

The Nobel Prize in Economics Turns 50

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Abstract

The first Sveriges Riksbank Prizes in Economic Sciences in Memory of Alfred Nobel, were awarded in 1969, 50 years ago. In this essay we provide the historical origins of this sixth “Nobel” field, background information on the recipients, their nationalities, educational backgrounds, institutional affiliations, and collaborations with their esteemed colleagues. We describe the contributions of a sample of laureates to economics and the social and political world around them. We also address – and speculate – on both some of their could-have-been contemporaries who were not chosen, as well as directions the field of economics and its practitioners are possibly headed in the years ahead, and thus where future laureates may be found.

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Introduction:

The 1895 will of Swedish scientist Alfred Nobel specified that his estate be used to create annual awards in five categories – physics, chemistry, physiology or medicine, literature, and peace – to recognize individuals whose contributions have conferred “the greatest benefit on mankind.” Nobel Prizes in these five fields were first awarded in 1901.¹

In 1968, Sweden’s central bank, to celebrate its 300th anniversary and also to champion its independence from the Swedish government and tout the scientific nature of its work, made a donation to the Nobel Foundation to establish a sixth Prize, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.² The first “economics Nobel” Prizes, selected by the Royal Swedish Academy of Sciences were awarded in 1969 (to Ragnar Frisch and Jan Tinbergen, from Norway and the Netherlands, respectively). The Prizes to William Nordhaus and Paul Romer in October 2018 were the 50th awards in economics. The 2019 Nobel Prizes—in economics and the other five fields--were announced in early October, after this article went to press; thus none of the tabulations here include the 2019 awards.

The economics Prize itself has been known by various names over time, including the Prize in Economic Science dedicated to the memory of Alfred Nobel, Bank of Sweden Prize in Economic Science in Memory of Alfred Nobel, Prize in Economic Science singular and Sciences plural. Since 2006 it has been known as the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. In this paper we will refer to this prize as simply the Nobel Prize in economics. And we will refer to the award in physiology or medicine as simply the Nobel Prize in medicine. Given the decidedly different nature and criteria, we are also omitting in this essay information about, and comparisons with, the literature and peace Prizes.

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel began its second half-century in October 2019. Over the past five decades it has been awarded solely or jointly to 81 laureates. Twenty-five individuals have been the sole annual recipient of the Prize, two have shared the award jointly 19 times, and three have shared the award six times.³ In chemistry a single person has won the Prize 58 percent of the time, compared with 42 percent and 36 percent of the time in physics and medicine, respectively. (In the first 25 years of the economics prize, a total of 34 scholars were chosen; in the second 25 years there were 47; disproportionately more were joint awards recently.)

With the 1994 award to mathematician John Nash (along with John Harsanyi and Reinhard Selten) for their game-theory contributions, the economics Prize was broadened to include other social scientists – Elinor Ostrom (political science) and Daniel Kahneman (psychology) come immediately to mind; in addition, one Ph.D. economist, Muhammad Yunus, was awarded the Peace Prize in 2006 for the development of the Grameen Bank.⁴

Information about nominations and selections of laureates in all fields is held in secret for fifty years. This year is the first time any private information about the economics Prize – and thus far only for 1969 – becomes public.

In this essay we provide background information on the Prize itself and the recipients – their personal backgrounds, institutional affiliations, pedigrees, associations with other of their esteemed colleagues – some near misses and could-have-been speculations, and the importance of the contributions of selected economics laureates to the worlds of politics, social policies, the business sector and personal decision-making. In this essay we group recipients of the economics Prize with those who have received a Nobel Prize in chemistry, physics, and

medicine—the four sciences. The Appendix lists all of the recipients of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel through 2018.

Demographics and Pedigrees:⁵

Among all the scientific fields, more Nobel laureates – 377 – have gone to Americans than recipients from any other country. The United Kingdom ranks second (130), followed by Germany (108), France (69), Sweden (31), Japan (28), Russia (26), Switzerland (26), Canada (26), Austria (21), the Netherlands (21) and Italy (20). Notably, China and India, each with populations more than quadruple that of the United States, do not figure among countries producing many Nobel Prizes in scientific fields. China and Taiwan together account for six winners, while India has collected only five. In economics, the dominance of Americans, or scholars working at U.S. institutions, is even more pronounced. More than half – 46 – of the 81 economics Nobel laureates were born in the United States; the UK is a distance second with 5, followed by Canada, France and Norway, each with three.⁶

By institution (undergraduate or graduate degree), overall there are more laureates in the Nobel fields of chemistry, physics, medicine, and economics associated with Harvard – 157 – than any other university, followed by Cambridge (116), Berkeley (104), the University of Chicago (97), and Columbia (95). MIT, Stanford, Cal Tech, Oxford, Princeton, Yale, Cornell, Humboldt University of Berlin, and the University of Paris are the next ten. In economics, the University of Chicago holds the top spot with 32 laureates, followed by Harvard (30), MIT (28), Stanford (25), Berkeley (23), Yale (21) and Princeton (19). In terms of the graduate department awarding the PhD degree to economics Nobel laureates, about half have come from only five

universities: MIT (11), Harvard (10), Chicago (9), Carnegie Mellon (4) and the London School of Economics (4). Six other universities have produced two each.

Seventy of the 81 individuals who have received or shared a Nobel Prize in economics held a Ph.D. in economics. But mathematics and related fields – applied mathematics, statistics, physics, and operations research – are well represented, followed distantly by psychology, a sprinkling of other social sciences, and law. There appears to be no discernible chronological or evolutionary pattern.

In addition to the relatively small number of research-doctorate institutions represented among economics winners, an arguably large number of Nobel laureates in economics had as a dissertation adviser another laureate.⁷ For example, here are some pairings we have uncovered.

- Jan Tinbergen was an adviser of Koopmans.
- Paul Samuelson was an adviser for Klein and Merton.
- Kenneth Arrow advised the research of Harsanyi, Spence, Maskin and Myerson.
- Wassily Leontief advised Samuelson, Schelling, Solow and Smith.
- Richard Stone supervised the research of both Mirrlees and Deaton.
- Franco Modigliani was Shiller's adviser.
- James Tobin advised Phelps.
- Merton Miller advised both Fama and Scholes.
- Robert Solow supervised the work of Diamond, Akerlof, Stiglitz and Nordhaus.
- Thomas Schelling was Spence's adviser.
- Edward Prescott advised Kydland, with whom he shared the 2004 Nobel Prize.
- Eric Maskin advised Tirole.
- Christopher Sims advised Hansen.

- Simon Kuznets supervised both Friedman and Fogel.

As one might guess, the distribution of undergraduate institutions of economics laureates is much less concentrated than for graduate institutions. Harvard has awarded a bachelor's degree to the most economics laureates with seven; no other college or university boasts more than four. Almost 40 percent of the laureates received their undergraduate education outside the United States. Some notable surprises include Middle Tennessee State Teachers College⁸ (James Buchanan) and South Dakota State University (T. W. Schultz). In terms of employer at the time of being chosen for a Nobel in economics, Chicago leads the pack with 13, followed by Princeton (7), and Harvard (6); MIT and California-Berkeley both have five.

With respect to their undergraduate majors, the distribution is all over the map. Economics and mathematics baccalaureate degrees, to be sure, but also physics, philosophy, political science, business fields (management, commerce), engineering, history, psychology, law, and romance languages (Eugene Fama) appear on laureates' undergraduate diplomas.

Only one woman, political scientist Elinor Ostrom, has been awarded a Nobel Prize in economics, compared with twelve in medicine, three in physics and five in chemistry.⁹ Sir Arthur Lewis, who shared the 1979 Prize with Theodore Schultz for his work on economic development, is the only black scholar to have received an economics Prize.

The median age of economics laureates at the time of the award is 67. Kenneth Arrow was the youngest (51) winner and Leonid Hurwicz the oldest (90).¹⁰ For the other science fields the winners are slightly younger, averaging 63 in chemistry, 62 in medicine, and 61 in physics.

Since 1947, the American Economic Association (AEA) has awarded the John Bates Clark Medal to the American economist¹¹ under the age of forty who is judged to have made the most significant contribution to economic thought and knowledge. Twelve Nobel laureates in

economics, beginning with Paul Samuelson in 1947, have previously won a Clark Medal; Paul Krugman, who received the Clark medal in 1991, is the last to have collected both honors. There are currently six Clark medalists without a Nobel Prize who are living and are at or above the median age of the economics Nobel Prize winners to date. Five more received Clark medals in the late 20th century, and 15 more in this century; given history, these 20 scholars might be considered on the young side for Nobel consideration, but certainly among the selection committee's future prospects.

Naysayers, Kith and Kin:

Nobel awards have not been without their controversies, beginning with Alfred Nobel himself profiting from the invention of dynamite. The peace Prize has arguable received the most criticism of the six categories for what some consider the political motivation and imprecise definition of "peace," as well as controversies surrounding several Peace medal recipients themselves. The literature Prize, no stranger to controversy either, has received most of its criticism for its heavy European author emphasis as well as a long list of omissions. And, of course, the exclusion of mathematics as an eligible Nobel field, has rankled many; creation of the Fields and Abel Prizes in mathematics has soothed some of those hard feelings.

Economics joins literature and peace as the Nobel fields that have generated the most controversy. First, as a well-known quip has it: "economics is the only field in which two people can share a Nobel Prize for saying opposing things." The 1972 Prizes awarded to Myrdal and Hayek spring to mind, as would the 2013 awards to Fama and Shiller.¹² Milton Friedman's 1976 award for his work on the consumption function and monetary theory was tainted for some by his association, along with other "Chicago Boys," with the Pinochet government in Chile.

Paul Krugman's incessant criticism of George W. Bush on the op-ed pages of *The New York Times* imparted political overtones to the 2008 Prize and may have detracted from his earlier significant contributions to international trade theory and patterns. Nassim Taleb's criticisms surrounding the Global Financial Crisis and subsequent recession and the models of Markowitz, Miller and Sharpe for underestimating risk is yet another pointed objection to the economics Prize. John Nash's 1994 Prize¹³ provoked some comments on his anti-Semitism and mental health, as well as what constitutes the discipline of economics, thus revising and expanding the field down the road for the Nobel committee to include all of the social sciences. Seven years after Nash received the Prize, a full length biographical drama movie about his life, *A Beautiful Mind* (2001, starring Russell Crowe and directed by Ron Howard) was released. It grossed over \$300 million and won four Academy Awards, surely the most money generated by a "biography" of any economist. The movie was based on the 1998 book of the same title, authored by Sylvia Nasar (1998).

For the most part, economics laureates have confined their contributions to the pages of academic journals and conference addresses. Apart from the occasional op-ed pieces in national newspapers, these scholars have remained out of the public view. Exceptions were Friedman and Samuelson, who for many years dueled in alternating bi-weekly columns in *Newsweek*; Gary Becker wrote a regular *Business Week* column for 19 years; and for more than a decade, in bi-weekly columns Paul Krugman has methodically bashed Republican presidents, GOP Congressional leaders, and right-leaning economists from his perch on the editorial pages of *The New York Times*. George Akerlof got personally involved giving speeches in the 2004 senatorial campaign of Art Small, who tried unsuccessfully to unseat Republican Senator Charles Grassley of Iowa.¹⁴

Fifty Years of Big Ideas:

The Nobel Prize in economics is awarded by the Foundation for “outstanding contributions to the field of economics.” Some of the motivation for, or purpose behind a particular award, while valuable for the discipline and its professional practitioners, would seem esoteric to a layperson. For example, the very first award, to Frisch and Tinbergen in 1969, was “for having developed and applied dynamic models for the analysis of economic processes.” Haavelmo received the Prize two decades later “for his clarifications of the probability theory foundations of econometrics and his analyses of simultaneous economic structures.” And Heckman and McFadden shared the 2000 Prize “for the development of theory and methods for analyzing [in the case of Heckman] selective samples and [for McFadden] discrete choice.” It is doubtful that the publicity surrounding any of these five awards prompted a rush by the general public to the nearest university library to read more about their contributions.

Over the years, the economics award has recognized numerous contributions to basic economic theory, measurement, and empirical analysis that are used by and useful to almost all economists on a daily basis, including general equilibrium theory (the idea that an economic disturbance affects just about everything in one way or another), national income accounting and economic growth, econometric models of the economy that help the Federal Reserve Board and the Department of the Treasury predict price levels and the direction of the economy, game theory (in which each player takes into account their prediction of the best strategy of all other players), deducing causation from time series analysis (the idea that a cause must precede an effect), and the ways market frictions and asymmetrical information affect competitive market outcomes. Some of the awards recognize specific contributions that directly improved the well-

being of individuals in society. But the research of almost all of them has had such an impact at least indirectly.

The 2001 Nobel in economics was awarded to George Akerlof, Michael Spence, and Joseph Stiglitz for their work on information asymmetry. Akerlof was the first to articulate the problem, namely that the conventional assumption of competitive market analysis that all buyers and all sellers are perfectly informed, is seldom true, and, as a result, the consequences for resource allocation are substantial. Many buyers and sellers are reluctant to participate in trade for fear of being taken-advantage-of when quality is unknown.

Akerlof showed that if a seller has more information about his or her product than a risk-averse buyer can reasonably obtain before purchase (for example, whether the product was of high or low quality) the risk-averse buyer will offer a price sufficient only to make the purchase of a prospective low quality product worthwhile to him or her, because the product could be low quality. A seller of a truly (but unknown to a buyer) high quality product, therefore, would wisely hold it off the market, even if there were buyers willing to pay more than the seller values the high quality product *if the buyers were sure it was high quality*. As a result, some trades that would make both trading partners better off do not occur, sacrificing win-win opportunities for both buyers and sellers, unless some information equalizing mechanism is devised, for example, warranties (e.g. for appliances, cars, computers), pre-purchase inspections by experts (e.g. houses, vehicles) , or government regulations regarding quality (e.g., restaurant health regulations and inspections, used car disclosure rules such as revealing if the vehicle has been in an accident or flood).

Spence focused on signals that sellers of high quality products or services can use to persuade prospective buyers that they really are offering a high quality product or service for

sale, especially, for example, labor services. If the sellers of labor services know that they are high quality workers, they might prove that by acquiring an attribute (e.g. a college degree, a certificate of completion of a training program) that is relatively more costly for a low quality worker to acquire (because the low quality worker is likely also to be a low quality student). In the absence of such a signal, employers might be willing to offer an entry wage only high enough to attract low productivity workers; consequently there would be fewer employment opportunities for high quality workers. Signaling occurs in many contexts, not just the labor market. Banks build gold-plated headquarters to signal that they are solid and not risky; firms pay dividends to convey to prospective purchasers of their shares that management is confident it has sufficient reserves to sustain operations into the future.¹⁵

Ronald Coase was the 31st recipient of the economics Nobel Prize. It is surprising that it took 22 years from the time the first Prize in economics was awarded to recognize Coase, because he initiated not one, but two important lines of economic research. Follow-up Nobel Prizes were awarded to others for work in both of the areas originated by Coase.

In the 1930s, after a trip to America from his native England, during which he visited various factories, Coase wrote a short article, published in 1937, about a fundamental question that had been ignored by economists previously, namely, why are some transactions conducted in external arms-length markets while others, for example, employee work assignments, transpire inside of firms without reliance on market forces.¹⁶ His answer was that costs differ between the typical market transactions of homogeneous goods and services for which contracts can be formulated that anticipate most contingencies, and the type of constantly changing allocation decisions conducted inside of firms. The decisions that take place inside firms involve activities that are heterogeneous and difficult to anticipate, such as research and development efforts,

marketing strategies, and the optimal assignment of tasks to various employees. For such activities it is almost impossible to specify satisfactory contracts in advance, and consequently there is greater reliance on trust than contracts.

Oliver Williamson, co-recipient of the 2009 economics Nobel, carried Coase's analysis further, recognizing that contracts are likely to fail when there are opportunities for one party to the contract to take advantage of the other party. This is often caused by what Williamson called "bounded rationality," the inability to anticipate in advance all possible circumstances that could arise in the future. Such issues often arise between a buyer and a seller when both need to make significant initial investments in fixed facilities whose value relies on the continued cooperation and goodwill of the other to not take advantage of its opportunity to exploit the situation. In the presence of such "opportunism," it could be to the benefit of both parties to bring the transaction inside the firm so that the costs of exploiting opportunism are internalized. This insight provides a justification for efficiency-enhancing vertical integration, and significantly changed American antitrust doctrine toward vertical mergers, such as the 2018 AT&T merger with Time-Warner.

In 2016 Oliver Hart and Bengt Holmstrom received the economics Nobel for further refinements of contract theory. Their research focused on the boundary between public and private provision of goods and services, e.g. garbage collection, prisons, and what is known more generally as the principal-agent problem, in which a principal hires an agent as a representative and wants the agent to make decisions in the interests of the principal about issues that cannot all be anticipated in advance (like a sports agent representing a professional athlete). A solution is usually found by linking the agent's reward to something measureable that is highly correlated with the principal's interest (e.g., the athlete's salary). The extreme case is for the principal to act as his or her own agent, essentially bringing the decisions inside "the firm."

All of these concerns about what types of transactions are conducted in external markets and what kind are subsumed inside of firms are illustrated by the basic “make or buy” decision of franchise organizations. Fast food firms, hardware chains, and retail clothing stores, for example, can all be organized as an integral part of the host company’s operation, using employees who work directly for the host company on a fixed salary. Or they can be franchised, so that the retail operation is owned and operated by a local entrepreneur who has more intimate knowledge of local selling conditions and who receives the revenues from sales and bears the cost of merchandise and payroll while paying the host firm for the use of its name and marketing. Often the franchise agreement is structured so that the host benefits as the franchisee becomes either larger or more profitable. Some firms, such as McDonald’s franchise some of their operations, while operating other stores directly. For example, isolated stores located in remote areas, where central office monitoring costs would be high and shirking on quality is less likely to be detrimental to other stores’ sales, are more likely to be franchised than stores in densely populated urban areas.

Coase’s second contribution was laid out in a 1960 paper titled “The Problem of Social Cost,” (Coase, 1960) which at one point in the 1980s was the most cited article in economics. He argued that if property rights are clearly assigned to someone, and transactions costs are low, property eventually will be allocated to its highest value use. For example, suppose a smoker and a non-smoker jointly own and share a home. Should smoking be allowed inside the house? If the non-smoker is given the right to clean air, the air will remain smoke-free if the non-smoker values clean air more than the value that the smoker places on smoking. If, on the other hand, the smoker is addicted and greatly values smoking, he or she may be willing to pay the non-smoker an amount sufficient to compensate the non-smoker for his or her endurance of polluted

air, and thus purchase the right to smoke in the house (assuming the smoker has the financial capacity to finance the purchase). If the smoker values smoking more than the non-smoker values clean air, the rights to the air will gravitate to the smoker regardless of whether the air rights are initially assigned to the smoker or the non-smoker. If assigned to the smoker, there will be no transaction. If assigned to the non-smoker, the smoker will buy the rights.

Of course such a market solution based on clearly defined property rights only allocates the scarce resource (here, clean air) to its most highly valued use if transaction costs are low (and incomes sufficiently high) so that the transaction costs do not swamp the gains from trade. If there are many potential smokers and many people preferring smoke free air (e.g. in a large restaurant), it may be impossible for the groups to reach an agreement to purchase the property rights because each individual is tempted to “free-ride” on the similar preferences of others in the group, hoping they will make the purchase he or she likes. In that case, the property rights may not gravitate to their most valuable use. One version of this problem is called the “tragedy of the commons,” resulting in so much use of a common property resource that the resource cannot replenish itself, such as overgrazing pasture land or overfishing a fishery. In that case government (or some other authoritarian figure, e.g. a parent in a household) may be required to assign the property rights to what the authority thinks is their most valuable use, risking, however, that the authority does not really know the valuations each of the parties involved place on the various uses of the resource.

Following Coase’s idea, assigning rights to release sulfur emissions (that cause acid rain) into the atmosphere to holders of limited tradable permits has successfully lowered the cost of air pollution regulation compliance in the United States. Firms with (usually older) plants that are costly to bring into compliance buy permits from firms that can comply with the regulations at a

lower cost, thus lowering the overall cost of reducing emissions. Sulfur emission allowances have been traded on the Chicago Board of Trade since the 1990s, thereby lowering the cost of trading by making the sellers and buyers easily known to each other.

The 2009 Nobel recognized Elinor Ostrom for showing, using field experiments, that private solutions to the “tragedy of the commons” sometimes can develop through cooperation and custom. In such practical ways, pastures, fishing waters, and forests might be sustained.

The alleviation of poverty and the enhancement of economic development have been the focus of several economics Nobel Prizes over the years. Simon Kuznets was the first to be recognized for work on econometrics and economic growth and development with the 1971 Prize (Lundberg, 1971). He is most widely acknowledged to have improved and refined national income accounting, although the pioneering work on the basic structure of national income accounts was conducted earlier by Ragnar Frisch and Richard Stone, who received economics Nobel Prizes in 1969 and 1984, respectively. The concept of GDP is derived from their work and is in everyday, common use as well as being an essential building block to assess an economy’s performance and make inter-country comparisons. Kuznets was obsessed with measuring the size and growth of economies with precision, in order to observe relationships that might uncover the sources of economic growth. His most well know observation is the “Kuznets Curve,” which reveals an inverted U-shaped relationship between economic growth and income equality. The shape of the curve conforms to a two sector model of economic development published a year earlier than Kuznets’ seminal work by Sir Arthur Lewis. According to Lewis, as an economy begins to develop, the industrializing urban sector attracts workers from a rural sector without having to raise their wages because rural workers are in excess supply at the prevailing wage. As development progresses, however, the excess supply of

low-wage rural workers dries up and further industrialization requires higher wages to continue to attract sufficient low-skilled rural workers, thus beginning to close the income gap between rich capitalists and poor rural workers.

T. W. Schultz was also concerned with economic development and changes that would benefit the poor. Quite naturally for a farm boy from the American Midwest, Schultz' work focused on agricultural economics, and especially how the acquisition of knowledge promoting agricultural productivity growth would improve the lot of the rural poor. He was especially interested in how farmers responded to incentives. Schultz's research focused not only on the acquisition of knowledge through schooling, but also on on-the-job learning, rural-urban migration, and health (Bowman, 1980).

Although Schultz is often acknowledged to be the "father of the human investment revolution" in economics, it is Gary Becker (economics Nobel, 1992) who in the 1960s formalized and popularized the notion of human capital, measuring returns to education, distinguishing general knowledge from firm-specific knowledge and developing theories of household formation, marriage, fertility, crime, and addiction, among a vast array of other human behaviors. Becker's Prize is the epitome of merging economic theory with applications to all facets of the social sciences. His work runs the social science gamut from human capital—criticized initially for using academic language instead of the common term "education"—to labor market and other types of discrimination, the economics of crime and punishment, and the economics of the family. Indeed, one of Becker's many books is titled *The Economics of Life* (Becker and Becker, 1998).

Immediately subsequent to Lewis' and Kuznets' empirical investigations of the sources and causes of economic growth, Robert Solow (Nobel 1987) published (in 1956) a formal model

of economic growth in which the output to capital ratio was not fixed, and the growth rate of population (and consequently the labor force) drove economic growth. Technological progress entered the process via a specified steady rate of productivity growth. His first order differential equation explaining the rate of economic growth appealed to the mathematical formalism of economists (and has lasted as a staple for over 50 years) because it is founded on notions essential to popular classical economic theories. Paul Romer, recipient of the 2018 Prize, extended the basic growth model by including technological progress as an endogenous factor, wherein economic policies, such as trademark and patent laws, could affect and accelerate the rate of technological progress (Henderson, 2018).

Recently (2015), Angus Deaton was awarded the economics Nobel for his continued work on measuring income accurately, but also because he has broadened the focus from just market based income to broader measures of well-being, including, for example, life expectancy (Wolfers, 2015). He has also popularized a new source of information to measure economic well-being, household surveys that ask people how happy they are. His 2015 volume, *The Great Escape: Health, Wealth, and the Origins of Inequality*, examines how the patterns of economic development and technological change in the last 250 years of human existence have transformed lives and affected economic well-being.

In 2002, the Prize was shared by psychologist Daniel Kahneman and economist Vernon Smith, Kahneman “for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty,” and Smith “for having initiated laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms.” This joint Prize recognized the burgeoning fields of behavioral and experimental economics. Behavioral economics studies how

people actually behave in real-life circumstances rather than how rational *homo economicus* is expected to behave in formal models. Kahneman's book (2015) *Thinking Fast and Slow* has maintained its best-seller status for years. Alvin Roth, 2012 Nobel Prize co-recipient, authored a popular volume (Roth, 2015), *Who Gets What – and Why*, that addresses market designs and emendations in the many situations where a free market collapses, for example in acquiring and allocating human transplant organs. In a similar vein, 2017 laureate Richard Thaler and Harvard legal scholar and prolific author Cass Sunstein, wrote *Nudge* (Thaler and Sunstein, 2008) a guide to affecting decision-making in the business and public policy spheres to improve health and happiness without using laws or regulations. As a result of their popular book, they became frequent public policy consultants to the British government for several years.

Prizes for contributions to our understanding of macroeconomic thought and analyses have been awarded to a large number of economists, including Friedman, Tobin, Modigliani, Lucas, Kydland, Prescott, Phelps, Sargent, and Sims. A group of laureates recognized for their contributions in international trade and finance includes Ohlin and Meade in 1977, Mundell (1999), and Krugman (2008).

No Bells:

In addition to those who have received the prestigious Nobel honor over the last 50 years, there are, or have been, many more than these 81 scholars who have made important contributions in economics, broadly defined, and have conferred great benefit on mankind. They include: (a) prominent economists who died before the economics Prize was established in 1969 – that is, economists who could have been selected between 1901 and 1968 had economics been included in Alfred Nobel's original set of eligible fields; and (b) other contenders who were alive

in 1969 – but are now deceased . In that order of categorization, then, here are a dozen familiar names in order of their death to get the debates started:

1. Leon Walras (died in 1910). A French economist known for his contributions to marginal theory of value (separate from William Stanley Jevons and Carl Menger) and general equilibrium theory (Walras’ Identity, Walras’ Equilibrium and Walras’ Law).¹⁷

2. Vilfredo Pareto (1923). Italian engineer, philosopher, mathematician, and social scientist, he is best known in economics for his work on income distribution and the concepts now labeled Pareto efficiency and Pareto optimality.

3. Alfred Marshall (1924). Possibly the father of conventional neoclassical economics, and like Samuelson, the author of an important introductory economics text and someone who brought mathematics to economics. Marshall introduced the world to the scissors’ blades – supply and demand.

4. Thorstein Veblen (1929). Economist and sociologist, coiner of “conspicuous consumption” and author of *Theory of the Leisure Class* (1899), Veblen is one of the few 19th century economists still read and cited today.

5. John Bates Clark (1938). Considered a pioneer in marginal utility theory, he was one of the founders of the American Economic Association; his *The Philosophy of Wealth* (1886) and *The Distribution of Wealth* (1899) dealt with equity.

6. John R. Commons (1945). Long-time University of Wisconsin faculty member known for his contributions to labor history, unions and policy; his 1934 volume – *Institutional Economics*—cemented his reputation as an institutional economist.

7. John Maynard Keynes (1946). Arguably Britain’s most famous 20th-century economist, his contributions to macroeconomic theory (“Keynesian economics”), business

cycles, recessions, aggregate demand, ‘animal spirits’, and fiscal policy in *The General Theory* (1936), solidified his status as one of the most important economists of all time.

8. Irving Fisher (1947). A neo-classical economist lauded by many of the field’s giants, Fisher had his fingers in many economic pies, including utility theory, general equilibrium, monetarism, and the theory and role of interest rates in the economy.

9. Joseph Schumpeter (1950). An Austrian economist best known for his 1942 book *Capitalism, Socialism, and Democracy*, he is best known for the idea of “creative destruction”, and more broadly a theory of dynamic economic growth fueled by innovation..

10. John von Neumann (1957). A Hungarian polymath who made important contributions to many fields. His collaboration with Oskar Morgenstern produced *Theory of Games and Economic Behavior* (1944) and created the field of game theory.

11. Arthur Cecil Pigou (1959). A Cambridge economist whose contributions include welfare economics (*The Economics of Welfare*, 1920), and externalities and their remedies (Pigovian taxes).

12. Karl Polani (1964). Austro-Hungarian, Polani was a significant contributor to economic history, anthropology, sociology, political science and philosophy; his 1944 volume *The Great Transformation* lays out his “substantivism” views.

The second category – those who were alive in 1969 but died without receiving an economics Nobel includes at least a baker’s dozen scholars (with their year of death) who certainly would have had advocates.¹⁸

1. Frank Knight (1972). One of the founders of the “Chicago School of Economics,” he is best known for his 1921 book *Risk, Uncertainty and Profit*.

2. Alvin Hansen (1975). Macroeconomist and public-policy adviser, often referred to as “the American Keynes,” most noted for development (with Hicks) of the IS-LM macroeconomics model.
3. Oskar Morgenstern (1977). Princeton economist, co-author of *Theory of Games and Economic Behavior* (1944, with John von Neumann).
4. Joan Robinson (1983). Cambridge economist known for her work on monopolistic competition (*The Economics of Imperfect Competition*, 1933) and coining the term monopsony.
5. Piero Sraffa (1983). Italian economist, considered the neo-Ricardian school founder owing to his *Production of Commodities by Means of Commodities* (1960).
6. Fischer Black (1995), part creator of the Black-Scholes equation on options pricing, surely would have shared the 1997 Nobel with Scholes and Merton for devising a model for the dynamics of a financial market containing derivative investment instruments.
7. Amos Tversky (1996). A Cognitive psychologist who undoubtedly would have shared the 2002 Nobel Prize with his friend and frequent collaborator Daniel Kahneman (and Vernon Smith).
8. Zvi Griliches (1999). A student of Schultz and Arnold Harberger at Chicago, he is best known for work on technological change (the diffusion of hybrid corn in particular), and econometrics.
9. Sherwin Rosen (2001). Labor economist with far-ranging contributions in microeconomics, perhaps best known for his 1981 *American Economic Review* article “The Economics of Superstars,” and his 1974 *Journal of Political Economy* article outlining how the market solves the problem of matching buyers and sellers of multidimensional goods.

10. John Muth (2005). Doctoral advisee of Herbert Simon and considered – mainly formulated on the microeconomics side – the originator of “rational expectations” theory.

11. John Kenneth Galbraith (2006), long-time Harvard economist, prolific writer (*The Affluent Society*, *The New Industrial State*), public intellectual, and liberal political activist.

12. Anna Schwartz (2012). National Bureau of Economic Research monetary and banking scholar, and co-author with Milton Friedman of *A Monetary History of the United States, 1867-1960* (1963).

13. Martin Shubik (2018). A doctoral advisee of Morgenstern and collaborator with Nash, at Princeton, he was a long-time Yale professor of mathematical economics, and outstanding game theorist.

To this list one could certainly add more of their contemporaries, for example (in alphabetical order): Anthony Atkinson (2017), William Baumol (2017), Harold Demsetz (2019), Evsey Domar (1997), Rudiger Dornbusch (2002), Henry Roy Forbes Harrod (1978), Harold Hotelling (1973), Nicholas Kaldor (1986), Jacob Mincer (2006), Hyman Minsky (1996), and Ludwig von Mises (1973), among many others.

Finally, there could be a descriptive listing of prominent economists and other social scientists alive today who will likely be considered for a Prize in the years ahead. Their names pop up in the popular press, predictions markets, rumors, and just plain academic gossip. For starters, one could use a list of 21st-century John Bates Clark recipients who will “come of Nobel age” in the decades ahead. And, of course, based on the high concentration of past winners at relatively few universities, one could peruse the current economics faculty listings at highly ranked research-doctorate institutions.

Perhaps, in recognition of the obvious globalization trends of the last 50 years, one might cast the net wider afield in Europe as well as think harder about contributions of South Americans, Australian scholars, and Asian economists. Clouding the horizon is the mystery of the “new new thing” with regard to what field(s) may emerge for the selection committee to recognize and honor as falling within the purview of economics. It took, after all, until 1994 for the Swedish Academy to make awards to game theorists, or recognize the emerging fields of behavioral and experimental economics in 2002. The 2017 award to Richard Thaler “for his contributions to behavioral economics” would have been a head-scratching exercise in 1969. The same would be true for the 2007 awards “for having laid the foundations of mechanism design theory” or the 1997 Prizes “for a new method to determine the value of derivatives.” (Derivatives only originated in the 1970s.) Familiar themes or subfields run across many of the awards – international trade, time series analysis, welfare economics, economic growth, financial markets, economic development, and macroeconomic theory. What’s now around that corner? Big Data? Artificial Intelligence?

In addition, in the future as well as in the last 50 years, and in non-academic competitions – Oscar for Best Actress, winner of the Olympic free-style gymnastics competition – as well as judgments in Stockholm, Prizes are awarded not only on the basis of achievement, but also occasionally on the basis of good luck or who is the referee. Thus a highly accomplished nominee may lose out – or win – because of an award in a similar slice of economics in recent years, political winds, the background and experience of judges, or some other unknown factor. Uncertainty, created by the combination of achievement and chance, is not all bad, though it is likely to cause resentment in some quarters. As someone once said – probably Will Rogers or Mark Twain – it is the difference of opinion that makes a horse race interesting.

Conclusions:

Economics was not one of the five fields chosen by Alfred Nobel to honor those whose contributions conferred “the greatest benefit on mankind.” Added in 1968, this sixth Prize initially occupied second-class status. But the nominating process, the selection criteria, announcement, and presentation by the Royal Swedish Academy of Sciences follow the same process as for the original three science fields. And over time, both through their professional contributions and in some cases high public profiles, as well as the growing importance and recognition of the field of economics, the economics laureates have achieved substantial recognition for themselves, the economics profession, and their contribution to human welfare.

In this essay, the demographic origins, academic pedigrees, and relationships with other laureates are divulged and summarized. In the 50 years of its existence, the economics Nobel Prize reveals the intellectual odysseys and intersections that make for a tight-knit fraternity of these 81 laureates, and show how scientific progress stands on the shoulders of its predecessors. We have illustrated the theoretical contributions and practical and policy applications of just a few of the economics laureates in what we hope are terms that do not require a Ph.D. in economics to understand. Also recognized are some of the contemporaries of these honored individuals who themselves fostered important economics ideas, but did not get to fly to Stockholm in any December to receive the Prize.

Endnotes

¹ Long before he received the 1982 Nobel Prize in economics, George Stigler, in a 1964 lecture to University of Chicago Business School alumni, opined that: “If Mr. Nobel had been a wiser man, he would have directed his prizes to the social sciences to dramatize that really difficult goal of man: the achievement of a civilized society.”

² The Nobel Foundation Board decided that it would not allow further additions to the list of prize-eligible fields.

³ Three is the maximum number that may share a Prize in the sciences, and awards are not bestowed posthumously. The Royal Swedish Academy of Sciences awards the Prizes in physics, chemistry, and economics; the Kaolinksa Institute awards the physiology or medicine Prize; the Swedish Academy selects the literature laureate; the peace Prize is chosen by the Norwegian Nobel Committee. Five of the Prizes are awarded in Stockholm; the peace Prize ceremony is in Oslo, Norway.

⁴ Emily Balch, economist, sociologist and pacifist, long associated with Wellesley College, shared the 1946 peace Prize, more than two decades before the economics Prize came into existence. She died in 1961.

⁵ Most of the information and analyses done in this paper were obtained from web sources that originate from, or are generated from, the Nobel Foundation homepage – www.nobelprize.org – and Wikipedia links – www.nobelprize.org. We list them in the Reference section.

⁶ Within the U.S. in terms of the state of birth, New York can claim 11, Massachusetts 6 and Illinois 5.

⁷ See <https://economics.stackexchange.com/questions/9117/thesis-advisor-student-pairs-that-won-the-nobel-prize> for a fascinating categorization.

⁸ Now Middle Tennessee State University

⁹ In economics the period is from 1969 to the present; for the other three science fields the period extends back to 1901. Other prominent female economists, now all deceased, would include Joan Robinson (died in 1983), Anna Schwartz (2012) and Barbara Bergman (2015).

¹⁰ Arrow also holds the distinction of having lived the longest as an economics laureate – 45 years – and William Vickery the shortest – three days.

¹¹ Although established as an American prize, Clark medal recipients need not be U.S. citizens, only that the recipient be working at a U.S. institution at the time the award is bestowed. It was awarded biennially from 1947 to 2009, then annually since 2010.

¹² Lars Peter Hansen shared the 2013 award with the other two.

¹³ Shared with Harsanyi and Selten.

¹⁴ Friedman and Hayek also produced well-known polemics on the case for *laissez faire* economics: *Capitalism and Freedom* (1962) and *The Road to Serfdom* (1944), respectively.

¹⁵ Arguably the best known of the 2001 laureate trio is Joseph Stiglitz. He served as senior vice president and chief economist for the World Bank and as chair of the Council of Economic Advisers under President Clinton. He was named in 2011 by *Time* as one of the 100 most influential people in the world. His work on international trade and the distribution of income led to two popular volumes, *Globalization and its Discontents* (2002) and *The Great Divide: Unequal Societies and What We Can Do About Them* (2015).

¹⁶ *The Economist*, “Six Big Ideas,” July 29, 2017, pp. 59-60.

¹⁷ There are certainly several more early twentieth-century names that could be added to this first group, including Francis Edgeworth (died 1926) and Richard Ely (1943).

¹⁸ Polish macroeconomist Michal Kalecki was nominated for the Nobel prize in 1970 but died in April of that year. Jacob Viner, Canadian economist and along with Frank Knight and Henry Simons, considered a founder of the “Chicago School” also died in 1970. Nobel prizes cannot be awarded posthumously.

Web Resources:

Nobel Foundation Home Page and Information on the Process and Prizes in all Six Fields:
<https://www.nobelprize.org/>

https://simple.wikipedia.org/wiki/List_of_Nobel_Prize_winners_in_Economics

https://www.nobelprize.org/prizes/lists/all-prizes-in-economic-sciences/?utm_source=lasindias.info%2Fblog

https://simple.wikipedia.org/wiki/List_of_Nobel_Prize_winners_in_Economics

<https://www.britannica.com/topic/Winners-of-the-Nobel-Prize-for-Economics-1856936>

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

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

<https://www.livescience.com/16365-nobel-prize-economics-list.html>

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Appendix: Sveriges Riksbank Prizes in Economic Science, 1969 – 2018

1969 Frisch, Tinbergen	1994 Harsanyi, Nash, Selten
1970 Samuelson	1995 Lucas
1971 Kuznets	1996 Mirrlees, Vickrey
1972 Arrow, Hicks	1997 Merton, Scholes
1973 Leontief	1998 Sen
1974 Hayek, Myrdal	1999 Mundell
1975 Kantorovich, Koopmans	2000 Heckman, McFadden
1976 Friedman	2001 Akerlof, Spence, Stiglitz
1977 Meade, Ohlin	2002 Kahneman, Smith
1978 Simon	2003 Engle, Granger
1979 Lewis, Schultz	2004 Kydland, Prescott
1980 Klein	2005 Aumann, Schelling
1981 Tobin	2006 Phelps
1982 Stigler	2007 Hurwicz, Maskin, Myerson
1983 Debreu	2008 Krugman
1984 Stone	2009 Ostrom, Williamson
1985 Modigliani	2010 Diamond, Mortensen, Pissarides
1986 Buchanan	2011 Sargent, Sims
1987 Solow	2012 Roth, Shapley
1988 Allais	2013 Fama, Hansen, Shiller
1989 Haavelmo	2014 Tirole
1990 Markowitz, Miller, Sharpe	2015 Deaton
1991 Coase	2016 Hart, Holmström
1992 Becker	2017 Thaler
1993 Fogel, North	2018 Nordhaus, Romer

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