

Bibliometric Analysis of the Journal – Economic Affairs

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ABSTRACT

The Purpose of the Study is to explore the Journal "Economic Affairs" and the Relationship of measuring and analyzing the Articles, Authorship, Type of document, Growth Ratio, Relative Growth Rate etc.. This paper critically analyses 2313 scholarly communications published in the Economic Affairs Journal. The analysis cover mainly the number of articles, form of document, the study is obtained from the SCOPUS database in 2313 results for thirty seven years in this results retrieved are analyzed using excel worksheets.

Keywords: Bibliometrics, Economic affairs, Authorship pattern, Growth Ratio, Document Type

1. INTRODUCTION

The terms Bibliometrics and Scientometrics have been introduced simultaneously by Pritchard, Nalimov and Mulchenko in 1969. Pritchard¹ defined the term 'Bibliometrics' as the application of mathematical and statistical methods to books and other communication medium'. "Nalimov and Mulchenko" defined 'Scientometrics' as 'the application of those quantitative methods which are dealing with the analysis of science viewed as an information process'. So, Scientometrics is the measurement of science communication, and Bibliometrics deals with more general information processes. Bibliometrics is a quantitative evaluation of publication patterns of all macro and micro communication along with their authorship by mathematical and statistical calculation. All the studies point towards the merits and weakness of the journal which will be helpful for its further development. This paper studies the Bibliometric analysis of the literature published in the Economic Affairs from 1980 to 2016.

2. Review of Literature

Baskaran, C. (2013)¹ analysed the Research productivity of Alagappa University during 1999-2011. The Relative growth rate was fluctuating trend in this study. The doubling time was increased and decreased trend in this study. Baskaran, C & Sivakami, N. (2014)² made a bibliometric analysis on Swine influenza research output. A total of 2360 articles were downloaded using the search term " Swine" in the Pubmed database. The study covers publication frequency, country, and institution productivity. Findings show that majority of the scientists liked to publish research papers in multiple authorship. Baskaran, C. (2013)³ analysed the Research growth trend and author collaboration of Alagappa University in India during 1999-2011, The study covers the authorship Pattern, subject-wise and institution-wise collaboration. The Degree of collaboration and its means value is found to be 0.963. Baskaran, C & Karuillancheran, C. (2015)⁴ carried out a bibliometric study in Diabetes and Allied Diseases in India During 1995–2013. In this study, the calculated values of Maximum Likelihood Estimator, n and k are 0.24, 2.66 and 0.78 respectively. The calculated value of Chi-Square (X²) obtained in this case is 5309.368. Bharadwaj, R. K., and Ram, S. (2013)⁵ have focused the Osteoporosis research output during 1973 to 2012. USA is the most productive country with global share 27.21% publications. Indian researchers have contributed 1.02% with 921 papers. AIIMS, Delhi is the most productive institution in India. India's highest research collaboration has been with USA within the period. Krishnan, V., and Raja, S. (2014)⁶ have analyzed the Current science Publications research output. Among 2357 records, the most productive author was Aswal V. K with 108 papers and the highest number of records 334 in 2011 and 322 in 2010. Total 73.8% of the literature was published records were articles.

India was the top produced country with 1363 publications (57.8%) followed by USA with 293 publications (12.4%). Manoharan, A. et al. (2014)⁷ have analyzed the research literature output on Fibromyalgia. Among 943 journals that have produced 4957 research papers, 188 (20%) journals have produced 3794 papers which are nearly 80 percent of the total output and 1272 articles (27.61%) were contributed by single authors. 2950 articles (51%) of a total number of articles were contributed by the authorship pattern of two to five authors. Muthamilarasi, R., Chellappandi, P., and Arokiasamy, C.M. (2013)⁸ have analyzed the allergy research literature in global level during the period 1999 to 2012. Among the total 61458 research papers, 31% of papers were from Journal of Allergy and Clinical Immunology. USA ranks first in productivity, the maximum publications are from European region and the Asia had a third place with nearly fifth of the productivity. Santhakumar, R. and Kaliyaperumal, K. (2014)⁹ analyzed the mobile technology literature output during 2003-2012. This study stated that a total of 144567 publications were published. The most prolific author is Wang, who contributed 223 publication and Institute of Electrical and Electronic Engineering (IEEE) with 1248 publications. The relative growth rates (RGR) has decreased and the doubling time (DT) has gradually increased from 0.71 in 2004 to 5.15 in 2012.

3. Scope and Purpose of the Study

The scope of Bibliometric includes the study of relationship within a literature and describing a literature. Bibliometrics studies are generally based on quantitative measurements without any qualitative evaluation. The scope of Bibliometrics includes studying the relationship with a literature (citation studies) or describing a literature typically, these descriptions focus on consistent patterns, involving Years, authors, Document Type and Growth Ratio. Bibliometric analysis has many applications in library and information science in identifying research trends, core journals, etc., and thereby framing subscription policies for tomorrow. These studies will be helpful for librarians in collection development.

4. Analysis and discussion

4.1 Year wise Distribution of Articles

The Journal "Economic Affairs" published 2313 articles from the period of 1980 to 2016 with an average of 62.51 per year. Maximum number of articles 123 were published in the year of 1986. Minimum number of articles 13 were published in the year of 1996.

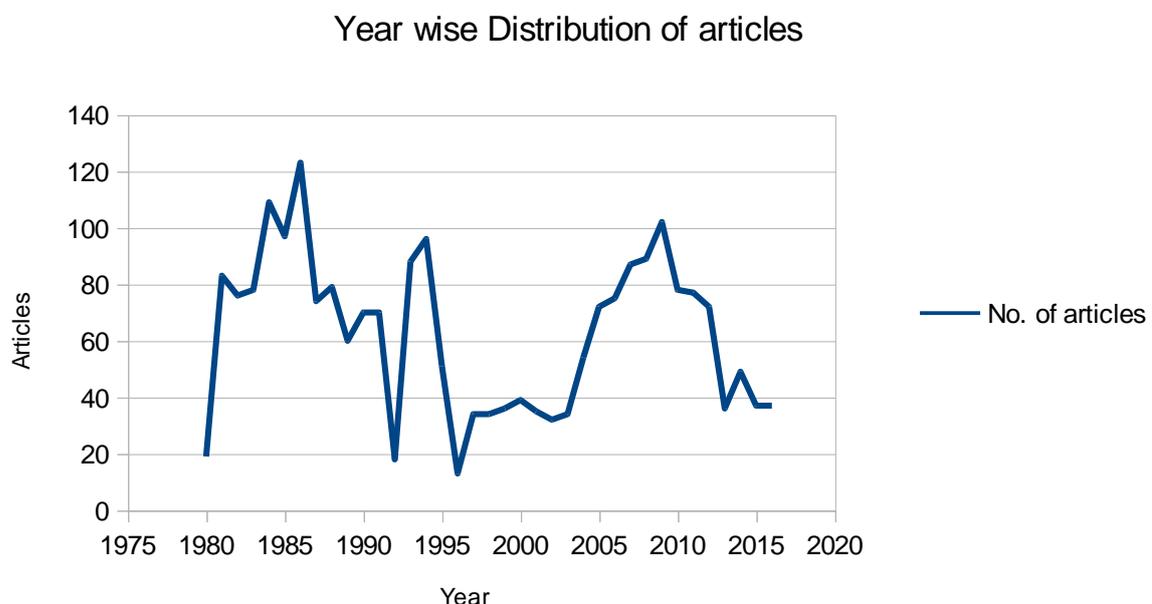


Fig.1: Year wise Distribution of articles

Table.1: Year wise distribution of Articles

Year	No. of articles	Percentage	Cumulative	Cumulative %
1980	19	0.82	19	0.82
1981	83	3.59	102	4.41
1982	76	3.29	178	7.70
1983	78	3.37	256	11.07
1984	109	4.71	365	15.78
1985	97	4.19	462	19.97
1986	123	5.32	585	25.29
1987	74	3.20	659	28.49
1988	79	3.42	738	31.91
1989	60	2.59	798	34.50
1990	70	3.03	868	37.53
1991	70	3.03	938	40.55
1992	18	0.78	956	41.33
1993	88	3.80	1044	45.14
1994	96	4.15	1140	49.29
1995	51	2.20	1191	51.49
1996	13	0.56	1204	52.05
1997	34	1.47	1238	53.52
1998	34	1.47	1272	54.99
1999	36	1.56	1308	56.55
2000	39	1.69	1347	58.24
2001	35	1.51	1382	59.75
2002	32	1.38	1414	61.13
2003	34	1.47	1448	62.60
2004	54	2.33	1502	64.94
2005	72	3.11	1574	68.05
2006	75	3.24	1649	71.29
2007	87	3.76	1736	75.05
2008	89	3.85	1825	78.90
2009	102	4.41	1927	83.31
2010	78	3.37	2005	86.68
2011	77	3.33	2082	90.01
2012	72	3.11	2154	93.13
2013	36	1.56	2190	94.68
2014	49	2.12	2239	96.80
2015	37	1.60	2276	98.40
2016	37	1.60	2313	100.00
Total	2313	100.00		

4.2 Authorship Pattern

There are a total of 2588 authorship observed in Journal of “Economic Affairs” from 1980 to 2016. Articles written in collaboration with single author 2087 (90.23%) are found to be predominant followed by two authors 192 (8.30%), three authors 24 (1.04 %) and four authors 8 (0.35 %) etc.

Table 2– Authorship pattern analyzed in the Economic Affairs

No. of Authors	No. of Articles	Percentage	Cumulative	Cumulative %
1	2087	90.23	2087	90.23
2	192	8.30	2279	98.53
3	24	1.04	2303	99.57
4	8	0.35	2311	99.91
6	1	0.04	2312	99.96
7	1	0.04	2313	100.00
Total	2313	100.00		

4.3 Types of Document

Regarding the Types of papers published in the Economic Affairs, the highest contribution was from article (81.02%) followed by Note (9.34%) and Review (3.76%)

Table 3 – Types of articles published in the Economic Affairs

Document Type	Count	Percentage	Cumulative	Cumulative %
Article	1874	81.02	1874	81.02
Editorial	76	3.29	1950	84.31
Erratum	1	0.04	1951	84.35
Letter	46	1.99	1997	86.34
Note	216	9.34	2213	95.68
Review	87	3.76	2300	99.44
Short Survey	13	0.56	2313	100.00
Total	2313	100.00		

4.4 Growth Ratio by Year-wise

The calculated growth ratio of articles published in the Journal “Economic Affairs” shown in the table 5. The Growth ratio change from 0.26 to 4.89. Figure 2 shows the fluctuation in the Growth ratio. The growth ratio is downwards.

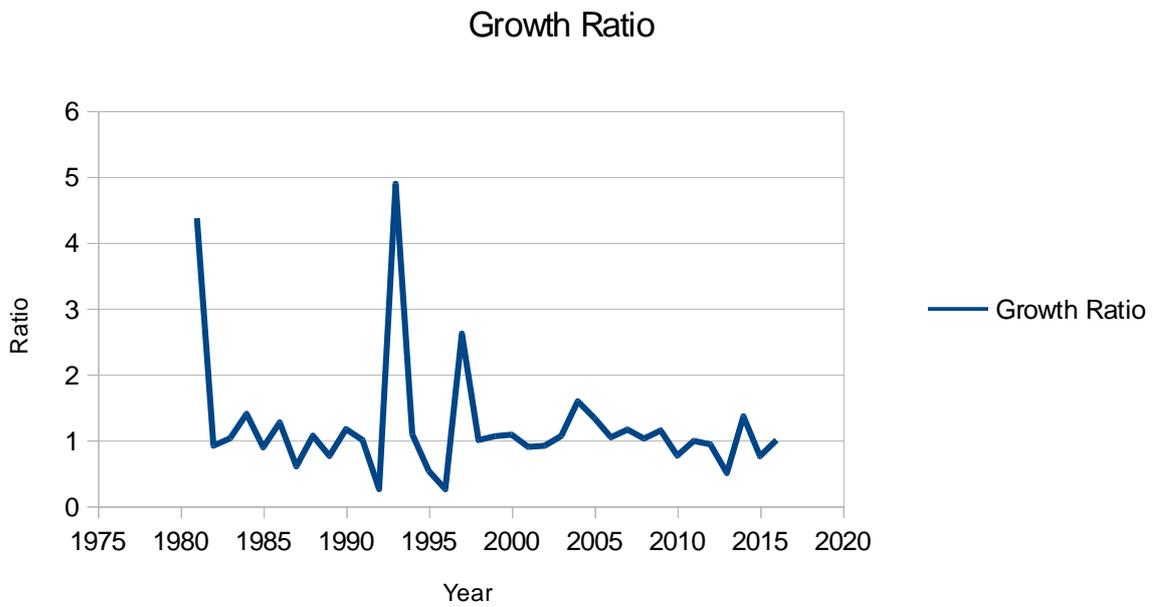


Fig.2: Year wise Growth Ratio

Table.4: Year wise Growth Ratio

Year	Articles	Growth Ratio
1980	19	
1981	83	4.37
1982	76	0.92
1983	78	1.03
1984	109	1.40
1985	97	0.89
1986	123	1.27
1987	74	0.60
1988	79	1.07
1989	60	0.76
1990	70	1.17
1991	70	1.00
1992	18	0.26
1993	88	4.89
1994	96	1.09
1995	51	0.53
1996	13	0.25
1997	34	2.62
1998	34	1.00
1999	36	1.06
2000	39	1.08
2001	35	0.90
2002	32	0.91
2003	34	1.06
2004	54	1.59
2005	72	1.33
2006	75	1.04
2007	87	1.16
2008	89	1.02
2009	102	1.15
2010	78	0.76
2011	77	0.99
2012	72	0.94
2013	36	0.50
2014	49	1.36
2015	37	0.76
2016	37	1.00
Total	2313	

4.5 Relative Growth Rate (RGR) and Doubling Time (DT) of Year-wise Publications

The rate of growth of articles published in the Journal “Economic affairs” is ascertained by calculating relative growth rates and doubling time for publications. The RGR from the year 1981 is 1.68, the final year 2016 is 0.02, and the overall value is 0.13. The values are decreased year by year . At the same time, the Doubling Time (DT) shows increasing trend, from the year 1981 is 0.41 and the final year 2016 is 42.97.

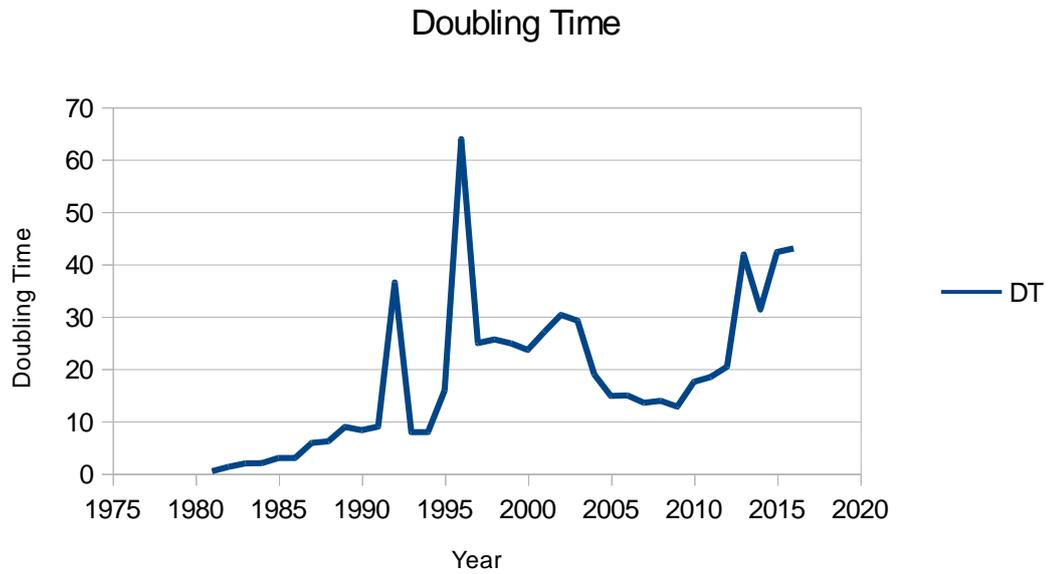


Fig.3: Doubling Time

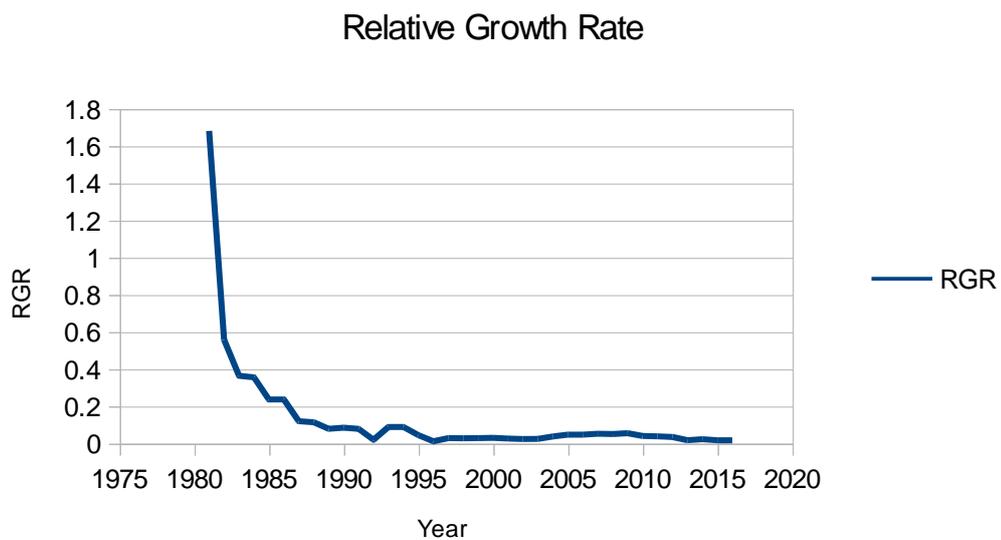


Fig.4: Relative Growth Rate

Table.5: Relative Growth Rate and Doubling Time of Year-wise Publications

Year	No. of articles	Percentage	Cumulative	W1	W2	RGR	DT
1980	19	0.82	19		2.94		
1981	83	3.59	102	2.94	4.62	1.68	0.41
1982	76	3.29	178	4.62	5.18	0.56	1.24
1983	78	3.37	256	5.18	5.55	0.36	1.91
1984	109	4.71	365	5.55	5.90	0.35	1.95
1985	97	4.19	462	5.90	6.14	0.24	2.94
1986	123	5.32	585	6.14	6.37	0.24	2.94
1987	74	3.20	659	6.37	6.49	0.12	5.82
1988	79	3.42	738	6.49	6.60	0.11	6.12
1989	60	2.59	798	6.60	6.68	0.08	8.87
1990	70	3.03	868	6.68	6.77	0.08	8.24
1991	70	3.03	938	6.77	6.84	0.08	8.94
1992	18	0.78	956	6.84	6.86	0.02	36.46
1993	88	3.80	1044	6.86	6.95	0.09	7.87
1994	96	4.15	1140	6.95	7.04	0.09	7.88
1995	51	2.20	1191	7.04	7.08	0.04	15.83
1996	13	0.56	1204	7.08	7.09	0.01	63.84
1997	34	1.47	1238	7.09	7.12	0.03	24.89
1998	34	1.47	1272	7.12	7.15	0.03	25.58
1999	36	1.56	1308	7.15	7.18	0.03	24.83
2000	39	1.69	1347	7.18	7.21	0.03	23.59
2001	35	1.51	1382	7.21	7.23	0.03	27.02
2002	32	1.38	1414	7.23	7.25	0.02	30.27
2003	34	1.47	1448	7.25	7.28	0.02	29.17
2004	54	2.33	1502	7.28	7.31	0.04	18.93
2005	72	3.11	1574	7.31	7.36	0.05	14.80
2006	75	3.24	1649	7.36	7.41	0.05	14.89
2007	87	3.76	1736	7.41	7.46	0.05	13.48
2008	89	3.85	1825	7.46	7.51	0.05	13.86
2009	102	4.41	1927	7.51	7.56	0.05	12.74
2010	78	3.37	2005	7.56	7.60	0.04	17.46
2011	77	3.33	2082	7.60	7.64	0.04	18.39
2012	72	3.11	2154	7.64	7.68	0.03	20.38
2013	36	1.56	2190	7.68	7.69	0.02	41.81
2014	49	2.12	2239	7.69	7.71	0.02	31.32
2015	37	1.60	2276	7.71	7.73	0.02	42.28
2016	37	1.60	2313	7.73	7.75	0.02	42.97
Total	2313	100.00					

5. Conclusion

For this study published articles were taken for 37 year only from the Journal "Economic Affairs". The average year wise contribution of articles from the Economic Affairs is 62.51. In the Authorship pattern the major contribution of articles was from single authors 2087 (90.23%) followed by two authors 192 (8.30%), three authors 24 (1.04 %) and four authors 8 (0.35 %). Related to Type of Document published, the highest contribution was from article (81.02%) followed by Note (9.34%) and Review (3.76%). Related to Growth ratio of articles published, the Growth ratio change from 0.26 to 4.89. The growth ratio is downwards. The RGR from the year 1981 is 1.68, the final year 2016 is 0.02, and the overall value is 0.13. The values are decreased year by year . At the same time, the Doubling Time (DT) shows increasing trend, from the year 1981 is 0.41 and the final year 2016 is 42.97.

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