are less responsive to price changes. In this case, even a substantial tax may cause only a minor decrease in the quantity traded, leading to a smaller deadweight loss.

Tax incidence, or the distribution of a tax burden between buyers and sellers, is influenced by the elasticities of demand and supply. When demand is more elastic than supply, producers tend to bear a larger share of the tax burden. This happens because consumers can easily reduce their quantity demanded in response to higher prices, whereas producers have less flexibility. Conversely, if demand is more inelastic compared to supply, consumers bear a greater share of the tax burden. In this scenario, consumers have fewer alternatives and are less responsive to price changes, resulting in them paying more of the tax. Essentially, the side of the market that is less elastic—meaning less responsive to price changes—will bear a greater portion of the tax burden.

Taxes are as old as civilization; we know about tax payments in ancient Sumer (around 3500 BCE) and ancient Egypt. Thinkers have for centuries tried to figure out how is the state to gather taxes with minimal inefficiencies and maximum justice.

Historical Development of Ideas

Ancient Greece: Typical taxes were indirect taxes on imports or exports and were paid by foreigners. Direct taxation was sometimes used in emergency situations.

Plato wrote in *The Republic*: "An unjust man avoids taxes, but a just man is happier." In *The Laws*: "Redistributive taxation ought to be used to ensure that the social disruptions created by extreme wealth inequality are avoided."

Aristotle: wrote in *The Nicomachean Ethics*: "Spending should be divided in geometric proportions based on the individual´s contributions to the treasury." It means:

- Contributions of individual A/Contributions of individual B = Public expenditures to A/Public expenditures to B.

William Petty in his *Treatise of Taxes and Contributions* (1662):

- Prefers benefit – based approach to taxation

- Writes that taxes should leave taxpayers as well off as they were before taxation. This is possible if the money withdrawn from citizens returns back to them through state services.
- Supports proportional taxation, because it does not change relative position of people in society, and happiness depends on the relative position in society.

David Hume in his *Of Public Credit* (1752): writes about national debt (which appeared in England 50 years ago) with following insights:

- Hoard-up treasures in the peace time.
- Governments are inclined to borrowing – it reduces the need to levy unpopular taxes. That is why debt financing would be almost infallibly abused, in every government.
- Public debt imposes in the long run higher taxes.
- Public deficit can be a short run positive stimulus for an economy. This is a strong incentive for governments to use it.
- There are following ways how to solve a public debt:
  - Violent death of debt, when creditors are oppressed and conquered.
  - The government forcefully reduces the interest rate or starts inflation.
  - Natural death of debt, when government defaults on its obligations to debt holders.

David Ricardo in his *On the Principles of Political Economy and Taxation* (1817):

- Calls for the total redemption of the public debt accumulated during the Napoleonic wars,
- Supports taxes on land rents (as did Adam Smith),
- Presents what we nowadays call the Ricardian equivalence. It suggests that government borrowing does not affect the overall level of demand in an economy because people anticipate future taxes needed to repay the debt. According to this theory, when a government finances its spending through debt instead of immediate taxation, individuals foresee higher taxes in the future and therefore increase their savings to pay for those future tax liabilities. As a result, any increase in pub-

lic spending is offset by a decrease in private spending, leaving overall demand unchanged. This theory assumes that people are forward-thinking and have access to perfect capital markets. It was expanded by Robert Barro (in an article in 1989) and is usually called the Barro-Ricardian equivalence.

John Stuart Mill in his *Principles of Political Economy* (1848) presents following opinions:

- Debt is bad for capital accumulation, except of
  - When what is borrowed is foreign capital,
  - When private savings would be wasted in unproductive enterprises or sent abroad.
- He prefers the contribution-based approach to taxes, because the benefit-based approach could lead to regressive taxes.
- He accepts the income tax as necessary but opposes progressive income tax rates.
- He does not object the progressive tax on inheritances.

Knut Wicksell, a Swedish economist, in his *Finanztheoretische Untersuchungen* (1896):

- Swedish tax systems in that time shifted the burden from the rich to the poor.
- The only solution was to allow poor to vote.
- Ideal solution for the collective decision making is unanimous voting.
- He proposes approximate unanimous rules.

Frank Ramsey in his *A Contribution to the Theory of Taxation* (1927) explained the link between the tax inefficiency and elasticities.

Friedrich von Hayek is in his *The Constitution of Liberty* (1960) against progressive taxation. As it is impossible to find a correct rate of progressivity, he is for a flat (proportional) tax rate (Estonia introduced it in 1994 as the 1st European country).

Milton Friedman supports in his *Capitalism and Freedom* (1962) **a** negative tax rate for calculation of subsidies for people with income under some threshold. Before him, William Petty presented a similar idea.

James Buchanan and **Gordon Tullock** in *The Calculus of Consent* (1962) wrote that the political process leads inevitably to deficits. The only solution is a constitutionally given balanced budget rule. They built on Knut Wicksell.

James Mirrlees in his *An Exploration in the Theory of Optimum Income Taxation* (1971) considers the lump-sum tax impractical if you take into consideration the trade-off between efficiency and equity. A lump-sum tax is a fixed amount of tax that individuals are required to pay, regardless of their income, wealth, or economic behavior. It is considered efficient because it does not distort economic decisions or incentives, as the amount owed is independent of any actions taken by the taxpayer. However, lump-sum taxes are often viewed as regressive, as they take a larger percentage of income from low-income individuals compared to high-income individuals. It was introduced under Margaret Thatcher in Great Britain from 1989 and abolished under John Major in 1993. It was replaced by the Council Tax, which is based on property values rather than a flat per-person charge.