Nobel students beget Nobel professors

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It is unclear whether the hierarchy in the economics profession is the result of the agglomeration of excellence or of nepotism. I construct the professor-student network for laureates of and candidates for the Nobel Prize in Economics. I study the effect of proximity to previous Nobelists on winning the Nobel Prize. Conditional on being Nobel-worthy, students and grandstudents of Nobel laureates are not significantly more or less likely to win. Professors of Nobel Prize winners, however, are significantly more likely to win.

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A Nobel Prize begets Nobel Prizes, or so the story goes. The departmental, collegial and personal concentration of winners of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel is extraordinary (Tol, 2022). This can be seen as clusters of quality: The best professors come together in the best schools (Ellison, 2013), inspire, teach and stimulate each other (Azoulay, Zivin and Wang, 2010; Borjas and Doran, 2012; Bosquet and Combes, 2017; Oyer, 2006), select the best students (Athey et al., 2007), and train them well Jones and Sloan (2021). But it can also be seen through the lens of nepotism (Combes, Linnemer and Visser, 2003; Laband and Piette, 1994; Medoff, 2003; Carrell, Figlio and Lusher, 2022). The Prize Committee solicits nominations from a randomly selected sample of professors of economics and all living Laureates (Zuckerman, 1996), who may put their proteges forward. Economist Data Team (2021) finds that "[t]he best way to win a Nobel is to get nominated by another laureate". That conclusion relies on archival research, which cannot be done for economics as deliberations remain confidential for 50 years. I instead rely on network theory.

Tol (2022) builds the network of professor-student relations for the Nobel laureates in economics. There are only four graphs: Pissarides has his own family tree, as do Frisch and Haavelmo, and Allais and Debreu. All other Nobelists are related to one another, sometimes distantly, more often closely. Esther Duflo is a good example: All three of her professors won the Nobel Prize, as have two of her four grand-professors, one great-grand-professor, one great-great-grand-professor,
and one great-great-grand-professor. Duflo also illustrates that close familial ties\footnote{she is also married to a Nobelist} did not stop her from revolutionizing economic methodology. Clustering does not stop innovation.

Besides data on the Nobelists, I also collect data on the candidates for the Nobel Prize—those economists who have published papers that are highly-cited in economics journals—and connect them, if possible, to the Nobel family tree. This allows me to test whether well-connected candidates are more likely to win than less-connected ones.

The main contribution of this paper is to show that, conditional on having produced Nobel-worthy research, having a Nobelist as a professor does not affect the probability of winning the Nobel prize, although (s)he may win it sooner. However, having a Nobelist as a student significantly and substantially increases the probability of winning.

A minor contribution is as follows. Statistical inference on a network is difficult because network measures, such as centrality, are descriptive statistics of the population. Changes in a network, on the other hand, can be analyzed statistically using existing methods. The network of Nobelists has changed once a year since 1970. It could have changed in many different ways but it changed in one particular way. That is, changes in a network can be analyzed using standard selection models.

The paper proceeds as follows. Section I discusses the data and methods used. Section II presents the results. Section III concludes.

I. Data and methods

A. Data

The Nobel network documents, for the most part, the relationships between PhD advisers and candidates. However, PhDs are not standardized today and variation was greater in the past. The network therefore also includes more general mentor-mentee or professor-student relations. Tol (2022) describes in greater detail how these data were collected, including the uncertainties where relationships were unclear. Up to 15 generations are included. Christian Haussen, Christian Heyne, August Schlegel and Pierre Varignon are the common ancestors who connect 82 of the 87 Nobelists. These are not household names. Indeed, none of the Classical economists we find in textbooks appear in the network, and only two of the renowned neo-Classicists (Menger and Marshall, the latter, ironically, via Keynes). Tol (2022) finds that Karl Knies, who taught John Bates Clark, Eugen Böhn von Bawerk, Richard Ely, and Edwin Seligman, among others, is the central-most professor, followed by Wassily Leontief, the professor of Paul Samuelson, Thomas Schelling, Vernon Smith, Robert Solow, and others. Knies’ central role is perhaps surprising. He was a member of the Historical School,
arguing that economics should be an empirical science just as it turned to theory.\(^3\) But while the intellectual foundations of economics lie in Great Britain, the roots for training research economists lie in Germany. Young Americans aspiring to be economists saw Knies as the man to help them meet that ambition and they passed the lessons learned to the next generation.

Nobel laureates are readily identified. Nobel candidates are not. There is much speculation about what it takes to win. A necessary condition is to have shaped or created a substantial field of economics, to have opened a new line of inquiry, either thematically or methodologically. This is operationalized by citations in the economics literature, which typically measure in the tens of thousands, concentrated on a few seminal papers. Clarivate’s Citation Laureates meet these criteria and indeed many Citation Laureates later won the Nobel prize.

Clarivate’s list is arguably incomplete. Cross-checking with the IDEAS/RePEc list of most cited papers, I added Tim Bollerslev. Cross-checking with the IDEAS/RePEc list of highly cited authors, I added Andrei Shleifer, Daron Acemoglu, John Campbell and Robert Vishny.\(^4\) I added Alvin Hansen, Harold Hotelling, Frank Knight, Abba Lerner, Ludwig von Mises and Oskar Morgenstern, who all died too soon to make it onto any recent lists but would have been worthy. I added Sanford Grossman as a John Bates Clark medalist who saw the co-authors of his most-cited papers win the Nobel prize for something else.\(^5\) Fischer Black would have shared Myron Scholes’s Nobel Prize, and Jean-Jacques Laffont Jean Tirole’s had they lived long enough. Although David Kreps is a Clarivate Citation Laureate, Evan Porteus is not. Michael Jensen is a Citation Laureate, but co-author William Meckling passed too soon for that honor. I further added Guillermo Calvo, Lionel McKenzie, Jacob Mincer and Henri Theil for their work on sticky prices, general equilibrium, labour, and two-stage least squares, respectively. I also added Francine Blau, Ester Boserup, Edith Penrose and Joan Robinson for their work on inequality, development, firms, and capital, respectively. The full list of candidates and Nobelists is given in Table 1 in the Appendix.

As with the Nobel laureates, I collected information about their ancestry from the Academic Tree. If there was no entry, I checked RePEc Genealogy, Mathematics Genealogy, Wikipedia, CVs, and published theses. If all that failed, I wrote to the candidate or a close associate. I added the information thus collected to the Academic Tree. The data were transferred to Matlab for visualization and analysis. Code and data are available on GitHub.

For every Laureate and candidate, I collected year of birth, year of death (if appropriate), the year of winning, gender, alma mater, and one-digit JEL classifier.

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\(^3\) Knies would have delighted in the work of Angrist, Card and Duflo, who are his academic descendants.

\(^4\) I did not use the rankings of Research.com and Google Scholar, because both platforms have issues with citation counts and identification of scholars.

\(^5\) There is an unwritten convention that economists can win only one Nobel prize. John Bardeen won the Nobel Prize in physics twice, Frederick Singer won twice in chemistry, and Marie Sklodowska Curie won physics and chemistry.
using Wikipedia as the main source of information. The long list of candidates and Laureates is turned into a short-list of candidates for each year when they (i) are alive, (ii) are over 40, and (iii) have not yet won. This then implies a zero-one variable for people who could have won (0) and people who did (1) for every year from 1970 to 2021. 1969 is excluded because no one had any connection to a previous Nobelist.\footnote{Jan Tinbergen was the student and grandstudent of two prominent physicists, Ehrenfest and Boltzmann, who did not win the Nobel prize, however. Tjalling Koopmans, on the other hand, has three Nobel laureates in physics (Bohr, Thomson, Strutt) and one in chemistry (Rutherford) in his ancestry and, of course, one in economics (Tinbergen). Daniel Kahneman is a distant descendant from a medicine laureate (Sherrington).}

The variable of interest is the proximity (defined below) of the candidates in year $t$ to the Nobelists of years $s < t$. I distinguish between the proximity to academic ancestors and descendants. For ancestors, I further distinguish between recent and earlier laureates, and between living and dead professors.

### B. Methods

The network of professor-student relationships can be represented by a graph, more specifically, a directed acyclic graph or a polytree. The distance from a node $i$ in a graph to the rest of this graph can be measured by the Hölder mean

$$D_{i,t}(h) = \left( \frac{1}{N_t} \sum_{j \in Nobel} D_{j,i,t}^h \right)^{\frac{1}{h}}$$

where $D_{j,i}$ is the distance from node $i$ to any node $j$, that is, the number of edges between the $i$ and $j$. As the interest is in Nobel ancestry, attention is restricted to the distance to Nobelists. $N_t$ is therefore the number of previous winners of the Nobel Prize at time $t$.

It is common to set $h = 1$. The Hölder mean is then the familiar arithmetic mean. However, $D_{i,t}(1) = \infty$ unless scholar $i$ descends from all previous Nobelists. There is no such scholar.

For $h = -1$, the Hölder mean is the harmonic mean, which is bounded if some nodes in the network cannot be reached. In other words, the harmonic mean applies to connected as well as unconnected subgraphs: For unreachable nodes $D_{j,i} = \infty$ so $1/D_{j,i} = 0$. Marchiori and Latora (2000) propose this as a measure of distance.

For ease of interpretation, I follow Gil-Mendieta and Schmidt (1996), who propose the inverse of the harmonic mean as a measure of closeness $C_{i,t}(p) = D_{i,t}(h)^{-1}$. Scholars who have no Nobelists in their ancestry score 0; the score increases with more and more proximate Nobel laureates. This is an outcloseness measure. Outcloseness on a polytree measures ancestry. According to this measure, two students of the same Nobelist are both close to their professor, but not to each other (see below).
Recall that I do not use the proximity to all nodes, but only to the Nobel ones. In Equation (1), \( N \) is the number of Nobelists and \( j \) sums over them. Concretely, therefore, a candidate receives one point for every professor who won the Nobel Prize, half a point for every grandprofessor who did, a third of a point for every Nobel great-grandprofessor, and so on, and zero points for academic ancestors who are not laureates. The total number of points is then divided by the total number of laureates.

The harmonic mean distance emphasizes proximity at the expense of distal relationships: Consider a student with one Nobel professor (distance 1) and one Nobel great-grandprofessor (distance 3). The arithmetic mean distance is 2, the harmonic mean distance is 1.5. That is, the harmonic mean is skewed towards closer relationships. As a sensitivity check, I also consider \( h = -0.5 \) and \( h = -2 \). Proximity is defined as long as \( h < 0 \). As \( h \) gets smaller, greater emphasis is placed on closer ties.

I also compute an incloseness measure, replacing \( D_{j,i} \) by \( D_{i,j} \) in Equation (1). This measures the distance to Nobel students.

Besides outcloseness (ancestry) and incloseness (descent) I also measure horizontal closeness. Students of the same professor (academic siblings) score 1, those with a shared grandprofessor (academic cousins) score 2, and so on. One shared professor counts the same as two or more shared professors. I take the minimum of this measure, so one shared professor counts the same as one shared professor and, via two non-shared professors, one shared grandprofessor.

As the number of Nobel laureates grows over time, proximity to Nobelists is a non-stationary measure. I therefore scale \( C_{i,t} \) by \( \max_i C_{i,t} \). Proximity is thus replaced by relative proximity, where the closest candidate in any year scores one and all others score less than that.

## II. Results

Table 1 shows the results of eight regressions. The dependent variable is zero-one, so I use logit and probit. I estimate the model with and without year fixed effects, with and without fixed effects for the alma mater, and with and without field fixed effects. I treat all previous Nobelists equally (see below). In all eight specifications, the proximity to Nobel students is significant and positive. That is, conditional on being a candidate for the Nobel prize, the probability of winning increases if your students have won before you. This pattern started early: Leontief won after his student Samuelson, Hayek after his student Hicks. It continues today. Wilson won after his students Holmström and Roth (and together with a third student, Milgrom; Arrow, Solow and Samuelson also have three Nobel students, Leontief has four.) Angrist (Card) won after his (grand)student Duflo. One possible explanation is that the surge of interest that accompanies a Nobel Prize leads to a re-appreciation of the foundations on which that work was built.

Figure 1 shows the predicted probability of winning the Nobel prize, using the logit model with year fixed effects, as a function of the relative proximity to Nobel
students. The effect size is substantial. Those candidates without Nobel students have a predicted annual win probability of 7% or less. This probability is over 30% for those who are closest to Nobel descendants, more than a fourfold increase.

Distance to Nobel professors is positive but insignificant: Students of Nobel laureates are not more likely to win.

The inclusion of fixed effects for the *alma mater* does not change the results in a meaningful way. Observations are dropped because some universities have candidates but no winners. Most of the dummy variables for the remaining universities are statistically insignificant. Yale has a negative coefficient, with a p-value of 2.1% (logit) or 2.6% (probit).

Field fixed effects again leave the main results unaffected. The only significant dummy is for JEL-code O–Economic Development and Growth. Researchers in this field are significantly more likely to win the Nobel Prize, conditional on being a candidate.

Table 1 also includes a gender dummy. Female candidates are less likely to win than male candidates, but this effect is insignificant, except when *alma mater* fixed effects are included. It is only weakly significant in that case. Although there are claims to the contrary, women are not discriminated against in this regard.

Table 2 sheds some light on the mechanism. Proximity to Nobel professors remains positive but insignificant when I distinguish between living and deceased professors. The effect size is larger for deceased professors. (Don’t get any ideas, guys!) This argues against the explanation that it is nominations of previous Laureates that make you win the Nobel Prize. Rather, it takes time for a brilliant paper to prove itself, to have demonstrably revolutionized a substantial part of the profession, a necessary condition for winning the Nobel Prize. Therefore, people tend to win later in life, increasing the probability that their PhD advisor has passed. The effect is weak, however. The same results is found when I split distance to Nobel professors between those who won in the last decade and those who won more than 10 years ago. The impact of older Nobel professors is weakly significant, the impact of more recent laureates is insignificant.

It may be that nominations by Nobel students are important. However, no one has won the Nobel Prize after a student has won and died, and professors win within 10 years of their Nobel students. I therefore cannot test this hypothesis.

Table 3 varies the parameter \( h \) in Equation (1). The middle columns have \( h = -1 \) as in the other tables. In the left columns, \( h = -0.5 \) so that weight is shifted to more distant relationships. Coefficients are no longer statistically significantly different from zero. In the right columns, \( h = -2 \) so that more emphasis is placed on closer relationships. The impact of proximity to Nobel professors is not significant whereas the effect of Nobel students is. The result for students is in line with casual observations: No one has won the Nobel Prize after a grandstudent did. The result for professors underlines a key result: Nobel ancestry is unimportant.
The right-most column of Table 3 adds proximity to academic siblings who previously won the Nobel prize. This is significant at the 10% level. Inclusion does not affect the estimates for proximity to Nobel students but the estimated coefficient for Nobel professors shrinks while its p-value grows. This suggests that there are clusters of excellence around some professors, only some of whom are Nobel laureates themselves. The evidence is weak, however.

Table 4 restricts the number of candidates, first by excluding the candidates identified by me and denoted as “ad hoc” in Table 1, and then by excluding those as well as the candidates found at IDEAS/RePEc. Fewer candidates mean that the average probability of winning goes up. It does materially affect the results. Effect size and significance are almost the same in the limited samples as in the full sample.

Table 4 also shows a regression with individual fixed effects. Here, all the (hitherto) unsuccessful candidates are dropped from the regression, as the fixed effect perfectly predicts their lack of success. Proximity to Nobel students is highly significant, proximity to Nobel professors weakly so. As this regression only contains the winners, the positive coefficient on proximity thus means that you win sooner if you have a Nobel laureate as your student.

I did not include more control variables. Including a quality indicator, such as the number or concentration of citations, would just confirm that all candidates are Nobel-worthy—the Nobel prize is not handed out mechanically. Designing a quality indicator that is robust over five decades and across subdisciplines is not easy and not attempted here. Some commentators discern a pattern through which different parts of the profession get awarded on the basis of a pre-determined rota. There is undoubtedly some of that going on. Last year’s runner-up would be this year’s favourite. Subfields or schools that feel overlooked may be more eager to submit nominations. Pigeon-holing candidates is subjective and difficult, particularly since Nobelists tend to win for having broken the mold. Discerning the preferences of the members of selection committee is harder still, let alone the dynamics of the discussions within the committee, the composition of which changes over time. Documenting the sympathies and antipathies that increase and decrease the chance of winning is almost impossible.

III. Discussion and conclusion

I test whether academic relations of previous laureates are more likely to win the Nobel memorial prize in economics. Conditional on being a candidate, the professors of Nobelists are more likely to win but the impact on their students is insignificant. The impact of Nobel professors remains insignificant if the sample is

7The same would happen if the data were seen as a panel.
8If that is what they do. I used my first spell as a nominator to argue for Thomas Schelling. I am using my second spell to argue for Anne Krueger. The Nobel laureates closest to my own research are William Nordhaus and Robert Wilson.
9For instance, it may seem peculiar that there is a Nobel prize for discrete choice but not for two-stage least squares, a method that is used more widely. It is not peculiar for those who know.
limited to recent winners or living winners, and if the distance measure emphasizes close relationships. There is no evidence of successful lobbying of Nobelists on behalf of their students. However, Nobelists lobbying for their professors cannot be excluded. In sum, your best bet to win a Nobel prize is to make sure your students win one first.

There are three big gaps in this research. A study of the archives of the Nobel committee would shed more light on nominations, discussions, and group dynamics. Unfortunately, most of these archives are sealed. It will take a few more decades before a sufficiently large sample is available for study. The second gap is that the network used is the network of formal advisory relationships. Informal mentoring is just as important but hard to document for people who did not leave an autobiography, extensive correspondence, or in-depth interviews.

The third, and arguably most important gap is the candidacy. The results above are all conditional on having established a track record that is Nobel-worthy. The current paper is silent on the question how to become Nobel-worthy. It is an open question how the networks of Nobel candidates differ from other economists—particularly to what extent excellent people group together and how social dynamics propel researchers to new heights.

These issues are postponed to future research. For know, as Graham Nash wrote, teach your children well, it may win you a Nobel prize.
Figure 1. Probability, conditional on being a candidate, of winning the Nobel prize in economics as a function of the relative proximity to a previously enNoBeled student.

Note: Predicted probability according to the logit model with year fixed effects. See Table 1.
Table 1—Probability of winning the Nobel Prize with alternative fixed effects.

|                          | Logit | Probit | Logit | Probit | Logit | Probit | Logit | Probit |
|--------------------------|-------|--------|-------|--------|-------|--------|-------|--------|
| Female                   | -1.015| -0.387 | -1.032| -0.411 | -1.705| -0.697 | -1.039| -1.039 |
|                          | (-1.41)| (-1.49)| (-1.43)| (-1.54)| (-2.11)| (-2.13)| (-1.39)| (-1.39)|
| Proximity to Nobel professors | 0.575 | 0.244  | 0.598 | 0.243  | 0.567 | 0.207  | 0.511 | 0.511  |
|                          | (1.49) | (1.44) | (1.45) | (1.40) | (1.12) | (0.99) | (1.15) | (1.15)  |
| Proximity to Nobel students | 3.322***| 1.816***| 3.713***| 1.885***| 5.017**| 2.342**| 3.858***| 3.858***|
|                          | (4.19) | (4.08) | (3.54) | (3.76) | (3.26) | (3.12) | (3.35) | (3.35)  |
| Year fixed effects       | No    | No     | Yes   | Yes    | Yes   | Yes    | Yes   | Yes    |
| Alma mater fixed effects | No    | No     | No    | No     | Yes   | Yes    | No    | No     |
| Field fixed effects      | No    | No     | No    | No     | No    | Yes    | Yes   | Yes    |
| Individual fixed effects | No    | No     | No    | No     | No    | No     | No    | No     |
| Observations             | 4508  | 4508   | 4508  | 4508   | 3975  | 3975   | 4460  | 4460   |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 2—Probability of winning the Nobel Prize for different types of Nobelists.

|                        | Logit | Probit | Logit | Probit | Logit | Probit |
|------------------------|-------|--------|-------|--------|-------|--------|
| Female                 | -1.032| -0.411 | -1.033| -0.408 | -1.033| -0.408 |
|                        | (-1.43)| (-1.54)| (-1.43)| (-1.53)| (-1.43)| (-1.53)|
| Proximity to Nobel students | 3.713*** | 1.885*** | 3.592*** | 1.833*** | 3.592*** | 1.833*** |
|                        | (3.54) | (3.76) | (3.43) | (3.64) | (3.43) | (3.64) |
| Proximity to Nobel professors | 0.598 | 0.243  | (1.45) | (1.40) |
| Proximity to deceased Nobel professors | 0.955* | 0.417*  | (2.07) | (2.04) |
| Proximity to living Nobel professors | 0.208 | 0.0820 | (0.50) | (0.48) |
| Proximity to earlier enNobeled professors | 0.955* | 0.417*  | (2.07) | (2.04) |
| Proximity to recently enNobeled professors | 0.208 | 0.0820 | (0.50) | (0.48) |

| Year fixed effect       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Alma mater fixed effects | No    | No    | No    | No    | No    | No    |
| Field fixed effects     | No    | No    | No    | No    | No    | No    |
| Individual fixed effects| No    | No    | No    | No    | No    | No    |
| Observations            | 4508  | 4508  | 4508  | 4508  | 4508  | 4508  |

$t$ statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Table 3—Probability of winning the Nobel Prize for alternative measures of distance.

|                              | $p = -0.5$ | $p = -1$ | $p = -2$ | $p = -3$ |
|------------------------------|------------|----------|----------|----------|
|                              | Logit      | Probit   | Logit    | Probit   | Logit    | Probit   |
| female                       |            |          |          |          |          |          |
|                              | $-1.099$   | $-0.439$ | $-1.032$ | $-0.411$ | $-0.953$ | $-0.375$ |
|                              | $(-1.53)$  | $(-1.65)$| $(-1.43)$| $(-1.54)$| $(-1.32)$| $(-1.41)$|
| Proximity to Nobel professors| 0.234      | 0.101    | 0.598    | 0.243    | 0.568    | 0.228    |
|                              | $(0.41)$   | $(0.42)$ | $(1.45)$ | $(1.40)$ | $(1.70)$ | $(1.64)$ |
| Proximity to Nobel students  | 1.822      | 0.958    | 3.713*** | 1.885*** | 3.869*** | 1.852*** |
|                              | $(1.09)$   | $(1.14)$ | $(3.54)$ | $(3.76)$ | $(5.94)$ | $(5.55)$ |
| Proximity to Nobel siblings  | 1.131*     | 0.500*   | 1.890*** | 3.755*** | 1.860*** | 3.777*** |
|                              | $(2.48)$   | $(2.54)$ |          |          |          |          |

Year fixed effects: Yes Yes Yes Yes Yes Yes Yes Yes
Alma mater fixed effects: No No No No No No No No
Field fixed effects: No No No No No No No No
Individual fixed effects: No No No No No No No No
Observations: 4508 4508 4508 4508 4508 4508 4508 4508

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$
Table 4—Probability of winning the Nobel Prize for alternative sets of candidates.

|                      | all         | without ad hoc | without IDEAS/RePEc | Nobelists only |
|----------------------|-------------|----------------|---------------------|----------------|
|                      | Logit       | Probit         | Logit               | Probit         |
| Female               | -1.032 (-1.43) | -0.411 (-1.54) | -0.777 (-1.08)     | -0.318 (-1.15) | -0.813 (-1.13) | -0.336 (-1.21) | 8.228 (1.82) | 3.252 (1.92) |
| Proximity to Nobel professors | 0.598 (1.45)   | 0.243 (1.40)   | 0.529 (1.29)       | 0.218 (1.25)   | 0.617 (1.52)   | 0.254 (1.46)   | 2.671* (2.16) | 1.253* (2.20) |
| Proximity to Nobel students | 3.713*** (3.54) | 1.885*** (3.76) | 3.511*** (3.35)    | 1.803*** (3.57) | 3.506*** (3.36) | 1.793*** (3.55) | 10.94** (2.60) | 5.027** (3.17) |

Year fixed effect: Yes/No
Alma mater fixed effects: No/Yes
Field fixed effects: No/Yes
Individual fixed effects: No/Yes
Observations: 4508/4508/4091/4091/3989/3989/1827/1827

* p < 0.05, ** p < 0.01, *** p < 0.001

$t$ statistics in parentheses
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Table 1—: Nobel laureates and candidates.

| ID | name             | birth | death | won | alma mater | JEL | source |
|----|------------------|-------|-------|-----|------------|-----|--------|
| 1  | Ragnar Frisch    | 1895  | 1973  | 1969| Oslo       | E   | -      |
| 2  | Jan Tinbergen    | 1903  | 1994  | 1969| Leiden     | E   | -      |
| 3  | Paul Samuelson   | 1915  | 2009  | 1970| Harvard    | C   | -      |
| 4  | Simon Kuznets    | 1901  | 1985  | 1971| Columbia   | O   | -      |
| 5  | John Hicks       | 1904  | 1989  | 1972| Oxford     | C   | -      |
| 6  | Kenneth Arrow    | 1921  | 2017  | 1972| Columbia   | D   | -      |
| 7  | Wassily Leontief | 1905  | 1999  | 1973| Berlin     | C   | -      |
| 8  | Gunnar Myrdal    | 1898  | 1987  | 1974| Stockholm  | E   | -      |
| 9  | Friedrich Hayek  | 1899  | 1992  | 1974| Vienna     | P   | -      |
| 10 | Tjalling Koopmans| 1910  | 1985  | 1975| Leiden     | C   | -      |
| 11 | Leonid Kantorovich| 1912 | 1986  | 1975| Leningrad  | C   | -      |
| 12 | Milton Friedman  | 1912  | 2006  | 1976| Columbia   | E   | -      |
| 13 | Bertil Ohlin     | 1899  | 1979  | 1977| Stockholm  | F   | -      |
| 14 | James Meade      | 1907  | 1995  | 1977| Cambridge  | F   | -      |
| 15 | Herbert Simon    | 1916  | 2001  | 1978| Chicago    | L   | -      |
| 16 | Theodore Schultz | 1902  | 1998  | 1979| Wisconsin  | O   | -      |
| 17 | Arthur Lewis     | 1915  | 1991  | 1979| LSE        | O   | -      |
| 18 | Lawrence Klein   | 1910  | 2013  | 1980| MIT        | C   | -      |
| 19 | James Tobin      | 1918  | 2002  | 1981| Harvard    | G   | -      |
| 20 | George Stigler   | 1911  | 1991  | 1982| Chicago    | D   | -      |
| 21 | Gerard Debreu    | 1921  | 2004  | 1983| Paris      | D   | -      |
| 22 | Richard Stone    | 1913  | 1991  | 1984| Cambridge  | E   | -      |
| 23 | Franco Modigliani | 1918 | 2003  | 1985| New School | G   | -      |
| 24 | James Buchanan   | 1919  | 2013  | 1986| Chicago    | H   | -      |
| 25 | Robert Solow     | 1924  | 1987  | 1990| Johns Hopkins | G   | -      |
| 26 | Maurice Allais   | 1911  | 2010  | 1988| Paris      | D   | -      |
| 27 | Trygve Haavelmo  | 1911  | 1999  | 1989| Oslo       | C   | -      |
| 28 | Merton Miller    | 1923  | 2000  | 1990| Johns Hopkins | G   | -      |
| 29 | Harry Markowitz  | 1927  | 1990  | 1990| Chicago    | G   | -      |
| 30 | William Sharpe   | 1934  | 1990  | 1990| Los Angeles | G   | -      |
| 31 | Ronald Coase     | 1910  | 2013  | 1991| LSE        | K   | -      |
| 32 | Gary Becker      | 1930  | 2014  | 1992| Chicago    | D   | -      |
| 33 | Douglas North    | 1920  | 2015  | 1993| Berkeley   | N   | -      |
| 34 | Robert Fogel     | 1926  | 2013  | 1993| Johns Hopkins | N   | -      |
| 35 | John Harsanyi    | 1920  | 2000  | 1994| Stanford   | C   | -      |
| 36 | John Nash        | 1928  | 2015  | 1994| Princeton  | C   | -      |
| 37 | Reinhard Selten  | 1930  | 2016  | 1994| Frankfurt  | C   | -      |
| 38 | Robert Lucas     | 1937  | 1995  | 1996| Chicago    | E   | -      |
| 39 | William Vickrey  | 1914  | 1996  | 1996| Columbia   | D   | -      |

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Table 1 – continued from previous page

| ID  | name           | birth | death | won  | alma mater | JEL | source |
|-----|----------------|-------|-------|------|------------|-----|--------|
| 40  | James Mirrlees | 1936  | 2018  | 1996 | Cambridge  | D   | -      |
| 41  | Myron Scholes  | 1941  | 1997  | Chicago | G  | -      |
| 42  | Robert Merton   | 1944  | 1997  | MIT  | G   | -      |
| 43  | Amartya Sen     | 1933  | 1998  | Cambridge | D  | -      |
| 44  | Robert Mundell  | 1932  | 2021  | 1999 | MIT       | E   | -      |
| 45  | Daniel McFadden | 1937  | 2000  | Minnesota | C  | -      |
| 46  | James Heckman   | 1944  | 2000  | Princeton | C  | -      |
| 47  | George Akerlof  | 1940  | 2001  | MIT  | D   | -      |
| 48  | Michael Spence  | 1943  | 2001  | Harvard | D  | -      |
| 49  | Joseph Stiglitz | 1943  | 2001  | MIT  | D   | -      |
| 50  | Vernon Smith    | 1927  | 2002  | Harvard | D  | -      |
| 51  | Daniel Kahneman | 1934  | 2002  | Berkeley | D  | -      |
| 52  | Clive Granger   | 1934  | 2009  | 2003 | Nottingham | C  | -      |
| 53  | Robert Engle    | 1942  | 2003  | Cornell | C  | -      |
| 54  | Edward Prescott | 1940  | 2004  | Carnegie Mellon | E  | -      |
| 55  | Finn Kydland    | 1943  | 2004  | Carnegie Mellon | E  | -      |
| 56  | Thomas Schelling| 1921  | 2016  | 2005 | Harvard    | C   | -      |
| 57  | Robert Aumann   | 1930  | 2005  | MIT  | C   | -      |
| 58  | Edmund Phelps   | 1933  | 2006  | Yale  | E   | -      |
| 59  | Leonid Hurwicz  | 1917  | 2008  | 2007 | LSE       | D   | -      |
| 60  | Eric Maskin     | 1950  | 2007  | Harvard | D  | -      |
| 61  | Roger Myerson   | 1951  | 2007  | Harvard | D  | -      |
| 62  | Paul Krugman    | 1953  | 2008  | MIT  | F   | -      |
| 63  | Oliver Williamson| 1932 | 2020  | 2009 | Carnegie Mellon | H  | -      |
| 64  | Elinor Ostrom   | 1933  | 2012  | 2009 | Los Angeles | Q  | -      |
| 65  | Dale Mortensen  | 1939  | 2014  | 2010 | Carnegie Mellon | D  | -      |
| 66  | Peter Diamond   | 1940  | 2010  | MIT  | D   | -      |
| 67  | Christopher Pissarides | 1948   | 2010  | LSE  | D  | -      |
| 68  | Christopher Sims| 1942  | 2011  | Harvard | M  | -      |
| 69  | Thomas Sargent  | 1943  | 2011  | Harvard | M  | -      |
| 70  | Lloyd Shapley   | 1923  | 2016  | 2012 | Princeton | C  | -      |
| 71  | Alvin Roth      | 1951  | 2012  | Stanford | D  | -      |
| 72  | Eugene Fama     | 1939  | 2013  | Chicago | G  | -      |
| 73  | Robert Shiller  | 1946  | 2013  | MIT   | F   | -      |
| 74  | Lars Peter Hansen| 1952 | 2013  | Minnesota | F  | -      |
| 75  | Jean Tirole     | 1953  | 2014  | MIT   | L   | -      |
| 76  | Angus Deaton    | 1945  | 2015  | Cambridge | I  | -      |
| 77  | Oliver Hart     | 1948  | 2016  | Princeton | D  | -      |
| 78  | Bengt Holmstrom | 1949  | 2016  | Stanford | D  | -      |
| 79  | Richard Thaler  | 1945  | 2017  | Rochester | D  | -      |

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| ID | name            | birth | death | won  | alma mater | JEL | source |
|----|----------------|-------|-------|------|------------|-----|--------|
| 80 | William Nordhaus | 1941  | 2018  | MIT  | Q          | -   |        |
| 81 | Paul Romer      | 1955  | 2018  | Chicago | O      | -   |        |
| 82 | Abhijit Banerjee | 1961  | 2019  | Harvard | O      | -   |        |
| 83 | Michael Kremer  | 1964  | 2019  | Harvard | O      | -   |        |
| 84 | Esther Duflo    | 1972  | 2019  | MIT   | O      | -   |        |
| 85 | Robert Wilson   | 1937  | 2020  | Harvard | D      | -   |        |
| 86 | Paul Milgrom    | 1948  | 2020  | Stanford | D      | -   |        |
| 87 | David Card      | 1956  | 2021  | Princeton | J      | -   |        |
| 88 | Joshua Angrist  | 1960  | 2021  | Princeton | C      | -   |        |
| 89 | Guido Imbens    | 1963  | 2021  | Brown  | C      | -   |        |
| 90 | Ludwig von Mises| 1881  | 1973  | Vienna | P      | Clarivate |
| 91 | Frank Knight    | 1882  | 1972  | Cornell | D      | Clarivate |
| 92 | Alvin Hansen    | 1887  | 1975  | Wisconsin | E      | ad hoc |
| 93 | Harold Hotelling| 1895  | 1973  | Princeton | C      | Clarivate |
| 94 | Oskar Morgenstern| 1902 | 1977  | Vienna  | D      | ad hOC |
| 95 | Abba Lerner     | 1903  | 1982  | LSE    | D      | ad hOC |
| 96 | Joan Robinson   | 1903  | 1983  | Cambridge | E      | Clarivate |
| 97 | Ester Boserup    | 1910  | 1999  | Copenhagen | O      | ad hOC |
| 98 | Edith Penrose   | 1914  | 1996  | Johns Hopkins | M      | ad hOC |
| 99 | Lionel McKenzie | 1919  | 2010  | Princeton | D      | ad hOC |
|100 | William Baumol   | 1922  | 2017  | LSE    |        | Clarivate |
|101 | Gordon Tullock   | 1922  | 2014  | Chicago | K      | Clarivate |
|102 | William Meckling | 1922  | 1998  | Chicago | G      | ad hOC |
|103 | Jacob Mincer     | 1922  | 2006  | Columbia | J      | ad hOC |
|104 | Henri Theil      | 1924  | 2000  | Utrecht | C      | ad hOC |
|105 | Harold Demsetz   | 1930  | 2019  | Northwestern | K      | Clarivate |
|106 | Israel Kirzner   | 1930  | 2019  | New York | L      | Clarivate |
|107 | Wayne Fuller     | 1931  |       | Iowa   | C      | Clarivate |
|108 | Dale Jorgenson   | 1933  | 2022  | Harvard | E      | Clarivate |
|109 | Jagdish Bhagwati| 1934  |       | MIT    | F      | Clarivate |
|110 | Anne Krueger     | 1934  |       | Wisconsin | H      | Clarivate |
|111 | Amos Tversky     | 1937  | 1996  | Michigan | D      | ad hOC |
|112 | Fischer Black    | 1938  | 1995  | Harvard | G      | ad hOC |
|113 | Martin Feldstein | 1939  | 2019  | Oxford  | E      | Clarivate |
|114 | Michael Jensen   | 1939  |       | Chicago | G      | Clarivate |
|115 | Soren Johansen   | 1939  |       | Copenhagen | C      | Clarivate |
|116 | Richard Posner   | 1939  |       | Harvard | K      | Clarivate |
|117 | Sam Peltzman     | 1940  |       | Chicago | H      | Clarivate |
|118 | Stewart Myers    | 1940  |       | Stanford | G      | Clarivate |
|119 | Guillermo Calvo  | 1941  |       | Yale    | E      | ad hOC |

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| ID | name            | birth | death | won  | alma mater  | JEL | source |
|----|----------------|-------|-------|------|-------------|-----|--------|
| 120| Evan Porteus    | 1942  |       |      | Case        | D   | ad hoc |
| 121| Martin Weitzman | 1942  | 2019  |      | MIT         | Q   | Clarivate |
| 122| Robert Hall     | 1943  |       |      | MIT         | E   | Clarivate |
| 123| Mark Granovetter| 1943  |       |      | Harvard     | D   | Clarivate |
| 124| Katarina Juselius| 1943  |       |      | Helsinki    | C   | Clarivate |
| 125| Robert Barro    | 1944  |       |      | Harvard     | E   | Clarivate |
| 126| Avinash Dixit   | 1944  |       |      | MIT         | D   | Clarivate |
| 127| David Hendry    | 1944  |       |      | LSE         | C   | Clarivate |
| 128| Stephen Ross    | 1944  | 2017  |      | Harvard     | G   | Clarivate |
| 129| Anthony Atkinson| 1944  | 2017  |      | Cambridge   | D   | Clarivate |
| 130| Brian Arthur    | 1945  |       |      | Michigan    | D   | Clarivate |
| 131| David Dickey    | 1945  |       |      | Iowa        | C   | Clarivate |
| 132| Jerry Hausman   | 1946  |       |      | Oxford      | C   | Clarivate |
| 133| Elhanan Helpman | 1946  |       |      | Harvard     | F   | Clarivate |
| 134| Hashem Pesaran  | 1946  |       |      | Cambridge   | C   | Clarivate |
| 135| John Taylor     | 1946  |       |      | Stanford    | E   | Clarivate |
| 136| Claudia Goldin  | 1946  |       |      | Chicago     | J   | Clarivate |
| 137| Francine Blau   | 1946  |       |      | Harvard     | J   | ad hoc |
| 138| Joel Mokyr      | 1946  |       |      | Yale        | N   | Clarivate |
| 139| Jean-Jacques Laffont | 1947 | 2004 |      | Harvard     | L   | ad hoc |
| 140| Edward Lazear   | 1948  | 2020  |      | Harvard     | J   | Clarivate |
| 141| Olivier Blanchard | 1948 |      |      | MIT         | E   | Clarivate |
| 142| Peter Phillips  | 1948  |       |      | LSE         | C   | Clarivate |
| 143| Charles Manski  | 1948  |       |      | MIT         | C   | Clarivate |
| 144| David Teece     | 1948  |       |      | Pennsylvania| L   | Clarivate |
| 145| Ariel Pakes     | 1949  |       |      | Stanford    | C   | Clarivate |
| 146| David Kreps     | 1950  |       |      | Stanford    | D   | Clarivate |
| 147| Halbert White   | 1950  | 2012  |      | MIT         | C   | Clarivate |
| 148| Ariel Rubinstein| 1951  |       |      | Jerusalem   | C   | Clarivate |
| 149| Mark Gertler    | 1951  |       |      | Stanford    | E   | Clarivate |
| 150| Richard Blundell| 1952  |       |      | LSE         | J   | Clarivate |
| 151| Douglas Diamond | 1953  |       |      | Yale        | G   | Clarivate |
| 152| Kenneth Rogoff  | 1953  |       |      | MIT         | G   | Clarivate |
| 153| Sanford Grossman| 1953  |       |      | Chicago     | G   | ad hoc |
| 154| John Moore      | 1954  |       |      | LSE         | G   | Clarivate |
| 155| Kenneth French  | 1954  |       |      | Rochester   | G   | Clarivate |
| 156| David Audretsch | 1954  |       |      | Wisconsin   | L   | Clarivate |
| 157| Gene Grossman   | 1955  |       |      | MIT         | F   | Clarivate |
| 158| Nobuhiro Kiyotaki| 1955  |       |      | Harvard     | G   | Clarivate |
| 159| George Loewenstein | 1955 |       |      | Yale        | D   | Clarivate |
| ID  | name           | birth | death | won | alma mater | JEL | source   |
|-----|----------------|-------|-------|-----|------------|-----|----------|
| 160 | Carmen Reinhart| 1955  |       |     | Columbia   | F   | Clarivate|
| 161 | Philippe Aghion| 1956  |       |     | Harvard    | O   | Clarivate|
| 162 | Ernst Fehr     | 1956  |       |     | Vienna     | D   | Clarivate|
| 163 | Manuel Arellano| 1957  |       |     | LSE        | C   | Clarivate|
| 164 | Daniel Levinthal| 1957 |       |     | Stanford   | M   | Clarivate|
| 165 | Alberto Alesina| 1957  | 2020  |     | Harvard    | H   | Clarivate|
| 166 | Kevin Murphy   | 1958  |       |     | Chicago    | D   | Clarivate|
| 167 | James Levinsohn| 1958  |       |     | Princeton  | F   | Clarivate|
| 168 | Tim Bollerslev | 1958  |       |     | San Diego  | C   | IDEAS/RePEc|
| 169 | John Campbell  | 1958  |       |     | Yale       | G   | IDEAS/RePEc|
| 170 | Stephen Berry  | 1959  |       |     | Wisconsin  | C   | Clarivate|
| 171 | Pierre Perron  | 1959  |       |     | Yale       | C   | Clarivate|
| 172 | Colin Camerer  | 1959  |       |     | Chicago    | D   | Clarivate|
| 173 | Robert Vishny  | 1959  |       |     | MIT        | G   | IDEAS/RePEc|
| 174 | Alan Krueger   | 1960  | 2019  |     | Harvard    | J   | Clarivate|
| 175 | Jordi Gali     | 1961  |       |     | MIT        | E   | Clarivate|
| 176 | Andrei Shleifer| 1961  |       |     | MIT        | G   | IDEAS/RePEc|
| 177 | Stephen Bond   | 1963  |       |     | Oxford     | C   | Clarivate|
| 178 | Raghuram Rajan | 1963  |       |     | MIT        | E   | Clarivate|
| 179 | Matthew Rabin  | 1963  |       |     | MIT        | D   | Clarivate|
| 180 | Daron Acemoglu | 1967  |       |     | LSE        | O   | IDEAS/RePEc|
| 181 | Marc Melitz    | 1968  |       |     | Michigan   | F   | Clarivate|
| 182 | John List      | 1968  |       |     | Wyoming    | D   | Clarivate|