Electronic access of individual papers in economics: a study

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Examines the electronic access (read) of individual research papers in economics selected randomly from the Repec database. Finds similarities and differences in the measure of central tendency and dispersion of two type of reads viz, abstract read and full text read of papers by calculating the rate of read, standard deviation and coefficient of variation. Results indicate topic-wise difference both in the number of abstract read and full text read. Finds a very high positive correlation between the monthly abstract read and full text read, also obtains the regression equation. Derives a ratio connecting the per month abstract read, full text read and citation. Indicate that full text read is a subset of abstract read. Finds that a more read paper is not correspondingly well cited. Searches for a best-fit relationship between the full text read and citations, and obtains a tenth degree polynomial but with coefficient of determination being 0.42 only. Concludes that citation is not parameterized by read. Suggests the need of a social network analysis to identify the parameters of citations.

Introduction

In the present era of globalisation, free cross-border movements of goods and services, foreign direct investment etc., are considered as the pillars of modern economic globalization. On a broader perspective globalization also embraces international flow of ideas, political and social values. The information and communication technologies have enabled and lubricated this international flow of ideas. However, studies about such flow of ideas are few. The present paper tries to understand the characteristics of the international flow of ideas from economic papers by studying its electronic access. Many times the ideas in academic papers act as the seed of innovation and sometimes are able to solve many social, economic and technological problems. This study thus assumes relevance.

The development of information technology especially the Web has changed the structure and process of scholarly communication and opened new avenues for researching. May be, because of this, researchers irrespective of their branches of study are increasingly becoming computer literate and Internet is integrated into their daily activities. Today, research and electronic resources are inseparably interlinked and researchers use electronic journals profusely.

The increase in the use of electronic journals by researchers is revealed in many studies. Electronic access to scholarly journals has become an important and accepted tool for researchers. Zhang, who studied the impact of internet-based resources on scholarly communication in library and information Science, reported a higher impact rate and an increase in use over time. Again, Herring in the citation analysis study of the use of electronic resources in scholarly electronic journals, found that a radical change in information seeking behavior and information resource use is taking place as scholars and researches become more comfortable and familiar with the resources available on the Web. Thus, a change of information environment, more precisely, a change of thrust from print media to the electronic media is evident.

The reason for the above change of thrust could be attributed to the advantages of electronic resources, particularly electronic journals. Convenience, timeliness, ability to search text, and animation of graphics are the most important factors identified by Lenares in choosing electronic journals over print. But Liew et al found that the ability to link additional information, the ability to search and the currency of materials are top reasons for using electronic resources. However, Roes, who studied the faculty members of Tilburg University, England,
reported timely availability, easy access, full text searching and access from home are factors that promote the use of electronic journals.

Although the electronic resources have advantages, outweighing the disadvantages, users express concerns also. Print is a proven archival format. Palmer and Sandler found in their studies that even those who prefer electronic access to journals prefer books in print format. The most common complaint about electronic resources is the discomfort of reading from the screen or poor graphic quality. Ability to browse, portability, physical comfort and convenience are the most important characteristics that lead to choose the print over electronic resources.

The bibliometric studies on the traditional print environment are in abundance but the electronic environment still remains as a new and unexplored area for such studies, even in the changed information environment mentioned above. Today the rapid growth of information technology enables the access to new data sources and tools for scholarly communication, which would have been unavailable previously. This in turn provides ample opportunities for conducting a wide range of studies on scholarly communication. In this context the present study utilizes this opportunity and explores various aspects of a new type of bibliometric measure, the number of electronic access of individual papers in economics, to understand the characteristics of the flow of ideas. The data for this study has been harvested from Repec database.

**Repec database**

*Repec*, acronym of REsearch Papers in EConomics, is a collaborative effort of hundreds of volunteers from 58 countries and 35 US states to enhance dissemination of research in economics. The heart of the project is a decentralized database of working papers, journal articles and software components. Institutions join and contribute their materials by establishing and maintaining their *Repec* archive. Among the many participating institutions and publishers, the top contributors includes Elsevier, Blackwell Publishing, Federal Reserve System (Fed) in Print (USA), WOPEBI (Canada), Taylor and

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**Table 1 — Topic-wise distribution of abstract read per month per paper**

<table>
<thead>
<tr>
<th>Topics</th>
<th>Paper-1</th>
<th>Paper-2</th>
<th>Paper-3</th>
<th>Paper-4</th>
<th>Paper-5</th>
<th>Paper-6</th>
<th>Paper-7</th>
<th>Paper-8</th>
<th>Total</th>
<th>Average or Abstract read per month per paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>4.4</td>
<td>8.5</td>
<td>5.8</td>
<td>4.4</td>
<td>1.2</td>
<td>14.9</td>
<td>-</td>
<td>-</td>
<td>39.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Deflation</td>
<td>9.9</td>
<td>6.5</td>
<td>60.3</td>
<td>14.4</td>
<td>12.7</td>
<td>8.6</td>
<td>11.2</td>
<td>23.7</td>
<td>147.3</td>
<td>18.4</td>
</tr>
<tr>
<td>Industrialization</td>
<td>3.4</td>
<td>17.4</td>
<td>13.9</td>
<td>6.6</td>
<td>9.9</td>
<td>4.4</td>
<td>46.6</td>
<td>9.5</td>
<td>111.7</td>
<td>14.0</td>
</tr>
<tr>
<td>Inflation</td>
<td>4.9</td>
<td>7.2</td>
<td>4.0</td>
<td>32.7</td>
<td>18.7</td>
<td>40.9</td>
<td>-</td>
<td>-</td>
<td>108.4</td>
<td>18.1</td>
</tr>
<tr>
<td>Poverty</td>
<td>14.3</td>
<td>36.6</td>
<td>6.6</td>
<td>32.7</td>
<td>14.3</td>
<td>21.8</td>
<td>11.3</td>
<td>-</td>
<td>137.6</td>
<td>19.7</td>
</tr>
<tr>
<td>Unemployment</td>
<td>14.1</td>
<td>18.3</td>
<td>16.2</td>
<td>8.1</td>
<td>19.6</td>
<td>11.1</td>
<td>1.5</td>
<td>-</td>
<td>88.9</td>
<td>12.7</td>
</tr>
</tbody>
</table>

**Table 2 — ANOVA table for topic-wise distribution of abstract read per month**

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>5439.795</td>
<td>5</td>
<td>1087.959</td>
<td>17.146</td>
<td>.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>167390.82</td>
<td>2638</td>
<td>63.454</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>172830.61</td>
<td>2643</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

df = degrees of freedom, F = The F statistic, Sig = Significance
Table 3 — Standard deviation (SD) and coefficient of variation (CV) of the monthly *abstract read* of papers on different topics

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
</tr>
<tr>
<td>Agriculture</td>
<td>2.2</td>
<td>50</td>
<td>7.3</td>
<td>85</td>
<td>2.5</td>
<td>43</td>
<td>2.7</td>
<td>61</td>
<td>1.6</td>
</tr>
<tr>
<td>Deflation</td>
<td>5.8</td>
<td>59</td>
<td>3.5</td>
<td>54</td>
<td>61.3</td>
<td>102</td>
<td>4.9</td>
<td>34</td>
<td>5.1</td>
</tr>
<tr>
<td>Industrialization</td>
<td>2.1</td>
<td>62</td>
<td>9.2</td>
<td>53</td>
<td>4.6</td>
<td>33</td>
<td>3.9</td>
<td>59</td>
<td>4.2</td>
</tr>
<tr>
<td>Inflation</td>
<td>4.6</td>
<td>94</td>
<td>5.7</td>
<td>79</td>
<td>3.2</td>
<td>80</td>
<td>22.9</td>
<td>70</td>
<td>11.1</td>
</tr>
<tr>
<td>Poverty</td>
<td>13.0</td>
<td>91</td>
<td>20.6</td>
<td>56</td>
<td>2.8</td>
<td>42</td>
<td>24.3</td>
<td>74</td>
<td>13.0</td>
</tr>
<tr>
<td>Unemployment</td>
<td>11.9</td>
<td>84</td>
<td>8.7</td>
<td>48</td>
<td>9.5</td>
<td>59</td>
<td>11.1</td>
<td>137</td>
<td>10.0</td>
</tr>
</tbody>
</table>
Francis Journal, Springer, Oxford University Press, University of Chicago etc. Repec database holds over 4,80,000 items, about 3,70,000 of which are available online. The Repec materials are freely available from the site http://www.repec.org. This database provides information about author and publisher, accession statistics and citation details of the papers. The accession statistics show *abstract views* at the Repec services and *file downloads* originated from the Repec services. This statistics are gathered once a month. The citation details are calculated from the bibliographic data contributed to by the participating institutions.

**Abstract read and full text read**

Every time a user accesses to a paper electronically, it is counted, as a ‘read’ in the present study. As mentioned earlier, the accession statistics of Repec database provides the month-wise distribution of *abstract views* and *downloads*. In this study we consider the *abstract views* as *abstract read* and the *downloads* as *full text read*.

**Objectives of the study**

The communication technologies enabled the international flow of ideas, in electronic form, mainly from papers in electronic resources. Today electronic resources are imperative for research. Bibliometric studies in electronic environment still remain as new and unexplored area. Moreover, as a result of the accelerated development of Information Technology, new data sources and tools for scholarly communications are now accessible. The present study grabs this opportunity with an objective to understand the characteristics of the international flow of ideas from economic papers by exploring the various aspects of the new type of bibliometric measure viz., the number of electronic access (read) of individual research.

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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
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<td>6.1</td>
<td>0.0</td>
<td>0.9</td>
<td>0.0</td>
<td>3.5</td>
<td>-</td>
<td>-</td>
<td>12.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Deflation</td>
<td>4.1</td>
<td>1.0</td>
<td>23.6</td>
<td>3.4</td>
<td>6.0</td>
<td>4.5</td>
<td>5.9</td>
<td>7.7</td>
<td>56.2</td>
<td>7.0</td>
</tr>
<tr>
<td>Industrialization</td>
<td>0.9</td>
<td>3.3</td>
<td>4.1</td>
<td>3.2</td>
<td>3.4</td>
<td>1.4</td>
<td>14.6</td>
<td>6.8</td>
<td>37.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.0</td>
<td>2.1</td>
<td>0.0</td>
<td>11.1</td>
<td>10.0</td>
<td>8.3</td>
<td>-</td>
<td>-</td>
<td>31.5</td>
<td>5.3</td>
</tr>
<tr>
<td>Poverty</td>
<td>6.5</td>
<td>17.5</td>
<td>3.4</td>
<td>3.6</td>
<td>6.5</td>
<td>5.6</td>
<td>1.9</td>
<td>-</td>
<td>45.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.0</td>
<td>7.5</td>
<td>9.4</td>
<td>6.2</td>
<td>5.9</td>
<td>0.0</td>
<td>0.5</td>
<td>-</td>
<td>29.5</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Table 5 — ANOVA table for topic-wise distribution of full text read per month**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>45975.817</td>
<td>5</td>
<td>9195.163</td>
<td>24.983</td>
</tr>
<tr>
<td>Within groups</td>
<td>970946.48</td>
<td>2638</td>
<td>368.062</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1016922.3</td>
<td>2643</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

df = degrees of freedom  F = The F statistic  Sig = Significance
papers in economics, randomly selected from the Repec database.

The study mainly aims to understand the characteristics of central tendency, scattered ness and consistency of abstract read and full text read of papers provided in the Repec database. For this purpose, the number of abstract read per month per paper and that of full text read, standard deviation of abstract read and full text read, and coefficient of variation of both the reads are calculated. Besides this, the present study tries to understand the read pattern in an electronic environment by searching a relationship between the abstract read and the full text read. Finally, the data gathered was used to know the relationship between the full text read and citations received.

Methodology

A random sample study of papers from different topics in economics was planned. As a first step, an alphabetical list of major topics in economics was prepared. From this list, six topics viz., agriculture, deflation, industrialization, inflation, poverty and unemployment were selected at random. Repec database was accessed from http://www.repec.org/ on 12th May 2007. The total number of papers provided in the Repec database under each of these topics was noted. A random sample of 42 papers was constructed from the Repec database by random selection of sufficient number of papers from each topic, in accordance with proportional representation to its total papers noted above. The sample thus constructed contained 6 randomly selected papers from agriculture, 8 each from deflation and industrialization, 6 from inflation, 7 each from poverty and unemployment. The data gathered from this random sample of 42 papers is the basis of this study.

The papers selected were numbered serially under their respective topics and this order was kept intact throughout this study (Appendix 1). Relevant bibliographic details such as monthly abstract read and full text read, citation details etc. for each selected paper as on the date of accession were collected from the Repec database. Later, this data was analyzed with the help of computer, using appropriate statistical packages.

Results and discussions

Abstract read per month per paper
As mentioned earlier, the accession statistics of Repec database provides monthly abstract read and full text read of papers. From this, the data on abstract read was taken first and its rate i.e. abstract read per month per paper is calculated for each topic (Table1). This indicated topic-wise difference. The abstract of papers in agriculture showed comparatively low rate of abstract read (6.5) while that of poverty and deflation showed higher rate (19.7 & 18.4). This forced the researcher to think about topic-wise difference of abstract read, for which ANOVA technique was used (Table 2). It was found that abstract read of papers varied with topics. Combining all the topics, the average number of abstract read per month per paper is 14.9 or 15 nearly.

In fact, the above discussion reveals the characteristics of central tendency of the data. Further characteristics like scattered-ness or compactness are revealed by measure of dispersion. Hence, standard deviation of the monthly abstract read of papers in different topics is calculated (Table 3). Here also the monthly abstract read of papers in agriculture showed less scattered-ness (since it has the least average standard deviation of 4.2) and that in deflation shows more scattered-ness. Since we had several series of data on abstract read to compare, it is appropriate to calculate the coefficient of variation (c.v), a relative measure of dispersion, to provide more validly authentic inference. It is evident from Table 3 that the average coefficient of variation of the monthly abstract read of papers in inflation is high (average c.v = 77.1) and that of industrialization is low (average c.v = 61.6). Since consistency varies inversely as c.v, it is clear that papers in inflation show less consistency in the monthly abstract read and that of industrialization shows more consistency.

Full text read per month per paper

The full text read per month per paper for each topic has been calculated (Table 4). As observed in the case of abstract read, the full text of the papers in agriculture was read comparatively less number of times (2.1). Here also deflation and poverty show higher rate of full text read (7 & 6.4). The topic-wise difference in the read of the full text of papers was checked using ANOVA technique and found significant variation of full text read with topic (Table 5). Combining all the topics, the average number of full text read per month per paper is nearly 5.

The scattered-ness of the monthly full text read of papers was assessed by calculating their standard deviation...
Table 6 — Standard deviation (SD) and coefficient of variation (CV) of the monthly *full text read* of papers on different topics

<table>
<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
<td>CV</td>
<td>SD</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1.4</td>
<td>74</td>
<td>7.9</td>
<td>130</td>
<td>0.0</td>
<td>0</td>
<td>0.8</td>
<td>89</td>
<td>0.0</td>
</tr>
<tr>
<td>Deflation</td>
<td>4.1</td>
<td>100</td>
<td>1.2</td>
<td>120</td>
<td>23.4</td>
<td>99</td>
<td>2.8</td>
<td>82</td>
<td>4.1</td>
</tr>
<tr>
<td>Industrialization</td>
<td>1.2</td>
<td>133</td>
<td>2.2</td>
<td>67</td>
<td>2.3</td>
<td>56</td>
<td>3.9</td>
<td>63</td>
<td>2.5</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.0</td>
<td>0</td>
<td>2.4</td>
<td>114</td>
<td>0.0</td>
<td>0</td>
<td>22.9</td>
<td>71</td>
<td>6.7</td>
</tr>
<tr>
<td>Poverty</td>
<td>7.4</td>
<td>114</td>
<td>12.5</td>
<td>71</td>
<td>4.5</td>
<td>132</td>
<td>24.3</td>
<td>75</td>
<td>7.4</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.0</td>
<td>0</td>
<td>5.7</td>
<td>76</td>
<td>6.0</td>
<td>64</td>
<td>13.0</td>
<td>210</td>
<td>3.8</td>
</tr>
</tbody>
</table>
Here also, the order of topics as per scatteredness was roughly the same, as obtained in the case of abstract read, i.e., monthly full text read of papers in agriculture is less scattered and that of deflation is more scattered. The coefficient of variation calculated revealed that the monthly full text read of papers in inflation is more consistent, while that of deflation and poverty show more variability.

**Correlation between abstract read and full text read**

While analyzing the data of abstract read and full text read, it was noted that, for every month, the abstract read of a paper was greater than the corresponding full text read. Further, it is generally observed that an increase in the value of monthly abstract read corresponds to an increase in value of the monthly full text read and vice-versa or there appeared a direct variation between them. When Karl Pearson’s coefficient of correlation was calculated to assess the extent of correlation between them, a very high positive correlation \( r=0.85 \) was obtained. Hence, it is concluded that, persons reading the full text of a paper are necessarily from among those who read the abstract of the paper. This reveals the pattern of the read i.e., read abstract first, before selecting the paper for full text read. By taking the abstract read as independent variable and full text read as dependent variable, the regression equation expressing the relationship between them is \( Y = 0.328 X + 0.107 \), where \( Y \) stands for the number of full text read per month and \( X \) stands for abstract read per month.

**Citations per month per paper**

Citation studies are central to any bibliometric studies. In fact citation is a parameter for assessing the quality of a research paper based on the fact that an influential research paper is widely cited by other researchers. According to Eugene Garfield\(^{10}\), the founder of Institute for Scientific Information, citation counts provide a measure of the utility or impact of scientific work. It is now generally accepted that, citation rate is a direct measure of usefulness of a research paper.

The present study assumed that a paper would be cited after reading its full text and not its abstract alone. Hence, even though the Repec database provides both the monthly abstract read and full text read, the latter is taken as read for the citation analysis here.

From the citation data, the citations received per month per paper for all the six topics are calculated (Table 7). It is evident that the papers on inflation have comparatively higher citation rate \([1.92\text{ citation per month per paper}]\) while papers in deflation receives only 0.22. Compared to other papers, paper 7 in unemployment has an abnormal citation rate \([30\text{ citations per month}]\). Taking together all the 42 papers, irrespective of topics, the average citation received per month per paper is nearly 1.5.

**Read- Cite ratio**

It is a fact that, interesting and historically important papers are read irrespective of its age. New papers and papers having current relevance are also well read. Citation on the other hand, is parameterized by the youth factor. More explicitly a newly published paper receives more citations than an old one, of course, exempting the classic papers and those authored by Nobel Laureates and famous scientists. As such, both
the read and cite are parameterized by time dependent functions. The present study, however, does not identify the parameters affecting reads and cites but only analyze the data gathered to know its inter relationship.

The citation data was perused with the presumption that a more read paper is likely to be cited more frequently. As Table 4 shows, the full texts of papers 3 and 5 in agriculture, 1 and 3 in inflation, and 1 and 6 in unemployment remained unread till the date of accession of data for this study. However these papers were cited (Table 7). Also well read papers were not correspondingly well cited as the full text of the paper 3 in deflation and paper 7 in industrialization were comparatively well read but were not correspondingly cited. Again paper 7 in unemployment was less read, but received an abnormal citation rate. The linear relationship between read and cite was ruled out by finding Karl Pearson’s correlation coefficient (r = -0.127).

A scatter diagram, plotting the number of full text read per month on the X-axis and the corresponding citations per month on the Y-axis, drawn to know the trend, if any, revealed a highly irregular fluctuation and because of this, no moderately fit relationship between them was

\[
\text{Polynomial Equation: } Y = 1.89292112341429 + 62.7379547215863 \cdot X - 111.30701438359 \cdot \text{pow}(X,2) + 73.9929644599342 \cdot \text{pow}(X,3) - 25.502538287606 \cdot \text{pow}(X,4) + 5.14321370679757 \cdot \text{pow}(X,5) - 0.638361813287337 \cdot \text{pow}(X,6) + 0.049227420464163 \cdot \text{pow}(X,7) - 0.00228977558641266 \cdot \text{pow}(X,8) + 5.85828369689182 \cdot \text{pow}(X,9) - 6.30386173538298 \cdot \text{pow}(X,10) \\
\text{Degree} = 10, \text{Number of data points used} = 42, \text{Average } X = 5.05286, \text{Average } Y = 1.4731 \\
\text{Coef of determination, R-squared} = 0.419419
\]
It is noticed from the raw data that each monthly abstract read of papers was greater than the corresponding full text read and the two are in direct variation. Moreover, topics with higher abstract read of papers have a correspondingly high full text read also. It is, therefore, concluded that persons reading full text of a paper is a subset of those reading the abstract of the paper or this revealed the read pattern viz, the abstract is read first before reading the full text of the paper. Because of this, the Karl Pearson’s coefficient of correlation between the abstract read and full text read showed a very high positive correlation of r=0.85. The regression equation of full text read on abstract read is \( Y=0.328X + 0.107 \) where \( X \) stands for the abstract read per month and \( Y \) stands for the full text read per month.

When all topics combined, the averages of the abstract read per month per paper, full text read per month per paper and citations received per month per paper are roughly 15, 5 and 1.5 respectively or in ratio 30:10:3. Hence, among every 30 persons reading the abstract of a paper, 10 persons download it for full text read of which 3 papers are cited.

The present study assumed that citation to a paper is made after reading its full text and not its abstract alone. However, it is found that papers, whose full texts are never read till the date of accession of the data for this study, are cited. They might have cited either by reading the abstract alone or by accessing some other sources like hardcopy etc. More read papers are not well cited here. No moderately fit relationship was found between the full text read and citations, even after removing the inconsistent and abnormal values from them. Therefore, it is concluded that cite is not parameterized by read and the factors that cause someone to read and cite are different. So the natural question arises, what are the parameters determining the citations received for a paper? The present study is inadequate to find an answer to this question because any attempts to identify these parameters will invariably involve studies about such as to what extent do articles in a specified journal feed into or draw upon different intellectual traditions. This indicates the need for a social network analysis, more than a bibliometric analysis, which is beyond the scope of this study and therefore leaving for further research.

Finally it is concluded that, transnational diffusion of knowledge is happening in an unprecedented scale. This leads to the virtual explosion in the information dissemination, with deep impact on the emerging knowledge society. This study indicated topic-wise
difference in read, and hence the readership of a journal can be improved (thereby accelerating the diffusion of knowledge) by providing papers on diverse topics.

References
10. Garfield E E, Citation indexing: its theory and application in science, technology and humanities, (Wiley; New Delhi), 1979.
Appendix - 1

Papers in different topics selected for the study

Agriculture

   Hongli Feng, Loyubov Kurkalova, Catherine Louise Kling and Philip Gassman
   Centre for Agricultural and Rural Development (CARD) Publications.
2. Learning by Doing and Learning from Others: Human Capital and Technical Change in Agriculture.
   Mark Rosenzweig and Andrew Foster
   Home Pages from University of Pennysylvania.
3. Income and Nutritional effects of the commercialization of agriculture in southwestern Kenya.
   Eileen T. Kennedy and Bruce Cogill
   Research reports from International Food Policy Research Institute (IFPRI)
4. Metamodels and Non point Pollution Policy in Agriculture
   Aziz Bouzaher, Richard Cabe, Alicia Carriquiry, Philip Gassman, P. Lakshminarayan and Jason Shogren
   Centre of Agriculture Development (CARD) Publications.
5. International net worth and the investment process: and application to U.S agriculture
   Robert Glenn Hubbard and Anil Kashyap
   Finance and Economic Discussion Series from Board of Governors of the Federal Reserve System (U.S)
6. Productivity growth and convergence in agriculture and manufacturing
   Will J Martin and Devashish Mitra

Deflation

1. Escaping from a Liquidity Trap and Deflation: The Foolproof Way and Others.
   Lars E. O. Svensson
2. Is equipment price deflation a statistical artifact?
   Bart Hobijn
   Staff Reports from Federal Reserve Bank of New York.
3. Preventing deflation: lessons from Japan’s experience in the 1990’s
   Alan Ahearne, Gagnon, Jane Haltmaler and Steve Kamin...[et al.]
   International Finance Discussion Papers from Board of Governors of the Federal Reserve System(U.S)
4. Good versus Bad Deflation: Lessons from the Gold Standard Era
   Michael David Bordo, John Landon Lane and Angel Redish
   NBER Working Papers from National Bureau of Economic Research, Inc
5. Monetary Policy and the Dangers of Deflation: Lessons from Japan
   Daniel Leigh
   Economic Working Paper Archive from The Johns Hopkins University, Department of Economics
6. Deflation: Prevention and Cure
   Willem H. Buiter

7. How to Fight Deflation in a Liquidity Trap: Committing to Being Irresponsible
   
   **Gauti B. Eggertsson**
   
   IMF Working Papers from International Monetary Fund

8. Monetary policy in deflation: the liquidity trap in history and practice
   
   **Anthanasios Orphanides**
   
   Finance and Economics Discussion Series from Board of Governors of the Federal Reserve System (U.S)

**Industrialization**

   
   **Oliver Wavell Grant**
   
   Oxford University Economic and Social History Series from Economics Group, Nuffield College, University of Oxford.

2. Global Income Divergence, Trade and Industrialisation: The Geography of Growth Take-Offs
   
   **Richard Baldwin, Philippe Martin and Gianmarco I.P. Ottaviano**
   
   Working Paper Series from Research Institute of Industrial Economic.

3. Rural industrialization in Kerala: Re-examining the issue of rural growth linkages.
   
   **Mridul Eapen**
   
   Centre for Development Studies, Trivandrum Working Papers from Centre for Development Studies. Trivandrum, India.

4. Expenditure reform in industrialized countries-a case study approach.
   
   **Sebastian Hauptmeier, Martin Helpertz and Ludger Schuknecht**
   
   Working Paper Series from European Central Bank

5. Household Saving and Asset Valuations in Selected Industrialised Countries.
   
   **Paul Hiebert**
   
   RBA Research Discussion Papers from Reserve Bank of Australia.

   
   **Marco Da Rin and Thomas Hellmann**
   

   
   **Charles Harvie and Lee, Hyun-Hoon**
   
   Economics Working Papers from School of Economics and Information Systems, University of Wollongona, NSW, Australia

8. Inequality of Learning in industrialized Countries.
   
   **John Micklewright and Sylke. V. Schnepf**
   
   IZA Discussion Papers from Institute for the Study of Labor (IZA)

**Inflation**

1. Inflation persistence
   
   **Jeffrey C. Faber and George Moore**
   
   Finance and Economics Discussion Series from Board of Governors of the Federal Reserve system (US)

2. Optimal Inflation Targets ‘Conservative’ Central Banks, and Linear inflation Contracts
   
   **Lars E.O. Svensson**
   
   CEPR Discussion Papers from C.E.P.R Discussion Papers.

3. The Inflation Tax in a Real Business cycle Model
   
   **Thomas Cooley and Gary Hansen**
   
   RCER Working Papers from University of Rochester - Center Economic Research
4. European Inflation Dynamics
   Jordi Gali, Mark Gertler and David Lopez-Salido
   NBER Working Papers from National Bureau of Economic Research, Inc

5. Inflation Dynamics: A Structural Econometric Analysis
   Jordi Gali, Mark Gertler
   NBER Working Papers from National Bureau of Economic Research, Inc

6. Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets on and
   Lars E.O. Svensson
   Seminar Papers from Stockholm University, Institute for International Economics Studies.

Poverty
1. Aid allocation and poverty reduction
   Paul Collier and David Dollar

2. Trade, growth, and poverty
   David Dollar and Aart Kraay

   Arnstein Asssve, Simon erguson, Matt Dickson and Carol Propper
   The Centre for Market and Public Organization from Department of Economics, University of Bristol, UK

4. Whither Poverty in Great Britain and the United States? The Determinants of Changing Poverty and Whether Work will Work
   Richard Dickens and David T. Ellwood
   NBER Working Papers from National Bureau of Economic Research, Inc

5. Aid allocation and poverty reduction
   Paul Collier and David Dollar

6. Statistical Inference for Stochastic Dominance and for the Measurement of Poverty and Inequality
   Russel Davidson and Jean – Yves Ducclos
   Cashiers de reache from Universite Laval – Department d’econo

7. Whither Poverty in Great Britain and the United States? The Determinants of Changing Poverty and Whether Work will Work
   Richard Dickens and David T. Ellwood
   CEP Discussion Papers from Centre for Economic Performance, LSE

Unemployment
1. The European Unemployment Dilema
   L Liungqvist and Thomas Sargent
   Working Papers from Industrial Institute for Economic and Social Research

2. The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence
   Olivier Blanchard and Justin Wolfers
   NBER Working Papers from National Bureau of Economic Research, Inc

3. Hysteresis and the European Unemployment Problem
   Olivier Blanchard and Lawrence H summers
4. The impact of Employment Tax Cuts on Unemployment and Wages. The Role of Unemployment Benefits and Tax Structure
   Christopher A Pissarides.

CEP Discussion Papers from Centre for Economic Performance LSE

5. What We Know and Do Not Know About the Natural Rate of Unemployment
   Olivier Blanchard and Lawrence F. Katz

CEP Discussion Papers from National Bureau of Economic Research, Inc

6. Job Creation and Job Destruction in the Theory of Unemployment
   Christopher A Pissarides and Dale, T. Mortensen

CEP Discussion Papers from Centre for Economic Performance, LSE

7. The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment
   Lawrence F. Katz and B. Meyer

Working Papers from Princeton University, Department of Economic, Industrial Relations Section.