
Beautiful Minds: The Nobel Memorial Prize in Economics

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That time of the year when decisions relating to the Nobel memorial prize in economics are announced is gradually coming closer. This study lists the earlier recipients and highlights certain interesting facts that could act as a guide for conjecturing potential winners.

JEL Classification : A10, B31

Keywords : Economics, Nobel Prize, Theory, Policy, Relative Achievement

Introduction

This is that time of the year when the economics fraternity is abuzz with the news of potential winners of the prestigious prize in economics, the Nobel Memorial Prize. This will be the 45th year of award of the prize. This article looks into the history of the Nobel Prize in Economics and attempts to elicit certain interesting facets.

A Swedish chemist and engineer, Alfred Nobel (1833-96), made a fortune from the manufacture of explosives. He left most of the money in trust and according to the terms of the Nobel Will (hereafter, *Will*):

the capital, invested in safe securities by my executors, shall constitute a fund, the interest on which shall be annually distributed in the form of prizes to those who, during the preceding year, shall have conferred the greatest benefit on mankind (extracted from Nobel Foundation website, hereafter NFW).

The *Will* further reiterated that five prizes would be awarded to the persons who shall have: (a) made the most important discovery or invention within the field of physics, (b) made the most important

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chemical discovery or improvement; (c) made the most important discovery within the domain of physiology or medicine; (d) produced in the field of literature the most outstanding work in an ideal direction; and (e) done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies and for the holding and promotion of peace congresses. The *Will* further remarked:

The prizes for physics and chemistry shall be awarded by the Swedish Academy of Sciences; that for physiological or medical work by the Caroline Institute in Stockholm; that for literature by the Academy in Stockholm, and that for champions of peace by a committee of five persons to be elected by the Norwegian Storting (extracted from NFW).

The executors of the *Will* established a private institution, the Nobel Foundation, to manage the bequest and coordinate the work of the various prize-awarding institutions. The five original Nobel Prizes – in Physics, Chemistry, Physiology/Medicine, Literature and Peace – have been awarded annually since 1901.

It was not until 1968 that the *Sveriges Riksbank* (Bank of Sweden), as part of its tercentenary celebrations, instituted a sixth award: the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel. The Economics Prize is, therefore, not technically a Nobel Prize, as it was not part of the *Will*; it is rather a Nobel Memorial Prize funded by the Bank of Sweden. This prize, popularly known as the Nobel Prize in Economics, is awarded annually by the Royal Swedish Academy of Sciences in line with the basic principles of the original five prizes. According to the statutes ‘the Prize shall be awarded annually to the person who has carried out a work in economic science of the eminent significance expressed in the *Will* of Alfred Nobel drawn up on November 27, 1895’.

Section II

Nomination and Selection Process

The work of handling nominations is undertaken primarily by the Royal Swedish Academy of Sciences (see NFW for details). The people/institutions that are qualified to nominate for this award include: (a)

Swedish and foreign members of the Royal Swedish Academy of Sciences, (b) members of the Prize Committee for the Bank of Sweden Prize in economic sciences, (c) prize winners in economic sciences, (d) permanent professors in relevant subjects at the universities and colleges in Sweden, Denmark, Finland, Iceland and Norway, (e) holders of corresponding chairs in at least six universities or colleges, selected for the relevant year by the Academy of Sciences with a view to ensuring the appropriate distribution between different countries and their seats of learning, and (f) other scientists from whom the Academy may see fit to invite proposals. As regards (e) and (f), the decisions as to the selection of the teachers and scientists are taken each year before the end of September (NFW).

The Academy receives over 200 nominations every year. The economics prize selection committee of the Academy (with five members and several adjunct members with same voting rights as the members) commissions expert studies of the most outstanding candidates. These studies are usually conducted by experts with international reputation from other countries. They might also be experts from Sweden. The Prize Committee presents its award proposal to the social science class of the Academy as a report which contains a detailed survey of the potential candidates who are shortlisted for the prize. The report advances arguments in support of the proposal, incorporating observations from all the solicited expert studies. After carefully analysing the information, the social science class suggests a Laureate (or a shared prize between two or, at most, three Laureates) following the committee's proposal. Finally, the Academy meets, usually in October, to take a final decision on the award. The deliberations and votes of the Academy are kept secret. Table 1 highlights the process.

The annual presentation of the award, along with the original five prizes, is made at a formal ceremony at the Stockholm Concert Hall on 10 December, the anniversary of Alfred Nobel's death. At the award ceremony, the recipient receives a diploma, the Nobel medal and the prize amount. Until 1968, in principle, more than three persons could share the Nobel Prize in an area, but this never happened in practice.

Table 1: Process of Selection of Winners of the Nobel Memorial Prize in Economics

Month	Process
September	Nomination forms sent out by Prize Committee to around 3,000 persons.
February	Deadline for submission. The filled-in forms need to reach the committee not later than 31 January of the following year. Around 250-350 names are submitted.
March-May	Consultation with experts. The names of short-listed candidates sent to especially appointed experts for their assessment of the candidates' work.
June-August	Writing of the report. The Prize Committee puts together the report with recommendations to be submitted to the Academy. All members of the committee sign the report.
September	Committee submits recommendations. The Prize Committee submits its report with recommendations on the final candidates to Academy members. The report is subsequently discussed at two meetings of the economics section of the Academy.
October	The Academy of Sciences selects the economics prize winners through a majority vote. The decision is final and no appeal can be made against it. The names of the prize winners are then announced.
December	Winners receive their prizes. The prize award ceremony takes place on 10 December in Stockholm when the winners receive the economics prize consisting of a medal, diploma and a document confirming the prize amount.

Note: Figures in the second row for September pertain to year t , information for other months pertain to year $t+1$.

The previous wording of the statutes governing the prize was altered in 1968 to read 'in no case may a prize be divided between more than three persons'.

Section III The Nobel Memorial Prize in Economics

Since its inception in 1969, 74 economists have been awarded the prize till 2014. Single awards were made on 22 occasions. Annexure I provide the year wise details. In what follows, we attempt to glean certain interesting facts about the recipients of the Nobel Memorial Prize in Economics.

III.1 Areas

A useful starting point, following Lindbeck (1985) would be to ascertain the areas in which the Nobel prizes have been awarded. However, in view of the 'multidimensional nature of scientific contributions'

(Lindbeck, NFW), any adopted classification could prove arbitrary.¹ Based on hindsight, we adopt a more disaggregated classification, in line with courses typically taught at university levels: microeconomics (Stigler, 1972), macroeconomics (Friedman, 1976; Lucas, 1995; Kydland and Prescott, 2004), public economics (Buchanan, 1986), financial economics (Merton and Scholes, 1997), development economics (Schultz and Lewis, 1979), international economics (Ohlin and Meade, 1977), growth economics (Solow, 1987), macroeconometrics (Klein, 1980), econometrics (Heckman and McFadden, 2000), game theory (Aumann and Schelling, 2005), information economics (Akerlof, Spence and Stiglitz 2001)² and economic history (Fogel and North 1993). Needless to state, even such a disaggregated classification could be arbitrary, since there is often an overlap between the identified fields and contributions often span multiple fields. Alternately, certain fields of study could be subsumed within broader categories, substantially downsizing our classification. Keeping these caveats in view, the broad distribution (with subject areas in alphabetical order) is set out in Table 2.

Clearly, microeconomics and game theory are at the very top of the ladder, accounting for 25 (over one-third) of the economists who have received the prize.

III.2 Affiliation

At the time of the award, the laureates were affiliated with some of the most prestigious universities in the world. Only 12 universities have been associated with three or more awards. These include: University of Chicago (12), Harvard University (5), University of Cambridge

¹ Assar Lindbeck (1985), Chairman of the Economics prize committee for over a decade till the mid-1990s, employed a five-fold classification (basic economic theory, theoretical contributions concerning specific sectors, new methods of economic analysis, pure empirical research and non-formalized innovative thinking). Subsequently, Lindbeck (NFW) adopted a more generic classification (general equilibrium, macroeconomics, microeconomics, interdisciplinary research and new methods of economic analysis).

² Incidentally, the maximum number of awards was also in 2001, when 15 personalities (3 each in Chemistry, Economics, Medicine and Physics), 2 in Peace and 1 in Literature were awarded Nobel prizes.

(4), University of California, Berkeley (5), Columbia University (4), Princeton University (6), MIT (4), Stanford University (3) and Yale University (3). An important point of note is, at the time of the award, 58 of the 74 (or 78 per cent) Nobel recipients were affiliated to US universities, highlighting the leading role of the US in pioneering economic research since its inception.

III.3 Doctorates

Another important point of note is that the Nobel laureates have been trained in some of the highly reputed universities. Of the 74 recipients, 55 received their doctorates from 15 universities. These 15 universities which have imparted doctoral training to two or more laureates (names and earliest year of doctorate in that order) include: University of Chicago (Stigler 1938; Simon 1943; Buchanan 1948; Markowitz 1954; Aumann 1955; Becker 1955; Lucas 1964; Fama 1964; Scholes 1969), Harvard University (Samuelson 1941; Tobin 1947; Schelling 1951; Solow 1951; Smith 1955; Sargent 1968; Sims 1968; Spence 1972; Maskin 1976; Myerson 1976), MIT (Klein 1944; Mundell 1956; Diamond 1963; Akerlof 1966; Stiglitz 1967; Merton 1970;

Table 2: Distribution of Nobel Prizes in Economic Sciences

Area	N. recipients	Percent to total	Average Age (YRS)	Average words in citation
Development economics	2	2.7	70.5	17
Economic governance	2	2.7	76.5	12
Economic history	2	2.7	70	22
Econometrics	5	6.8	65	12.2
Financial economics	8	10.8	62.1	8.9
Game theory	10	13.5	71.6	11.6
Growth economics	2	2.7	66.5	17.5
Information economics	5	6.8	63.8	10
International economics	4	5.4	67.5	15
Labour economics	3	4.1	68	8
Macroeconomics	10	10.8	67.5	18.4
Microeconomics	15	20.3	65.9	14.9
Macro econometrics	4	5.4	68	13.3
Monetary economics	1	1.4	64	23
Public economics	1	1.4	67	17
asdasd	74	100	67	13.9

Shiller 1972; Krugman 1977); Columbia University (Kuznets 1926; Friedman 1946; Vickery 1948; Arrow 1951), Princeton University (Nash 1950; Shapley 1953; Heckman 1971); Carnegie Mellon University (Williamson 1963; Prescott 1967; Kydland 1973); University of Minnesota (McFadden 1962; Hansen 1978) Johns Hopkins University (Miller 1952; Fogel 1963), University of California, Berkeley (North 1952; Kahnemann 1961); University of Cambridge (Stone 1935; Sen 1959; Mirrlees 1963), University of Leiden, Netherlands (Tinbergen 1929; Koopmans 1936), University of London (Lewis 1942; Coase 1951), University of Oslo (Frisch 1926; Haavelmo 1946), University of Paris (Allais 1949; Debreu 1956) and University of Stockholm (Ohlin 1924; Myrdal 1927).³

III.4 Single versus Joint Winners

Joint awards have been made on 26 occasions. In the case of joint awards, the prize has been shared between two economists on 20 occasions and between three economists in six instances (1990, 1994, 2001, 2007, 2010 and 2013). In fact, in the first year itself, the Nobel Memorial Prize was shared between two economists.

III.5 Theory versus Policy

In its citation, the award typically cites the contribution of the recipient in the concerned area of economics. While it is often difficult to make a watertight demarcation between theory and policy, in only six instances, the word ‘policy’ (the winner and year of prize in that order) explicitly figures in the prize citation (Friedman 1976; Klein 1980; Lucas 1995; Mundell 1999; Kydland 2004; Prescott 2004; Phelps 2006). Except for 2004, the rest of them were single prize winners in those years. On the other hand, the word ‘theory’ was explicitly mentioned in as many as 23 instances (including 11 instances when there were multiple awardees), presumably hinting at the dominance of theoretical research. Only in one

³ Best known for his paper titled *Theory of the Firm* based on a lecture delivered when he was 21 years old, Ronald Coase expired on 2 September 2013 at the age of 102 years. A couple of months prior to that, Robert Fogel, co-winner (along with Douglass North) of the 1993 Economics Nobel Prize, expired on 11 June 2013. More recently, Gary Becker expired in May 2014.

instance (Friedman 1976), the words ‘theory’ and ‘policy’ both find place in the prize citation.

III.6 Empirics

In only seven instances, does the word ‘empirical’ appear in the citations. It was first mentioned in 1971 (in case of Kuznets), and subsequently in 1984 (in case of R. Stone) and more recently in 2011 (Sargeant and Sims) and 2013 (Fama, Hansen and Shiller).

III.7 Prize Citation

The prize citation underscores the pioneering contribution of the winner in the concerned area. The longest citation (26 words) were in 1971 (Kuznets) and 1974 (Myrdal and Hayek), followed closely by Samuelson (1970; 25 words); the shortest citation (six words) was for A. Sen, who received the prize in 1998; the average number of words per citation has been 13.9 (See Table 1). In 37 instances, the number of words in the citation exceeded 12.5 (the median number of citation words). Typically, in the case of joint winners, there is a uniform citation highlighting the contribution of the winners in the concerned area. In three instances (2000, 2003 and 2009), the joint citation was different for each winner.

III.8 Criteria for Awards

When considering a valuable contribution, as Lindbeck (NFW) has observed, the selection committee looks, in particular, at the *originality* of the contribution, its scientific and practical *importance*, and its *impact* on scientific work (italics in original). To some extent, the committee also takes cognizance of its impact on society at large, including its influence on public policy (Lindbeck NFW). Many a times, the relevance of new results might only be transient, therefore having much less generality than was initially conjectured. Therefore, only when a substantial amount of time elapses since the contribution and its scientific value becomes firmly established does the committee take a call while deciding on the awardees.

III.9 Does Age Matter?

Following from the earlier point, unlike other Nobel prizes, in economics, recipients receive the prize after sufficient time has elapsed

since their contribution in the concerned area. This is reflected in the average age of Nobel recipients being 67 years (median age of 67 years); the youngest Nobel winner was Arrow (1972; 51 years) and the oldest till date has been Hurwicz (2007; 90 years).⁴ Apart from Arrow, 14 other laureates who were 60 years or younger include, in ascending order of age: Merton (53 years), Samuelson and Krugman (55 years), Heckman, Scholes, Sharpe and Myerson (56 years), Mishkin (57 years), Lucas, Spence and Stiglitz (58 years) and Klein and Mirrlees (60 years).⁵ Across disciplines, the youngest winners, on average, are in financial economics (average age of 62.1 years) whereas the oldest are in economic governance with an average age of roughly 76.5 years (Table 1). Usually, it takes a longer time in areas like game theory to ascertain if a new contribution has enduring relevance or is just a fad. On the other hand, the applicability of ideas in financial economics is presumably much more widespread and quickly and easily testable; it therefore takes relatively less time to identify the import of an idea.

III.10 Awarded Contributions

The growing emphasis on mathematical techniques have been strongly reflected in the awards, important examples being the prizes to Samuelson, Hicks, Arrow, Koopmans, Kantorovich, Debreu, Allais, Phelps as well as laureates in financial economics and game theory.

Another important emerging trend has been the growing importance of quantitative methods including systematic statistical testing or estimation. This development is reflected in the awards to several economists early in the history of the Nobel Prize: Frisch, Tinbergen, Leontief, Klein, Stone (up to the mid-1980s) and subsequently, Heckman, McFadden, Engle, Granger, Sargent and Sims, Fama and Hansen (post-1999), to name a few.

⁴ Compare this: in Physics, the youngest Nobel Prize winner was 25 years, in Chemistry 35 years, in Medicine/Physiology 32 years, in Literature 42 years and in Peace 32 years.

⁵ The Nobel Prize in Economic Sciences also provides the case of the oldest Nobel Prize winner at 90 years. The list includes four more octogenarians, Shapley, who received the prize at 89 years, Thomas Schelling (84 years), William Vickery (82 years) and Ronald Coase (81 years). It may also be stated that Schelling retired in 2003 as Professor at the University of Maryland and was planning to learn a computer to finish research on racial segregation that he had started long back. After the Nobel Prize, the University of Maryland un-retired him to raise funds (Harford 2005).

The awards also illustrate the important role of macroeconomics during the post-war period. Prizes to recipients such as Friedman, Klein, Tobin, Modigliani, Solow, and more recently, to Lucas, Kydland, Prescott and Phelps bear testimony to this fact. Innovative ways of exploring the complexities of economic systems have been recognized, as reflected in the awards in the areas of information economics, human capital and game theory as well as the role of economic governance.

III.11 Woman Awardee

It was as late as 2009 that Elinor Ostrom became the first woman recipient of the Nobel Prize in Economics. Contextually, it may be mentioned that between 1969 (first year of the Nobel Prize in Economics) and 2012, the Nobel Prize has been awarded 29 times; the maximum number of women awardees have been in the areas of peace (12) and medicine (9); the earliest awardee (since 1969, the first year of Nobel Prize in Economics) was in 1976.

III.12 John Bates and Nobel

Important indicators of potential Nobel winners include high citation counts (Quandt 1976) and prior award of prestigious honours. In the latter case, a number of recipients of the John Bates Clark Medal have subsequently been awarded the Nobel Prize in Economics. The Medal (named after American economist John Bates Clark 1847-1938) was instituted in 1947 by the American Economic Association and is awarded every two years to an *American* economist under the age of 40 who is adjudged to have made ‘a significant contribution to economic thought and knowledge’. To date, 35 economists have been awarded the Medal (no award was given in 1953) and 12 of them went on to become subsequent winners of the Nobel Memorial Prize. These include (with year of medal and Nobel Prize respectively, in that order): Samuelson (1947, 1970); Friedman (1951, 1976); Tobin (1955, 1981); Arrow (1957, 1972); Klein (1959, 1980); Solow (1961, 1987); Becker (1967, 1992); McFadden (1975, 2000); Stiglitz (1979, 2001); Spence (1981, 2001), Heckman (1983, 2000) and Krugman (1991, 2008). The shortest time gap between the two awards was for Arrow (15

years) and the longest (26 years) was in case of Tobin (1981) and Solow (1987).⁶

This evidence appears to suggest that, on average, there is a time lag of just over two decades between receipts of these two awards. It would, therefore, be of interest to see which other Medal winners since the mid-1970s (Feldstein 1977; Hausman 1985; Grossman 1987; Kreps 1989; Summers 1993; Card 1995; Murphy 1997; Shleifer 1999, Rabin 2001; Levitt 2003; Acemoglu 2005) among others, go on to win the Nobel Prize. This, however, does not preclude earlier living winners of the Medal -- Nerlove (1969), Jorgensen (1971) and Franklin Fisher (1973) – from receiving the Nobel Prize.

III.13 American Economic Review and Nobel

A committee of top economists was selected by Robert Moffitt, erstwhile Chief Editor of *American Economic Review* to choose the top 20 articles published in that journal over the 100 years of its existence (See, Arrow *et al.* 2011). The list included 26 economists, including 12 (or, 46 per cent) of them who have been awarded the Nobel Prize.⁷

III.14 Post-crisis world

In 2011, *The Economist* conducted a poll among experts in economics by invitation. The two most important questions that experts were asked to address were: (a) which economist was most influential over the past decade and (b) which economists have the most important ideas in the post-crisis world? As regards the first, Bernanke topped the list with seven nominations, followed by Keynes (four nominations), Sachs, Minsky and Krugman (with three nominations each) and Adam Smith,

⁶ The American Economic Association (AEA) instituted the *Francis A Walker Medal* in 1947, named after the First President of AEA (1886-92), awarded every five years 'to the living American economist who in the judgment of the awarding body has during his/her career made the greatest contribution to economics'. It was discontinued in 1981 after the Nobel Prize made it superfluous. Finally, in the 1960s, the AEA instituted the Richard T. Ely Lecture, named after Richard T Ely, the first Secretary of AEA and erstwhile President (1900-01), under which renowned economists give their address at the yearly AEA Conference. Since 2009, the John Bates Clark Prize is awarded on an annual basis.

⁷ These include, in alphabetical order of surnames: Arrow, Friedman, Krugman, Kuznets, Lucas, Miller, Mirrlees, Modigliani, Mundell, Stiglitz, Von Hayek and Shiller.

Lucas, Stiglitz, Von Hayek and Greenspan (with two nominations each). Among the names cited here, four have already been awarded the Nobel Prize in Economics. As for the latter, the leaders were Raghuram Rajan, Robert Shiller and Kenneth Rogoff (with three nominations each) and Barry Eichengreen and Nouriel Roubini (with two nominations each).

Section IV

Achievement and Fame: A Clue to Future Winners?

In this section, we focus on *potential* Nobel Prize winners by estimating their achievements from their fame. We follow Claes and De Cuester (2013) and Simkin and Roychowdhary (2011) and specify for economist j the relation between achievement (A) and fame (F) by expression (1):⁸

$$A_j = \frac{1}{\beta} \text{Ln}(F_j / C) \quad (1)$$

In order to eliminate (the unknown) β , it becomes useful to focus on relative achievement in equation 1, by scaling the achievement of economist j by the maximum achievement reached by any economist (A_{\max}), yielding expression (2):

$$\frac{A_j}{A_{\max}} = \frac{\text{Ln}\left(\frac{F_j}{C}\right)}{\text{Ln}\left(\frac{F_{\max}}{C}\right)} \quad (2)$$

Finally, to arrive at a tractable solution for (2), we substitute C by the minimum fame obtained by the potential winners, in order to prevent the possibility of (F_j/C) falling below unity (and consequently, its natural log from becoming negative). This leads us to expression (3):

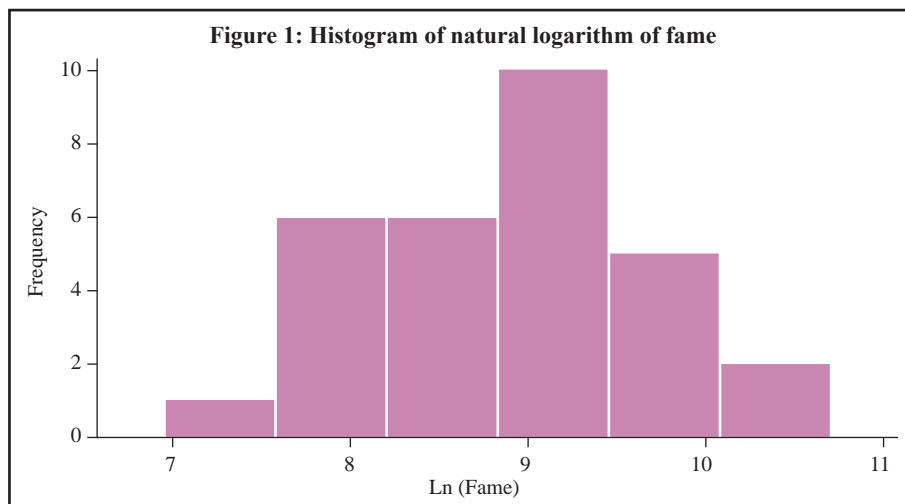
$$\frac{A_j}{A_{\max}} = \frac{\text{Ln}\left(\frac{F_j}{F_{\min}}\right)}{\text{Ln}\left(\frac{F_{\max}}{F_{\min}}\right)} \quad (3)$$

⁸ In their study of fame of World War-I fighter pilots, Simkin and Roychowdhary (2006) found the relation between fame (F) and achievement (A) to be of the form: $F = C \exp(\beta A)$. The 2011 paper by the same authors turned the question upside down, yielding expression (1) as above.

In this process, the fame proxy is rescaled to a relative achievement scale. This normalized scale is bounded in the unit interval. This procedure provides us with a crude proxy for estimating the *relative* achievements of *potential* Nobel winners.

We select 30 economists for our analysis. We proxy fame by the number of ‘citations’ on Microsoft Academic Search. However, fame can be a noisy estimate, simply because the fame of a person can also be because of the fame of namesake(s). To minimize this noise, we searched the intersection of the specific name format for the economist (as provided in Table 3) and the field of study ‘economics and business’. Owing to this, the number of hits got severely restricted. Given this constraint, this ensured a uniform restriction for every chosen individual.

On 2 June 2014, we searched Microsoft Academic Search using this criteria and found that Andrei Iklkl Shleifer led the ranking with nearly 45,000 citations (i.e, F_{\max}). At the other end of the list is Anne Krueger (i.e, F_{\min}).⁹ Chart 1 shows the histogram of $\text{Ln}(\text{Fame})$. The number of ‘hits’ appears to be skewed. In other words, a unit of extra achievement leads to a disproportionate increase in fame.¹⁰ The



⁹ The reported number of ‘hits’ can change over time, even perhaps within a day. As a result, we specify the given day on which the information was accessed.

¹⁰ To see this, note that Andrei Shleifer generates nearly 2-times more citations than the number two in the list and roughly 3-times the number as the individual placed third in the list.

Table 3: Relative Achievements of *Potential* Nobel Prize Winners

No.	Name	Citations	Relative achievement
1	Andrei Ikjkl Shleifer	44,758	1.000
2	Robert J Barro	25,406	0.849
3	Peter Charles Bonest Phillips	16,832	0.739
4	Alan B Krueger	15,829	0.722
5	Jeffrey Sachs	15,194	0.711
6	Kenneth S Rogoff	14,009	0.689
7	Lawrence H Summers	13,378	0.677
8	Gene M Grossman	12,140	0.651
9	Angus Deaton	11,813	0.644
10	David Card	10,824	0.620
11	Jerry A Hausman	10,742	0.618
12	Douglas W Diamond	9,445	0.584
13	Ben Bernanke	8,461	0.555
14	Barry J Eichengreen	8,341	0.551
15	Matthew Rabin	8,084	0.542
16	John B Taylor	7,972	0.539
17	Mohammed Hashem Pesaran	7,951	0.538
18	David F Hendry	6,802	0.496
19	Stanley Fischer	6,398	0.480
20	Martin S Feldstein	6,079	0.466
21	Richard A Posner	5,241	0.427
22	Gordon Tullock	4,849	0.406
23	Jagdish N Bhagwati	4,707	0.398
24	Sam Peltzman	2,721	0.251
25	Kevin M Murphy	2,667	0.246
26	Stephen Ross Yeaple	2,320	0.209
27	Franklin M Fischer	2,303	0.207
28	Dale W Jorgensen	2,084	0.180
29	Marc Nerlove	2,084	0.180
30	Anne O Krueger	1,063	...

table of relative achievements appears to suggest that a significant number of those in the list are those with influence well beyond the realms of academia (Table 3).

Section V Controversies

Several criticisms have been labeled of the Nobel Memorial Prize. First, concerns have been voiced that the Chicago School has been the most favoured. More than ten economists (Becker, Coase, Fogel, Fama, Friedman, Hansen, Heckman, Lucas, Miller, Myerson, Schultz and

Stigler) were faculty members of this university and several others (Becker, Buchanan, Fama, Lucas, Markovitz, Scholes, Simon and Stigler) received their doctoral training from this university. All in all, 16 out of 74 (or, one-fifth) of the economists were, directly or indirectly, attached to the University of Chicago, highlighting the important role of this university in the institutional pecking order.

Second, it is often felt that the *Academy* needed to clear the ‘backlog’ of specific achievements after its inception. This is echoed in Lindbeck (NFW) who remarked: ‘during the first decade of the Economics Prize, the Committee largely had the task of working with a *heavy backlog of rather obvious candidates*’ (emphasis added). However, this backlog could not be fully eliminated, either because several of them expired before the award was instituted (Keynes 1883-1946) or before their contribution could possibly be honoured (Joan Robinson 1903-1983) since post-1974, the statutes of the Nobel Foundation stipulated that the award cannot be given posthumously (Snowdon and Vane, 1999).

There have also been criticisms labeled against specific winners, for example, against John Nash for his alleged mental illness. This controversy led to a change in the governing committee: members were subsequently appointed for a 3-year term (instead of an unlimited term, as earlier) and the scope of the prize expanded to include interface with areas such as political science, psychology and sociology. Way back in 1976 when Milton Friedman was awarded the prize, there were international protests, ostensibly because of Friedman’s brief association with a Chilean dictator. More recently in 2008, after Krugman won the Nobel Prize, charges were labeled with headlines such as ‘*Bush critic wins Nobel Prize in economics*’ (Ringstrom *et al.* 2008).

Additionally, concerns have been voiced that given the prestige involved in the prize and the status it affords to affiliated universities, it often leads to a competitive race. Franco Modigliani, the 1985 Laureate, remarked ‘Nobel Prize winners are to the scientific establishment what cardinals are to the church. They are figures who command reverence and benevolence’ (quoted in Snowdon and Vane 1999). In one debate, J. Bhagwati, Professor at Columbia University went in and told Stiglitz

‘Joe, don’t use your Nobel prize as a weapon of mass destruction’ (quoted in Panagariya 2013).

Section VI **Concluding Remarks**

In conclusion, what does one take away from this analysis? Without delving into intricacies, the analysis enables us to make the following broad inferences. First, the awarded laureates are located primarily in the US. As well, the analysis suggests that the list of awardees is skewed towards universities located in the US. Third, the awardees had received doctoral training in one of the 15 select universities with a distinguished track record, out of which, eight are in the US. Finally, without loss of generality, game theory and microeconomics appears to dominate the awardee list, although of late macroeconomics and empirical applications have been gaining importance.

References

- Arrow, J.K., B.D. Bernheim, M.Feldstein, D.L.Mcfadden, J Poterba and R.Solow. 2011. “100 years of *American Economic Review*: The top 20 articles”. *American Economic Review*, Vol. 101 (1), pp.1-8.
- Claes, A. G. P. and M. J. K. De Cuester. 2013. “Estimating the economics Nobel prize laureates achievement from their fame”. *Applied Economics Letters*, Vol. 20(9), pp. 884-88.
- Harford, T. 2005. “Thomas Schelling: Man with a strategy for games of life”. *Financial Times*, December 17-18.
- Indian Express. 2013. Interview with Arvind Panagariya (July 30).
- Lindbeck, A. 1985. “The prize in economic science in memory of Alfred Nobel”. *Journal of Economic Literature*, Vol. 23(1), pp.134-45.
- Lindbeck, A. The *Sveriges Riksbank* prize in economic science in memory of Alfred Nobel 1969-2004 <accessed from Nobel Foundation website>
- Nobel Foundation. Official web site [http:// www. nobelprize.org](http://www.nobelprize.org)
- Quandt, R. 1976. “Some quantitative aspects of the economics journal literature”. *Journal of Political Economy*, Vol. 84(4), pp.741-55.

Ringstrom, A., S. Nordenstam and J. Hurdle. 2008. Reuters (October 13)

Simkin, M. V., and V. P. Roychowdhury. 2006. "Theory of aces: Fame by chance or merit?". *Journal of Mathematical Sociology*, Vol. 30 (1), pp. 33-42.

Simkin, M. V., and V. P. Roychowdhury. 2011. "Von Richthofen, Einstein and the AGA: Estimating Achievements from Fame". *Significance*, Vol.8, pp.22-26.

Snowdon, B and H. Vane. 1999. *Conversations with leading economists*, Edward Elgar Publishing.

The Economist. 2011. *Economics' most influential people*. February 1, The Economist: London.

Annex 1: The Nobel memorial prize in economics – 1969–2013

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
1969	R Frisch (1895)	Norway	Univ. of Oslo	Univ. of Oslo	Macroeconometrics	for having developed and applied dynamic models for the analysis of economic processes
	J Tinbergen (1903)	Netherlands	Univ. of Leiden	Netherlands School of Economics		
1970	P A Samuelson (1915)	USA	Harvard Univ.	MIT	Microeconomics	for the scientific work through which he demonstrated static and dynamic economic theory and actively contributed to raising the level of analysis in economic science
1971	S Kuznets (1901)	USA	Columbia Univ.	Harvard Univ.	Economic growth	for his empirically founded interpretation of economic growth which has led to new and deepened insights into the economic and social structure and process of development
1972	J R Hicks (1904)	UK	BA (Univ. of Oxford)	Univ. of Oxford	Microeconomics	for their pioneering contributions to general economic equilibrium theory and welfare theory
	K J Arrow (1921)	USA	Columbia Univ.	Harvard Univ.		
1973	W Leontief (1906)	USA	Univ. of Berlin	Harvard Univ.	Applied economics	for the development of the input-output method and its application to important economic problems
1974	G Myrdal (1898)	Sweden	Univ. of Stockholm	Univ. of Stockholm	Macroeconomics	for their pioneering work in the theory of money and economic fluctuations and for their penetrating analysis of the interdependence of economic, social and institutional phenomena
	F Von Hayek (1899)	Austria	Univ. of Vienna	Univ. of Freiburg		

Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation																																								
1975	L V Kantorovich (1912)	Russia	Leningrad State Univ.	Academy of Sciences, Moscow	Microeconomics	for their contribution to the theory of optimum allocation of resources																																								
	T C Koopmans (1910)	USA	Univ. of Leiden	Yale Univ.			1976	M Friedman (1912)	USA	Columbia Univ.	Univ. of Chicago	Monetary economics	for his achievements in the fields of consumption analysis, monetary history and theory and for his demonstration of the complexity of stabilisation policy	1977	B Ohlin (1899)	Sweden	Univ. of Stockholm	Stockholm School of Economics	International economics	for their path-breaking contribution to the theory of international trade and international capital movements	J E Meade (1907)	UK	Univ. of Oxford	Univ. of Cambridge	1978	H A Simon (1916)	USA	Univ. of Chicago	Carnegie Mellon Univ.	Microeconomics	for his pioneering research into the decision-making process within economic organisations	1979	T W Schultz (1902)	USA	Univ. of Wisconsin	Univ. of Chicago	Development economics	for their pioneering research into economic development research with particular consideration of the problems of developing countries	W A Lewis (1915)	UK	Univ. of London	Princeton Univ.	1980	L R Klein (1920)	USA	MIT
1976	M Friedman (1912)	USA	Columbia Univ.	Univ. of Chicago	Monetary economics	for his achievements in the fields of consumption analysis, monetary history and theory and for his demonstration of the complexity of stabilisation policy																																								
1977	B Ohlin (1899)	Sweden	Univ. of Stockholm	Stockholm School of Economics	International economics	for their path-breaking contribution to the theory of international trade and international capital movements																																								
	J E Meade (1907)	UK	Univ. of Oxford	Univ. of Cambridge			1978	H A Simon (1916)	USA	Univ. of Chicago	Carnegie Mellon Univ.	Microeconomics	for his pioneering research into the decision-making process within economic organisations	1979	T W Schultz (1902)	USA	Univ. of Wisconsin	Univ. of Chicago	Development economics	for their pioneering research into economic development research with particular consideration of the problems of developing countries	W A Lewis (1915)	UK	Univ. of London	Princeton Univ.	1980	L R Klein (1920)	USA	MIT	Univ. of Pennsylvania	Macroeconometrics	for the creation of econometric models and the application to the analysis of economic fluctuations and economic policy															
1978	H A Simon (1916)	USA	Univ. of Chicago	Carnegie Mellon Univ.	Microeconomics	for his pioneering research into the decision-making process within economic organisations																																								
1979	T W Schultz (1902)	USA	Univ. of Wisconsin	Univ. of Chicago	Development economics	for their pioneering research into economic development research with particular consideration of the problems of developing countries																																								
	W A Lewis (1915)	UK	Univ. of London	Princeton Univ.			1980	L R Klein (1920)	USA	MIT	Univ. of Pennsylvania	Macroeconometrics	for the creation of econometric models and the application to the analysis of economic fluctuations and economic policy																																	
1980	L R Klein (1920)	USA	MIT	Univ. of Pennsylvania	Macroeconometrics	for the creation of econometric models and the application to the analysis of economic fluctuations and economic policy																																								

BEAUTIFUL MINDS:
THE NOBEL MEMORIAL PRIZE IN ECONOMICS

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Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
1981	J Tobin (1918)	USA	Harvard Univ.	Yale Univ.	Macroeconomics	for his analysis of financial markets and their relations to expenditure decisions, employment, production and prices
1982	G J Stigler (1911)	USA	Univ. of Chicago	Univ. of Chicago	Microeconomics	for his seminal studies of industrial structures, functioning of markets and causes and effects of public regulation
1983	G Debreu (1921)	USA	Univ. of Paris	Univ. of California at Berkeley	Microeconomics	for having incorporated new analytical methods into economic theory and for his rigorous reformulation of the theory of general equilibrium
1984	R Stone (1913)	UK	Univ. of Cambridge	Univ. of Cambridge	Applied economics	for having made fundamental contributions to the development of systems of national accounts and hence greatly improved the basis for empirical economic analysis
1985	F Modigliani (1918)	USA	New School of Social Research, USA	MIT	Macroeconomics	for his pioneering analysis of saving and financial markets
1986	J M Buchanan (1919)	USA	Univ. of Chicago	George Mason Univ.	Public economics	for his development of contractual and constitutional bases for the theory of economic and political decision-making
1987	R M Solow (1924)	USA	Harvard Univ.	MIT	Growth economics	for his contributions to the theory of economic growth

Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
1988	M Allais (1911)	France	Univ. of Paris	Ecole Nationale Supérieure des Mines, France	Microeconomics	for his pioneering contributions to the theory of markets and efficient utilisation of resources
1989	T Haavelmo (1911)	Norway	Univ. of Oslo	Univ. of Oslo	Econometrics	for his clarification of the probability theory foundations of econometrics and his analyses of simultaneous economic structures
1990	H M Markovitz (1927)	USA	Univ. of Chicago	City Univ. of New York	Financial economics	for their pioneering work in the theory of financial economics
	M H Miller (1923)	USA	Johns Hopkins Univ.	Univ. of Chicago		
	W F Sharpe (1934)	USA	Univ. of California, Los Angeles	Stanford Univ.		
1991	R H Coase (1910)	UK	Univ. of London	Univ. of Chicago	Microeconomics	for his discovery and clarification of the significance of transaction costs and property rights for the institutional structure and functioning of the economy
1992	G S Becker (1930)	USA	Univ. of Chicago	Univ. of Chicago	Microeconomics	for having extended the domain of microeconomic analysis to a wide range of human behavior and interaction, including non-market behavior

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Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
1993	R W Fogel (1926)	USA	Johns Hopkins Univ.	Univ. of Chicago	Economic history	for having renewed research in economic history by applying economic theory and quantitative methods in order to explain economic and institutional change
	D C North (1920)	USA	Univ. of California at Berkeley	Washington Univ., St.Louis		
1994	J C Harsanyi (1920)	USA	Univ. of Budapest	Univ. of California at Berkeley	Game theory	for their pioneering analysis of equilibria in the theory of non-cooperative games
	J F Nash (1928)	USA	Princeton Univ.	Princeton Univ.		
	R Selten (1930)	Germany	Univ. of Frankfurt	Rheinische Friedrich-Wilhelms Universität, Bonn		
1995	R E Lucas (1937)	USA	Univ. of Chicago	Univ. of Chicago	Macroeconomics	for having developed and applied the hypothesis of rational expectations, and thereby transformed macroeconomic analysis and deepened our understanding of economic policy
1996	J A Mirrlees (1936)	UK	Univ. of Cambridge	Univ. of Cambridge	Information economics	for their fundamental contributions to the economic theory of incentives under asymmetric information
	W Vickery (1914)	USA	Columbia Univ.	Columbia Univ.		
1997	R C Merton (1944)	USA	MIT	Harvard Univ.	Financial economics	for a new method to determine the value of derivatives
	M S Scholes (1941)	USA	Univ. of Chicago	Stanford Univ.		

Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
1998	A Sen (1933)	India	Univ. of Cambridge	Univ. of Cambridge	Microeconomics	for his contributions to welfare economics
1999	R A Mundell (1932)	Canada	MIT	Columbia Univ.	International economics	for his analysis of monetary and fiscal policy under different exchange rate regimes and his analysis of optimum currency areas
2000	J J Heckman (1944)	USA	Princeton Univ.	Univ. of Chicago	Econometrics	for his development of theory and methods of analyzing selective samples
	D L McFadden (1937)	USA	Univ. of Minnesota	Univ. of California at Berkeley		for his development of theory and methods of analyzing discrete choice
2001	G A Akerlof (1940)	USA	MIT	Univ. of California at Berkeley	Information economics	for their analyses of markets with asymmetric information
	A M Spence (1943)	USA	Harvard Univ.	Stanford Univ.		
	J E Stiglitz (1943)	USA	Columbia Univ.	Columbia Univ.		
2002	D Kahneman (1934)	USA/Israel	Univ. of California at Berkeley	Princeton Univ.	Microeconomics	for having integrated insights from psychological research into economic science, especially concerning human judgement and decision-making under uncertainty
	V L Smith (1927)	USA	Harvard Univ.	George Mason Univ.		
2003	R F Engle (1942)	USA	Cornell Univ.	New York Univ.	Econometrics	for methods of analyzing economic time series with time varying volatility (ARCH)
	C W J Granger (1934)	UK	Univ. of Nottingham	Univ. of California, San Diego		for methods of analyzing economic time series with common trends (cointegration)

Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
2004	FE Kydland (1943)	Norway	Carnegie Mellon Univ.	Carnegie Mellon Univ.	Macroeconomics	for their contributions to dynamic macroeconomics: the time consistency of economic policy and the driving forces behind business cycles
	E C Prescott (1940)	USA	Carnegie Mellon Univ.	Arizona State Univ. /Fed. Reserve Bank of Minneapolis		
2005	R J Aumann (1930)	Israel/USA	MIT	Centre for Rationality, Hebrew Univ. of Jerusalem	Game theory	for having enhanced our understanding of conflict and cooperation through game theory analysis
	T C Schelling (1921)	USA	Harvard Univ.	Univ. of Maryland, College Park		
2006	Edmund Phelps (1933)	USA	Yale Univ.	Columbia Univ.	Macroeconomics	for his analysis of intertemporal tradeoffs in macroeconomic policy
	Leonid Hurwicz (1917)	USA	Warsaw Univ. (LL.M)	Univ. of Minnesota		
2007	Eric Mishkin (1950)	USA	Harvard Univ.	Princeton Univ.	Game theory	For having laid the foundations of mechanism design theory
	Roger Myerson (1951)	USA	Harvard Univ.	Univ. Of Chicago		
2008	Paul Krugman (1953)	USA	MIT	Princeton	International trade	for his analysis of trade patterns and location of economic activity
	Elinor Ostrom (1933)	USA	Univ. of California at Los Angeles	Indiana Univ.		
2009	Oliver E Williamson (1932)	USA	Carnegie Mellon Univ.	Univ. of California at Berkeley	Economic governance	for her analysis of economic governance, especially the commons
		USA				

Annex 1 (Contd...)

Year	Laureate (s)/ Year of birth	Citizenship	Doctoral degree (Univ.)	Affiliation at time of award	Broad area of study	Nobel Prize Citation
2010	Peter Diamond (1940)	USA	MIT	MIT	Labor Economics	for their analysis of markets with search frictions
	Dale T Mortensen (1939)	USA	Carnegie Mellon Univ.	Northwestern Univ.	Labor Economics	
	Christopher Pissarides (1948)	UK/ Cyprus	London School of Econ.	London School of Econ.	Labor Economics	
2011	Thomas Sargent (1943)	USA	Harvard Univ.	New York Univ.	Macroeconometrics	for their empirical research on cause and effect on the macroeconomy
	Christopher Sims (1942)	USA	Harvard Univ.	Princeton Univ.	Macroeconometrics	
2012	Alvin Roth (1951)	USA	Stanford Univ.	Harvard Univ.	Game theory	for the theory of stable allocations and the practice of market design
	Lloyd Shapley (1923)	USA	Princeton Univ.	Univ. of California at Los Angeles	Game theory	
2013	Eugene Fama (1939)	USA	Univ. of Chicago	Univ. of Chicago	Financial economics	for their empirical analysis of asset prices
	Lars P Hansen (1952)	USA	Univ. of Minnesota	Univ. of Chicago	Financial economics	
	Robert Shiller (1946)	USA	MIT	Yale Univ.	Financial economics	