

ECONOMICS Lecture 1

Nature and Scope of Economics

Biwei Chen

Topics

- Origin and Evolution
- Definition and Nature
- Classification and Field
- Analytical Frameworks
- Diversity and Inclusion



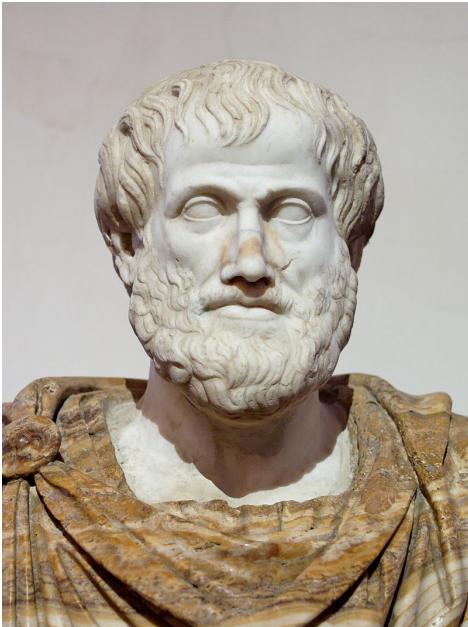
<https://www.aeaweb.org/resources/students>

This lecture provides a comprehensive overview of Economics: its origin and historical development, topics and themes, nature and classification, analytical frameworks and statements.

The Origin of Economics

- Economic writings date from earlier Mesopotamian, Greek, Roman, Indian subcontinent, Chinese, Persian, and Arab civilizations. Economic precepts occur throughout the writings of the Boeotian poet Hesiod and several economic historians have described Hesiod himself as the "first economist".
- The word "economics" is from the Greek *οἶκος* [oikos], "family, household, estate," and *νόμος* [nomos], "custom, law," and hence means "**household management**" or "**management of the state**."
- From the 16th to 18th century, the rise of economic nationalism and modern capitalism in Europe gave birth to two schools of economic thought – the "**mercantilists**" and the "**physiocrats**", more directly influenced the subsequent development of the subject.
- The publication of **Adam Smith's The Wealth of Nations in 1776** is considered to be the first formalization of economic thought.

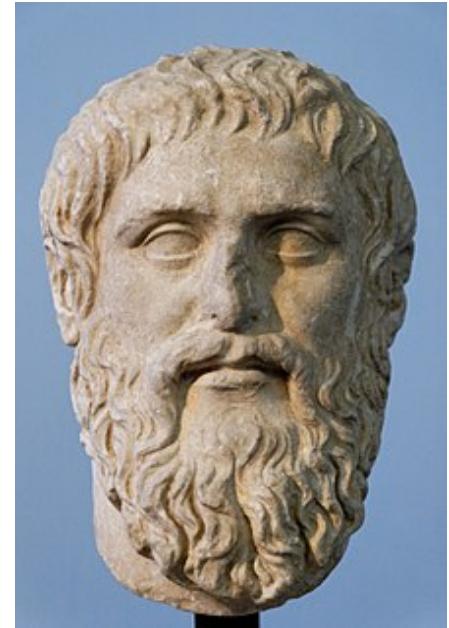
Ancient Greece Economic Thought



Plato (428/427 or 424/423 – 348/347 BC)



The School of Athens (1509)



Aristotle (384–322 BC)

Raphael's 1509 fresco—The School of Athens: Plato (left) and Aristotle (right). Aristotle holds his Nicomachean Ethics and gestures to the earth, representing his view in immanent realism, whilst Plato gestures to the heavens, indicating his Theory of Forms, and holds his Timaeus.

Ancient Greece: Parallelism & Utopian

- *The city-state of Athens is considered the birthplace of intellectual freedom and democracy – lasting legacies that helped to mold the ideas that have influenced the development of Western Civilization. In contrast, the city of Sparta, which was profoundly militarist, and in which individual freedom was practically nonexistent, due to the belief that all resources must be subordinate to the state.*
- *For the Greek philosophers and social thinkers, the central themes were questions of “justice,” “virtue,” “the good,” and “the beautiful.” Their discussions on economics were often few and relatively unsystematic.*
- *What today we call “economic” questions and problems were relegated to a narrow corner of evaluating how economic institutions and organization could be designed or modified to serve these “higher” ends or goals.*

Ancient Greece: Totalitarian State

- *Most eminent and distinguished Athenian thinkers (Socrates 470 BC-, Plato 428 BC and 423 BC, Aristotle 384 BC-322 BC) and philosophers invariably lambasted and undervalued the commercial order that surrounded and supported them while they took every opportunity to extol the statist totalitarianism Sparta represented.*
- *Socrates felt that life's ideal goal lay in the search for "virtue," understood as disdain for material wealth and profit. Socrates seized every opportunity to boast of his poverty and to idealize the supposed virtues of the totalitarian state of Sparta, which represented ideals opposed to those of Athens.*
- *Plato as the father of the totalitarian state and his ideal republic as the command society: All trade, commerce, and manufacturing, both within the city-state and with other city-states would be controlled and regulated by the rulers of the State. No free movement of people from city-state to city-state.*

Ancient China Economic Thought



Chancellor Li Fan, 517 BC
State of Yue/Qi



Confucius (551-479 BC)



Chancellor Anshi Wang
(1021–1086) Song Dynasty

In ancient China, Chinese scholar-officials would often debate about the role government should have in the economy. Confucian factions tended to oppose extensive government controls, while "Reform" or legalist factions favored intervention. The Confucians' rationale was that the government should not "compete for profit with the people" as it would tend to exploit the population whenever it was involved in mercantile activity. Although Confucian laissez faire was largely dominant throughout China's history, legalist policies often gained prominence in times of war or with the patronage of rulers.

Ancient China: Liberty & Laissez-faire

- During the same era when classical Greek thought was being forged (from the 6th to the 4th century BC), ancient China saw the beginnings of three great currents of thought: that of the so-called "Legalists" (who supported the centralized state), that of the Confucianists (who tolerated it), and that of the Taoists, of a much more liberal bent and extremely interesting for historians of economic thought.
- In Confucius's day (6th-5th century BC), Lao Tzu concluded that government oppressed the individual and was always "more to be feared than fierce tigers." Therefore, he believed the best policy for governments was "inaction," because only then could the individual flourish and achieve happiness. Chuang Tzu (369-286 BC) adhered to the individualistic, liberal views of Lao Tzu, the father of Taoism, and took them to their most logical conclusions.
- In stark contrast with the views of the Greek philosophers and with those of the rest of western intellectuals to the present day, Chinese Taoist thought always defended individual liberty and laissez-faire while attacking the systematic and coercive use of violence typical of government.

Classical Political Economy

- From Adam Smith's *Wealth of Nations* in 1776 (or perhaps the Physiocrats even earlier) until at least John Stuart Mill's *Principles of Political Economy* in 1848, "economics" was in fact generally referred to as "political economy."
- This terminology in large part reflected the belief that economics was not really separable from politics. This was more than an administrative classification of disciplines; it arose from the widespread view that political factors are crucial in determining economic outcomes. Hence, as a discipline economics historically viewed political forces not only as influencing economic outcomes, but often as a determining influence.
- Merriam-Webster: it is the study of the role of public policy in influencing the economic and social welfare of a political unit. Wikipedia: Political Economy is the study of production and trade and their relations with law, custom and government; and with the distribution of national income and wealth.

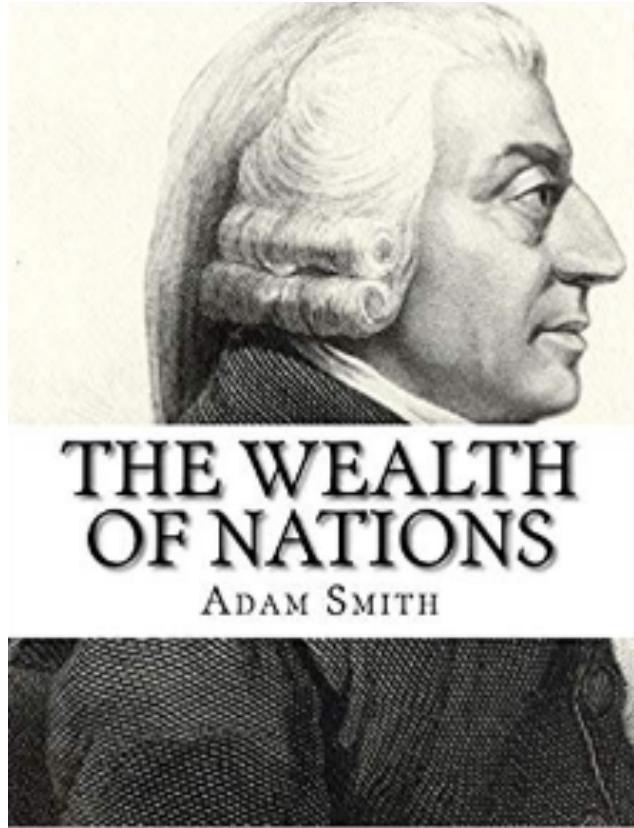
Political Economy: Historical Development

- *Political economy is a very old subject of intellectual inquiry but a relatively young academic discipline. The analysis of political economy (in terms of the nature of state and market relations), both in practical terms and as moral philosophy, has been traced to Greek philosophers such as Plato and Aristotle as well as to the Scholastics and those who propounded a philosophy based on natural law.*
- *A critical development in the intellectual inquiry of political economy was the prominence in the 16th to the 18th century of the mercantilist school, which called for a strong role for the state in economic regulation.*
- *Political economy emerged as a distinct field of study in the mid-18th century, largely as a reaction to mercantilism, when the Scottish philosophers Adam Smith (1723–90) and David Hume (1711–76) and the French economist François Quesnay (1694–1774) began to approach this study in systematic rather than piecemeal terms. They took a secular approach, refusing to explain the distribution of wealth and power in terms of God's will and instead appealing to political, economic, technological, natural, and social factors and the complex interactions between them.*

Political Economy & Economics

- *The relationship between political economy and the contemporary discipline of economics is particularly interesting, in part because both disciplines claim to be the descendants of the ideas of Smith, Ricardo, Hume, and John Stuart Mill.*
- *Whereas political economy, which was **rooted in moral philosophy**, was from the beginning very much a normative field of study, economics sought to become objective and value-free. Indeed, under the influence of Alfred Marshall (1842-1924), economists endeavoured to make their discipline like the 17th-century physics of Sir Isaac Newton (1642–1727): formal, precise, and elegant and the foundation of a broader intellectual enterprise.*
- *With the publication in 1947 of Foundations of Economic Analysis by Paul Samuelson (1915-2009), who brought complex mathematical tools to the study of economics, the bifurcation of political economy and economics was complete. Mainstream political economy had evolved into economic science, leaving its broader concerns far behind.*

The Father of Classical Economics



Adam Smith
(16 June 1723 – 17 July 1790)
Scottish social
philosopher and a
pioneer of political
economics.

<https://www.iep.utm.edu.smith/>

<https://www.adamsmith.org/adam-smith-quotes/>

The Wealth of Nations: Themes

Book I: Of the Causes of Improvement in the productive Powers of Labor

Book II: Of the Nature, Accumulation, and Employment of Stock

Book III: Of the different Progress of Opulence in different Nations.

Book IV: Of Systems of Political Economy

Book V: Of the Revenue of the Sovereign or Commonwealth

The nation's productive capacity rests on the division of labour and the accumulation of capital that it makes possible. A country's future income depends upon this capital accumulation. This system is automatic only when there is free trade and competition. Regulations on commerce are ill-founded and counter-productive. Competition and free exchange are under threat from the monopolies, tax preferences, controls, and other privileges that producers extract from the government authorities. Thus, government itself must be limited.

The Wealth of Nations for Today

An Inquiry into the Nature and Causes of the Wealth of Nations, 1776, usually abbreviated as The Wealth of Nations, is considered Smith's magnum opus and the first modern work of economics. Smith is widely cited as the father of modern economics and capitalism and is still among the most influential thinkers in the field of economics today.

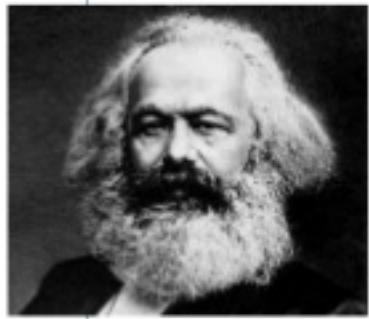
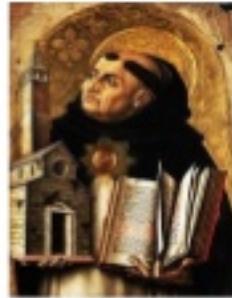
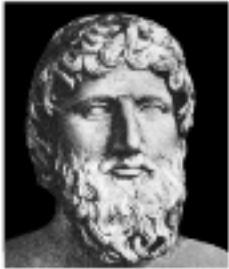
Smith's world was very different to ours, of course, before the Industrial Revolution changed everything. At yet, by showing how the freedom and security to work, trade, save and invest promotes our prosperity, without the need for a directing authority, The Wealth Of Nations still leaves us with a powerful set of solutions to the worst economic problems that the world can throw at us. The free economy is an adaptable and flexible system, which can withstand the shock of the new, and cope with whatever the future brings.

Neoclassical Economics Foundation

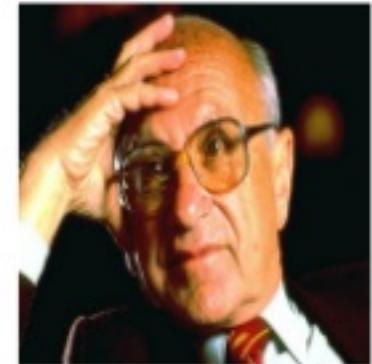
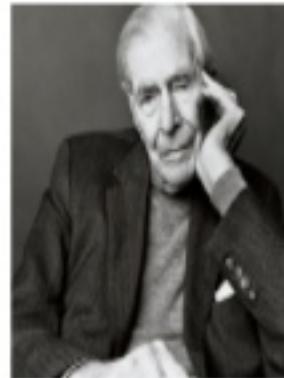
- The modern analytical framework of Economics is founded by Alfred Marshall (1842-1924) in his Principles of Economics, first published in 1890. The book appeared in eight editions and its main technical contribution was a masterful analysis of the issues of market equilibrium, price elasticity, consumer surplus, increasing and diminishing returns, short and long terms, and marginal utility.
- Alfred Marshall was the dominant figure in British economics (itself dominant in world economics) from about 1890 until his death in 1924. Although Marshall took economics to a more mathematically rigorous level, he did not want mathematics to overshadow economics and thus make economics irrelevant to the layman. Accordingly, Marshall tailored the text of his books to laymen and put the mathematical content in the footnotes and appendices for the professionals.

https://en.wikipedia.org/wiki/Alfred_Marshall

<https://www.econlib.org/library/Enc/bios/Marshall.html>

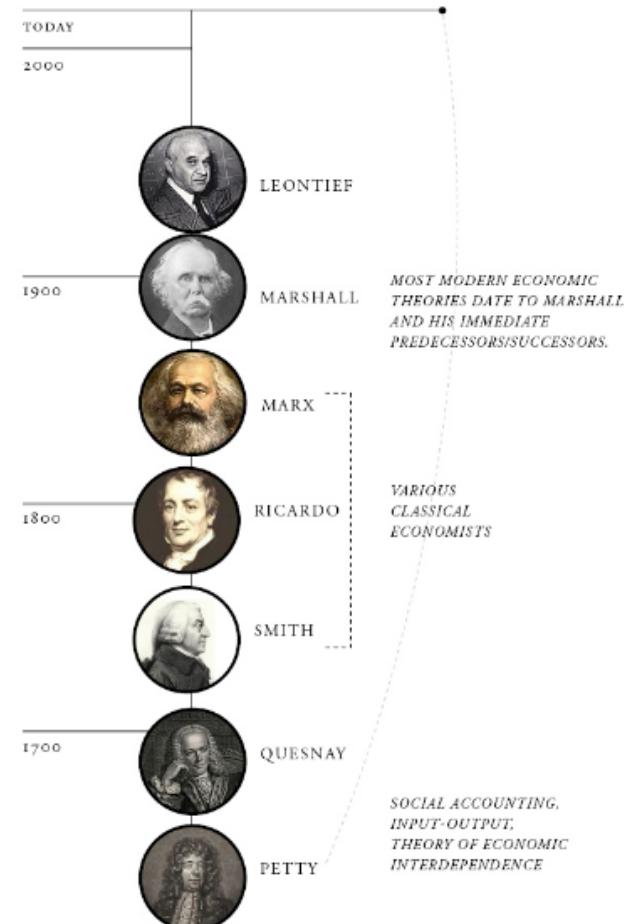


The History of Economic Thought



Timeline of Economic Thought

- 16-17th C – Mercantilism
- 18th C – Physiocrats
- 18-19th C – Classical School
- 19th C – Socialism/Marxism
- Late 19th C – Austrian School
- Early 20th C – Neoclassical
- Mid 20th C – Keynesianism
- Late 20th C – Modern Mainstream
(Monetarism, Rational Expectations,
Chicago School, New Keynesianism)



Revolutions in Economic Theory

❑ Classical Political Economy

- Adam Smith (1776) *Wealth of Nations*
- David Ricardo (1817) *Principles of Political Economy and Taxation*
- John Stuart Mill (1848) *Principles of Political Economy*

❑ Neoclassical Economics

- Alfred Marshall (1890) *Principles of Economics*

❑ Keynesian Macroeconomics

- John Maynard Keynes (1936) *General Theory of Employment, Interest, and Money*

❑ Modern Economic Analysis

- Paul Samuelson (1947) *Foundations of Economic Analysis*

Economics: Textbook Definition

- ❑ N. G. Mankiw (2018): Economics is the study of how society manages its scarce resources.
- ❑ Krugman and Wells (2018): Economics is the social science that studies the production, distribution, and consumption of goods and services.
- ❑ Goolsbee, Levitt, and Syverson (2016): Microeconomics relies on theories and models to study the choices made by individuals and firms.
- ❑ Pindyck and Rubinfeld (2016): Microeconomics is the branch of economics that deals with the behavior of individual economic units—consumers, firms, workers, and investors—as well as the markets that these units comprise.
- ❑ Tucker (2019): The study of how society chooses to allocate its scarce resources to the production of goods and services to satisfy unlimited wants.
- ❑ Biwei's favorite: **Economics is the study of choice under scarcity.** Lecture 3 on scarcity and Lecture 4 on choice. All lectures teach students to make scientific decisions.

What is Economics All About?

- Standard textbooks define Economics as the study of how society manages its scarce resources, for example,
 - how people decide what to buy, how much to work, save, and spend
 - how firms decide how much to produce, how many workers to hire
 - how society decides how to divide its resources between national defense, consumer goods, protecting the environment, and other needs



Economists study. . .

- How people make decisions.
- How people interact with each other.
- The forces and trends that affect the economy as a whole.

Economics trains you to. . . .

- Think in terms of alternatives and opportunities.
- Estimate the cost of individual and social choices.
- Examine how certain events and issues are related.
- Evaluate the effectiveness of public policies and programs

Small Questions About Ourselves

- Shall I go to a private school or public school?
- How about dropping out of college to take a job?
- Shall I skip next class if the professor does not notice?
- Economics concerns decisions - choices among various actions.
- Every action has its pros and cons, pluses and minuses, benefits and costs.

| 99 Actions | | | | | | |
|--|--------|--------|-----|------------|-----------|--------|
| Basket | Majors | Source | BNR | Last Price | % Change | Rate |
| | | | | Spot | Outrights | Point |
| SEK | 8.3962 | 9.5032 | | .07057 | 12.808 | 9.0571 |
| NOK | 7.6196 | 8.6242 | | .06404 | 11.623 | 6.6945 |
| HKD | 7.7527 | 8.7750 | | .06516 | 11.826 | 6.0753 |
| NZD | 1.3628 | 1.5424 | | .01145 | 2.0788 | 6.3630 |
| AUD | 1.2875 | 1.4572 | | .01082 | 1.9640 | 6.1814 |
| CAD | 1.2542 | 1.4196 | | .01054 | 1.9132 | 6.0265 |
| CHF | .92703 | 1.0493 | | .00779 | 1.4141 | 1.0581 |
| GBP | .65555 | .74198 | | .00551 | - | .97416 |
| JPY | 118.98 | 134.67 | | - | - | .73914 |
| FUR | .88351 | - | | .00743 | 1.3477 | .72000 |
| USD | - | - | | 181.50 | 128.35 | .52268 |
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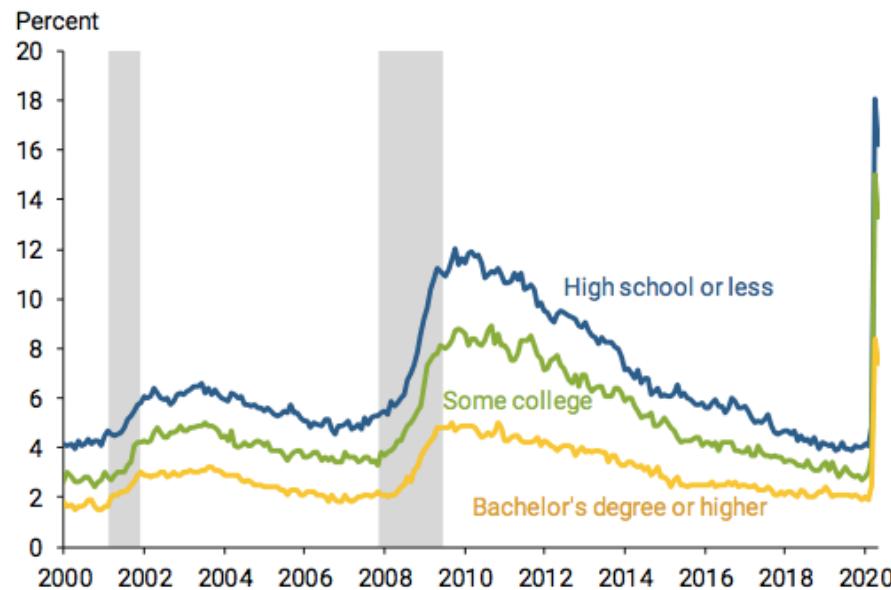


Big Questions About Our World

- What were the impacts and economic consequences of COVID-19 on the U.S. and the world? How could most countries fail?
- What are the feasible private and public solutions to the global warming and climate change? (Otherwise, it will be too late.)
- Why did U.S. government wage a “trade war” against China and other countries? Why bother Huawei and Tik Tok? Why has the U.S. been running large persistent government budget and trade deficits?
- How come the U.S. government shut down multiple times in history?
<https://www.cnn.com/specials/politics/government-shutdown-2019>
- What are the most valuable business in the world? Why do the most valuable companies (FAAMG) all belong to the high-tech sector?
- Will robots replace our jobs and cause waves of unemployment?
- Who are the winners and losers in an era of artificial intelligence?

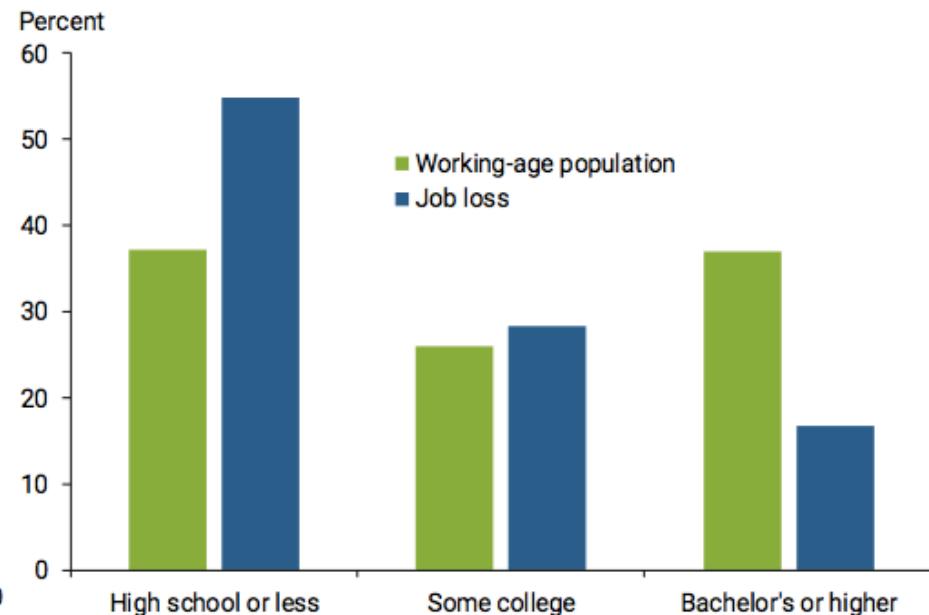
College Education Makes a Difference

Figure 1
Unemployment by education level



Source: Bureau of Labor Statistics, Current Population Survey. Gray bars indicate NBER recession dates.

Figure 2
Job loss relative to working-age population shares



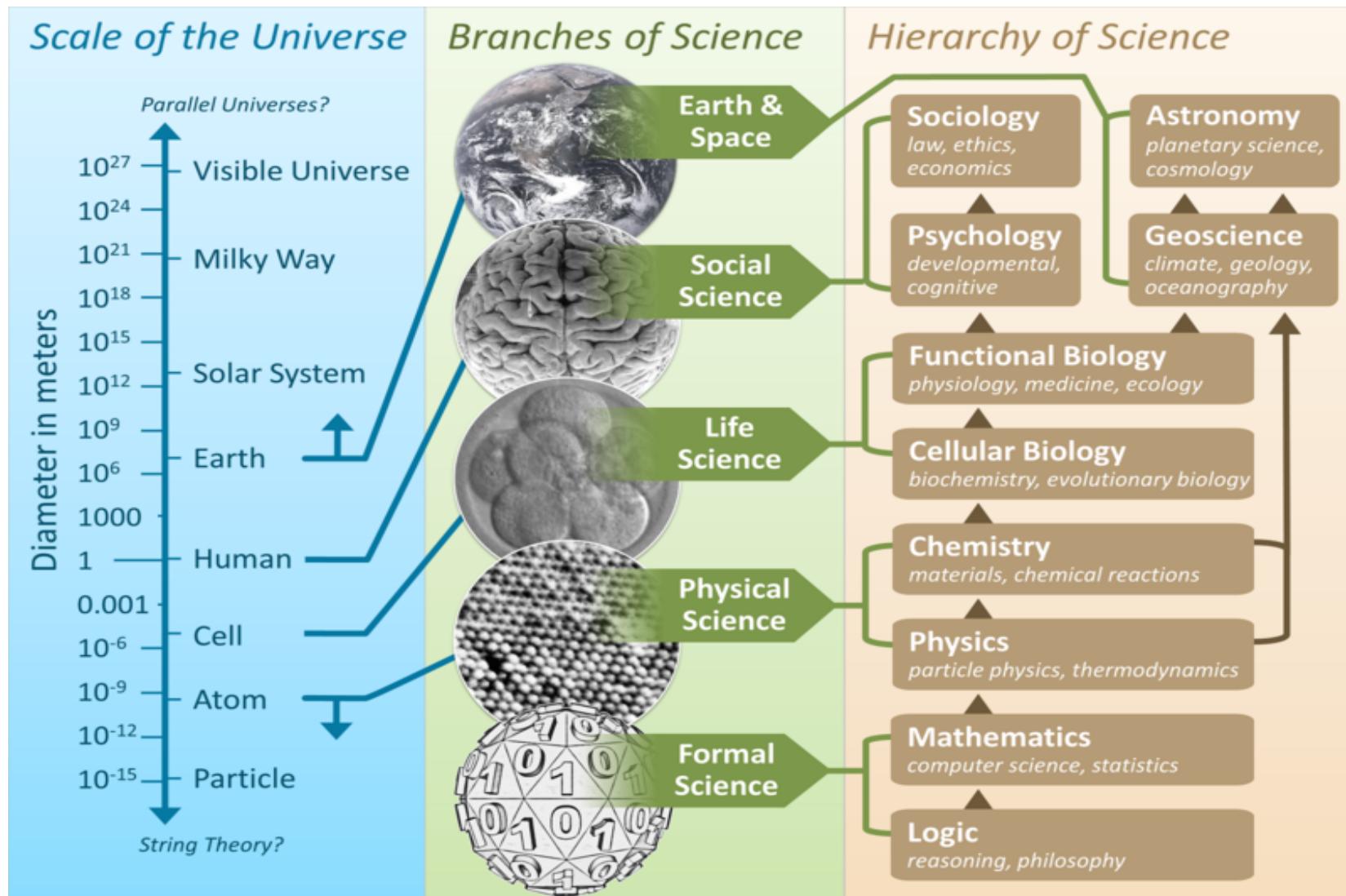
Source: Bureau of Labor Statistics, Current Population Survey; aggregate job loss between February and May 2020.

Since COVID-19 hit the United States, more than 20 million American workers have become unemployed and countless others have left the labor force altogether. While the labor market disruptions have affected workers in a wide set of industries and occupations, those without a college degree have experienced the most severe impact. Addressing gaps in educational attainment will be important to creating better economic resiliency for individuals against future shocks.

Benefits of Studying Economics

- Understand the society and the world
 - How the economy and society functions?
 - The seen, unseen, and unintended consequences
 - Evaluate public policies: cause & effect, equity & efficiency
- Make scientific decisions and impacts
 - Become intellectually and financially independent
 - Advise and help others make decisions (consultant)
 - Participate and inform public policies (economists)
- Careers in Economics (watch the AEA video!)
 <https://www.aeaweb.org/resources/students/careers/video/career-in-economics>
- Career earnings <https://www.aeaweb.org/resources/students/careers/earnings>

The Nature of Economics as Science



Economics as a Pre-requisite

- College course requirements: general education purposes
- Schools of Business/Management/Law: major studies
 - Marketing/Human Resources/Business Administration
 - Accounting/Finance/Investment/Operations Management
 - Anti-Trust/Trade/International Tax/Property Rights Laws
- <https://www.indeed.com/career-advice/finding-a-job/types-of-business-majors>
- Schools of Public Policy/Education/Health/Medicine
- Professional certifications: CPA, CFA, CMA, PMP, FRM

<https://www.zippia.com/economist-jobs/certifications/>

Economics is more than a college course; it is a lifetime skill.

Economics Rooted in Physics

- Neo-classical and modern economic analysis borrowed several pivotal concepts from Physics—with “equilibrium” being the most influential and others include friction, elasticity, momentum, oscillation, and dynamics.
- As an interdisciplinary field, Econophysics applies theories and methods originally developed by physicists in order to solve problems in economics and finance, usually those including uncertainty or stochastic processes and nonlinear dynamics.
- Some of its application to the study of financial markets has also been termed statistical finance referring to its roots in statistical physics.

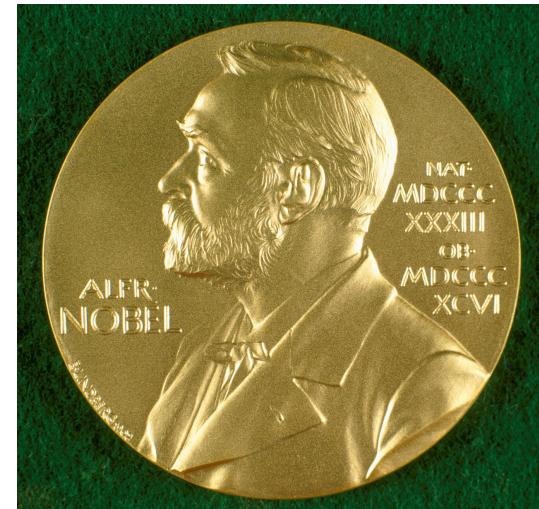
Nobel Prize in Economic Science

In 1968, Sveriges Riksbank (Sweden's central bank) established the Prize in Economic Sciences in Memory of Alfred Nobel, founder of the Nobel Prize. The Prize is based on a donation received by the Nobel Foundation in 1968 from Sveriges Riksbank on the occasion of the Bank's 300th anniversary. The first Prize in Economic Sciences was awarded to Ragnar Frisch and Jan Tinbergen in 1969. The Prize amount for 2019 is set at Swedish kronor (SEK) 9.0 million per full Prize.

Quick Facts

- Economic Sciences prizes: 52
- Economic Sciences laureates: 86
- Awarded women: 2
- Youngest laureate: 46
- Oldest laureate: 90

<https://www.nobelprize.org/prizes/economic-sciences/>



<https://www.britannica.com/topic/Nobel-Prize>

Nobel Prize in Economic Sciences

- ❖ 2020 Paul R. Milgrom and Robert B. Wilson for auction theory and format.
- ❖ 2019 Abhijit Banerjee, Esther Duflo and Michael Kremer "for their experimental approach to alleviating global poverty."
- ❖ 2018 William D. Nordhaus "for integrating climate change into long-run macroeconomic analysis" and Paul M. Romer "for integrating technological innovations into long-run macroeconomic analysis."
- ❖ 2017 Richard H. Thaler "for his contributions to behavioural economics."
- ❖ 2016 Oliver Hart and Bengt Holmström "contributions to contract theory."
- ❖ 2015 Angus Deaton "for his analysis of consumption, poverty, and welfare."
- ❖ 2014 Jean Tirole "for his analysis of market power and regulation."
- ❖ 2013 Eugene F. Fama, Lars Peter Hansen and Robert J. Shiller "for their empirical analysis of asset prices."
- ❖ 2012 Alvin E. Roth and Lloyd S. Shapley “for the theory of stable allocations and the practice of market design”

Economics as Social Science

- Akin to other sciences, Economics consists of explanations (theories/models) that help us understand and make valid predictions about the real world, together with the empirical evidence for and against them.
- The scientific method requires scientists to derive abstract theory based on certain assumptions to help explain how a complex real world operates.
- More importantly, theory must be subject to empirical tests.
- Therefore, scientists can develop, reject, refine theories, and apply them in practice.
- Next lecture will provide technical discussion on this topic.

General Classification of Economics

- **Microeconomics** is the study of how households, firms, and governments make decisions and how they interact in markets.
 - **Macroeconomics** is the study of economy-wide phenomena, including national output, price level, unemployment, monetary and fiscal policies.
 - American Economic Association
 - JEL Classification Codes Guide

<https://www.aeaweb.org/jel/guide/jel.php>



Microeconomics Framework

- Individual/consumption decisions: how consumers make their demand decisions based on utility maximization subject to the law of demand and their budget constraint.
- Business/production decisions: how producers make their supply decisions based on rent maximization subject to the law of supply governing production cost.
- Market Analysis: how consumers and producers pursuing their own interest can lead to the (in)efficient functioning of markets, allocating resources and distributing income.
- Public Policies: the roles of government and how public policies affect market outcomes and social welfare.

General Statements in Economics

- **Positive statements** are statements that describe the world as it is. They rely on descriptive analysis.
 - What? The apple price goes up.
 - Why? Apple farms cut production this year.
 - How? The decline in the supply of apple drives price up.
- **Normative statements** are statements about how the world should be. They resort to prescriptive analysis.
 - The government should raise minimum wage every year
 - The government shall provide subsidies to support apple farmers next year so that consumers will benefit from lower prices and more consumption in the future

Welfare Economics applies normative evaluation to market outcomes and government policies (equity and efficiency).

Positive Economics

Seeks to understand behavior without making judgments about outcomes



Does a currency devaluation fuel inflation?

Are oil prices contributing to a GDP slowdown?

Disposable income has declined by 15% over the past four years.

When disposable incomes fall the demand for own-label supermarket foods rises

Raising tax on beer will have a negative effect on the profits of brewers.

Higher interest rates will dampen house prices.

Normative Economics

Analyzes outcomes of economic behavior, evaluates them as good or bad, and sometimes prescribes a course of action



Higher education should be free.

Should alternative fuels be subsidized?

We must try to boost disposable income.

Basic healthcare to all citizens should be free.

Unemployment is more harmful than inflation.

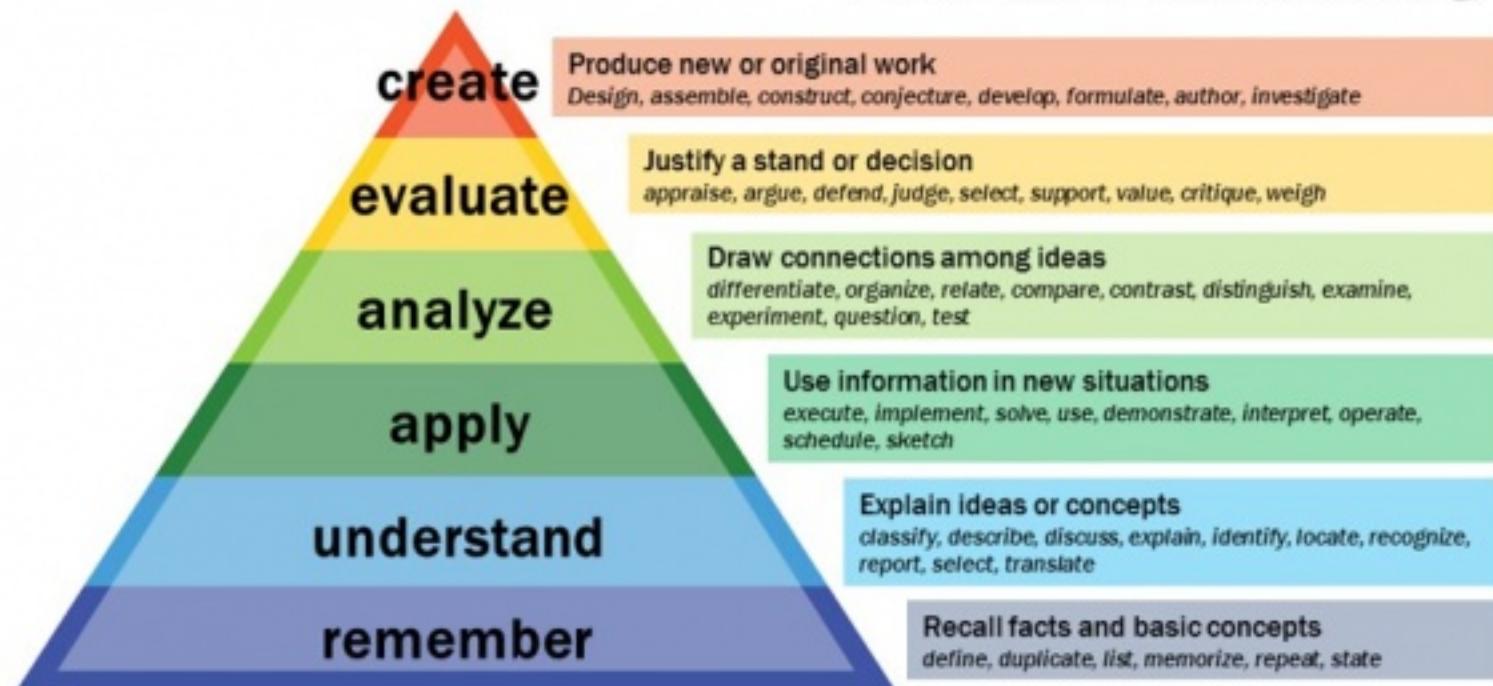
The minimum wage should be raised by 20%.

Market mechanisms should be allowed to work freely in order to make sure resources are best allocated.

Alcohol consumption should be controlled by enforcing minimum prices for alcoholic beverages sold in supermarkets.

Learning Goals: Cognitive Skills

Bloom's Taxonomy



Vanderbilt University Center for Teaching

Students often mistakenly believe that learning is equivalent to memorizing. In contrast, college courses in economics expect students to progress to application and analysis.

Diversity and Inclusion in Economics

- It is no secret that the economics profession suffers from a profound lack of diversity. In 2018, of the 1197 doctorates in economics awarded in the United States, less than one-third were awarded to women and only 46 to Blacks, Hispanics and Native Americans (CSMGE 2019).
- While historically there has been a focus on encouraging more women and underrepresented minorities to study economics, a growing body of convincing evidence documents the role of demand-side impediments—such as climate, hiring and promotion practices, and stereotyping—that also contribute to the lack of diversity.
- A more diverse profession would foster a more vibrant discipline. Economists with different lived experiences ask different questions and come up with different ways to answer. **Addressing biases in individuals and institutions can improve both equity and efficiency.**

Resources for Women in Economics

“Women are still a minority in the economics profession. By the mid-2000s, just under 35 percent of PhD students and 30 percent of assistant professors were female, and these numbers have remained roughly constant ever since.”

- Center for Economic Policy and Research
<https://cepr.org/content/women-economics>
- Federal Reserve Bank of St. Louis – Podcast Series
<https://www.stlouisfed.org/timely-topics/women-in-economics>
- Offered by Marginal Revolution University, Women in Economics highlights the groundbreaking and inspiring work of female economists — not only to recognize the important work they've done but to also share their inspirational journeys. Watch the role models for the next generation of female economists. <https://learn.mru.org/women-economics-series/>
- AEA job markets for economists <https://www.aeaweb.org/joe/listings>

References

- [1] <https://en.wikipedia.org/wiki/Economics>
- [2] https://en.wikipedia.org/wiki/Adam_Smith
- [3] https://en.wikipedia.org/wiki/Social_science#Economics
- [4] https://en.wikipedia.org/wiki/File:The_Scientific_Universe.png
- [5] https://www.nobelprize.org/nobel_prizes/economic-sciences/
- [6] <https://www.econlib.org/library/Enc/bios/Marshall.html>
- [7] N. Mankiw, Principles of Microeconomics, 8th edition. South-Western
- [8] AEA Resources for Students <https://www.aeaweb.org/resources/students>
- [9] Backhouse, Roger E., and Steven G. Medema. 2009. "Retrospectives: On the Definition of Economics." *Journal of Economic Perspectives*, 23 (1): 221-33.
- [10] Dudley Dillard. 1978. "Revolutions in Economic Theory." *Southern Economic Journal*, 44 (4): 705-724.
- [11] Lundberg, Shelly, and Jenna Stearns. 2019. "Women in Economics: Stalled Progress." *Journal of Economic Perspectives*, 33 (1): 3-22.