HISTORY OF ECONOMIC THOUGHT

Lecture Notes for Week 7

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Marxist Economic Thought and its Neighborhood

Karl Marx

Karl Marx (1818–1883) was a German philosopher, economist, and political theorist who is best known for his critical analysis of capitalism. He co-authored *The Communist Manifesto* with Friedrich Engels in 1848, which called for the working class to overthrow capitalist systems. Marx's seminal work, *Das Kapital*, delves into his theory of historical materialism, labor exploitation, and the dynamics of capitalist economies. His ideas laid the foundation for Marxist theory, influencing various socialist movements and political systems worldwide. Marx's critique of capitalism focused on class struggle, emphasizing the conflict between the bourgeoisie (capitalist class) and the proletariat (working class). Let us discuss some of his basic concepts:

- **Value and Price:** Commodities have exchange value and use value. Exchange value is based on contained socially necessary abstract labor. This refers to the average amount of labor time required to produce a commodity under normal conditions of production, using the prevailing technology and average skill level of the workforce. It is not just the individual time taken by a single worker, but the average time needed across society. Marx distinguishes between concrete labor (the physical act of producing a particular good) and abstract labor, which is the general, homogeneous human labor power that creates value regardless of the specific type of work performed. While the value of a commodity is determined by labor time, price is its monetary expression in the market. Prices can fluctuate due to supply and demand, but according to Marx, they tend to gravitate around the value determined by socially necessary labor time over the long term. Marx recognized that individual prices might deviate from value due to various factors, but he saw labor as the fundamental source of value.

  There is a logical problem in *Das Capital*, vol. 3 (1894), concerning the labor theory of value that many economists had been trying to solve. It led after many decades to the explanation of prices by Pierro Sraffa.

- Simple Commodity Circulation: This refers to the process where commodities (C) are sold for money (M), which is then used to purchase other commodities (C). The formula is C-M-C. The primary goal is the satisfaction of needs. Individuals sell goods to obtain money, which they then use to buy other goods that fulfill their personal needs. The exchange is driven by use-value, meaning the commodities have a utility or intrinsic value to the consumers. It is cyclical and finite; once needs are satisfied, the process ends. It is characteristic of non-capitalist, simpler market economies.
- Capitalist Commodity Circulation: This is the process where money (M) is used to purchase a commodity (C), which is then sold for more money (M'). The formula is M-C-M'. The main objective is the generation of profit or surplus value. Money is not merely a medium of exchange but also capital that seeks to create more money. The driving force is exchange-value; the commodities are a means to an end (profit), rather than ends in themselves. It is continuous and self-expanding; the cycle aims to increase the amount of capital each time it is completed. It is a fundamental process in capitalist economies, where capital accumulation is central.
- Exploitation: $m = c + v + s$, where m is value of a commodity, c is constant capital, v is variable capital and s is surplus value.
  s/v is the rate of exploitation, c/v is the organic composition of capital.
  Rate of profit: $r = s / (c + v)$ or $r = (s/v) / (c/v + 1)$

  Constant capital c are machines and material; it is constant because it does not create any surplus value. Variable capital v is labor power; it is variable because it creates the surplus value. Workers sell their labor power. Its exchange value is given by its reproduction costs. Its use value is the ability to create the surplus value. Labor is alienated – workers lose any positive attitude to their work.
- Dynamics of capitalist economies: Rate of exploitation has the tendency to converge among sectors, because of competition on the labor market. Rate of profit tends to decrease because of the growing organic composition of capital. Competition concentrates capital in the hands of successful capitalists, the unsuccessful

ones add to proletariat. Misery of proletariat increases with the capitalist development.

Das Capital, vol. 3 (1894)

„Capital comes more and more to the fore as a social power, whose agent is the capitalist. This social power no longer stands in any possible relation to that which the labor of a single individual can create. It becomes an alienated, independent, social power, which stands opposed to society as an object, and as an object that is the capitalist's source of power. "

- Reproduction schemes and crises: Marx works with two sectors: the sector producing means of production and the sector producing consumption goods:

  $c1 + v1 + s1 = C$,

  $c2 + v2 + s2 = V$,

  Where: C is value of production in the 1st sector, V is value of production in the 2nd sector, c is constant capital, v is variable capital and s is surplus value.

  In simple reproduction, the economy replicates itself without growth, so all surplus value is consumed rather than reinvested. The balance needed for simple reproduction is represented by:

  $C = c1 + c2$

  $V = v1 + s1 + v2 + s2$

  In expanded reproduction, part of the surplus value is accumulated to facilitate growth. This reinvestment increases the production capacity in both sectors.

  By the reproduction schemes, Marx sought to model the internal consistency required for a capitalist economy to sustain itself and grow, illustrating how surpluses can be used to expand production and fuel economic growth. This analysis also brings to light potential disproportionality between sectors, which could lead to economic crises.

- Crises from overproduction: According to Marx's analysis, the inherent dynamics of capitalism lead to periodic crises of overproduction, which occur because production expands faster than the market's ability to consume goods. This is mainly due to the drive for profit and capital accumulation, leading businesses to continuously increase production capacities.

Marx argued that the capitalist system has an intrinsic contradiction: while production becomes increasingly socialized and productive capabilities expand, the distribution of wealth remains concentrated among capitalists. This results in insufficient purchasing power among the working class to buy the goods produced, leading to overproduction. The surplus of goods that cannot be sold causes a crisis, which manifests in falling prices, reduced profits, layoffs, and economic downturns.

In *Das Capital*, Marx elaborates on these cycles of boom and bust, noting that they are systemic and unavoidable under capitalism. Crises manifest not because of scarcity, but because of abundance that cannot be absorbed by the market. This analysis is a key element in Marx's critique of capitalism, highlighting what he saw as its unsustainability and tendency toward periodic disruptions. According to Marx, these crises would eventually contribute to the system's downfall and the rise of a socialist alternative.

From: *A Contribution to the Critique of Political Economy*, Preface and Appendix:

- One can write not only for publication but also for self-clarification.
- Legal relations and political forms originate in the material conditions of life.
- At a certain stage of development, the material productive forces of society come into conflict with the property relations.
- No social order is ever destroyed before all the productive forces for which it is sufficient have been developed.
- The bourgeois mode of production is the last antagonistic form of the social process of production.
- It is naive to see an individual not as an historical result, but as a starting point of history.
- Man is not only a social animal, but an animal that can be individualized only within society.
- All periods of production have certain features in common: they have certain common categories.
- A nation is at the height of its industrial development so long as, not the gain, but gaining remains its principal aim.
- History has shown that common property was the original form of property

Theories of Imperialism

John Atkinson Hobson (1858–1940) was an English journalist, economist and social scientist. He is best known for two main contributions: his theory of underconsumption and his influential work on imperialism. As a correspondent in the Second Boer War (1899 – 1902) he demonstrated belief in the inferiority of "colonial primitive people" (linked with Social Darwinism) and antisemitism.

Hobson shared some intellectual ground with Fabian socialists. Fabian Socialism is a form of socialism that emerged in the United Kingdom in the late 19th century. It is named after the Roman general Quintus Fabius Maximus, known for his strategy of gradualism and caution. The society advocates for the establishment of a democratic socialist state through gradual and reformist approaches, rather than revolutionary means. The society remains affiliated with the Labor Party and plays an influential role in shaping policy and political discourse within the party.

Hobson argued that economic recessions and unemployment could be attributed to underconsumption, where insufficient consumer demand leads to an excess of goods and services in the market. This theory critiques the classical economic belief that markets naturally reach equilibrium. He suggested that income inequality is a significant cause of underconsumption: as wealth concentrates among the few, the purchasing power of the broader population diminishes, leading to insufficient demand. Hobson advocated for policies to redistribute income, such as progressive taxation and increased public spending, to stimulate demand and achieve economic stability.

Hobson is perhaps best remembered for his critical analysis of imperialism in his book *Imperialism: A Study* (1902). In this work, he argued that economic motivations, particularly the search for new markets and investment opportunities for capital, were the primary drivers behind European imperialism. This analysis influenced later thinkers, including Vladimir Lenin, who expanded on Hobson's ideas in his own work on imperialism.

Hobson contrasted the official propaganda for colonialism – civilize and bring Christianity to "lower races" with the real primary force – the ceaseless drive to accumulate capital and then invest profits when investing at home is less and less profitable. He stressed the basic role played by banks and financial houses. Militarism plays only a secondary role.

Imperialism benefits only the rich. Three main beneficiaries are financiers, big firms producing weapons and great manufacturers for export trade. The economic cause is enormous concentration of industrial power and wealth. The same situation is in all developed countries, the only way out is "civilizing" new territories.

Hobson´s solution is trade unionism and reformist socialism: nationalization of monopolies and redistributive taxation.

Rosa Luxemburg (1870–1919) was a Marxist theorist, philosopher, and revolutionary socialist democrat active in Germany and Poland. In 1897, she got her Doctor of Law degree at the University of Zurich (Switzerland). Luxemburg was a founding member of the Spartacus League, which later became the Communist Party of Germany. She was a passionate advocate for revolutionary socialism and was known for her criticism of both reformist socialism, as represented by the mainstream Social Democratic Party of Germany, and authoritarian communist practices exemplified by Lenin's Bolsheviks.
She wrote:
„Without general elections, without unrestricted freedom of press and assembly, without a free struggle of opinion, life dies out in every public institution, becomes a mere semblance of life, in which only the bureaucracy remains as the active element. Public life gradually falls asleep, a few dozen party leaders of inexhaustible energy and boundless experience direct and rule. Among them, in reality only a dozen outstanding heads do the leading and an elite of the working class is invited from time to time to meetings where they are to applaud the speeches of the leaders, and to approve proposed resolutions unanimously – at bottom, then, a clique affair – a dictatorship, to be sure, not the dictatorship of the proletariat but only the dictatorship of a handful of politicians, that is a dictatorship in the bourgeois sense, in the sense of the rule of the Jacobins (the postponement of the Soviet Congress from three-month periods to six-month periods!) Yes, we can go even further: such conditions must inevitably cause a brutalization of public life: attempted assassinations, shooting of hostages, etc. "

Luxemburg's major theoretical contributions are in her work *The Accumulation of Capital* (1913). Some of her insights:

- The imperialist´s country newly stimulated exports would not be offset by a corresponding volume of imports, but by a growing ownership of the wealth of the conquered territory by the capitalists of the imperialist countries.

- Capitalists have to use coercive power in order to create the market commodity relations necessary for the extraction of surplus value.
- Militarism helps in expanding capitalism; it offsets the chronic deficiency of demand. Another advantage is that military production can be organized countercyclically.
- Capitalism needs to constantly expand into non-capitalist areas in order to access new supply sources, markets for surplus value and reservoirs of labor. Primary accumulation of capital is extended in this way.

Joan Robinson, a famous Cambridge economist, wrote in the Introduction to the 1964 edition that logical mistakes (logical necessity of imperialism) in Luxemburg´s book can be substituted by a plausible hypothesis and succeeding arguments can be rescued in this way.

Luxemburg was a staunch defender of democratic freedoms, even in the socialist context. She was against the imperialist war and against all types of dictatorship. She was arrested multiple times for her political activism and was eventually executed in 1919 during the suppression of the Spartacist uprising in Berlin.

Vladimir Lenin (1870 – 1924) is known for his leadership in the Russian Revolution of 1917 and his role in the establishment of the Soviet Union. Born Vladimir Ilyich Ulyanov in Simbirsk, Russia (now Ulyanovsk), he was profoundly influenced by Marxist theory and became a dedicated revolutionary. Lenin co-founded the Bolshevik Party, a radical wing of Russia's Social Democratic Labor Party, advocating for a proletarian revolution.

In 1916, he wrote the book *Imperialism, the Highest Stage of Capitalism.* Here are some of his ideas:

- Control of financial capital over industrial capital is the distinguishing feature of the imperialist stage of capitalist development.
- Financial oligarchy is an interwoven network of controls over industrial and commercial corporations, through the ownership of stocks and interlocking boards of directors.

- The rule of financial capital depends not only on the control over industrial and commercial capital but also on control of the government.
- Monopolist association of capitalists and monopolist position of a few very rich countries create two separate and distinct divisions of the world that result from the export of capital.
- The War was the consequence of imperialist conflicts among the great capitalist powers; such conflicts are inevitably built into the very nature of imperialism.

Lenin insisted that imperialism was the last stage of capitalism. In 1917, amidst the chaos of World War I and internal strife, Lenin and the Bolsheviks seized power in the October Revolution, overthrowing the Provisional Government. Lenin's leadership marked the beginning of significant changes in Russia, including withdrawing from World War I through the Treaty of Brest-Litovsk, redistributing land to peasants, and nationalizing industry.

Central Planning

The economic calculation debate was a discussion concerning the feasibility and efficiency of resource allocation in a socialist economy compared to a market economy. This debate primarily unfolded in the early to mid-20th century.

Key participants on the “market economy side” were Ludwig von Mises and Friedrich von Hayek. Ludwig von Mises, in his 1920 essay *Economic Calculation in the Socialist Commonwealth,* argued that rational economic calculation is impossible without price signals generated by a competitive market. He claimed that without private property, money, and competition, a socialist economy would lack the necessary information to allocate resources efficiently, leading to inefficiency and waste. Building on Mises' arguments, Hayek emphasized the role of dispersed knowledge in an economy. He argued that market prices are essential for conveying information about the relative scarcity and value of goods and services, which centralized planning could never replicate effectively.

Key participants on the "centrally planned economy side" were Enrico Barone, Oscar Lange and Maurice Dobbs.

The Italian economist **Enrico Barone (1859 – 1924)** wrote in 1908 the article *The Ministry of Production in the Collectivist State* that in fact opened the debate. He was persuaded that movement toward economic efficiency in a socialist economy is not inconceivable. He created models for two types of socialism: a centralized and decentralized one. In theory, both models might achieve efficient allocation under ideal conditions. However, in practice, both models face challenges, such as ensuring effective communication and alignment of incentives, which are often more pronounced in highly centralized systems. The best way for imagining his approach in the centralized model is to take the Walras´s general equilibrium model and to use a central planner instead of the crier. In the Walras´s model, the crier sets the prices and individual agents calculate their demands and supply; in the case of disbalances, the crier (auctioneer) changes the price. No exchange occurs as long as the prices do not generate the balance on all markets. In Barone´s model, the central planner calculates both the prices and demands and supply – what to produce, how to produce and who gets the produced goods.

The Polish economist **Oscar Ryszard Lange (1904 – 1965)** worked between 1937 and 1945 at the University of Chicago. Then he returned to Poland, and worked at the University of Warsaw, at the Main School of Planning and Statistics and at different government functions. In his book *On the Economic Theory of Socialism* (1936) he described a decentralized model of socialist planning. He identified economic calculation as the basic aspect of planning and wrote that only calculation using mechanisms analogical to market mechanisms is possible. He believed that such mechanisms are possible in planning and their efficiency can be even higher than market´s efficiency. Again, the best analogy for understanding his approach is to take the Walras´s model and use the central planner instead of the crier.

The British economist **Maurice Herbert Dobb (1900 – 1976)** worked at Cambridge University. Since 1920, he was member of the Communist Party of Great Brittain. His article *Economic Theory and the Problems of a Socialist Economy* (1933) opened a new dimension for the discussion. He wrote that economic calculation of the optimal use of scarce funds is not important. What is important are investments, and for investment decisions is planning better than market coordination. Planning aligns investments with collective needs like reducing inequality and fostering long-term growth in areas such as infrastructure and education, which markets often neglect due to a short-term profit focus. Planning provides stability and reduces economic volatility.

Tools for Planning: Central Planning in real socialism was standardly based on Input-Output Analysis that theoretically assured consistency of produced quantities but did not link production to consumer preferences. Linear Programming goes theoretically beyond consistency but it has never been standardly used on the central level. Nevertheless, it has had many applications on lower levels.

Wassily Leontief (1906 - 1999) got his Nobel Prize in Economics in 1973 for his development of the input-output analysis, a quantitative economic technique that describes how industries within an economy interact with each other. This method allows economists to understand the interdependencies between different sectors and how changes in one sector can affect others. Leontief got his economic degree at the University of Leningrad in 1925. Since 1932, he worked at Harvard, after 1975, he worked at the New York University. Four of his doctoral students have also been awarded the Nobel Prize (Paul Samuelson 1970, Robert Solow 1987, Vernon L. Smith 2002, Thomas Schelling 2005).

Leonid Vitaliyevich Kantorovich (1912 – 1986) graduated in mathematics it 1930 at the Leningrad University and later worked there as professor. After 1960 he worked at the Novosibirsk State University. He was the founder of Linear Programming, a mathematical technique used for optimizing a linear objective function, subject to a set of linear inequalities or equations known as constraints. The goal is to find the best possible outcome, such as maximum profit or minimum cost, within the given constraints. In the context of central planning, the objective function is the social welfare function as defined by the planner. Kantorovich got his Nobel Prize in Economics in 1975, with Tjalling Koopmans, "for their contributions to the theory of optimum allocation of resources." He was the only Soviet economist who has ever got the Nobel Prize in Economics.

János Kornai and his Analysis of the Socialist Economic System

János Kornai (1928 – 2021) was a prominent Hungarian economist, renowned for his critical analysis of socialist economies and his contributions to the understanding of planned economies. From 1967 to 1992, he was Research Professor at the Institute of Economics at the Hungarian Academy of Sciences. From 1992 to 2002, he was professor at Harvard. Since 2002, he was a Permanent Fellow of Collegium Budapest.

He wrote extensively on different facets of economic systems, making significant contributions to both theoretical and practical aspects of economics. His insights into the workings of socialist economies have been influential in both understanding the collapse of these systems in Eastern Europe in the late 20th century and informing the transition to market-based economies.

In *Anti-Equilibrium* (1971), Kornai critiques the traditional economic theories centered around equilibrium models. Kornai argues that these models, which assume a static balance where supply equals demand, fail to capture the dynamic and complex nature of real-world economies. He emphasizes that actual economic systems are characterized by constant change, fluctuations, and adjustments, which are not adequately addressed by standard equilibrium assumptions.

Kornai challenges the unrealistic notions of perfect competition and complete information that underpin these models, arguing that they overlook the behaviors and adaptations occurring in real markets. He highlights issues like information asymmetry and coordination problems, which lead to persistent imbalances and non-equilibrium phenomena. By advocating for a systemic analysis of economic interactions and feedback mechanisms, Kornai calls for models that better reflect the reality.

In *The Economics of Shortage* (1980), Kornai presents a comprehensive analysis of the chronic shortages that plagued socialist economies, attributing these persistent shortages to systemic flaws inherent in centrally planned economic systems. Some of key themes in this book are:

- Soft Budget Constraint: Kornai introduced the concept of the "soft budget constraint" where enterprises in socialist economies do not face hard financial limitations as they might in market economies. Instead of being driven by profit and loss, state support would often bail out inefficient firms, leading to a lack of fiscal discipline and perpetuation of inefficiency.

- Systemic Underperformance: Kornai argued that shortages were not due to temporary, situational issues but were systemic, arising from the very structure of socialist economies. The central planners' inability to predict and meet consumer demands, along with inefficient resource allocation, led to constant imbalances between supply and demand.
- Quantitative Emphasis over Quality: In socialist economies, production targets were often set in quantitative terms, pressuring enterprises to meet numerical goals without regard to quality or consumer preference. This emphasis on quantity over quality contributed to consumer dissatisfaction and persistent shortages of desirable goods.
- Priority Hierarchies: Central planning involved setting priorities for resource allocation, typically favoring heavy industry and military needs over consumer goods. This prioritization further exacerbated shortages of consumer goods and services that were deemed less critical by the planners.
- Horizontal vs. Vertical Coordination: Kornai pointed out the flaws in the hierarchical coordination typical of planned economies, which stifled innovation and responsiveness. In contrast, market economies benefit from horizontal coordination through market mechanisms, which allow for better adaptation to changing consumer demands and resource conditions.
- Impact on Society and Behavior: The constant shortage of goods led to behaviors such as hoarding, long queues, and a "seller's market" mentality, where consumers had less choice and needed to adapt to the availability of goods rather than their preferences.

The Economics of Shortage provided a pioneering analysis that highlighted the structural inefficiencies of socialist economies, offering valuable insights for understanding why these systems struggled to achieve sustainable economic growth and meet consumer needs. Kornai's work laid the groundwork for subsequent economic reforms in post-socialist countries and remains a pivotal reference in the study of economic systems.

In *The Socialist System: The Political Economy of Communism* (1992), Kornai summarizes the structural characteristics and functioning of socialist economies, especially in Eastern Europe during the communist era. Kornai describes these economies as command systems where the state, rather than market forces, determines production, distribution, and pricing, leading to inefficiencies and an inability to meet consumer needs. He explores how bureaucratic coordination replaces market mechanisms, resulting in rigidity and stifled innovation. The book also highlights how political objectives, driven by the dominance of the Communist Party, often overshadow economic efficiency. Kornai also traces the lifecycle of socialist systems, from their initial establishment to eventual stagnation and decline, providing insights into their ultimate failure to achieve sustainable economic growth. Through a blend of economic theory and historical context, *The Socialist System* is a crucial text for understanding the political and economic dynamics that contributed to the downfall of communist regimes.

Summary

Karl Marx (1818–1883) was a German philosopher and economist renowned for his critical analysis of capitalism. He co-authored *The Communist Manifesto* with Friedrich Engels, advocating for the working class to overthrow capitalist systems. His seminal work, *Das Kapital*, delves into historical materialism, labor exploitation, and the dynamics of capitalist economies, establishing the foundation for Marxist theory. At the core of his critique is the class struggle, focusing on the conflict between the bourgeoisie (the capitalist class) and the proletariat (the working class).

Marx distinguishes between use value and exchange value, with the latter being determined by socially necessary labor time. He argues that while market prices may fluctuate, labor remains the fundamental source of value. In terms of commodity circulation, Marx contrasts simple commodity circulation (C-M-C), where the goal is to satisfy needs, with capitalist commodity circulation (M-C-M'), which focuses on profit generation.

Marx defines exploitation through surplus value, which is produced by labor, with the rate of exploitation being the ratio of surplus value to variable capital. He observes that the rate of profit tends to decrease over time due to the increased organic composition of capital. Competition leads to capital concentration among successful capitalists.

Marx explains how surplus value is used for the accumulation of capital and economic growth but leads to crises of overproduction when production exceeds the market's ability to consume goods. He argues that these inherent dynamics result in periodic crises, highlighting capitalism's unsustainability. Marx suggests that these crises could eventually contribute to the system's downfall and the emergence of a socialist alternative.

John Atkinson Hobson (1858–1940) was an English journalist, economist and social scientist. He is well-known for his theory of underconsumption, which attributes economic recessions and unemployment to insufficient consumer demand due to income inequality. Hobson advocated for redistributive policies, like progressive taxation, to stimulate demand. His influential work *Imperialism: A Study* argued that economic motivations, particularly the search for new markets and capital investment opportunities, drove European imperialism, benefiting a small capitalist elite. He proposed reformist socialism and trade unionism as solutions.

Rosa Luxemburg (1870–1919) was a Marxist theorist and revolutionary socialist known for her advocacy of democratic freedoms. She criticized both reformist socialism and authoritarian communism. In *The Accumulation of Capital*, she highlighted capitalism's need to expand into non-capitalist areas for resources, markets, and labor. Luxemburg opposed imperialist wars and all types of dictatorship and was executed in 1919 during the Spartacist uprising in Berlin.

Vladimir Lenin (1870–1924), leader of the Russian Revolution and the Soviet Union's founder, expanded on Hobson's ideas in his book *Imperialism, the Highest Stage of Capitalism*. He argued that financial capital's control over industry and government marked imperialism and saw imperialist conflicts as inherent to capitalism.

The economic calculation debate of the early to mid-20th century centered on the feasibility and efficiency of resource allocation in socialist versus market economies. Ludwig von Mises and Friedrich von Hayek led the market economy side, arguing that without price signals from competitive markets, socialist economies couldn't allocate resources efficiently. Hayek emphasized the importance of dispersed knowledge that market prices convey, which central planning couldn't replicate.

On the centrally planned economy side, Enrico Barone, Oscar Lange, and Maurice Dobb offered their perspectives. Barone and Lange suggested that efficient allocation in socialism was theoretically possible, using a Walras type model with a central planner instead of a crier. Dobb argued that planning was superior for guiding investments towards collective needs, offering stability and reducing volatility.

Tools like Input-Output Analysis and Linear Programming were developed for planning purposes. Wassily Leontief pioneered Input-Output Analysis to understand economic interdependencies, earning a Nobel Prize in 1973. Leonid Kantorovich, the founder of Linear Programming, used mathematical techniques to optimize resource allocation, achieving a Nobel Prize in 1975. Actual central planning used the Input-Output Analysis but lacked a link to consumer preferences.

János Kornai (1928–2021) was a Hungarian economist known for his critical assessments of socialist economies, particularly in Eastern Europe. His work has been instrumental in analyzing the collapse of these systems and aiding their transition to market-based economies. Kornai held various academic positions, including a significant tenure at Harvard University, and contributed extensively to both theoretical and practical economics.

In *Anti-Equilibrium* (1971), Kornai critiques traditional economic theories based on equilibrium models, arguing they fail to account for the dynamic nature of real-world economies. He highlights the flaws of perfect competition and complete information assumptions, emphasizing issues like information asymmetry and coordination problems that lead to persistent imbalances.

The Economics of Shortage (1980) presents a detailed analysis of the chronic shortages in socialist economies, attributing them to systemic flaws in central planning. Key themes include the concept of "soft budget constraints," systematic inefficiencies, an overemphasis on quantitative production over quality, and the prioritization of heavy industry over consumer goods. Kornai's analysis sheds light on why socialist systems struggled to meet consumer demands and achieve sustainable growth.

In *The Socialist System: The Political Economy of Communism* (1992), Kornai describes socialist economies as command economies, where state control replaces market mechanisms, leading to rigidity and stifled innovation. The book traces the lifecycle of socialist systems, offering insights into their eventual stagnation and decline.

The History of Monetary Economics

Basic Currently Used Concepts

Money is widely accepted in exchange for goods and services, making trade easier and more efficient. Instead of bartering, individuals use money to buy what they need, which simplifies transactions. Money provides a standard measure of value, making it easier to compare the value of different goods and services. This common unit helps businesses and consumers make informed financial decisions. Money retains its value over time, allowing individuals to save and defer consumption until a later date. It is a means to preserve wealth and plan for future expenses.

Effective money should be durable, portable, divisible, uniform, limited in supply, and widely accepted. These characteristics ensure money functions smoothly in an economy. There are several forms of money, including commodity money (which has intrinsic value, like gold or silver), fiat money (which has value because a government maintains it and it must be accepted), and digital currencies (like cryptocurrencies, which operate on decentralized networks).

The money multiplier is a concept that describes how an initial deposit can lead to a greater final increase in the total money supply within an economy. It's a fundamental principle in the fractional reserve banking system, where banks keep a fraction of deposits as reserves and lend out the rest.

Here's how it works: An initial sum of money is deposited into a bank. For example, if someone deposits $1,000 in a bank, the bank must keep a certain percentage of that deposit in reserve, known as the reserve requirement. If the reserve requirement is 10%, the bank must keep $100 of the $1,000 deposit and can loan out the remaining $900. The

$900 that is loaned out likely gets spent by the borrower, and ultimately ends up deposited in another bank. That bank will then save 10% of the $900 (i.e., $90) as reserves and lend out the remaining $810. This cycle of depositing and lending continues, with each round of lending being slightly smaller than the last because of the reserve requirement.

The money multiplier can be calculated as 1/Reserve Requirement Ratio. In our example it is 10. (1/0.1). This means that the initial $1,000 deposit can theoretically result in a $10,000 increase in the total money supply due to the repeated process of lending and re-depositing.

Monetary policy is the process by which a country's central bank or monetary authority manages the money supply and interest rates to achieve macroeconomic goals like controlling inflation, maximizing employment, and ensuring economic stability. Key tools include open market operations (buying or selling government securities), setting interest rates, and adjusting reserve requirements for banks. There are two main types of monetary policy: expansionary, which aims to stimulate the economy by increasing the money supply and lowering interest rates, and contractionary, which seeks to cool down an overheated economy by reducing the money supply and raising interest rates. Institutions like the Federal Reserve in the U.S. and the European Central Bank are responsible for formulating and implementing monetary policy.

The Gold Standard is a monetary system where a country's currency or paper money has a value directly linked to gold. Under this system, countries agree to convert paper money into a fixed amount of gold, thus allowing the currency's value to be defined in terms of a specified quantity of gold. This system ensures that currency values remain stable over time, as they are backed by the finite physical commodity of gold.

The gold standard was the basis for the international monetary system from the 1870s to the Great War, then from the 1920s to 1932 and from the 1940s until 1971 when the United States unilaterally terminated convertibility of the US dollar to gold. It facilitated international trade by providing a universal measure of value and exchange rate stability. However, the system limited monetary policy flexibility, as the supply of money was tied to the country's gold (or US dollar) reserves.

The Money Market Model with an Exogenous Supply of Money is used to understand the interaction between the supply and demand for money and how this affects the interest rate in an economy. The model is presented in Figure 7.1.

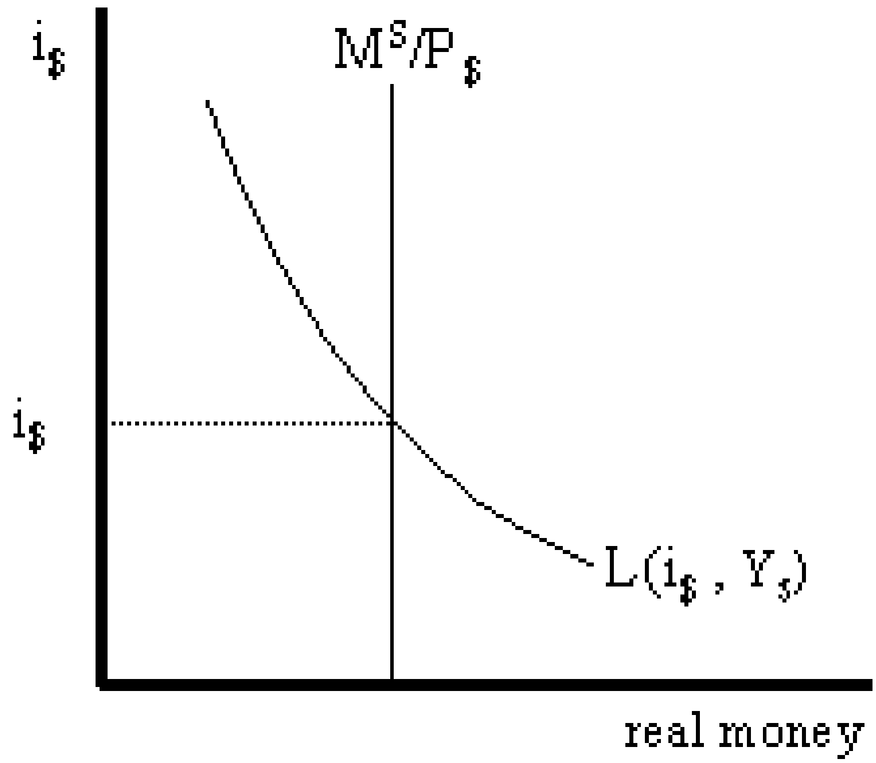

Figure 7.1: Money Market Model with an Exogenous Supply of Money.

In this model, the supply of money is considered exogenous, meaning it is determined independently by the central bank. It is typically depicted as a vertical line in a money market graph because it does not change with fluctuations in the interest rate. The demand for money is influenced by factors such as the interest rate, the level of income, and price levels. The money demand curve typically slopes downward because, as interest rates decrease, people are more inclined to hold money instead of interest-bearing assets. The equilibrium interest rate is determined at the point where the money supply curve intersects the money demand curve. This is where the quantity of money people wish to hold equals the quantity of money available.

If the central bank increases the money supply, the supply curve shifts right, leading to a lower equilibrium interest rate, assuming money demand stays constant. Conversely, a decrease in money supply shifts the supply curve left, raising the interest rate.

This model helps illustrate how central bank policies, through adjustments in the money supply, can influence interest rates and, subsequently, broader economic activities like investment and consumption.

The Money Market Model with an Endogenous Supply of Money represents a framework where the supply of money adapts to changes in the economy, particularly interest rates and economic activity, rather than being set exogenously by the central bank. The model is presented in Figure 7.2.

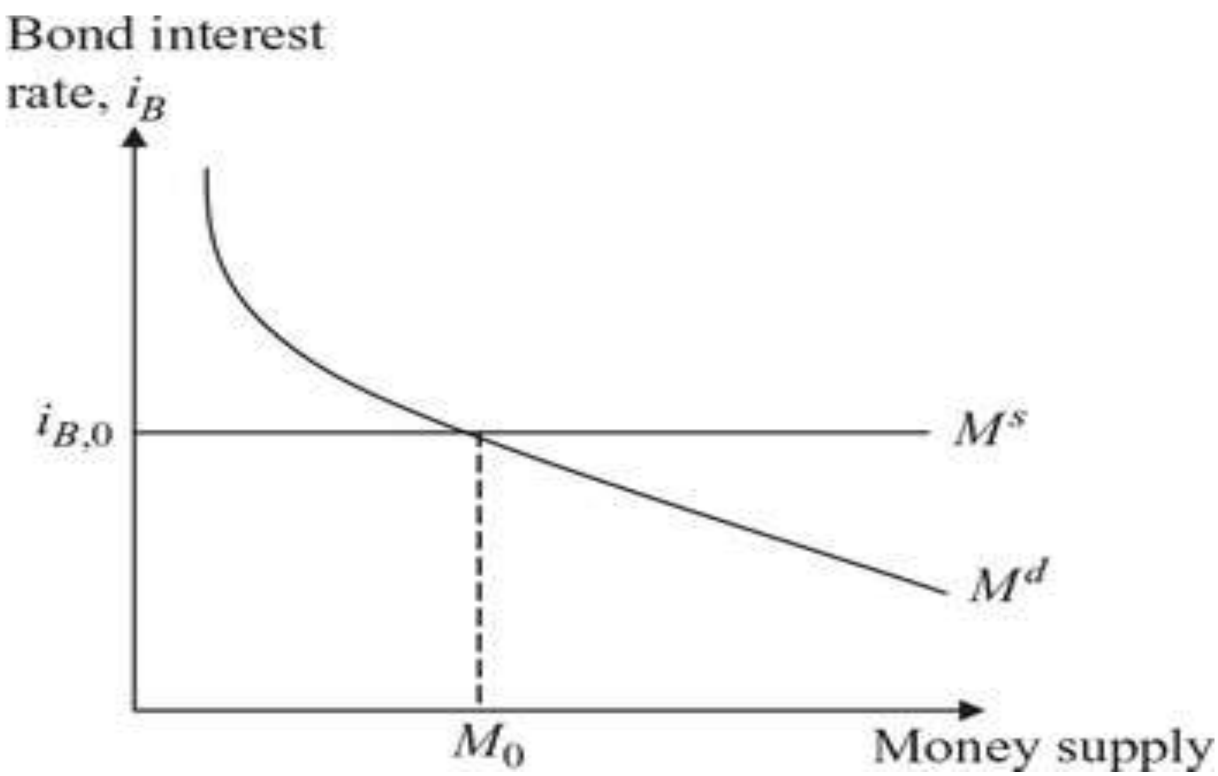

Figure 7.2: Money Market Model with an Endogenous Supply of Money.

In this model, the money supply is endogenous, meaning it responds to changes within the economy rather than being fixed. This can occur because, as interest rates and demand for loans fluctuate, banks adjust their lending practices accordingly, creating or destroying money through the process of fractional reserve banking. It is typically depicted as a horizontal line in a money market graph. Similar to the model with an exogenous money supply, money demand is determined by interest rates, income levels, and price stability and the money demand curve typically slopes downward.

Here, the money supply can shift to reflect changes in the demand for loans. As interest rates drop, banks may lend more, effectively increasing the money supply, while higher rates may dampen lending and contract the money supply.

Central bank policies can still impact the supply of money, but primarily through influencing interest rates and reserve requirements, which affect the lending capacity of banks. This model offers a more realistic view of modern banking systems, where the interaction between banks and borrowers plays a crucial role in determining the quantity of money. It highlights how money supply can adjust to meet the needs of the economy, rather than being strictly regulated independently of market conditions.

Model with an Exogeneous Money Supply and Inflation: For the explanation, we use the Quantity Equation M.v = P.Y, where M is the money supply, v is the velocity of money, P is the price level and Y is real income. With the assumptions that v is constant and Y does not depend on money supply, we get the Quantity Theory of Money with the implication that the exogeneous increase of M impacts P. This led Milton Friedman to express that inflation is always a monetary phenomenon.

Model with an Endogenous Money Supply and Inflation: We cannot use the previous explanation of inflation here. Inflation is explained with non-consistent claims of workers and firms on the created income. With too high wage claims, firms set higher prices, workers bargain for even higher wages and we get an inflationary spiral.

Ideas on Money in Historical Perspective

The School of Salamanca discussed inflation and its implication on fair pricing and social justice. They observed the long period of rising prices in Europe and identified that it was the influx of gold and silver from the New World that led to this phenomenon. This laid the groundwork for the Quantity Theory of Money.

Jean Bodin (1530 – 1596) was a French Renaissance philosopher, economist, and legal theorist. He also wrote about sorcery and witchcraft; in 1580, he published a book titled *De la Démonomanie des Sorciers*.

Bodin is most famous for articulating the concept of sovereignty, which he defined as the absolute and perpetual power of a state. He argued that sovereignty must be centralized and undivided, residing in a monarch or a body that holds ultimate authority over the law.

Bodin also theorized that an influx of precious metals from the New World into Europe was causing raising prices, which was a significant early contribution to the formulation of the Quantity Theory of Money.

Richard Cantillon (1680 – 1734) described what we now call the Cantillon effect. This refers to the phenomenon where changes in the money supply do not affect all prices uniformly or simultaneously in an economy. Cantillon suggested that when new money is introduced, it affects relative prices and economic distribution based on how and where it enters the economy. Those who receive the new money first have a spending advantage, as they can purchase goods and services before prices increase across the board, ultimately affecting wealth distribution.

The Bank of England, established in 1694, is one of the world's oldest central banks and was founded to address England's pressing financial needs during the Nine Years' War. This war involved a coalition of European powers that England was a member against the expansionist policies of King Louis XIV of France. At the time, the English government required stable funding for military expenses. Scottish financier William Paterson proposed creating a national bank that would lend money to the government in exchange for the right to issue banknotes. The Bank of England was established by Royal Charter after lending £1.2 million to the government. Initially functioning as a private institution with the exclusive right to issue notes, it also served as the government's banker. Over the years, it evolved into a central bank, taking on greater responsibility for monetary policy and becoming the lender of last resort. The Bank of England was nationalized in 1946.

John Law (1671 – 1729) was a Scottish economist and financier, born in 1671, who is best known for his role in one of the earliest major financial bubbles, known as the Mississippi Bubble. He is notable for his innovative ideas about money and banking, which were both visionary and controversial.

Law was an early advocate for the use of paper money, believing that it could stimulate economic growth by increasing the money supply. He argued that money was a means of exchange and not a measure of wealth, which was a radical idea at the time.

In 1716, Law established the Banque Générale in France, which was essentially a precursor to today's central banks. The bank was allowed to issue paper money backed by gold and silver, making it an influential institution in France's economy.

Law also founded the Mississippi Company (originally the Company of the West), which was granted control over trade in the French territories in North America, particularly around the Mississippi River. The company was part of a larger conglomerate known as the "Company of the Indies."

To finance France's enormous debt, Law persuaded the government to allow the Mississippi Company to take over the national debt via issuing shares. Speculation in the company's shares soared, driven by promotional campaigns and the promise of wealth from the American territories. This led to a massive increase in the share price, creating a speculative bubble. In 1720, the bubble burst when it became clear that the company's profits could not justify the inflated stock prices. Confidence plummeted, leading to a financial crisis. The collapse wiped out the savings of many investors and severely damaged the French economy.

Law's work contributed to the development of monetary and banking systems by highlighting the potential benefits and dangers of paper currency and central banking.

English Monetary Debates in the Age of Classical Economics: In 1797, the convertibility of sterling (pound of sterling is the official currency of the United Kingdom) for gold was suspended by The Restriction Act. It was re-established in 1821. Between 1797 and 1821, there were discussions between bullionists (e.g. David Ricardo or Henry Thornton) and anti-bullionists (e.g. Thomas Malthus or Robert Torrens) about the fact of depreciation of sterling vis a vis other convertible currencies. Bullionists believed that depreciation had monetary causes and recommended the return to Gold Standard. Anti-bullionists believed that depreciation had real causes and that the return to Gold Standard would just have made the situation worse. The discussions led to posing more general questions: What the monetary regime ought to be based on? On metal alone? On paper money convertible to metal? On inconvertible paper money?

- **Henry Thornton (1760–1815)** was a British economist, banker, and philanthropist renowned for his contributions to monetary theory and banking. In his influential 1802 work, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, Thornton analyzed the impacts of paper money and credit on economic activity. He was a pioneer in suggesting that central banks should act as lenders of last resort to stabilize the economy during financial crises. Thornton critiqued the traditional Quantity Theory of Money by highlighting the roles of banks and credit in shaping the money supply. His insights into banking and economic stability were informed by his practical experience and involvement in the Bullion Committee of 1810, which studied inflation and currency issues. Beyond his economic work, Thornton was active in philanthropy and social reform, notably as part of the Clapham Sect, which aimed to abolish the slave trade. His work continues to influence modern economic and central banking practices.
- **Robert Torrens (1780–1864)** was an Irish-born British economist and Member of Parliament (MP), noted for his contributions to classical economics. He was an early advocate of free trade and helped articulate the theory of comparative advantage, emphasizing the benefits of nations specializing based on relative efficiency. As a MP, Torrens influenced economic and colonial policies through his expertise and active participation in parliamentary debates. E.g., he assisted in

drafting the South Australia Act in 1834, a significant piece of legislation passed by the British Parliament, which laid the framework for the colonization of South Australia.

The re-establishment of convertibility in 1821 caused an economic crisis. Further discussions continued till 1844, the year in which The Bank Charter Act (The Peel Act) passed. The discussions were between the Currency School (linked to the bullionist tradition) and the Banking School (linked to the anti-bullionist tradition).

The Currency School believed that the convertibility of paper money into gold is a necessary, but not a sufficient condition for the stability of the monetary system. It supported rigorous limitations to issues of paper money and the establishment of reserve requirements. It advocated the division of the Bank of England into an issue department and a banking department. Robert Torrens, who had converted from anti-bullionism to the currency school, outlined the money multiplier mechanism.

The Banking School believed that 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, it cannot exceed the needs of business for any appreciable length of time. It opposed the reserve requirements on banknotes.

The Peel Act, officially the Bank Charter Act of 1844, was passed in the UK during Sir Robert Peel's tenure as Prime Minister to stabilize the banking system. This legislation restricted the issuance of banknotes, granting the Bank of England exclusive rights to issue currency in England and Wales. It required that all new banknotes be fully backed by gold reserves, ensuring currency stability and preventing inflation. The Act also divided the Bank of England into two departments: the Banking Department for commercial activities and the Issue Department for currency issuance. Reserve requirements were established. By controlling the money supply and reducing speculation risks, the Peel Act laid the groundwork for modern central banking and influenced monetary policy practices globally. Despite its success in stabilizing the currency, the Act faced criticism for being too rigid, potentially hindering economic growth during periods of high money demand.

Between Classical Economists and J. M. Keynes: In that period, many applied publications about practical topics appeared. Basic topics were:

- The Gold Standard influenced debates about monetary policy, economic stability, and international cooperation. Its rise and fall underscore the challenges of balancing currency stability with economic flexibility.
- Bimetallism: It is a monetary system where currency value is defined using both gold and silver as legal tender at a fixed exchange ratio. This approach aims to provide stability by increasing the money supply compared to a single-metal standard. Its advantages include enhanced liquidity and reduced deflation risk; however, maintaining the fixed ratio is challenging when market values of the metals fluctuate. This often leads to one metal becoming dominant in circulation due to Gresham's Law, where "bad money drives out good." Popular in the 19th century, especially in the U.S. and France, bimetallism was eventually abandoned in favor of the gold standard due to these practical difficulties.
    - Sir Thomas Gresham (c. 1519–1579) was an influential English merchant and financier who served as a financial agent for the English Crown. He is best known for his role in the establishment of the Royal Exchange in London, as well as for the economic principle that later came to be known as Gresham's Law.
- International monetary cooperation: Several monetary unions existed to stabilize currencies and facilitate trade. The Latin Monetary Union (LMU), established in 1865 by France, Belgium, Italy, and Switzerland, aimed to standardize coinage with a common gold and silver standard. However, it faced challenges from differing national policies and dissolved in the early 20th century. The Scandinavian Monetary Union (SMU), formed in 1873 by Sweden, Denmark, and later Norway, created a shared currency standard based on gold, with free interchangeability until World War I disrupted operations. Additionally, the Austro-Hungarian Monetary Union emerged from the 1867 Austro-Hungarian Compromise, featuring a shared currency system within the dual monarchy. These unions sought to enhance economic stability but often struggled with maintaining uniform policies during economic crises, leading to their eventual dissolution.

Several important international monetary conferences were held to address issues related to currency stabilization and economic cooperation. The Paris Monetary Conference of 1867 sought a universal gold standard but did not achieve immediate results. The Brussels Conference of 1892 aimed to resolve instability caused by bimetallism but struggled due to differing national interests. The Genoa Conference of 1922 focused on post-World War I recovery and recommended a modified gold exchange standard, though implementation was limited. Lastly, the London Economic Conference of 1933 attempted to coordinate recovery after the Great Depression but was largely ineffective due to conflicting national policies. These conferences highlight the era's efforts and challenges in achieving international monetary cooperation.

- Functions of money were clarified as medium of exchange, measure of value, store of value, and standard of deferred payments.
- Quantity Equation M.v = P.T was discussed: Is M only primary money (coins, government fiat, notes of central bank) or also credit money (means of payment arising out of credit transactions)? Theorists mostly work with primary money and ignore the impact of credit money created by the banking system. It is of some interest that Keynes in *The Treatise on Money* (1930) stresses the role of credit money but in the *General Theory* (1936) returns back to primary money.
- How can M, v, P, T be measured? Irving Fisher, an eminent American economist, played a crucial role in advancing the development of index numbers, which are vital tools in measuring economic variables like prices and output over time.
- Cambridge equation for the demand for money M = k.P.T was presented. In this model, k is the proportion of income people wish to hold as cash. It reflects money's role as a store of value, emphasizing individuals' desire to hold liquid assets based on income levels and economic conditions. Mathematically, it is very similar to the equation of exchange. The key differences lie in their focus: the equation of exchange centers on money's transactional role, while the Cambridge equation highlights money's function as a store of wealth. The former uses the velocity of money as a vital factor in economic transactions, while the latter accounts for the preference to hold cash balances.

- Monetary theories of crises and cycles were developed. Knut Wicksell presented following sequence that is today known as the Wicksellian cumulative process:
    - Bank loan (nominal interest) rate is below the real (expected profit) rate -> premium on expansion of production and especially on investment in durable plant and equipment -> rise of demand for investments and cumulative rise of prices until banks do not increase the loan rate to the expected profit rate.
    - Ludwig von Mises and Friedrich von Hayek stressed the mismatch of investments during the cumulative process, booms end with liquidation of unprofitable capital and depression.
    - Explanation of cycles: Real rate gets above the loan rate in cycles (e.g. because of innovations, or maybe because the cyclical development of loan rate). So, the cumulative process cyclically repeats and this causes the cycles of both price and product.