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Nobel Prize in Economic Sciences from 1969–2021: a bibliometric description

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Abstract: There have been 89 Nobel Prize winners in economics since 1969, representing 89 different areas of economic decision-making. Based on the Web of Science (WoS) database, the publication profiles of Nobel awardees have been analysed using a bibliometric approach. Descriptive analysis has been performed to identify the share of institutions and countries in NPES. To identify the most productive authors, articles, and journals in NPES, bibliometric indicators such as total publications, citations, h index, and citations per publication, degree of collaboration were analysed. The analysis reveals that the University of Chicago has produced the most Nobel laureates in economics, with the USA occupying the lion's share of the NPES. In this study, the authors explored the most popular journal and the most significant contribution of Nobel laureates. A brief account of the papers considered to have the maximum research impact has been synthesised.

Keywords: Nobel Prize in Economic Sciences; NPES; bibliometric approach; Web of Science; WoS.

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1 Introduction

The course of natural evolution (Wichman et al., 2000; Wierstra et al., 2014) has unleashed a wide spectrum of human cognition (Anderson, 1991; Mayer, 1977), which enabled the development of knowledge for uncovering material comfort and creating a better future by understanding and discovering the psycho-social as well as the physical environment. It is the human cognition that makes prognosis of human interactions with nature in the realm of production and consumption that forms the foundation of economic philosophy. This branch of social science has pervaded every sphere of material life. This branch of social science has pervaded every sphere of material life. In economics, both the material and spiritual components of human beings are deeply rooted. From the rudimentary factory revolution in the early 19th century till now, economics has forayed into every sector including agriculture, business, health, education, poverty, unemployment analysis, governance, etc. Economics thoughts shaping the discipline have been propounded by Keynesians, monetarists, financial economists, behaviourists, historians, statisticians, mathematicians, game theorists and other innovators. The divergent thinking involved in economic sciences is an essential character of its

widespread demand and acceptance. In 1969, the discipline under the tremendous pursuance of the Swedish National Bank (All Prizes in Economics Sciences, 2022) joined the club of Nobel Prize winners. The discipline under the tremendous pursuance of bank of Sweden (Sveriges Riksbank) was included in the club of Nobel Prizes in the year 1969. Since 1969 till 2021, 89 erudite economics legends have bagged this award for enhancing the glamour of economics by solving social problems, mostly economic in nature through application of economic methods. This award has been the subject of numerous debates, discourses, and interdisciplinary confrontations during its journey. The laureates in economics have discovered new ways and rays of knowledge. A number of Nobel laureates in economics have discovered new ways and rays of knowledge. It began at the University of Oslo and the Netherlands School of Economics and reached Massachusetts Institute of Technology (MIT) and Harvard in 2019 after 51 years of dedication, perseverance and sacrifice. It has been awarded to 58 scholars as 1/1, 19 as 1/2, and 7 as 1/3 in the past 51 years. A bibliometric analysis of citations, co-citations, journals, and institutions was performed in this paper in order to identify the most cited Nobel awardees in Nobel Prize in Economic Sciences (NPES), the most highly impactful research articles, and the most closely followed Nobel laureates' research collaborations.

Table 1 show that Nobel laureates in Economic Sciences have achieved impressive citations and h indices, which indicate the impact of their research. Moreover, it has been observed that laureates like Daniel Kahneman, a behavioural economist, have received the highest number of citations, 92,145, followed by Elinor Ostrom, a pioneer in new institutional economics with 62,630 citations, and Eugene Fama, a financial economist with 49,767 citations. Based on the list, it is evident that the Nobel selection committee has given attention to economics in diverse areas, such as financial, behavioural, public, environmental, and poverty economics.

In recent years, a lot of attention has been paid to analysing the impact of the research of scholars of economics who have been awarded Nobel Prizes. Mapping such beautiful minds has attracted scholars of information science, economics and scientometrics. The research outcomes of Nobel laureates in Economics have been found to be influenced by influential researchers of the same field.

The scientific progress could be attributed to the growth of theory development (Tymoshenko, 2021) in economic research, where the awardees in NPES have been very instrumental in building theories and models. In a recent bibliometric study on the Nobel Prize winning articles, it was concluded that based on the analysis of 'disruptive index' (DI) Nobel articles are not more disruptive than benchmarking articles. Discipline and time become important contextual factors in determining disruptive impact of an article (Liang et al., 2022).

A study of Nash, Harsanyi, and Selten laureates found that penumbral authors commonly co-cited with each winner pre- and post-award (McCain and McCain, 2002). An additional study compared the Swan Groups in Nobel Prizes in physics and economics. The new Swan Groups pattern accommodates around 50% of important publications in Nobel awarding physics and 40% of key publications in Nobel awarding economics (Zhang et al., 2019). Each Nobel laureate belongs to a distinct class of scientific elites, which makes it challenging for mapping their contributions to knowledge (Kademani et al., 2005). According to another landmark study in which 97 Nobel

awardees were compared against top non-Nobel scientists' achievements in Chemistry, Economics, Medicine, and Physics, 90 recent Nobel laureates rank within the top 100,000 scientists based on bibliometric indicators (Kosmulski, 2020). Taking into account the publications between 1901 and 2007, a study on Nobel Prize winners in chemistry and physics found that Nobel laureates in both disciplines received their Nobel Prizes at a time when their citations were at their peak (Gingras and Wallace, 2010). Economics does not exhibit this trend. Between the ages of 29 and 38, Nobel laureates made their most creative contributions. The average creative age of Nobel awardees in Economics is slightly lower than that of Nobel awardees in Physics, Chemistry and Medicine (van Dalen, 1999). A case study on the ripple effect of the citation chain considering eminent mathematician Robert J. Aumann (awarded with Nobel Prize in Economics in 2005) discovered that the Nobel Prize had a significant influence not only on the citations of the awardee but also on the references used by the researchers in his work (Frandsen and Nicolaisen, 2013). A prominent bibliometric analysis conducted of the citations and journals in the field of Nobel Prize in Physics in 2014 (Zhou et al., 2014). They found that 193 Nobel awardees in Physics had written 380 milestone articles between 1901 and 2012. They have considered citation frequency, impact factor and parameters deployed by landmark journals to assess their contents. In the process of analysing the existing literature, we have found that a bibliometric study covering 1969 to 2021 has not been conducted by previous researchers, although the NPES has made a journey of more than 50 years. The authors have been motivated to carry out this work, being warranted by the deficiency experienced in the related literature.

Starting with the introduction, the work is structured into four components. Section 2 explains the methods used following the analysis and findings in Section 3. As a final note, Section 4 concludes the paper.

2 Methodology

Bibliometric is a quantitative method of evaluating published research (Sahoo et al., 2022). Exploratory bibliometrics can also be deployed to map the growth of an emerging concept, field and discipline (Slåtten and Madsen, 2022). In this paper, the authors provide a systematic overview of NPES since the award was institutionalised in 1969. The citations per publication, h index, and the number of publications have been calculated as descriptive indicators to identify productive authors, journals, institutions and countries. Web of Science (WoS) is used to retrieve the bibliometric data on NPES. We obtained each Nobel awardee's publication profile from the WoS database and the author's profile from the NPES official webpage (All Prizes in Economics Sciences, 2022). Bibliometric information was obtained from the CSV file downloaded for each Nobel laureate to determine the most sought-after journal, the most productive laureate, and the degree of collaboration between these laureates. Based on the citation counts of Nobel laureates' papers, the top 15 publications have been identified.

Table 1 A brief account of the NPES from 1969 to 2021

Sl. no.	*Name of the laureate(s)*	*Year*	*No. of documents*	*h-index*	*Total citations*	*Affiliation at the time of receiving the award*
1	Ragnar Frisch	1969	28	6	188	University of Oslo, Norway
2	Jan Tinbergen	1969	101	9	450	The Netherlands School of Economics, Rotterdam, The Netherlands
3	Paul A. Samuelson	1970	153	31	5,688	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
4	Simon Kuznets	1971	27	10	259	Harvard University, Cambridge, MA, USA
5	John R. Hicks	1972	37	13	785	All Souls College, Oxford, UK
6	Kenneth J. Arrow	1972	223	47	18,018	Harvard University, Cambridge, MA, USA
7	Wassily Leontief	1973	47	14	634	Harvard University, Cambridge, MA, USA
8	Gunnar Myrdal	1974	42	12	615	New York University, New York, NY, USA
9	Friedrich von Hayek	1974	9	3	37	School of Economics, Freiburg Breisagu
10	Leonid Vitaliyevich Kantorovich	1975	19	2	19	Academy of Sciences, Moscow, USSR
11	Tjalling C. Koopmans	1975	11	7	194	Yale University, New Haven, CT, USA
12	Milton Friedman	1976	41	12	7,698	University of Chicago, Chicago, IL, USA
13	Bertil Ohlin	1977	7	1	7	Stockholm School of Economics, Stockholm, Sweden
14	James E. Meade	1977	38	8	352	University of Cambridge, Cambridge, UK
15	Herbert A. Simon	1978	261	74	41,723	Carnegie Mellon University, Pittsburgh, PA, USA
16	Theodore W. Schultz	1979	56	9	330	University of Chicago, Chicago, IL, USA
17	Arthur Lewis	1979	30	10	4,918	Princeton University, Princeton, NJ, USA
18	Lawrence R. Klein	1980	119	17	910	University of Pennsylvania, Philadelphia, PA, USA
19	James Tobin	1981	47	14	2,249	Yale University, New Haven, CT, USA
20	George J. Stigler	1982	25	8	629	University of Chicago, Chicago, IL, USA
21	Gerard Debreu	1983	13	7	692	University of California, Berkeley, CA, USA
22	Richard Stone	1984	19	6	233	University of Cambridge, Cambridge, UK
23	Franco Modigliani	1985	42	17	2,708	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
24	James M. Buchanan Jr.	1986	138	27	3,212	Center for Study of Public Choice, Fairfax, VA, USA
25	Robert M. Solow	1987	148	29	12,974	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
26	Maurice Allais	1988	17	6	96	École Nationale Supérieur des Mines de Paris, Paris, France
27	Trygve Haavelmo	1989	8	3	61	University of Oslo, Oslo, Norway
28	Harry M. Markowitz	1990	109	20	14,801	City University of New York, New York, NY, USA
29	Merton H. Miller	1990	28	15	5,412	University of Chicago, Chicago, IL, USA

Source: Compiled by the researchers

Table 1 A brief account of the NPES from 1969 to 2021 (continued)

Sl. no.	*Name of the laureate(s)*	*Year*	*No. of documents*	*h-index*	*Total citations*	*Affiliation at the time of receiving the award*
30	William F. Sharpe	1990	31	15	8,830	Stanford University, Stanford, CA, USA
31	Ronald H. Coase	1991	27	16	13,638	University of Chicago, Chicago, IL, USA
32	Gary S. Becker	1992	49	23	6,053	University of Chicago, Chicago, IL, USA
33	Robert W. Fogel	1993	50	19	2,406	University of Chicago, Chicago, IL, USA
34	Douglass C. North	1993	67	25	12,693	Washington University, St. Louis, MO, USA
35	John C. Harsanyi	1994	57	21	2,290	University of California, Berkeley, CA, USA
36	John F. Nash Jr.	1994	12	7	180	Princeton University, Princeton, NJ, USA
37	Reinhard Selten	1994	74	32	5,603	Rheinische Friedrich-Wilhelms-Universität, Bonn
38	Robert E. Lucas Jr.	1995	53	33	20,759	University of Chicago, Chicago, IL, USA
39	James A. Mirrlees	1996	61	20	3,594	University of Cambridge, Cambridge, UK
40	William Vickrey	1996	24	8	4,735	Columbia University, New York, NY, USA
41	Robert C. Merton	1997	60	26	17,800	Harvard University, Cambridge, MA, USA
42	Myron S. Scholes	1997	15	10	16,037	Long Term Capital Management, Greenwich, CT, USA
43	Amartya Sen	1998	217	59	15,481	Trinity College, Cambridge, UK
44	Robert A. Mundell	1999	36	9	521	Columbia University, New York, NY, USA
45	James J. Heckman	2000	235	88	37,499	University of Chicago, Chicago, IL, USA
46	Daniel L. McFadden	2000	92	42	12,170	University of California, Berkeley, CA, USA
47	George A. Akerlof	2001	51	27	21,583	University of California, Berkeley, CA, USA
48	A. Michael Spence	2001	47	20	10,127	Stanford University, Stanford, CA, USA
49	Joseph E. Stiglitz	2001	354	80	27,972	Columbia University, New York, NY, USA
50	Daniel Kahneman	2002	185	85	92,145	Princeton University, Princeton, NJ, USA
51	Vernon L. Smith	2002	194	48	9,177	George Mason University, Fairfax, VA, USA
52	Robert F. Engle III	2003	135	61	27,141	New York University, New York, NY, USA
53	Clive W.J. Granger	2003	189	62	27,733	University of California, San Diego, CA, USA
54	Finn E. Kydland	2004	36	16	1,556	Carnegie Mellon University, Pittsburgh, PA, USA
55	Edward C. Prescott	2004	76	33	10,276	Arizona State University, Tempe, AZ, USA
56	Robert J. Aumann	2005	58	26	5,448	University of Jerusalem, Jerusalem, Israel
57	Thomas C. Schelling	2005	77	18	4,190	University of Maryland, USA
58	Edmund S. Phelps	2006	82	21	1,948	Columbia University, New York, NY, USA
59	Leonid Hurwicz	2007	33	12	871	University of Minnesota, Minneapolis, MN, USA

Source: Compiled by the researchers

Table 1 A brief account of the NPES from 1969 to 2021 (continued)

Sl. no.	*Name of the laureate(s)*	*Year*	*No. of documents*	*h-index*	*Total citations*	*Affiliation at the time of receiving the award*
60	Eric S. Maskin	2007	89	38	7,240	Institute for Advanced Study, Princeton, NJ, USA
61	Roger B. Myerson	2007	69	30	5,194	University of Chicago, Chicago, IL, USA
62	Paul Krugman	2008	113	47	20,626	Princeton University, Princeton, NJ, USA
63	Elinor Ostrom	2009	212	81	62,630	Indiana University, Bloomington, IN, USA
64	Oliver E. Williamson	2009	78	36	12,416	University of California, Berkeley, CA, USA
65	Peter A. Diamond	2010	84	33	5,121	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
66	Dale T. Mortensen	2010	41	20	4,411	Northwestern University, Evanston, IL
67	Christopher A. Pissarides	2010	79	37	7,213	London School of Economics and Political Science
68	Thomas J. Sargent	2011	133	44	7,348	New York University, New York, NY, USA
69	Christopher A. Sims	2011	64	28	7,280	Princeton University, Princeton, NJ, USA
70	Alvin E. Roth	2012	167	54	12,442	Harvard University, Cambridge, MA, USA
71	Lloyd S. Shapley	2012	37	23	7,705	University of California, Los Angeles, CA, USA
72	Eugene F. Fama	2013	90	57	49,767	University of Chicago, Chicago, IL, USA
73	Lars Peter Hansen	2013	93	38	6,544	University of Chicago, Chicago, IL, USA
74	Robert J. Shiller	2013	108	41	10,598	Yale University, New Haven, CT, USA
75	Jean Tirole	2014	169	72	27,876	Toulouse School of Economics (TSE), Toulouse, France
76	Angus Deaton	2015	124	54	16,852	Princeton University, Princeton, NJ, USA
77	Oliver Hart	2016	48	31	6,647	Harvard University, Cambridge, MA, USA
78	Bengt Holmstrom	2016	31	25	7,987	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
79	Richard H. Thaler	2017	100	53	31,537	University of Chicago, Chicago, IL, USA
80	William D. Nordhaus	2018	106	42	10,620	Yale University, New Haven, CT, USA
81	Paul M. Romer	2018	28	16	12,075	NYU Stern School of Business, New York, NY, USA
82	Abhijit Banerjee	2019	104	52	14,217	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
83	Esther Duflo	2019	94	51	17,704	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
84	Michael Kremer	2019	101	49	10,357	Harvard University, Cambridge, MA, USA
85	Paul Milgrom	2020	67	44	21,925	Stanford University, Stanford, CA, USA
86	Robert B. Wilson	2020	56	22	4,677	Stanford University, Stanford, CA, USA
87	Joshua Angrist	2021	80	49	20,078	Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
88	David Card	2021	109	50	14,321	University of California, Berkeley, CA, USA
89	Guido Imbens	2021	98	55	23,418	Stanford University, Stanford, CA, USA

Source: Compiled by the researchers

3 Analysis and findings

3.1 Distribution of awards among countries and institutions

Nobel laureates have brought distinction and glory to the institution as well as the country in which they were born and reside. One of the most exciting features of NPES is the lion's share occupied by the USA, with 82.02% of all awards conferred until 2021. The UK also contributed significantly to the total awards with 6.74%. As shown in Table 2, Denmark, Sweden, Netherlands, Germany, Israel, and Russia each contributed 1.12% of the total awards, while France and Norway each contributed 2.24%.

Table 2 Share of countries in the NPES

Sl. no.	*Name of the country*	*Total no. of institutions*	*No. of laureates*	*Percentage*
1	USA	27	73	82.02
2	Russia	1	1	1.12
3	UK	4	6	6.74
4	France	2	2	2.24
5	Denmark	1	1	1.12
6	Sweden	1	1	1.12
7	Netherlands	1	1	1.12
8	Germany	1	1	1.12
9	Israel	1	1	1.12
10	Norway	1	2	2.24

Source: Compiled by the researchers

Table 3 Share of institutions

Sl. no.	*Name of the institution*	*Country*	*No. of laureates*	*Year(s)*
1	Academy of Sciences	Russia	1	1975
2	All Souls College	UK	1	1972
3	Arizona State University	USA	1	2004
4	Carnegie Mellon University	USA	2	1798, 2004
5	Center for Study of Public Choice	USA	1	1986
6	City University of New York	USA	1	1990
7	Columbia University	USA	4	1996, 1999, 2001, 2006
8	Ecole Nationale Supérieure des Mines de Paris	France	1	1988
9	George Mason University	USA	1	2002
10	Harvard University	USA	7	1971, 1972, 1973, 1997, 2012, 2016, 2019
11	Indiana University	USA	1	2009
12	Institute for Advanced Study, Princeton	USA	1	2007

Source: Compiled by the researchers

Table 3 Share of institutions (continued)

Sl. no.	*Name of the institution*	*Country*	*No. of laureates*	*Year(s)*
13	London School of Economics and Political Science	UK	1	2010
14	Long Term Capital Management, Greenwich	USA	1	1997
15	Massachusetts Institute of Technology (MIT)	USA	8	1970, 1985, 1987, 2010, 2016, 2019, 2021
16	New York University	USA	3	1974, 2003, 2011
17	Northwestern University	Denmark	1	2010
18	NYU Stern School of Business	USA	1	2018
19	Princeton University	USA	6	1979, 1994, 2002, 2008, 2011, 2015
20	School of Economics, Freiburg Breisagu	Germany	1	1974
21	Stanford University	USA	5	1990, 2001, 2020, 2020, 2021
22	Stockholm School of Economics	Sweden	1	1977
23	The Netherlands School of Economics	Netherlands	1	1969
24	Toulouse School of Economics (TSE)	France	1	2014
25	Trinity College	UK	1	1998
26	University of Bonn	Germany	1	1994
27	University of California	USA	8	1983, 1994, 2000, 2001, 2003, 2009, 2012, 2021
28	University of Cambridge	UK	3	1977, 1984, 1996
29	University of Chicago	USA	13	1976, 1979, 1982, 1990, 1991, 1992, 1993, 1995, 2000, 2007, 2013, 2013, 2017
30	University of Jerusalem	Israel	1	2005
31	University of Maryland	USA	1	2005
32	University of Minnesota	USA	1	2007
33	University of Oslo	Norway	2	1969, 1989
34	University of Pennsylvania	USA	1	1980
35	Washington University	USA	1	1993
36	Yale University	USA	4	1975, 1981, 2013, 2018

Source: Compiled by the researchers

A closer look on the affiliations of Nobel laureates reveals that University of Chicago has produced 13 laureates followed by Harvard University produced seven awardees; MIT produced eight awardees and Princeton University produced six awardees. As a matter of institutional honour, Booth School of Business under University of Chicago has received

eight numbers of NPES which includes George Stigler (1982), Merton Miller (1990), Ronald Coase (1991), Gary Becker (1992), Robert Fogel (1993), Myron Scholes (1997) and Eugene Fama (2013).

3.2 A brief account on the awardees publications

To map out the researcher's productivity in social science and economics, productivity and citations are often measured (Gordon et al., 1984). In economic sciences, Nobel awardees are harbingers of their particular field, and their impact could be measured by analysing their citations, h index and total citation percentages. Research productivity is widely measured by the h index (Jacsó, 2008). In this study, the citations and h index have been obtained from the WoS database, the h index for monetary economist Beng Holmstrom and international trade expert Bertil Ohlin, however, could not be obtained.

The citation data in Table 4 shows that Daniel Kanheman had the highest research impact during his active research tenure from 1962 to 2020, with 92,178 citations. The list of influential researchers also includes Elinor Ostrom, Eugene F. Fama, Herbert A. Simon, James J. Heckman, Clive W.J. Granger, Joseph E. Stiglitz, Jean Tirole, Robert F. Engle III and George Akerlof. These ten laureates have had the highest research impact in terms of citations received for their knowledge contributions.

Table 4 Publication analysis of NPES

Sl. no.	*Name of the laureate(s)*	*Duration*	*No. of publications*	*h*	*Citations*	*Percentage of total citations*
1	A. Michael Spence	1972–2021	47	44	10,127	0.64
2	Abhijit Banerjee	1991–2021	104	103	14,226	1.43
3	Alvin E. Roth	1975–2021	167	105	12,450	2.29
4	Amartya Sen	1957–2020	217	197	15,481	2.98
5	Angus Deaton	1971–2021	124	115	16,865	1.70
6	Bengt Holmstrom	1980–2017	31	--	7,993	0.41
7	Bertil Ohlin	1927–2015	7	--	7	0.43
8	Christopher A. Pissarides	1974–2020	79	37	7,215	0.10
9	Christopher A. Sims	1972–2021	64	28	7,287	1.08
10	Clive W.J. Granger	1963–2016	189	62	27,739	0.88
11	Dale T. Mortensen	1981–2017	41	20	4,412	2.59
12	Daniel Kahneman	1962–2020	185	85	92,178	0.56
13	Daniel L. McFadden	1963–2021	92	42	12,170	2.54
14	David Card	1982–2021	109	50	14,321	1.26
15	Douglass C. North	1954–2018	67	25	12,693	1.49
16	Edmund S. Phelps	1962–2019	82	21	1,948	0.92
17	Edward C. Prescott	1968–2021	76	33	10,279	1.12
18	Elinor Ostrom	1965–2020	213	81	62,654	1.04
19	Eric S. Maskin	1978–2022	89	38	7,240	2.91

Source: Compiled by the researchers

Table 4 Publication analysis of NPES (continued)

Sl. no.	*Name of the laureate(s)*	*Duration*	*No. of publications*	*h*	*Citations*	*Percentage of total citations*
20	Esther Duflo	1997–2022	94	51	17,722	1.22
21	Eugene F. Fama	1968–2021	90	57	49,785	1.29
22	Finn E. Kydland	1974–2021	36	16	1,556	1.23
23	Franco Modigliani	1957–2013	42	17	2,708	0.49
24	Friedrich von Hayek	1930–2017	19	7	230	0.58
25	Gary S. Becker	1985–2019	49	23	6,053	0.12
26	George A. Akerlof	1969–2021	51	27	21,583	0.67
27	George J. Stigler	1938–2021	25	8	629	0.70
28	Gerard Debreu	1954–2016	13	7	692	0.34
29	Guido Imbens	1994–2022	98	55	23,418	0.18
30	Gunnar Myrdal	1933–2019	42	12	615	1.34
31	Harry M. Markowitz	1952–2021	109	20	14,801	0.58
32	Herbert A. Simon	1941–2019	261	74	41,723	1.49
33	James A. Mirrlees	1962–2018	61	20	3,594	3.58
34	James E. Meade	2013–2019	38	8	352	0.84
35	James J. Heckman	1974–2020	235	88	37,499	0.52
36	James M. Buchanan Jr.	1951–2018	138	27	3,212	3.22
37	James Tobin	1941–2017	47	14	2,249	1.89
38	Jan Tinbergen	1927–2021	101	9	450	0.64
39	Jean Tirole	1981–2021	169	72	27,893	1.39
40	John C. Harsanyi	1953–2017	57	21	2,290	2.32
41	John F. Nash Jr.	1945–2017	12	7	180	0.78
42	John R. Hicks	1933–1989	37	13	785	0.16
43	Joseph E. Stiglitz	1967–2021	354	80	27,983	0.51
44	Joshua Angrist	1990–2022	80	49	20,078	4.85
45	Kenneth J. Arrow	1952–2020	223	47	18,018	1.10
46	Lars Peter Hansen	1978–2020	93	38	6,545	3.06
47	Lawrence R. Klein	1944–2019	119	17	910	1.28
48	Leonid Hurwicz	1962–2016	33	12	871	1.63
49	Leonid Vitaliyevich Kantorovich	1966–1987	19	2	19	0.45
50	Lloyd S. Shapley	1954–2017	37	23	7,711	0.26
51	Maurice Allais	1947–2016	17	6	96	0.51
52	Merton H. Miller	1962–1998	28	15	5,412	0.23
53	Michael Kremer	1993–2021	101	49	10,360	0.38
54	Milton Friedman	1935–2017	41	12	7,698	1.39
55	Myron S. Scholes	1973–2013	15	10	16,037	0.56

Source: Compiled by the researchers

Table 4 Publication analysis of NPES (continued)

Sl. no.	*Name of the laureate(s)*	*Duration*	*No. of publications*	*h*	*Citations*	*Percentage of total citations*
56	Oliver E. Williamson	1963–2019	78	36	12,419	0.21
57	Oliver Hart	1974–2020	48	31	6,649	1.07
58	Paul A. Samuelson	1937–2018	164	31	6,115	0.66
59	Paul Krugman	1978–2019	113	47	20,632	2.10
60	Paul M. Romer	1985–2015	28	16	12,080	1.55
61	Peter A. Diamond	1965–2019	67	30	4,398	0.38
62	Ragnar Frisch	1924–1992	28	6	188	0.92
63	Reinhard Selten	1973–2019	74	32	5,603	1.15
64	Richard H. Thaler	1974–2020	100	53	31,550	0.38
65	Richard Stone	1942–2019	19	6	233	1.01
66	Robert A. Mundell	1960–2017	36	9	521	1.37
67	Robert B. Wilson	1966–2021	56	22	4,677	0.26
68	Robert C. Merton	1989–2021	60	26	17,800	0.49
69	Robert E. Lucas Jr.	1967–2021	53	33	20,759	0.77
70	Robert F. Engle III	1974–2021	135	61	27,152	0.82
71	Robert J. Aumann	1960–2019	58	26	5,450	0.73
72	Robert J. Shiller	1978–2021	108	41	10,602	1.85
73	Robert M. Solow	1953–2019	148	29	12,974	0.80
74	Robert W. Fogel	1962–2015	50	19	2,406	1.48
75	Roger B. Myerson	1977–2021	69	30	5,196	2.03
76	Ronald H. Coase	1935–2016	27	16	13,638	0.69
77	Simon Kuznets	1928–2016	27	10	259	0.95
78	Sir William Arthur Lewis	1943–2016	30	10	4,918	0.37
79	Theodore W. Schultz	1932–1993	56	9	330	0.37
80	Thomas C. Schelling	1955–2018	77	18	4,193	0.77
81	Thomas J. Sargent	1969–2020	133	44	7,348	1.06
82	Tjalling C. Koopmans	1945–2018	11	7	194	1.82
83	Trygve Haavelmo	1947–2015	8	3	61	0.15
85	Vernon L. Smith	1959–2021	194	48	9,182	0.11
86	Wassily Leontief	1933–2019	47	14	634	2.66
87	William D. Nordhaus	1982–2021	106	42	10,621	0.64
88	William F. Sharpe	1964–2015	31	15	8,830	1.45
89	William Vickrey	1957–2016	24	8	4,735	0.43

Source: Compiled by the researchers

Table 5 Preferred journals by the laureates in NPES

Sl. no.	*Nobel laureates*	*Journal*	*Top preferred journal*
1	A. Michael Spence	*Quarterly Journal of Economics*	5
2	Abhijit Banerjee	*American Economic Review*	13
3	Alvin E. Roth	*American Economic Review*	17
4	Amartya Sen	*New York Review of Books*	8
5	Angus Deaton	*American Economic Review*	9
6	Bengt Holmstrom	*American Economic Review*	6
7	Bertil Ohlin	*Journal of Economics*	2
8	Christopher A. Pissarides	*Economic Journal*/*Economica*	8
9	Christopher A. Sims	*American Economic Review*/*Brookings Papers on Economic Activity*	7
10	Clive W.J. Granger	*Journal of Econometrics*	32
11	Dale T. Mortensen	*International Economic Review*	5
12	Daniel Kahneman	*Choices, Values, and Frames*	15
13	Daniel L. McFadden	*Journal of Econometrics*	9
14	David Card	*American Economic Review*	15
15	Douglass C. North	*The Journal of Economic History*	12
16	Edmund S. Phelps	*Quarterly Journal of Economics*	6
17	Edward C. Prescott	*Journal of Economic Theory*	9
18	Elinor Ostrom	*Working Together: Collective Action, the Commons, and Multiple Methods in Practice*	11
19	Eric S. Maskin	*Review of Economic Studies*	10
20	Esther Duflo	*American Economic Review*	19
21	Eugene F. Fama	*Journal of Financial Economics*	26
22	Finn E. Kydland	*Journal of Monetary Economics*/*Review of Economic Dynamics*	4
23	Franco Modigliani	*Review of Economic Studies*	3
24	Friedrich von Hayek	*Economica – New Series*	7
25	Gary S. Becker	*American Economic Review*	6
26	George A. Akerlof	*Animal Spirits: How Human Psychology Drives the Economy, and Why it Matters for Global Capitalism*	18
27	George J. Stigler	*American Journal of Agricultural Economics*	4
28	Gerard Debreu	*Journal of Mathematical Economics*	4
29	Guido Imbens	*Econometrica*	13
30	Gunnar Myrdal	*World Development*	3
31	Harry M. Markowitz	*Harry Markowitz: Selected Works*	29
32	Herbert A. Simon	*American Political Science Review*	28

Source: Compiled by the researchers

Table 5 Preferred journals by the laureates in NPES (continued)

Sl. no.	*Nobel laureates*	*Journal*	*Top preferred journal*
33	James A. Mirrlees	*Welfare, Incentives, and Taxation*	25
34	James E. Meade	*Review of Economic Studies*	7
35	James J. Heckman	*American Economic Review*/*Journal of Econometrics*	17
36	James M. Buchanan Jr.	*Public Choice*	26
37	James Tobin	*American Journal of Economics and Sociology*/*Quarterly Journal of Economics*	4
38	Jan Tinbergen	*De Economist*	44
39	Jean Tirole	*American Economic Review*	19
40	John C. Harsanyi	*Econometrica*	8
41	John F. Nash Jr.	*Duke Mathematical Journal*/*Open Problems in Mathematics*	2
42	John R. Hicks	*Review of Economic Studies*	15
43	Joseph E. Stiglitz	*Journal of Public Economics*	18
44	Joshua Angrist	*American Economic Review*	14
45	Kenneth J. Arrow	*Science*	11
46	Lars Peter Hansen	*Journal of Econometrics*	10
47	Lawrence R. Klein	*Journal of Policy Modeling*	12
48	Leonid Hurwicz	*Traces and Emergence of Nonlinear Programming*	4
49	Leonid Vitaliyevich Kantorovich	*Russian Mathematical Surveys*	8
50	Lloyd S. Shapley	*International Journal of Game Theory*	10
51	Maurice Allais	*Theory and Decision*	4
52	Merton H. Miller	*The Journal of Finance*	11
53	Michael Kremer	*American Economic Review*	17
54	Milton Friedman	*Review of Economic Studies*/*Contemporary Economic Policy*	3
55	Myron S. Scholes	*Journal of Financial Economics*	4
56	Oliver E. Williamson	*Journal of Economic Behavior and Organization*	10
57	Oliver Hart	*Quarterly Journal of Economics*	9
58	Paul A. Samuelson	*Quarterly Journal of Economics*	17
59	Paul Krugman	*European Economic Review*	8
60	Paul M. Romer	*American Economic Review*	7
61	Peter A. Diamond	*Journal of Public Economics*	14
62	Ragnar Frisch	*Economics of Planning*	7
63	Reinhard Selten	*Games and Economic Behavior*	14
64	Richard H. Thaler	*American Economic Review*	12

Source: Compiled by the researchers

Table 5 Preferred journals by the laureates in NPES (continued)

Sl. no.	*Nobel laureates*	*Journal*	*Top preferred journal*
65	Richard Stone	*Review of Income and Wealth*	5
66	Robert A. Mundell	*Journal of Policy Modeling*	10
67	Robert B. Wilson	*Journal of Economic Theory*	11
68	Robert C. Merton	*The Journal of Finance*/*Journal of Financial Economics*/*Harvard Business Review*	5
69	Robert E. Lucas Jr.	*Journal of Monetary Economics*	8
70	Robert F. Engle III	*Journal of Econometrics*	22
71	Robert J. Aumann	*Games and Economic Behavior*	10
72	Robert J. Shiller	*American Economic Review*	10
73	Robert M. Solow	*Review of Economic Studies*	8
74	Robert W. Fogel	*The Journal of Economic History*	5
75	Roger B. Myerson	*Games and Economic Behavior*/*International Journal of Game Theory*	8
76	Ronald H. Coase	*Journal of Law and Economics*/*Journal of Law, Economics, and Organization*	3
77	Simon Kuznets	*Journal of the American Statistical Association*	8
78	Sir William Arthur Lewis	*The Manchester School*	9
79	Theodore W. Schultz	*Journal of Farm Economics*	26
80	Thomas C. Schelling	*World Politics*/*Negotiation Journal*	5
81	Thomas J. Sargent	*Journal of Monetary Economics*	23
82	Tjalling C. Koopmans	*American Economic Review*	2
83	Trygve Haavelmo	*Econometric Theory*	2
85	Vernon L. Smith	*Handbook of Experimental Economics Results*	19
86	Wassily Leontief	*Quarterly Journal of Economics*	9
87	William D. Nordhaus	*American Economic Review*	12
88	William F. Sharpe	*Investors and Markets: Portfolio Choices, Asset Prices, and Investment Advice*/*Journal of Finance*	10
89	William Vickrey	*Land-Value Taxation: The Equitable and Efficient Source of Public Finance*	4

Source: Compiled by the researchers

3.3 Most preferred journal by the Nobel awardees

Academic journals serve as a medium of communication of knowledge to the research community. The varied research domains of economics have been addressed by journals of high impact and global visibility. The Nobel laureates also preferred journals that have been indexed by Scopus, ABDC, ABS and FT 50 categories. Publication in those

prestigious outlets has also been boosted by Nobel laureates' contributions. We found that although each laureate has contributed to different journals, the preferred journal has the strongest intellectual presence in terms of its academic impact.

In Table 5, it is evident that NPES awardees have been enthusiastic about exhibiting their academic outputs in well-regarded publishing outlets. *American Economics Review*, *Journal of Econometrics*, *Quarterly Journal of Economics*, and *Review of Economic Studies* are some journals that attract high-impact research for NPES awardees in terms of frequency.

3.4 Most significant contributions

The work of a Nobel awardee in NPES has been published in distinguished journals in economics and related fields. Each of the laureates' articles has been cited frequently, but some of their contributions have transmogrified the way we think. Table 6 summarises the significant contributions made by the NPES awardees.

In Table 6, it is evident that an article by M. Arellano and S. Bond, published in review of economic studies, has received the highest citations, i.e., 12,348. In contrast, an article authored by R. Blubell and S. Bond, published in the *Journal of Econometrics*, and has received 9,724 citations. These research works have been found classic in the economics literature as they have enumerated a new trend in the convergence of statistical applications and econometric traditions.

3.5 Co-author analysis

Co-author analysis represents a cluster of authors sharing a similar field of research interest and jointly venture into research work in a similar field. Co-author analysis refers to the impact of collaboration within a field of research and the formation of a social network of researchers within that field (Acedo et al., 2006). In addition to carving out a niche for themselves, Nobel laureates have also tied themselves to other pioneers in their field. Table 7 lists the significant co-author collaborations of the Nobel awardees.

Table 7 depicts the research collaboration of NPES awardees with other prominent researchers in the core or allied domains of economics. The Nobel laureate eminent economic and political theorist Kenneth J. Arrow has a network of 467 researchers with whom he has shared various streams of research works. Following Kenneth Arrow, Elinor Ostrom has also collaborated with 431 researchers in 706 numbers of documents. In a similar vein, market economist Alvin E. Roth, macroeconomist Lars Peter Hansen and financial economist Richard Stone have joined hands with 394, 226 and 268 researchers respectively in authoring 1,030, 470 and 344 documents, respectively. Such intellectual collaborations has produced path breaking research outcomes and infused critical thinking among the engaged talents in the diverse fields of economic thinking.

Table 6 Most significant contributions

Sources	*Articles*	*Citation*	*Most cited paper/book*	*Author, year of publication, volume, issue, page number*	*Citation received*
Review of Economic Studies	2,577	205,518	'Some tests of specification for panel data – Monte-Carlo evidence and an application to employment equations'	Arellano, M. and Bond, S. (1991) Vol. 58, No. 2, pp.277–297	12,348
Journal of Econometrics	4,238	261,412	'Initial conditions and moment restrictions in dynamic panel data models'	Blundell, R. and Bond, S. (1998) Vol. 87, No. 1, pp.115–143	9,724
Quarterly Journal of Economics	2,230	411,366	'Market for lemons – quality uncertainty and market mechanism'	Akerlof, G.A. (1970) Vol. 84, No. 3, pp.488–500	8,353
American Economic Review	8,409	795,344	'Agency costs of free cash flow, corporate-finance, and takeovers'	Jensen, M.C. (1986) Vol. 76, No. 2, pp.323–329	8,252
Journal of Economic Theory	4,088	155,153	'Measurement of inequality'	Atkinson, A.B. (1970) Vol. 2, No. 3, pp.244–263	2,570
Journal of Economic Perspectives	1,579	194,001	'Institutions'	North, D.C. (1991) Vol. 5, No. 1, pp.97–112	4,461
European Economic Review	4,053	118,109	'International R-and-D spillovers'	Coe, D.T. and Hekpman, E. (1995) Vol. 39, No. 5, pp.859–887	1,835
Journal of Public Economics	3,949	164,270	'The causes of corruption: a cross-national study'	Treisman, D. (2000) Vol. 76, No. 3, pp.399–457	1,571

Source: Compiled by the researchers

Table 7 Co-author analysis

Nobel laureates (Google Scholar)	*Co-author*	*NP*	*Top co-author*	*Number*	*Single authored publications*	*Degree of collaboration*
A. Michael Spence	28	48	Malone, Kristin	5	1	0.51
Abhijit Banerjee	109	381	Duflo, E.	90	13	0.79
Alvin E. Roth	394	1,030	Rees, Michael	220	2	0.86
Amartya Sen	17	131	Dreze, Jean	49	23	0.38
Angus Deaton	30	113	Laroque, G.R.	48	9	0.48
Bengt Holmstrom	50	140	Tirole, Jean	219	53	0.82
Bertil Ohlin	21	43	Melander, Olle	949	9	0.86
Christopher A. Pissarides	38	151	Mortensen, Dale T.	46	21	0.66
Christopher A. Sims	37	120	Zha, T.	44	3	0.65
Clive W.J. Granger	174	435	Gabor, A.	78	49	0.70
Dale T. Mortensen	39	97	Lentz, Rasmus	9	2	0.70
Daniel Kahneman	107	248	Tversky, Amos	131	19	0.57
Daniel L. McFadden	123	263	Winter, Joachim	58	0	0.74
David Card	193	504	Harrington, Dominic J.	85	2	0.82
Douglass C. North	110	294	Wallis, John Joseph	80	22	0.81
Edmund S. Phelps	32	138	Zoega, Gylfi	56	8	0.63
Edward C. Prescott	89	230	McGrattan, Ellen R.	39	11	0.75
Elinor Ostrom	431	706	Janssen, M.A.	151	7	0.77
Eric S. Maskin	68	217	Dasgupta, Partha	74	32	0.71
Esther Duflo	189	406	Banerjee, Abhijit	152	29	0.81
Eugene F. Fama	24	205	French, Kenneth R.	69	6	0.69
Finn E. Kydland	22	79	Prescott, Edward C.	95	22	0.69
Franco Modigliani	152	277	Miller, M.H.	90	36	0.87
Friedrich von Hayek	5	40	Aron, R.	23	22	0.68
Gary S. Becker	31	123	Murphy, Kevin M.	54	3	0.72
George A. Akerlof	27	229	Shiller, Robert J.	206	108	0.82
George J. Stigler	33	187	Friedland, C.	13	1	0.88
Gerard Debreu	33	75	Arrow, Kenneth J.	255	142	0.85
Guido Imbens	150	323	Athey, Susan	88	5	0.77

Source: Compiled by the researchers

Table 7 Co-author analysis (continued)

Nobel laureates (Google Scholar)	*Co-author*	*NP*	*Top co-author*	*Number*	*Single authored publications*	*Degree of collaboration*
Gunnar Myrdal	75	116	Lambe, M.	7	0	0.73
Harry M. Markowitz	83	159	Xu, Ganlin	14	0	0.59
Herbert A. Simon	37	151	Iwasaki, Y.	4	0	0.37
James A. Mirrlees	23	95	Diamond, P.A.	8	0	0.61
James E. Meade	16	85	Brass, W.	2	0	0.69
James J. Heckman	157	259	Florens, J.P.	88	0	0.52
James M. Buchanan Jr.	150	499	Yoon, Y.J.	16	0	0.78
James Tobin	23	97	Brainard, W.C.	4	0	0.67
Jan Tinbergen	6	30	Stavenga, D.G.	3	0	0.23
Jean Tirole	50	424	Laffont, J.J.	27	4	0.72
John C. Harsanyi	16	35	Farrand, W.H.	4	1	0.38
John F. Nash Jr.	54	104	Carmichael, R.H.	3	0	0.90
John R. Hicks	21	92	Reinsborough, V.C.	4	2	0.71
Joseph E. Stiglitz	190	759	Gallegati, M.	17	4	0.68
Joshua Angrist	69	233	Pischke, J.S.	12	7	0.74
Kenneth J. Arrow	467	920	Intriligator, M.D.	23	13	0.80
Lars Peter Hansen	226	470	Sargent, T.J.	26	12	0.83
Lawrence R. Klein	85	371	Gutheim, A.	11	0	0.76
Leonid Hurwicz	15	68	Arrow, K.J.	6	24	0.67
Leonid Vitaliyevich Kantorovich	39	108	Makarov, V.L.	5	2	0.85
Lloyd S. Shapley	22	79	Shubik, M.	9	16	0.68
Maurice Allais	0	28	0	0	0	0.62
Merton H. Miller	108	289	McGonigle, T.P.	10	3	0.91
Michael Kremer	230	520	Miguel, E.	20	2	0.84
Milton Friedman	6	34	Savage, L.J.	2	16	0.45
Myron S. Scholes	35	82	Wolfson, M.A.	6	0	0.85
Oliver E. Williamson	13	137	Wachter, M.L.	2	12	0.64
Oliver Hart	35	91	Moore, J.	9	43	0.65
Paul A. Samuelson	213	532	Bachelier, L.	6	1	0.76

Source: Compiled by the researchers

Table 7 Co-author analysis (continued)

Nobel laureates (Google Scholar)	*Co-author*	*NP*	*Top co-author*	*Number*	*Single authored publications*	*Degree of collaboration*
Paul Krugman	28	219	Wells, R.	14	6	0.66
Paul M. Romer	35	73	Bloom, N.	2	4	0.72
Peter A. Diamond	66	249	Orszag, P.R.	22	7	0.79
Ragnar Frisch	0	12	0	0	0	0.30
Reinhard Selten	105	248	Chmura, T.	8	1	0.77
Richard H. Thaler	69	265	Benartzi, S.	16	1	0.73
Richard Stone	268	344	Byrd, J.C.	4	0	0.95
Robert A. Mundell	62	121	Corden, W.M.	2	41	0.77
Robert B. Wilson	10	18	Plumley, D.	4	0	0.24
Robert C. Merton	49	140	Lo, A.W.	8	10	0.70
Robert E. Lucas Jr.	60	207	Stokey, N.L.	4	36	0.80
Robert F. Engle III	154	347	Granger, C.W.J.	9	14	0.72
Robert J. Aumann	49	199	Mertens, J.F.	14	22	0.77
Robert J. Shiller	128	579	Campbell, J.Y.	25	9	0.84
Robert M. Solow	134	452	Aliber, R.Z.	30	46	0.75
Robert W. Fogel	64	137	Engerman, S.L.	9	24	0.73
Roger B. Myerson	39	114	Braguinsky, S.	2	6	0.62
Ronald H. Coase	10	81	Wang, N.	10	1	0.75
Simon Kuznets	0	26	--	0	0	0.49
Sir William Arthur Lewis	21	63	Kilby, W.W.	3	2	0.68
Theodore W. Schultz	143	479	Dumont, J.N.	23	4	0.90
Thomas C. Schelling	78	205	Rigotti, N.A.	4	1	0.73
Thomas J. Sargent	75	330	Hansen, L.P.	28	6	0.71
Tjalling C. Koopmans	19	51	Beckmann, M.	2	25	0.82
Trygve Haavelmo	2	21	Girshick, M.A.	1	4	0.72
Vernon L. Smith	155	525	Wilson, B.J.	21	6	0.73
Wassily Leontief	69	133	Bell, D.	4	4	0.74
William D. Nordhaus	82	262	Mendelsohn, R.	6	6	0.71
William F. Sharpe	33	83	Goldstein, D.G.	2	3	0.73
William Vickrey	4	51	Anderson, S.P.	1	2	0.68

Source: Compiled by the researchers

Table 8 Most cited documents

Name of the document	*Name of the journal(s)*	*Author(s)*	*TC*	*Average per year*
'Prospect theory: an analysis of decision under risk'	*Econometrica*, 1979, Vol. 47, No. 2, pp.263–291	Kahneman, D. and Tversky, A.	25,089	570.2
'Judgment under uncertainty – heuristics and biases'	*Science*, 1974, Vol. 185, No. 4157, pp.1124–1131	Tversky, A. and Kahneman, D.	16,184	330.29
'Portfolio selection'	*Journal of Finance*, 1952, Vol. 7, No. 1, pp.77–91	Markowitz, H.	10,920	153.8
'Investigating causal relations by econometric models and cross-spectral methods'	*Econometrica*, 1969, Vol. 37, No. 3, pp.424–438	Granger, C.W.J.	10,484	194.15
'Market for lemons – quality uncertainty and market mechanism'	*Quarterly Journal of Economics*, 1970, Vol. 84, No. 3, pp.488–500	Akerlof, G.A.	8,360	157.74
'Efficient capital markets – review of theory and empirical work'	*Journal of Finance*, 1970, Vol. 25, No. 2, pp.383–423	Fama, E.F.	6,836	128.98
'Advances in prospect-theory – cumulative representation of uncertainty'	*Journal of Risk and Uncertainty*, 1992, Vol. 5, No. 4, pp.297–323	Tversky, A. and Hahneman, D.	6,683	215.58
'Capital-asset prices – a theory of market equilibrium under conditions of risk'	*Journal of Finance*, 1964, Vol. 19, No. 3, pp.425–442	Sharpe, W.F.	6,402	108.51
'A behavioral model of rational choice'	*Quarterly Journal of Economics*, 1955, Vol. 69, No. 1, pp.99–118	Simon, H.A.	5,876	86.41
'Features of similarity'	*Psychological Review*, 1977, Vol. 84, No. 4, pp.327–352	Tversky, A.	4,308	93.65
'Agency problems and the theory of the firm'	*Journal of Political Economy*, 1980, Vol. 88, No. 2, pp.288–307	Fama, E.F.	4,035	93.84
'The economic – implications of learning by doing'	*Review of Economic Studies*, 1962, Vol. 29, No. 80, pp.155–173	Arrow, K.J.	3,654	59.9
'A general framework for analyzing sustainability of social-ecological systems'	*Science*, 2009, Vol. 325, No. 5939, pp.419–422	Ostrom, E.	3,483	248.79
'Maps of bounded rationality: psychology for behavioral economics'	*American Economic Review*, 2003, Vol. 93, No. 5, pp.1449–1475	Kahneman, D.	2,160	108.00
'Congestion theory and transport investment'	*American Economic Review*, 1969, Vol. 59, No. 2, pp.251–260	Vickrey, W.S.	1,155	21.39

Source: Compiled by the researchers

3.6 Most cited documents (top 15)

NPES is considered to be phenomenal in the respect of unfurling a trend and showing a way forward of some emerging economic analysis. Since every awardee is an authority of his own domain, in the last 53 years of its journey, revolutionary documents have been produced by the awardees. Table 8 captures most influential 15 documents produced by laureates in economics in different years.

Table 8 is evident that top 15 documents published by the Nobel awardees have received citations from 25,089 being the highest received by the document 'Prospect theory: an analysis of decision under risk', authored by Kahneman and Tversky (2013). Kanheman and Traversky (2013) have received 16,084 citations for their seminal work on 'Judgment under uncertainty – heuristics and biases' published in *The Science*. The top 15 documents are concentrated around economic decision-making, corporate finance and environmental economics.

4 Conclusions

The landscape of economic thinking is on an ever-expanding terrain. The NPES is a distinguished award to recognise the disruptive innovations in diverse domains of economic analysis. The tradition of NPES starting from 1969 has discovered 89 numbers of pioneers those bagged Nobel Prize in which the lions share being occupied by the USA. From the analysis of the different bibliometric indicators, the study found that Chicago University, MIT, Harvard University and University of California have received the lion's share of the Nobel Prizes. The publication profile of the Nobel awardees exhibits an impeccable research proficiency of such great scholars and luminaries. In this work, basic scientometrics indicators have been used to describe the intellectual influence of Nobel awardees in Economics. From the standpoint of institutional contribution, University of Chicago tops the list with 13 numbers of laureates with its affiliation. In this work, it is observed that each Nobel laureate is having a niche area of research and accordingly they have chosen publishing outlets that have credibility and high visibility. Economist Clive W.J. Granger has 32 documents published in the *Journal of Econometrics*. *The Review of Economic Studies* published from the Oxford Academic has made the most significant contribution in the field of economics with a citation count of 205,518. This publishing outlet has published 2,577 articles of high influence. Nobel laureates in economics have maintained impressive social network in terms of research collaboration. NPES can be comprehended in the 15 most cited documents that have brought disruptive innovations in economic governance. The prospect theory of decision-making under uncertainty propounded by Kanheman and Tversky (2013) has been a hallmark in the economic decision-making sphere. This work has been cited and is receiving citations with the highest frequency of 25,089. The citations indicate that Nobel awardees have explored new possibilities those never been thought of and remained unaddressed for decades. The NPES is an annual affair and every year, the world will witness a breakthrough economic model, theory and principle that have a lasting impact on human race. This bibliometric analysis is an attempt to synthesise the growth and significance of NPES in 21st century.

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