THE AUSTRIAN SCHOOL OF ECONOMICS
– AN INTRODUCTION

By Thorsten Polleit
Preface

The purpose of this handout is to provide an elementary introduction to the essential ideas of the *Austrian School of Economics*.

The theoretical issues and their practical applications presented therein draw heavily on the work of many brilliant scholars of the Austrian School of Economics.

I hope the booklet makes for rewarding and eye-opening reading, especially so at a time when *mainstream economics* has become (again) dominated by *anti-free-market*– and *anti-freedom* minded methodologies and teachings.

Thorsten Polleit
Frankfurt, March 2012
“Economics must not be relegated to classrooms and statistical offices and must not be left to esoteric circles. It is the philosophy of human life and action and concerns everybody and everything. It is the pith of civilization and of man’s human existence.”

### Differences between the Austrian School and the Neoclassical Schools (1)

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<td><strong>1. Concept of the economic point of view (essential principle):</strong></td>
<td>Theory of human action understood as a dynamic process (<em>praxeology</em>).</td>
<td>Theory of <em>decision</em>: rational and based on constraint maximization.</td>
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<td><strong>2. Methodological starting point:</strong></td>
<td><em>Subjectivism.</em></td>
<td>Stereotype of <em>methodological individualism</em> (objectivist).</td>
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<td><strong>3. Protagonist of the social processes:</strong></td>
<td><em>Creative entrepreneur.</em></td>
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<td><strong>4. Possibility that the actors err <em>a priori</em> and nature of entrepreneurial profit:</strong></td>
<td>Pure or sheer entrepreneurial error and <em>ex post</em> regret exist. Pure entrepreneurial profits arise from alertness.</td>
<td>There are no regrettable errors because all past decisions are explicable in terms of cost-benefit analysis. Profits are considered the payment for the services of a factor of production.</td>
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<td><strong>5. Nature of information:</strong></td>
<td>Knowledge and information are <em>subjective, disperse</em> and <em>change constantly</em> (entrepreneurial creativity). Radical distinction between scientific knowledge (objective) and practical knowledge (subjective).</td>
<td>Complete, objective and <em>constant</em> information on ends and means is assumed. There is no distinction between practical (entrepreneurial) knowledge and scientific knowledge.</td>
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<td><strong>6. Reference point:</strong></td>
<td>General process with a coordinating tendency. There is no distinction between micro and macro: all economic problems are studied in relation to each other.</td>
<td>Model of <em>equilibrium</em> (general or partial). Separation between microeconomics and macroeconomics.</td>
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<td><strong>7. Concept of “competition”:</strong></td>
<td>Process of entrepreneurial rivalry.</td>
<td>Situation or model of “perfect competition”.</td>
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<td><strong>8. Concept of cost:</strong></td>
<td><em>Subjective</em> (depends on the alertness of the entrepreneur for the discovery of new alternative ends).</td>
<td>Objective and constant (it may be known by a third party and measured).</td>
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<td><strong>9. Formalism:</strong></td>
<td><em>Verbal</em> logic (abstract and formal) which allows the integration of subjective time and human creativity.</td>
<td><em>Mathematical</em> formalism (symbolic language typical of the analysis of constant atemporal phenomena).</td>
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### Differences between the Austrian School and the Neoclassical Schools (2)

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<td>10. Relation with the empirical world:</td>
<td><strong>Aprioristic-deductive</strong> reasoning. Radical separation and, at the same time, coordination between theory (science) and history (art). History cannot prove theories.</td>
<td><strong>Empirical</strong> falsation of hypotheses (at least rhetorically).</td>
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<td>11. Possibilities of specific prediction:</td>
<td>Impossible, since what happens depends on future entrepreneurial knowledge which has not yet been created. Only qualitative and theoretical &quot;pattern predictions&quot; on the dis coordinating consequences of interventionism may be made.</td>
<td>Prediction is a deliberately sought objective.</td>
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<td>12. Who is responsible for the prediction:</td>
<td>The entrepreneur.</td>
<td>The economic analyst (social engineer).</td>
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<td>13. Present situation of the paradigm:</td>
<td>Notable re-emergence over the last 20 years (especially after the crisis of Keynesianism and the fall of real socialism).</td>
<td>Situation of accelerated crisis and change.</td>
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| 16. Most recent contributions: | • Critical analysis of institutional coercion (socialism and interventionism)  
• Theory of free banking and economic cycles  
• Evolutionary theory of institutions (juridical, moral)  
• Theory of entrepreneurship  
• Critical analysis of “Social Justice” | • Public Choice theory  
• Economic analysis of the family  
• Economic analysis of Law  
• New classical macroeconomics  
• Economics of “information” |
| 17. Relative position of different authors: | ROTHBARD, MISES, HAYEK, KIRZNER | COASE, DEMSETZ, BLAUG, SAMUELS, BUCHANAN, STIGLITZ, FRIEDMAN-BECKER |

“[S]ince the early origins of the State, its rulers have always turned, as a neces-
sary bolster to their rule, to an alliance with society’s class of intellectuals. The
masses do not create their own abstract ideas, or indeed think through these ideas
independently; they follow passively the ideas adopted and promulgated by the
body of intellectuals, who become the effective “opinion moulders” in society.
And since it is precisely a moulding of opinion on behalf of the rulers that the
State almost desperately needs, this forms a firm basis for the age-old alliance of
the intellectuals and the ruling classes of the State. The alliance is based on a
quid pro quo: on the one hand, the intellectuals spread among the masses the idea
that the State and its rulers are wise, good, sometimes divine, and at the very
least inevitable and better than any conceivable alternatives. In return for this
panoply of ideology, the State incorporates the intellectuals as part of the ruling
elite, granting them power, status, prestige, and material security. Furthermore,
intellectuals are needed to staff the bureaucracy and to “plan” the economy and
society.”

Collier Books, p. 55.
# The Austrian School of Economics – An Introduction

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1. Vienna at the end of the 19th/start of the 20th century


The list of great names associated with the late 19th/early 20th century in Vienna of the Habsburg monarchy – that is the pre-democratic Austro-Hungarian Empire – is seemingly endless:


Schumpeter, Friedrich von Wieser.

— *Psychologists*: Alfred Adler, Joseph Breuer, Karl Bühler, Siegmund Freud.

— *Historians* and *sociologists*: Max Adler, Otto Bauer, Egon Friedell, Heinrich Friedjung, Paul Lazarfeld, Gustav Ratzendorfer, Alfred Schütz.


— *Artists* and *architects*: Gustav Klimt, Oskar Kokoschka, Adolf Loos Egon Schiele.

2. Leading scholars of the Austrian School of Economics

Carl Menger (February 28, 1840 – February 26, 1921)

- Carl Menger is actually the founder of the Austrian School of Economics.
- Together with the Léon Walras (1834 – 1919) and William Stanley Jevons (1835 – 1882), Menger spelled out the subjective basis of economic value and fully explained, for the first time, the theory of marginal utility.
- He also showed how money originates in a free market when the most marketable commodity is desired, not for consumption, but for use in trading for other goods.
- With his *Investigations* (1883) Menger battled the German Historical School, which rejected theory and saw economics as the accumulation of data in the service of the state.
- As professor of economics at the University of Vienna, and then tutor to Crown Prince Rudolf of the House of Habsburg, Menger restored economics as the science of human action based on deductive logic, and prepared the way for later theorists to counter the influence of socialist thought.

**IMPORTANT WORKS:** *Principles of Economics* (1871), *Investigations into the Method of the Social Sciences with Special Reference to Economics* (1883), *The Errors of Historicism in German Economics* (1884).
Eugen von Böhm-Bawerk (February 12, 1851 – August 27, 1914)

- In his *History and Critique of Interest Theories* (1884), Eugen von Böhm-Bawerk revealed the fallacies in the history of thought and gave a firm defense of the idea that the interest rate is not an artificial construct but an inherent part of the market. It reflects the universal fact of “time preference”.
- In *Positive Theory of Capital*, he demonstrated that the normal rate of business profit is the interest rate: Capitalists save money, pay labor, and wait until the final product is sold to receive profit.
- In addition, he demonstrated that capital is not homogeneous but an intricate and diverse structure that has a time dimension. A growing economy is not just a consequence of increased capital investment, but also of longer and longer processes of production (*roundaboutness*).
- Böhm-Bawerk engaged in an intellectual battle with the Marxists over the exploitation theory of capital, refuting the socialist doctrine of capital and wages long before the communists came to power in Russia.
- Böhm-Bawerk also conducted a seminar that would later become the model for Mises’s Vienna *Privatseminar*. He was Austrian Minister of Finance in 1895, 1897-1898 and 1900-1904.

**Important works:** *History and Critique of Interest Theories* (1884), *Karl Marx and the Close of His System* (1896), *Positive Theory of Capital* (1889) (second volume of *Capital and Interest*), *Value and Price* (part of the second volume), *Further Essays on Capital and Interest* (1921) (third volume).
Friedrich von Wieser (July 10, 1851 – July 22, 1926)

- Friedrich von Wieser became professor of economics at the German University of Prague (1884), and in 1903 he succeeded Carl Menger’s position at the University in Vienna.
- Wieser became Minister of Commerce in 1917 and, after the collapse of the Austro-Hungarian Empire at the end of World War I, returned to teaching.
- Wieser made the following major contributions:
  - First, he established the theory of imputation, saying that factor prices are determined by output prices (rather than the other way around, as the Classicals had it).
  - Second, Wieser developed the theory of opportunity cost as the foundation of value theory. Both achievements have become fundamental “subjectivist” pillars in economic theory.
  - And third, Wieser actually invented the term marginal utility (Grenznutzen).

IMPORTANT WORKS: Natural Value (1889), Social Economics (1914).
Ludwig von Mises (September 29, 1881 – October 10, 1973)

- In *The Theory of Money and Credit* (1912), Ludwig von Mises extended Austrian marginal utility theory to money, and he developed the *regression theorem*, showing that money must have emerged from a commodity.
- In 1920, he showed, based on economic science, that the socialist experiment was impossible and doomed to fail.
- In his magnum opus *Human Action* (originally published as *Nationalökonomie* in 1949), Mises reconstructed the science of economics along the line of the *axiom of action*, logically deducing economic truths from a self-evident axiom.
- From 1913 to 1934, he was an unpaid professor at the University of Vienna, working as an economist for the Vienna Chamber of Commerce, in which capacity he served as the principal economic adviser to the Austrian government.
- Fleeing the Nazi regime, Mises left for Geneva in 1934, where he was a professor at the Graduate Institute of International Studies until he emigrated to New York City in 1940. He was a visiting professor at New York University from 1945 until he retired in 1969.

Friedrich August von Hayek (May 8, 1899 – March 23, 1992)

- Hayek was a central figure in 20th economics and prominent representative of the Austrian economics tradition, receiving the 1974 Nobel Memorial Price in Economics (together with Gunnar Myrdal).
- At the University of Vienna, Hayek attended the lectures of Friedrich von Wieser and Othmar Spann and joined Mises’s Privatseminar.
- In the late 1930s and early 1940s, his research focused on the role of knowledge and discovery in market processes, and on the methodological underpinnings of the Austrian tradition, particularly subjectivism and methodological individualism.
- The Hayekian triangles (Prices and Production (1935)) provided a highly stylized way of describing (interest rate induced) changes in the intertemporal pattern of the capital structure. He identified the trade cycle as an intertemporal discoordination.
- Hayek provided a sharp and devastating critique of J. M. Keynes’ The Theory of Employment, Interest and Money (1936). He became famous with his book The Road To Serfdom (1944), in which he warned against the tyranny that inevitably results from government control of economic decision-making.
- He argued for a denationalisation of money, making a case for free market money.

Murray N. Rothbard (March 2, 1926 – January 7, 1995)

- Murray N. Rothbard is the latest exponent of the rationalist branch of the Austrian School of Economics.
- He developed and extended the Austrian economics of Ludwig von Mises, in whose seminar he was a main participant for many years.
- In his textbook Man, Economy, and State (1962) he explains Mises’s Human Action in a fashion suitable for college students; the book has become a central work of Austrian economics.
- In The Ethics of Liberty (1982), Rothbard (re)integrated economics and ethics. In it he establishes non-hypothetically or absolutely true ethical rules, providing the basis for rationalist ethics.
- Rothbard is the latest and most comprehensive system-builder within Austrian economics: His unique contribution is the rediscovery of property and property rights as the common foundation of both economics and political philosophy, and the systematic reconstruction and conceptual integration of modern, marginalist economics and natural-law political philosophy into a unified moral science: libertarianism.

3. The origin of the Austrian School of Economics


- “Ideas are like capital in the following sense: we take them for granted, but in fact they are the work of many generations. In the case of economic logic, it was the work of hundreds of years. Once understood, economics becomes part of the way we think about the world. If we don't understand it, many aspects of the way the world works continue to elude our vision and grasp. It is striking how much of the knowledge of the Late Scholastics was lost over the centuries.” (Rockwell, 2010.)

- The popular wisdom traces the origins of pro-market thinking to Adam Smith (1723–1790). However, the real founders of economic science actually wrote hundreds of years before Smith. They were not economists, but moral theologians, trained in the
tradition of *St. Thomas Aquinas* (1225–1274). They became known as the *Late Scholastics*. These men, most of whom taught in Spain, were at least as pro–free market as the much-later Scottish tradition. In fact, their theoretical foundation was even more solid: they anticipated the *theories of value* and price of the *marginalists* of late 19th-century Austria.

- Let us take a very brief look at six of the most important among more than a dozen extraordinary thinkers who had solved difficult economic problems long before the classical period of economics.

(1) The first of the moral theologians to research, write, and teach at the University of Salamanca was *Francisco de Vitoria* (1485–1546). He argued that the *just price* is the price that has been arrived at by common agreement among producers and consumers: When a price is set by the interplay of supply and demand, it is a just price. This insight also applies to foreign trade: Governments should not interfere with the prices and relations established between traders across borders. Vitoria also argued for liberalizing the business of charging and paying interest. This discussion helped sowing a great deal of confusion among theologians of precisely what constituted *usury* – thereby making a case in favor of entrepreneurship.

(2) *Domingo de Soto* (1494–1560) was a Dominican priest who became a professor of philosophy at Sala-
manca. He was the intellectual architect of the purchasing power of money, and was in favour of currency trading and arbitrage.

(3) Martin de Azpilcueta Navarrus (1493–1586) was a Dominican friar. He showed that government price-fixing would be a mistake: When goods are plentiful, there is no need for a set maximum price; when they are not, price control does more harm than good. Navarrus was also the first to fully state that the quantity of money is a main influence in determining its purchasing power. He also was in favour of currency trading and arbitrage.

(4) Diego de Covarrubias y Leiva (1512–1577) was the greatest student of Navarrus. His book *Variarum* (1554) was then the clearest explanation concerning the source of economic value. "The value of an article," he said, "does not depend on its essential nature but on the estimation of men, even if that estimation is foolish." As a result, the justness of a price is not determined on how much the item costs or how much labor went into acquiring it. All that matters is what the common market value is in the place and at the time it is sold. Like all of the Spanish theorists, Covarrubias believed that individual owners of property had inviolable rights to that property.

(5) Luis de Molina (1535–1601), who stood in the Vitoria line of thinkers, was among the first of the Jesuits to think about theoretical economic topics. Though devoted to the Salamancan School and its achievement, Molina taught in Portugal at the University of Coimbra. He authored a five-volume treatise *De Justitia et Jure* (1593 and following). Molina actually solved the “value paradox” and defended private property by saying that it is secured in the commandment "thou shalt not steal". Molina’s most sophisticated writings
were on money and credit. Like Navarrus before him, he understood the relationship of money to prices, and knew that inflation resulted from a higher money supply.

(6) Juan de Mariana (1536–1624) was Jesuit, not a Salamancan, and was considered an “extremist”. In his book *De monetae mutatione* (1605), he questioned whether the king was the owner of the private property of his citizens – and came to the conclusion that he wasn’t. Mariana argued that the “tyrant is he who tramples everything underfoot and believes everything to belong to him; the king restricts his covetousness within the terms of reason and justice.”
4. The defining dispute: *Methodenstreit*


- The publication of Carl Menger’s *Grundsätze der Volkswirtschaftslehre* (1871) laid the foundations of the *Austrian School of Economics*, and it played a major role in the course of economic thought.

- Menger’s book had little immediate impact, though. Dominant in Germany was the *Historical School* under Gustav Schmoller (1838 – 1917) and his followers (such as Adolf Wagner and Karl Knies). The Historical School saw little value in abstract deduction. The Historicists were concerned only with the practical questions of *administration* and with *economic history*.

— Due to their heavy anti-market and pro-government orientation, the representatives
of the Historical School quickly earned them the sobriquet of *Kathedersozialisten*, or “Socialists of the Chair.”

— Schmoller’s agenda was against the teachings of classical economists (such as Adam Smith, Jean-Baptiste Say and David Ricardo). Schmoller and his followers denied that there were any universal social laws at all. They advocated *radical relativism* and *radical legal positivism*, the most suitable doctrines for justifying his belief in and adoration of omnipotent government.

→ The Historical School was influenced by the philosophy of Georg W. F. Hegel (1770–1831): (1) Freedom of exchange exists within civil society, but civil society is subject to control by the state. (2) Hegel’s *doctrine of internal relations* has important consequences for science: Thinking in isolated theories/models is unacceptable; there are no universal laws of economics since they presuppose that the economy can be studied separately from the rest of society. (Gordon, D. (1996))
→ *Social relativism* effectively denies any *a priori truth* of the social reality of human action, adhering to the view that "anything goes."

— Schmollerites held the view that there were only certain regularities that changed with the changing institutions of society. Government science had to study these *context-dependent regularities* and, most important, to study the concrete meaning of the “social question” at a given time and place, because this was the true basis of the “principle of social reform”—adjusting the existing social institutions to the prevailing feelings of what was right and just.

— Schmoller had a lasting influence on German economics through his personal friendship with Friedrich Althoff, a high-ranking civil servant in Prussia’s Ministry of Education, who from 1882–1907 controlled the nominations to the chairs of political economy in Prussian universities.

— This work was to be the opening blast in the *Methodenstreit*, the "battle over methods" between the Austrian School and the German Historical School.

— Menger held the view that there are economic laws, completely unaffected by time and place, and that these economic laws were “exact” laws of reality; and that the methods of the historical school were wrong in denying this and entirely unable to discover such economic laws.
5. Epistemology: rationalism versus empiricism

- Does the sun move around the earth (as your eyes would tell you)? Or is it the other way round (which goes against what your eyes are telling you): Does the earth move around the sun?

- In 1543 (just before his death), Nicolas Copernicus published his epochal book *De revolutionibus orbium coelestium* (*On the Revolutions of the Celestial Spheres*), starting the scientific revolution.

- Copernicus ended the *heliocentric model*. He showed that the observed motions of celestial objects can be explained without putting Earth at rest in the center of the universe.

- Copernicus’ work stimulated further scientific investigations, becoming a landmark in the history of science that is often referred to as the *Copernican Revolution*. 
If in *philosophy* we ask what something is, we enter the field of *metaphysics* (from Greek: *meta* = beyond, *physics* = nature).

*Epistemology*, as a branch of philosophy, is the *theory of knowledge*, dealing with the sources, scope and limits of *human knowledge* and its validation. It deals with the question such as: *How do we know things? What can we know?*

*Rationalism* grounds all our knowledge in *reason*, while *empiricism* traces all our knowledge back to *sensual experience*.

*Empiricism* rose in the 18th century, basically in *opposition to rationalism*. It not only claims experience as the principle source of knowledge, but also of evidence in the *verification of knowledge claims*.

To empiricists, basic experience through the senses provides us with all means that are
necessary to recognize objects and occurrences outside us. As a result, there is no need to assume any *overarching principles* of reason (which would contain our highest knowledge).

- **Rationalism** (which begun with René Descartes (1596–1650) also expressed by Baruch Spinoza (1632–1677), Gottfried Wilhelm Leibniz (1646–1716) and, most importantly, Immanuel Kant (1724 – 1804)) was a process of *emancipation* from dogma, basically from medieval theology: Everyone’s *rational faculty* should be the sole authority and criterion of truth. Nothing in the explanation of the unchanging principles of the natural universe is to count as truth that can be doubted and is not clearly and distinctly perceived by *reason*.

- According to rationalism, our mental constitution itself yields knowledge: knowledge that does not come to us through experience but *derives solely from principles that we possess prior to experience*. 
By intuining *self-evident propositions* and subsequently *deducing* additional information, reason – and not experience – provides us with our *highest knowledge*.

Note that *rationalists* would not maintain that we cannot gain any knowledge from experience. But whenever one becomes *scientific* – that is whenever rules and laws are to be formulated that *apply universally* – a rationalist would say that experience simply does not have the same validity as *deductive reasoning*. 
6. Refuting the claims of positivism, empiricism and historicism


- Positivism is closely associated with Auguste Comte (1798–1857), who was, at least initially, a follower of Count Henri de Saint-Simon (1760–1825).

As Hayek (1972) noted: In 1803, Saint-Simon published the Lettres d’un habitant de Genève à ses contemporains. In it, he proposed a subscription should be opened before the tomb of Isaac Newton to finance the project of a great “Council of Newton”. Each subscriber should have the right of nominating three mathematicians, three physicists, three chemists, three physiologists, three littérateures, three painters, and three musicians. This group of 21 should become the representatives of God on earth. The council, which was to basically rule the world along the lines of scientific methods, would be presided over by the mathematician who received the largest number of votes. Saint-Simon’s instruction culminates in the following sentence: “All men will work; they will regard themselves as labourers attached to one workshop whose efforts will be directed to guide human intelligence according to my divine foresight. The supreme Council of Newton will direct their works.” His “new social organization” was a precursor of modern day’s socialism.
Auguste Comte, who became secretary to Saint-Simon in 1817, is the founder of *positivism*. His contribution developed further the doctrines of his master. Comte’s best works are: *Cours de Philosophie Positive* and *Systeme de Politique Positive*. Against the backdrop of inducing *social revolution*, Comte distinguishes three phases of societal evolution: (1) the theological stage, (2) the metaphysical stage and (3) the stage in which science gains supremacy over the societal order/philosophy; this is the *positive stage*. Like human development, the sciences – namely mathematics, astronomy, physics, chemistry, biology and sociology – pass through the same three stages and finally reach the positive stage. The first science to reach the positive stage is mathematics; sociology is the last to reach it, because it treats of more concrete and complex phenomena. It is the task of philosophy to establish a "social physics" which will free the science of sociology from the theological and metaphysical prejudices that still corrupt it.

- *Positivism* is a *philosophy of science*. It rests on the assertion that *theology* and *metaphysics* are earlier imperfect sources of knowledge, and that *positive knowledge* is based on natural phenomena and their properties and relations are verified by the empirical sciences. Positivism holds that (1) sense experience is the only (and measurable) source of human knowledge; (2) the validity of metaphysical speculation must be rejected; and (3) that knowledge can come only from affirmation of theories through strict scientific method.
In the early 20\textsuperscript{th} century, \textit{logical positivism}—a stricter and more formal version of Comte's basic thesis—sprang up in Vienna and grew to become one of the dominant movements in American and British philosophy. It is an absolutist way of looking at statements and labeling them as either true, false or meaningless. A central element of logical positivism is that it rejected statements about ethics and aesthetics as being unverifiable, and therefore not a part of serious philosophical thinking.

The positivist view is sometimes referred to as a \textit{scientistic ideology}, and is often shared by \textit{technocrats} who believe in the \textit{necessity of progress through scientific progress}, and by naturalists, who argue that any method for gaining knowledge should be limited to natural, physical, and material approaches.

\textit{Empiricism} (as applied in the field of \textit{social sciences}) considers \textit{natural sciences} to be its model and can be characterised as follows:
Empiricism maintains that economic propositions have the same logical status as *laws of nature*, and it states *hypothetical relationships* between two or more events, essentially in the form of *if-then statements*.

It maintains that economic propositions require continual testing vis-à-vis experience. They can never be validated once and for all with certainty, as the economic hypothesis is forever subject to the outcome of contingent, future experience.

→ If data testing *confirms* the hypothesis, empiricism would say that it is *not validated* (once and for all), as there remains the possibility that the relationship(s) under review might be falsified by future experience (using new data and/or including explanatory variables which were hitherto “uncontrolled “).

→ If, however, data testing suggests a rejection of the hypothesis, it would not prove that the hypothesised relationship could never be observed through future testing, so it is *not falsified* either.
Empiricism is actually expressive of scepticism, which can be formulated as: *nothing can be known with certainty, and anything might be possible in the realm of economics*; it leads to a philosophy of *social and economic relativism*.

→ Perhaps most prominently, David Hume (1711–1776) rejected the notion of *causality* (which is, in terms of *praxeology*, a category of human action). Hume stated that even if we observe one event continually following another, we cannot conclude a *necessary connection* between the two (*post hoc, ergo propter hoc* fallacy).

However, upon closer examination it can be shown that *empiricism* (as well as *historicism* (as will be shown below)) is in fact a *self-contradictory doctrine*:

— The empiricist statement that all economic events are only *hypothetically* related is contradicted by the message of the basic empiricist proposition itself.

→ If this proposition is regarded as itself being merely *hypothetically true*, it would not qualify as an epistemological pronouncement. Empiricism would not provide
any justification whatsoever for its claim that economic propositions are not, and cannot, be categorically, or a priori, true.

→ If, however, we assume that the empiricist claim is categorically true, it would belie its own thesis, namely that empirical knowledge must invariably be hypothetical knowledge – thereby making room for a discipline as economics claiming to produce a priori valid (empirical) knowledge.

— Empiricism conceives of economic data as objective data, extending in time and space and being subject to quantifiable measurement. Note that measuring cannot be observed in the first place. One has to know what measuring is before one can actually do something called measuring.

→ One cannot observe someone making an observation or measurement as such in the first place. In fact, one must first understand what observations and measurements are, and thereafter one is in a position to interpret these phenomena accordingly.
As a result, empiricism must acknowledge that there is empirical knowledge which is based on understanding – something which does not, and cannot, rest on empiricism itself.

- There is another important reason why empiricism is a self-contradictory, self-defeating, doctrine, because it tacitly assumes the existence of non-empirical knowledge as “real knowledge”. This becomes obvious as the prerequisite of being able to falsify or confirm a theory on the basis of experience necessarily assumes the constancy principle.

- Experience only reveals that two or more observations regarding the temporal sequence of events can be classified as “repetition” or as “non-repetition”.

→ Example: A rise in the money supply \( M \) in \( t \) is followed by a rise in prices \( P \) in \( t + 1 \). A repetition of the event \( P \uparrow \) (in, say, \( t, t+1, t+2 \ldots t+n \)) following \( M \uparrow \) (in \( t-1, t, t+1, t+n-1 \)) is a confirmation, a non-repetition is a falsification of the
Such reasoning, however, implicitly assumes that there are constant causes which operate in time-invariant ways. Without assuming the constancy principle, the observations are and remain non-repetitive registered experiences, not in any way related events; contingency does not play any part in the way causes operate.

However, the constancy principle is not based on, or derived from, experience. There is no observable link connecting events. Even if such a link were observable, one could not say whether or not it was time-invariant.

The constancy principle cannot be disproved by experience. Any event which might appear to disprove it (such as a failure to duplicate some experience) could be interpreted as if experience had shown here that merely one particular type of event was not the cause of another (otherwise the experience would have been successfully repeated). However, to the extent that experience cannot exclude the possibility that another set of events might be found which would turn out to be time-invariant.
invariant in its way of operating, the validity of the constancy principle cannot be disproved.

- **Historicism** suggests that economic phenomena are not objective magnitudes that can be measured, but are subjective expressions and interpretations unfolding in history to be understood and interpreted by the economist – just as a literary text unfolds before and is interpreted by its reader.

  — Note that *historicism* states that nothing in the literary text (historical account), and nothing in the historical sequence of historical events, is governed by constant relations; anything that happened had to happen in the way it did.

  — The formation of human expressions (actions) and their interpretation are also not constrained by any kind of objective law. Economic events are whatever economists or historians (taking a subjective view) express or interpret them to be.

- If historicism claims that economic and historical events – which are sequences of sub-
jectively perceived events – are not governed by any constant, time-invariable relations, then this proposition cannot claim to say anything constantly true about economics and history.

- In fact, *historicism* would lead to propositions with *fleeting value*. A certain historically observed economic relation may be true now, if we wish, on one occasion, yet it may possibly be false on another occasion. However, if this is the case, then historicism must be assumed to be constrained by something outside the realm of arbitrary subjective creations:

  — If the historicist proposition is assumed to be *invariably true*, then such a proposition about the constant nature of historical and economic phenomena would contradict its own doctrine – which actually denies any such constant relationships.

  — If, however, historicism holds that economic sequences are *not* governed by constant, time-invariable relations, then this very proposition cannot claim to say anything constantly true about history and economics.
As a result, historicism cannot claim anything if it were not for the fact that its expressions and interpretations are constrained by *laws of logic* as the very presuppositions of meaningful statements as such.
7. A note on Karl R. Popper’s critical rationalism

- Karl Raimund Popper (1902 – 1994) rejects induction as a scientific method for gaining knowledge, and he proposes a continuous process of conjecture and refutation; this is his so-called critical rationalism. Most important, Popper considers all knowledge as hypothetical.

“The way in which knowledge progresses, and especially our scientific knowledge, is by unjustified (and unjustifiable) anticipations, by guesses, by tentative solutions to our problems, by conjectures. These conjectures are controlled by criticism; that is, by attempting refutations, which include severely critical tests. They may survive these tests; but they can never be positively justified: they can be established neither as certainly true nor even as ‘probable’ (in the sense of the probability calculus).”
Hoppe places Popper(ianism) in the positivistic-empiricist camp:

“Popper is in complete agreement with the fundamental assumptions of empiricism (...) and explicitly rejects the traditional claims of rationalism, i.e. of being able to provide us with a priori true empirical knowledge in general and an objectively founded ethic in particular.”


“In fact, it is only fair to say that it is Popper who contributed more than anyone else to persuading the scientific community of the modernistic, empiricist-positivist world-view.” (Ibid.)
8. *A priori* true statements – Immanuel Kant’s *Critique of Pure Reason*


- When Immanuel Kant (1724–1804) had established himself academically, *rationalism* had become a laughing stock among the members of the science scene. *Empiricism* had become state of the art in science.

- On the one hand, it is true that the *laws of nature* cannot be based on *pure reason*, on mere deductive logical thinking: it is, for instance, by no necessity of reason that water freezes at zero degree celsius; such knowledge is gained through experience.

- On the other hand, however, the empiricist doctrine implies an *intolerable scepticism*: it claims that (a large number of) our beliefs about the natural world would be either simply false or at least unjustified – such as, for instance, the idea of God, the unchanging morality determined by reason, the concept of human freedom, etc. –, none of which could be proved if sensory experience would be accepted as the sole basis of
Empiricists surrender the principle of causality (which says that all alterations take place according to the law of the connection of cause and effect). Empiricist would say that for all the human eye ever observes when things change is a succession of their different states. Causality, the necessity in this succession, is merely assumed.

- Kant tried to solve the epistemological dispute between rationalism and empiricism by showing that our knowledge of objects (natural reality in general) does not depend on the objects themselves, but that empirical objects depend on our knowledge of them. In his transcendental idealism, Kant goes far beyond the alternatives of rationalism and empiricism, and remains equidistant from both.

- Kant’s transcendental investigation deals with the conditions of our knowledge: it investigates the principles of reason insofar as they provide the rules which govern our experience and knowledge of objects.

- It is Kant’s idea that on the basis of a transcendental investigation we can establish a pure science, which formulates absolutely true laws of empirical nature contained in
the principles of reason.

- **Judgements** (Urteile) are the form in which we express our knowledge (*declarative sentence*) and, in addition, they establish objectively valid relations with objects. According to Kant, we can distinguish the following kinds of judgements:

  — *a priori* judgements – they express knowledge that is acquired prior, or independently, to experience.

  — *a posteriori* judgements – they express knowledge acquired on the basis and result of experience.

  — An *analytical judgement* is a judgement which content is restricted to what is already contained in the definition of the concept, to what we already know when we use that concept.

  — A *synthetic judgement* is a judgement about an object that provides information which is not contained in the concept of that object.
Analytical judgements should be a priori. For instance, for knowing that a bachelor is unmarried we do not have to consult experience. Or take Kant’s example: Bodies are extended. We do not need to go beyond the concept which we connect with the body in order to find that bodies are extended.

A synthetic judgement, which should be a posteriori, is, for instance, that water freezes at zero degrees celsius. It is not something which I can derive from the concept of water but only from empirical observation; the predicate adds information which was not thought in the concept before, thereby yielding a synthetic a posteriori judgement.

Now, Kant claims that there are judgements which are both synthetic and a priori – a judgement that neither repeats the meaning of the concept tautologically nor expresses new information about the object on the basis of experience.

→ “Propositions are analytic whenever the means of formal logic are sufficient in order to find out whether they are true or not; otherwise propositions are synthetic ones. And propositions are a posteriori whenever observations are necessary in order to establish their truth or at least confirm them. If observations are not necessary then propositions are a priori.” (Hoppe, 2007, pp. 18.)
According to Kant, the feature that the *human mind* possesses *a priori knowledge* to confront all sensory experience and to *shape* all empirical knowledge can be expressed in *synthetic a priori judgments*; the latter tell us something about the nature of the empirical world as the result of reason investigating itself. *Synthetic a priori judgements* express the conditions under which the objects conform to our knowledge.

“[T]he features that the mind possesses *a priori* to confront all sensory experience and to shape all empirical knowledge can be expressed in such [*a priori, TP*] judgments, and they tell us something about the nature of the empirical world as the result of reason investigating itself.”

Kant’s *transcendental investigation* (the philosophical self-reflection of ourselves as knowing subjects) is about (i) spelling out synthetic a priori judgements and (ii) explaining how they should be possible.

How can we discover a synthetic a priori judgement, then? The answer is that a synthetic a priori judgement must fulfil two requirements:
— First, it must be possible to demonstrate that the judgements is *not derived from experience* (observational evidence), as the latter can only reveal things as they happen; there is nothing in it that would indicate why things must be the way they are – observational evidence cannot establish universally valid laws (*necessity requirement*).

— Second, reflective understanding must yield judgements as *self-evident material axioms*. What makes a self-evident material axiom is the fact that no one can deny its validity *without self-contradiction*, for attempting to deny them one already presupposes its validity (*universality requirement*).

- It was Ludwig von Mises who reconstructed the science of economics on the basis of the *axiom of human action* – which he identified as *a priori synthetic proposition* in the Kantian epistemological tradition.
9. *Digression*: Some key aspects of logic


- **Logic is the science of reasoning**, or the **science of the laws of thought**.

  “By a Law of Thought we mean a certain uniformity or agreement which exists and must exist in the modes in which all persons think and reason, so long as they do not make what we call mistakes, or fall into self-contradiction and fallacy. The laws of thought are natural laws with which we have no power to interfere, and which are of course not to be in any way confused with the artificial laws of a country, which are invented by men and can be altered by them.” (Jevons, 2002, p. 1)

- The **laws of thought**:

  1. The principle of identity: *If anything is A, it is A; nothing can be A and not A.*
(2) The principle of contradiction: The principle of identity says, as noted above, that *if any proposition is true, it is true*. The principle of contradiction says: *No proposition can be true and not true (false).*

(3) The principle of the excluded middle: *Any proposition must be either true or false.*

→ “By the very laws of thought, again, no thing or class of things can be thought of but by separating them from other existing things from which they differ. I cannot use the term mortal without at once separating all existing or conceivable things into the two groups *mortal* and *immortal*; metal, element, organic substance, and every other term that could be mentioned, would necessarily imply the existence of a relative negative term, non-metallic, compound, inorganic substance, and in this respect therefore every term is undoubtedly relative.” (Jevons (2002), p. 26.)

- What is a *proposition*? A proposition may be defined as anything which can be said to be true or false. It is derived from the Latin words *pro* (which means: *before*) and *pono* (which means: *I place*).

  Example: *All metals are element*; or: *all comets are subject to the law of gravity*; or:
gold is a yellow substance.

- According to Aristotle, that about which the assertion is made is the subject, and that which is asserted about is the predicate. The subject and predicate are called the terms of the proposition; and the proposition is the synthesis of the terms by means of the copula (which is always some part of the verb “to be”).

- The form of categorical propositions:

(1) Propositions do not obviously represent a subject-predicate form. They must be (for analytical reasons) be changed to exhibit that form (standard form).

For instance, in elementary algebra it is convenient to write the quadratic equation $5x^2 = 3x - 5$ in the standard form $5x^2 - 3x + 5 = 0$. [Note that we know the roots of a general quadratic in the standard form as $ax^2 + bx + c = 0$, and so it is simple to find the numerical answer to the solution, which is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}.$$]
Take following proposition: Germany lost the last war. It must be changed into Germany is the loser of the last war. Here, “Germany” is the subject, “loser of the last war” is the predicate, and “is” is the copula.

(2) Categorical propositions can be classified on the basis of (i) quantity, (ii), quality, (iii), exclusive and exceptive propositions, and (iv) distribution of the terms.

— Re (i): Quantity aspect of categorical propositions.

Examples: All apples are juicy means that something is asserted in every apple. Some apples are tough supplies information about an indefinite part of the class of apples.

The first proposition which predicates something of all is called universal, while the second proposition which predicates an indefinite part is called a particular. The particles “all” and “some” are the signs of quantity, because they indicate how large a part of the subject the predicate affirmed.
— Re (ii): Quality aspect of categorical propositions.

Examples: In the proposition *All snakes are poisonous* the predicate is *affirmative*. In *No democracies are grateful* something is denied of the subject, it is *negative*.

A categorical proposition can be *affirmative* or *negative*. An affirmative proposition asserts the *inclusion* of one class or part of a class in another, while a negative proposition asserts the *exclusion* of one class or part of a class from another.

— Re (iii): Exclusive and exceptive propositions.

Examples: We may state something as *exclusive propositions* such as *The wicked alone are happy*, or *only the lazy are poor*. Examples for *exceptive propositions* are *All students except freshman may smoke*, and *All but a handful*
were killed.

In an *exclusive* proposition something is predicated of something else in an exclusive fashion. In an *exceptive* proposition the predicate is denied of some part of the denotation of the subject.

— *Re (iv): Distribution of terms.*

Examples: *All S is P* – this proposition has a *distributed subject* and an *undistributed* predicate. *Some S is P* – in this proposition the subject *and* the predicate are *undistributed*.

A term is said to be *distributed* if reference is made to all the individuals denoted by it. A term will be said to be *undistributed* if reference is made to an *indefinite part* of the individuals which it denotes.

- The relations between *categorical propositions* (Note that a *categorical proposition*
contains two categorical terms – the subject and the predicate):

(1) Independent proposition means that two propositions are independent if the truth-value of one of them in no way determines/limits the truth-value of the other.

Example: Pericles had two sons (proposition 1), and Hertz discovered electric waves (proposition 2).

(2) Equivalent proposition means that there are several ways of saying the same thing.

— Example: No agricultural country is tolerant on religious questions. This sentence contains the same information as: No countries tolerant on religious questions are agricultural.

→ The sentences have the same terms as subject and predicate. The subject of the first is the predicate of the second, and the predicate of the first is the subject of the second.
The second proposition is the converse of the first: Conversion is the process by which a proposition passes to another that has the same truth-value, and in which the order of subject and predicate is interchanged.

—Example: All employees are welcome. The valid conclusion is: No employees are unwelcome.

Note that there are two kinds of proposition as regards quality (namely universal and particular) and quantity (namely affirmative and negative), which form four varieties:

- Other example:  
  A. All republics are ungrateful. 
  E. No republics are ungrateful. 
  I. Some republics are ungrateful. 
  O. Some republics are not ungrateful.
Proposition, universal, affirmative (A.):
“All metals are elements.”

Proposition, particular, affirmative (I.):
“All some metals are brittle.”

Proposition, universal, negative (E.):
“No metals are compound substances.”

Proposition, particular, negative (O.):
“Some metals are not brittle.”

Source: Jevons (1888), Lesson VIII, Kinds of Propositions, pp. 60 – 71.
The relation of the propositions just described are shown in the following scheme:

- Two propositions are *subcontraries* if they are both particular statements that differ in quality.
- Two propositions are *subalternate* if they have same quality but differ in quantity.
- Two universal categorical propositions with the same subject and predicate are *contraries* if one is an affirmation and the other a denial.
- Two categorical propositions are *contradictories* if they are opposed in both quantity and quality.

A and O are **contradictory propositions**.

A and E are **contrary propositions**.

I and O are **subcontrary propositions**.

A and I and E and O are **subaltern propositions**.

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10. Ludwig von Mises’s *praxeology* – the *axiom of human action*


- Following the epistemological approach of Immanuel Kant, Ludwig von Mises demonstrated the *existence of true synthetic a priori propositions in the field of economics*.

- Mises showed that both requirements for a *true synthetic a priori proposition* are fulfilled by what he terms the (material) *axiom of human action* – that is the proposition that humans act, that they display intentional behaviour:

  — The *axiom of action is not derived from observation*: One can only observe bodily movements, but no such thing as action. The axiom of action stems from reflective understanding (*transcendental investigation*).
— The *axiom of action is a self-evident proposition*: Its truth cannot be denied, since denying it would itself have to be categorized as an action.

- *Praxeology* is the science of the logic of human action, and *economics* is the best developed subdivision of praxeology. Praxeological analysis takes as its fundamental premise the existence of *human action*. Once it is demonstrated that *action* is a necessary attribute of the existence of human beings, the rest of praxeology (and its subdivision, economic theory) consists of the elaboration of the *logical implications of the axiom of action*.

- To Mises, an adherent of *Kantian epistemology*, the concept of action is a priori to all experience, because it is, like the law of cause and effect, part of "the essential and necessary character of the logical structure of the human mind." (Mises (1996), HA, p. 34).
“All human beings act by virtue of their existence and their nature as human beings. (...). It is this fundamental truth—this axiom of human action—that forms the key to our study. The entire realm of praxeology and its best developed subdivision, economics, is based on an analysis of the necessary logical implications of this concept.”

“It is one of Mises’s greatest achievements to have shown precisely that there are insights implied in this psychologically speaking trivial axiom of action that were not themselves psychologically self-evident as well; and that it is these insights which provide the foundation for the theorems of economics as true a priori synthetic propositions.”

From the praxeological viewpoint, economic analysis is of the form:

(1) Assert \( A \)—action axiom.
(2) If $A$, then $B$; if $B$, then $C$; if $C$, then $D$, etc.—by rules of logic.

(3) Therefore, we assert (the truth of) $B$, $C$, $D$, etc.

- The relationship and the distinction between praxeology and other scientific disciplines may described as follows:

  (i) Why man chooses various ends: psychology.

  (ii) What men’s ends should be: philosophy of ethics (also: philosophy of aesthetics).

  (iii) How to use means to arrive at ends: technology.

  (iv) What man’s ends are and have been, and how man has used means in order to attain them: history.
(v) Elaborating the logical implications of the axiom of human action: *praxeology*.

→ *Praxeology* and *economics* are therefore disciplines separate and distinct from the other sciences.

- On the importance of *theory*

  — A *scientific theory* is an attempt to achieve some form of systematic understanding of an aspect of the world of *experience* – typically expressed in the form of an explanatory power and predictive fertility.

  → “Thinking and acting are inseparable. Every action is always based on a definite idea about causal relations. He who thinks a causal relation thinks a theorem. Action without thinking, practice without theory are unimaginable. The reasoning may be faulty and the theory incorrect; but thinking and theorizing are not lacking in any action.”

→ “[T]hinking is always thinking of a potential action. Even he who thinks of a pure theory assumes that the theory is correct, i.e., that action complying with its content would result in an effect to be expected from its teachings. It is of no relevance for logic whether such action is feasible or not.”

→ “There is no such thing as a mere recording of unadulterated facts apart from any reference to theories. As soon as two events are recorded together or integrated into a class of events, a theory is operative.”

— Employing a theory (an idea of putting together in a systematic fashion the knowledge one has of aspects of reality) is indispensible for observing "facts." There is no ‘presuppositionless observation of 'facts’. The notion of "letting the facts speak for themselves" without taking recourse to a theory is nonsensical.
Take, for instance, the following two observations:
1. In the last decades, the fiat money supply rose 200 percent year to year, while real GDP increased 50 percent year to year.
2. In the last decades, government tax revenues rose from 10 percent to 50 percent of GDP, while per capita income increased 40 percent.

How can we make sense of these findings? Did real GDP increase because of a rise in the fiat-money supply, or did real GDP go up despite a rise in the fiat-money supply? Likewise, one can ask: Did real GDP increase because or despite a rise in taxes? Historical data are logically compatible with any of these rival interpretations, and as such man has no way of deciding in favour of one or the other.

Or take the following example:
An economic theory says that most forms of social misery – poverty, war and imperialism – are the result of the capitalist free-enterprise system, or capitalism, for that matter. This reason is, first, that the entrepreneurs’ search for profit makes the working class to receive less for its contribution to production than its due. Second, the working class’s inability to buy all the goods it has helped to produce. And third, one of the evils will follow: either a decline in production in the domestic market; or, with domestic consumption and investment opportunities at an end, a search for new markets elsewhere. The result is therefore either domestic recession and unemployment or imperialism and war. If this (Marxist) theory is correct, and if unemployment and war shall be avoided, capitalism has to be eliminated and socialism established.

How do we know that this theory is correct? Or: Can we know that this theory is correct or false without putting it to a test (that is making a social experiment)?

— How do we know, and how can we make sure, that we employ a correct theory?
Fortunately, in social science a satisfactory answer can be given to these questions by taking recourse to a priori theory — meaning propositions that provide true knowledge about reality, and whose truth value can be validated independent of experience.

- **A priori theory**

“If one is to make a rational choice among such rival and incompatible interpretations, this is only possible if one has a theory at one’s disposal, or at least a theoretical proposition, whose validity does not depend on historical experience but can be established a priori, i.e., one and or all by means of the intellectual apprehension or comprehension of the nature of things.”


— **A priori theory** means that there are propositions (knowledge) about reality which can be validated independent of experience. Consider some examples of a priori theory:
(i) No two objects can occupy the same place.
(ii) Whatever is green all over cannot be red all over.
(iii) Objects are extended.
(iv) If $A$ is part of $B$, and $B$ is part of $C$, then $A$ is part of $C$.

→ *A priori theory* (apriorism) provides us with *universally valid knowledge*, knowledge that is *a priori* to experience.

![Graph: Real GDP growth relative to public debt-to-GDP level](image)

**Source:** IMF database, own calculations.

**Sample:** 1980 to 2010. Countries included: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, United Kingdom, United States.
11. Logically-deducted inferences from the *axiom of action*


- The *axiom of human action* means that humans act. It is impossible to think otherwise.

  → Rothbard (2006) said on the issue of the *impossibility of indifference*: “Indifference can never be demonstrated by action. Quite the contrary. Every action necessarily signifies a choice, and every choice signifies a definite preference. Action specifically implies the contrary of indifference. The indifference concept is a particularly unfortunate example of the psychologizing error. Indifference classes are assumed to exist somewhere underlying and apart from action. This assumption is particularly exhibited in those discussions that try to "map" indifference curves empirically by the use of elaborate questionnaires.”

- Human action can be undertaken only by *individual actors*. Only individuals have ends and can act to attain them. There are no such things as ends of or actions by *groups*,
collectives, or states – as the latter are expressive of actions by various specific indi-
viduals; collectives have no independent existence.

- One of the implications which can be logically deduced from the irrefutably true axiom
of human action is that human action is purposeful (or: conscious) action: action is di-
rected at attaining certain ends.

→ The insight that human action is purposeful action is not related to psychology. The
latter aims at explaining the workings of the mind of a person and the motives that lead
to action. Praxeology is strictly confined to the logic of human action.

→ To Mises, non-purposeful actions are the workings of the body (the beating of the
heart, breathing etc.) and reflexive, involuntary, responses to stimuli (noise-flinching).
Non-purposeful action has the same status as external data: The general conditions
under which human action, the purposeful action, take place.

→ Is it possible to draw an exact line between purposeful and non-purposeful action?
The answer is *yes*: Human action is sharply distinguishable from those observed movements which, from the point of view of man, are not purposeful. The latter include all the observed movements of inorganic matter and those types of human behavior that are purely reflex, that are involuntary responses to certain stimuli. Human action, on the other hand, can be *meaningfully interpreted* by other men, for it is governed by a purpose that the actor has in view.

→ “People are sometimes prepared to believe that the boundaries between conscious behavior and the involuntary reaction of the forces operating within man’s body are more or less indefinite. This is correct only as far as it is sometimes not easy to establish whether concrete behavior is to be considered voluntary or involuntary. But the distinction between consciousness and unconsciousness is nonetheless sharp and can be clearly determined.” (Mises (1996), HA, p. 11)

→ “[I]t would simply be silly to deny the fact that man manifestly behaves as if he were really aiming at definite ends. Thus the denial of purposefulness in man's attitudes can be sustained only if one assumes that the choosing both of ends and of means
is merely apparent and that human behavior is ultimately determined by physiological events which can be fully described in the terminology of physics and chemistry. Even the most fanatical champions of the 'Unified Science' sect shrink from unambiguously espousing this blunt formulation of their fundamental thesis. There are good reasons for this reticence. So long as no definite relation is discovered between ideas and physical or chemical events of which they would occur as the regular sequel, the positivist thesis remains an epistemological postulate derived not from scientifically established experience but from a metaphysical world view.”

“In order to institute action, it is not sufficient that the individual man have unachieved ends that he would like to fulfil. He must also expect that certain modes of behavior will enable him to attain his ends. A man may have a desire for sunshine, but if he realizes that he can do nothing to achieve it, he does not act on this desire. He must have certain ideas about how to achieve his ends.”
Men find themselves in a certain environment, or situation, consisting of elements which he believes he cannot control (general conditions) and those which he can alter to achieve his ends (means). It is this situation that the individual decides to change in some way in order to achieve his ends. To act, he must have technological ideas about how to use some of the elements of the environment as means, as pathways, to arrive at his ends.

“All human life must take place in time. Human reason cannot even conceive of an existence or of action that does not take place through time. At a time when a human being decides to act in order to attain an end, his goal, or end, can be finally and completely attained only at some point in the future. If the desired ends could all be attained instantaneously in the present, then man’s ends would all be attained and there would be no reason for him to act; and we have seen that action is necessary to the nature of man. All action aims at rendering conditions at some time in the future more satisfactory for the actor than they would have been without the intervention of the action.”
“A man’s time is always scarce. He is not immortal; his time on earth is therefore limited. Each day of his life has only 24 hours in which he can attain his ends. Furthermore, all actions must take place through time. Thus, time is a means that man must use to arrive at his ends. It is a means that is omnipresent in all human action.”

→ Time is scarce for man because whichever ends he chooses to satisfy, there are others that must remain unsatisfied. When using a means some ends remain unsatisfied, and the necessity for a choice among ends arises.

Example: Mr Jones is engaged in watching a baseball game on television. He is faced with the choice of spending the next hour in:
(a) continuing to watch the baseball game,
(b) playing bridge, or
(c) going for a drive.

He would like to do all three of these things, but his means (time) wouldn’t allow him
to do so, and so he must choose; one end can be satisfied, but the others must go unfulfilled. Suppose that he decides on course (a). This is a clear indication that he has ranked the satisfaction of end (a) higher than the satisfaction of ends (b) or (c) – this is called demonstrated preference.

Against this backdrop, we can deduce a number of implications:

(1) *All means are scarce*, i.e., limited with respect to the ends that they could possibly serve. If means were in unlimited supply, then they would not need to serve as the object of attention of any human action.

(2) Scarce means must be allocated by the actor to serve certain ends and leave other ends unsatisfied. This act of choice may be called *economizing the means to serve the most desired ends*. Time, for example, must be economized by the actor to serve the most desired ends. The actor ranks his alternative ends in accordance with their *value* to him. This scaling of ends may be described as *valuation*. 
How do we know that it follows from the *axiom of action* that an actor always will act on attain his *most highly valued end*? In *Human Action* (1996, p. 95) Mises explains:

“(…) the scale of values or wants manifests itself only in the reality of action. These scales have no independent existence apart from the actual behaviour of individuals. The only source from which our knowledge concerning these scales is derived is the observation of a man’s action. Every action is always in perfect agreement with the scale of values or wants because these scales are nothing but an instrument for the interpretation of a man’s acting.”

In view of the example above, Mr Jones’ scale of values or scale of preferences would look like this:

(First) 1. Continuing to watch the baseball game
(Second) 2. Going for a drive
(Third) 3. Playing bridge
[Note that the larger the supply of means available is, the more ends can be satisfied, and the lower the rank of the ends that must remain unsatisfied.]

(3) *Action* does not necessarily mean that the individual is “active” as opposed to “passive,” in the colloquial sense. Action does not necessarily mean that an individual must stop doing what he has been doing and do something else. He also acts who chooses to continue in his previous course, even though the opportunity to change was open to him. Continuing to watch the game is just as much action as going for a drive.

(4) “Another fundamental implication derived from the existence of human action is the *uncertainty of the future*. This must be true because the contrary would completely negate the possibility of action. If man knew future events completely, he would never act, since no act of his could change the situation. Thus, the fact of action signifies that the future is uncertain to the actors.”

→ Uncertainty about future events stems from two basic sources: “the unpredict-
ability of human acts of choice, and insufficient knowledge about natural phenomena. Man does not know enough about natural phenomena to predict all their future developments, and he cannot know the content of future human choices. All human choices are continually changing as a result of changing valuations and changing ideas about the most appropriate means of arriving at ends.”

This does not mean, of course, that people do not try their best to estimate future developments: “Indeed, any actor, when employing means, estimates that he will thus arrive at his desired goal. But he never has certain knowledge of the future. All his actions are of necessity *speculations* based on his *judgment* of the course of future events. The omnipresence of uncertainty introduces the ever-present possibility of *error* in human action. The actor may find, after he has completed his action, that the means have been *inappropriate* to the attainment of his end.”

Further on the *means* of human action:
— The *means*, subject to economizing action, to satisfy man’s wants are called *goods*. Such goods may be classified in either of two categories: (i) immediately and *directly serviceable* in the satisfaction of the actor’s wants, or (ii) transformable into directly serviceable goods only at some point in the future—*indirectly serviceable means*. The former are called consumption goods or *consumer goods* or *goods of the first order*. The latter are called producers’ goods or factors of production or *goods of higher order*.

— *Production is made in stages*. Each stage of production takes time. The factors of production may all be divided into two classes: those that are themselves produced, and those that are found already available in *nature*. The latter may be used as indirect means without having been previously produced; the former must first be produced with the aid of factors in order to aid in the later (or *lower*) stages of production. The former are the produced factors of production; the latter are the original factors of production. The original factors may, in turn, be divided into two classes: the expenditure of human energy, and the use of nonhuman elements provided by nature. The first is called labor; the latter is *nature* (or *land*). Thus, the classes of
factors of production are labor, land, and the produced factors, which are termed *capital goods*.

— The *end of the production process*—the consumer good—is valued because it is a direct means of satisfying man’s ends.

— The factors of production—the various higher-order producers’ goods—are *valued solely because of their anticipated usefulness in helping to produce future consumers’ goods or to produce lower-order producers’ goods that will help to bring about consumers’ goods*. The valuation of factors of production is derived from actors’ evaluation of their products (lower stages), all of which eventually derive their valuation from the end result—the consumers’ good.

- Further on the role of *time* in human action:

— As noted earlier, *time* is omnipresent in human action as a means that must be *economized*. 
A fundamental and constant truth about human action is that \textit{man prefers his end to be achieved in the shortest possible time}. 

Given the specific satisfaction, the sooner it arrives, the better it is. This results from the fact that time is always scarce, and a means to be economized. 

With any \textit{given end} to be attained, the shorter the period of action, i.e., production, the more preferable for the actor; this is the \textit{universal fact of time preference}. 

At any point of time, and for any action, the actor most prefers to have his end attained in the immediate present. Next best for him is the immediate future, and the further in the future the attainment of the end appears to be, the less preferable it is. \textit{The less waiting time, the more preferable it is for him}. 

Further on the role of \textit{ends} and \textit{values} in human action:
— All *action* involves the employment of *scarce means* to attain the most *valued ends*. Man has the *choice* of using the scarce means for various alternative ends, and the ends that he chooses are the ones he values most highly. The less urgent wants are those that remain unsatisfied. Actors can be interpreted as *ranking* their ends along a scale of values, or *scale of preferences*.

— These scales of preference *differ for each person*, both in their content and in their orders of preference. Furthermore, they differ for the same individual at different times.

Back to our example, Mr Jones might change his preference scale as follows:

(First) 1. Going for a drive
(Second) 2. Playing bridge
(Third) 3. Continuing to watch baseball game

A new end might have been introduced in the meantime, so that the actor might enjoy going to a concert, and this may change his value scale to the following:
The choice of which ends to include in the actor’s value scale and the assignment of rank to the various ends constitute the process of value judgment. Each time the actor ranks and chooses between various ends, he is making a judgment of their value to him.

— These scales of preference may be called happiness or welfare or utility or satisfaction or contentment. Whenever an actor has attained a certain end, he has increased his state of satisfaction, or his contentment, happiness, etc. Conversely, when someone considers himself worse off, and fewer of his ends are being attained, his satisfaction (happiness, welfare, etc.) has decreased.
12. The law of diminishing marginal utility


- The law of marginal utility reads as follows:

  “There are … two laws of utility, both following from the apodictic conditions of human action: first, that given the size of a unit of a good, the (marginal) utility of each unit decreases as the supply of units increases; second, that the (marginal) utility of a larger-sized unit is greater than the (marginal) utility of a smaller sized unit. The first is the law of diminishing marginal utility. The second has been called the law of increasing total utility. The relationship between the two laws and between the items considered in both is purely one of rank, i.e., ordinal.”

- The law of diminishing marginal utility is attributed to the work of Hermann Heinrich Gossen (1810–1858), Leon Walras (1834–1923), Carl Menger (1840–1921) and Wil-

- While Gossen, Walras and Jevons explained it by taking recourse to the *psychological law of want satisfaction*, Menger showed that the law of diminishing marginal utility follows directly and logically from the *axiom of human action*.

- In what follows it will be shown how the *law of marginal utility can be logically derived from the axiom of human action*, and that the law of marginal utility is thus *irrefutably true*; it is *not* related the *psychology*, as maintained in *mainstream economics*.

(1) On *utility* and the impossibility of *measuring* utility

- Utility is defined as *want satisfaction, happiness, or contentment*. Whatever the term, utility denotes that an actor has attained a certain end, that he has *increased* his utility. Conversely, when someone considers himself worse off, and fewer of his ends are being attained, his utility *decreased*.
It is impossible to measure increases or decreases in utility. Not only is it impossible to measure or compare changes in the utility of different people; it is also not possible to measure changes in the happiness of any given person. Why is this?

— For any measurement to be possible, there must be an eternally fixed and objectively given unit with which other units may be compared. However, there is no such objective unit in the field of human valuation – as there is in natural sciences (where you can measure metres, temperatures, etc.).

— The individual must determine subjectively for himself whether he is better or worse off as a result of any change. His preference can only be expressed in terms of simple choice, or rank. Thus, he can say, “I am better off” or “I am happier” because he went to a concert instead of playing bridge (or “I will be better off” for going to the concert), but it would be completely meaningless for him to try to assign units to his preference and say, “I am two and a half times happier because of this choice than I would have been playing bridge.” Two and a half times what?
There is no possible unit of happiness that can be used for purposes of comparison and, hence, of addition or multiplication. Thus, values cannot be measured; values or utilities cannot be added, subtracted, or multiplied. They can only be ranked as better or worse.

An economic good (to which utility is attached), and increments in the size of the economic good, can be described in physical terms: The good and its increments extend in space and can therefore be measured and counted in unitary quantitative addition.

The utility assigned to a physical good and its unitary physical increments is purely intensive in magnitude. It does not extend in space. As a result, it is immeasurable and intractable by unitary counting and the rules of arithmetic. As an intensive magnitude, utility can be treated only ordinally; it is impossible to construct a cardinal measure of utility. Utility can be treated only as a rank order on a one-dimensional preference scale of the individual.
The individual actor knows whether he has experienced psychic profit or psychic loss as a result of his action; he knows which of his wants are more urgent than others, and he knows when his condition has improved or deteriorated.

If someone’s expectation turns out to be correct, he has made a net gain in his state of satisfaction (utility). If he has been in error, he has suffered a net loss.

The psychic gain (profit) or loss cannot be measured, though. All action involves exchange—exchange of one state of affairs, $X$, for another state of affairs, $Y$, which the actor expects will be a more satisfactory one (and therefore rank higher on his value scale).

- Keep in mind: Action is indicative of preference, or valuation. Individual action ranks, or grades, according to action man’s preference in the sense of “better” or “worse”. From a praxeological viewpoint, all human action is an attempt to exchange a less satisfactory state of affairs for a more satisfactory one. The actor finds himself
in a non-perfect state, and by taking action he demonstrates that he wishes to improve his state of affairs.


— Scarcity is a universal fact; it logically follows from the **axiom of human action**. All means are scarce, i.e., limited with respect to the ends that they could possibly serve.

— “[T]he external world to which acting man must adjust his conduct is a world of quantitative determinativeness. In this world there exist quantitative relations between cause and effect. If it were otherwise, if definite things could render unlimited services, such things would never be scarce and could not be dealt with as means.” (Mises, 1996, HA, p. 119)

(2) On *marginal* utility
The term “marginal utility” refers to the *utility of increments of goods* (which has nothing to do with measurability); it does *not* refer to increments of utility (which would imply measurability).

— In the *neo-classical theory*, utility is typically assumed to be measurable. The term “marginal” in marginal utility is understood as the equivalent to the “marginal” of the *differential calculus*. In integral calculus, a total “something” is the integral of marginal “somethings.” It therefore does not take wonder that (neo-classical) economists assume that “total utility” was the mathematical integral of a series of “marginal utilities.”

— *Neoclassical economists* assume, for example, that the marginal utility of a good with a supply of six units is equal to the “total utility” of six units minus the “total utility” of five units. If utilities can be subjected to the arithmetical operation of subtraction, and can be differentiated and integrated, then obviously the concept of marginal utility must imply cardinally measurable utilities.
For the concept of *marginal utility*, the important consideration is the relation between the unit to be acquired, or given up, and the quantity of supply (stock) *already available* to the actor.

— If no units of a good (whatever the good may be) are available, the first unit will satisfy the most urgent wants that such a good is capable of satisfying.

— If to the supply of one unit a second unit is added, the latter will fulfil the most urgent wants remaining, but these will be less urgent than the ones the first fulfilled. The value of the second unit to the actor will be less than the value of the first unit.

Thus, for all human actions, as the quantity of the supply (stock) of a (homogeneous) good increases, the utility (value) of each additional unit decreases.

(3) *Example I*. If the supply of the good is 6 units, then the first six ends, ranked in order of importance by the valuing individual, are the ones that are being satisfied. Ends
ranked 7–10 remain unsatisfied.

— If we assume that we have 6 units, then the first unit goes to satisfy end 1, the second unit goes to serve end 2, and so on.

— Now, suppose the actor is faced with the necessity of giving up one unit of his stock (from 6 down to 5 units). He gives up satisfying the end ranked sixth, and continues to satisfy the more important ends 1 to 5.

— As a result of the *interchangeability of units*, it does not matter to him which of the six units he must lose; the point is that he will give up serving this sixth end. The actor gives up the lowest-ranking want that the original stock (in this case, six units) was capable of satisfying.
— This one unit that he must consider giving up is called the *marginal unit*, it is the unit *at the margin*. The least important end fulfilled by the stock is known as the satisfaction provided by the *marginal unit*, or the *utility of the marginal unit* – in short: the *marginal utility*.

— If the marginal unit is one unit, then the marginal utility of the supply is the *end that must be given up* as the result of a loss of the unit. In the diagram above, the marginal utility is ranked sixth among the ends. If the supply consisted of four units, and the actor is faced with the necessity of giving up one unit, then the value of the marginal unit, or the marginal utility, would have a rank of four.

— *The greater the supply of a good, the lower the marginal utility; the smaller the supply, the higher the marginal utility.* This fundamental law of economics has been derived from the fundamental axiom of human action; it is *the law of marginal utility*. 
(4) Example II. Let us consider the relationship between two goods, $X$ and $Y$ (note that more than one good exists in human action). The diagrams show the relationship between the supply of $X$ and $Y$ and their respective marginal values. End $Y-1$ is
ranked highest, then ends $X-1$, $X-2$, and $X-3$, and then $Y-2$; $Y-3$; $X-4$; $Y-4$; $X-5$; $Y-5$; $X-6$; $X-7$; $Y-6$; $Y-7$.

— Assume that the supply situation for Mr Smith is $4X$ and $3Y$. Now Mr Smith has to give up one unit of $X$ or $Y$.

→ The marginal utility of each good is equal to the value of the least important end of which he would be deprived. Mr Smith will thus compare the marginal utility of $X$ with the marginal utility of $Y$.

→ In this case, the marginal unit of $X$ has a rank of $X-4$, and the marginal unit of $Y$ has a rank of $Y-3$. But the end $Y-3$ is ranked higher on his value scale than $X-4$. Hence, the marginal utility of $Y$ is in this case higher than (or greater than) the marginal utility of $X$.

→ Since he will give up the lowest possible utility, he will give up one unit of $X$. Thus, presented with a choice of units of goods to give up, he will give up the good
with units of lowest marginal utility on his value scale.

— Now suppose that the supply is 3X and 2Y. He has the alternative of giving up 1X or 1Y. In this case, the marginal utility of Y is ranked at Y-2, and that of X is ranked at X-3. X-3 occupies a higher position on his value scale than Y-2. As a result, Mr Smith gives up a unit of Y.

— Now suppose Mr Smith has 3X and 3Y, and that he must make a choice between adding one unit of X or one unit of Y. Since the marginal utility of the increased X is greater than that of Y, he will choose to add the unit of X and to arrive at a position of (4X, 3Y) rather than (3X, 4Y).

- The law of diminishing marginal utility is *self-evidently true, it is not merely an ad hoc assumption* (Mises, 1996, HA, p. 124):

  “The law of marginal utility and decreasing marginal value is independent of Gossen’s law of the saturation of wants (first law of Gossen). In treating marginal utility we
deal neither with sensuous enjoyment nor with saturation and satiety. We do not transcend the sphere of praxeological reasoning in establishing the following definition: We call that employment of a unit of a homogeneous supply which a man makes if his supply is $n$ units, but would not make if, other things being equal, his supply were only $n-1$ units, the least urgent employment or the marginal employment, and the utility derived from it marginal utility. In order to attain this knowledge we do not need any physiological or psychological experience, knowledge, or reasoning. It follows necessarily from our assumptions that people act (choose) and that in the first case acting man has $n$ units of a homogeneous supply and in the second case $n-1$ units. Under these conditions no other result is thinkable. Our statement is formal and aprioristic and does not depend on any experience.”
DIGRESSION: THE NEO-CLASSICS ON THE LAW OF DIMINISHING MARGINAL UTILITY

Because of its wide-spread use, the law of diminishing marginal utility shall be briefly outlined as formulated by neo-classical economists. To start with, an individual’s utility can be formalised as:

\[
U = f(x_1, x_2, ..., x_n),
\]

that is his/her utility is determined by consuming goods \(x_1, x_2, ..., x_n\).

It is assumed that the marginal utility from consuming one unit more of, say, \(x_1\) is positive:

\[
\frac{\partial U}{\partial x_1} = f'_1 > 0.
\]

This condition reflects the assumption of non-satisfaction.
Further, it is assumed that with growing consumption of $x_1$ the marginal utility declines:

\[
(3) \quad \frac{\partial^2 U}{\partial x_1^2} = f_1'' < 0.
\]

Equation (2) and (3) reflect the First Law of Gossen.

Furthermore, it is assumed that marginal utility from consuming one unit more of $x_1$ increases if one unit more of the other good $x_2$ is consumed.

\[
(4) \quad \frac{\partial^2 U}{\partial x_1 \partial x_2} = f_{12}'' > 0.
\]

The graph below shows the utility function for varying levels of $x_1$ given two differ-
ent level of $x_2$.

Fig. X. – Utility function

Now assume that, for simplicity, there is a given level of utility, $\bar{U}$, which depends on the levels of $x_1$ and $x_2$:

(5) $\bar{U} = f(x_1, x_2)$ or, when solving for $x_1$

(6) $x_1 = \hat{f}(x_2, \bar{U}) = \hat{f} = (x_2)$. 
Equation (6) is the so-called indifference curve, that is the locus of all combinations of $x_1$ and $x_2$ which yield the same level of utility $\bar{U}$. This curve is graphically displayed in the graph below.

Fig. X. – Indifference curve for a given level of utility, $\bar{U}$

The slope at any point on an indifference curve equals the rate at which the consumer is willing to substitute one good for another. This rate is called the *marginal rate of substitution* (MRS). It shows how much of a good someone requires in order to be
compensated for a one unit reduction in the consumption of another good. The MRS can be calculated by the total differential of the utility function:

\[ dU = f_1' dx_1 + f_2' dx_2, \]

where \( d \) are small (but not infinitesimal small) changes.

Along the indifference curve we have:

\[ 0 = f_1' dx_1 + f_2' dx_2, \] or equally:

\[ \frac{f_2'}{f_1'} = - \frac{dx_1}{dx_2}. \]

That said, the MRS for substituting \( x_1 \) through one additional unit of \( x_2 \) equals the reciprocal of the marginal utilities for the goods under review (with a negative sign).
13. The *valuation paradox*

- Why do diamonds (typically) have a higher *exchange value*, or *price*, than water – especially so as diamonds are a mere *luxury* while water is *essential to life*?

- Things are valued as means in accordance with their ability to attain ends valued as more or less urgent, and each *unit of a means* that enters into human action is valued *separately*. The actor is interested in evaluating only those units of means that enter, or that he considers will enter, into his concrete action. *A given choice is made on the margin:*

  — Actors choose between, and evaluate, not “coal” or “butter” in general, but *specific units* of coal or butter. This insight actually solves the *value paradox*.

  — For instance, in choosing between acquiring cows or horses, the actor does not choose between the *class of cows* and the *class of horses*, but between *specific units* of them—e.g., two cows versus three horses. Each unit that enters into concrete ac-
tion is graded and evaluated separately. Only when several units together enter into human action are all of them evaluated together.

- If having a choice, most people would opt for the diamonds because the marginal utility of those particular diamonds is higher than the marginal utility of a particular cup of water. *The issue is one of relative scarcity.*

- The *interchangeability* of units in the supply of a good does not mean that the concrete units are actually valued equally. They may and will be valued differently whenever their position in the supply is different.

*Example:* Suppose that the isolated individual successively finds one horse, then a second, then a third. Each horse may be *interchangeable* with the others.

(i) The *first horse* will fulfil the most urgent wants that a horse can serve; this follows from the universal fact that action uses scarce means to satisfy the most urgent of the not yet satisfied wants.
(ii) The second horse will be put to work satisfying the most urgent of the wants remaining. These wants, however, must be ranked lower than the wants that the previous horse has satisfied.

(iii) Similarly, the third horse acquired might be capable of performing the same service as the others, but it will be put to work fulfilling the highest of the remaining wants—which, however, will be lower in value than the others.

→ Result: The first horse will be valued more highly than the second horse; and the latter will be valued more highly than that third horse, and so on.

- In Principles of Economics (1871), Carl Menger wrote: “Value is ... nothing inherent in goods, no property of them, but merely the importance that we first attribute to the satisfaction of our needs ... and in consequence carry over to economic goods as the ... causes of the satisfaction of our needs.”
14. Digression: The Keynesian world of no scarcity

- What does the 45° line in the aggregate demand output space mean? It means that there is no scarcity – which is a praxeological impossibility! It implies that all what is demanded can be supplied; there is no economic problem!

- Indeed, in Keynesian economics, it is (always) aggregate demand that determines output and employment.

- If overall output is lower than desired, *increase demand* (by fiscal and/or monetary policies) the Keynesians will tell us! If the private sector doesn’t demand enough,
make the government demand more goods and services – for increasing output and creating jobs!

“(...) [T]he theory of output as a whole, which is what the following book purports to provide, is more easily adapted to the conditions of a totalitarian state, that is the theory of the production and distribution of a given output produced under conditions of free competition and a large measure of laissez-faire.”

15. Mises: *Methodological dualism*


- According to Mises’s *methodological dualism*, human action must be analysed with a methodology which is radically *different from natural sciences* (such as, for instance, physics, etc.).

- “What differentiates the realm of the natural sciences from that of the sciences of human action is the categorical system resorted to in each in interpreting phenomena and constructing theories.”
  (Mises (2007 [1957]), T&H, p. 240.)

- “The natural sciences do not know anything about final causes; inquiry and theorizing are entirely guided by the category of causality. The field of the sciences of human action is the orbit of purpose and of conscious aiming at ends.”
  (Mises (2007 [1957]), T&H, p. 240.)
“The natural science must refrain from dealing with final causes because they are unable to discover any final causes, not because they can prove that no final causes are operative. (...) The reason for the natural sciences’ neglect of final causes and their exclusive preoccupation with causality research is that this method works.” (Mises (2007 [1957]), T&H, p. 247-8.)

The science of human action (praxeology) is fundamentally different from natural sciences. The reason is that human beings act. They have objectives and purposes, and they try to achieve them through purposeful action.

“Stones, atoms, planets, have no goals or preferences; hence, they do not choose among alternative courses of action. Atoms and planets move, or are moved; they cannot choose, select paths of action, or change their minds. Men and women can and do. Therefore, atoms and stones can be investigated, their courses charted, and their paths plotted and predicted, at least in principle, to the minutest quantitative detail. People cannot; every day, people learn, adopt new values and goals, and change their minds;
people cannot be slotted and predicted as can objects without minds or without the ca-
pacity to learn and choose.”
—Rothbard, M. N. (1985), Introduction to Mises’s T&H.

- Individuals’ actions cannot be investigated following the procedures of natural sci-
ences. People learn, change their preferences and adopt new values and goals (from one moment to the other). Human action cannot be analysed and predicted as can ob-
jects without minds or without the capacity to learn and choose.

- “Concrete value judgments and definite human actions are not open to further analysis. We may fairly assume or believe that they are absolutely dependent upon and condi-
tioned by their causes. But as long as we do not know how external facts—physical and physiological—produce in a human mind definite thoughts and volitions resulting in concrete acts, we have to face an insurmountable methodological dualism. In the present state of our knowledge the fundamental statements of positivism, monism and panphysicalism are mere metaphysical postulates devoid of any scientific foundation and both meaningless and useless for scientific research. Reason and experience show
us two separate realms: the external world of physical, chemical, and physiological phenomena and the internal world of thought, feeling, valuation, and purposeful action. No bridge connects—as far as we can see today—these two spheres. Identical external events result sometimes in different human responses, and different external events produce sometimes the same human response. We do not know why.” (Mises (1996), HA, p. 18.)

- Today’s *mainstream economics* has embraced the empiricist-positivist approach, an attempt to ape the methodological approach of physical sciences (something Mises’s scornfully termed *scientism*).
16. Rejecting the *mathematical method* in economics


- Praxeology and economics are logical chains of reasoning based on a few universally known premises. To be *scientific*, shouldn’t economics be elaborated according to the symbolic notations of mathematical logic?

- This represents a curious *misconception* of the role of *mathematical logic* (*logistics*).

  — Mathematical logic is merely an auxiliary device based on *verbal logic*. Formal logic deals with the necessary and fundamental laws of thought, which must be *verbally* expressed, and logistics is only a symbolic system that uses this formal verbal logic as its foundation.

  — Therefore, praxeology and economics need not be apologetic in the slightest for the use of verbal logic—which is, in fact, the fundamental basis of symbolic logic.
Murray N. Rothbard rejected the appropriateness of the mathematical method in the field of human sciences. He noted:

“Physics is the only really successful science. The "social sciences" are backward because they cannot measure, predict exactly, etc. Therefore, they must adopt the method of physics in order to become successful. And one of the keystones of physics, of course, is the use of mathematics.”

“In physics, the facts of nature are given to us. They may be broken down into their simple elements in the laboratory and their movements observed. On the other hand, we do not know the laws explaining the movements of physical particles; they are unmotivated.”

“We must therefore seek causes by hypothecating general theories, and from these axioms be able to deduce not only the original facts, but other theories which can be directly tested by fact (the famous concept of "operational meaning"). As much as we
may progress in the knowledge of the laws of physics, our knowledge is never abso-
lute, since the laws may always be revised by more general laws and through further
empirical testing.”

- “In economics, however, the conditions are almost reversed. Here we know the cause,
  for human action, unlike the movement of stones, is motivated. Therefore, we may
  build economics on the basis of axioms — such as the existence of human action and
  the logical implications of action — which are originally known as true.”

- “From these axioms we can deduce step by step, therefore, laws which are also known
  as true. And this knowledge is absolute rather than relative precisely because the origi-
nal axioms are already known. On the other hand, there are no simple elements of
"facts" in human action; the events of history are complex phenomena, which cannot
"test" anything. They themselves can only be explained by applying many relevant
theories to different aspects of the complex "fact."

- “Why is mathematics so useful in physics? Precisely because the axioms themselves,
and the laws deduced from them, are unknown and in fact meaningless. Their meaning is only "operational," since they are meaningful only insofar as they can explain given facts."

▪ “Thus, the equation of the law of gravitation is in itself meaningless; it is only meaningful to us in relation to the facts that we humans observe and that the law can explain. Consequently, mathematics, which performs deductive operations on meaningless symbols, is perfectly suited for the methods of physics.” “Economics, on the other hand, starts from an axiom that is known and meaningful to us — human action. Since the action is itself meaningful, all the laws which are deduced step by step from it are also meaningful.”

“(…) verbal logic permits each law to be meaningful as it is deduced. The laws of economics are already known to be meaningfully true; they do not have to borrow their meaning from "operational" testing. The most that mathematics could possibly do, therefore, is to laboriously translate verbal symbols into meaningless formal symbols and then, at each step, retranslate them into words.”
17. *Class probability versus case probability*


- Praxeology provides us with true knowledge about the relation between *uncertainty* and *human action* (Mises (1996), pp. 106):

  “The uncertainty of the future is already implied in the very notion of action. That man acts and that the future is uncertain are by no means two independent matters. They are only two different modes of establishing one thing. (…) If man knew the future, he would not have to choose and would not act. He would be like an automaton, reacting to stimuli without any will of his own.”

  “Natural science does not render the future predictable. It makes it possible to foretell the results to be obtained by definite actions. But it leaves unpredictable two spheres: that of insufficiently known natural phenomena and that of human acts of choice. Our ignorance with regard to these two spheres taints all human actions with uncertainty.
Apodictic certainty is only within the orbit of the deductive system of aprioristic theory. The most that can be attained with regard to reality is probability.”

Now let us take a look at probability calculus – making a distinction between class probability and case probability (Mises (1996), pp. 107):

“Class probability means: We know or assume to know, with regard to the problem concerned, everything about the behavior of a whole class of events or phenomena; but about the actual singular events or phenomena we know nothing but that they are elements of this class.”

→ Example: The throwing of a dice.

“Case probability means: We know, with regard to a particular event, some of the factors which determine its outcome; but there are other determining factors about which we know nothing. Case probability has nothing in common with class probability but the incompleteness of our knowledge. In every other regard the two are entirely differ-
ent. Any reference to *frequency* is inappropriate when it comes to *case probability* – as the case under review will always deal with an individual unique and non-repeatable case; the case is a *class by itself.*” (Mises (1996), pp. 110)

→ *Example:* All dealings with *human action*.

- Praxeological predictions (Mises (1996), pp. 117-8):

  “Praxeological knowledge makes it possible to predict with apodictic certainty the outcome of various modes of action. But, of course, such prediction can never imply anything regarding quantitative matters. Quantitative problems are in the field of human action open to no other elucidation than that by understanding.

  We can predict, as will be shown later, that — other things being equal — a fall in the demand for *a* will result in a drop in the price of *a*. But we cannot predict the extent of this drop. This question can be answered only by understanding.
The fundamental deficiency implied in every quantitative approach to economic problems consists in the neglect of the fact that there are no constant relations between what are called economic dimensions. There is neither constancy nor continuity in the valuations and in the formation of exchange ratios between various commodities.

Every new datum brings about a reshuffling of the whole price structure. Understanding, by trying to grasp what is going on in the minds of the men concerned, can approach the problem of forecasting future conditions. We may call its methods unsatisfactory and the positivists may arrogantly scorn it. But such arbitrary judgments must not and cannot obscure the fact that understanding is the only appropriate method of dealing with the uncertainty of future conditions.”

18. Digression: Critique of radical uncertainty and the rational expectation theory


(1) Critique of radical uncertainty

- From the fact that we live in a world of uncertainty it does not follow that human beings live in a world of perfect, or radical, uncertainty (Ludwig Lachmann (1976)), that is a world with no certainty at all.

- The idea of certain knowledge requires, as its logical counterpart, the idea of uncertainty:
  - certainty is defined in contrast to uncertainty, and therefore not everything can be certain.
  - Likewise, uncertainty cannot be defined without reference to certainty, and there-
fore not all knowledge can be uncertain.

- The idea of *perfect*, or *radical, uncertainty* is either openly contradictory or entails an implicit contradiction:

  — *everything about the future is uncertain except that the future will be uncertain – and this we know for certain* (which is an open contradiction); or

  — *everything is uncertain, and there is nothing but uncertainty, and this is uncertain, too* (which is an implicit contradiction).

- Nothing about the external, physical, world is or can be known with certainty – except for those abstract

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*John Maynard Keynes* wrote in 1920: “The power to become habituated to his surroundings is a marked characteristic of mankind. Very few of us realize with conviction the intensely unusual, unstable, complicated, unreliable, temporary nature of the economic organization by which Western Europe has lived for the last half century. We assume some of the most peculiar and temporary of our late advantages as natural, permanent, and to be depended on, and we lay our plans accordingly. On this sandy and false foundation we scheme for social improvement and dress our political platforms, pursue our animosities and particular ambitions, and feel ourselves with enough margin in hand to foster, not assuage, civil conflict in the European family.”

but universal and real things that are already implied in the certain knowledge of human action:

— There is a world of objects and object-qualities (predicates), as without objects and object-qualities, there can be no such thing as propositions.

— The latter must be of countable units, physical magnitudes and quantitative determinateness (causality), as without countable units there can be no arithmetic, and without quantitative determinateness (which means that definite quantities of causes only bring about definite (limited) effects) there can be no ends and means (goods).

- Apart from the laws of propositional logic, arithmetic and causality, however, all other knowledge about the external world is, and must be, uncertain.

- In view of the considerations made above, the theory of rational expectations (RE) can be criticized for suffering from the same deficiencies as the (old general equilibrium)
model of certainty (or perfect foresight). It does not account for the phenomenon of learning and hence, of knowledge and consciousness.

(2) ON THE THEORY OF RATIONAL EXPECTATIONS


  — The concept of RE asserts that future outcomes (of human action) do not differ systematically (that is regularly or predictably) from what people expected them to be.

  — It is assumed that market agents make use of all available information when form-
ing their views about the future, and also have a perfect understanding of the workings of the economy/social affairs.

— RE do not deny that people often make forecasting errors, but it does suggest that errors will not persistently occur on one side or the other (so that the expectation error is zero, on average).

- That said, RE is actually motivated by the same thinking that led Abraham Lincoln to say: *You can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all of the time.*

— RE argue against the notion that policymakers can manipulate the economy by systematically making the public have false expectations (*policy ineffective hypothesis*); such policies cannot improve the economy’s performance.

— RE is a building block for the *random walk* or *efficient markets hypothesis* of securities prices, the theory of the dynamics of hyperinflation, the “permanent in-
come” and “life-cycle” theories of consumption, and the design of economic stabilization policies.

- The RE theory assumes that market agents have an exhaustive list of all future actions and their possible outcomes; actors are assumed to possess perfect knowledge of the probability distribution function of future events.

  — However, such a list cannot possibly exist (for a logical reason): Human action is relentless change, it is meant to alter the natural course of events, bringing about something as yet non-existent; actions are the result of creative imagination.

  — And so, without a complete list of all possible types of human action, there can be no perfect knowledge of the relative frequency of the possible future outcomes of human action.

- In particular, the following two criticisms have to be leveled against the RE theory:
(1) It is assumed that market agents have the same, that is identical, set of knowledge on average: if knowledge were unequally distributed among market agents, it would be impossible that the predications of, say Mr A and Mr B, could be equally correct or equally correctly wrong on average.

If different actors possess different knowledge, however, the likelihood of their predicting correctly or incorrectly will be different as well. In this case, neither the success nor the failure of predictions can be considered purely random but will to be ascribed instead to differences in peoples’ knowledge.

(2) What is more, proponents of the theory of RE are being caught in (actually three) contradictions:

First, there is a performative contradiction: Why should an actor mention the view that all actors possess identical knowledge? If this is so, there is no need to say this, as everyone else would already know it. In fact, if everyone’s knowledge were identical, no one would have to communicate at all.
Second, assuming that there is a list of all possible forms of human action (in the future) implies a denial of all learning: One would assume that we already know everything that will ever be known to us. However, if this were the case, the question arises: How can we ever come to know that learning is impossible? If we cannot learn, we also could not possibly have learned to know that there is no learning.

Third, the denial of the possibility of learning is actually belied by the very fact of action on the part of the actor. By saying that there is no learning, one cannot but assume that others can understand and possibly learn something that they do not yet know: If one already knew what others would respond and how one would respond to their responses, and so on, there would be no need for communication and argumentation.

- In sum, the theory of RE, and the models based on this school of economic thought, must be seen as seriously flawed.
A general model for asset prices (see, for instance, Cochrane (2005)) states that the price in \( t \), \( p_t \), should equal the expected value of the product of a stochastic discount factor, \( m_{t+1} \), and the payoff of the asset one period ahead, \( x_{t+1} \):

\[
p_t = E_t [m_{t+1} \cdot x_{t+1}].
\]

In some cases, such as bonds, the payoffs are known to some degree in advance. In most cases, however, they are uncertain. The stochastic discount factor is, of course, never directly observable.
19. On the relation between economics and history


- The subject matter of economics, which is a subdivision of praxeology, is human action. Economics is the scientific discipline that deals with the logic of human action, regardless of time and place.

- In Theory and History (1957), Mises pointed out why and how historical knowledge had to complement economics as a guide for human action.

- It is history alone that can provide an analysis of the context of human action – human action is, as the axiom of action implies, always embedded in, and a result of, concrete circumstances of time and place.
In *Theory & History* (1957), Mises developed the *historical method*. He noted that *ideas* are at the heart of history (Mises (2007 [1957]), T&H, pp. 224-5):

“History is the record of human action. Human action is the conscious effort of man to substitute more satisfactory conditions for less satisfactory ones. Ideas determine what are to be considered more and less satisfactory conditions and what means are to be resorted to alter them. Thus ideas are the main theme of the study of history”

To Mises, ideas are the ultimate cause of all societal phenomena (Mises (2007), T&H, p. 187): “The genuine theory of mankind is the history of ideas. It is ideas that distinguish man from all other beings. Ideas engender social institutions, political changes, technological methods of production, and all that is called economic conditions.”

History can be characterised as follows (Mises (1978), The Ultimate Foundation of Economic Science: An Essay on Method, p. 45):
It “... establishes the fact that men, inspired by definite ideas, made definite judge-
ments of value, chose definite ends, and resorted to definite means in order to attain the ends chosen, and it deals furthermore with the outcome of their actions, the state of affairs the action brought about.”

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<th><strong>Economics</strong></th>
<th><strong>History</strong></th>
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<td><em>Economics</em> and <em>history</em> deal with individual choices of ends and the judgements of value underlying them.</td>
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<td>Branch of praxeology.</td>
<td>No branch of praxeology.</td>
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<tr>
<td>Value judgements and choices are taken as given data.</td>
<td>Value judgements and choices are <em>not</em> taken as given; they are the starting point of reflection, the specific understanding of the historical science of human action.</td>
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<td>Restricts itself to logically inferring from value judgements the laws governing the valuing and pricing of goods.</td>
<td>The historian, with the method of understanding, may try to understand, when faced with individuals’ value judgements and resulting action, how they originated in the mind of the actor.</td>
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- We can see that *ideas* – which are that the heart of purposes and values that direct hu-
man action – are a point of contact between *economics* and *history*. At the same time,
However, there are differing attitudes towards ideas from the viewpoint of economics and history. The table below summarizes the relation between economics and history.

- **History** describes in retrospect how the acting person perceived the situation in which he had to act, what he aimed at, what he believed to be the means at his disposition. For history, in contrast to economics, actions and value judgments are not ultimate “givens”. In fact, actions and value judgments are, in Mises’s words, “the starting point of a specific mode of reflection, of the specific understanding of the historical sciences of human action.” (Mises (2007), T&H, p. 310)

Equipped with the method of “specific understanding,” the historian, “when faced with a value judgment and the resulting action (…) may try to understand how they originated in the mind of the actor.” (Mises (2007), T&H, p. 310)

- So what is the *method of specific understanding*? The economic historian must supply the motives underlying the actions that are relevant to explaining the historical event (“Cui bono?”). For this task, his only suitable tool is the method of understanding:
“The scope of understanding is the mental grasp of phenomena which cannot be totally elucidated by logic, mathematics, praxeology, and the natural sciences to the extent that they cannot be cleared up by all these sciences.” (Mises (1996), HA, p. 50)

- How can the method of understanding provide true knowledge of a wholly subjective and unobservable phenomenon like human motivation? The specific understanding of past events is not, as Mises emphasizes (Mises (2007), T&H, p. 265):

  “(…) a mental process exclusively resorted to by historians. It is applied by everybody in daily intercourse with all his fellows. It is a technique employed in all interhuman relations. It is practiced by children in the nursery and kindergarten, by businessmen in trade, by politicians and statesmen in affairs of state. All are eager to get information about other people’s valuations and plans and to appraise them correctly.”

- So the method of specific understanding is not an entirely arbitrary or haphazard enterprise peculiar to each individual historian or actor. It is the product of a discipline that
Mises calls “thymology,” which encompasses “knowledge of human valuations and volitions” (Mises (2007), T&H, p. 266):

“Thymology is on the one hand an offshoot of introspection and on the other a precipitate of historical experience. It is what everybody learns from intercourse with his fellows. It is what a man knows about the way in which people value different conditions, about their wishes and desires and their plans to realize these wishes and desires. It is the knowledge of the social environment in which a man lives and acts or, with historians, of a foreign milieu about which he has learned by studying special sources.”

- Thymological experience does not yield certain knowledge of the cause of historical events (in the same way as experimentation in the natural sciences). The historian must resort to specific understanding when enumerating the various motives and actions that bear a causal relation to the event in question and when assigning each action’s contribution to the outcome a relative weight.

- The historian uses specific understanding to try to gauge the causal “relevance” of
each factor to the outcome. But such assessments of relevance do not take the form of objective measurements calculable by statistical techniques; they are expressed in the form of subjective judgments of relevance based on thymology.

- Mises pointed out the relevance problem facing any scholar of history: a certain observable historical outcome can be thought of as a result of many (interrelated) causes. To the historian, there is the problem of assigning relative quantitative weights to different causes that combine into an observable effect.

→Example: In response to a stock market crash, the central bank increases the money stock by 10%. At the same time, the oil prices decline 30%, and wages increase by 5%. What will be the impact on overall consumer price in, say, 12 months?

In order to answer this question, the method of specific understanding is required. A view needs to be formed about the weight and time the influence of each of these events has on the relationship between the supply of and the demand for money.

The laws of economic theory indicate the direction of the effect each of these events has on the purchasing power of money; and it can say that some time must elapse before the full effect emerges. Its predictions are qualitative, not quantitative.

The economist must supplement economic theory with historical judgment, or understanding, when attempting to forecast any economic quantity. The historian takes recourse to understanding when making
judgments of relevance about the factors responsible for the observed movements of the value of money during historical episodes of inflation or deflation.

- That said, the method of understanding can never yield results which must be accepted by all men. In fact, the historian cannot ground his judgements in absolute and apodictic certainty. As Mises ((1996), HA, p. 50) noted:

“The historian can enumerate all the factors which cooperated in bringing about a known effect and all the factors which worked against them and may have resulted in delaying and mitigating the final outcome. But he cannot coordinate, except by understanding, the various causative factors in a quantitative way to the effects produced. He cannot, except by understanding, assign to each of \( n \) factors its role in producing the effect \( p \). Understanding is in the realm of history the equivalent, as it were, of quantitative analysis and measurement.”

- Mises noted that knowledge derived from the method of understanding may never overrule the knowledge provided by mathematics, praxeology and the natural sciences: (Mises (1996), HA, p. 50):
“The scope of understanding is the mental grasp of phenomena which cannot be totally elucidated by logic, mathematics, praxeology, and the natural sciences to the extent that they cannot be cleared up by all these sciences. *It must never contradict the teachings of these other branches of knowledge* [italics added].”

- Rothbard’s *innovative contribution* to the historical method is the creation of a *guide* that mitigates some of the uncertainty associated with formulating judgments of relevance about human motives. He emphasis that the task of assigning motives and weighting their relevance is rendered *even more* difficult by the fact that, in many cases, historical actors, especially those seeking economic gain through the political process, are inclined to deliberately obscure the reasons for their conduct.

- Rothbard contends that attempts to obfuscate or conceal the pecuniary motive for an action by appeals to higher goals are easily discerned and exposed by the historian in those cases “where the causal chain of economic interest to action is simple and direct” (Rothbard, M. N. (1974), Economic Determinism, Ideology, and the American Revo-
The novelty and brilliance of Rothbard’s guide lies in the fact that it is neither a purely aprioristic law like an economic theorem nor an experimentally established “fact” of the natural sciences. Rather it is a sociological generalization grounded on a creative blend of thymological experience and economic theory. Salerno (2002, pp. 26-7) explains:

“At the core of this generalization is the insight that the State throughout history has been essentially an organization of a segment of the population that forsakes peaceful economic activity to constitute itself as a ruling class. This class makes its living parasitically by establishing a permanent hegemonic or “political” relationship between itself and the productive members of the population. This political relationship permits the rulers to subsist on the tribute or taxes routinely and “legally” expropriated from the income and wealth of the producing class. The latter class is composed of the “subjects” or, in the case of democratic states, the “taxpayers,” who earn their living through the peaceful “economic means” of production and voluntary exchange. In con-
contrast, constituents of the ruling class may be thought of as “tax-consumers” who earn their living through the coercive “political means” of taxation and the sale of monopoly privileges.”

- How far back should history be studied? There is, in fact, no a priori rule that could be helpful in deciding when to stop historical research. The increasing remoteness in time means by no means decreasing practical relevance (for understanding the current circumstances for human action):

“The mere fact that an event happened in a distant country and a remote age does not in itself prove that it has no bearing on the present. Jewish affairs of three thousand years ago influence the lives of millions of present-day Christian Americans more than what happened to the American Indians as late as in the second part of the nineteenth century. In the present-day conflict of the Roman Church and the Soviets there are elements that trace back to the great schism of the Eastern and Western churches that originated more than a thousand years ago.”
20. Private property


- **Property** is any physical/virtual entity for which there is *legal ownership*. The owner of property has the right to consume, sell, mortgage, transfer and exchange his property.

- **Private ownership** means that proprietors determine the employment of the property, while *public ownership* means that the government controls its employment.

- **Private property** is the fundamental institution of the market economy. In fact, it is the very institution the presence of which characterizes the market economy as such. Where it is absent, there would not, and could not, be a market economy.
Private property is a *human device*. It is not sacred. It came into existence in early ages of history, when people with their own power and by their own authority appropriated to themselves what had previously not been anybody’s property.

*Property* can be created and increased in three, and only three, *non-aggressive* ways:

1. perceiving nature-given things as *scarce* and actively bringing them into one’s possession before anyone else has done so (*homesteading*, or *first user-principle*);

2. producing goods with the help of one’s labour and such previously appropriated resources; or

3. acquiring a good through voluntary, contractual transfer from a previous appropriator or producer (including *gifts*).
The origin of all property is ultimately traceable to the appropriation of an unused nature-given factor (by a man and a “mixing” of his labor with this natural factor to produce a capital good or a consumer good).

Over time, virtually every property owner is the direct or indirect legal successor of people who acquired ownership either by arbitrary appropriation of ownerless things or by violent spoilation of their predecessor.

However, the fact that legal formalism can trace back every title either to arbitrary appropriation or to violent expropriation has no significance whatever for the conditions of a market society.

For in an unhampered market society the consumers daily decide anew who should own and how much he should own. The consumers allot control of the means of production to those who know how to use them best for the satisfaction of the most urgent wants of the consumers.
It was the idea of legislators and courts to define the legal concept of property in such a way as to give to the proprietor full protection by the governmental apparatus of coercion and compulsion and to prevent anybody from encroaching upon his rights.

Nowadays there are tendencies (Christian socialism) to abolish the institution of private property by a change in the laws determining the scope of action which the proprietor is entitled to undertake with regard to the things which are his property. While retaining the term private property, these reforms aim at the substitution of public ownership for private ownership.

On property rights and human rights: It is often asserted by critics of the free market economy that they are interested in preserving “human rights” rather than property rights.

— This artificial dichotomy between human and property rights has often been refuted by libertarians, who have pointed out:
(i) that property rights accrue to humans, and to humans alone; and

(ii) that the “human right” to life requires the right to keep what one has produced to sustain and advance life.

— In short, libertarians/free-market-supporters have shown that property rights are indissolubly also human rights.

ON CONFLICT AND PRIVATE PROPERTY

- If there were no interpersonal conflicts, there would be no need for norms. It is the purpose of norms to help avoid otherwise unavoidable conflicts.

- From the diversity of individual interests and ideas alone it does not follow that conflicts must arise.
For instance, I want it to rain, and my neighbor wants the sun to shine. Our interests are contrary. However, this does not result in a conflict: because neither I nor my neighbor controls the sun or the clouds, our conflicting interests have no practical consequences.

Different interests and beliefs can lead to conflict only when they are put into action — when our interests and ideas are attached to or implemented in physically controlled objects, i.e., in economic goods — and the latter implies scarcity.

In a world of superabundance, there is no conflict, as all needs can be satisfied in full. In other words: In order for different interests and ideas to result in conflict, goods must be scarce (they must be economic goods).

Only scarcity makes it possible that different interests and ideas can be attached to and invested in one and the same stock of goods. Conflicts, then, are physical clashes regarding the control of one and the same given stock of goods.
Even under conditions of scarcity, when conflicts are possible, however, they are not necessary or unavoidable. All conflicts regarding the use of any good can be avoided if only every good is privately owned, i.e., exclusively controlled by some specified individual(s) and it is always clear which thing is owned, and by whom, and which is not. The interests and ideas of different individuals may then be as different as can be, and yet no conflict arises so long as their interests and ideas are concerned always and exclusively with their own, separate property.

As Hoppe (2011) notes: “What is needed to avoid all conflict, then, is only a norm regarding the privatization of scarce things (goods). More specifically, in order to avoid all conflict from the very beginning of mankind on, the required norm must concern the original privatization of goods (the first transformation of nature-given "things" into "economic goods" and private property).”
Remember:

“Human action is an actor's purposeful pursuit of valued ends with scarce means. No one can purposefully not act. Every action is aimed at improving the actor's subjective well-being above what it otherwise would have been. A larger quantity of a good is valued more highly than a smaller quantity of the same good. Satisfaction earlier is preferred over satisfaction later. Production must precede consumption. What is consumed now cannot be consumed again in the future. If the price of a good is lowered, either the same quantity or more will be bought than otherwise. Prices fixed below market clearing prices will lead to lasting shortages. Without private property in factors of production there can be no factor prices, and without factor prices cost-accounting is impossible. Taxes are an imposition on producers and/or wealth owners and reduce production and/or wealth below what it otherwise would have been. Interpersonal conflict is possible only if and insofar as things are scarce. No thing or part of a thing can be owned exclusively by more than one person at a time. Democracy (majority rule) is incompatible with private property (individual ownership and rule). No form of taxation can be uniform (equal), but every taxation involves the creation of two distinct and unequal classes of taxpayers versus tax receiver-consumers. Property and property titles are distinct entities, and an increase of the latter without a corresponding increase of the former does not raise social wealth but leads to a redistribution of existing wealth.”

21. The debate about *private versus public goods*


- Let us start with making some general observations as far as economic goods are concerned:
  
  — From the viewpoint of economics, something is not to be considered as a good as such. For something to be an *economic good*, it must be *recognized* and *treated* as being *scarce* by someone. To put it differently: *something becomes a good in the eyes of the beholder*.
  
  — With peoples’ *preferences* changing continuously, a certain good may be considered and treated as scarce, and as such as an economic good, at some stage. At another point in time, however, the good may no longer be seen as desirable – and may lose its status as an economic good. That said, given the nature of *human ac-
tion, an economic good may not retain its status as an economic good once-and-for-all times.

— What is more, it might be illusionary to make a distinction between a consumption good and investment good. Take, for instance, Mr Jones purchasing a new laptop. If he uses it for playing games and watching DVDs, the laptop would be a consumption good. If, however, Mr Jones uses it for language learning, thereby improving his human capital, the laptop would qualify as an investment good.

- Now we turn to the issue of free market exchanges with external benefits. – As long as there is free exchange, with A and B mutually benefiting, everything is fine, mainstream economists would say. Now, however, assume that A does something voluntarily (including the option of taking no action) which benefits himself as well as B, but B does not pay anything in exchange. What then? Using such an example of a positive externality, critics of the free market may launch two general lines of attack.

— First, A is attacked for not doing enough (or anything at all) for the benefit of B. A
is denounced for pursuing his own selfish interests, thereby neglecting the (potential) indirect benefits his actions have for $B$.

— Second, $B$ is attacked for accepting a benefit without paying $A$ anything in return. The recipient of the benefit $B$ (for which did not ask) is denounced for acting as a thief, enjoying the benefits resulting from $A$’s action without paying anything.

- In view of the *positive externalities*, the free market can be, and typically is, accused of injustice and distortion by both groups of attackers. Attackers of the *first group* will demand that $A$ will do more for $B$, the *second group* of attackers will demand that $B$ compensates $A$. Either way, their calls are for *remedial state intervention*: The state is called upon to use coercion/violence to make $A$ to act more in ways that benefit $B$; or to force $B$ to pay $A$ for his gift.

- Of course, the claims of both attackers do not hold water. In fact, they represent an *ethical absurdity*:
— The first group of attackers would basically assert the *moral right of B* to extract something from *A*, by force if necessary, without paying anything in return.

— The second group of attackers would claim that *B*, who actually *did not ask for his free ride*, pays something to *A*, who voluntarily undertook the action as it benefits his own interests.

■ In *Man, Economy, and State* (2001 [1962], p. 887), Murray N. Rothbard notes:

“Generally, these ethical views are clothed in the “scientific” opinion that, in these cases, free-market action is no longer optimal, but be brought back into optimality by corrective State action. Such a view completely misconceives the way in which economic science asserts that free-market action is ever optimal. It is optimal, not from the standpoint of the personal ethic views of an economist, but from the standpoint of the free, voluntary actions of all participants and in satisfying the freely expressed needs of the consumers. Government interference, therefore, will necessarily and always move way from such an optimum.”
In what follows, we want to deal in some more detail with the mainstream economics view on positive externalities. – Mainstream economics holds that there are economic goods which are not, or cannot (in sufficient quantity and/or quality), be produced by the free market. Such goods are called public goods (in contrast to private goods, which are provided by the free market).

Public goods are typically characterised by:

(i) Non-excludability of consumption; and

(ii) non-rivalrous consumption.

Criteria (i) and (ii) lead to the free rider problem: the enjoyment of public goods cannot be restricted to those who are willingly paying for its provision.

Some examples for (typical) public goods are lighthouses, postal services, security
(military and police), education, money, social security, etc.

- From the private-public goods distinction it is typically concluded that public goods are desirable (as they yield positive externalities), and that they must be provided by the state (as the free market would not at all produce such a public good in sufficient quantity and/or quality).

- However, the very distinction between private and public goods is illusionary and misleading (in terms of legitimizing state interventionism in the free market order). To start with, many goods provided by the state appear to be private goods, while many privately produced goods appear to fall into the category of public goods.

→ Examples of goods that fit in the category of public goods but are produced privately are: music provided by street musicians; keeping a nice garden, for everybody to see; making fireworks, etc. None of these goods, which fit in the category of public goods, require any state intervention as far as their provision is concerned.
At the same time, many goods that are nowadays provided by the state (due to their alleged *public goods* character) were formerly provided by the free market. For instance, railroads were at some point in the past run by private entrepreneurs; the same holds true for postal services and streets. What is more, private police forces existed; detectives and arbitrators existed; caring for the elderly and sick was a concern of private charity organizations.

In sum, there is *no clear-cut dichotomy* between private and public goods; this may explain why there tend to be great disagreements on how to classify a given good. Basically all goods can be more or less private or public goods; and this classification typically changes over time, as people change their views about an economic good’s degree of privateness/publicness.

There can never be a private or public good as such. The private/public character of an economic good depends on how people perceive, and value, them on an individual *value scale*. For instance, a certain good may, at one time, be classified as a private good and, at a later point in time, after peoples’ preferences have changed, a public
What is more, the distinction between private and public goods (even if one admits such a separate category of goods exists) would neither provide any conclusive reason why a public good should be produced at all, nor why the state rather than private entrepreneurs should produce them.

What the supporters of the public goods theory essentially conclude is this: *The positive effects (externalities) of public goods are the proof that these goods are desirable. However, these desirable goods will not, or not in sufficient quantity and quality, be produced in competitive markets, as not all of those who benefit from public goods would also contribute financially to their production. This is why the state must step in and provide these goods.*

How is it possible to draw such a conclusion? *It is possible only by smuggling in a norm in the chain of reasoning,* thereby leaving the field of economics as a value-free (*wertfreie*) science; from the mere statement that a good has certain specific character-
istics so that the market doesn’t produce it one cannot conclude that such a good should be produced.

- What public goods theorists do (when advocating state interventionism) is basically moving from the field of economics into the realm of morals, or ethics. However, they fail to offer a theory of ethics as a cognitive discipline in order for them to provide their viewpoint with a theoretical legitimization and to justifiably derive their conclusion.

- The norm necessary to reach the above conclusion (namely that the state must provide the public good) is of the following nature: Whenever one can (somehow) prove that a certain good has a positive effect on someone else, and when the good would not be produced in the free market place unless certain people participate in its financing, then the use of state aggression against these persons is allowed, making them contributing financially in the providing of the good.

- However, such a norm could never be justified as a fair norm. What it says is basically
the following: anyone could attack anyone else whenever he feels like it. It doesn’t take much to expect that societal chaos would result from implementing such a rule.

→ Note that, from the viewpoint of a priori reasoning, the principle of non-aggression is a necessary pre-condition for argumentation. For only if everyone is free from aggression (violent intrusion into ones property) by everyone else could anything be said and then agreement or disagreement on anything possibly be reached.

- What is more, we have to note that – due to the scarcity of the means of production, which is a category of human action – public goods compete with private goods. If the public goods are provided by the state, financed via taxes, it should be clear that alternative uses of the money cannot be pursued.

- However, are the uses to which the money could be put (namely private goods, which could have been acquired had the money not been handed over to the state in the form of taxes) more valuable than the public goods? In terms of individual consumer valuation, the answer is perfectly clear: If the consumer has a free choice, he would obvi-
ously buy the private good rather than the public good. Otherwise no state force (*taxation*) would have been necessary. The resources used for the provision of public goods by the state are *wasted*, as they provide consumers with goods that are at best of *secondary importance*.

- In conclusion: *The public-private goods distinction, which is at the heart of the theory of public goods, appears to be arbitrary, inconsistent and even faulty*. It runs the danger of paving the way towards advocating rising state aggression against individual private property, thereby inevitably lowering the level of economic production.
22. The free market: direct and indirect exchange


There is a multiplicity of types of human action. The table below sums them up, making a distinction between actions of isolated individuals (Robinson Crusoe, or autistic, economy) and interpersonal action.

<table>
<thead>
<tr>
<th>I. Isolation (autistic exchange)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II. Interpersonal action</td>
</tr>
<tr>
<td>A. Invasive action</td>
</tr>
<tr>
<td>1. War</td>
</tr>
<tr>
<td>2. Murder, assault</td>
</tr>
<tr>
<td>3. Robbery</td>
</tr>
<tr>
<td>4. Slavery</td>
</tr>
</tbody>
</table>

The major form of non-invasive action is voluntary interpersonal exchange. Under such exchanges, A gives up a good to B in exchange for a good that B hands over to A. What voluntary exchange tells us is that people make it because they expect that it will
benefit them; otherwise they would not agree to the exchange.

- Direct exchange is good-for-good (barter economy), while indirect exchange is good-for-money (money economy).

Note that money is the universally accepted means of exchange. It emerged spontaneously in the free market, as will be pointed out later:

Man participates in an exchange economy if and when he prefers more over less goods and is capable of recognizing that under the division of labour productivity can be increased. By using money as the universally accepted means of exchange, people can profit more fully from the advantages of an extended division of labour.

- Individuals make an exchange precisely because for each of them there is an inequality of values between the goods which are exchanged. Therefore, for each exchange there is a double inequality of values, rather than an equality, and hence there are no equal values.
Example for indirect exchange: Mr Johns purchases one apple for US$1 from Mr Miller. Obviously, Mr Johns values the ownership one apple (and the benefits thereof) more highly than his US$1, while Mr Miller values the goods in reverse order: he values the US$1 more highly than one apple.

The value scales look as follows:

<table>
<thead>
<tr>
<th>Mr Johns</th>
<th>Mr Miller</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – (Apple)</td>
<td>1 – (US$1)</td>
</tr>
<tr>
<td>2 – US$1</td>
<td>2 – Apple</td>
</tr>
</tbody>
</table>

Parentheses around the good indicate that the party does not have it in his stock; absence of parentheses indicates that he has.
23. Production, entrepreneur, profit and loss


Consumers’ goods: Goods readily available for consumption; goods of the first order.

Producers’ goods: Goods that can satisfy wants indirectly or only in cooperation with other goods; goods of a higher order.

→ Note: All goods are valued according to the part they play in the production of consumers’ goods.

Source: Rothbard (2009), Man, Economy, and State, p. 331.
Source: Rothbard (2009), Man, State, and Economy, p. 335.
Income to Land and Labor
83 ounces

<table>
<thead>
<tr>
<th>Interest Income</th>
<th>17 ounces</th>
<th>19 ounces</th>
<th>83 ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>80</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>100 ounces</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

100 ounces
Consumer Expenditure

Source: Rothbard (2009), Man, State, and Economy, p. 369.
On the nature of profit and loss

- “In the capitalist system of society's economic organization the entrepreneurs determine the course of production. In the performance of this function they are unconditionally and totally subject to the sovereignty of the buying public, the consumers. If they fail to produce in the cheapest and best possible way those commodities which the consumers are asking for most urgently, they suffer losses and are finally eliminated from their entrepreneurial position.”

- “If all people were to anticipate correctly the future state of the market, the entrepreneurs would neither earn any profits nor suffer any losses. (…) What makes profit emerge is the fact that the entrepreneur who judges the future prices of the products more correctly than other people do buys some or all of the factors of production at prices which, seen from the point of view of the future state of the market, are too low.
Thus the total costs of production — including interest on the capital invested — lag behind the prices which the entrepreneur receives for the product. This difference is entrepreneurial profit.”

- “Thus profit and loss are generated by success or failure in adjusting the course of production activities to the most urgent demand of the consumers. Once this adjustment is achieved, they disappear. (…) Profit and loss are ever-present features only on account of the fact that ceaseless change in the economic data makes again and again new discrepancies, and consequently the need for new adjustments originate.”

- Joseph Alois Schumpeter (1883–1950) put forward the concept of “creative destruction”. *Schumpeterian competition* drives *innovation*. Economically successful entrepreneurs beget imitators. They start to copy their rival’s innovation, attracting investment, and leading to a boom. When the original innovator’s
profit advantage is eliminated, investment moves elsewhere, and the sector may even shrink. The next disruptive innovation rekindles the cycle.

“The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in.”

“[Capitalism is]…the perennial gale of creative destruction.” (Schumpeter’s emphasis; Schumpeter, J. A. (1950), Capitalism, Socialism, and Democracy, 3rd ed., New York: Harper and Brothers, orig. pub. 1942, pp. 83 and 84.)
On the computation of profit and loss

- “The originary praxeological categories of profit and loss are psychic qualities and not reducible to any interpersonal description in quantitative terms. They are intensive magnitudes. The difference between the value of the end attained and that of the means applied for its attainment is profit if it is positive and loss if it is negative.”

- “Where there are social division of efforts and cooperation as well as private ownership of the means of production, economic calculation in terms of monetary units becomes feasible and necessary. Profit and loss are computable as social phenomena. The psychic phenomena of profit and loss, from which they are ultimately derived, remain, of course, incalculable intensive magnitudes.”

- “The fact that in the frame of the market economy entrepreneurial profit and loss are determined by arithmetical operations has misled many people. They fail to see that essential items that enter into this calculation are estimates emanating from the entrepreneur's specific understanding of the future state of the market. They think that these
computations are open to examination and verification or alteration on the part of a disinterested expert. They ignore the fact that such computations are as a rule an inherent part of the entrepreneur's speculative anticipation of uncertain future conditions.”

**The social function of profit and loss**

- “Profits are never normal. They appear only where there is a maladjustment, a divergence between actual production and production as it should be in order to utilize the available material and mental resources for the best possible satisfaction of the wishes of the public. They are the prize of those who remove this maladjustment; they disappear as soon as the maladjustment is entirely removed.”

- “[I]t is not the capital employed that creates profits and losses. Capital does not "beget profit" as Marx thought. The capital goods as such are dead things that in themselves do not accomplish anything. If they are utilized according to a good idea, profit results. If they are utilized according to a mistaken idea, no profit or losses result. It is the entrepreneurial decision that creates either profit or loss. It is mental acts, the mind of the
entrepreneur, from which profits ultimately originate. Profit is a product of the mind, of success in anticipating the future state of the market. It is a spiritual and intellectual phenomenon.”

On the condemnation of profit

“Those who want to abolish profit are guided by the idea that this confiscation would improve the material well-being of all non-entrepreneurs. In their eyes the abolition of profit is not an ultimate end but a means for the attainment of a definite end, viz., the enrichment of the non-entrepreneurs. Whether this end can really be attained by the employment of this means and whether the employment of this means does not perhaps bring about some other effects which may to some or to all people appear more undesirable than conditions before the employment of this means, these are questions which economics is called upon to examine.”
24. The Austrian critique of the Coase Theorem


- According to R. H. Coase (1960) and H. Demsetz (1966), the victim of an externality is equally responsible for the damage done him.

- For instance, a steam locomotive emits sparks, landing in the farmer’s field, and setting his grain afire.

- Without the presence of both the locomotive and the field of grain, the damage would not occur.

- The question is: Should the locomotive be permitted to continue emitting sparks, or should the farmer receive rights to continue to grow grain undamaged by sparks?
Coase’s answer is: if transaction costs are zero, resources will be allocated identically, no matter which party receives the rights to enjoin the other.

If the farmer receives the right to have spark-free fields, the railroad will take costly measures to (i) prevent damage from occurring, (ii) compensate the farmer for damage that occurs, or (iii) do some mixture of prevention and compensation.

If the railroad receives the right to continue emitting sparks, the farmer will approach the railroad with an offer to pay the railroad to take the same actions.

For example, if the farmer is losing US$1000 per harvest to fire damage, and the property rights are assigned to the farmer, the railroad will have to compensate the farmer $1000, or take other costly measures, whichever is cheaper.

If the property rights are assigned to the railroad, the farmer will pay up to US$1000 to the railroad to eliminate the damage. If abating the damage is more expensive than the value of the grain, no abatement will occur regardless of the allocation of property
rights. Alternatively, if abating the damage is less expensive than the value of the grain, abatement will occur regardless of the allocation of property rights.

- The court does have an impact on the wealth of the disputants, of course. If the farmer receives the rights, the railroad will lose up to US$1000 per harvest. If the railroad receives the rights, the farmer will lose the same amount per harvest.

- *Austrian critique #1*: Wealth does have significance to both of the involved parties, and it does make a difference to them which one receives the property rights.

- *Austrian critique #2*: Walter Block (1995, p. 64) raises the issue of *subjective value*, writing: “As long as the values of both sides in the legal dispute were real, or general, that Coase’s Theorem was correct. However, if these values were psychic or not general across at least a few people, it was incorrect”; so even in a zero transactions cost world, it matters which party receives the property rights.
25. Savings, investment and economic growth


- Robinson Crusoe, stranded on a desert island, finds himself without the aid of capital goods of any kind. All that is available is his own labor and the elements given him by nature.

- Let us say that the only goods available are berries and leisure. Say that he finds that he can pick 20 edible berries an hour, and, on this basis, works 10 hours in berry-picking and enjoys 14 hours a day of leisure.

- Leisure is the one good that is produced almost instantaneously, while berries have a very short production period (as twenty berries have a production period of one hour). Goods with longer periods of production are not available to him unless he acquires capital goods.
There are two ways in which longer processes of production through the use of capital may increase productivity:

1) providing a greater production of the same good per unit of time; or

2) allowing the actor to consume goods (that are not available at all) with shorter processes of production.

As an example of the first type of an increase in productivity: Robinson may decide that if he had the use of a stick, he could shake many berries off the trees instead of picking them by hand. In that way he might be able to step up his production to 50 berries an hour. How might he go about acquiring the stick?

Obviously, he must expend labor in getting the materials, transporting them, and shaping them into a stick. Let us say that 10 hours would be necessary for this task. This means that to obtain the stick, Crusoe must forgo 10 hours’ of production of consumer
goods. He must either sacrifice 10 hours of leisure or 10 hours of berry picking (200 berries), or some combination of the two.

- He will be able to begin using the capital good as an indirect aid to future production only after the 10 hours are up. In the meantime, he must forgo the satisfaction of his wants. He must restrict his consumption for 10 hours and transfer his labor for that period from producing immediately satisfying consumer goods into the production of capital goods, which will prove their usefulness only in the future.

- The restriction of consumption is called saving, and the transfer of labor (and land) to the formation of capital goods is called investment.

- We see now what is involved in the process of capital formation. The actor must decide whether or not to restrict his consumption and invest (in the production of capital goods), by weighing the following factors: Does the utility yielded by the increased productivity of the longer process of production outweigh the sacrifice that I must make of present goods to acquire consumers’ goods in the future?
The fundamental truth about capital goods is this: Capital is a *way station* along the road to the enjoyment of consumers’ goods. He who possesses capital is that much further advanced in time on the road to the desired consumers’ good.

The actor must balance his desire to acquire more satisfactions per unit of time against the fact that, to do so, he must give up satisfactions in the present to increase his production in the future. His *time preference* for present over future accounts (or his *disutility of waiting*) must be balanced against the utility that will be eventually provided by the capital good and the longer process of production.

Let us assume that producing a stick (a capital good) takes 10 hours’ worth of present goods, i.e. 200 berries. The stick, in turn, allows to harvesting 1500 berries three days later as a result of the investment. If the 1,500 berries had been immediately available, there would be no doubt that he would have given up 200 berries to acquire 1,500. Thus, 1,500 berries in the present might have a rank of, say, four on his individual value scale, while 200 berries have a rank of, say, 11:
How will Crusoe decide between 200 berries in the present and 1,500 berries three days from now? Since all choices have to be made on one value scale, Crusoe must grade the utility of 1,500 berries three days from now as against the utility of 200 berries now.

The actor’s value scale may be:
In case (b) he will make the decision to invest; in case (a) he will not.

In *Socialism* (1959 [1951], p. 459) Mises noted: “The greater the capital fund becomes, the higher does the marginal productivity of labor rise and the higher, therefore, are wages, absolute and relative. The progressive formation of capital is the only way to in-
crease the quantity of goods which society can consume annually without diminishing production in the future – the only way to increase the workers’ consumption without harm to future generations of workers.”
26. The Keynesian savings fallacy

- Savings is the part of income which is not consumed, but invested. Economically speaking, savings means that a present good is exchange for a future good. Savings and investment is made in the time market.

- In the Keynesian system, savings are defined as:

\[ S = Y - C = Y - C(Y), \]

where \( C \) is consumption, \( Y \) is income, and \( S \) represents savings. That said, savings is a function of income: \( S = S(Y) \).

→ Note: \( S(i) = I(i) \) versus \( S(Y) = I(Y) \).

- Any discrepancy between \( S \) and \( I \) will be eliminated by changes in income. In the
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graph below, the horizontal line $DD'$ represents autonomous investment $I_0$. In point $A$, for instance, equilibrium income is $Y_0$, bringing $S$ in line with $I_0$. In point $B$, however, $Y_1$ makes $S > I_0$, inducing income to fall until the equilibrium income $Y_0$ is reached. Likewise, in point $C$ we find that at income $Y_2$ $S < I_0$, inducing an increase in income.

Savings and income in the Keynesian system

- If savings out of a given income is higher than investment, a contraction of demand will follow in the Keynesian system. In contrast, income will rise if savings is smaller.
than investment. If savings equals investment, the economy is in equilibrium.

- The Keynesian IS-curve represents the graphical locus of all income-interest rate combinations for which investment equals savings. The equilibrium condition is $S(Y) = I(i)$. In point $A$, equilibrium income is $Y_0$ and the equilibrium interest rate is $i_0$. In point $B$, however, the interest rate is too high so that $S(Y) > I(i)$. As the interest rate is considered a *given* in the Keynesian system, it is income that must decline to bring $S$ back in line with $I$. 
Against this background it becomes obvious why high savings (relative to investment) are considered *bad* from the Keynesian viewpoint, as such a situation would result in a contraction of income.

Keynesians would expect income and employment to decline if \( S > I \). The theory does not allow for a discrepancy between \( S \) and \( I \) being eliminated by a *change in the interest rate* and/or the prices of the resources supplied as savings and demanded as investment goods. The conclusion that, for instance, \( S > I \) would lead to a contraction in income results in a *logical inconsistency*. 
27. Prices, taxation and price controls

- **Consumer surplus** and **producer surplus** are the basic tools in *mainstream economics* to study the welfare of buyers and sellers in the market.

→ **Consumer surplus** is a buyer’s willingness to pay minus the amount the buyer actually pays.

→ **Producer surplus** is the amount a seller is paid for a good minus the seller’s costs.

→ **From the Austrian economics viewpoint, it should be clear right from the start that voluntary transaction are mutually beneficial for both buyers and sellers - otherwise such a transaction wouldn’t have happened.**

To understand the *mainstream economic* measure of economic well-being, we can identify the following relations:

(1) Consumer surplus = value to buyers – amount paid by buyers.

(2) Producer surplus = amount received by sellers – costs to sellers.

(3) \( (1) + (2) = \text{value to buyers} - \text{amount paid by buyers} + \text{amount received by sellers} - \text{costs to sellers} \).

(4) Total surplus = value to buyers – costs to sellers.

If an allocation of scarce resources maximizes *total surplus*.
surplus, mainstream economists typically say that the allocation is efficient. Equity means the fairness of the distribution of well-being among members of society.

- Mainstream economics hold that free markets allocate resources efficiently and fairly – provided that there are no market failures or externalities.

→ Can you give an example for a market failure, that is a market outcome that is undesirable from the mainstream economics’ viewpoint and which is not related to any violation of individuals’ property rights? We will review the issue of externalities in more details later.

- What happens to the optimal allocation once we introduce taxes? A tax on a good places a wedge between the price that buyers pay and the price that sellers receive (to the benefit of the government). As a result, the quantity of the good sold declines – compared with a situation in which there is no tax.
On price controls: Whenever the price is fixed above the market clearing price, we have a minimum price; and whenever the price is fixed below the market clearing price, we have a maximum price.
If a minimum price is imposed by government decree, supply will outstrip demand, and a supply surplus will result.

The surplus of goods does not find buyers. Milk and wine lakes, butter and grain mountains are the result. The artificially increased price provokes more investment in production capacities of surplus goods – at the expense of the production of goods for there is a greater need. It will be the less efficient producers which will contribute to the rise in production.
— If a maximum price is imposed by government, and the maximum price is lower than the market clearing price, demand will outstrip supply, and a demand surplus will result. It is made economically impossible for less efficient producers of the good to add to overall supply. Moreover, such a maximum price provides incentives to move production capacities to other production lines (which are not subject to price maximum prices/price controls), which exacerbates the supply shortage. Queues, rationing, favouritism, black markets etc. become commonplace as a consequence of the maximum price which is lower than the market clearing price.
28. **Imputing value to goods in an evenly rotating economy**


- The *free market* is a system that allows for *efficient allocation of scarce resources* in which specific employments are considered in terms of relative importance of alternative results.

- There are two types of goods: *consumer goods* (or: *lower order goods*) which directly serve human wants, and *producer goods* (or: *higher order goods*), which aid in the process of production eventually to produce consumers’ goods.

- Those consumer goods serving to attain more highly valued ends will be valued more highly than those serving less highly valued ends; and those producer goods serving to produce more highly valued consumer goods will themselves be valued more highly than other producer goods.
It is against this backdrop that the process of *imputing values* to goods takes place in the *opposite direction* to that of the process of production (it will be explained in more detail below). *Value* proceeds from the *ends* to the consumer goods to the various first-order producer goods, to the second-order producer goods, etc.

The utility of a *consumer good* corresponds with the end directly served. The utility of a *producer good*, however, is its *contribution* in producing consumer goods: With value *imputed backward* from ends to consumer goods through the various orders of producer goods, the utility of any producer good is its contribution to its product. An actor evaluates a unit of a factor of production as equal to the satisfactions provided by its marginal unit, the *utility of its marginal product*.

To show this, let us assume an *evenly rotating economy* (ERE). The latter denotes an *imaginary economy* in which technology, resources and tastes are assumed to be *constant*. In such a theoretical world, the producer would be able to *impute* to a given unit of a production factor the money value of its contribution to the final product.
The marginal physical product (MPP) is the product forgone by a loss of the marginal unit in the next stage of production (or, if it is a consumer good, by the utility of the end it satisfies). The marginal value product (MVP) for any factor is its MPP multiplied by the selling price of the final product to which it makes a marginal contribution.

*Example*: Assume that the production function $4X + 10Y + 2Z$ yields a product that earns 100 ounces of gold in the market place.

— If one unit of $X$ is eliminated ($3X + 10Y + 2Y$), we would yield a product that earns, say, 80 ounce of gold.

— That said, the loss of one unit of $X$ results in a loss of 20 ounces of gold – which represents the MVP of one unit of $X$ (variable factor).

Now assume that the proportions of $X$, $Y$ and $Z$ are fixed to produce the final product (linear and homogeneous production function). A loss of one unit of $X$ would require a
proportionate decline in inputs of $Y$, and $Z$:

$$3X + 7.5Y + 1.5Z$$

yields a product which exchanges for 75 ounces of gold (assuming no price change in the final product).

With fixed proportions of the production factors, then, the MVP of the varying factor would be greater, in this case 25 gold ounces.

- As production takes time, the value assigned to a unit of a factor of production is equal to the *discounted value of its marginal contribution to the product value* – that is discounting the final MVP by the *time preference rate* (that is the interest rate).
DMVP and the rate of interest

- Assume the equilibrium is in A (with supply equalling $0E$). A rise (fall) in the interest rate [the result of a rise (fall) in time preference)], leads to a new equilibrium in C (B), in which the DMVP is lower (higher).

- The higher the rate of discount, the lower will be the DMVP and, therefore, the lower the price of the factor; the lower the interest rate is, the higher is the DMVP and (thus the price of the factor).

- Prices of non-specific (homogeneous) production factors would be equal in all different lines of production.
Tendency towards a uniform rate of interest

- At each stage of production, the price is higher, the difference representing the interest rate; the interest rate is constant on $A-B-C$.

- If the price of a factor is, say, lower than its marginal value product ($A'$), competition would bid up its price, moving it to $A$ (and then bringing $A'-B'-C$ to $A-B-C$).

- In an ERE, the price of each production factor would equal the sum of the marginal value products of its complementary factors of production.
29. Murray N. Rothbard’s *The Ethic of Liberty*


- *Ethics* is a branch of philosophy, dealing with the *right conduct* and *good life*. However, is there a *scientific foundation of a theory of ethics*?

- By integrating economics and ethics via the joint *concept of private property* in his *The Ethics of Liberty* (1982), Rothbard provides a scientific foundation of a theory of ethics, based on *natural rights*.

- Mises rejected the notion of a *rational ethics*. He was of the opinion that there exists *no ultimate justification for ethical propositions*. Whether or not certain ends can be considered as just can neither be decided by
economics nor any other science.

— Mises’s line of argument (and that of many pro-market economists who followed him) was a utilitarian one:

→ In a first step, he showed that private property produces a higher standard of living. In a second step, Mises would argue that private property (liberalism) should therefore be seen as the superior system.

→ However, the acceptance of liberalism then depends on the general acceptance of the goal of general wealth maximization. If people do not share this goal, liberalism (libertarianism) is based on nothing but an arbitrary act of faith.

▪ Rothbard challenged Mises’s conclusion. – He started with the central philosophical concept in the moral philosophy of Immanuel Kant, the Categorical Imperative: All rules aspiring to the rank of just rules must be general rules, applicable and valid for everyone without exception.
→ Immanuel Kant’s *Categorical Imperative*: “Act only according to that maxim whereby you can, at the same time, will that it should become a universal law.”

→ The *Golden Rule* is not identical to Kant’s *Categorical Imperative*. In fact, Immanuel Kant dismissed it as too trivial and too limited to be a universal law (see *Foundations of the Metaphysics of Morals*).

→ The Golden Rule appears to be a rather *simple* rule. It has invited trivializing counter-examples such as, for instance: “Should supporters of fried mosquitoes serve them as a special delicacy to their guests?”

→ Such an example, however, misses the point. The Golden Rule concerns a perspective of the most rudimentary morality: that of trying to put ourselves in the position of those affected by ones action, thereby countering the natural tendency to moral myopia. The Golden rule is meant to treat others with the understanding and respect they would themselves wish to encounter.

→ The Golden Rule meant to be a guide conducting thought and behavior. For instance, Matthews 7:12 reads: “So in everything, do to others what you would have them do to you, for this sums up the Law and the Prophets.”

- Hoppe summarizes Rothbard’s answer to *the question of what I am justified doing here*.
and now as follows (introduction to The Ethics of Liberty, 1998, p. xvi):

“[E]very person owns his own physical body as well as all nature-given goods which he puts to use with the help of his body before anyone else does; this ownership implies his right to employ these resources as one sees fit so long as one does not thereby uninvitedly change the physical integrity of another's property or delimit another's control over it without his consent. In particular, once a good has been first appropriated or homesteaded by "mixing one's labor" with it (Locke's phase), then ownership of it can only be acquired by means of a voluntary (contractual) transfer of its property title from a previous to a later owner. These rights are absolute. Any infringement on them is subject to lawful prosecution by the victim of this infringement or his agent, and is actionable in accordance with the principles of strict liability and the proportionality of punishment.”

- Rothbard’s *ultimate proof* for these rules as just rules goes as follows:

--- If a person $A$ were not the owner of his physical body and all goods originally ap-
propriated, produced or voluntarily acquired by him, there would only exist two alternatives. Either another person, B, must then be regarded as the owner of A and the goods appropriated, produced, or contractually acquired by A, or both parties, A and B, must be regarded as equal co-owners of both bodies and goods.

— In the first case, A would be B's slave and subject to exploitation. B would own A and the goods originally appropriated, produced, or acquired by A, but A would not own B and the goods homesteaded, produced, or acquired by B. With this rule, two distinct classes of people would be created – exploiters (B) and exploited (A) – to whom different "law" would apply.

— This rule fails the universalization test and is from the outset disqualified as even a potential human ethic, for in order to be able to claim a rule to be a law (just), it is necessary that such a rule be universally-equally-valid for everyone.

— In the second case of universal co-ownership, the requirement of equal rights for everyone is obviously fulfilled. Yet this alternative suffers from another fatal flaw,
for each activity of a person requires the employment of scarce goods (at least his body and its standing room). Yet if all goods were the collective property of everyone, then no one, at any time and in any place, could ever do anything with anything unless he had every other co-owner's prior permission to do what he wanted to do. And how can one give such a permission if one is not even the sole owner of one's very own body (and vocal chords)? If one were to follow the rule of total collective ownership, mankind would die out instantly. Whatever this is, it is not a human ethic either.

Thus, one is left with the initial principles of self-ownership and first-use-first-own, i.e., original appropriation, homesteading. They pass the universalization test – they hold for everyone equally – and they can at the same time assure the survival of mankind. They and only they are therefore non-hypothetically or absolutely true ethical rules and human rights.

“Rothbard’s unique contribution is the rediscovery of property and property rights as the common foundation of both economics and political philosophy, and the system-
atic reconstruction and conceptual integration of modern, marginalist economics and natural-law political philosophy into a unified moral science: *libertarianism*.” (Hoppe (1998), p. xi)

→ It was Rothbard, in his *The Ethics of Liberty* (1982), who:

(1) restored the concept of *property* and *property rights* to its central position within economics (like, for instance, Ronald Coase, Harold Demsetz, and Armen Alchian); and

(2) re-integrated *rational ethics* and economics via taking recourse to the concept of private property.

- Rothbard’s rational ethic took its starting point in Locke’s *natural rights theory*. Rothbards gives the ultimate proof of private property rules as *just rules* by taking recourse to the *universalization principle* (as contained in the *Golden Rule* as well as in the *Kantian Categorical Imperative*).
Hoppe showed that a libertarian private property ethic can be justified using the concept of *argumentation* – as argumentation presupposes private property.

→ Note: Only insofar as there is *scarcity* are economics *and* ethics required.

→ Scarcity is a *necessary condition* for the emergence of ethics, as it creates conflict. The *sufficient condition* is that *non-aggressive* actors, who have conflicting ideas, must be capable of *argumentation*.

→ *Argumentation* is meant as an orderly *exchange of ideas*, where each party tries justifying his own thesis, and questioning, or refuting, the other party’s thesis (dis-course). It resolves an initial conflict of opinion by way of a critical discussion.

Truth claims of any kind are made through argumentation, and it is in the course of argumentation that truth claims are decided. *Political philosophy/ethics thus presupposes argumentation*. This is, we can say, is irrefutably true.
Denying that political philosophy/ethics presupposes argumentation is contradictory, as denying would itself be an argumentation, and one cannot argue that one cannot argue. As a result, we have the “a priori of argumentation” (Karl-Otto Apel and Jürgen Habermas).

- Argumentation is a *practical affair*, and if argumentation is the presupposition of truth-claiming and possibly true propositions, then it follows that intersubjectively meaningful norms must exist, namely those which make an action argumentation.

- These intersubjectively meaningful norms must have a *special cognitive status* in that they are the practical preconditions of truth.

→ This is *a priori* true: Denying the possibility of a rational ethics, and arguing that the acceptance/rejection of norms is an arbitrary affair, would invariably get caught in a *practical contradiction*. As for doing so, one has to presuppose the norms which underlie any argumentation as valid – simply in order to say anything at all.
Argumentation is an action, and as such it requires an arguing person. The recognition of this undeniable fact, in turn, requires that a person must have exclusive control over the scarce resource of his body. And so, the right in one’s own body must be said to be justified a priori.

→ Any person who tried to deny this result (the right in his body) would run into a practical, self-defeating contradiction: as arguing in this way implies acceptance of the very norm which he is disputing.

The right in one’s own body, which is a priori true, extends to the right of ownership of other goods. By the virtue of being alive, property rights to other things must be presupposed to be valid.
30. Libertarian property rights theory


- Rothbard restored the concept of property to its central position within economics: In his *The Ethics of Liberty*, he integrated economics and ethics via the concept of property, showing that a rational ethics is possible.

- Every person owns his own physical body as well as all nature-given goods which he puts to use with the help of his body before anyone else does, a line of reasoning based on natural law (John Locke).

- From libertarian property rights theory, existing property titles would have to be scrutinized. For any property currently claimed and used we can say the following (Rothbard (1982), p. 58):

  (a) if we *know* clearly that there was no criminal origin to its current title, then obvi-
ously the current title is legitimate, just and valid;

(b) if we don’t know whether the current title had any criminal origins, but can't find out either way, then the hypothetically "unowned" property reverts instantaneously and justly to its current possessor.

(c) If we do know that the title is originally criminal, but can't find the victim or his heirs, then:

(cl) if the current title-holder was not the criminal aggressor against the property, then it reverts to him justly as the first owner of a hypothetically unowned property;

(c2) if the current titleholder is himself the criminal or one of the criminals who stole the property, then clearly he is properly to be deprived of it, and it then reverts to the first man who takes it out of its unowned state and appropriates it for his use.
And finally, (d) if the current title is the result of crime, and the victim or his heirs can be found, then the title properly reverts immediately to the latter, without compensation to the criminal or to the other holders of the unjust title.
31. The *Ethic of Liberty* and the government


- Rothbard showed that the principles of *first-use-first-own* (that is original appropriation, *homesteading*) and *self-ownership* (production and contracting) pass the *universalization test* – they hold for everyone equally, and they can at the same time assure the survival of mankind. They, and only they, are therefore *non-hypothetically* or *absolutely true ethical rules* and *human rights*.

- Rothbard’s argument (1998, pp. 172 – 173) has important implications for the institution of *government*. As a logical consequence of his reasoning in *The Ethic of Liberty*, Rothbard’s *positive definition* of the state is as follows:

  “which possesses either or both (in actual fact, almost always both) of the following characteristics: (a) it acquires its revenue by physical coercion (taxation); and (b) it achieves a compulsory monopoly of force and of ultimate decision-making power over
a given territorial area. Both of these essential activities of the State necessarily constitute criminal aggression and depredation of the just rights of private property of its subjects (including self-ownership). For the first constitutes and establishes theft on a grand scale; while the second prohibits the free competition of defense and decision-making agencies within a given territorial area—prohibiting the voluntary purchase and sale of defense and judicial services.”

**Immanuel Kant’s *Metaphysics of morals***

„Eine jede Handlung ist recht, die oder nach deren Maxime die Freiheit der Willkür eines jeden mit jedermanns Freiheit nach einem allgemeinen Gesetz zusammen stehen kann.”

—Kant, I., Metaphysik der Sitten, S. 67 [230-231].

„Wenn also meine Handlung oder überhaupt mein Zustand mit der Freiheit von jedermann nach einem allgemeinen Gesetze bestehen kann, so tut der mir unrecht, der mich daran hindert; denn dieses Hindernis (dieser Widerstand) kann mit der Freiheit nach allgemeinen Gesetzen nicht bestehen.“

—Kant, I., Metaphysik der Sitten, S. 67 [230-231].

„Der Widerstand, der dem Hindernisse einer Wirkung entgegengesetzt wird, ist eine Beförderung dieser Wir-
kung und stimmt mit ihr zusammen. Nun ist alles, was unrecht ist, ein Hindernis der Freiheit nach allgemeinen Gesetzen; der Zwang aber ist ein Hindernis oder Widerstand, der der Freiheit geschieht. Folglich: wenn ein gewisser Gebrauch der Freiheit selbst ein Hindernis der Freiheit nach allgemeinen Gesetzen (d. i. unrecht) ist, so ist der Zwang, der diesem entgegengesetzt wird, als Verhinderung eines Hindernisses der Freiheit mit der Freiheit nach allgemeinen Gesetzen zusammenstimmend, d. i. recht; mithin ist mit dem Rechte zugleich eine Befugnis, den, der ihm Abbruch tut, zu zwingen, nach dem Satze des Widerspruchs verknüpft.“
—Kant, I., Metaphysik der Sitten, S. 68 [231-232].

„Ein Staat (civitas) ist eine Vereinigung einer Menge von Menschen unter Rechtsgesetzen“.
—Kant, I., Metaphysik der Sitten, S. 169 [312 – 313].

„Ein jeder Staat enthält drei Gewalten in sich, d. i. den allgemein vereinigten Willen in dreifacher Person (trias politica): die Herrschergewalt (Souveränität) in der des Gesetzgebers, die vollziehende Gewalt in der des Regierers (zufolge dem Gesetz), und die rechtsprechende Gewalt (als Zuerkennung des Seinen eines jeden nach dem Gesetz) in der Person des Richters (...).“
—Kant, I., Metaphysik der Sitten, S. 170 [313 – 314].

„Die gesetzgebende Gewalt kann nur dem vereinigten Willen des Volkes zukommen. Denn da von ihr alles Recht ausgehen soll, so muss sie durch ihr Gesetz schlechterdings niemand unrecht tun können.“
—Kant, I., Metaphysik der Sitten, S. 170 [313 – 314].
In the classical-liberal tradition, from the American Declaration of Independence to Mises, it was the idea to assign to government the indispensable task of protecting life, liberty, and property as its sole function. Rothbard rejected this view – on the basis of his rational ethic of liberty.

Rothbard’s *The Ethics of Liberty* initially attracted little attention in academia. Presumably this can be ascribed to the anarchistic implications of his theory, namely that the institution of government is incompatible with the fundamental principles of justice.
32. Mises on the impossibility of Socialism


- Capitalism means a societal order in which there is private ownership of the means of production. The defining characteristic of capitalism is the unconditional respect of individuals’ property rights.

→ Remind how Murray N. Rothbard defined property rights: “[E]very person owns his own physical body as well as all nature-given goods which he puts to use with the help of his body before anyone else does; this ownership implies his right to employ these resources as one sees fit so long as one does not thereby uninvitedly change the physical integrity of another’s property or delimit another’s control over it without his consent.”
Under capitalism, property rights can be established by three, and only three, non-aggressive ways: (i) homesteading, (ii) production and (iii) voluntary exchange.

Socialism means public ownership of the means of production. “[I]t is a transfer of property titles from people who have actually put scarce means to some use or who have acquired them contractually from persons who have done so previously onto persons who have neither done anything with the things in question nor acquired them contractually.” (Hoppe, 2010, p. 33.)

Socialism Russian style means violent overthrow of the existing governments, the complete expropriation of private property owners (capitalists) and – until scarcity would be eliminated), establishing temporary dictatorship of the proletariat.
→ *Socialism social-democratic style*, socialism’s victory shall be attained through democratic, parliamentary system and universal suffrage.

→ *Socialism social-democratic style* does not outlaw private ownership of the means of production, as *Socialism Russian style* does. However, under socialism social-democratic style owners of the means of production are not allowed to rightfully own all the income derived from using the privately owned means of production. *Part of the income belongs to society* (partial expropriation).

- In *Economic Calculation in the Socialist Commonwealth* (1920), Mises demonstrated irrefutably that *socialism is doomed to fail*. This argument was later incorporated and broadened in his book *Socialism* (1922) – at a time when the socialist idea had become state-of-the-art among many intellectuals and economists in particular.

- Mises’s *calculation argument* can be outlined as follows:
(1) *Monetary calculation* is indispensable for choosing the optimum among the vast array of alternative production plans.

(2) If *private property* holders are at liberty to exchange goods against money according to their individual value judgements, objective monetary exchange ratios (*money prices*) emerge, which relate the values of all (consumer) goods to one another.

→ In the *competitive process*, entrepreneurs seeking to maximize profits bid against one another to acquire the production factors, thereby objectively appraising scarce resources in monetary terms according to their *ultimate contribution to the production of consumer goods*.

(3) Under *socialism*, where private property of the means of production is abolished, the *appraisal of scarce resources is no longer possible* (especially as far as the economy’s *capital structure* is concerned).
As actors are not in a position to compare the estimated costs and benefits of their decisions, *economizing activities* are, by definition, ruled out.

*A society without monetary calculation*, that is a socialist society, is a *society without an economy*.

- Why, then, could socialist economies (such as, for instance, the Soviet Union) survive for decades?

Socialist economies led an existence as *parasites* on the social appraisement process by surrounding free market economies. *Socialist planners* would not have available a genuine price system for the means of production – as the hallmark of socialism is the government’s ownership of the means of production.

- In contrast to Mises’s analysis, Friedrich August von Hayek (1899–1992) ascribed the impossibility of a socialist economy to a *lack of knowledge* on the part of the socialist
planners.

- Hayek agreed with Mises that in a socialist economy the planners would have no means of finding out the preferences of the consumers, or the scarcity of resources – while free market prices disseminate such knowledge from one individual to another.

- However, Hayek held that a static, general equilibrium economy could actually overcome the problem of making use of dispersed knowledge: eventually, so Hayek, all data would come to be known by all. Hence, as is usual for Hayek, the argument for the free economy and against statism rests on an argument of ignorance.

- To Mises, however, the central problem of a socialist economy is not the lack of knowledge (as maintained by Hayek). Mises’s insight was that even if socialist planners knew perfectly, and tried hard to satisfy consumer preferences, and even if the planners enjoyed a perfect knowledge of all resources and all technologies, they still would not be able to calculate due to a non-existing price system of the means of production.
To Mises, the starting point of entrepreneurial planning of production in a market economy is the experience of the present (actually immediate past) price structure as well as the underlying economic data.

Knowledge of past market prices by the entrepreneur does not substitute for qualitative information about the economy, as Hayek argues, but is necessarily complementary to it, Mises argues.

To Mises, the price structure that emerges in the future is relevant to the economic success of unavoidably time-consuming and future-oriented production plans. Entrepreneurs cannot know the future price structure directly (and perfectly), however. They can appraise them in light of their experience made in the past and of their understanding of what will influence them going forward. In contrast to Hayek, therefore, forming a view about future price developments (which are actually expressive of consumer preferences) is the starting point of the competitive process and not its social culmination.
In other words: forecasting, or appraising, future price structures (in which discovery of new knowledge may be said to play a role) is a pre-competitive and non-social activity, as it takes place in the (subjective) mind of the entrepreneurial mind.

The objective price appraisement of individual entrepreneurial calculation (for higher-order goods) is what can be called the social function of competition. [Note that the latter’s operation does not presuppose knowledge discovery, which is inescapable an individual process.]

As a result, it is impossible for socialist planners to employ resources in an entrepreneurial fashion, which requires anticipating future prices. Hayek’s static equilibrium concept would just convey knowledge about past or present prices, but it would not provide any guidance as far as future prices are concerned – a mechanism which is indispensable for entrepreneurial activity.

Without a free market based pricing system, it is impossible to calculate and appraise
in cardinal monetary terms, and so the problem of socialism is not a lack of knowledge but the impossibility of calculability.

- What are the effects of socializing the means of production? It leads to relative impoverishment (when compared to production under capitalism). Three factors explain this conclusion.

1. Relative drop in investing and thus capital formation. “Since “socialization” favors the nonuser, the nonproducer, and the noncontractor of means of production and, mutatis mutandis, raises the costs for users, producers, and contractors, there will be fewer people acting in the latter roles. There will be less original appropriation of natural resources whose scarcity is realized, there will be less production of new and less upkeep of old factors of production, and there will be less contracting. For all of these activities involve costs and the costs of performing them have been raised, and there are alternative courses of action, such as leisure-consumption activities, which at the same time have become relatively less costly, and thus more open and available to actors.” (Hoppe, 2010, p. 40)
(2) Wasteful squandering of scarce resources. Scare resources will be used for the satisfaction of second-rate needs or, in the worst case, they will serve no need at all. Because the means of production either cannot be sold, or selling them is made very difficult, no (clean) market prices for the means of production exist, or the formation of such prices is hindered and made more costly. The caretaker-producer of the socialized means of production can no longer correctly establish the actual monetary costs involved in using the resources or in making any changes in the production structure. Nor can he compare these costs with his expected monetary income from sales.

(3) Over-utilization of the given factors of production. “Because he cannot sell the means of production, his incentive to not produce, and thereby utilize the capital employed, at the expense of an excessive reduction in capital value is, if not completely gone, then at least relatively reduced. True, since the caretaker in a socialized economy
also cannot privately appropriate the receipts from the sale of products, but must hand them over to the community of caretakers at large to be used at their discretion, his incentive to produce and sell products at all is relatively weakened as well. It is precisely this fact that explains the lower rate of capital formation.” (Hoppe, 2010, p. 43)
33. Capitalism and (the forms of) socialism


- **Capitalism**: A system of societal organisation in which the means of production are privately owned.

- **Socialism**: A system of societal organisation in which the means of production are publicly owned, or “nationalised” or “socialised”.

- **The way towards socialism**

  (1) There are advocates among the socialists for a *revolutionary overthrow* of the current societal order, replacing capitalism by the complete expropriation of all private property owners, and establishing – until scarcity would be eradicated – the temporary *dictatorship of the proletariat*. 
(2) There are socialists who advocate a *peaceful and gradualist approach*. They reason that socialism can be established best via parliamentary, that is democratic, means. Universal suffrage would allow, over time, winning over the majority of the people to the socialist course.

*Specific forms* of socialism

(1) The *Russian-style socialism* is socialism *par excellence* – as it characterised a system in which *all* means of production are nationalised or socialised (which, in fact, cannot be carried through to its logical end without causing an immediate economic disaster).

(2) *Social-democratic socialism* was encouraged by the economic failure of Russian-style socialism and, in particular, its lack of support among the population. It has two central features:

→ *First*, social-democratic socialism does not outlaw private ownership in the means
of production – as Russian-style socialism does. It even accepts the idea of all means of production being privately owned—with the exception only of education, traffic and communication, central banking, and the police and courts.

→ Second, under social-democratic socialism no owner of means of production rightfully owns all of the income that can be derived from his means of production. Part of the income has to be handed over to society, and is then, according to ideas of egalitarianism or distributive justice, redistributed to its individual members.

→ That said, the difference between Russian-style and social-democratic socialism is not of a categorical nature. As Hoppe (2010, p. 62) notes: “[T]he degree of expropriation of private producers’ income is a matter of expediency, which suffices to reduce the difference between both types of socialism—Russian and social-democratic style—once and for all to a difference only of degree.”

(3) The socialism of conservativism
„Conservatism (…) is the anti-egalitarian, reactionary answer to the dynamic changes set in motion by a liberalized society: It is anti-liberal and, rather than recognizing the achievements of liberalism, tends to idealize and glorify the old system of feudalism as orderly and stable.” (Hoppe, 2010, p. 90)

Socialism of conservativism wants – via taking recourse to aggressions against private property (via, for instance, price controls, regulations etc.) – to prevent economic and societal change that is deemed unfavourable from the viewpoint of the conservatives.

(4) Christian socialism

“Christian socialism is governed by the idea that the economic system would be perfectly stationary if the desire for profit and personal gain by men directing their efforts solely to the satisfaction of material interests did not disturb its smooth course. (…) The basic idea of Christian Socialism that runs through all the teachings of its representatives is purely stationary in outlook. In the economic system which they have in mind there is no entrepreneur, no speculation, and no ‘inordinate’ profit.” (Mises,
1951, p. 253)
34. Mises’s *Interventionism* Critique


- In *Interventionism* (1929), Mises exposed the fallacies of the *middle-of-the-road policy* (a system steering *between capitalism and socialism*), showing that interventionism would be an inherently unsustainable form of societal organization, and identifying the general law of *government failure*.

- Whenever the state intervenes, it invariably ends in not in solving the problem it tries to solve, but in *creating one or many additional problems*, provoking even further government interference in private property.

“Interventionism is not an economic system, that is, it is not a method which enables people to achieve their aims. It is merely a system of procedures which disturb and eventually destroy the market economy. It hampers production and impairs satisfaction...
of needs. It does not make people richer; it makes people poorer.”

“The various measures, by which interventionism tries to direct business, cannot achieve the aims its honest advocates are seeking by their application. Interventionist measures lead to conditions which, from the standpoint of those who recommend them, are actually less desirable than those they are designed to alleviate. They create unemployment, depression, monopoly, distress. They may make a few people richer, but they make all others poorer and less satisfied. If governments do not give them up and return to the unhampered market economy, if they stubbornly persist in the attempt to compensate by further interventions for the shortcomings of earlier interventions, they will find eventually that they have adopted socialism.”

“The inevitable sequence of events which followed upon the application of interven-
tionist measures fully proved the correctness of the economists' predictions. The predicted political effects, social unrest, dictatorship, and war, also did not fail to appear.”


- Sooner or later, however, a society following interventionism will be confronted with an inescapable choice: *either returning to capitalism or drifting to full-scale socialism.*
35. On anti-capitalistic mentality


In his *The Anti-Capitalistic Mentality* (1956), Mises identified a deeply rooted, and economically uninformed, prejudice against capitalism, which he called *anti-capitalistic mentality*:

“(…) people do not ask for socialism because they know that socialism will improve their conditions, and they do not reject capitalism because they know that it is a system prejudicial to their interests. They are socialists because they believe that socialism will improve their conditions, and they hate capitalism because they believe that it harms them. They are socialists because they are blinded by envy and ignorance. They stubbornly refuse to study economics and spurn the economists’ devastating critique of the socialist plans because, in their eyes, economics, being an abstract theory,
is simply nonsense. They pretend to trust only in experience. But they no less stubbornly refuse to take cognizance of the undeniable facts of experience, viz., that the common man’s standard of living is incomparably higher in capitalistic America than in the socialist paradise of the Soviets.” (Mises, 1972, p. 36)

- Mises saw that the spreading of the anti-capitalistic mentality would threaten the free societal order, as it is public opinion that will determine whether socialism or capitalism will dominate:

“If public opinion is ultimately responsible for the structure of government, it is also the agency that determines whether there is freedom or bondage. There is virtually only one factor that has the power to make people unfree—tyrannical public opinion. The struggle for freedom is ultimately not resistance to autocrats or oligarchs but resistance to the despotism of public opinion. It is not the struggle of the many against the few but of minorities—sometimes of a minority of but one man—against the majority. The worst and most dangerous form of absolutist rule is that of an intolerant majority. Such is the conclusion arrived at by Tocqueville and John Stuart Mill.” (Mises (1957),
In fact, Mises was aware of the fact that public opinion, which is greatly influenced through the *intellectual elite*, must retain its *culture of dissent*, as without the latter there could not be competition and progress. In many writings, Mises had stressed the fundamental historical fact that social progress, made possible by the rise of capitalism, had resulted from the efforts of a small group of individuals:

“The most amazing thing concerning the unprecedented change in earthly conditions brought about by capitalism is the fact that it was accomplished by a small number of authors and a hardly greater number of statesmen who had assimilated their teachings. Not only the sluggish masses but also most of the businessmen who, by their trading, made the laissez-faire principles effective failed to comprehend the essential features of their operation. Even in the heyday of liberalism only a few people had a full grasp of the functioning of the mar-
ket economy. Western civilization adopted capitalism upon recommendation on the part of a small élite.” (Mises, 1972, p. 27)

- In his essay *The Intellectuals and Socialism* (1949), Friedrich August von Hayek noted:

  “In all democratic countries, in the United States even more than elsewhere, a strong belief prevails that the influence of the intellectuals on politics is negligible. This is no doubt true of the power of intellectuals to make their peculiar opinions of the moment influence decisions, of the extent to which they can sway the popular vote on questions on which they differ from the current views of the masses. Yet over somewhat longer periods they have probably never exercised so great an influence as they do today in those countries. This power they wield by shaping public opinion.” (Hayek, 1949, S. 371)
36. Friedrich August von Hayek’s *The Road to Serfdom*


- Friedrich August von Hayek (1899–1992) had become witness of the rise of (national) socialism in Germany. What he later saw as the beginning of socialism in Great Britain led him to write *The Road to Serfdom* (1944).

- In it, Hayek argued that those in favour of socialism must establish an institution responsible for formulating the central plan (which replaces the free market), a *Central Planning Bureau*.

- The *fatal flaw of socialism*, Hayek argued, is that these central planners would have no means of knowing which production possibilities would be economically feasible; they would have no market prices to serve as guides.
Note that Hayek explained the impossibility of socialism with a lack of knowledge, while Mises’s explanation rested on the non-existence of private property (and thus market prices).

- Hayek argued that there is – in addition to an insoluble economic problem – also a severe political problem with socialism: those who rise to the top under socialism are those who have a comparative advantage in exercising discretionary power and coercion; and that it would be inevitable that these powerful men would run the system to their own personal advantage.

- Hayek proved right on both accounts. The 20th century is replete with impoverishment and innumerable innocent victims of one or another variant of the socialist experiment.

- Perhaps most important, he showed was that totalitarianism is not a historical accident that emerges because of a poor choice of a leader under socialism. Totalitarianism is the logical outcome of the very nature of socialism.
“It is a common mistake to regard National-Socialism as a mere revolt against reason, an irrational movement without intellectual background. ... But nothing could be further from the truth or misleading. ... Whatever one may think of the premises from which they started, it cannot be denied that the men who produced the new doctrines were powerful writers who left the impress of their ideas on the whole of European thought. ... Once one accepts the premises from which it starts, there is no escape from its logic.”


“The principle that the end justifies the means, which in individualist ethics is regarded as the denial of all morals, in collectivist ethics becomes necessarily the supreme rule. There is literally nothing which the consistent collectivist must not be prepared to do if it serves ‘the good of the whole’, because that is to him the only criterion of what ought to be done.”

“Once you admit that the individual is merely a means to serve the ends of the higher entity called society or the nation, most of those features of totalitarianism which horrify us follow of necessity. From the collectivist standpoint intolerance and brutal suppression of dissent, the complete disregard of the life and happiness of the individual are essential and unavoidable consequences of this basic premise, and the collectivist can admit this and at the same time claim that his system is superior to one in which the “selfish” interests of the individual are allowed to obstruct the full realisation of the ends the community pursues.”

37. Democracy, liberalism, and property rights


- *Democracy* is a political form of government, stemming from the Greek words *demos* (the people) and *krátos* (power in a strong sense).

- “Liberalism is a doctrine about what the law ought to be, democracy a doctrine about the manner of determining what will be the law.” (Hayek, 1960, p. 103.)

*Liberalism* is concerned with limiting the coercive powers of the government (be it democratic or monarchic), whereas for (supporters of a dogmatic) *democracy* there is just one limit to government’s coercive power: *majority rule*.

- *Democracy*, whether direct or indirect (representative) democracy, rests on two pillars: *majority rule* and *political equality*. 
The majority rule is not the rule of the people, though: it leads to the majority (represented by a few) ruling the minority.

The aspect of political equality is typically based on two arbitrary concepts, namely full citizenship and the mature voter:

— What does it take to become a full citizenship? Does an individual have to pay taxes, serve in the military army, etc.?

— When can a citizen be considered a mature voter? One can achieve an early maturity (say, 18 years), another does so at a later stage in life (say, 25 years), another never.

- Aristotle and the early and late Scholastics divided “good” and “bad” forms of government (see the following table).
“Good” forms

**Monarchy**, the rule of one man in the interest of the common good.

**Aristocracy**, the rule of a group (the highest social layer) in the interest of the common good.

**Republic** or **Polity**, the rule of the better part of the people in the interest of the common good.

“Bad” forms

**Tyranny**, the rule of one man for his own benefit.

**Oligarchy**, the rule of a group for its own benefit.

**Democracy**, the rule of the worse part of the people for their own benefit.


- The notion of *self-government* implies that we are not ruled by somebody else: we are doing it ourselves and thereby remain free. Under democracy, however, there is indisputably a *class of rulers* (the minority of politicians/bureaucrats) and a group of people subject to their ruling, the *class of the ruled* (the majority of voters).

  → The repression of 49% of the people by 51% of the people, or 1% by 99%, is most regrettable, but it is *not undemocratic*. In that sense, under democracy *self–government*
is an illusion.

→ Hermann Melville said: “Better to be secure under one king, than exposed to violence from twenty millions of monarchs, though oneself be one of them.”

- There are three basic arguments in favor of democracy:
  
  (1) Whenever one of several conflicting views has to prevail (if needed by force), it might be preferable to decide the matter by counting votes rather fighting.

  (2) If the view is that coercive power must be exercised (by a few), it is less likely that the power is abused if the power entrusted to the few can always be revoked by those who have to submit to it. In that sense, it is hoped that democracy is more likely to protect liberty and freedom than other forms of government.

  (3) Democracy is an effective method of educating the majority; in that sense it is a process of educating and forming public opinion.
Hayek stressed the need of *majority opinion to be independent* from government for making democracy workable: (1960, p. 109):

“The conception that government should be guided by majority opinion makes sense only if that opinion is independent of government. The ideal of democracy rests on the belief that the view which will direct government emerges from an independent and spontaneous process. (…) There is widespread consensus that for this reason the case for democracy and the case for freedom of speech and discussion are inseparable.”

→ That said, the organization of education (schools, universities, etc.) becomes an important issue. Rothbard (1999 [1979], p. 34) writes: “It is a grave and unanswerable indictment of compulsory state education that these modern totalitarianisms were eager to institute compulsory state schooling in their regimes. (…) At the base of totalitarianism and compulsory education is the idea that children belong to the State rather than to their parents.”
What is more, under democracy there is the danger of violating common principles in the short-run, causing great danger in the long-run (Hayek 1960, p. 111):

“(…) majority decisions are peculiarly liable, if not guided by accepted common principles, to produce over-all results that nobody wanted. It often happens that a majority is forced by its own decision to further actions that were neither contemplated nor desired. The belief that collective action can dispense with principles is largely an illusion, and the usual effect of its renouncing principles is that it is driven into a course by the unexpected implications of former decisions. The individual decision may have been intended only to deal with a particularly situation. But it creates the expectation that wherever similar circumstances occur the government will take similar action. Thus principles which had never been intended to apply generally, which may be undesirable or nonsensical when applied generally, bring about future action that few would have desired in the first instance.”
38. The economics of government debt

- A government bond represents a loan to the public sector, and the government uses the funds to finance its outlays such as, for instance, paying politicians, bureaucrats, favored groups, social security, military spending, infrastructure, etc.

- The government takes recourse to debt financing because tax revenues typically don't cover its outlays. But why doesn't the government raise taxes, or reign in spending, to fill the financing gap?

- People don't like to pay taxes. At the same time, they typically do like to receive financial benefits from the government. And those in government love to make people happy by giving them money — as this is the best way to secure re-election.

- Of all the financing instruments available, debt financing is, economically speaking, the most attractive from the viewpoint of the government and the electorate.
— First, via debt financing the government can finance its hand-outs without burdening the taxpayer. The electorate can enjoy financial benefits for which it doesn't have to pay. Taxpayers just have to shoulder the *periodic* interest-rate costs on government debt, whereas the repayment of the debt is transferred onto future generations of taxpayers.

— Second, people tend to buy government bonds *voluntarily*, so new debt can easily be issued and placed with savers without causing political opposition.

— Third, government bonds are considered *low risk*: the government has the power to tax — that is, to *expropriate citizens* —, so investors in government bonds have reason to be fairly confident that they will recover their investment plus interest.

— And fourth, socialist-ideological economics do their best to legitimize government debt: for instance, it is typically said that credit-financed public outlays stimulate production and employment.
This, however, is a misconception. The government doesn't create new goods by credit-financed spending. Debt financing allows the government to increase its grip over scarce resources, resources that would otherwise be available for alternative investment projects.

As the foregone benefits of the unrealized investments do not typically come into sight, peoples' indignation about wasteful credit-financed public spending remains subdued.

David Ricardo in his 1820 essay on the "Funding System" argued that government borrowing was a decision whether to be taxed more in the present or more in the future, since all that was borrowed now would have to be paid back plus interest at a later date through future taxes.

As a result, in terms of their financial burden the two funding methods can be shown to be equivalent, under specified conditions (“Equivalent Theorem”). Ricardo, however, also pointed out that due to people's perceptions and evaluations of costs in the present versus the future, they were rarely equivalent in their minds.
Example: On government debt and taxation (US$)

<table>
<thead>
<tr>
<th></th>
<th>Mr A</th>
<th>Mr B</th>
<th>Gov't</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>1000</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>Bond</td>
<td>-100</td>
<td></td>
<td>+100</td>
</tr>
<tr>
<td>Gov't payout</td>
<td></td>
<td>+80</td>
<td>-80</td>
</tr>
<tr>
<td>I. Sum</td>
<td>+900</td>
<td>+1080</td>
<td>+20</td>
</tr>
<tr>
<td>Tax</td>
<td>-55</td>
<td>-55</td>
<td>+110</td>
</tr>
<tr>
<td>Repaying bond</td>
<td>+110</td>
<td></td>
<td>-110</td>
</tr>
<tr>
<td>II. Sum</td>
<td>955</td>
<td>1025</td>
<td>20</td>
</tr>
<tr>
<td>Return (%)</td>
<td>-4.5</td>
<td>2.5</td>
<td>∞</td>
</tr>
</tbody>
</table>

- Let us take a look at the following example:
  1. Mr A and Mr B hold cash in the amount of US$1000.
  2. The government issues a bond in the amount of US$100 at 10% p.a., which is bought by Mr A.
The government uses the proceeds to pay out US$80 to Mr B (in the form of social transfers, etc.), and it retains US$20 for the caretakers of government power.

To repay the bond the government imposes a US$55 tax on Mr A and Mr B, and the proceeds (US$110) are used to repay the bond.

What to make of this example? From an economic standpoint one cannot come to the conclusion that the credit transaction has been beneficial:

— The act of the government issuing bonds, for financing state outlays, is irreconcilable with the principle of the free market: Government, and its activities, are a violation of individuals’ private property.

— The government bond issue diverts funds from alternative investments into the hands of government; the opportunity costs are the foregone gains from unrealised projects.

— Government caretakers are beneficiaries as they can draw on (part of) the proceeds from the bond issue – at the expense of those required to pay taxes.

— Mr B receives an income without putting to work his capital. He receives financial
benefits without having to respond to market demand.

— Mr A, by investing in the government bond, forms a coalition with the government, betting that future taxpayer will be expropriated for paying the debt service.
39. The theory of social evolution


- To Mises, liberalism means private ownership of the means of production, while socialism means public ownership of the means of production. Liberalism, according to Mises, provides for an explanation of societal evolution, that is the process of civilization:

  “The program of liberalism, therefore, if condensed into a single word, would have to read: property, that is, private ownership of the means of production (for in regard to commodities ready for consumption, private ownership is a matter of course and is not disputed even by the socialists and communists). All the other demands of liberalism result from this fundamental demand.”


- “If and as far as labor under the division of labor is more productive than isolated la-
bor, and if and as far as man is able to realize this fact, human action itself tends toward cooperation and association; man becomes a social being not in sacrificing his own concerns for the sake of a mythical Moloch, society, but in aiming at an improvement in his own welfare. Experience teaches that this condition—higher productivity achieved under the division of labor—is present because its cause—the inborn inequality of men and the inequality in the geographical distribution of the natural factors of production—is real. Thus we are in a position to comprehend the course of social evolution.”


<table>
<thead>
<tr>
<th>Good</th>
<th>Total output in units</th>
<th>USA</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>24</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Linen</td>
<td>18</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

- **The law of association.** – Assume that the people in the US and the UK can produce the following amounts (units) of wheat and linen, with both having available 100 hours per production period.

- The US has an *absolute cost advantage* for producing both goods. However the cost
advantage is larger for producing wheat compared to producing linen (24:10 compared to 18:16). The UK has a *comparative cost advantage* in terms of producing linen.

- The US can produce a maximum of 24 units of wheat (and zero units linen) or, alternatively, a maximum of 18 units linen (and zero units wheat). The former costs 18 units linen, the latter 24 units wheat. That said, the costs of producing a unit of wheat are 0.75 units linen (18:24), while the costs for producing a unit of linen is 1.33 units of wheat (24:18).

- The table shows the production costs in the US and the UK – expressed in terms of *opportunity costs*. The opportunity costs of producing wheat are lower in the US than in the UK, while the opposite holds true for the production of linen.

- As people in the US and the UK learn about their relative cost advantages (and disadvantages), entering into a *division of labour* and *free trade* is the obvious reaction for
improving welfare for all actors involved.
40. Societal order, property rights and time preference

At the most fundamental level, one can distinguish between the \textit{libertarian societal order}, which excludes any kind of aggression against individual’s property rights, and \textit{government societal order}, which implies aggression against individual’s property rights.

“A government is”, Hoppe (2006, p. 45) noted, “a territorial monopolist of compulsion – an agency which may engage in continual, institutionalized property rights violations and exploitation – in the form of expropriation, taxation and regulation – of private property owners.”

The specific forms of the government societal order, in turn, can be subdivided according to the level of time preference of government.

— At the one end of the spectrum is, as Mancur Olson (1932 – 1998) said, the \textit{roving bandit}. He has a \textit{narrow interest} in the welfare of society and, as a result, his theft typically approaches 100 percent of society’s income. He does not have to share in the losses his aggression causes to society (in terms of lost income). The \textit{time pref-}
erence of the roving bandit is therefore high: He takes as much from his victims as possible, he has no economic incentive to restrain his stealing.

At other end of the spectrum is the stationary bandit. While he also holds the monopoly of coercion over his victim, he has an encompassing interest in society’s welfare. The stationary bandit has an economic incentive to make sure that his victims keep producing: the more the victims produce, the more there is to take for the stationary bandit. As he shares in society’s losses, the stationary bandit will make sure that his thievery is limited: The higher the losses in production from thievery are, the lower will be the level of aggression at which the stationary bandit’s take is maximized. The stationary bandit’s time preference will be higher than that of the roving bandit.

- Taking a further look at the stationary bandit, one can draw a distinction between private ownership of government (feudalism/monarchy) and public ownership of government (democratic-republicanism):
— The caretaker of private ownership of government *maximizes the present value* of the total income which can be reaped from exploiting and expropriating the property of the ruled. His time preference will be, as he has an encompassing interest, relatively low.

— In contrast, the caretaker of public ownership of government *maximize current income*. He “(…) will use up as much of the government resources as possible, for what he does not consume *now*, he may never be able to consume. In particular, a caretaker – as distinct from a government’s private owner – has no interest in not ruining his country. For why should he *not* want to increase his exploitation, if the advantage of exploitation – the higher capital value of the government estate – *cannot* be reaped privately, while the advantage of the opposite policy of increased exploitation – a higher current income – *can* be so reaped.” (Hoppe (2006), p. 48.) His time preference will be relatively high.

- Mancur Olson (2000), however, holds that public ownership of government (*majority rule*) leads to less expropriation and exploitation than autocratic rule: “Though both the
majority and the autocratic have an encompassing interest in the society because they control tax collections, the majority additionally earns a significant share of market income of the society, which gives it a more encompassing interest in the society’s productivity. The majority’s interest in its market earnings induces it to redistribute less to itself than an autocrat redistributes to himself.”

- **Does majority rule uphold the majority’s encompassing interest in society’s productivity?**

—Public ownership of government, as noted earlier, does not have any interest in *not* ruining society through acts of exploitation and expropriation. The benefits of a policy of moderation cannot be enjoyed by the caretakers of public ownership of government, while the benefits of unrestrained exploitation and expropriation can be reaped (typically with little costs to those of the temporary caretakers).

—The individual voter will support those government policies which he expects (rightly or wrongly) will improve his economic situation; it is unintelligible to as-
sume otherwise. He has every economic incentive to do so – even if the income he obtains via supporting a certain government policy comes from exploiting and expropriating fellow citizens. The caretakers of public ownership of government, in an attempt to secure the majority of the voters, has a strong economic interest in expanding policies of expropriating and exploiting the (typically few) high productive income producers to the benefits of the (typically large group) of less productive income producers.

— That said, public ownership of government will lead to an erosion of the encompassing interest of the majority in the market income of society. It leads to a rise in transfer incomes, financing via growing government expropriation and exploitation. In that sense, public ownership of government increases society’s time preference. It reduces over time savings and investment, thereby contributing to lower material and cultural progress, even leading to a process of de-civilization.
41. *Digression*: Time preference, civilization and decivilization


- *Civilisation process*: moving from a *subsistence economy* (*barbarism*) to *market based exchange economy* via a *declining societal time preference*.

- The market economy implies *peaceful cooperation* under the law of private property, division of labour and free trade.

- An individual’s *high time preference* means that consumption (saving) out of current income is high (low); consumption (saving) out of current income is low (high) if an individual’s *time preference* is low.

- Saving, investing and capital accumulation starts if two conditions are fulfilled: (i) people realize that indirect (more *roundabout*) production processes yield a larger and better output per input than short ones; and (ii) people have enough present goods to
satisfy all those wants whose satisfaction during the prolonged waiting time is deemed more urgent than the increment in future well-being expected from the adoption of more roundabout production.

- The lower (higher) time preference, the stronger (weaker) the economic forces working towards civilization.

- The increase in the accumulation of capital via saving and investment raises the marginal productivity of labour. This, in turn, raises employment and/or wages.

- What are the factors influencing time preference?

  (i) External factors. – *Manna* falling from heaven (positive external factor) would lower peoples’ time preference (the marginal utility of present goods declines vis-à-vis future goods, inducing higher savings). An *expected poor harvest* (negative external factor) would increase the marginal utility of future goods vis-à-vis present goods, that is lowering time preference and increase savings.
(ii) Biological factors. – Children (adults) have a higher (lower) time preference; in fact, time preference may change over the *life cycle*.

(iii) Social and institutional factors. – Respecting (violating) property rights will encourage, stimulate and even accelerate (disturb, halt or even reverse) the tendency toward a fall in time preference, leading to *civilisation* (*decivilization*).

- The chart below plots the *time preference rate* (vertical axis) against the level of real money income (horizontal axis). T1 and T2 represent *time preference schedules*. Reflecting the *law of diminishing marginal utility*, T1 and T2 slope downward: the higher (lower) the level of real income is, the lower (higher) is the marginal utility of present real money, and the lower (higher) is the time preference rate.

- The movement from point *A* (where the time preference rate is R1(T1)) to point *C* (where the time preference is lower, namely R3(T2)) represents the process of civilization. It can be explained by two factors:
Time preference, time preference rate and civilization

\[ \begin{align*}
T_1 & \quad T_2 \\
R_1(T_1) & \quad R_3(T_2) \\
R_2(T_1) & \\
R_3(T_2) &
\end{align*} \]
The movement along T1 from A to B is due a higher supply of present goods, *reducing the marginal utility of present goods* vis-à-vis future goods, lowering time preference.

The movement from B to C implies the move from a higher to a lower time preference schedule (as a result of, for instance, a transition from childhood (*present orientation*) to adulthood (*future orientation*).

The movement from A to C can also be characterized as the *process of civilization*. Likewise, the movement from C to A would represent the *process of decivilization*.

— *Crime* (violation) of property rights reduces the supply of present goods of the victimised appropriator-producer, raising his time preference.

— It also leads to a *reallocation of resources* (building fences, alarm systems etc.), leading to expenditures which were wasteful without the existence of crime.
However, as people have the opportunity to seek measures for protecting their property rights against crime (even if they are costly), the tendency towards a lowering of time preference is only temporary; the civilization process remains intact.

Matters change fundamentally, actually derailing the civilization process permanently, if property right violations come from government action:

(i) Government violation of property rights – contrary to crime – are typically considered legitimate by the government agents and the general public (possibly even the victim).

(ii) Because they are legitimate, government violation of property rights affect individual time preference systematically different and more profoundly than does crime.

—— Like crime, government violations of property rights reduce an individual’s supply of present goods, raising his time preference.
In contrast to crime, governmental violations of property rights are *continual/institutionalized*, the victim cannot seek effective protection.

Government violations of property rights also reduce the supply of future goods, something the individual cannot seek protection against.

Thus, by simultaneously reducing the supply of present goods and future goods, government violations of property rights raise an individual’s time preference and *his time preference schedule*.

- So if government violations of property rights grow extensive, the process of civilization will not only slow down, or come to a standstill, but may be reversed into a *process of decivilization*. 
42. The Austrians rejection of the Marxists’ *expropriation claim* under capitalism


- The *hard-core belief system of Marxism* can be stated as follows:

  (1) The history of mankind is the history of *class struggles*, the struggle between a small ruling class and the larger class exploited by the ruling class.

  (2) The exploiting ruling class has an economic interest in upholding and strengthening its exploitative power, thereby maximizing its exploitatively appropriated “surplus product”.

  (3) The exploitative ruling class establishes specific “relations of production”. To protect the latter, the ruling class forms and runs the state apparatus, characterised by compulsion and coercion.
(4) Competition within the ruling class leads to *concentration* and *centralization* (internally), and to imperialist interstate wars for territorial expansion of the exploitative arrangement (externally).

(5) This competition will gradually approach the ultimate limit, which is *dominating the world*, thereby increasingly eroding the advancement of “productive forces”. The ensuing *economic stagnation* creates the “objective conditions” for the emergence of a *revolutionary class consciousness of the exploited*. A classless society will be established, government of men over men will be replaced by the administration of things, leading to unheard economic prosperity.

- However, what is this exploitation theory under capitalism in the Marxist theory?

  — In his *Kapital* (chapter 24, Vol. I, titled *The So-called Original Accumulation*), Marx makes the claim that the emergence of capitalism is the result of plunder, enclosure and conquest.

- How does Marx *prove* the exploitative character of capitalism? His prove consists in the observation that *factor prices* (in particular wages paid to workers by the capitalist) *are lower than output prices*.

— For instance, a worker is paid a wage that represents consumption goods which can be produced in 3 days, but to receive the wage he has to work 5 days, thereby producing consumption goods that exceed what he receives as remuneration.

— The output of two days (*surplus value* in Marxist terminology) is appropriated by the capitalist; hence, according to Marxists, there is exploitation.

- So what is wrong with Marx’s theory of exploitation under capitalism? The answer is:
it does not take into account, or understand, the phenomenon of time preference as a universally valid category of human action.

— The labourer (voluntarily) agrees to exchange his labour services against wage payments because the latter represent present goods, while the former represent future goods.

— Of course, the labourer could decide to produce all the goods and services he wishes to consume on his own. However, he would have to wait longer for receiving the desired goods (due to a time-consuming production process), or could not get hold of the desired goods at all (due to a lack of production capabilities).

— That said, in selling his labour services to the capitalist the worker demonstrates that he prefers a smaller amount of present consumption now over a possibly larger amount at some day in the future.

— The capitalist, in turn, is also constrained by time preference. He is willingly sacri-
facing a smaller amount of present goods now in order to get hold of a larger amount of present goods (expected) in the future.

— Why does the entrepreneur-capitalist not hire more labour than he does, if by doing so he could earn an additional return? The answer is: the capitalist is a consumer as well. His amount of savings and investing is, like the labourer, restricted by his need to consume. The capitalist requires, so Mises (1996, HA, p. 487), present goods, “large enough to secure the satisfaction of all those wants the satisfaction of which during the waiting time is considered more urgent than the advantages which a still greater lengthening of the period of production would provide.”

— The fact that the labourer does not receive his full worth of labour (sold to the capitalist) has nothing to do with exploitation in the Marxist sense. It merely reflects the praxeological fact that it is impossible for exchanging future goods against present one except for a discount.

— The capitalist and the labourer enter the agreement because they have a reverse
ranking as far as their time preference is concerned: the capitalist prefers future goods over present goods, while the labourer prefers present goods over future goods. The relation between labourer and capitalist is a mutually beneficial arrangement.

— Finally, note that there is no clear-cut (and time-invariant) distinction between labourer and capitalist: both are consumers, and both are accumulating financial assets (the labourer in the form of, for instance, direct or indirect stockholdings, etc.).

- Austrian economics shows that the Marxist theory does not lead to economic prosperity but to impoverishment. Under a system of socialist/collectivist ownership of the means of production, economic output would sink dramatically; it leads to impoverishment on a grand scale, threatening the survival of the human race:

— As noted earlier, there are just three ways for creating economic goods: homesteading, producing with the help of one’s own resources and voluntary exchange. In each case, activity is induced by the actor’s expectation that taking action will lead
to an increase in output (in the future).

— An individual acts on the basis of *ranking the values* he attaches to all expected future incomes related to alternative actions, discounted by his *individual time preference rate*.

— Under a system of collectively owned means of production, the actor is no longer granted *exclusive control* over his accumulated capital and hence over the future income to be derived from it. Instead (partial) control is assigned to non-homesteaders, non-producers and non-savers.

— As the expected income of capital goods is reduced, the actor (who takes action to replace a certain state of want-satisfaction with an expected higher state of want-satisfaction) finds it less attractive to engage in homesteading, producing and exchanging, reducing the supply of economic goods available.

— A declining supply of goods will raise the actor’s *time preference*. That is, the actor...
becomes more present- rather than future-oriented. As a result, saving and investing are reduced, and the *roundaboutness* of the production structure will be shortened, and (relative) impoverishment will result.
43. Function(s) of money


- **Means of payments**

- **Unit of accounts (numéraire)**

Using money as an indirect means of exchange allows for an overall increase in productivity. For instance, assume that there are \( n \) goods, so that in a barter economy the individual would have to know \( (n^2 - n) / 2 \) independent ex-change ratios. Using money as a unit of account, however, an individual would need to know just \( n - 1 \) exchange ratios.

To show that using money increases peoples’ productivity, assume an economy with 4 goods. Using the formula above, people would have to deal with 6 individual exchange ratios, namely:
X1 : X2 = 1 : 2  X2 : X3 = 2 : 3
X1 : X3 = 1 : 3  X2 : X4 = 2 : 4
X1 : X4 = 1 : 4  X3 : X4 = 3 : 4

Let us use X1 as the unit of account. Then we have:

X2 = 2 X1
X3 = 3/2 X2 = 3 X1
X4 = 4/3 X3 = 4 X1.

Using money as a *numéraire* reduces the number of exchange ratios to three. If we had 100 goods, people in a barter economy would need to know 4950 individual exchange ratios. Using money as the unit of account, however, this number declines to 99.

- *Store of value*
- *Means for deferred payments*
In contrast to this mainstream economic characterisation of the function of money, note that the medium of exchange would actually be money’s *only* function. As Mises (1996, HA, p. 401) noted:

“Money is a medium of exchange. It is the most marketable good which people acquire because they want to offer it in later acts of interpersonal exchange. (...) This is only function. All other functions which people ascribe to money are merely particular aspects of its primary and sole function, that of a medium of exchange.”

The functions of money as a unit of account, store of value, and transmitter of value through time (means of deferred payments) can be traced back to its function as medium of exchange:

— The unit of account function is expressive of the medium of exchange function;

— the store of value function means that the possibility of exchanging money against
goods and services in the present is (simply) transferred to a future point in time; and

— the function of the means of deferred payments relates to exchanges which extend through time.
44. Carl Menger and the theory of the origin of money


- The Austrian School of Economics has presumably offered the most comprehensive explanation of the historical origin of money, as laid out by Carl Menger (1840–1921) in his book Principles of Economics, published in 1871.

- The starting point for Menger’s historic-evolutionary theory of the origin of money is the notion that people in a free market economy – characterised by private property, division of labour and free trade – would recognize the benefits of a universally accepted medium of exchange. But how could money come into existence?

- In a barter economy, self-interested individuals would be reluctant to surrender real goods and services in exchange for intrinsically worthless goods (such as pieces of pa-
per) or relatively useless metal. It’s true, however, that once everyone else accepts money in exchange, any individual would also be willing to do the same. But how could human beings reach such a position in the first place?

- According to Menger, money emerged spontaneously through the self-interested actions of individuals. No single person sat back and conceived of a universal medium of exchange, and no government compulsion was necessary to transform barter into money economy.

- Menger pointed out that in an original state of barter, goods would have different degrees of marketability or saleability. The more saleable a good, the more easily its owner could exchange it for other goods at an economic price. Over time, Menger argued, the most saleable goods were desired by more and more traders because of this advantage. But as more people accepted these goods in exchange, the more saleable they became.

- Eventually, certain goods outstripped all others in this respect, and became universally
accepted in exchange by the sellers of all other goods. At this point, money had emerged on the market. In free markets, people have chosen gold (sometimes also silver or copper) as the ultimate and universally accepted means of payment.

- In that sense, money as a means of exchange must naturally emerge from a commodity. As each market agent would prefer holding the most marketable commodity to that of a less marketable one, “there would be an inevitable tendency for the less marketable of the series of goods used as a media of exchange to be one by one rejected until at least only a single commodity remained, which was universally employed as a medium of exchange; in a word, money.”

In Principles of Economics, Menger (2007 [1871], pp. 261-2) noted: “The origin of money (as distinct from coin, which is only one variety of money) is, as we have seen, entirely natural and thus displays legislative influence only in the rarest instances. Money is not an invention of the state. It is not the product of a legislative act. Even the sanction of political authority is not necessary for its existence. Certain commodities came to be money quite naturally, as the result of economic relationships that were
independent of the power of the state.”

- It is against the background of Menger’s theory of the origin of money that Mises put forward his regression theorem.
Menger provided an historical-evolutionary explanation of the emergence of money out of barter. In 1912, Mises *logically* explained why money could only originate in this way – that is by free market forces –, by putting forward his *regression theorem*, which also allowed applying, following a strictly subjectivist approach, the marginal utility theory to the pricing of money.

The values individuals assign to non-money consumption and investment goods are, as a rule, independent and *prior* to market prices. This is different with money.

→ *Money is held not for direct use but for exchanging it against other goods.* It is not useful in itself but because it has been, and *therefore* is expected to remain, exchangeable against other goods. In that sense, money is demanded because it has a *pre-existing* purchasing power; *people demand money because it has already had an ex-
change value in the past.

- According to this viewpoint, the value of money on, say, day \( t \), depends on the interplay between the supply of and demand for money on that very day. However, with people demanding money because it has already functioned as money in the past, today’s value of money must depend on the exchange value of money on the previous day, \( t-1 \).

- Clearly, such an explanation would run into an infinite regress: the value of money on any day would have to be explained by its purchasing power on the previous day. But how can this price be explained? Mises broke out of the circularity problem by bringing the argument back to the point in time when today’s money commodity served only as a non-money commodity in a barter system.

- Mises pushed the temporal regression to the point in time when the money commodity was not used as money, but was demanded purely for consumption. If one goes back logically to the second day that a commodity, say gold, was used as money. On that
day, gold was demanded partly because it had a pre-existing purchasing power as a medium of exchange on the first day. On the first day, the demand for gold depended on gold having had a previous purchasing power, the last day of barter. The demand for gold on the last day of barter was purely for consumption purposes, with no historical component. On the first day of its use as a medium of exchange, money had utility, and was therefore demanded, for two reasons: first, a consumption use in barter and, second, a monetary use, which had a historical component in its utility.

- As a result, the demand for money can be pushed back to the last day of barter, at which point the temporal element in the demand for commodity money disappears, and the causal forces in the today’s demand and purchasing power of money are fully explained.
Illustration: causal-temporal pattern of the money regression

Marginal Utilities of Gold:

Gold Prices of Goods:

Marginal Utilities of Goods:


Mises’s regression theorem fully logically explains why money must have originated on the market. No money could have originated by government decree (or social contract, for that matter). This is because money could not have a pre-existing purchasing
power, driving individuals’ demands for it.

- What is more, the regression theorem allows explaining why, in peoples’ daily transactions, money proper (such as, for instance, gold), once established through the free market process, can be easily replaced by circulating paper certificates, book entries, etc., because the historical connection to a previous day’s valuation would be preserved.

- Therefore Mises’ regression theorem corresponds to Menger’s theory on the spontaneous emergence and evolution of money, but in this case there is a retroactive effect. Mises’s regression theorem is of utmost importance in any project for reforming the monetary system, and it explains why in this field there can be no “leaps in the dark,” attempts to introduce *ex novo* monetary systems which are not the result of evolution and which would inevitably be condemned to failure.
46. Gold standard


Table—Gold production of the world, by decades and years, in $1,000,000 coinage value

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1869</td>
<td>210</td>
</tr>
<tr>
<td>1870</td>
<td>250</td>
</tr>
<tr>
<td>1871</td>
<td>465</td>
</tr>
<tr>
<td>1872</td>
<td>402</td>
</tr>
<tr>
<td>1873</td>
<td>406</td>
</tr>
<tr>
<td>1874</td>
<td>460</td>
</tr>
<tr>
<td>1875</td>
<td>450</td>
</tr>
<tr>
<td>1876</td>
<td>409</td>
</tr>
<tr>
<td>1877</td>
<td>424</td>
</tr>
<tr>
<td>1878</td>
<td>381</td>
</tr>
<tr>
<td>1879</td>
<td>304</td>
</tr>
<tr>
<td>1880</td>
<td>337</td>
</tr>
</tbody>
</table>

General remarks:

- Under a *gold standard*, gold is (the freely chosen) money: *gold is money*. Gold coins and *money substitutes* (or: *paper notes*) are used as a means of exchange, with the latter exchangeable *at par* at any point in time into physical gold.

→ Money (the *US dollar*, for instance) is defined by law as being equal to a (pre-determined) physical quantity of gold: For instance, 35 US dollar equal one ounce of gold (which is around 31.1 grams).
→ Under a *gold specie standard* the monetary unit is associated with circulating gold coins (or in conjunction with subsidiary coinage made from a lesser valuable metal). Under a *gold bullion standard*, gold coins do not circulate, but circulating currency (banknotes) is exchanged against gold bars on demand at a fixed price.
Under an international gold standard, *exchange rates are fixed*. Assume, for instance, that 20.67 US dollar equal one ounce of gold, and that 7.38 British Pound Sterling equal one ounce of gold. In this case, 2.80 US dollar exchange for one British Pound Sterling.

→ The *gold points*, however, would determine the lower and upper limits of transferring gold from one to the other country (costs of shipping gold).

- Under a gold standard, *money warehouses* serve as deposit institutions. Money warehouses are active in the business of *custodian services* and *payments/settlement*.

- The *credit business* (or: lending business, taken care of by banks) is (strictly) separated from the money warehouse business.

- A gold standard *doesn’t require a central bank*. All that is required is *unconditional respect of peoples’ private property rights* – and *sanctions against violation of peoples’ private property rights*. 
Under an international gold standard, international payments are made in (the physical transfer of) gold.

If export > imports (that is: a trade surplus), a country’s gold stock increases; if exports < imports (that is: a trade deficit), a country’s gold stock declines.

Under a gold standard, countries’ trade balances tend to be balanced, on average, over time. If, for instance, a country runs a trade surplus (exports > imports), the domestic gold (money stock) increases.

A rise in the domestic money stock (as a result of a trade surplus) drives up domes-
tic prices, or it prevents prices from declining. Higher domestic prices, in turn, make the country’s products less competitive relative to foreign goods. Imports increase and exports decline, so that the trade surplus declines (towards zero).

→ As a result, under a gold standard the countries’ trade balances tend to be in equilibrium (on average).

- A rise in the gold (and thus money) stock in one country affects income and prices in (all) other countries which have adopted the gold standard.

→ Under a gold standard, there is nothing like a national economic policy, which may shield national producers and consumers from international developments.

Some historical issues related to the gold standard:
### Gold reserves, metric tonnes, selected countries

<table>
<thead>
<tr>
<th></th>
<th>1895 metric tonnes</th>
<th>1895 in % of total</th>
<th>1913 metric tonnes</th>
<th>1913 in % of total</th>
<th>1920 metric tonnes</th>
<th>1920 in % of total</th>
<th>1935 metric tonnes</th>
<th>1935 in % of total</th>
<th>1950 metric tonnes</th>
<th>1950 in % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>304.67</td>
<td>11.1</td>
<td>248.09</td>
<td>3.1</td>
<td>863.75</td>
<td>10.7</td>
<td>1464.56</td>
<td>7.3</td>
<td>2543.00</td>
<td>8.2</td>
</tr>
<tr>
<td>Germany</td>
<td>272.33</td>
<td>9.9</td>
<td>438.60</td>
<td>5.4</td>
<td>391.25</td>
<td>4.8</td>
<td>56.00</td>
<td>0.3</td>
<td>0.00</td>
<td>0.0</td>
</tr>
<tr>
<td>Austria</td>
<td>160.33</td>
<td>5.8</td>
<td>378.39</td>
<td>4.7</td>
<td>-</td>
<td>-</td>
<td>41.00</td>
<td>0.2</td>
<td>79.00</td>
<td>0.3</td>
</tr>
<tr>
<td>France</td>
<td>459.68</td>
<td>16.7</td>
<td>1030.43</td>
<td>12.7</td>
<td>1622.17</td>
<td>20.0</td>
<td>3907.00</td>
<td>19.4</td>
<td>588.00</td>
<td>1.9</td>
</tr>
<tr>
<td>Spain</td>
<td>58.25</td>
<td>2.1</td>
<td>140.38</td>
<td>1.7</td>
<td>708.56</td>
<td>8.8</td>
<td>656.00</td>
<td>3.3</td>
<td>99.00</td>
<td>0.3</td>
</tr>
<tr>
<td>Russia</td>
<td>695.17</td>
<td>25.3</td>
<td>1233.00</td>
<td>15.2</td>
<td>-</td>
<td>-</td>
<td>626.00</td>
<td>3.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>US</td>
<td>169.48</td>
<td>6.2</td>
<td>2293.46</td>
<td>28.3</td>
<td>3679.29</td>
<td>45.4</td>
<td>8998.00</td>
<td>44.6</td>
<td>20279.00</td>
<td>65.2</td>
</tr>
<tr>
<td>Japan</td>
<td>119.63</td>
<td>4.4</td>
<td>97.81</td>
<td>1.2</td>
<td>837.42</td>
<td>10.3</td>
<td>378.00</td>
<td>1.9</td>
<td>6.00</td>
<td>0.0</td>
</tr>
<tr>
<td>World total</td>
<td>2,749.72</td>
<td>-</td>
<td>8,097.71</td>
<td>-</td>
<td>11,295.34</td>
<td>-</td>
<td>20,172.94</td>
<td>-</td>
<td>31,096.00</td>
<td>-</td>
</tr>
</tbody>
</table>


- Consider the following *counterfactual questions*:

  1. What if the US hadn’t entered WWI?
  2. What would have happened if the US, after the end of WWI, had used its gold reserves for purchasing assets in Continental Europe?
  3. How might the monetary order have looked like after WWI?
47. Gresham’s Law


- When money was a precious metal, a currency’s name (say, US dollar) was defined as weight of a commodity (say gold). For instance, 20.67 US dollar was equal to one ounce of gold.

  → One ounce of troy is equal to 31.1034768 grams, and one ounce of troy equals 480 grains.

- Gresham’s Law (named after Sir Thomas Gresham (1519–1579)): If there is a fixed exchange rate between monies, bad (overvalued) money drives out good (undervalued) money.

- The US Coinage Act from 2 April 1792: The US Dollar was defined as equal to 371.25 grains of pure silver or 24.75 grains of pure gold, and so the exchange ratio between
silver and gold was set at 15 to 1. Using silver and gold as money amounted to a bimetalism standard.

→ One ounce of troy is equal to 31.1034768 grams, and one ounce of troy equals 480 grains. As a US dollar was defined as equivalent to 371.25 grains of pure silver or 24.75 grains of pure gold, one ounce of silver was worth \( \approx \$1.2929 \ldots \) (that is 480 divided by 371.25), and one ounce of gold was worth \( \approx \$19.3939 \ldots \) (480 divided by 24.75).

- In 1792, the market exchange rate between silver and gold was almost exactly 15 to 1, the ratio recommended by Alexander Hamilton (1755–1804). Shortly thereafter, however, the ratio went above 15 to 1 – and so the US was de facto on a silver standard. Why?

→ If the market ratio is, say, 15.5 to 1, and the official ratio is 15 to 1, one can bring 15 ounces of silver to the mint, get one ounce of gold in return. Then sell the one ounce of gold in the market and get 15.5 ounces of silver in return.
→ Then bring 15.5 ounces of silver to the mint and get 1.033 … ounces of gold (15.5 times 1/15). Then take the 1.033 ounces of gold and exchange it for 16.0167 … ounces of silver. And so forth.

→ Sooner or later, the mint would be overflowing with silver and out of gold. In fact, from 1792 to 1834 the US was effectively on a silver standard.

- In 1834, new legislation was introduced: a ratio of 16 to 1 was finally adopted – with the market ratio standing at 15.625 to 1 on the world market. Now silver was under-valued against gold. From 1834 on, the US was effectively on a gold standard.

→ In 1834, the weight of the gold dollar was set at 23.2 grains of pure gold and at 23.22 in 1837 (to make the percentage of alloy in the minted coin precisely 10 percent). The adoption of 16 to 1 made the official price of an ounce of gold $20.67185 … (480 divided by 23.22).
The Coinage Act of 1873 omitted the historical stand silver dollar of 371.25 troy grains of pure silver; silver was thus de-monetized. The Resumption Act of 1875 and the successful resumption of the specie standard on the basis of gold brought the US a gold standard as from 1 January 1879.


- In England in early 1693, a committee of the House of Commons was formed to figure out how to raise money for financing the war effort (War of the Grand Alliance), as the English government was chronically short of money.

- William Paterson (1658–1719) proposed the following scheme: in return for special privileges from the state, Patterson and his clique would form the Bank of England (BoE). The latter would – via purchasing government bonds – issue new notes out-of-thin-air for financing the English state deficit.

- The plan was adopted, and as soon as the BoE was chartered in 1694, King William III
himself became shareholders of the bank. However, the British Parliament refused Paterson’s proposal to grant BoE notes *legal tender status* – which would have meant that everyone would be compelled to accept them in payment of money debt.

- In the years thereafter, the BoE’s government financing via issuing new notes caused great *inflation*. What is more, the BoE became insolvent after a *bank-run*, so that in May 1696 the English government allowed the BoE to *suspend specie payments* – that is refusing to pay its contractual obligations of redeeming its notes in gold.

- The owners of the BoE increasingly feared *competition* (and, in view of potentially stiff competition from the National Land Bank, stock prices of the BoE fell in the market). Parliament passed a law prohibiting any new corporate bank from being established in England, and counterfeiting of BoE notes was made *punishable by death*.

- In 1844, Sir Robert Peel (1788–1850) wanted to reform the English banking system along the insights of the *Currency School*, which recognised that notes issue via bank credit cause inflation, business cycles and financial and economic crises. The support-
ers of the Currency School ascribed the responsibility for all these unfavourable developments to the BoE.

→ **Banking School**: The money stock (notes and deposits) should not be subject to any supply side restriction (other than convertibility into specie); banks could not excessively issue credit, because any excess funds loaned out would simply be returned to the bank.

→ **Currency School**: Issues of banknotes should actually be required to hold an equivalent amount of money proper (gold or silver) as reserve; the result is a simple “rule”: namely a 100% reserve ratio for bank notes issued.

- Peel’s Act of 1844 provided that:
  - all further issues of bank notes by the BoE must be backed by 100% gold or silver;
  - no new bank of issue can be established;
  - the average note issue of each existing country bank could be not greater than the
existing amount of issue; and
— banks would lose their note issue rights if they were merged into, or bought by, another bank (there rights being transferred to the BoE).

- Peel’s Act actually placed the effective monopoly of note issue in the hands of the BoE. By limiting the BoE to 100% reserve banking, however, inflation and business cycles were supposed to be eliminated. Unfortunately, Peel’s Act overlook two important aspects:

(i) As a monopoly bank privileged by the state, the BoE could not be held to restrictive 100% reserve banking. The state would use, and therefore misuse, its monopoly power sooner or later.

(ii) The restrictions were limited to bank notes, they did not apply to demand deposits (which were actually considered non-monetary credit).

- As a result, the BoE and the country banks, deprived of the right to issue notes at will,
kept issuing *demand deposits*. Only the BoE could issue notes, and the country banks pyramided demand deposits on top of notes, which served as legal tender.

- So due to a tragic intellectual error, *fractional reserve banking* did not end, and inflation and crises continued after 1844, discrediting the promises of the *Currency School*. In times of crisis, the BoE succeeded in getting Parliament to *suspend* Peel’s Act, allowing it to issue enough legal tender notes (in excess of gold and silver holdings) to get the entire banking system out of trouble.

- Peel’s Act was *suspended periodically* in 1847, 1857 and 1866. It was finally ended in 1914, when the gold standard was destroyed.
49. Establishing the US Federal Reserve


- The US Federal Reserve System (Fed) was created by the Federal Reserve Act of December 23, 1913 – pushed through Congress by the administration of US president Thomas Woodrow Wilson (1856–1924).

→ The culmination at Jekyll Island.

- “From the beginning, the Fed has been headed by a Federal Reserve Board in Washington, all appointed by the President with the consent of the Senate. The Board supervises the twelve "decentralized" regional Federal Reserve Banks, whose officers are indeed selected by private banks in each region, officers who have to be approved by the Washington Board.” Since the reform of the 1930s, “the crucial open market policies of the Fed have been decided by..."
a Federal Open Market Committee, which meets in Washington, and which includes all the seven members of the Board of Governors plus a rotating five of the twelve largely banker-selected Presidents of the regional Feds.”

- As Rothbard noted further in his *The Case Against the Fed* (1994, pp. 119-120):

“"The Fed was given a monopoly of the issue of all bank notes; national banks, as well as state banks, could now only issue deposits, and the deposits had to be redeemable in Federal Reserve Notes as well as, at least nominally, in gold. All national banks were "forced" to become members of the Federal Reserve System, a "coercion" they had long eagerly sought, which meant that national bank reserves had to be kept in the form of demand deposits, or checking accounts, at the Fed. The Fed was now in place as lender of last resort; and with the prestige, power, and resources of the U. S. Treasury solidly behind it, it could inflate more consistently than the Wall Street banks under the National Banking System, and above all, it could and did, inflate even during recessions, in order to bail out the banks. The Fed could now try to keep the economy from recessions that liquidated the unsound investments of the inflationary boom, and..."
it could try to keep the inflation going indefinitely.”

“At this point, there was no need for even national banks to hold onto gold; they could, and did, deposit their gold into the vaults of the Fed, and receive reserves upon which they could pyramid and expand the supply of money and credit in a coordinated, nation-wide fashion. Moreover, with reserves now centralized into the vaults of the Fed, bank reserves could be, as the bank apologists proclaimed, "economized," i.e., there could be and was more inflationary credit, more bank "counterfeiting," pyramided on top of the given gold reserves. (...) And at the base of the pyramid, the Fed could coordinate and control the inflation by determining the amount of reserves in the member banks.”

- Rothbard (1994, p. 145-6) summarizes on the motives and result of establishing the Fed as follows:

“The American economy has suffered from chronic inflation, and from destructive booms and busts, because that inflation has been invariably generated by the Fed it-
self. That role, in fact, is the very purpose of its existence: to cartelize the private commercial banks, and to help them inflate money and credit together, pumping in reserves to the banks, and bailing them out if they get into trouble. When the Fed was imposed upon the public by the cartel of big banks and their hired economists, they told us that the Fed was needed to provide needed stability to the economic system. After the Fed was founded, during the 1920s, the Establishment economists and bankers proclaimed that the American economy was now in a marvellous New Era, an era in which the Fed, employing its modern scientific tools, would stabilize the monetary system and eliminate any future business cycles. The result: it is undeniable that, ever since the Fed was visited upon us in 1914, our inflations have been more intense, and our depressions far deeper, than ever before.”
50. The *Ethics of money production*


- Today’s money production is *irreconcilable* with the principles of the capitalist economic order, under which private property can only be created through (i) homesteading, (ii) production and (iii) trade (*all voluntarily entered into*).

- Money creation (through credit expansion) has been monopolised by the state, which grants licences for money creation to the private sector (banks).

“The prevailing ways of money production, relying as they do on a panoply of legal privileges, are alien elements in the capitalist economy. They provide illicit incomes, encourage irresponsibility and dependence, stimulate the artificial centralization of political and economic decision-making, and constantly create fundamental economic disequilibria that threaten the life and welfare of millions of people. In short, paper money and fractional-reserve banking go a long way toward accounting for the ex-
cesses for which the capitalist economy is widely chided.” (Hülsmann, 2008, p. 238)

- Hasn’t the monetary order evolved naturally over time?

“We have argued that these monetary institutions have not come into existence out of any economic necessity. They have been created because they allow an alliance of politicians and bankers to enrich themselves at the expense of all other strata of society. This alliance emerged rather spontaneously in the seventeenth century; it developed in multifarious ways up to the present day, and in the course of its development it created the current monetary institutions.” (Hülsmann, 2008, p. 239)
51. Rothbard’s theory on the establishment of fiat money


- In *What Has Government Done to Our Money?* (1963), Murray N. Rothbard provides an account of how government has, over a lengthy period of time, replaced free market money by fiat money (created through credit expansion).

- Rothbard developed a *progression theorem* (basically along the line of Mises’s *regression theorem*). He demonstrated that, by the praxeological necessity, government (once established) takes full control over the money supply, providing it with *complete money counterfeiting autonomy*.

→ “Government could never cement its power over a nation’s currency, if the people, when in need, could repudiate the fiat paper and turn to gold for their money. Accordingly, governments have outlawed gold holing by their citizens.”
To explain Rothbard’s line of reasoning, let us begin with the issue of *funding government spending*. For the latter, any government must find ways of expropriation. Two strategies are available: (i) *seizing goods in kind* and, in a monetary economy, (ii) *seizing monetary assets* (taxation).

*Taxation* tends to be politically unpopular (under monarchies and democracies alike). By creating new money out of thin air (*counterfeiting*), however, the government can actually appropriate resources slyly and almost unnoticed (at least at the beginning), without rousing hostility among the electorate.

To get hold of the money supply and use *counterfeiting as a source of revenue*, the government apparatus has taken many lengthy steps (taken gradually and in a rather subtle way) – for the government cannot simply invade a functioning free market and print its own paper money. People would simply refuse to accept any such money.

*Step #1: Taking control of the minting business*. Minting coins was propagated as a prerogative of the ruler (emperor, king, etc.). This, in turn, reduced the variety of coins,
and the mint could charge a higher price for minting precious metals. *Seniorage* (the price charged by the ruler for minting coins) became a monopoly price.

- Having established the *minting monopoly*, the ruler (and later, governments) *named* the monetary unit, doing its best to separate the name of the monetary unit from its underlying weight (in precious metal). This, in turn, made the currency national (US dollar, Euro, British Pound etc.), liberating the government from the necessity to abiding by the common money of the world market.

- These interferences opened the door to the governments’ counterfeiting of coins: *debasement*. The government could secretly dilute gold and silver with base alloy, thereby producing shortweight coins. The mint would melt and recoin all the coins of the realm, giving back to the public the same number of “pounds” or “marks” but of a lighter weight. The leftover ounces were pocketed by the ruler.

- What is more, by establishing *bimetallism* the government (arbitrarily) set the exchange value of one money (say, gold) in terms of the other money (say, silver) –
thereby replacing the market chosen parallel standard (of two or more currencies with freely fluctuating exchange rates).

- Under bimetallism, the government effectively places a maximum price on one type of money in terms of the other. If the officially determined exchange rate deviates from the market ratio, the overvalued money will drive out the undervalued money (Gresham’s Law).

— For instance, assume that the government establishes a silver-gold ratio of 20 to 1, while the market ratio is 21 to 1. In this case, people will bring their silver to the mint, exchanging 20 ounces of silver for one ounce of gold. With one ounce of gold, they will achieve 21 ounces of silver. Silver (overvalued) will be the currency of circulation, while gold (undervalued) will be hoarded and/or exported.

— However, the market exchange ratio of gold against silver changes due to changes in supply and demand, thereby deviating from the officially set exchange ratio. As a result, the money standard changes, causing economic disruptions. The latter, in turn,
were ascribed to a dysfunctional free market – rather than government interference in free markets.

- **Legal tender laws** also played a highly important role in governments achieving full control over monetary affairs. – With the money defined by name rather than a specific weight of precious metal, contracts (for cash as well as for credit transactions) increasingly began to pledge payment in a certain amount of this money.

→ As soon as the government decrees that certain (pieces of credit) money is legal tender, *every creditor is bound to accept them in payment* at its face value. But why should, for instance, a lender accept repayment in a low-quality money?

→ Legal tender status had been given to money-substitutes (bank notes) at a time when they will were fully backed with money proper. At that time, the decree had basically no market consequences. However, it started to have consequences when market agents no longer considered them money-substitutes.
→ As the government declared as legal tender a lower-quality money (pieces of paper, credit money) side-by-side with money proper (gold, silver), Gresham’s Law kicked in, with bad (overvalued) money driving out good (undervalued) money out.

- **STEP #2: Permitting banks to refuse payments.** Governments’ scope of counterfeiting became almost unlimited with the advent of money-substitutes (such as bank notes and bank deposits, which were, at least originally, backed by pre-specified amounts of money proper (gold, silver)).

→ On an ad hoc basis, governments granted commercial banks the privilege of refusing to redeem their liabilities in money proper (as promised to their clients) – in order to prevent bank runs and bank failures and potentially ensuing political upheavals, which could threaten the very existence of government itself.

→ **Mass suspensions of specie payment** (or more appropriately: license for theft) typically occurred in times of severe financial stress, which were all too often the result of an over-issue of bank notes and bank deposits not backed by money proper (inflation).
Suspension of specie payments amounts to an expropriation of the holder of money proper.

→ Commercial banks soon realized that they need not have to fear bankruptcy as a result of over-issuance (that is issuing money-substitutes in excess of money proper holdings). *Fractional reserve banking* became the norm, as the traditional checks against inflation were increasingly removed, especially by suspension of commercial banks’ obligation of specie payments.

→ Under a system of *fractional reserve banking*, commercial banks could easily finance governments via extending *circulation credit* (that is credit expansion in excess of savings) and thereby creating new money out of thin air.

→ However, financial crisis as a result of over-issue (inflation) tended to be sporadic and unpredictable, and the expectation of commercial banks could *never* pay back their obligations would have eroded the public’s confidence in the monetary system sooner or later.
The way forward for inflation-interested governments was to establish a central bank, serving as the bankers’ bank. It does not matter whether such a central bank is nominally owned by private individuals/private banks (like the US Federal Reserve) or publicly owned (like, for instance, the European Central Bank), as it is always directed by government-appointed officials.

**STEP #3: Establishing the central bank.** A central bank enjoys all the support of the government. It is armed, following constant pro central bank propaganda, with the almost unlimited confidence of the general public.

The central bank takes control of monetary affairs by assuming the monopoly of the note issue (the unsung key to the central bank’s power). Commercial banks are no longer allowed to issue notes, they just create deposits (largely due bank credit expansion).

What is more, commercial banks are required to hold reserves in central bank
money, called *minimum reserve requirements* (deposits to be held with the central banks or central bank notes) – which can only be obtained from the central bank monopoly.

→ In the US, for instance, commercial banks were *compelled* to keep reserves with the US Fed and, since 1917, these reserves only consist of deposits at the Federal Reserve Bank. *Gold*, which was no longer accepted as part of commercial banks’ legal reserves, *had to be deposited with the Fed*.

→ People became used to accepting bank notes as a means of payment, as there was great *confidence in the central bank* (with its gold holdings, its prestige and backed by the might of government, so that is could not fail).

→ The central bank invested private banks with the public’s confidence, simply by making it public that it would stand ready to act as a *lender of last resort*: if running into financial trouble, the central bank could step in and provide banks with all the money they needed (be it in the form of bank notes or demand deposits).
By doing so, *bank runs* – which serve as a *check against inflation* (that is increasing fiduciary media in excess of money proper) – were discouraged or better: were made impossible.
52. Gold confiscation in the US


- US President Franklin D. Roosevelt was inaugurated as president on March 4, 1933. Two days after his inauguration, he ordered a “bank holiday”, closing all the banks in the country from March 6 through March 9, 1933. He proclaimed that there was a national emergency caused by heavy and unwarranted withdrawals of gold and currency for the purpose of hoarding.

- On March 9, 1933, the Senate passed the Emergency Banking Act. It gave the Secretary of the Treasury the power to compel every person and business in the country to relin-
quish their gold and accept paper currency in exchange.

- On March 10, 1933, Roosevelt issued *Executive Order No. 6073*, forbidding people from sending gold overseas and forbidding banks from paying out gold.

- On April 5, 1933, Roosevelt issued *Executive Order No. 6102*. This was the order to confiscate everybody’s gold: Gold had to be handed over to the Federal Reserve, against receiving paper money.

- On January 31, 1934, Roosevelt issued another *Executive Order*. The price of a gold ounce increased from US$20.67 to US$35.00: The US dollar was devalued by 69.3%. [Roosevelt declared that the dollar was now only 59.06% of its former gold quantum of 23.22 grains. Note that in 1933, the government had defined the dollar as 23.22 grains of gold. Since there are 480 grains to a troy ounce, one had to pay about $20.67 per troy ounce.]
Presidential Executive Order 6102 from President of the United States Franklin Delano Roosevelt, April 5, 1933:

“I, Franklin D. Roosevelt, President of the United States of America, do declare that said national emergency still continues to exist and pursuant to said section to do hereby prohibit the hoarding gold coin, gold bullion, and gold certificates within the continental United States by individuals, partnerships, associations and corporations and hereby prescribe the following regulations for carrying out the purposes of the order”.

“Section 2. All persons are hereby required to deliver on or before May 1, 1933, to a Federal Reserve bank or a branch or agency thereof or to any member bank of the Federal Reserve System all gold coin, gold bullion, and gold certificates now owned by them or coming into their ownership on or before April 28, 1933 (…)”.

“Section 9. Whoever willfully violates any provision of this Executive Order or these regulation or of any rule, regulation or license issued there under may be fined not more than $10,000, or, if a natural person may be imprisoned for not more than ten years or both; and any officer, director, or agent of any corporation who knowingly participates in any such violation may be punished by a like fine, imprisonment, or both.”
In terms of setting the gold price in terms of US-dollar, Secretary of the Treasury Henry Morgenthau Jr. (1891–1967) reported:

“Franklin Roosevelt would lie comfortably on his old-fashioned three-quarter mahogany bed. (…) The actual price [of gold] on any given day made little difference. Our object was simply to keep the trend gradually upwards, hoping that commodity prices would follow. One day, when I must have come in more than usually worried about the state of the world [Hitler had just recently come to power in Germany], we were planning an increase of from 19 to 22 cent. Roosevelt took one look at me and suggested a rise of 21 cents.

“It’s a luck number”, the president with a laugh, “because it’s three times seven (…).” I noted in my diary at the time: “If anybody ever knew how we really set the gold price through a combination of luck numbers, etc., I think they would really be frightened.”

(…)

But he rather enjoyed the shock his policy gave to the international bankers. Montagu Norman of the Bank of England, whom FDR called “old pink whiskers,” wailed across
the ocean, “This is the most terrible thing that has happened. The whole world will be put into bankruptcy.” The president and I looked at each other, picturing foreign bankers with every one of their hairs standing on end with horror. I began to laugh. FDR roared.”
1) January 31, 1934, US President Franklin D. Roosevelt raises the price of gold from US$20.67 to US$35.00.


3) Early 1980, second oil price shock.

4) 9/11 2001 terrorist attacks in the US.

5) July/August 2007, start of the international “credit crisis”.

Source: Bloomberg.
THE MONETARY (DIS)ORDER OF THE WESTERN WORLD


Phase I: 1815 – 1914, the *classical gold standard*

Phase II: World War I and shortly thereafter

Phase III: 1926 – 1931, the *gold-exchange standard*

Phase IV: 1931 – 1945, fluctuating fiat currencies

Phase V: 1945 – 1968, the *System of Bretton Woods*

Phase VI: 1968 – 1971, the demise of the System of Bretton Woods

Phase VII: As from August 1971, unfettered fiat money systems
Gold exchange standard: *how it worked*

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<th>Assets</th>
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*Legend:* Assuming that the exchange rate between US$, Britisch Pound Sterling and German mark is 1:1.

US dollar (and British Pound) can be used as reserves for credit and money creation.
53. The purchasing power of money

The purchasing power of money (PPM) is the number of goods and services that can be exchanged for a money unit (say 1 US dollar or one euro). It is determined by the interplay of the demand for and supply of money.

In his The Purchasing Power of Money (1913), Irving Fisher (1867–1947) outlined his concept of a compensated dollar: the US dollar should no longer be defined as a money unit representing a constant weight of gold but as a currency that had a constant purchasing power vis-à-vis a statistical price index.

Source: Federal Reserve Bank of St. Louis, own calculations. - 1 divided by the US CPI. - Period: January 1913 to November 2008.
Conceptually speaking, the $PPM$ is the inverse of whatever we can construct as the (imaginary) price level:

$$PPM = \frac{1}{P},$$

where $P$ is the price level of a good.

- The higher (lower) $P$ is, the lower (higher) is the $PPM$, and there should be a falling demand curve for money in relation to hypothetical $PPMs$ (just as there is one in relation to hypothetical individual prices).

- If money demand ($D$) is smaller than money supply ($M$), so that $D < M$, the difference is *surplus cash balances*. People realise
that their cash balances are greater than the level they need at that prevailing price level. They start spending money on various goods and services.

- While people can get rid of *excess* money *individually* by buying things with it, *they can’t get rid of money in the aggregate*. As people spend, this drives up demand curves for goods and services. As the demand curves shift upward and to the right, prices rise. But as overall prices rise further and further, *PPM* begins to fall, until a new equilibrium is reached where $D = M$.

- Suppose that prices were suddenly much higher and the *PPM* therefore much lower. People would need far more cash balances to finance their daily lives, and there would be a shortage of cash balances compared to the supply of money available ($D > M$).

- They would then try to alleviate this imbalance by adding to their cash balances, and they can only do so by spending less of their income and adding the remainder to their cash balance.
- When they do so, the demand curves for most or all products will shift downward and
to the left, and prices will generally fall, and the \( PPM \) will rise, with the equilibrium is \( D = M \).

Increases in the supply of money

- An increase in \( M \) (from \( M \) to \( M' \)), so that \( M' > D \), brings about a process of rising prices, thereby lowering the \( PPM \). This, in turn, increases the demand for money, bringing it into line with the increased stock of money.
An increase in the demand for money (so that $D > M$), brings about a shortage of cash balances. People will start selling goods and services, which, in turn, will lower prices. As the $PPM$ rises, money demand declines. In the new equilibrium, PPM is higher than it was before the demand for money increased.
54. The *optimal* stock of money


- Is there an *optimal stock of money*? Should the money supply grow in accordance with, for instance, population, trading activities, or by a rate that keeps the price level stable? Does an economy need a rising money supply anyway?

- In a free market, the *price of money* is determined by *supply of and demand for money*. An increase (decline) in the supply of money will lower (raise) the exchange value of a money unit vis-a-vis vendible items (other things being equal).

- But what determines the demand for money? As we know, money is the *universally accepted means of exchange*; money is only useful for exchange (today and/or tomorrow); its utility lies in its exchange value, or purchasing power.

- Other goods have various utilities, so that one can say that an increase in their supply
satisfies more consumer wants. This is indeed different with money, as money has only utility for (prospective) exchange: a rise in the money stock does not confer a social benefit.

- The finding is that, as Rothbard noted, “(...) it doesn’t matter what the supply of money is. Any supply will do as well as any other supply. The free market will simply adjust by changing the purchasing power, of effectiveness of the gold-unit. There is no need to tamper with the market in order to alter the money supply that it determines.”

- Note that in a free market the stock of money may well increase – as a result of a growing demand for money. For instance, if gold and silver were chosen as money, the production of these commodities may well increase (provided its mining would yield a competitive return on investment (relative to other investment activities)).
Labour (input)

Money demand = supply of goods

Money supply = demand for goods

Gold output (G)

Price per unit of good

Labour (input)

D (Labour demand = gold supply)

S (Labour supply = gold demand)

W_0

W_1

G_0

G_1

L_0

L_1

W_0

W_1

G_0

G_1

L_0

L_1

D'

S

A

B

A'

B'
55. Money does not measure value, and there is no such thing as stable money


(1) On measurement in the field of economics:

- It is often said that money measures value – a notion taken from the field of natural science, where there is measuring of weight, length, temperature, etc. However, applying such a concept to the field of economics is erroneous and false.

- Money is the universally accepted means of exchange. In a money economy, goods and services are exchanged via using money: The prices of all consumer and capital goods are expressed in a single commodity. How do prices relate to value?

- A fairly simple illustration provides the answer. Assume, for instance, that Mr John purchases an apple for US$1 from Mr Smith. By doing so, Mr Johns shows that he
values US$1 less highly than one apple (or the benefit he expects thereof), while Mr Smith values the US$1 more highly than one apple.

→ The price of a good is not indicative of the market agents’ valuation of the goods subject to exchange. The apple is not worth US$1, neither for Mr John nor for Mr Smith. In fact, for the Mr John, the apple is worth more than US$1, for Mr Smith the apple is worth less than US$1. That said, money prices do not measure value, they are expressive of ranking.

→ Voluntary market transactions take place because market agents have different valuations regarding the goods and services exchanged. The inequalities of value are therefore at the heart of any voluntary market transaction.

(2) On the impossibility of stable money:

- One political implication of the – praxeologically false – notion of measuring the value of money is the need for a monetary stabilization policy – which, in turn, typically
serves as an economic legitimization for central banks’ ongoing market interventionism.

- *Praxeology* shows that we know that means are scarce, and that these means must be allocated by the actor to serve certain ends, thereby leaving other ends unsatisfied. The act of choice is economizing the means available to serve the most desired ends. The scaling of ends accomplished is equivalent to assigning ranks of value to the ends by the actor, expressive of the *process of valuation*.

- Peoples’ ranking is made subject to the indisputably true law of diminishing marginal utility. It says that the marginal utility of a given-sized unit of a good decreases or increases as the supply of such units increases or decreases. As a result, each change in the supply of a good changes the good’s marginal utility.

- Money is a good like any other. As such, it is subject, like any good, to the law of diminishing marginal utility. This law contradicts the notion of a stable, that is constant-valued, good. *The search for a constant-valued good is illusionary and misleading*
right from the start.

- As money is a good like any other, the exchange relation between money and other goods and services is actually embedded in observable market prices; it cannot be quantitatively separated from them.

- This insight will be illustrated in the graph. In equilibrium $A$, the exchange ratio of money units per good is $P_0$, and the market clearing amount of goods (the amount of money) is $Y_0$. Note that the demand and supply curve imply a given stock of money.
and other goods.

- Now consider an increase in, say, the demand for goods, which, in a monetary economy, is equivalent to saying that the supply of money supply in the market increases. It pushes the exchange ratio of money to the new equilibrium $B$, where the new equilibrium price is $P_1$, and the new equilibrium money stock is $Y_1$. The exchange rate of money vis-à-vis goods has declined ($P_1 > P_0$).

→ Note that an increase in the supply of the stock of money will necessarily lead to a loss in the value of a money unit – compared to the situation in which the money stock had remained unchanged.

→ Also note that the money prices
are the result of supply of and demand for money (that is demand for goods and supply of goods).

(3) On the false, and destructive, notion of monetary stabilization:

- Today, central banks aim at keeping the purchasing power of money stable, that is more or less unchanged, over time (or keeping the annual rise of the price level at a small rate). This, it is said, would support economic growth and employment.

- To Austrian economists, however, the idea of keeping the price level stable – a policy based on Irving Fisher’s price index concept – is incompatible with the nature of money, and it causes destructive effects on the economy:

  — First, in a free market, there is relentless change in the valuation of goods and services. The exchange value of money is no exception; there are relentless changes in the exchange value of money due to changes in the demand for and supply of money (which is equivalent to saying supply of and demand for goods).
Mises’ critique of the stabilization idea (1996, HA, p. 219):

“All outgrowth of all these errors is the idea of stabilization. Shortcomings in the government’s handling of monetary matters and the disastrous consequences of policies aimed at lowering the rate of interest and at encouraging business activities through credit expansion gave birth to the ideas which finally generated the slogan “stabilization.” One can explain its emergence and its popular appeal, one can understand it as the fruit of the last hundred and fifty years’ history of currency and banking, one can, as it were, plead extenuating circumstances for the error involved. But no such sympathetic appreciation can render its fallacies any more tenable.

Stability, the establishment of which the program of stabilization aims at, is an empty and contradictory notion. The urge toward action, i.e., improvement of the conditions of life, is inborn in man. Man himself changes from moment to moment and his valuations, volitions, and acts change with him. In the realm of action there is nothing perpetual but change. There is no fixed point in this ceaseless fluctuation other than the eternal aprioristic categories of action. It is vain to sever valuation and action from man’s unsteadiness and the changeability of his conduct and to argue as if there were in the universe eternal values independent of human value judgments and suitable to serve as a yardstick for the appraisal of real action.”
— Second, the notion to keeping the purchasing power of money stable rests on the idea that the value of money can be measured. This is, however, entirely erroneous: *the purchasing power of money cannot be measured.*

→ The construction of any price index — which is typically used for calculating the purchasing power of money — is *scientifically arbitrary.*

→ What is the advantage of having a stable price level anyway? As Rothbard (2009, p. 850) explains:

“Suppose, for example, that the purchasing power of money rises and that we disregard the problem of measuring the rise. Why, if this is the result of action on an unhampered market, should we consider it a *bad* result? If the total supply of money in the community has remained constant, falling prices will be caused by a general increase in the demand for money or by an increase in the supply of goods as a result of increased productivity. An increased demand for money stems from
the free choice of individuals, say, in the expectation of a more troubled future or of future price declines. Stabilization would deprive people of the chance to increase their real cash holdings and the real value of the dollar by free, mutually agreed-upon actions.”

→ If market agents want to hedge against changes in the purchasing power of money, they can do so easily in a free market (via, for instance, taking recourse to inflation-linked contracts, making use of derivatives, etc.).

→ “Stabilization policy” causes business cycles, as changes in the money supply affect the prices of different consumer and capital goods at different times and to different extents, thereby necessarily affecting production and consumption; money is not neutral.
56. The Austrians’ view on inflation and deflation


- In *mainstream economics*, inflation is usually defined as an ongoing rise in a (consumer) price index (of no more than, say, 2 or 3 percent per annum). Such a concept is based on the *price index regime* as put forward by Irving Fisher (1867–1947).

- Mises (1996, p. 422) noted: “The notions of inflation and deflation are not praxeological concepts. They were not created by economists, but by the mundane speech of the public and of politicians. The implied the popular fallacy that there is such a thing as neutral money or money of stable purchasing power and that should money should be neutral and stable in purchasing power. (…) However, those applying these terms are not aware of the fact that purchasing power never remains unchanged and that consequently there is always inflation or deflation.”

- From a *praxeological viewpoint*, any increase (decrease) in the money stock must necessarily decrease (increase) the value of the money unit (that is its *marginal utility*)
from the individual viewpoint.

— Money is a good, and as such money falls under the law of diminishing marginal utility. The marginal utility of a given money unit increases or decreases if and when the supply of money units decreases or increases.

— Any change in the money supply, as perceived by Mr X, leads to Mr X re-valuating the money unit: As the money supply changes in the hands of Mr X, he would attach a different rank-value to the money unit.

— Thus, the idea of stable-valued money must be considered a praxeological impossibility.

- To distinguish the Austrian understanding of inflation from the mainstream interpretation, let us consider two cases based on the quantity theory, which can be formalised as follows:

\[ M \cdot V = Y \cdot P, \]
whereas $M =$ stock of money, $V =$ velocity of money, $Y =$ real output and $P =$ price level

(1) If the growth of the money stock exceeds the rise in the increase in the supply of goods and services, the price level increases. Mainstream and Austrian economists would call it inflation: the former because of a rise in prices, the latter because of a rise in the money stock. From the Austrian viewpoint, rising prices are the visible effect of a rising money stock.

(2) If the growth of the money stock is accompanied by an equal increase in the production of goods and services, money prices would remain unchanged.

— Mainstream economists would diagnose price (level) stability, that is absence of any inflation.

— In contrast, Austrians would hold that the rise in the money stock had actually
prevented money prices from falling and the purchasing power of money from rising – which would be the case had the money stock remained unchanged. That said, the Austrian definition of inflation includes the invisible effect of a rise in the money stock.

- Rothbard defined inflation as follows (1990, p. 48): inflation is “(…) any increase in the economy’s supply of money not consisting of an increase in the stock of money metal.” [Rothbard’s definition refers to a commodity money standard (money proper), in which gold and/or silver serves as the universally accepted means of exchange.]

- Defining inflation as an ongoing rise in prices – rather than a rise in the money supply – amounts to a (surreal) loss of authenticity, and a good illustrative example is René Magritte’s The Treachery of Images.
Mainstream economists define deflation as an ongoing decline in the (consumer) price index, while Austrians would maintain that deflation is a contraction of the money supply.

Nowadays, deflation is much more feared than inflation. Hayek (The Constitution of Liberty, 1960, p. 330) gives an explanation of why this is the case:

“The difference between inflation and deflation is that, with the former, the pleasant surprise comes first and the reaction later, while, with the latter, the first effect on business is depressing.” As a result, “[T]he chief source of the existing inflationary bias is the general belief that deflation, the opposite of inflation, is so much more to be feared that, in order to keep on the safe side, a persistent error in the direction of inflation is preferable.” “[T]he determination to avoid deflation at any cost must result in cumulative inflation.”

Rothbard offers explains the inflation bias by pointing towards influential special in-
interest groups:

“The commercial banks live and profit by expanding credit and creating a new money supply; so they are naturally inclined to do so, “to monetize credit”, if they can. The government also wishes to inflate, both to expand its own revenue (either by printing money or so that the banking system can finance government deficits) and to subsidize favoured economic and political groups through a boom and cheap credit.”

57. An Austrian critique of the quantity theory

- The well-known quantity equation relationship looks as follows:

\[ M \cdot V = T \cdot P, \]

where \( M \) denotes the stock of money, \( V \) represents the velocity of money, whereas \( T \) and \( P \) stand for the real transaction volume and the price level, respectively.

The equation above is actually an identity. It states that the stock of money, multiplied by the number of times a money unit is used for financing purposes, equals real output multiplied with the price level.

- The identity of exchange rests on an aggregation, a summing up, of individual transactions. Of course, measuring all these variables is impossible, and statistical methods have serious shortcomings. Take, for instance, the following questions:
— Which kinds of goods shall be included in the price index (just prices of goods of the final production, or should asset prices also be included)?
— What about the weightings of the goods in the index?
— How shall the price index be calculated (Laspeyres or Paasche index)?
— How to measure the real transaction volume?

- On a more fundamental basis, human action shows that individuals prefer one good at one moment and may reevaluate it and desire another good the next moment. It is absurd to attempt to capture these interrelationships with an equation like \( MV = YP \).

- To show that there is no mechanical relation between the money stock and prices, as suggested by the quantity theory, Henry Hazlitt offers the example of the German hyperinflation of the 1920s:

In the first stage of the inflation, the money stock increases faster than prices. Consumers expect the increase in the money supply to be temporary and to slow down sooner or later. As people realize that the government keeps expanding the money stock, this is stage two, prices rise with the increase in the money stock. In stage three, prices keep increasing even as the rate of monetary creation slows down. At this point, produc-
ers and consumers have lost all confidence in their government's ability to slow the price increases, and the demand for money sooner or later collapses.

- The *quantity theory* suggests that a rise in the stock of money leads to a proportional change rise in the price level, thereby *disregarding the distributive effects* on income.

  → If, for instance, all prices increase following a rise in the money stock, the first receivers of the newly injected money can purchase at unchanged prices, while the late receivers can only by at already elevated prices (“Cantillon Effect”).

  → All prices will *not* rise at the same time and at the same rate. A rise in the money stock leads to *changes in relative prices* (even if the price level should remain unchanged), benefiting those who hold goods with rising prices *at the expense* of those who hold goods with less strongly rising prices.

  → A rise in the money stock has *necessarily redistributive effects*. To show this, let us assume output increases ($Y\uparrow$) following say, technological progress, and that the in-
come velocity \((V)\) and the money stock \((M)\) remains unchanged. As a result, prices would decline \((P\downarrow)\). Now assume that the government increases the money stock by an amount that brings prices back to their original level. Such a policy is not neutral, it is associated with a “Cantillon effect”.

→ As a result, money is not neutral (as, for instance, the Monetarists maintain) – as it does affect the inter-personal distribution of incomes. And this outcome follows irrespective of whether the price index increases or remains unchanged.
**Digression:** Detecting the effects of an increase in money supply

A rise in the money supply shows up in rising prices, other things being equal.

In the US, the rise in M2 has been accompanied by a rise in consumer prices as well as in asset prices.

This finding serves as a reminder that the symptoms of a rise in the money stock are not fully reflected in consumer prices.

*Source:* Thomson Financial, Bloomberg; own calculations.

*Series are indexed (January 1970 = 100).*
Digression: Money growth and consumer prices

US money and consumer prices (% y/y)

Source: Bloomberg, own calculations.
Bank credit growth and CPI inflation in the US

(a) Contemporaneous

- Bank Credit (LS)
- CPI (RS)

(b) 2-year averages

- Bank Credit (LS)
- CPI (RS)

(b) 4-year averages

- Bank Credit (LS)
- CPI (RS)

(b) 8-year averages

- Bank Credit (LS)
- CPI (RS)

Source: Thomson Financial, own calculations.

Annual growth rates in percent.
Bank credit growth (adjusted) and CPI inflation in the US

(a) Contemporaneous

(b) 2-year averages

(b) 4-year averages

(b) 8-year averages

Source: Thomson Financial, own calculations.
Annual growth rates in percent. Adjusted bank credit is defined as bank credit growth minus real GDP growth.
58. The costs of inflation


- In *mainstream economics*, the costs of inflation are typically discussed along the following lines:

  1. costs of *non-anticipated inflation* and
  2. costs of *anticipated inflation*.

- On top of that, *Austrian Economists* would stress the redistributive and distorting aspects of inflation:

  1. *Bank circulation credit expansion* is inflationary: prices rise as the money supply increases; they would not decline to levels that would be reached had the money supply remained unchanged. Like any inflation, *bank circulation credit* represents
a process of non-market conforming redistribution, whereby the inflators, and the part of the economy selling to them, gain at the expense of those who come last in line in the spending process (an effect described by Richard Cantillon (1680–1734) in his *Essai Sur la Nature du Commerce en Général* (written c.1732)).

(2) Most of these gains and losses will be *one-off*; they will occur during the process of inflation, but will cease after the new monetary equilibrium is reached. The inflators make their gains, but after the new money supply has been diffused throughout the economy, the inflationary gains and losses come to a halt.

(3) However, there are *permanent gains and losses* resulting from inflation. For the new monetary equilibrium will not simply be the old one multiplied in all relations and quantities by the addition to the money supply. This was an assumption that the old *quantity theory* economists made.

— The valuations of the individuals making *temporary gains and losses* will differ. Therefore, each individual will react differently to his gains and losses and
alter his relative spending patterns accordingly.

— The new money will form a high ratio to the existing cash balance of some and a low ratio to that of others, and the result will be a variety of changes in spending patterns. Therefore, all prices will not have increased uniformly in the new equilibrium; the purchasing power of the monetary unit has fallen, but not equiproportionally over the entire array of exchange-values. Since some prices have risen more than others, some people will be permanent gainers, and some permanent losers, from the inflation.

(4) Inflation also changes the market’s consumption-investment ratio. Superficially, it seems that bank circulation credit expansion increases capital, for the new money enters the market as equivalent to new savings for lending. Since the newly created money is apparently added to the supply of savings on the credit market, businesses can now borrow at a lower rate of interest; hence inflationary bank circulation credit expansion seems to offer the ideal escape from time preference, as well as an inexhaustible fount of added capital. This is the cause of malinvestment.
Inflation tricks the businessman: business accounting is traditionally geared to a world where the value of the monetary unit is stable. Capital goods purchased are recorded at *historical cost*. When the firm later sells the product, the inflationary gain is not a gain, for it must be absorbed in purchasing the replaced capital good at a higher price.

Firms with the greatest degree of error will be those with capital equipment bought more preponderantly when prices were low. If inflation has been going on for a while, these firms make seemingly great profits, and this will attract other firms into the field, and there will be a completely unjustified expansion of investment in a seemingly high-profit area. Conversely, there will be a deficiency of investment elsewhere. Thus, the error distorts the market’s system of allocating resources and reduces its effectiveness in satisfying the consumer. Inflation discourages lending in the future and discouraging saving-investment.
**Digression: Great Depression in the US**

**US monetary history - 1922 to 1955**
(a) Money stock, CPI and industrial production (% y/y)

(b) Money stock and Dow Jones Industrial stock market index*

Source: Thomson Financial, Bloomberg, NBER, own calculations. - *Indexed, January 1922 = 100. - Shaded areas recession periods according to NBER.
59. The fallacy of the (super)neutrality of money


- Money is said to be *neutral* if and when an increase in the money stock leads to an equal increase in prices, without affecting real economic activity (such as output, investment and employment).

  In mainstream economics, the *neutrality of money* is mostly assumed to hold in the *long-run*, while in the *short- to medium-run* a rise in the money stock may well affect economic activity.

- The *neutrality of money hypothesis*, however, does not rule out that *changes in the money growth rate may have permanent effects on the level of economic activity*. In that sense, a rise in the growth rate of the money stock may be thought as having the potential of pushing production to a permanently higher level.
### (Super)Neutrality hypotheses

<table>
<thead>
<tr>
<th>Case</th>
<th>Effects: Money supply:</th>
<th>Output</th>
<th>Price change</th>
<th>Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1]</td>
<td><em>One-off</em> change in the money supply</td>
<td>No long-run effect</td>
<td>One-off change in prices</td>
<td>One-off effect, lasting</td>
</tr>
<tr>
<td>[2]</td>
<td><em>Permanent</em> change in the money supply growth rate</td>
<td>No long-run effect</td>
<td>Permanent change in price changes</td>
<td>Permanent, lasting</td>
</tr>
</tbody>
</table>

— In case [1] the money supply increases from, say, $100 to $200. The *neutrality of money hypothesis* would say that this has no long-run effect on output but would lead to a lasting one-off increase in prices (from, say, 50 to 100).

— In case [2] a *permanent* change in the money supply *growth rate* (from, say, 4% p.a. to 8% p.a.) will, according to the super-neutrality hypothesis, leave output unaffected and lead to a permanently higher change in prices (from, say, 2% p.a. to 4% p.a.).

- Money is said to be super-neutral if and when *changes in the growth rate* of the money supply have no effects on output: The super-neutrality of money hypothesis holds that economic activity (measures of output, consumption and employment) is independent of money growth.

- However, *money cannot be (super-)neutral from a praxeological perspective*: The
price effects of new money spread unevenly when new money enters an economy. As Mises noted (1996, HA, p. 422):

“As money can never be neutral and stable in purchasing power, a government's plans concerning the determination of the quantity of money can never be impartial and fair to all members of society. Whatever a government does in the pursuit of aims to influence the height of purchasing power depends necessarily on the rulers' personal value judgments. It always furthers the interests of some groups of people at the expense of other groups. It never serves what is called the commonweal or the public welfare. In the field of monetary policies, there is no such thing as a scientific ought.

“The choice of the good to be employed as a medium of exchange and as money is never indifferent. It determines the course of the cash-induced changes in purchasing power. The question is only who should make the choice: the people buying and selling on the market, or the government? It was the market which in a selective process, going on for ages, finally assigned to the precious metals gold and silver the character of money.”
What about the relation between money growth and changes in output as recorded by official statistics?

For instance, for US data covering the period Q1 1960 to Q2 2009, money growth (of M1, MZM and M2) doesn’t show a statistically impressive relation to real GDP growth: A rise in money growth didn’t have a noticeable relation to output growth; and a rise of money growth actually showed by a slightly negative relation to growth.
II. Stock of MZM
(a) Annual growth rates (%)

\[ y = 0.0193x + 3.0257 \]
\[ R^2 = 0.002 \]

(b) Changes in growth rates

\[ y = -0.3517x + 1.1474 \]
\[ R^2 = 0.1085 \]

Source: Thomson Financial, own calculations.

III. Stock of M2
(a) Annual growth rates (%)

\[ y = 0.1264x + 2.3149 \]
\[ R^2 = 0.0248 \]

(b) Changes in growth rates

\[ y = -0.1225x + 0.4144 \]
\[ R^2 = 0.0689 \]

Source: Thomson Financial, own calculations.
60. **Digression:** German hyperinflation 1920 – 1923

**Suggested readings:** Tables taken from: Graham, F. D. (1967 [1930]), Exchange, Prices, and Production in Hyper-Inflation Germany, 1920 - 1923, Princeton University Press,

(Hyper)inflation in Germany, 1920 – 1923

- Praxeologically speaking, *hyperinflation* means ever higher growth rates of the money stock, or: money growth rates spinning out of control.

- To mainstream economists, hyperinflation means ever higher *(and in increasingly higher)* rates of price rises.

- Mises had a clear understanding of the very *forces that led to German hyperinflation*: namely political-


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economic considerations. Mises got to know that printing ever greater amounts of new money can be the, politically speaking, most favorable strategy to pay for public sector outlays. In view of Germany after the WWI he wrote (1923, p. 37):

“(…) this is the only method available for the German government to defray the reparations debt. Should it try to raise the sums demanded through loans or taxes, it would fail. As conditions with the German people are now, if the economic consequences of compliance were clearly understood and there was no deception as to the costs of that policy, the
government could not count on majority support for it. Public opinion would turn with tremendous fore against any government that tried to carry out in full the obligations to the Allied Powers.”

- In *Age of Inflation* (1979), reviewing Germany's hyperinflation from a political-economic viewpoint, Hans F. Sennholz asked (p. 80): "Who would inflict on a great nation such evil which had ominous economic, social, and political ramifications not only for Germany but for the whole world?"

- Sennholz’s sobering answer was (1979, p. 80): “[E]very mark was printed by Germans and issued by a central bank that was governed by Germans under a government that was purely German. It was German political parties, such as the Socialists, the Catholic Centre Party, and the Democrats, forming various coalition governments that were solely responsible for the policies they conducted. Of course, admission of responsibility for any calamity cannot be expected from any political party.”
<table>
<thead>
<tr>
<th>END OF MONTH</th>
<th>TOTAL AMOUNT OF TREASURY BILLS DISCOUNTED BY THE REICH 10</th>
<th>TOTAL ISSUES OF PAPER CURRENCY (EXCEPT EMERGENCY CURRENCY)</th>
<th>INDEX OF WHOLESALE PRICES 20 1913 = 1</th>
<th>INDEX OF DOLLAR EXCHANGE RATES IN BERLIN 21 1913 = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1919 Dec.</td>
<td>86,400</td>
<td>90,958</td>
<td>8.03</td>
<td>11.14</td>
</tr>
<tr>
<td>1920 June</td>
<td>113,200</td>
<td>68,154</td>
<td>13.82</td>
<td>9.47</td>
</tr>
<tr>
<td>Dec.</td>
<td>124,800</td>
<td>124,800</td>
<td>14.40</td>
<td>15.31</td>
</tr>
<tr>
<td>1921 June</td>
<td>185,100</td>
<td>84,556</td>
<td>13.66</td>
<td>17.90</td>
</tr>
<tr>
<td>Dec.</td>
<td>247,100</td>
<td>127,497</td>
<td>39.87</td>
<td>43.83</td>
</tr>
<tr>
<td>1922 June</td>
<td>295,200</td>
<td>186,169</td>
<td>30.50</td>
<td>86.11</td>
</tr>
<tr>
<td>July</td>
<td>308,000</td>
<td>202,526</td>
<td>100.59</td>
<td>159.60</td>
</tr>
<tr>
<td>Aug.</td>
<td>331,600</td>
<td>252,312</td>
<td>92.00</td>
<td>410.91</td>
</tr>
<tr>
<td>Sept.</td>
<td>451,100</td>
<td>331,876</td>
<td>287.00</td>
<td>393.04</td>
</tr>
<tr>
<td>Oct.</td>
<td>603,800</td>
<td>484,885</td>
<td>916.00</td>
<td>1,071.94</td>
</tr>
<tr>
<td>Nov.</td>
<td>813,100</td>
<td>769,600</td>
<td>1,154.00</td>
<td>1,832.30</td>
</tr>
<tr>
<td>Dec.</td>
<td>1,155,800</td>
<td>1,295,528</td>
<td>1,472.00</td>
<td>1,752.83</td>
</tr>
<tr>
<td>1923 Jan.</td>
<td>1,445,000</td>
<td>1,295,528</td>
<td>1,472.00</td>
<td>1,752.83</td>
</tr>
<tr>
<td>Feb.</td>
<td>2,084,800</td>
<td>1,999,500</td>
<td>3,286.00</td>
<td>11,672.00</td>
</tr>
<tr>
<td>Mar.</td>
<td>3,598,000</td>
<td>3,596,000</td>
<td>5,247.00</td>
<td>5,407.00</td>
</tr>
<tr>
<td>Apr.</td>
<td>6,601,300</td>
<td>5,449,000</td>
<td>4,837.00</td>
<td>4,996.00</td>
</tr>
<tr>
<td>May</td>
<td>8,443,300</td>
<td>6,581,200</td>
<td>5,738.00</td>
<td>7,090.00</td>
</tr>
<tr>
<td>June</td>
<td>10,275,000</td>
<td>8,069,700</td>
<td>9,024.00</td>
<td>16,556.00</td>
</tr>
<tr>
<td>July</td>
<td>12,019,800</td>
<td>17,340,000</td>
<td>24,618.00</td>
<td>36,803.00</td>
</tr>
<tr>
<td>Aug.</td>
<td>13,063,400</td>
<td>14,581,300</td>
<td>38,540.00</td>
<td>264,600.00</td>
</tr>
<tr>
<td>Sept.</td>
<td>16,216,654,000</td>
<td>24,921,405,800</td>
<td>36,214,721.00</td>
<td>38,113,000.00</td>
</tr>
<tr>
<td>Oct.</td>
<td>19,901,451,200</td>
<td>30,055,700,000</td>
<td>18,700,000,000.00</td>
<td>17,270,000,000.00</td>
</tr>
<tr>
<td>Nov.</td>
<td>23,053,544,100</td>
<td>25,477,500,000</td>
<td>1,439,000.000.000.00</td>
<td>18,000,000,000.00</td>
</tr>
<tr>
<td>Dec.</td>
<td>26,280,767,850</td>
<td>29,655,345,900</td>
<td>1,200,000.000.000.00</td>
<td>1,000,000,000.000.00</td>
</tr>
</tbody>
</table>

10 Practically all government borrowing after 1919 was in the form of discounted Treasury bills. The figure for November-December 1923 is as of the 15th of that month.

20 In the index number of wholesale prices from December 1919 to December 1922 inclusive, the figures represent monthly averages. From January to June, 1923, statistics are available for specific days three times a month, and from July to December, 1923, weekly. The figures in the table are for the latest available date in each month.

21 The December 1919 figure for the index number of exchange rates is a monthly average. All other figures for this index are end-of-month quotations.

Sources of data: (1) Zahlens zur Geldentwertung in Deutschland 1914 bis 1923; Statistisches Reichsamt, Verlag von Reimar Hobbing, Berlin, 1925, pp. 6-16, 16-18, 46-7. (2) Germany's Economy, Currency and Finance, Zentral-Verlag G.m.b.H., Berlin, 1924, p. 63.

Israel CPI, level

Source: IMF.

Israel CPI, annual changes in %

Source: IMF.

Purchasing power of money of Israel Shekel*

Source: IMF. * 1 divided by CPI.
Brazil CPI, level

Brazil CPI, annual changes in %

Purchasing power of money of Brazil Real*

Source: IMF.

Source: IMF.

Source: IMF. * 1 divided by CPI.
It is important to keep in mind that inflation benefits one group of people (borrowers and holders of assets which prices inflate) at the expense of another group of people (lenders/savers and those who want to buy goods and services); inflation is a non-market-principle based (re)distribution of income.

The model of adaptive expectations explains why ever higher inflation (that is: even higher money growth rates) are required under a policy that wants to bring about real (that are distributive) effects – a policy which must, if continued, lead to hyperinflation.

The model of adaptive expectations can be formulated as follows:

\[ \pi_t^e = \pi_{t-1}^e + \alpha(\pi_{t-1} - \pi_{t-1}^e), \] with \(0 < \alpha < 1\); one can write

\[ \pi_t^e = \alpha \pi_{t-1} + (1 - \alpha)\pi_{t-1}^e, \]
whereas: $\pi = $ is the rate of inflation, $e = $ expected, $t = $ time period.

*Example:* Inflation and expected inflation in $t - 1$ were 2% p.a., respectively, while the actual outcome in $t$ was 4% p.a.; so the expectation error was 2 percentage points. If $\alpha = 0.8$, inflation expectation for period $t$ would be, according to the model of adaptive expectations, 3.6% p.a. To have a redistributive effect in $t$, actual inflation in period $t$ would have to be higher than 3.6%. And so on.
Digression: Money growth and long-term yields

US money (% y/y) and 10-year Treasury yield (%)

Source: Bloomberg, own calculations.
61. The money irregular-deposit contract


- Loan contracts:

  — Under a commodatum contract, the lender entrusts to the borrower a specific item for a certain period of time, at the end of which the specific item must be returned. → Example: Mr Miller lends his car to Mr Smith.

  — Under a mutuum contract, the lender entrusts to the borrower a certain quantity of a good for a certain period of time, at the end of which the borrower is obliged to return an equal quantity of good of the same type and quality (tantundem) → Example: Mrs Kind lends money to Mr Williams.

- Deposit contracts:
Under a deposit contract, the depositor entrusts to the depositary a good for the latter to guard, protect, store and return at any moment the depositor should ask for it. In contrast to a loan contract, the deposit contract means that the deposit is always held and available to the depositor; it is not lend out to another person.

→ Example: Depositing gold coins in a bank vault.

Under an irregular-deposit contract (or: deposit of fungible goods contract), the depositor does not receive the same specific units he handed over to the depositary, but will settle for an exact equivalent in terms of quantity and quality of what he originally deposited.

→ Example: Storing wheat, corn etc. with a commodity warehouse.
How deposit and loan contracts differ

<table>
<thead>
<tr>
<th>Economic differences</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Present goods are not exchanged for future goods.</td>
<td>Present goods (money) are exchanged for future goods.</td>
</tr>
<tr>
<td>There is always full availability of the deposit to the depositor.</td>
<td>Full availability of the money is transferred from the lender to the borrower.</td>
</tr>
<tr>
<td>No interest is paid, as present goods are not exchanged against future goods.</td>
<td>Borrower pays interest, since present good (money) is exchanged against future goods.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legal differences</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic characteristic is the custody/safekeeping of the deposit (<em>tantundem</em>).</td>
<td>Transfer of availability of money from the lender to the borrower.</td>
</tr>
<tr>
<td>There is no term for returning the money; the contract is “on demand”.</td>
<td>Contract has a term to maturity for returning the money and includes interest payments.</td>
</tr>
<tr>
<td>The depositary is required to keep the deposit, at all times; he has to hold a 100% cash reserve.</td>
<td>The borrower is required to make available/return the money at the end of the contract period.</td>
</tr>
</tbody>
</table>

Now let us move towards the issue of free banking – where there are money warehouses. On the issue of accounting, Rothbard (1983, pp. 87) asked: “How do these warehouse receipt transactions relate to the T-account balance sheets of the deposit banks?”

His answer was: “In simple justice, not at all. When I store a piece of furniture worth $5,000 in a warehouse, in law and in justice the furniture does not show up as an asset of the warehouse during the time that I keep it there. The warehouse does not add $5,000 to both its assets and liabilities because it in no sense owns the furniture; neither can we say that I have loaned the warehouse the furniture for some indefinite time period. The furniture is mine and remains mine; I am only keeping it there for safekeeping and therefore I am legally and morally entitled to redeem it any time I please. I am not therefore the bank’s “creditor”; it doesn't owe me money which I may some day collect. Hence, there is no debt to show up on the Equity + Liability side of the ledger. Legally, the entire transaction is not a loan but a bailment, hiring someone for the safekeeping of valuables.”
### 62. Money and credit in a money warehousing regime

**Depositing under a money warehousing regime**

#### Fig. 1a

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold stock (ounces)</td>
<td>100</td>
<td>-100</td>
</tr>
<tr>
<td>Money warehouse receipts</td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td>Σ 100</td>
<td></td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

#### Fig. 1b

<table>
<thead>
<tr>
<th>Money warehouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custody: Gold ounces</td>
</tr>
<tr>
<td>(Warehouse receipt issued)</td>
</tr>
</tbody>
</table>

---

**THE AUSTRIAN SCHOOL OF ECONOMICS – AN INTRODUCTION**
**Purchasing Goods and Services**

<table>
<thead>
<tr>
<th>Fig. 1a</th>
<th>Balance sheet of A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehouse receipt</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td>Goods</td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Σ 100</td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fig. 1b</th>
<th>Balance sheet of B</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goods</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td>Warehouse receipt</td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Σ 100</td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fig. 1c</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Money warehouse</td>
<td></td>
</tr>
<tr>
<td>Custody: Gold ounces</td>
<td>+100</td>
</tr>
<tr>
<td>(Warehouse receipt issued</td>
<td>+100)</td>
</tr>
</tbody>
</table>
LENDING UNDER A MONEY WAREHOUSE REGIME

(a) Direct lending

Fig. 1a

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse receipt</td>
<td>100</td>
<td>-100</td>
</tr>
<tr>
<td>Loan to B</td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td>∑ 100</td>
<td></td>
<td>∑ 100</td>
</tr>
</tbody>
</table>

Fig. 1b

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of B</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse receipt</td>
<td>+100</td>
<td>Liability to A +100</td>
</tr>
<tr>
<td>∑ 100</td>
<td></td>
<td>∑ 100</td>
</tr>
</tbody>
</table>

Fig. 1c

| Money warehouse          |                    |
| Custody: Gold ounces     | +100               |
| (Warehouse receipt issued|                    | +100)        |
LENDING UNDER A MONEY WAREHOUSE REGIME

(b) Indirect lending

<table>
<thead>
<tr>
<th>Fig. 1a</th>
<th>Balance sheet of A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>Warehouse receipt</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-term claim on bank</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td>Σ 100</td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fig. 1b</th>
<th>Balance sheet of B</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>Warehouse receipt</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td>Liability vis-à-vis bank</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td>Σ 100</td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fig. 1c</th>
<th>Bank</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>Warehouse receipt</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td>Liability vis-à-vis A</td>
<td>+100</td>
</tr>
<tr>
<td></td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Σ 100</td>
<td>Σ 100</td>
</tr>
</tbody>
</table>

| Fig. 1d | |
|---------| Custody: Gold ounces | +100 |
|         | (Warehouse receipt issued) | +100 |
MONEY CREATION UNDER FRACTIONAL RESERVE BANKING

### Fig. 1a

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold stock (ounces)</td>
<td>100</td>
<td>-100</td>
</tr>
<tr>
<td>Money substitute</td>
<td>+100</td>
<td></td>
</tr>
<tr>
<td><strong>Σ</strong> 100</td>
<td><strong>Σ</strong> 100</td>
<td></td>
</tr>
</tbody>
</table>

### Fig. 1b

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of B</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse receipts</td>
<td>+80</td>
<td>+80</td>
</tr>
<tr>
<td><strong>Σ</strong> 80</td>
<td><strong>Σ</strong> 80</td>
<td></td>
</tr>
</tbody>
</table>

### Fig. 1c

<table>
<thead>
<tr>
<th>Assets</th>
<th>Balance sheet of the money warehouse</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold stock A (ounces)</td>
<td>+100</td>
<td>Warehouse receipts +100</td>
</tr>
<tr>
<td>Loan to B</td>
<td>+80</td>
<td>+80</td>
</tr>
<tr>
<td><strong>Σ</strong> 180</td>
<td><strong>Σ</strong> 180</td>
<td></td>
</tr>
</tbody>
</table>
Under a *free market money system*, bank credit expansion does *not* increase the money stock when extending loans.
Under today’s *government controlled fiat money system*, bank credit expansion increases the money stock via credit expansion.
### 63. Types of money and credit


<table>
<thead>
<tr>
<th>Type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money proper</td>
<td>Freely chosen money: a commodity (such as, for instance, gold, silver, copper etc.).</td>
</tr>
<tr>
<td>Money substitutes</td>
<td>Claims to a definite amount of money proper, payable and redeemable on demand would be called <em>money substitutes</em>. For instance, <em>promises to pay</em> can be said to be a money substitute.</td>
</tr>
<tr>
<td>Money certificates</td>
<td>If the issuer of money substitutes keeps 100% reserves of money proper, we may call these money substitutes <em>money certificates</em>. [For instance, a banknote, if backed by 100% money proper, is a money certificate and, at the same time, a money substitute.]</td>
</tr>
<tr>
<td>Fiduciary media</td>
<td>If the amount of money substitutes exceeds the amount of money proper, we speak of <em>fiduciary media</em>.</td>
</tr>
<tr>
<td>Token money</td>
<td>Typically minor/subsidiary coins, whose value as money exceeds its commodity value. It is a money-substitute, and so far as its monetary value exceeds its commodity value, it is a fiduciary medium.</td>
</tr>
</tbody>
</table>
### Fiat money
Money established by government decree (legal tender). It does typically have *no intrinsic value* and/or is not legally convertible into any other thing.

### Commodity credit
A bank loan that uses the amount of money proper which customers have entrusted to it. The bank can only lend its own funds and the amount of money which its customers have entrusted to it for lending purposes. A *commodity credit* does not change the overall money supply.

### Circulation credit
A bank loan which, *uno actu*, leads to the issuance of fiduciary media, that is a loan which increases the supply of credit and money beyond the amount of the bank’s own funds and the funds entrusted to the bank by its own customers.
Digression: Money and credit and nominal GDP

Income velocities of money and credit

(a) Monetary base
(b) Bank credit
(c) M2

64. Key elements of government controlled fiat money systems

- Today, basically all countries of the western world have established government controlled fiat money supply monopolies, under which government-owned central banks issue, typically via extending credit, the money supply.

- The primary objective of most central banks is keeping inflation (typically defined as a relatively small rise in the consumer price index over time) at a relatively low level.

- To avoid (open price) inflation as a result of politicians meddling in day-to-day monetary affairs (by taking recourse to the printing press), most central banks have been...
made independent.

Central bank independence can be characterised as follows:

(i) Political independence
    — Goal independence
    — Instrument independence
    — Financial independence

(ii) Economic independence
    — No obligation to finance government deficits
    — No government saying in setting the (short-term) interest rate
    — No obligation to intervene in the FX market

- Another defence line against (open price) inflation is preventing, by setting up institutional/constitutional limits, the building-up of unsustainable government debt.

→ The idea is to prevent government from becoming bankrupt, as in such a situation monetizing government debt becomes, politically speaking, inevitable (like it was in,
for instance, the Weimer Republic in Germany in 1923).

→ For instance, in the euro area the so-called *Stability and Growth Pact* was established, trying to prevent member states’ deficits and debt levels from spiralling out of control.

- But what about other *special interest groups* which may well influence the central bank’s monetary policy?
“The next thirty-six hours were intense. I joked that I felt like a seven-armed paperhanger, going from one phone to another, talking to the stock exchange, the Chicago future exchanges, and the various Federal Reserve presidents. My most harrowing conversations were with financiers and banks I’d known for years, major players from very large companies around the country, whose voices were tightened by fear. These were men who had built up wealth and social status over long careers and now found themselves looking into the abyss. Your judgement is less than perfect when you are scared. “Calm down”, I kept telling them, “it’s containable”.

Bank circulation credit, the law of diminishing marginal return and the debt ratio

- The production function \((PF)\) is subject to the law of diminishing marginal returns and is shown as a function of credit \((C)\).

- A rise in productivity, or a rise in savings, moves \(PF\) towards \(PF'\).

- A rise in \(C_0\) to \(C_1\), if and when accompanied by a move of \(PF\) to \(PF'\), leaves the debt-to-output ratio constant.

\[
\begin{align*}
\text{Output } Y & \quad \uparrow \quad \text{Output } Y_1 \quad \downarrow \\
Y_0 & \quad \uparrow \quad Y_1 \quad \downarrow \\
\text{Credit } C & \quad \quad \uparrow \quad \quad \text{Credit } C_1 \quad \quad \downarrow \\
C_0 & \quad \quad \uparrow \quad \quad C_1 \quad \quad \downarrow \\
\end{align*}
\]
65. The workings of a fiat money regime

In today’s government controlled fiat money system, the central bank holds the monopoly over the production of base money.

- The central bank creates base money whenever it purchases assets (outright) from or grants loans to commercial banks and non-banks.

- The central banks simply *issues new liabilities* in the form of sight deposits and/or bank notes.
### Consolidated Statement of Condition of All Federal Reserve Banks

**Millions of dollars, April 8, 2009**

<table>
<thead>
<tr>
<th></th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold certificate account</td>
<td>11,037</td>
<td>Federal Reserve notes, net of F.R. Bank holdings</td>
</tr>
<tr>
<td>Special drawing rights certificate account</td>
<td>2,200</td>
<td>Reverse repurchase agreements (13)</td>
</tr>
<tr>
<td>Coin</td>
<td>1,835</td>
<td>Deposits</td>
</tr>
<tr>
<td>Securities, repurchase agreements, term auction credit, and other loans</td>
<td>1,383,861</td>
<td>Depository institutions</td>
</tr>
<tr>
<td>Securities held outright</td>
<td>801,353</td>
<td>U.S. Treasury, general account</td>
</tr>
<tr>
<td>U.S. Treasury securities (1)</td>
<td>508,414</td>
<td>U.S. Treasury, supplementary financing account</td>
</tr>
<tr>
<td>Bills (2)</td>
<td>18,423</td>
<td>Foreign official</td>
</tr>
<tr>
<td>Notes and bonds, nominal (2)</td>
<td>446,488</td>
<td>Other</td>
</tr>
<tr>
<td>Notes and bonds, inflation-indexed (2)</td>
<td>39,378</td>
<td>Deferred availability cash items</td>
</tr>
<tr>
<td>Inflation compensation (3)</td>
<td>4,127</td>
<td>Other liabilities and accrued dividends (14)</td>
</tr>
<tr>
<td>Federal agency debt securities (2)</td>
<td>56,288</td>
<td></td>
</tr>
<tr>
<td>Mortgage-backed securities (4)</td>
<td>236,651</td>
<td>Capital accounts</td>
</tr>
<tr>
<td>Repurchase agreements (5)</td>
<td>0</td>
<td>Capital paid in</td>
</tr>
<tr>
<td>Term auction credit</td>
<td>467,277</td>
<td>Surplus</td>
</tr>
<tr>
<td>Other loans</td>
<td>115,230</td>
<td>Other capital accounts</td>
</tr>
<tr>
<td>Net portfolio holdings of Commercial Paper Funding Facility LLC (6)</td>
<td>251,226</td>
<td>Total capital</td>
</tr>
<tr>
<td>Net portfolio holdings of LLCs funded through the Money Market Investor Funding Facility (7)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Net portfolio holdings of Maiden Lane LLC (8)</td>
<td>26,398</td>
<td></td>
</tr>
<tr>
<td>Net portfolio holdings of Maiden Lane II LLC (9)</td>
<td>18,227</td>
<td></td>
</tr>
<tr>
<td>Net portfolio holdings of Maiden Lane III LLC (10)</td>
<td>27,350</td>
<td></td>
</tr>
<tr>
<td>Items in process of collection</td>
<td>852</td>
<td></td>
</tr>
<tr>
<td>Bank premises</td>
<td>2,185</td>
<td></td>
</tr>
<tr>
<td>Central bank liquidity swaps (11)</td>
<td>313,396</td>
<td></td>
</tr>
<tr>
<td>Other assets (12)</td>
<td>51,439</td>
<td></td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td><strong>2,090,006</strong></td>
<td><strong>Total liabilities</strong></td>
</tr>
</tbody>
</table>

**Source:** Federal Reserve.
### Asset and liabilities of Commercial Banks in the United States

Seasonally adjusted, billions of dollars, March 2009

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1    Bank credit</td>
<td>24 Deposits</td>
</tr>
<tr>
<td>2    Securities in bank credit</td>
<td>26 Nontransaction</td>
</tr>
<tr>
<td>3    Treasury and Agency securities 2</td>
<td>27 Large time</td>
</tr>
<tr>
<td>4    Other securities 3</td>
<td>28 Other</td>
</tr>
<tr>
<td>5    Loans and leases in bank credit 4</td>
<td>29 Borrowings</td>
</tr>
<tr>
<td>6    Commercial and industrial</td>
<td>30 From banks in the U.S.</td>
</tr>
<tr>
<td>7    Real estate</td>
<td>31 From others</td>
</tr>
<tr>
<td>8    Revolving home equity</td>
<td>32 Net due to related foreign offices</td>
</tr>
<tr>
<td>9    Other residential</td>
<td>33 Other liabilities</td>
</tr>
<tr>
<td>10   Commercial</td>
<td>34 Total Liabilities 10,885.2</td>
</tr>
<tr>
<td>11   Consumer</td>
<td>35 Residual (assets less liabilities) 1,238.8</td>
</tr>
<tr>
<td>12   Credit cards and other revolving plans</td>
<td></td>
</tr>
<tr>
<td>13   Other</td>
<td></td>
</tr>
<tr>
<td>14   Security 5</td>
<td></td>
</tr>
<tr>
<td>15   Fed funds and RPs with brokers</td>
<td></td>
</tr>
<tr>
<td>16   Other</td>
<td></td>
</tr>
<tr>
<td>17   Other loans and leases</td>
<td></td>
</tr>
<tr>
<td>18   Interbank loans</td>
<td></td>
</tr>
<tr>
<td>19   Fed funds and RPs with banks 6</td>
<td></td>
</tr>
<tr>
<td>20   Other</td>
<td></td>
</tr>
<tr>
<td>21   Cash assets 7</td>
<td></td>
</tr>
<tr>
<td>22   Other assets 8</td>
<td></td>
</tr>
<tr>
<td>23   Total Assets 9</td>
<td>12,124.0</td>
</tr>
</tbody>
</table>

*Source: Federal Reserve.*
The Austrian School of Economics – An Introduction

Fractional reserve banking

<table>
<thead>
<tr>
<th>Assets</th>
<th>Central bank</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>+400</td>
<td>Base money</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assets</th>
<th>Commercial bank A</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>400</td>
<td>Sight deposit</td>
</tr>
<tr>
<td>Base money</td>
<td>-400</td>
<td></td>
</tr>
<tr>
<td>Minimum reserves</td>
<td>+60</td>
<td></td>
</tr>
<tr>
<td>Excess reserves</td>
<td>+240</td>
<td></td>
</tr>
<tr>
<td>Loan</td>
<td>240</td>
<td>Sight deposit</td>
</tr>
<tr>
<td>Minimum reserves</td>
<td>+36</td>
<td></td>
</tr>
<tr>
<td>Excess reserves</td>
<td>+144</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assets</th>
<th>Commercial bank B</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum reserves</td>
<td>+27</td>
<td>Sight deposits</td>
</tr>
<tr>
<td>Excess reserves</td>
<td>+108</td>
<td></td>
</tr>
<tr>
<td>Loan</td>
<td>+108</td>
<td></td>
</tr>
<tr>
<td>Minimum reserves</td>
<td>21.6</td>
<td>Sight deposits</td>
</tr>
<tr>
<td>Excess reserves</td>
<td>59.4</td>
<td></td>
</tr>
</tbody>
</table>

- To show the multiple credit and money creation process, assume that the minimum reserve rate on sight deposits is 20% and the cash coefficient 25%.

- To start with, commercial bank A exchanges a US$400 security (which was received from a client) against a base money deposit with the central bank.

- Bank A credits the client’s
sight deposit with US$300 (that is US$400 minus US$100 cash drain (US$400 times 0.25). Minimum reserves amount to US$60 (US$300 times 0.2), excess reserves to US$240.

- Bank $A$ grants a loan to, say, a firm in the amount of US$240, crediting the client’s sight deposit with US$180, that is US$240 minus the cash drain (US$240 times 0.25). Minimum reserves amount to US$36, excess reserves to US$144.

- The client transfers the money to a client who holds his account with commercial bank $B$. The latter credits its client’s account with US$135 (that is US$180 minus the cash drain of US$45). Minimum reserves amount to US$27 (US$135 times 0.2), excess reserves to US$108.

- Bank $B$ grants a loan in the amount of the excess reserves, crediting its client’s account with US$81 (that is US$108 minus the cash drain of US$27).

- The multiple credit and money creation ends when excess reserves are zero – when the
base money stock is fully absorbed by minimum reserves.

- Let us consider the multiple credit and money creation process in a more formally way. The symbols we will use are as follows: $B = \text{base money}$, $S = \text{sight deposits}$, $r = \text{minimum reserve ratio}$, and $c = \text{cash coefficient}$, $C = \text{credit}$ and $EX = \text{excess reserves}$.

\[ EX - c \cdot \Delta C = \Delta C \cdot r \]

So we can write:

\[ EX = \Delta C \cdot (r + c). \]

The higher (lower) the minimum reserve ratio and the cash coefficient are, the lower (higher) is, under a given supply of excess reserves, the credit and money creation potential of the banking system.
Digression: Monetary base, bank credit and commercial bank money

- Commercial banks need monetary base for extending credit and creating money.

- Bank credit expansion tends to outpace the rise in the money stock.

- This finding can be explained by so-called shifting processes.

Source: Thomson Financial, own calculations.
*Series are index (Jan '60 = 100).
Portfolio shifts and monetary aggregates

<table>
<thead>
<tr>
<th>Assets</th>
<th>Banking sector balance sheet</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>5000</td>
<td>Demand deposits 5000</td>
</tr>
<tr>
<td>Base money</td>
<td>100</td>
<td>Demand deposits 5000</td>
</tr>
<tr>
<td><strong>thereof:</strong> minimum reserves</td>
<td>100</td>
<td>Demand deposits -2000</td>
</tr>
<tr>
<td>excess reserves</td>
<td>0</td>
<td>Demand deposits 5000</td>
</tr>
<tr>
<td>minimum reserves</td>
<td>-40</td>
<td>Demand deposits 5000</td>
</tr>
<tr>
<td>excess reserves</td>
<td>+40</td>
<td>Demand deposits 5000</td>
</tr>
<tr>
<td>Credit</td>
<td>+2000</td>
<td>Demand deposits +2000</td>
</tr>
<tr>
<td>minimum reserves</td>
<td>+40</td>
<td>Demand deposits +2000</td>
</tr>
<tr>
<td>excess reserves</td>
<td>0</td>
<td>Demand deposits +2000</td>
</tr>
</tbody>
</table>

- Let us assume that the base money supply is $100, the minimum reserve is 2% on demand deposits, while banks’ long-term liabilities are not subject to minimum reserves. The total amount of bank credit and demand deposits is $5000.

- If bank clients transfer demand deposits in the amount of, say, $2000 to long-term bank liabilities, the banking sector’s excess reserve rises by $40.
The excess reserve of $40 makes possible to extend credit and create money in the amount of $2000, respectively.

As a result, the shifting process has increased the credit supply by $2000 to $7000, while the stock of money (demand deposits) has remained unchanged (at $5000).
**Digression: multipliers in the US**

Credit and money multipliers in the US

(a) Bank credit  
(b) M2  
(c) M1

- Multipliers rose strongly from the early 1960s to the middle of 2008.
- Thereafter, the multiplier fell strongly – as the rise in the base money supply did not translate into more credit and money supply.

*Source*: Thomson Financial, own calculations. The multipliers were calculated by dividing bank credit, M2 and M1 by required reserves + excess reserves.
66. Removing the checks to inflation under central banking

- “[T]he bank is already and at all times bankrupt; but its bankruptcy is only revealed when customers get suspicious and precipitate “bank runs”.”

- Under free banking, there are checks on banks’ inflationary activity, namely:

  (1) The size of the clientele of each bank. – The more transactions take place between clients of different banks, the more money proper (gold) a bank has to pay out. That said, the smaller the business volume of an individual bank is, the smaller is its scope of over-issuing.

  (2) The confidence the public has in each bank. – If people lose confidence in the trustworthiness of their bank, the bank will lose business – and, in the extreme case, will have to close down.
These two \textit{limits} to inflationary bank credit expansion are, in turn, a direct function of a \textit{fundamental legal obligation}: the duty on the part of the banks to redeem their liabilities on demand (in money proper).

\begin{itemize}
  \item If there is \textit{great confidence} among the public as far as an individual bank’s business practice is concerned (namely that the bank will redeem its notes as promised into money proper), the bank’s business will be sizeable, and many customer will want to hold their deposits with it.
  \item However, with government handing out privileges and, via regulation, controlling the commercial banking sector, the limits to inflationary credit and money expansion have, over time, been eroded, or even destroyed – in particular so under a system of \textit{central banking}.
\end{itemize}
67. The Austrian theory of the interest rate


Source: Thomson Financial.
Theories of the term structure of interest rates

1. Pure expectations hypothesis (PEH)
   (i) Expected excess return is zero or
   (ii) The term premium is zero for all maturities
   \[ E_t H_{t+1}^{(n)} - r_t = 0 \quad R_t^{(n)} - E_t (r_{t+j+1}) = 0 \]

2. Expectations hypothesis or constant term premium
   (i) Expected excess return equals a constant which is the same for all maturities or
   (ii) the term premium ‘T’ is a constant and the same for all maturities
   \[ E_t H_{t+1}^{(n)} - r_t = T \quad R_t^{(n)} - E_t (r_{t+j+1}) = T \]

3. Liquidity preference hypothesis
   (i) Expected excess return on a bond of maturity n is a constant but the value of the constant is larger the longer the period to maturity or
   (ii) The term premium increases with n, the time period to maturity
   \[ E_t H_{t+1}^{(n)} - r_t = T^{(n)} \quad R_t^{(n)} - E_t (r_{t+j+1}) = T^{(n)} \text{ where } T^{(n)} > T^{(n-1)} \ldots, \text{ etc.} \]

4. Time varying risk
   (i) Expected excess return on a bond of maturity n varies both with n and over time
(ii) The term premium depends on the maturity $n$ and varies over time

$$E_i H_{t+1}^{(n)} - r_t = T(n, z_t)$$

where $T(\cdot)$ is some function of $n$ and a set of variables $z_t$.

5. Market segmentation hypothesis

(i) Excess returns are influenced at least in part by the outstanding stock of assets of different maturities

(ii) The term premium depends in part on the outstanding stock of assets of different maturities

$$E_i H_{t+1}^{(n)} - r_t = T(z_t^{(n)})$$

where $z_t^{(n)}$ is some measure of the relative holdings of assets of maturity ‘$n$’ as a proportion of total assets held.

6. Preferred habitat theory

Bonds which mature at dates which are close together should be reasonably close substitutes and hence have similar term premia.


INTRODUCTION

"The history of the interest problem (…) begins with a very long period in which loan interest, or usury, alone is the subject of investigation. This period begins deep in an-
cient times, and reaches down to the eighteenth century of our era. It is occupied with the contention of two opposing doctrines: the elder of the two is hostile to interest; the later defends it. The course of the quarrel belongs to the history of civilization (…).” —Eugen von Boehm-Bawerk (1890), Capital and Interest, p. 14.

- **Starting point**: For successful business, there is a positive *spread* between the sum of the prices paid for all production factors and the market selling prices of goods produced. The *central questions* are: Can this spread (or: *interest rate*) be *arbitraged away*, or is there at least a part of the spread that cannot be eliminated (which can be termed *pure interest*)?

Note the following calculation formula for profit:

- *Turnover* (that is quantity sold times market price per unit)
- – *input costs* (that is quantity bought times price per unit paid)
- = *gross profit*
- – *entrepreneurial wage*
- – *capital costs* (that is amount of money invested times the nominal interest rate)
- = *net profit*
**THE AUSTRIAN SCHOOL OF ECONOMICS – AN INTRODUCTION**

*The nominal market interest rate is defined as:
  = pure (or originary) interest rate
  + price premium
  + entrepreneurial premium (risk/liquidity premia)

**EUGEN VON BÖHM-BAWERK’S CONTRIBUTION TO EXPLAINING THE INTEREST RATE**

- Böhm-Bawerk formulated the interest rate as *value problem*, which relates to human action: “Present goods have in general greater subjective value than future goods of equal quantity and quality.” (Böhm-Bawerk (1959), Capital and Interest, p. 265.) [Note that it was Frank Fetter who later coined the term *time preference* to describe this phenomenon.]

- Böhm-Bawerk argued that the interest rate is determined by three factors, whereas (1) and (2) are caused by *psychological dispositions*:

  (1) Current needs are typically less well satisfied than future needs; and
(2) human beings tend to underestimate future needs.

(3) In addition, Böhm-Bawerk put forward a *technical* factor that determines *time preference*: namely that time preference is caused by the higher physical productivity of *roundabout methods of production*.

- However, Böhm-Bawerk’s *psychological explanation* of *time preference* suffered from two shortcomings:

  (1) He considers the *value differential* between *homogenous goods*, available in the present and the future, while the very fact that the goods are available at different point in time makes them *heterogeneous goods*.

  (2) In view of Böhm-Bawerk’s psychological explanation, time preference may be *positive* at some point in time (so future goods are valued less highly than present goods), while at other points in time preference may be *negative* (as future goods are
valued more highly than present goods).

**LUDWIG VON MISES’S CONTRIBUTION TO EXPLAINING THE INTEREST RATE**

- Mises made a distinction between the *market interest rate* (or interest rate on the loan market) and the *originary interest rate* (or: *Urzins*):

  “Originary interest is the ratio of the value assigned to want-satisfaction in the immediate future and the value assigned to want-satisfaction in remote periods of the future. It manifests itself in the market economy in the discount of future goods as against present goods.” (Mises (1996), HA, p. 526.)

- According to Mises, the interest rate does *not* (as the (neo)classical economists believed) determine the supply of and demand for savings (as the *neo-classics* maintain), it is actually the other way round:
“Its height does not depend on the extent of this demand and supply. It is rather the rate of originary interest that determines both the demand for and the supply of capital and capital goods. It determines how much of the available supply of goods is to be devoted to consumption in the immediate future and how much to provision for remoter periods of the future. People do not save and accumulate capital because there is interest. Interest is neither the impetus to saving nor the reward or the compensation granted for abstaining from immediate consumption. It is the ratio in the mutual valuation of present goods as against future goods. (Mises (1996), HA, p. 527.)

- Mises rejected Böhm-Bawerk’s *psychological explanation* of the interest rate. Psychology, Mises argued, cannot establish (the *praxeological* fact that there is positive) *time preference*.

→ Böhm-Bawerk (and also Frank A. Fetter (1863–1949) and Irving Fisher (1867–1947) referred to a *value differential* between *homogeneous goods* available at two different times (present and future). However, the same good (in physical terms) may be viewed differently if and when it is available in the present or in the future.
Mises made use of a *counterfactual value differential* between two alternative uses of one and the same good. As Mises writes:

“[T]ime preference concerns the value differential between a present use of a good and an alternative future use of this good that could only have been realized had a different choice been made. When I use a good now rather than later, I demonstrate that I prefer to use the good now rather than later. And this in turn necessarily means that the value of its present use is higher for me than the value of the use I might have made of it in the future.” (Hülsmann (2007), p. 777-8.)

Mises basically followed the reasoning of Frank A. Fetter (1863–1949) and Franz Cuhel (1862 –1914), who argued that the ultimate cause of time preference is the necessity of consumption.

Mises showed that *time preference* follows from the *logical structure of human action*: (i) namely that every action requires time to attain its objective, and that (ii) time is al-
ways scarce for mortal man, so that (iii) present goods are, and must invariably be, valued more highly than goods available in the future.

- *Time preference must necessarily be positive*, according to Mises. In fact, a negative time preference would be an absurdity for goal-pursing man:

> “If he were not to prefer satisfaction in a nearer period of the future to that in a remoter period, he would never consume and so satisfy wants. He would always accumulate, he would never consume and enjoy. He would not consume today, but he would not consume tomorrow either, as the morrow would confront him with the same alternative.”


- Consider the following example: (1) A *free market money regime* is in place (in which, say, gold is money proper), and (2) entrepreneurial and price premium components are zero. We know that it is *time preference* that determines savings (*S*) and investment (*I*). The savings schedule is positively related to the originary interest rate, while invest-
ment is negatively related to the originary interest rate.

→ What can make the originary interest rate move towards zero? The answer is: A move of the savings schedule to the right (with investment remaining unchanged) – that is a fall of time preference. People reduce their consumption to the benefit of savings (and investment) – in the extreme, no one would consume – which is, of course, impossible for existing man.

→ What can make the originary interest rate move towards ever higher levels? The answer is: a rise in time preference. The future state of affairs becomes increasingly less important for acting man, investment falls, and capital consumption sets in.

MURRAY N. ROTHBARD’S CONTRIBUTION TO EXPLAINING THE INTEREST RATE

▪ Present goods: readily available goods (and services). Future goods: A future good is the present expectation of enjoying a consumers’ good at some point in the future.
Two types of exchanges:

(1) Exchanging present goods against present goods (present-present market. Example: Purchasing a car (present good) for US$50,000 (present good) is a transaction in the market for present goods.

(2) Exchanging present goods for future goods (present-future, or time market). Example: Loaning money takes place in the time market: money (a present good) is exchanged for a claim to future money (a future good).

According to the work of Eugen von Böhm-Bawerk (1841–1914), the interest rate is an expression of people assigning greater value to goods and services available today than goods and services available at some future point in time – reflecting time preference.

→ Note that Mises showed that time preference is not a psychological, or physiologi-
cal, concept; and that *time preference must necessarily be positive*.

- **The interest rate is a free market phenomenon.** People freely exchange goods and services which they consider less valuable against those vendible items they value more highly. For instance, Mr Miller is willingly exchanging US$1 against an apple as he values the apple higher than one US dollar. Likewise, the shopkeeper exchanges the apple against US$1 because from his viewpoint the dollar is more valuable than the apple.

- This principle does not only hold true for *exchanges of present-against-present-goods* (as in the example above) but also for *present-against-future-goods*. Present goods are goods that are readily available for consumption today, while future goods are those goods that will become – through the production process, which requires foregoing consuming present goods today – present goods available at a future point in time.

- Most exchanges in the market place involve indirect exchange, involving money as *the universally accepted means of exchange*. Money is a *present good* and as such it is a
perfectly marketable good. There are actually two kinds of transactions in which present goods are exchanged against future goods. Both take place in the so-called present-future goods market (or time market):

— First, there are transactions in which entrepreneurs buy present goods and use them as production input factors (cash transaction). In a time-consuming production process, present goods are transformed into future consumption goods. The entrepreneur hopes that the proceeds of future output will exceed input costs and compensate him for all his efforts.

— Second, there are credit transactions. For instance, A gives a certain amount of money to B in exchange for a claim to future money. A is lender (with a claim to future money) while B is borrower (required to repay borrowed money in the future). The transaction, starting in the current period, is to be completed in a future period (when B repays the loan by transferring the agreed amount of money to A).

- For instance, firms demand present goods (such as, for instance, iron, coal, etc.) for
transforming them into present goods available at some point in the future. In ex-
change for acquiring present goods, firms offer future goods in the form of promises to 
pay future money, that are dividend payments or, if present goods were acquired 
through a credit transaction, repaying the loan plus interest.

- In that sense, the interest rate is related to exchanging present goods against future 
goods: The interest rate is an exchange ratio. For instance, if 100 ounces of gold ex-
change for the prospect of obtaining 105 ounce of gold in one year, then the rate of in-
terest is 5% p.a. That said, the interest rate is the time-discount rate, or better: time 
preference rate, of future to present money.

- The free market interest rate reflects the aggregated individual time preference rates, or 
the social rate of time preference. It is the interest rate that equilibrates the supply of 
present goods (savings) with the demand for present good (investment). If peoples’ 
time preference falls (rises), that is peoples’ time preference for present goods over fu-
ture goods declines (increases), people will consume less (more) out of current income 
and save and invest more (less). It is for this reason that the free market interest rate
will \textit{decline} (\textit{rise}).

- In a society, individuals can be expected to differ as far as their time preference is concerned. Some individuals may have a \textit{high} time preference, other may have a \textit{low} time preference. The former are more willing to consume in the present and less willing to defer consumption to the future, while the latter tend to save more and consume less out of current income. In an economy populated by patient individuals (low time preference people) and less patient individuals (high time preference people) lending and borrowing of money will result.

- Individuals with a low time preference value present goods less than a certain higher quantity of future goods. In contrast, individuals with a high time preference are willing to forego more future goods for the sake of enjoying an additional unit of present goods. As a result, individuals with a low time preference will, as a rule, be inclined to lend to individuals with a high time preference.

- Austrian economists explain the market interest rate (or the \textit{pure rate of interest}) by
peoples’ time preference. This can be illustrated in a more formal way. The law of diminishing marginal utility is typically applied in the context of an individual making a choice between present goods. However, the analysis can be easily applied to an individual making choices between present and future goods.

- What about the demand for present goods, then? Economic production makes it necessary that currently available goods (present goods) must be used as input factors of production; entrepreneurs transform present goods into future goods (that are present goods available at a future point in time). How does the demand for present goods relate to the interest rate? Again, this question can be answered by looking at an individual’s time preference schedule.
The right part of the graph shows the familiar supply schedule for present goods in relation to the interest rate. According to the law of diminishing marginal utility, an individual’s time preference becomes infinite after a certain amount of present goods has been supplied in the time market. The reason is that man must consume in the present, so he cannot save all of his current income. And it is this fact that will drastically limit man’s savings, regardless of the interest rate. Accordingly, the supply of money schedule becomes, at some point, a vertical line.
At the other end of the spectrum, time preference implies that at some (minimum) interest rate level – which varies from person to person – an individual does no longer save. For instance, an individual cannot – given the fact that he values present goods higher than future goods – prefer 3 ounces (or less) of future money over 3 ounces of present money. So what happens if an individual’s present money supply curve hits the vertical axis?

For an individual, the marginal utility of present money may fall too fast, as compared with that of future money, for him to become net demander of present goods at a low interest rate; his time preference ratio is too low, and his time market curve drops to zero left of where the vertical axis meets the horizontal axis. A fellow individual, however, may have a high time preference, so that at a low interest rate, he actually becomes a net demander of present goods (that is a net supplier of future goods).

The graph shows a continuous curve of an individual’s activity in the time market. The right part shows his supply of present goods: At higher interest rates, down to where it
hits the vertical axis, the individual is a net supplier of present goods. The left part represents the individual’s net demand for present goods, which rises (falls) with falling (rising interest rates). The borrower of present goods continues to borrow until the marginal utility of the next unit of money in the present will decline enough to be outstripped by the marginal utility of having a higher quantity of present goods in the future. As a result, the demand for present goods (that is the supply of future goods) must be negatively related to the interest rate.

- Under the law of diminishing marginal utility, individuals have a similar time-market schedules. The schedules of the all individuals will be such that at higher rates of interest there will be a greater tendency towards net saving, while lower interest rates will be associated with less saving, until the individual becomes a net demander for present goods. Likewise, lower (higher) interest rates will be accompanied by rising (declining) demand for present goods.

- If the individuals’ time market schedules are aggregated, one obtains the familiar supply and demand curves as shown in the figure below. The intersection of the supply of
and the demand for present goods determines the equilibrium rate of interest $i_0$. In equilibrium, $O m_{t,0}$ is the amount of present goods that will be saved and invested.

Market equilibrium in the time market

- At a higher interest rate than $i_0$, present goods supplied would exceed future goods supplied in exchange, and excess savings would compete with one another until the price of present goods in terms of future goods would decline toward equilibrium. If
the rate of interest were below \( i_0 \), the demand for present goods by suppliers of future goods would exceed the supply of savings, and the competition of this demand would push interest rates up toward equilibrium.

- The equilibrium market interest rate, which aligns the supply of present goods with the demand for present goods, is determined by peoples’ time preference. Against this background it is understandable that Austrian economists would conclude that the interest rate – as Rothbard put it – “is determined by the time preferences of the individuals in the society, and by no other factor.”

- The equilibrium market interest rate reflects lenders’ and borrowers’ utility maximisation effort. Lenders (low time preference people) will continue to lend until the marginal utility from lending an additional unit of money falls enough to be outstripped by the marginal utility of the present use of that unit of money. Borrowers (high time preference people) will continue to borrow until the marginal utility of the additional unit of money in the present will fall enough to be outstripped by the marginal utility of having more money in the future.
Appendix: Neo-classical explanation of the interest rate

Assume an individual’s utility is a function of consuming present goods \((m_t)\) and future goods \((m_{t+1})\):

\[
U = f(m_t, m_{t+1}).
\]

(1)

The marginal utility from consuming one unit more of \(m_t\) increases total utility:

\[
\frac{\partial U}{\partial m_t} = f_m > 0.
\]

(2)

Further, it is assumed that with growing consumption of \(m_t\) the marginal utility declines:

\[
\frac{\partial^2 U}{\partial m_t^2} = f_{mm} < 0.
\]

(3)
Equations (2) and (3) correspond to the *First Law of Gossen* (named after Hermann Heinrich Gossen (1853)).

Furthermore, it is assumed that the marginal utility from consuming one unit more of $m_t$ increases if one unit more of $m_{t+1}$ is consumed.

\[ \frac{\partial^2 U}{\partial m_t \partial m_{t+1}} = f''_{m_t,m_{t+1}} > 0. \]

Fig. X shows a utility curve with the properties as outlined in the equations above. In point $A$, the level of consumption is low ($m_{t,1}$), while its marginal utility is high, as expressed by the steepness of the utility curve. In contrast, the consumption level is higher in point $B$ ($m_{t,2}$), whereas the marginal utility is lower, than in
point $A$.

Now assume that, for simplicity, there is a given level of utility, $\bar{U}$, which depends on $m_t$ and $m_{t+1}$:

\begin{equation}
\bar{U} = f(m_t, m_{t+1}) \text{ or, when solving for } m_t
\end{equation}

\begin{align}
\bar{U} = & f(m_{t+1}, \bar{U}) = \tilde{f} = (m_{t+1}).
\end{align}

Equation (6) is the so-called indifference curve. It shows all combinations of $m_t$ and $m_{t+1}$ which yield the same level of utility $\bar{U}$.

The slope at any point on an indifference curve equals the rate at which the consumer is willing to substitute present goods for future goods. This exchange rate reflects the time preference: It shows how much of a present good must be given up in
order to get hold of an additional unit of the future good. The time preference can be calculated by the total differential of the utility function:

\( \text{(7)} \quad dU = f'_m dm_t + f'_{m_{t+1}} dm_{t+1}, \)

where \( d \) represent small (but not infinitesimal small) changes.

Along the indifference curve we have:

\( \text{(8)} \quad 0 = f'_m dm_t + f'_{m_{t+1}} dm_{t+1}, \) or equally:

\( \text{(9)} \quad \frac{f'_{m_{t+1}}}{f'_m} = - \frac{dm_t}{dm_{t+1}}. \)

The time preference rate for substituting \( m_t \) through one additional unit of \( m_{t+1} \) equals the reciprocal of the marginal utilities for the goods under review (with a negative
sign). Of course, the time preference rate depends on the amount of present goods already offered against future goods. The higher (smaller) the quantity of present goods that have already been exchanged against future goods, the higher (lower) will be the time preference rate.

Graph (a) shows an individual’s indifference function for present goods ($m_t$) and future goods ($m_{t+1}$), both expressed in money terms. The time preference rate is the rate
at which one unit of $m_t$ exchanges for $m_{t+1}$. The more (less) $m_t$ is exchanged against $m_{t+1}$, the higher (lower) becomes the time preference rate. This explains why the supply of present goods is positively related to the interest rate (graph (b)); as present goods are exchanged against future goods, the supply of present goods is equivalent to the demand for future goods.
In the past, US short- and long-term interest rates were, more or less, closely related, as indicated by the ratio of long-term yields divided by short-term rates as set by the Federal Reserve (which tended to oscillate around unity).

Persistent deviations of the ratio from 1.0 were noticeable in the early 1990s, in the period 2002–2004 and, more recently, as from the end of 2008, suggesting a weakening impact of short-term rates on long-term rates.

68. Roundabout production – the *Hayekian triangle*


The *Hayekian triangle* is an analytical tool, illustrating the *time dimension* of production and the *theory of the business cycles* as put forward by Ludwig von Mises.

- The *vertical leg* of the triangle represents dollar-denominated spending on consumer goods, the *horizontal leg* represents the time dimension that characterizes the (roundabout) production process.

An increase in investment requires an increase in savings and, as a result, a decline in current consumption, while an increase in (successful) investment will increase future consumption.
69. The business cycle


In mainstream economic theory, the business cycle is typically defined as swings in economic activity over time. More precisely, the business cycle refers to the finding of actual economic output fluctuating around the economy’s long-term, or potential, expansion level.
Overview about non-monetary and monetary business cycle theories

<table>
<thead>
<tr>
<th>Re (i): non-monetary business cycle theories</th>
<th>Re(ii): monetary business cycle theories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Sunspots theory</strong>: Changes in natural conditions (draughts, temperature, wind, etc.) determine the economy’s output capacity.</td>
<td><strong>Austrian monetary theory of the trade cycle</strong> (MTTC): As the central bank lowers the market interest below its natural level, investment is stimulated, resulting in an over-investment expansion, to be followed by economic contraction.</td>
</tr>
<tr>
<td>2. <strong>Inventory based cycle</strong>: Firms’ production is higher than sales, so inventories built up. As inventories rise, firms reduce output and employment.</td>
<td><strong>Political election cycle</strong> (monetary aspect): in view of the forthcoming election, the government pursues an inflationary monetary policy for inducing an economic boom.</td>
</tr>
<tr>
<td>3. <strong>Kondratiev cycle</strong>: The modern (capitalist) economies follow sinusoidal cycles of upswings and downswings (with a length of around 50 years on average).</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Real business cycle theory</strong>: Changes in firms’ productivity (due to the emergence of new technologies) lead to changes in output and employment.</td>
<td></td>
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<tr>
<td>5. <strong>Political election cycle</strong> (fiscal aspect): In the run up to election, the government pursues an expansionary fiscal policy, raising output and employment above the long-term average, only to be followed by a decline in economic activity following the election.</td>
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- In this sense, one would speak of an *economic upswing* if economic activity exceeds potential output. Likewise, in a period of *economic downswing* output falls below the economy’s potential output level.
Mainstream economists would argue that business cycles are the result of sudden and unexpected changes to aggregate supply and/or aggregate demand.

Rothbard (1972, p. 6) defines business cycles not as fluctuations in business activity per se – as they can actually be explained by changing economic data and can be explained by economic theory – but as the phenomenon of the recurrence of general boom and bust. Here, a boom is understood as an ongoing period of extraordinary expansion, that is economic expansion (well) above the economy’s long-term expansion rate, while a bust is seen as a prolonged period of time of declining output and employment.

More specifically, Rothbard asks: Why are there depressions, periods in which economic activity decline substantially across the board, leading to a marked slump in economic activity and rising unemployment? Rothbard out forward the notion of the cluster of business errors (Rothbard (1972), p. 8).
After a period in which business activity developed economically successful, overall production, without a warning, turns sore, and many businesses run up losses; a period starts which reveals that many businesses have made large-scale errors in forecasting consumers’ demand. Economic expansion turns into a period of economic contraction. Investment declines, and so does employment.

→ “(…) businessmen were misled by bank credit inflation to invest too much in higher-order capital goods, which could only be prosperously sustained through lower time preferences and greater savings and investment; as soon as the inflation permeates to the mass of the people, the old consumption–investment proportion is reestablished, and business investments in the higher orders are seen to have been wasteful. Businessmen were led to this error by the credit expansion and its tampering with the free-market rate of interest.”

According to this theory, the boom is a period of wasteful misinvestment. It is the time when errors are made, due to bank credit’s tampering with the free market. The so-called crisis arrives when the consumers come to reestablish their desired proportions.
The *bust* is the process by which the economy adjusts to the wastes and errors of the boom, and reestablishes efficient service of consumer desires. The adjustment process consists in rapid liquidation of the wasteful investments.
70. Commodity credit versus circulation credit


- In his monetary theory, Mises distinguishes between two types of bank credit: commodity credit and circulation credit.

--- Commodity credit: Bank credit, which transfers a given amount of existing money from the lender to the borrower. It represents loans (for which banknotes and/or demand deposit credit are issued) backed by 100% of money proper.

--- Circulation credit: Bank credit through which the means of payment (banknotes and/or demand deposits) is increased. Circulation credit is not (fully) backed by money proper, and it is also termed fiduciary media.

Alternatively, one may say that circulation credit increases the money supply out-of-thin-air: the money supply is increased through credit, and the credit and money supply increase is not accompanied by real savings.
BANK CREDIT, NOMINAL INCOME AND THE SAVINGS RATIO IN THE US

US bank credit and nominal GDP (indexed)


US savings in % of personal income

71. Knut Wicksell’s business cycle theory


- Wicksell’s explanation of the business cycle apparently rests on the discrepancy between the market interest rate and the natural interest rate (or: neutral interest rate), which, in turn, would affect money prices.

- The market interest rate is the interest rate, which is determined by the supply of and demand for money in the time market, whereas the natural interest rate represents the rate of interest at which the economy is in equilibrium; it reflects the societal time preference rate.

- By the cumulative process Wicksell meant the development through which deviations of the money market interest rate from the natural interest rate lead to changes in price
It appears to be instructive to stress that Wicksell’s model of the cumulative process assigns an explicit role to the change to the economy’s money stock. In fact, a closer look reveals that it is the interest rate induced change in the money supply that is at the heart of Wicksell’s business cycle and/or swings in money prices.

Using the formal representation of Wicksell’s cumulative process put forward by Humphrey (1997), it is assumed that all saving ($S$) is deposited with banks, that investment demand ($I$) determines the demand for bank loans ($LD$) which, in turn, is supplied by banks ($LS$).

The interest rate on loans is $i$, while the natural rate is $r$, that is the rate that equilibrates saving and investment ($I = S$). The excess demand (that is actual demand over potential output) is $E$. As banks create additional deposits ($D$) when extending loans, the change in deposit supply is $dD/dt$. 
The change in the price level \((P)\) is \(dP/dt\), and the change in the market interest rate is \(di/dt\). Planned investment will exceed planned savings if \(I\) falls below \(r\):

\[
(1) \quad I - S = a(r - i);
\]

where \(a\) relates the investment-saving gap to the difference between the natural rate and the market rate.

The second equation says that the excess of investment over saving equals the additional demand deposits created by bank loan extension:

\[
(2) \quad dD/dt = I - S.
\]

Assuming that investment is financed by loans, we can write: \(LD = I(i)\), where \(I(i)\) is the function linking desired investment to the loan rate of interest. That said, banks loan supply is: \(LS = S(i) + dD/dt\), that is banks loan supply equals savings deposited plus newly created deposits.
The third equation says that new deposits are used for demanding goods and services, therefore inducing excess demand. [Note that it is assumed that the economy is at full employment.] That said, we can write:

(3) \[ \frac{dD}{dt} = E. \]

Assuming that additional deposits create excess demand, one can assume that this causes prices to go up:

\[ \frac{dP}{dt} = bE, \]

where the coefficient \( b \) is the factor of proportionality between price level changes and excess demand.

Substituting equations (1), (2), and (3) into (4), one yields:
(5) \[ \frac{dP}{dt} = ab(r - i). \]

It says that the discrepancy between the natural rate and the market rate is to be held responsible for changes in the price level.

Substituting (1) into (2) yields:

(6) \[ \frac{dD}{dt} = a(r - i), \]

which shows that the change in deposits is also a function of the discrepancy between the natural rate and the market rate.

The final equation relates the change in the market interest rate to changes in the price level:

(7) \[ \frac{di}{dt} = gdP/dt; \]
here, \( g \) is the factor of proportionality. Eq. (7) takes account of the fact that banks must, sooner or later, increase the loan rate to protect their gold holdings from inflation-induced demands for cash. The equation assumes that banks raise rates in response to price changes. The equation ensures that the loan rate eventually converges to its natural equilibrium level. This can be seen by substituting equation (5) into the above formula to obtain:

\[
\frac{d\lambda}{dt} = gab(r - \lambda).
\]

Solving this equation for the time path of \( \lambda \) yields:

\[
\lambda(t) = (\lambda_0 - r) e^{-gabt} + r,
\]

where \( t \) is time, e is the base of the natural logarithm system, \( \lambda_0 \) is the initial disequilibrium level of the loan rate, and \( r \) is the given natural rate. With the passage of time, the first term on the right-hand side vanishes and the loan rate converges to the natural rate. At this point, monetary equilibrium is restored. Saving equals investment, excess
demand disappears, deposit expansion ceases, and prices stabilize at their new, higher level.
**DIGRESSION: CREDIT CYCLE**

US real GDP and Bank Credit, real* (% y/y)

Source: Thomson Financial, own calculations.

US Bank Credit and S&P 500 (% y/y)

Source: Thomson Financial, own calculations.
72. The Austrian Monetary Theory of the Trade Cycle (MTTC)


- The Austrian MTTC makes a distinction between a *savings-induced boom*, which is sustainable, and a *circulation-credit-induced boom*, which is not.

- Fig. 1 (a) shows an *increased thriftiness* by households (or: *fall in time preference*), as represented by a shift of the supply curve from $S$ to $S'$. Households’ time preference declines: They prefer to shift consumption from the present to the future.

- As a result, the rate of interest falls from $i_0$ to $i_1$, enticing businesses to undertake investment projects previously considered unprofitable. At a lower market clearing interest rate, saving and investment increase by the amount $AB$. This increase in the economy’s productive capacity constitutes *genuine growth*. 
The Austrian MTTC

(a) Increase in savings

(b) Increase in money and credit

\[ S' \]

\[ S + \Delta M \]

\[ D \]

\[ D \]

Interest rate

Loanable funds

\[ i_0 \]

\[ i_1 \]

\[ A \]

\[ B \]

\[ C \]

\[ A \]

\[ B \]

\[ i_0 \]

\[ i_1 \]
Fig. 1 (b) shows the effect of an artificial increase in credit and money supply, brought about by the central bank. The savings curve moves from $S$ to $S + \Delta M$. However, households have not become more thrifty, or future-oriented; in other words: peoples’ time preference has not changed. As the market clearing interest rate falls from $i_0$ to $i_1$, businesses are encouraged to increase investment by the amount $AB$, while genuine savings actually fall by the amount $AC$.

The increase in the money stock artificially lowers the market interest rate, and actual investment now exceeds genuine savings by $CB$. That is to say, the economy’s resources have not increased; and this is why Austrians term $CB$ as forced savings.

What is more, a rise in investment reduces consumption, causing a distortion in peoples’ initial savings-consumption equilibrium. Sooner or later, people can be expected to reduce their savings and increase their consumption for bringing their savings-consumption profile back to the preferred initial relation.

As a result, the savings curve would move back to the left, raising the interest rate back
to \( i_0 \) and reducing investment. That said, a lowering of the market interest rate below the neutral rate provokes a temporary boom, to be followed by bust.

Ludwig von Mises put the cause of and the remedy for the Austrian MTTC as follows (Human Action (1996), p. 572):

“...the wavelike movement affecting the economic system, the recurrence of periods of boom which are followed by periods of depression, is the unavoidable outcome of the attempts, repeated again and again, to lower the gross market rate of interest by means of credit expansion. There is no means of avoiding the final collapse of a boom brought about by credit expansion. The alternative is only whether the crisis should come sooner as the result of a voluntary abandonment of further credit expansion, or later as a final and total catastrophe of the currency system involved.”
Gross investment and growth (contraction, stationarity, and expansion)

The structure of production

- **Hayekian triangle**: The horizontal axis shows the stages of production as they extend through time. The vertical axis shows the consumable output. The latter can be increased as the number of production stages (*roundabout production*) rises.

Secular growth (with assumed interest rate neutrality)

Technology-induced growth

Saving-induced capital restructuring

Capital restructuring (with auxiliary labour-market adjustments)

Boom-and-bust (policy induced intertemporal disequilibrium)

**THE AUSTRIAN SCHOOL OF ECONOMICS – AN INTRODUCTION**

*Source: Garrison (2004).*

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73. Mises’s sound money principle


- “Governmental paper money is called "political money," in contrast to commodity money.”

“Resorted to in desperate extremities, political money has usually proved to be a costly experiment. Once the issue of political money begins to be excessive, its further limitation proves to be most difficult. A result usually unintended is the derangement of business and of the existing distribution of incomes. The rapid and unpredictable changes in prices give opportunity for speculative profits, but injure legitimate business. This incidental effect on debts and industry offers the main motive to some citizens for advocating the issue of paper money. It is peculiarly liable to be the subject of political intrigue and of popular misunderstanding. It is this danger, more than anything else, that makes political money in general a poor kind of money.”

- To Mises, only free market money is compatible with a free market order. In that sense, *sound money* is actually a means to an end: *it is an indispensable element in maintaining the free market order.*

- This is why money created out-of-thin-air, that is in defiance of free market principles, would endangering the free market order:

  “It would be a mistake to assume that the modern organization of exchange is bound to continue to exist. It carries within itself the germ of its own destruction; the development of the fiduciary medium must necessarily lead to its breakdown.”

— Mises, L. v. (1981), The Theory of Money and Credit, Liberty Fund, Indianapolis,
By fiduciary medium Mises meant fraudulent money: money that systematically violates the principle of private property — money that isn't backed by freely chosen money proper (such as gold and silver). Government controlled fiat money is and will always be, by construction, fraudulent money.

It is against this background that Mises formulated his sound money principle:

“[T]he sound-money principle has two aspects. It is affirmative in approving the market's choice of a commonly used medium of exchange. It is negative in obstructing the government’s propensity to meddle with the currency system.”

“It is impossible to grasp the meaning of the idea of sound money if one does not realize that it was devised as an instrument for the protection of civil liberties against despotic inroads on the part of governments. Ideologically it belongs in the same class with political constitutions and bills of right.”
To be sure, a gold standard does not per se prevent unwanted meddling of the govern-
ment in monetary affairs. In his memoirs, Herbert Hoover (1874 – 1964), 31st Presi-
dent of the United States from 1929 – 1929 noted:

“Franklin Roosevelt would lie comfortably on his old-fashioned three-quarter mahog-
any bed. (...) The actual price [of gold] on any given day made little difference. Our
object was simply to keep the trend gradually upwards, hoping that commodity prices
would follow. One day, when I must have come in more than usually worried about the
state of the world [Hitler had just recently come to power in Germany], we were plan-
ing an increase of from 19 to 22 cent. Roosevelt took one look at me and suggested a
rise of 21 cents. “It’s a luck number”, the president with a laugh, “because it’s three
times seven (...).”
He rather enjoyed the shock his policy gave to the international bankers. Montagu
Norman of the Bank of England, whom FDR called “old pink whiskers,” wailed across
the ocean, “This is the most terrible thing that has happened. The whole world will be put into bankruptcy.” The president and I looked at each other, picturing foreign bankers with every one of their hairs standing on end with horror. I began to laugh. FDR roared.”

- The key to sound money is free market money and free banking (under a 100% reserves banking).
Literature (selection)


Jevons, W. S. (1888), Elementary Lessons in Logic: Deductive and Inductive, MacMillan And Co (Mises Institute, 2010).


Sennholz, H. F. (1079), Age of Inflation, Western Islands, Belmont, Massachusetts.