國立中山大學 應用數學 學系(研究所)

碩士論文

期刊影響指數之修訂與分群

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摘要

期刊影響指數是近年來用來評估期刊重要性及影響力的一個指標。由期刊引用文獻評比報告，根據前兩年發表的文章之統計資料計算而得。例如 2003 年的期刊影響指數是根據 2001 以及 2002 發表的文章在 2003 年被引用的次數總合除以 2001 以及 2002 發表的文章總合所得之比值。在本論文中，我們檢驗了不同領域之間以及同領域內期刊影響指數的表現，也根據同領域內期刊被引用的趨勢去分群。我們也從統計分析的觀點提供了不同型態的期刊影響指數用來描述期刊的特性。

關鍵字：引用分析, 分群, 期刊引用文獻評比報告

A Modified Impact Factor for Clustering of Journals

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Abstract

An impact factor(IF) has been used extensively as a measure of the importance and impact of journals recently. The IF provided by the Journal Citation Reports (JCR) is calculated based on the most recent three years period. For example, the IF of 2003 for a journal is calculated; the number articles published in 2001 to 2002 cited in tracked journals during 2003 divided by the number of articles published in 2001 to 2002. In this work, we examine the different patterns of IF of journals in different fields as well as within the same field. We also provide a method of clustering journals according to the characteristics of the corresponding IF within the same field. Based on the experiences from analyzing the IF, we propose modified IFs from statistics point of view as possible new measures for the characteristics of different journals.

Keywords: Citation Analysis, Cluster, Journal Citation Reports

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1 Introduction

Journal Citation Reports (JCR) from Thomson ISI is a comprehensive and unique resource tool that allows people to evaluate and compare journals using citation data drawn from over 7,000 scholarly and technical journals published by more than 3,300 publishers in over 60 countries. It is a source of citation data on journals, and includes virtually all specialties in the areas of science, technology, and social sciences. JCR has collected the citation data, and has therefor developed an index called "impact factor" for each journal based on the most recent three years period to reflect the frequencies of which the journal are cited. An impact factor(IF) has been used extensively as a measure of the importance and impact of journals recently.

Albert (1998) discussed the journal price between the Agricultural and Biological journals to show the cost effectiveness of different types of journals based on the IF. Bergstrom (2001) compared the journal costs and profits between nonprofit, Blackwell, and commercial publishers based on the IF. Case (1999) thought the most persuasive indicator of cost effectiveness of journals is the cost/impact ratio, he also showed that there exists difference of IFs among the different fields. In this work we collect data from the College of Science and the College of Management together with Social Science where six fields in each category are selected. In Section 2, the cited behaviors between and within the fields are discussed, and two modified methods are provided to calculate the IF for each journal and some comparisons are made in Section 3. In Section 4 we provide a method of clustering journals according to the characteristics of the corresponding IF within the same field and different view points exhibited different types of IFs. This work ends with conclusion in Section 5.

2 Data description and Cited Behavior

In this work, all of the data are collected from Journal Citation Reports (JCR). In Table 2.1, we take part of the journals from the Statistics and Probability field as an example to illustrate seven basic data defined for the journals. Complete list of journals of all fields can be obtained from JCR.

Table 2.1: Examples of citation information in 2004 from Statistics and Probability

Abbreviated Journal Title	ISSN	Total Cites	Impact Factor	Immediacy Index	Articles	Cited Half-Life
STAT PROBABIL LETT	0167-7152	1141	0.284	0.025	201	7
STAT SCI	0883-4237	1230	1.423	0.895	19	>10.0
STAT SINICA	1017-0405	814	1.550	0.077	65	5.6
STATISTICS	0233-1888	368	0.323	0.108	37	>10.0
STOCH ANAL APPL	0736-2994	273	0.290	0.025	80	7.8
STOCH ENV RES RISK A	1436-3240	128	0.754	0.081	37	3.7
STOCH MODELS	1532-6349	228	0.392	0.080	25	9.2

In addition to journal Title, ISSN, Articles, four attributes are described in more detailed below.

Total Cites:

Total number of citations to the journal in the 2004 year.

Impact Factor:

The average number of times articles from the journal published in the past two years have been cited in the JCR year. An IF of 1.0 means that, on average, the articles published one or two year ago have been cited one time.

Immediacy Index:

The immediacy index is the average number of times an article is cited in the year it is published. The journal immediacy index indicates how quickly articles in a journal are cited.

Cited Half-Life:

The median age of the articles cited in the 2004. For example, in JCR 2004 the journal Statistics and Probability Letters has a cited half-life of 7. It means that articles published in Statistics and Probability Letters between 1998-2004 (included) and account for 50% of all citations(1141) to articles from that journal in 2004.

There are some other data collected by JCR such as citing half-life, cited journal, citing journal, source data and article counts, etc. Here our main interest is the IF. We first examine the IFs(by JCR) from twelve fields (Biology, Biotechnology & applied Microbiology, Chemistry, Physics, Mathematics and Statistics and Probability from

College of Science and Business Finance, Business, Economics, Management, Political Science and Sociology from College of Management and Social Science) in 2004. Figure 1 presents the boxplots of all journals listed in the twelve fields. It is clear there are significant differences about the cited patterns in different fields.

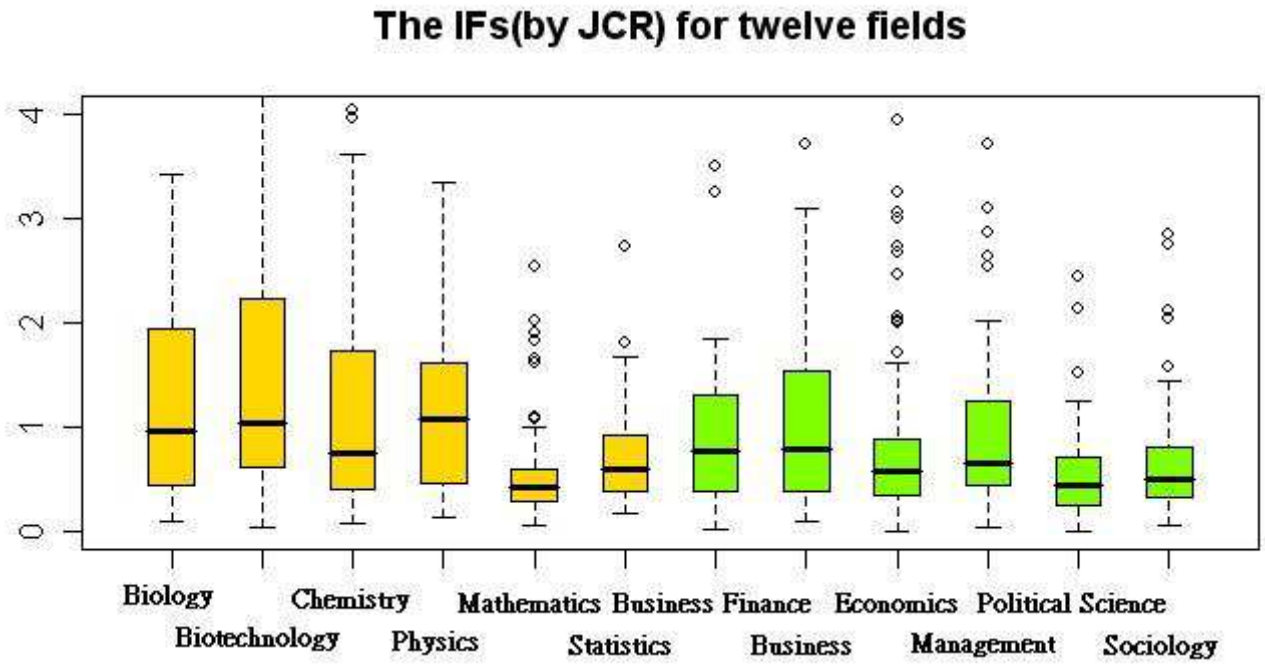

Figure 1: The boxplots for twelve fields

Now we first to undertake the analysis on the cited patterns of journals. For take 65 and 60 journals from Statistics and Probability and Physics, Multidisciplinary field respectively from 2002 to 2004. Taking 2004 as an example, calculate the cited proportion for the past one year to past the ten years individual for every journal(include 2004). Put the proportions together which were cited before a decade. So each journal has the eleven cited proportions, the past decade and before the decade. After calculating the proportions, taking average the 65 and 60 journals the proportion from one past year to past a decade respectively with the two fields, then repeat the procedure to 2002 to 2003.

Cited behavior

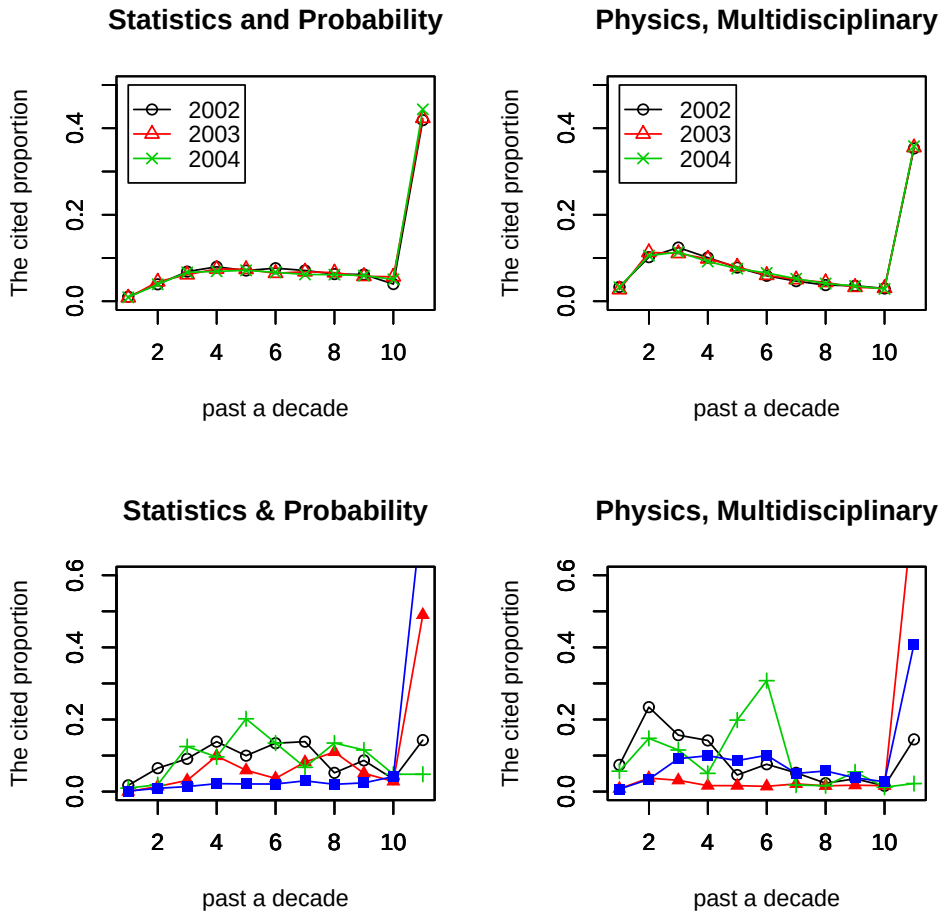

Figure 2: The cited patterns between and within fields

Figure 2 presents the cited patterns between and within fields over a decade respectively. The pattern of citations in the Statistics and Probability field is quite smooth, but the other have a distinct mode. Besides, the proportion for each year within a decade is quite different. Second, even journals from the same field, the cited patterns before a decade are not alike. Some cited patterns are quite smooth, some are rugged, and the cited proportions before a decade are very different, some journals even have two cited peaks. The IFs provided by JCR may not be sufficient to describe the real impact of a journal as it only depends on the citations occurred in the most recent two years, a journal's long term impact or the year with highest impact not counting on. In next section, we propose three other types of IFs index to be able to describe the journals' impact with a more extensive point of view.

3 New method and Comparison

3.1 Cited Half-Life and Mode

In JCR, cited half life for each journal has also been provided, which it is defined as the year counted back from the present year that during these periods half of the total citations has taken place. We use the cited half life as a measure to help to calculate the IF. On the other hand, another possibility to express a journal impact is by the peak of the citations within a decade, that is only maximum citations is consider. Below there are four different types IFs.

$$IF\_JCR = \frac{C_1 + C_2}{A_1 + A_2} \cdots\cdots (1) \qquad IF\_CHL = \frac{Total\ citations/2}{\sum A_i} \cdots\cdots (2).$$

$$IF\_M2 = \frac{M_1 + M_2}{A_{M1} + A_{M2}} \cdots\cdots (3) \qquad IF\_M3 = \frac{M_{11} + M_1 + M_{12}}{A_{M11} + A_{M1} + A_{M12}} \cdots\cdots (4).$$

We take 2004 as example. From (1), the C_1 and A_1 present the numbers of citations from the articles published in 2003 cited in tracked journals during 2004 and the numbers of articles published in 2003 respectively, and C_2 and A_2 present the numbers of citations from the articles published in 2002 cited in tracked journals during 2004 and the numbers of articles published in 2002 respectively. From (2), we count the numbers of articles back from the present year, the i is the cited half-life. From (3), M_1 and M_2 present the first and second highest citations within a decade, and A_{M1} and A_{M2} present the numbers of articles in certain year of M_1 and M_2. From (4), M_{11} and M_{12} are the previous and next year of M_1. There are three different cases of cited half-life in JCR: the value is an integer and less than 10, an integer and less than 10, and greater than 10. We take the five important journals in Statistics and Probability field as examples. Owing to the variability of the numbers of articles in each journals is very small, we replaced the unknown articles by the average of the total numbers of articles.

Case 1

Table 3.1: STAT PROBABIL LETT (2004)

Journal Title				Total Cites		IF	Articles		Cited Half-Life		
STAT PROBABIL LETT				1141		0.284	201		7		
	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994-all
Cites	5	45	84	132	109	127	64	90	72	52	361
Articles	201	229	226	253	242	234	236	268	236	236	

$$From\ (2),\quad IF\_CHL = \frac{Total\ citations/2}{\sum_{i=1}^{7} A_i} \cong 0.31.$$

Here C_i and A_i are the numbers of citations and articles from 2004 to 1998, $i = 1, 2, \ldots, 7$. We get a modified IF, 0.31.

Case 2

Based on the cited half-life, only 20 percent of the citations and the numbers of articles from 1998 are used to calculate the IF.

Table 3.2: BIOMETRICAL JOURNAL (2004)

Journal Title				Total Cites		IF	Articles		Cited Half-Life		
BIOMETRICAL J				417		0.599	66		6.2		
	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994-all
Cites	6	44	41	41	37	32	39	23	23	15	116
Articles	66	72	70	72	76	77	69	65	71	71	

$$From\ (2),\quad IF\_CHL = \frac{Total\ citations/2}{\sum_{i=1}^{6} A_i + 0.2 * A_7} \cong 0.467.$$

Case 3

Table 3.3: J ROY STAT SOC B (2004)

Journal Title				Total Cites		IF	Articles		Cited Half-Life		
J ROY STAT SOC B				5642		2.691	52		>10		
	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994-all
Cites	20	56	205	158	169	166	135	198	183	497	3855
Cumulative	0.35	1.35	4.98	7.78	10.78	13.72	16.11	19.62	22.86	31.67	100
Articles	52	51	46	47	51	54	48	49	50	50	

From this case, to estimate the cited half-life is our work. The table shows the cumulative percentage of citation is only 31.67 over a decade, it needs 18.33% to achieve 50% of all citations. The cumulative percentage there averages 3.167 percentage a year, so the estimator of cited half-life is 15.78.

$$From\ (2),\quad IF\_CHL = \frac{Citations/2}{\sum_{i=1}^{15} A_i + 0.78 * A_{16}} \cong 3.54.$$

A comparison between the IFs calculated by the JCR and cited half-life method introduced above are presented in Figure 3. The two curves are quite similar, and note that the IFs from cited half-life are slightly higher than the IFs in JCR, the average of IFs from are 0.828 and 1.016, but in my opinion that the method by cited half-life is more suitable for presenting the cited situation than the method by JCR.

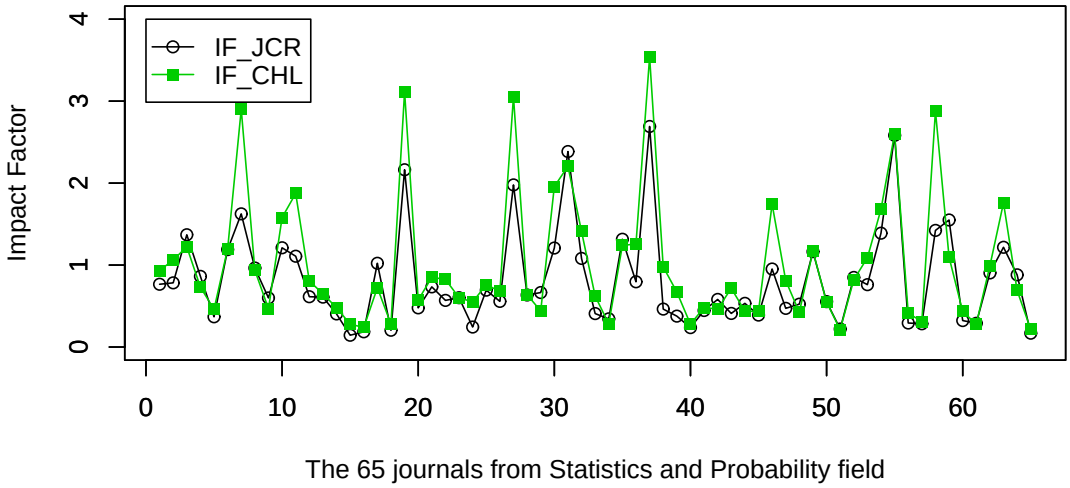

Figure 3: Impact factors calculated by the JCR and cited half-life

Mode 2

Table 3.4: J ROY STAT SOC B (2004)

Journal Title				Total Cites		IF	Articles		Cited Half-Life		
BIOMETRIKA				7617		1.108	72		>10		
	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994-all
Cites	11	69	106	168	161	160	227	154	184	317	6060
Articles	72	81	77	87	78	83	84	89	81	81	

$$From\ (3),\quad IF\_M2 = \frac{317 + 227}{81 + 84} \cong 3.297.$$

Mode 3

Table 3.5: ADV APPL PROBAB (2004)

Journal Title				Total Cites		IF	Articles		Cited Half-Life		
ADV APPL PROBAB				1293		0.766	61		>10		
	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994 all
Cites	10	45	37	77	70	62	55	59	63	32	783
Articles	61	59	48	54	63	44	48	50	53	53	

$$From\ (4),\quad IF\_M3 = \frac{37 + 77 + 70}{48 + 54 + 63} \cong 1.115.$$

Figure 4 shows the comparisons between three types of IFs. We select the cited peak to calculate, so the values calculated by the method of M2 and M3 are higher than the original JCR IFs, but the pattern still holds. The methods by Mode can display the characteristic between the difference fields in Section 3.3, and the peak of the citations of the methods are useful in Section 4.3.

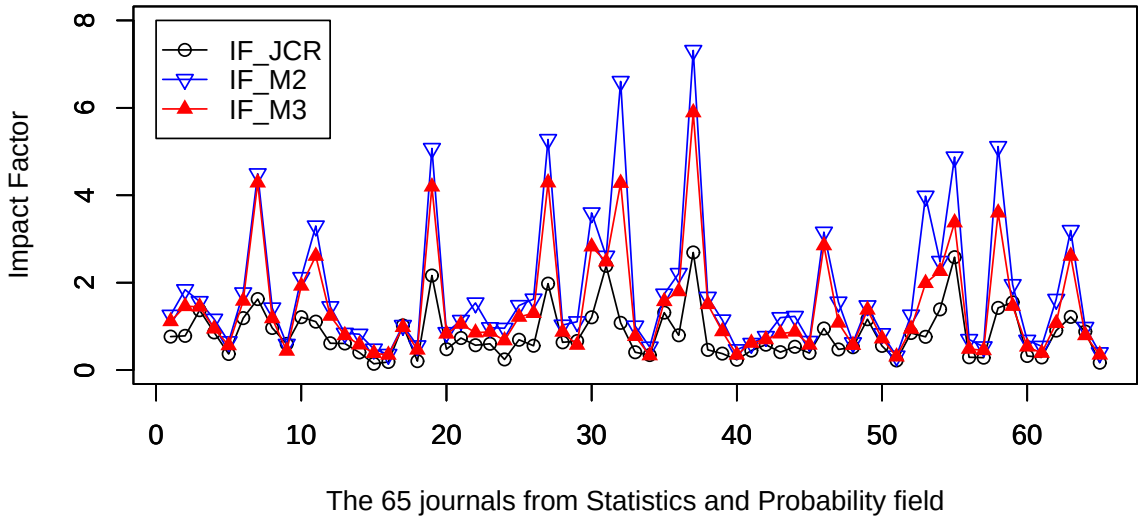

Figure 4: IFs calculated by the JCR, M2 and M3

3.2 Variance Reduction

Figure 5 represents the improvement of variation between the IF_JCR and IF_CHL, which is not surprising at the IF_CHL takes average longer period of citation patterns which will reduce the variation. We use the relative variation to compare the variation between each journal, and we sum the amount of relative variation for each journal respectively from 2002 to 2004.

$$relative\ variation = (\frac{X_i - \overline{X}}{\overline{X}})^2\ ,\ i = 1, 2, 3.$$

Table 3.6 summarizes the variance reduction by taking the average of the relative variation from each journal for the twelve fields. Based on the method of cited half life, all are reduced except the Chemistry field, and the variation has been reduced

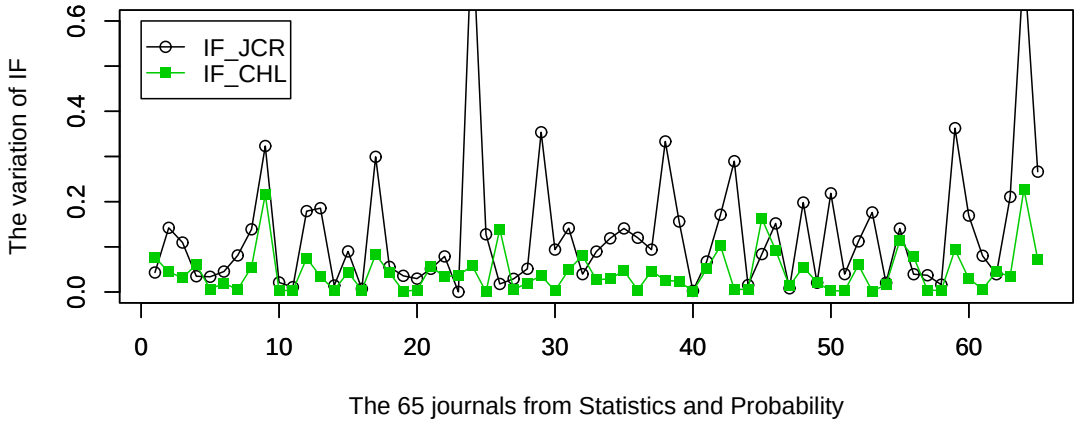

Figure 5: The variation of IF_JCR and IF_HCL from 2002 to 2004

about 50 % lower or even 67 % lower. Although using the M2 and M3 method can also improve the variation, but the efficiency of variance reduction is inferior than IF_CHL. In brief, using the cited half-life as criterion make the IFs more robust.

Table 3.6: The variation (%) of twelve fields

Methods \ Fields	Business	Business Finance	Economics	Management	Political Science	Sociology
Old IF	11.814	17.648	20.490	14.418	23.765	22.692
By Cited Half-Life	4.917	10.776	6.382	6.447	13.494	8.177
By M2	7.549	9.052	6.367	7.199	11.029	8.873
By M3	8.497	10.772	7.504	7.499	12.452	9.645
Methods \ Fields	Biology	Biotechnology	Chemistry	Physics	Mathematics	Statistics & Probability
Old IF	9.048	13.017	9.959	9.227	11.043	12.907
By Cited Half-Life	5.860	11.586	16.710	4.186	5.572	4.369
By M2	6.878	14.739	15.472	7.555	7.483	5.380
By M3	9.583	14.956	20.965	10.183	7.951	6.069

3.3 Comparison

1. Behavior of IFs

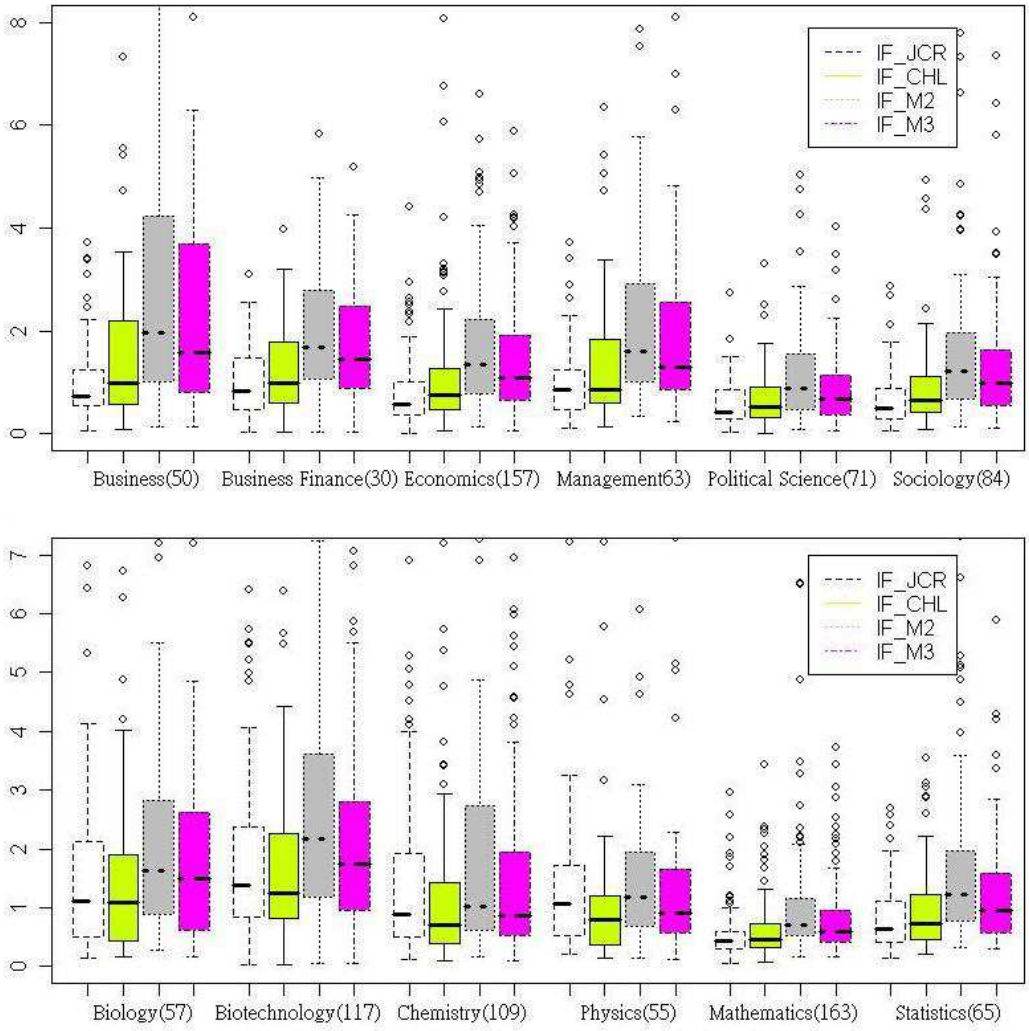

Figure 6: Boxplots for the four IFs

In Figure 6, relative to the other fields, the variances of IFs calculated by M2 or M3 are smaller in Mathematics, Statistics and Probability, Political Science fields. This difference can display the characteristics of the fields, the citation explosion in this three fields occurs in certain year is quite rare, usually learned or theoretical fields belong to this kind. But in contrast the citation explosion happens frequently in some popular fields, such as Business or Biotechnology & Applied Microbiology field. Using the M2 or M3 to calculate the IFs may show the extreme citing patterns.

2. Rate of cumulative cited proportions

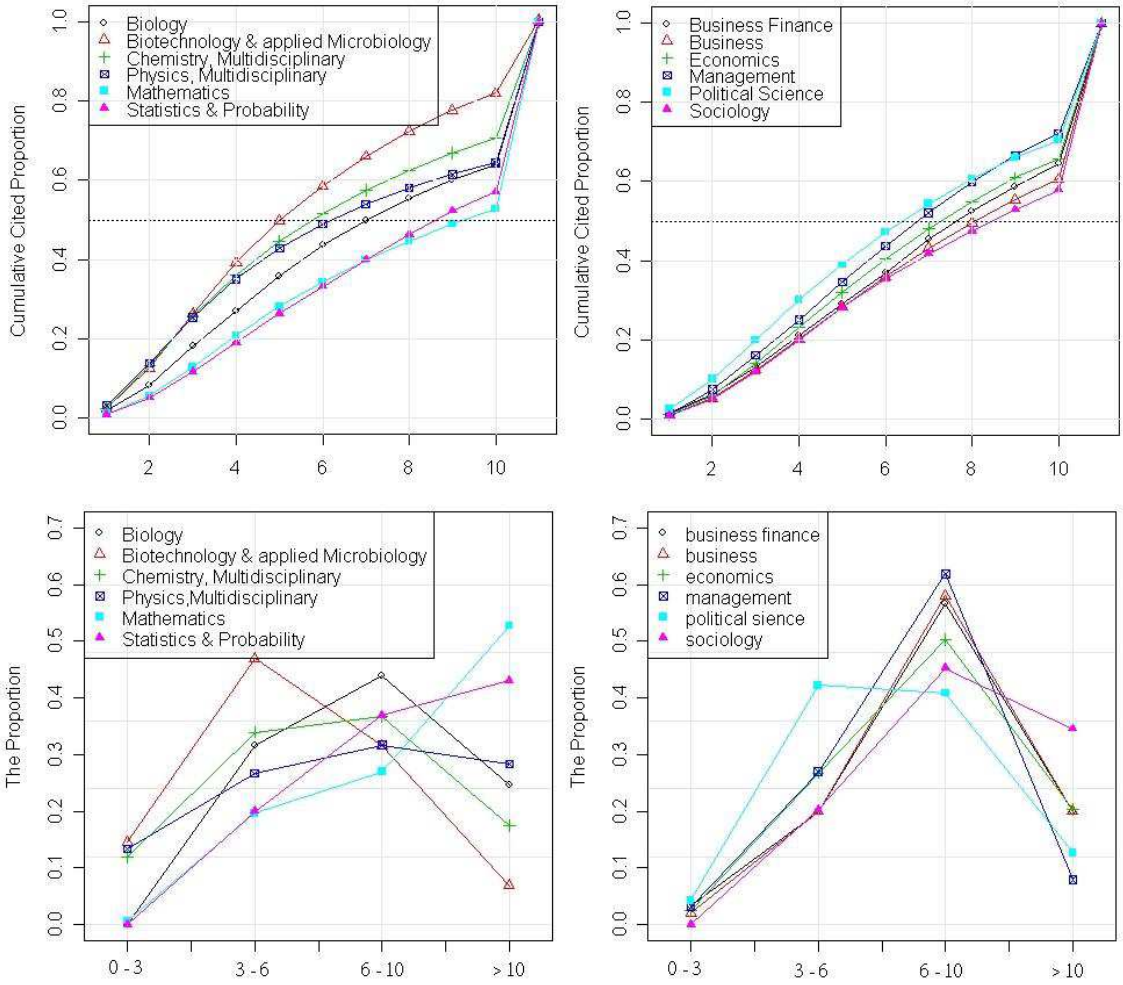

Figure 7: The cumulative cited proportion and cited half-life in each field

Figure 7 shows average of the cumulative cited proportion from the past one year to within a decade of all fields in 2004 with a auxiliary dotted line in order to observe the cited half-life conveniently. In the College of science, the cumulative rates are quite different, especially in Mathematics, Statistics and Probability, the cited proportion cumulate slowly, and the cited proportions a decade ago are different. Although the discrepancies in the other Colleges are more mitigating, the cumulative rates are still different.

We also divide cited half-life into four groups such as: smaller than three, between three and six, between six and ten and greater than ten. Owing to the tardy cumulative cited proportions, the curve for the Mathematics as well as the Statistics and Probability have an increasing trend, but the other fields have different patterns.

3. Average lengths of the citations per article

Podlubny (2005) has used the data from the National Science Foundation (NSF) to observe the ratio of the number of citations in two selected fields of science remains close to a constant. We modify the ratio from the number of citations to the number of citations per article (C/A), and the pattern with constant ratio remains.

For example, the physics and mathematics have the ratio close to 2:

28/12=2.33 (2002)

25/13=1.92 (2003)

26/13=2.00 (2004)

Table 3.7 presents the corresponding C/A in each field from 2002 to 2004, and the ratios of C/A with respect to Mathematics and Political Science respectively for fields in the College of Science or College of Management and Social Science. The different ratios can be as a macro explanation: the different can be considered as a measure on the difference of the average lengths of C/A. Even in the same college, the ratios also reveal the difference of IFs between the different fields, so in next section the journals in the same field are discussed instead of discussing the performance between fields.

Table 3.7: Comparison of the numbers of citations per article in College of Science and College of Management and Social Science

College of Science

Field	Average ratio of C/A number to the number of C/A in Math	2002		2003		2004	
		Number of C/A	Ratio to Math	Number of C/A	Ratio to Math	Number of C/A	Ratio to Math
Biology(57)	2.34	29	2.42	29	2.23	31	2.38
Biotechnology(117)	1.66	20	1.67	21	1.62	22	1.69
Chemistry(109)	2.24	27	2.25	29	2.23	29	2.23
Mathematics(163)	1.00	12	1.00	13	1.00	13	1.00
Physics(60)	2.08	28	2.33	25	1.92	26	2.00
Statistics & Probability(65)	1.87	23	1.92	23	1.77	25	1.92

College of Management

Field	Average ratio of C/A number to the number of C/A in Political Science	2002		2003		2004	
		Number of C/A	Ratio to Political Science	Number of C/A	Ratio to Political Science	Number of C/A	Ratio to Political Science
Business Finance(30)	1.74	14	1.56	16	1.78	17	1.89
Business(50)	2.78	23	2.56	25	2.78	27	3.00
Economics(157)	2.19	19	2.11	20	2.22	20	2.22
Management(63)	2.89	25	2.78	26	2.89	27	3.00
Political Science(71)	1.00	9	1.00	9	1.00	9	1.00
Sociology(84)	2.04	18	2.00	17	1.89	20	2.22

4 Clustering and Ranking

4.1 Clustering

Figure 2 shows that even in the same field, the cited patterns are quite different. No matter what methods are used to calculate the IF in the same field, it is also ill-advised. In the following, we use the K-means clustering method to divide the journals into four different groups based on the distributions of their cited patterns. Now define

CPWD = the total cited proportion within a decade.

CPED = the total cited proportion a decade ago.

The algorithm of clustering the journals.

Step 1

Figure 11 arranges the 65 journals from Statistics and Probability by the CPED. And delete the CPED which is zero, because the journals are new, the cited record doesn't stride across a decade, so forsake them.

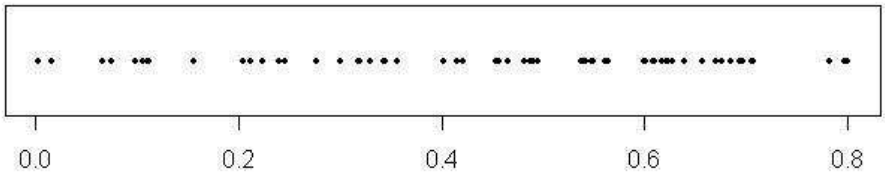

Figure 8: The cited proportion a decade ago

Step 2

Taking ratio of CPWD to CPED. For example: if 0.79986 is found, we have the value $0.79986/(1-0.79986) = 3.9965$, then the 65 values are clustered into three groups by k-means.

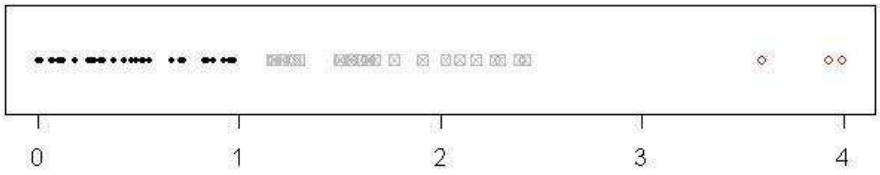

Figure 9: The ratio of the CPWD to CPED

This step discriminate the CPED which are quite high. The three hollow circles are these, and labeled as group 1.

Step 3

Delete these in group 1 and take the logarithm.

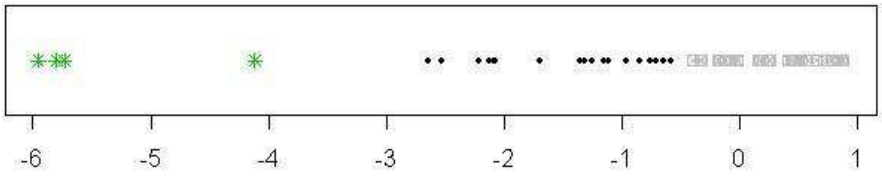

Figure 10: Take logarithm with the CPED

In this way it discriminates the CPED which are quite small. The four stars are these, and labeled as group 4.

Step 4

Delete these in group 1 and 4, and clustering CPWD/CPED into two groups.

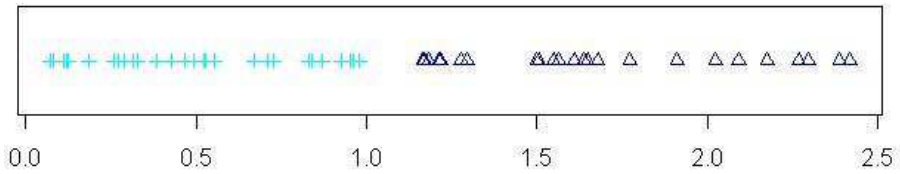

Figure 11: The ratio of the cited proportion within a decade to a decade ago

The triangles and crosses in the Figure 11 are labeled for group 2 and 3.

Final step

The circles, triangles, crosses and stars represent those in the group 1, group 2, group 3 and group 4 respectively. The proposed method has been used to cluster the journals within the same field in order to make sure that the cited patterns are similar within the same group as much as possible.

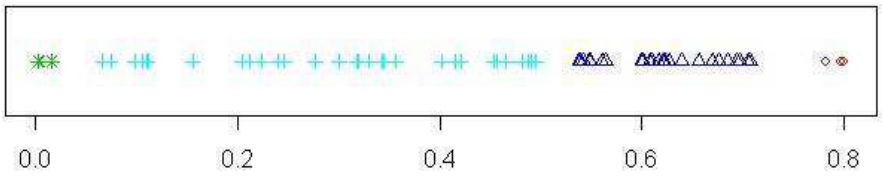

Figure 12: The result of clustering based on CPED

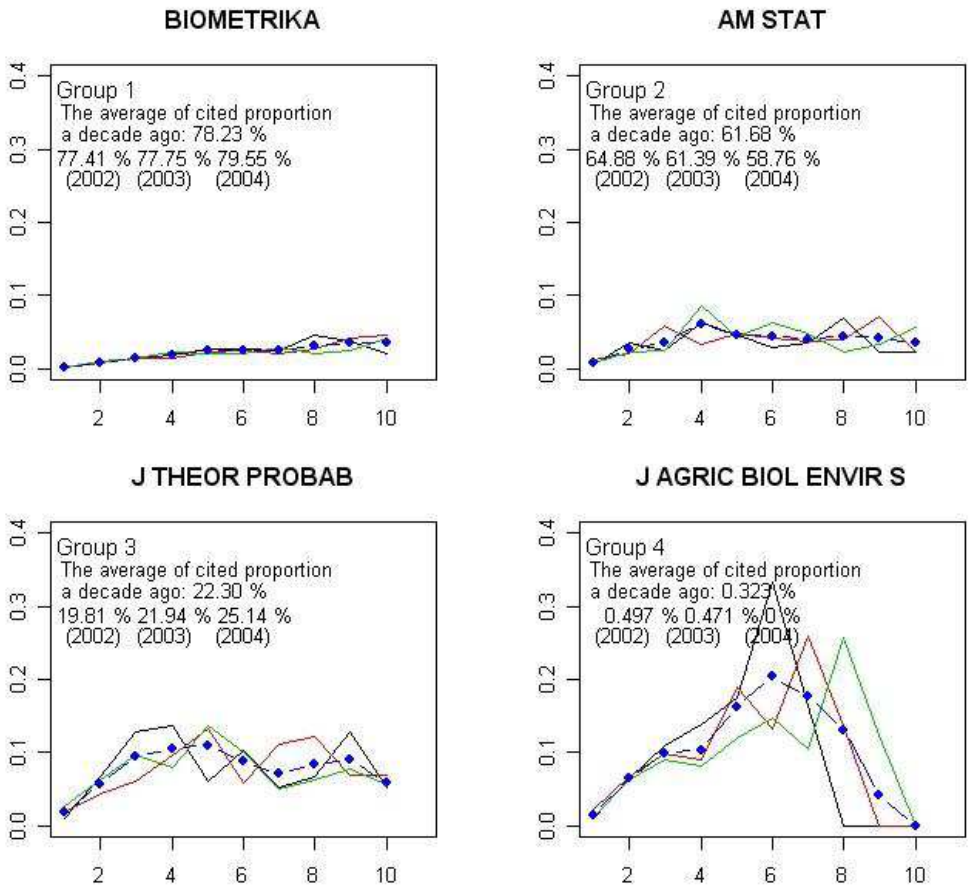

Figure 13: Examples of the citation pattern in each group

Now a demonstration of the cited patterns are presented in Figure 13. For group 1, the cited pattern is fairly smooth within a decade and the proportions are relatively small over the ten years. The proportions a decade ago are 77.75 %, 77.41 % and 79.56 % for the three years respectively, this kind of journals usually belongs to a long-standing one, in general, important theoretical journals usually are this kind of journal. The pattern of group 2 is very similar with group 1, but has a lower proportions before a decade, and more fluctuations within the nearest ten years. But in group 3, the pattern is significantly different from the first two groups, the proportion before a decade drops quickly. Besides, in group 3 there is a broader range of the variation of CPED, approximately from 10 % to 45 %, and the fluctuation within a decade seems to be larger than as in group 2. Finally the cited proportion a decade ago of group 4 is extremely small, close to zero. The citation Took place almost all within a decade, an indication of a new journal or less popular one.

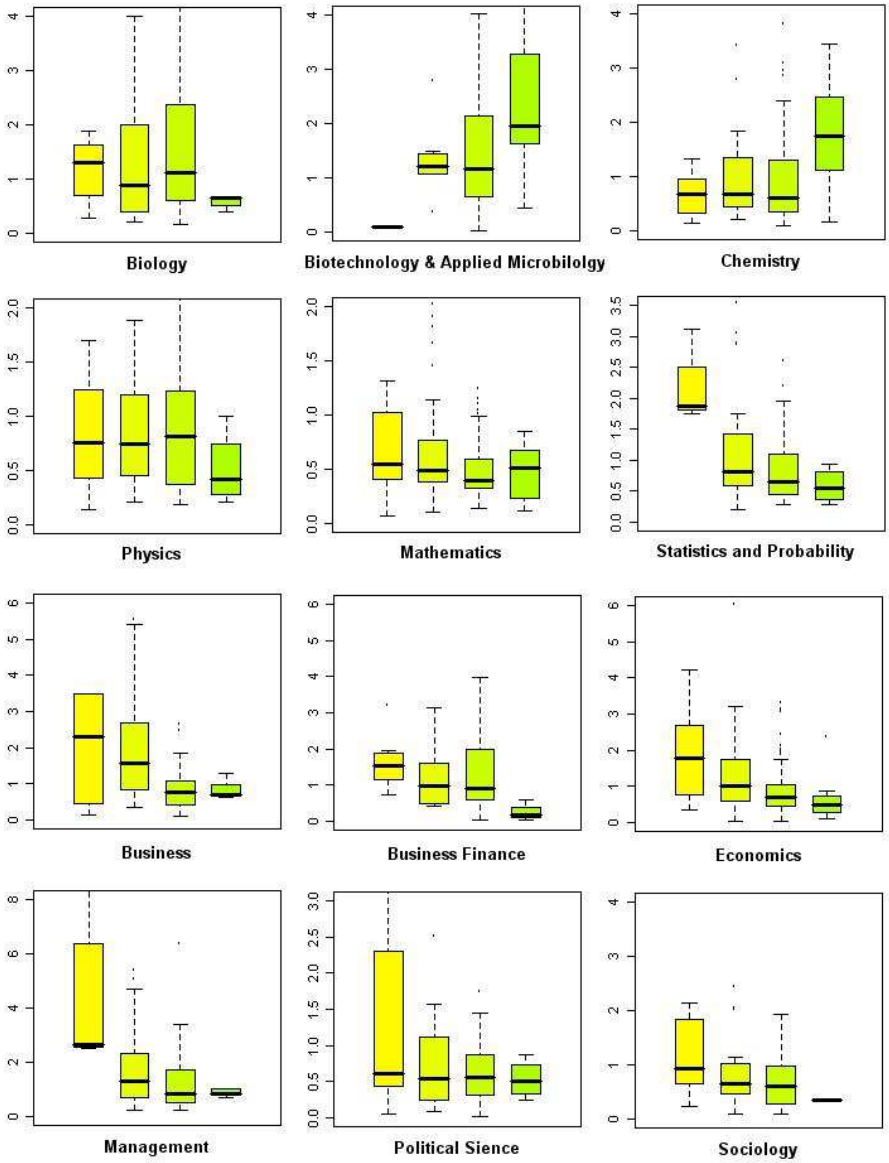

Figure 14: The IF_CHL of four groups for the twelve fields

Figure 14 combines the results for different groups of IF_CHL. The twelve plots present the twelve fields, and each field has four boxplots (group 1 to group 4: left to right). Note that there are three patterns: an increasing trend, such as in the Biotechnology & Applied Microbiology and Chemistry fields; a decreasing trend, such as in Statistics and Probability; and it seems that the influence of grouping in the Physics is mild, only those in group 4 seems to have a different pattern.

4.2 Ranking

Table 4.1: The ranking of IF_JCR and IF_CHL

Statistics and Probability (65)			Rank		
Journal Title	JCR	CHL	JCR	CHL	Diff
J ROY STAT SOC B	2.691	3.540	1	1	0
STAT METHODS MED RES	2.583	2.603	2	6	-4
J CHEMOMETR	2.385	2.206	3	7	-4
ECONOMETRICA	2.163	3.115	4	2	2
J AM STAT ASSOC	1.978	3.055	5	3	2
ANN STAT	1.625	2.901	6	4	2
STAT SINICA	1.550	1.097	7	20	-13
STAT SCI	1.423	2.879	8	5	3
STAT MED	1.389	1.680	9	12	-3
ANN APPL PROBAB	1.370	1.223	10	17	-7
J QUAL TECHNOL	1.315	1.239	11	16	-5
TECHNOMETRICS	1.217	1.759	12	10	2
BIOMETRICS	1.211	1.580	13	13	0
J BUS ECON STAT	1.208	1.957	14	8	6
ANN PROBAB	1.189	1.198	15	18	-3
PROBAB THEORY REL	1.164	1.171	16	19	-3
BIOMETRIKA	1.108	1.874	17	9	8
J COMPUT GRAPH STAT	1.081	1.410	18	14	4
COMPUT STAT DATA AN	1.022	0.723	19	34	-15
BERNOULLI	0.964	0.936	20	25	-5
MULTIVAR BEHAV RES	0.952	1.744	21	11	10
STOCH PROC APPL	0.904	0.991	22	23	-1
TEST	0.881	0.690	23	36	-13
ANN I H POINCARE-PR	0.862	0.730	24	33	-9
SCAND J STAT	0.849	0.821	25	29	-4
J ROY STAT SOC A STA	0.796	1.258	26	15	11
AM STAT	0.783	1.062	27	22	5
ADV APPL PROBAB	0.766	0.933	28	26	2
STAT COMPUT	0.761	1.089	29	21	8
FUZZY SET SYST	0.734	0.851	30	27	3
INT STAT REV	0.694	0.761	31	32	-1
J APPL STAT	0.665	0.440	32	51	-19
J APPL PROBAB	0.635	0.639	33	40	-7
BRIT J MATH STAT PSY	0.614	0.807	34	31	3
CAN J STAT	0.609	0.649	35	39	-4
INSUR MATH ECON	0.602	0.603	36	42	-6
BIOMETRICAL J	0.599	0.467	37	48	-11
J THEOR PROBAB	0.581	0.463	38	49	-11
INFIN DIMENS ANAL QU	0.569	0.825	39	28	11
J AGR BIOL ENVIR ST	0.557	0.679	40	37	3
PROBABILIST ENG MECH	0.554	0.549	41	44.5	-3.5
LIFETIME DATA ANAL	0.533	0.438	42	52	-10
PROBAB ENG INFORM SC	0.523	0.424	43	55	-12
ENVIRONMETRICS	0.478	0.573	44	43	1
OXFORD B ECON STAT	0.472	0.811	45	30	15
J ROY STAT SOC C-APP	0.463	0.978	46	24	22
J STAT PLAN INFER	0.446	0.482	47	46	1
J TIME SER ANAL	0.410	0.717	48	35	13
J MULTIVARIATE ANAL	0.408	0.621	49	41	8
COMB PROBAB COMPUT	0.404	0.480	50	47	3

Table 4.1: The ranking of IF_JCR and IF_CHL (continued)

Statistics and Probability (65)			Rank		
Journal Title	JCR	CHL	JCR	CHL	Diff
METRIKA	0.390	0.434	51	53.5	-2.5
J ROY STAT SOC D-STA	0.377	0.672	52	38	14
ANN I STAT MATH	0.369	0.461	53	50	3
J NONPARAMETR STAT	0.344	0.283	54	58	-4
STATISTICS	0.323	0.434	55	53.5	1.5
STAT NEERL	0.293	0.415	56	56	0
STOCH ANAL APPL	0.290	0.279	57	61	-4
STAT PROBABIL LETT	0.284	0.310	58	57	1
INT J GAME THEORY	0.244	0.549	59	44.5	14.5
J STAT COMPUT SIM	0.237	0.279	60	61	-1
QUAL QUANT	0.220	0.211	61	65	-4
COMPUTATION STAT	0.205	0.281	62	59	3
COMMUN STAT-THEOR M	0.186	0.239	63	63	0
UTILITAS MATHEMATICA	0.169	0.216	64	64	0
COMMUN STAT-SIMUL C	0.144	0.279	65	61	4

Table 4.1 presents the rankings of IF for JCR and CHL respectively. From the results presented in the Diff column, several journals have significant different rankings. For example the ranking for STAT SINICA, J BUS ECON STAT, BIOMETRIKA, J ROY STAT SOC C-APP, J ROY STAT SOC D-STA and J APPL STAT journals all differ significantly, and the IF_CHL is somewhat greater than the IF_JCR. The ranking based on IF_CHL represents the cited pattern for 50 % of citations, and the original ranking represents the immediacy of citations for the last two years. In fact, both of the IFs can be viewed as useful statistics which provide certain information on the cited patterns.

Table 4.2: The ranking of four different IFs with grouping

Statistics and Probability (65)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
ECONOMETRICA	2.163	3.115	5.071	5	9	4.195	8	9	10	1	1	1	1
TECHNOMETRICS	1.217	1.759	3.194	8	10	2.610	8	9	10	2	3	3	2.5
BIOMETRIKA	1.108	1.874	3.297	7	10	2.610	8	9	10	3	2	2	2.5
Group 2													
J ROY STAT SOC B	2.691	3.540	7.313	3	10	5.893	8	9	10	1	1	1	1
J AM STAT ASSOC	1.978	3.055	5.276	9	10	4.289	8	9	10	2	2	2	2
ANN STAT	1.625	2.901	4.492	8	7	4.287	6	7	8	3	3	4	3
STAT SCI	1.423	2.879	5.114	4	6	3.600	5	6	7	4	4	3	4
BIOMETRICS	1.211	1.580	2.117	8	6	1.927	5	6	7	5	6	7	6
ANN PROBAB	1.189	1.198	1.767	6	8	1.583	7	8	9	6	8	9	8
MULTIVAR BEHAV RES	0.952	1.744	3.156	8	7	2.851	6	7	8	7	5	5	5
STOCH PROC APPL	0.904	0.991	1.619	6	9	1.072	8	9	10	8	10	10	14
SCAND J STAT	0.849	0.821	1.259	7	3	0.941	2	3	4	9	12	14	15
J ROY STAT SOC A STA	0.796	1.258	2.211	4	9	1.800	8	9	10	10	7	6	7
AM STAT	0.783	1.062	1.839	6	4	1.459	3	4	5	11	9	8	9
ADV APPL PROBAB	0.766	0.933	1.256	5	4	1.115	3	4	5	12	11	15	12
INT STAT REV	0.694	0.761	1.477	3	4	1.215	3	4	5	13	15	12	11
J APPL PROBAB	0.635	0.639	1.030	4	6	0.874	5	6	7	14	17	17	16
BRIT J MATH STAT PSY	0.614	0.807	1.450	7	4	1.238	3	4	5	15	14	13	10

Table 4.2: The ranking of four different IFs with grouping (continued)

Statistics and Probability (65)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 2													
OXFORD B ECON STAT	0.472	0.811	1.556	9	6	1.081	5	6	7	16	13	11	13
J TIME SER ANAL	0.410	0.717	1.200	7	10	0.833	8	9	10	17	16	16	17
J MULTIVARIATE ANAL	0.408	0.621	1.008	6	10	0.776	8	9	10	18	18	18	18
ANN I STAT MATH	0.369	0.461	0.649	5	4	0.564	3	4	5	19	20	21	20
STATISTICS	0.323	0.434	0.683	4	7	0.534	6	7	8	20	21	20	21
INT J GAME THEORY	0.244	0.549	0.957	6	9	0.676	8	9	10	21	19	19	19
QUAL QUANT	0.220	0.211	0.321	8	10	0.306	8	9	10	22	24	24	24
COMMUN STAT-THEOR M	0.186	0.239	0.360	9	8	0.346	7	8	9	23	22	23	23
UTILITAS MATHEMATICA	0.169	0.216	0.397	4	7	0.350	6	7	8	24	23	22	22
Group 3													
STAT METHODS MED RES	2.583	2.603	4.875	3	6	3.375	5	6	7	1	1	2	2
J CHEMOMETR	2.385	2.206	2.607	2	3	2.480	2	3	4	2	2	5	4
STAT SINICA	1.550	1.097	1.956	9	3	1.464	2	3	4	3	9	7	9
STAT MED	1.389	1.680	2.487	5	7	2.263	6	7	8	4	4	6	5
ANN APPL PROBAB	1.370	1.223	1.568	6	3	1.449	2	3	4	5	7	10	10
J QUAL TECHNOL	1.315	1.239	1.739	9	8	1.574	7	8	9	6	6	8	7
J BUS ECON STAT	1.208	1.957	3.597	7	10	2.824	8	9	10	7	3	4	3
PROBAB THEORY REL	1.164	1.171	1.471	3	5	1.378	4	5	6	8	8	12	11
J COMPUT GRAPH STAT	1.081	1.410	6.604	7	9	4.278	8	9	10	9	5	1	1
COMPUT STAT DATA AN	1.022	0.723	1.022	2	3	0.981	2	3	4	10	15	17	13
TEST	0.881	0.690	0.978	2	4	0.794	3	4	5	11	16	18	20
ANN I H POINCARE-PR	0.862	0.730	1.165	8	3	0.946	2	3	4	12	14	13	14
STAT COMPUT	0.761	1.089	3.980	5	8	1.988	7	8	9	13	10	3	6
FUZZY SET SYST	0.734	0.851	1.137	5	4	1.054	3	4	5	14	12	15	12
J APPL STAT	0.665	0.440	1.106	10	3	0.574	2	3	4	15	26	16	26
CAN J STAT	0.609	0.649	0.843	6	5	0.795	4	5	6	16	18	21	19
INSUR MATH ECON	0.602	0.603	0.970	3	4	0.872	3	4	5	17	19	19	16
BIOMETRICAL J	0.599	0.467	0.590	4	2	0.438	1	2	3	18	24	29	30
J THEOR PROBAB	0.581	0.463	0.769	6	5	0.699	4	5	6	19	25	24	22
INFIN DIMENS ANAL QU	0.569	0.825	1.536	6	8	0.856	7	8	9	20	13	11	17
PROBABILIST ENG MECH	0.554	0.549	0.833	4	5	0.720	4	5	6	21	21	22	21
PROBAB ENG INFORM SC	0.523	0.424	0.625	3	4	0.571	3	4	5	22	28	27	27
ENVIRONMETRICS	0.478	0.573	0.858	6	5	0.830	4	5	6	23	20	20	18
J ROY STAT SOC C-APP	0.463	0.978	1.667	7	5	1.505	4	5	6	24	11	9	8
J STAT PLAN INFER	0.446	0.482	0.611	3	5	0.620	4	5	6	25	22	28	23
COMB PROBAB COMPUT	0.404	0.480	0.821	4	7	0.581	6	7	8	26	23	23	24
METRIKA	0.390	0.434	0.657	4	5	0.577	4	5	6	27	27	26	25
J ROY STAT SOC D-STA	0.377	0.672	1.147	8	7	0.885	6	7	8	28	17	14	15
J NONPARAMETR STAT	0.344	0.283	0.527	6	3	0.333	2	3	4	29	31	32	34
STAT NEERL	0.293	0.415	0.700	9	7	0.483	6	7	8	30	29	25	28
STOCH ANAL APPL	0.290	0.279	0.545	10	8	0.390	7	8	9	31	33	30	31
STAT PROBABIL LETT	0.284	0.310	0.532	6	4	0.451	3	4	5	32	30	31	29
J STAT COMPUT SIM	0.237	0.279	0.466	8	5	0.348	4	5	6	33	33	34	33
COMMUN STAT-SIMUL C	0.144	0.279	0.481	4	8	0.386	7	8	9	34	33	33	32
Group 4													
BERNOULLI	0.964	0.936	1.421	5	6	1.182	5	6	7	1	1	2	2
J AGR BIOL ENVIR ST	0.557	0.679	1.625	6	8	1.302	7	8	9	2	2	1	1
LIFETIME DATA ANAL	0.533	0.438	1.229	7	10	0.875	8	9	10	3	3	3	3
COMPUTATION STAT	0.205	0.281	0.556	8	5	0.464	4	5	6	4	4	4	4

Table 4.2 provides more information about journals; the group, the ranking, and the cited peak within a decade. Taking J ROY STAT SOC A STA as an example, the ranking alters from 10 to 7(compare with JCR and CHL); the cited peak is on the past 9th year and the journal belongs to group 2. There are also some interesting points in Table 4.2, the ranking of J COMPUT GRAPH STAT journal become the first based on the M3 method, the cited pattern indicates that 1996 year is the cited peak and additional for the previous and next year, the three year hold about 55% proportion, it indicates there a very important paper or popular published which has a lot of attentions

The tendency of rankings based on the IF_JCR, IF_M2, and IF_M3 are more similar than that on IF_JCR. For example in J ROY STAT SOC C-APP, the rankings from the new IFs is 11, 9 and 8, it seems that the journal should have the higher ranking, but not as high in the original ranking which is 24. It reveals different ways of computing the IFs will supply us different informations.

4.3 Relative intensity of journals

From our analysis based on the cited patterns, the four different type IFs can provide us different informations, each one has its meaning, below a summary is given to illustrate for what find of information those IFs can provide.

IF_JCR: the **immediacy** of the past two years.

IF_CHL: the impact for the **50 percent** of all citations.

IF_M2: the ratio of the **first** and **second** highest citation.

IF_M3: the ratio of the **peak**.

Next we define the relative intensity within the same group.

$$relative\ intensity\ =\ \frac{IF}{the\ maximum\ of\ IF\ within\ group}.$$

We provide a graphic method based on the relative intensity for journals to help us to understand the impacts of journals from four aspects clear. From the intensity plot we observe that in group 1 the variation of the area are smaller than the other groups. Also in group 3, J COMPUT GRAPH STAT has the highest intensity for M2 and M3, and the intensity of COMMUN STAT-SIMUL C is quite weak in all four aspects. The graphs provide certain information on the different patterns.

Table 4.3: The relative intensity

	IF_JCR	IF_CHL	IF_M2	IF_M3
BIOMETRIKA	0.514	0.582	0.651	0.621
ECONOMETRICA	1.000	1.000	1.000	1.000
TECHNOMETRICS	0.565	0.566	0.629	0.621
ANN STAT	0.606	0.819	0.614	0.728
J APPL PROBAB	0.238	0.181	0.141	0.148
STAT SCI	0.528	0.814	0.699	0.611
J COMPUT GRAPH STAT	0.419	0.542	1.000	1.000
J STAT COMPUT SIM	0.093	0.108	0.071	0.082
STAT SINCA	0.601	0.423	0.297	0.341

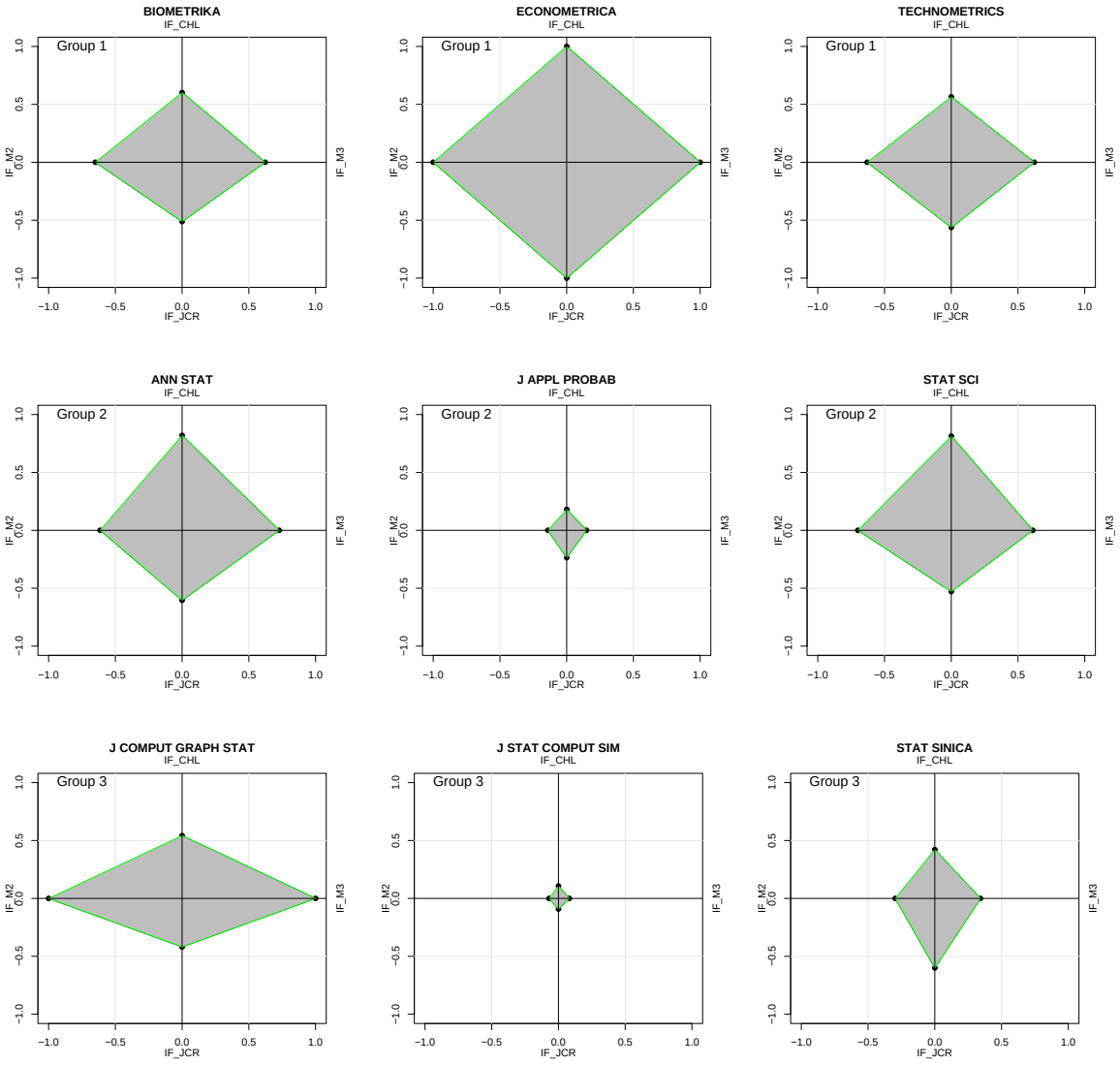

Figure 15: The demonstration for tensity plot

5 Conclusion

The purpose of this work is to develop modified methods for calculating the IF for journals. Although no matter which method id used, IF is a kind of statistic, it is only the ratio of citations to numbers of articles, and different types of IF will provide different informations. There are many factors may have effects on the IF, for instance, we have not taken into account about the fact that the numbers of scientists working in different fields also differ significantly; the average length of the references; the subject classifications assigned to the individual journals by JCR versus that of other classifying bodies such as the Library of Congress (LC). So it is suggested that in order to understand the characteristics of a journal in all aspects such as different types of IF, cited half-life, grouping, instead of simply comparing the journal just by the original IFs would be more useful.

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Appendix

K-Means Clustering algorithm

- Step 1.

  Begin with a decision on the value of k = number of clusters

- Step 2.

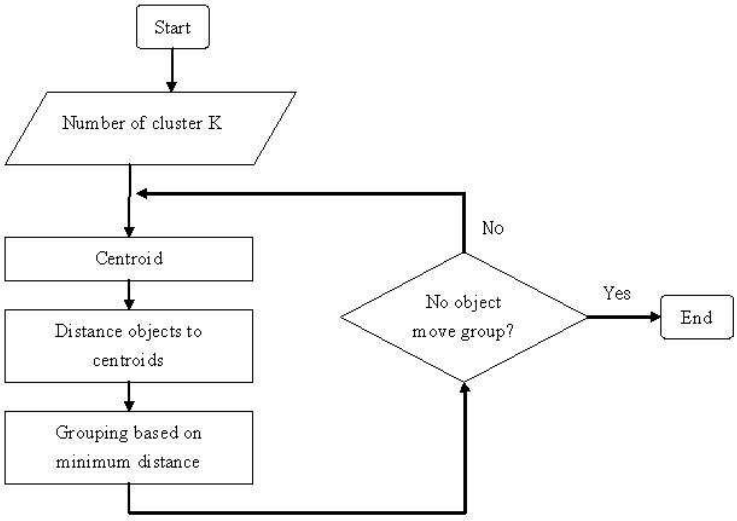
  Put any k initial centroids, You may assign the k centroids randomly.

- Step 3.

  Take each sample in sequence and compute its distance from the centroid of each of the clusters. If a sample is not currently in the cluster with the closest centroid, switch this sample to that cluster and update the centroid of the cluster gaining the new sample and the cluster losing the sample.

- Step 4.

  Repeat step 3 until that iteration reveals the objects does not move group anymore. Thus, the computation of the k-mean clustering has reached its stability and no more iteration is needed.



The Flow Chart for K-Mean Clustering algorithm

List of Tables

Table A.1: The ranking for Biology

Biology (57)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
BIOL REV	5.325	4.881	7.913	7	5	7.200	4	5	6	1	2	2	2
Q REV BIOL	3.062	6.716	12.563	10	9	10.833	8	9	10	2	1	1	1
J MATH BIOL	1.762	1.505	2.304	4	3	1.961	2	3	4	3	6	5	5
MATH BIOSCI	1.699	1.237	2.179	5	3	1.753	2	3	4	4	8	7	8
J THEOR BIOL	1.683	1.514	2.235	4	5	2.113	4	5	6	5	5	6	4
BIOMETRICS	1.211	1.629	2.117	8	6	1.927	5	6	7	6.5	4	8	6
HUM BIOL	1.211	1.307	2.465	3	5	1.800	4	5	6	6.5	7	4	7
BIOMETRIKA	1.108	1.874	3.297	7	10	2.610	8	9	10	8	3	3	3
BIOL BULL-US	0.995	1.084	1.776	5	4	1.589	3	4	5	9	9	9	9
ACTA BIOTHEOR	0.676	0.689	1.026	4	3	0.830	2	3	4	10	10	10	10
P BIOL SOC WASH	0.424	0.333	0.432	4	5	0.392	4	5	6	11	12	12	13
ZH OBSHCH BIOL	0.416	0.271	0.416	2	3	0.434	2	3	4	12	13	13	12
J HIST BIOL	0.176	0.364	0.774	6	4	0.553	3	4	5	13	11	11	11
Group 2													
PHILOS T ROY SOC B	4.128	3.946	4.640	5	4	4.647	3	4	5	1	2	2	2
BIOSCIENCE	3.041	4.013	5.497	7	4	4.680	3	4	5	2	1	1	1
ORIGINS LIFE EVOL B	2.508	1.902	3.534	4	3	2.784	2	3	4	3	4	4	4
CRYOBIOLOGY	1.821	2.081	3.620	7	4	2.919	3	4	5	4	3	3	3
B MATH BIOL	1.485	1.372	2.041	7	4	1.811	3	4	5	5	5	5	5
ANN HUM BIOL	0.991	0.890	1.604	5	4	1.491	3	4	5	6	6	6	6
COMPUT BIOL MED	0.974	0.684	1.440	4	3	1.107	2	3	4	7	7	7	7
ACTA BIOL HUNG	0.425	0.348	0.589	3	10	0.475	8	9	10	8	9	9	9
J BIOL EDUC	0.255	0.203	0.339	3	5	0.240	4	5	6	9	11	11	11
REV BIOL TROP	0.220	0.445	0.829	4	7	0.564	6	7	8	10	8	8	8
AM BIOL TEACH	0.218	0.233	0.353	4	5	0.284	4	5	6	11	10	10	10
Group 3													
FASEB J	6.820	6.278	7.202	2	4	8.132	3	4	5	1	1	2	1
BIOESSAYS	6.430	4.196	8.015	4	5	7.579	4	5	6	2	2	1	2
P ROY SOC B-BIOL SCI	3.653	3.422	4.776	5	4	4.606	3	4	5	3	3	4	4
RADIAT RES	3.228	2.555	3.365	3	4	2.986	3	4	5	4	6	6	6
J BIOL RHYTHM	2.979	2.818	4.206	6	4	3.069	3	4	5	5	5	5	5
J EXP BIOL	2.679	2.411	2.835	3	4	2.894	3	4	5	6	7	8	8
MICROSC RES TECHNIQ	2.609	2.381	2.829	3	5	2.931	4	5	6	7	8	9	7
BIOELECTROCHEMISTRY	2.261	1.319	2.121	9	3	1.900	2	3	4	8	13	11	11
BIOL RES	2.173	1.419	1.655	1	3	1.837	2	3	4	9	12	14	12
INT J RADIAT BIOL	2.136	1.996	2.300	6	5	2.234	4	5	6	10	9	10	10
MET IONS BIOL SYST	2.125	2.877	6.946	7	9	4.860	8	9	10	11	4	3	3
CHRONOBIOL INT	1.521	1.760	2.069	5	1	1.667	1	2	3	12	10	12	14
RADIAT ENVIRON BIOPH	1.246	1.144	1.474	3	4	1.438	3	4	5	13	15	15	15
BIOELECTROMAGNETICS	1.243	1.298	1.861	4	7	1.745	6	7	8	14	14	13	13
AM J HUM BIOL	1.211	0.873	1.389	3	4	1.304	3	4	5	15	19	16	17
J RADIAT RES	1.191	1.708	3.034	4	3	2.443	2	3	4	16	11	7	9
J BIOSCIENCES	1.102	0.965	1.102	2	3	1.120	2	3	4	17	18	21	18
BIOSYSTEMS	1.016	0.977	1.362	5	6	1.100	5	6	7	18	17	17	20
P JPN ACAD B-PHYS	1.000	0.721	1.163	4	2	0.807	1	2	3	19	21	19	22
CRYOLETTERS	0.944	1.090	1.323	6	5	1.345	4	5	6	20	16	18	16

Table A.1: The ranking for Biology (continued)

Biology (57)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
J THERM BIOL	0.931	0.704	0.927	2	4	0.833	3	4	5	21	22	23	21
BRAZ J MED BIOL RES	0.824	0.818	1.123	6	5	1.101	4	5	6	22	20	20	19
J BIOL SYST	0.720	0.442	0.960	10	3	0.647	2	3	4	23	24	22	23
BIOL RHYTHM RES	0.494	0.614	0.918	2	5	0.554	4	5	6	24	23	24	25
FOLIA BIOL-KRAKOW	0.343	0.435	0.662	3	4	0.610	3	4	5	25	25	25	24
ELECTROMAGN BIOL MED	0.340	0.161	0.286	2	3	0.188	2	3	4	26	29.5	30	29
RIV BIOL-BIOL FORUM	0.256	0.356	0.643	3	4	0.537	3	4	5	27	26	26	26
BIOLOGIA	0.207	0.224	0.310	3	8	0.280	7	8	9	28	28	28.5	28
BRAZ ARCH BIOL TECHN	0.143	0.161	0.310	4	6	0.171	5	6	7	29	29.5	28.5	30
PERIOD BIOL	0.140	0.249	0.320	5	1	0.452	1	2	3	30	27	27	27
Group 4													
THEOR BIOSCI	0.667	0.649	0.886	4	5	0.651	4	5	6	1	2	2	2
J AGR BIOL ENVIR ST	0.557	0.679	1.625	6	8	1.302	7	8	9	2	1	1	1
SCI CHINA SER C	0.481	0.392	0.516	4	3	0.480	2	3	4	3	3	3	3

Table A.2: The ranking for Biotechnology and Applied Microbiology

Biotechnology and Applied Microbiology (117)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
NIPPON NOGEIK KAISHI	0.091	0.099	0.184	2	7	0.147	6	7	8	1	1	1	1
Group 2													
CRIT REV BIOTECHNOL	3.227	2.792	4.304	10	3	3.310	2	3	4	1	1	1	1
J ANTIBIOT	1.394	1.208	1.677	10	9	1.395	8	9	10	2	4	6	5
ADV APPL MICROBIOL	1.156	1.088	2.585	4	8	1.763	7	8	9	3	5	2	3
AM J ENOL VITICULT	1.137	1.488	2.239	10	6	1.930	5	6	7	4	2	3	2
CAN J MICROBIOL	1.118	1.413	1.796	5	7	1.601	6	7	8	5	3	4	4
PREP BIOCHEM BIOTECH	0.865	0.374	0.820	4	3	0.718	2	3	4	6	7	7	7
J GEN APPL MICROBIOL	0.655	1.065	1.742	5	7	1.337	6	7	8	7	6	5	6
Group 3													
TRENDS BIOTECHNOL	8.606	5.654	7.476	7	3	7.442	2	3	4	1	2	4	2
CURR OPIN BIOTECH	8.08	6.385	9.407	4	3	8.141	2	3	4	2	1	1	1
PHARMACOGENETICS	6.406	5.488	7.646	3	4	7.064	3	4	5	3	3	3	3
STEM CELLS	5.5	4.034	6.096	2	4	5.682	3	4	5	4	5	5	4
ANTISENSE NUCLEIC A	5.473	2.657	3.623	3	8	2.040	7	8	9	5	13	18	28
MOL THER	5.204	3.664	6.019	4	3	5.478	2	3	4	6	7	6	5
HUM GENE THER	4.857	4.415	5.514	3	6	4.533	5	6	7	7	4	7	7
MOL PLANT MICROBE IN	4.054	2.541	4.517	4	5	4.269	4	5	6	8	15	11	9
GENOMICS	3.84	2.619	2.270	8	6	2.593	5	6	7	9	14	31	19
APPL ENVIRON MICROB	3.81	3.778	5.096	3	5	4.956	4	5	6	10	6	8	6
METAB ENG	3.418	1.765	2.569	3	4	2.473	3	4	5	11	27	25	23
J GEN VIROL	3.327	2.704	3.747	5	3	3.500	2	3	4	12	12	17	12
BIOSENS BIOELECTRON	3.251	3.098	3.085	3	2	1.929	1	2	3	13	9	20	30
MAMM GENOME	2.658	2.345	2.770	5	4	2.793	3	4	5	14	18	23	16
BIOTECHNOL ADV	2.468	3.140	4.816	4	5	4.444	4	5	6	15	8	10	8
CRIT REV EUKAR GENE	2.359	2.785	4.394	7	5	3.448	4	5	6	16	11	12	13
APPL MICROBIOL BIOT	2.358	2.027	2.542	3	4	2.541	3	4	5	17	23	26	21
J BIOTECHNOL	2.323	2.034	2.806	4	5	2.549	4	5	6	18	22	21	20
GENE EXPRESSION	2.293	2.883	5.020	9	6	3.517	5	6	7	19	10	9	11
DIAGN MOL PATHOL	2.292	1.801	2.464	3	4	2.327	3	4	5	20	26	28	24
BIOTECHNOL BIOENG	2.216	2.149	2.792	4	6	2.522	5	6	7	21	21	22	22
TRANSGENIC RES	2.107	2.159	3.140	5	3	2.268	2	3	4	22	20	19	26
GENOME	2.1	1.658	2.500	4	3	2.191	2	3	4	23	28	27	27
YEAST	1.941	2.445	3.849	5	7	3.390	6	7	8	24	16	15	14
SYST APPL MICROBIOL	1.933	2.259	3.825	4	6	3.027	5	6	7	25	19	16	15
J FOOD PROTECT	1.874	1.928	2.652	3	4	2.622	3	4	5	26	25	24	18
J VIROL METHODS	1.729	1.568	2.138	4	3	1.853	2	3	4	27	29	35	34
J MICROBIOL BIOTECHN	1.663	0.998	1.663	2	3	1.352	2	3	4	28	47	45	48
BIOTECHNOL PROGR	1.635	1.558	2.279	7	3	1.741	2	3	4	29	30	30	37
DIS MARKERS	1.527	0.870	3.889	3	4	2.740	3	4	5	30	54	14	17
ANIM BIOTECHNOL	1.472	1.239	2.250	7	3	1.455	2	3	4	31	37	33	45
LETT APPL MICROBIOL	1.461	1.356	1.759	4	3	1.551	2	3	4	32	32	44	41
BIODEGRADATION	1.388	2.403	8.957	7	5	3.905	4	5	6	33	17	2	10
BIORESOURCE TECHNOL	1.387	0.822	0.922	5	4	0.896	3	4	5	34	57	63	60
BIOL CONTROL	1.376	1.246	1.974	9	7	1.976	6	7	8	35	36	36	29
PROCESS BIOCHEM	1.375	1.250	1.868	5	3	1.494	2	3	4	36	35	41	43
PROTEIN EXPRES PURIF	1.336	1.178	1.833	5	3	1.426	2	3	4	37	39	42	47
J IND MICROBIOL BIOT	1.267	1.221	1.941	9	10	1.746	8	9	10	38	38	37	36
BIOMASS BIOENERG	1.216	1.007	1.429	7	3	1.211	2	3	4	39	46	50	50
BIOFOULING	1.165	1.374	2.172	7	5	1.750	4	5	6	40	31	34	35
FOOD MICROBIOL	1.105	1.272	1.934	8	4	1.598	3	4	5	41	34	38	40
BIOCATAL BIOTRANSFOR	1.053	0.973	1.493	7	3	1.056	2	3	4	42	48	49	54
FOLIA MICROBIOL	1.034	0.911	1.130	2	3	1.110	2	3	4	43	53	56	53
FOOD BIOTECHNOL	1.033	0.963	1.393	9	8	0.956	7	8	9	44	49	51	57

Table A.2: The ranking for Biotechnology and Applied Microbiology (continued)

Biotechnology and Applied Microbiology (117)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
ARTIF CELL BLOOD SUB	1.03	0.518	1.113	3	8	0.708	7	8	9	45	63.5	57	63
PLANT CELL TISS ORG	1.028	1.289	2.405	10	6	2.277	5	6	7	46	33	29	25
BIOLOGICALS	1	1.028	1.260	6	4	1.326	3	4	5	47	45	55	49
BIOSCI BIOTECH BIOCH	0.95	1.981	3.966	7	3	1.903	2	3	4	48	24	13	31
BIOTECHNOL APPL BIOC	0.942	1.104	1.522	7	6	1.451	5	6	7	49	42	47	46
PLANT BREEDING	0.941	0.937	1.380	3	6	1.194	5	6	7	50	51	52	51
INT J BIOL MARKER	0.929	0.659	1.922	6	5	1.880	4	5	6	51	60	39	32
APPL BIOCHEM BIOTECH	0.907	0.867	1.063	5	3	0.955	2	3	4	52	55	58	58
J CHEM TECHNOL BIOT	0.899	1.172	1.893	6	8	1.532	7	8	9	53	40	40	42
BIOCONTROL SCI TECHN	0.873	1.060	1.605	7	5	1.667	4	5	6	54	44	46	39
ACTA BIOTECHNOL	0.863	0.692	1.056	4	3	0.934	2	3	4	55	59	59	59
BIOTECHNOL LETT	0.849	0.817	0.950	4	5	1.005	4	5	6	56	58	61	55
INT BIODETER BIODEGR	0.835	1.070	2.252	5	9	1.872	8	9	10	57	43	32	33
J APPL PHYCOL	0.762	1.171	1.806	5	6	1.698	5	6	7	58	41	43	38
ELECTRON J BIOTECHN	0.723	0.066	0.090	7	3	0.064	2	3	4	59	78	78	78
J AM SOC BREW CHEM	0.687	0.940	1.350	4	7	1.122	6	7	8	60	50	53	52
J BIOACT COMPAT POL	0.655	0.643	0.930	4	6	0.718	5	6	7	61	61	62	62
DNA SEQUENCE	0.578	0.515	0.833	4	3	0.682	2	3	4	62	65	64	66
J FOOD SAFETY	0.488	0.929	1.519	7	6	1.465	5	6	7	63	52	48	44
BIOTECH HISTOCHEM	0.484	0.583	1.000	5	9	0.706	8	9	10	64	62	60	64
WORLD J MICROB BIOT	0.478	0.518	0.760	4	5	0.691	4	5	6	65	63.5	68	65
CYTOTECHNOLOGY	0.438	0.857	1.336	6	9	0.959	8	9	10	66	56	54	56
MINERVA BIOTECNOL	0.4	0.268	0.822	3	4	0.616	3	4	5	67	71	65	68
KOREAN J GENETIC	0.383	0.304	0.375	4	3	0.373	2	3	4	68	69	73	71
APPL BIOCHEM MICRO+	0.381	0.279	0.482	3	4	0.413	3	4	5	69	70	71	70
FOOD BIOPROD PROCESS	0.361	0.474	0.746	8	6	0.592	5	6	7	70	67	69	69
CHEM BIOCHEM ENG Q	0.328	0.242	0.429	2	4	0.366	3	4	5	71	72	72	72
GENET COUNSEL	0.321	0.478	0.806	4	6	0.748	5	6	7	72	66	66	61
ANN MICROBIOL	0.316	0.356	0.789	5	4	0.618	3	4	5	73	68	67	67
J PLANT BIOCHEM BIOT	0.268	0.225	0.500	5	8	0.351	7	8	9	74	73	70	73
CHIM OGGI	0.218	0.195	0.287	2	5	0.233	4	5	6	75	74	74	74
SEIBUTSU-KOGAKU KAIS	0.091	0.119	0.270	6	9	0.119	8	9	10	76	75	75	76
BIOPHARM-APPL T BIO	0.065	0.023	0.075	8	5	0.046	4	5	6	77	80.5	79	81
HUM GENOME NEWS	0.062	0.023	0.068	6	10	0.051	8	9	10	78	80.5	80	80
BIOFUTUR	0.059	0.085	0.121	4	5	0.098	4	5	6	79	77	77	77
GENET ENG NEWS	0.054	0.051	0.060	3	4	0.055	3	4	5	80	79	81	79
AGRO FOOD IND HI TEC	0.034	0.100	0.218	8	4	0.146	3	4	5	81	76	76	75

Table A.2: The ranking for Biotechnology and Applied Microbiology (continued)

Biotechnology and Applied Microbiology (117)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 4													
NAT BIOTECHNOL	22.355	10.967	19.532	2	3	18.991	2	3	4	1	1	1	1
GENOME RES	10.382	7.866	10.382	3	2	7.476	1	2	3	2	2	2	3
BIOINFORMATICS	5.742	4.175	10.032	3	4	9.270	3	4	5	3	5	3	2
GENE THER	4.977	4.312	5.580	4	5	5.503	4	5	6	4	3	7	6
MUTAT RES-FUND MOL M	3.73	2.894	4.008	7	4	3.725	3	4	5	5	8	9	8
MUTAT RES-REV MUTAT	3.667	4.213	7.239	4	5	5.869	4	5	6	6	4	5	5
CANCER GENE THER	3.653	2.905	3.340	5	3	3.572	2	3	4	7	7	12	9
J COMPUT BIOL	3.241	3.285	8.036	4	5	6.814	4	5	6	8	6	4	4
J GENE MED	3.224	2.056	3.438	4	2	2.009	1	2	3	9	11	11	16
TISSUE ENG	3.143	2.268	5.585	4	3	4.000	2	3	4	10	9	6	7
EXPERT OPIN BIOL TH	2.446	1.235	2.755	2	4	1.873	3	4	5	11	19	15	17
J BIOMOL SCREEN	2.427	1.775	3.095	6	2	1.690	1	2	3	12	14	13	18
BIOMARKERS	2.384	1.702	2.636	2	3	2.064	2	3	4	13	16	17	15
MOL BREEDING	2.209	2.192	4.783	6	8	3.351	7	8	9	14	10	8	11
MUTAT RES-GEN TOX EN	2.02	1.851	2.775	5	6	2.468	5	6	7	15	12	14	12
MOL CELL PROBE	2.019	1.774	2.748	4	3	2.316	2	3	4	16	15	16	13
J APPL MICROBIOL	1.835	1.638	2.507	4	6	2.235	5	6	7	17	17	18	14
BIOCHEM ENG J	1.617	1.010	1.649	4	2	0.967	1	2	3	18	20	20	20
MOL BIOTECHNOL	1.614	1.330	1.763	4	3	1.593	2	3	4	19	18	19	19
BIOMOL ENG	1.612	1.796	3.554	3	4	3.373	3	4	5	20	13	10	10
J BIOSCI BIOENG	0.802	0.850	1.250	4	6	0.747	5	6	7	21	21	21	21
FOOD TECHNOL BIOTECH	0.475	0.436	0.475	2	3	0.472	2	3	4	22	22	22	22
New journals													
NEW GENET SOC	0.5	0.596	1.174	2	4	0.738	3	4	5				
BIOPROC BIOSYST ENG	0.916	0.579	1.238	4	3	0.919	2	3	4				
MAR BIOTECHNOL	1.237	0.641	2.341	5	6	1.518	5	6	7				
CYTOTHERAPY	1.392	1.012	2.793	4	3	2.065	2	3	4				
J MOL MICROB BIOTECH	2.204	2.743	3.980	3	4	4.014	3	4	5				
NAT REV DRUG DISCOV	19.583	10.375	17.195	2	3	11.674	2	3	4				

Table A.3: The ranking for Chemistry, Multidisciplinary

Chemistry, Multidisciplinary (109)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
J PHYS CHEM REF DATA	4.788	0.524	0.903	8	7	0.790	6	7	8	1	6	6	6
B CHEM SOC JPN	1.445	1.321	1.644	3	7	1.550	6	7	8	2	1	1	1
AUST J CHEM	1.257	0.956	1.523	10	3	1.309	2	3	4	3	3	2	2
CHEM PHARM BULL	1.184	0.897	1.218	3	5	1.079	4	5	6	4	4	4	4
COLLECT CZECH CHEM C	1.062	0.668	1.062	2	3	1.055	2	3	4	5	5	5	5
CAN J CHEM	1.055	0.981	1.299	3	4	1.214	3	4	5	6	2	3	3
J INDIAN CHEM SOC	0.360	0.335	0.627	5	3	0.503	2	3	4	7	7	7	7
NIPPON KAGAKU KAISHI	0.224	0.136	0.186	5	6	0.171	5	6	7	8	9	9	9
B POL ACAD SCI-CHEM	0.127	0.267	0.528	8	7	0.391	6	7	8	9	8	8	8
Group 2													
J AM CHEM SOC	6.903	5.367	6.903	2	3	6.956	2	3	4	1	2	2	2
J COMPUT CHEM	3.168	3.421	4.571	4	7	4.099	6	7	8	2	3	3	4
MAR CHEM	2.508	2.789	3.742	10	6	3.419	5	6	7	3	4	6	5
J PHARM SCI-US	2.180	7.421	38.152	8	7	39.935	6	7	8	4	1	1	1
HELV CHIM ACTA	1.833	1.434	2.137	4	3	1.920	2	3	4	5	7	8	7
CHEM LETT	1.650	1.219	1.622	4	3	1.620	2	3	4	6	9	9	9
PURE APPL CHEM	1.449	1.828	3.833	6	5	3.045	4	5	6	7	5	4	6
J CHEM ENG DATA	1.368	1.101	1.368	2	3	1.275	2	3	4	8	10	10	10
J PHYS CHEM SOLIDS	0.988	1.600	3.827	5	4	5.092	3	4	5	9	6	5	3
CROAT CHEM ACTA	0.924	0.609	0.837	5	3	0.820	2	3	4	10	15	16	15
MONATSH CHEM	0.904	0.694	1.247	5	4	1.194	3	4	5	11	13	11	11
SEP SCI TECHNOL	0.896	0.813	1.018	3	6	1.063	5	6	7	12	11	15	12
ISRAEL J CHEM	0.845	1.286	3.192	10	6	1.703	5	6	7	13	8	7	8
SCI CHINA SER B	0.817	0.595	1.057	10	3	0.777	2	3	4	14	16	13	17
ARZNEIMITTEL-FORSCH	0.654	0.700	1.021	10	5	0.894	4	5	6	15	12	14	14
ARCH PHARM	0.653	0.686	1.130	7	5	0.918	4	5	6	16	14	12	13
PHARMAZIE	0.587	0.518	0.701	6	3	0.582	2	3	4	17	18	19	21
CHIMIA	0.576	0.592	0.773	5	4	0.801	3	4	5	18	17	17	16
INDIAN J CHEM A	0.509	0.449	0.677	3	4	0.668	3	4	5	19	20	20	18
J CHEM EDUC	0.507	0.459	0.627	4	6	0.584	5	6	7	20	19	21	20
ANN CHIM-SCI MAT	0.480	0.438	0.739	3	4	0.664	3	4	5	21	21	18	19
RUSS J GEN CHEM+	0.391	0.332	0.526	4	3	0.478	2	3	4	22	22	23	22
S AFR J CHEM-S-AFR T	0.370	0.308	0.577	10	8	0.384	7	8	9	23	23	22	23
FIBRE CHEM+	0.291	0.225	0.438	3	2	0.294	1	2	3	24	26	25	25
DOKL CHEM	0.282	0.200	0.338	5	3	0.226	2	3	4	25	27	26	27
CHEM BRIT	0.254	0.229	0.299	8	3	0.230	2	3	4	26	25	27	26
REV ROUM CHIM	0.199	0.267	0.459	3	4	0.366	3	4	5	27	24	24	24
Group 3													
CHEM REV	20.233	23.075	32.476	6	5	30.687	4	5	6	1	1	1	1
ACCOUNTS CHEM RES	13.154	14.205	21.406	5	4	19.463	3	4	5	2	2	2	3
CHEM SOC REV	10.836	10.039	13.552	5	7	12.126	6	7	8	3	3	4	4
ANGEW CHEM INT EDIT	9.161	7.204	9.472	4	3	8.953	2	3	4	4	4	6	5
TOP CURR CHEM	5.283	4.766	7.256	6	3	5.431	2	3	4	5	6	8	8
REV COMP CH	4.100	3.818	11.389	9	5	7.333	4	5	6	6	7	5	6
CHEM COMMUN	3.997	2.946	4.477	4	3	4.221	2	3	4	7	9	10	10
BIOCONJUGATE CHEM	3.766	3.098	4.019	6	3	3.814	2	3	4	8	8	11	11
J CONTROL RELEASE	3.297	2.309	4.736	5	4	4.560	3	4	5	9	12	9	9
J CHEM INF COMP SCI	2.810	2.403	3.063	4	2	2.031	1	2	3	10	11	13	14
CHEM RES TOXICOL	2.797	2.871	3.989	3	4	3.774	3	4	5	11	10	12	12
NEW J CHEM	2.735	2.107	2.735	2	3	2.552	2	3	4	12	13	14	13
PHARM RES	2.325	5.725	19.386	7	6	20.328	5	6	7	13	5	3	2
J NANOSCI NANOTECHNO	2.017	0.729	1.030	2	3	0.857	2	3	4	14	26	26	27
COMPUT CHEM	1.923	1.303	1.638	5	4	1.698	3	4	5	15	16	20	16
SUPRAMOL CHEM	1.577	1.704	8.204	5	10	6.079	8	9	10	16	14	7	7

Table A.3: The ranking for Chemistry, Multidisciplinary (continued)

Chemistry, Multidisciplinary (109)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
SAR QSAR ENVIRON RES	1.546	1.246	1.528	4	3	1.563	2	3	4	17	17	21	17
J MATH CHEM	1.495	0.989	1.722	2	3	1.357	2	3	4	18	21	17	21
MAGN RESON CHEM	1.489	1.049	1.650	4	3	1.452	2	3	4	19	19	19	20
J IND ENG CHEM	1.290	0.752	1.290	3	2	0.804	1	2	3	20	25	22	32
SOLVENT EXTR ION EXC	1.248	1.336	1.864	6	4	1.830	3	4	5	21	15	16	15
J BRAZIL CHEM SOC	1.161	0.834	1.161	2	3	1.190	2	3	4	22	23	24	22
ACTA PHARMACOL SIN	1.125	0.823	1.154	5	3	1.039	2	3	4	23	24	25	23
MATCH-COMMUN MATH CO	1.000	0.835	0.863	4	2	0.855	1	2	3	24	22	33	28
J CHEM TECHNOL BIOT	0.899	1.172	1.893	6	8	1.532	7	8	9	25	18	15	18
ACTA CHIM SINICA	0.895	0.588	0.895	2	3	0.788	2	3	4	26	33	30	33
B KOR CHEM SOC	0.890	0.641	0.890	2	3	0.825	2	3	4	27	29	31	29
PHARM WORLD SCI	0.854	0.176	0.195	4	6	0.134	5	6	7	28	58	61	61
STRUCT CHEM	0.833	0.618	0.833	3	2	0.595	1	2	3	29	31	35	40
HETEROATOM CHEM	0.830	0.717	1.005	4	3	0.822	2	3	4	30	27	27	30
J INCL PHENOM MACRO	0.825	1.014	1.683	3	4	1.521	3	4	5	31	20	18	19
KOREAN J CHEM ENG	0.817	0.627	0.913	4	3	0.809	2	3	4	32	30	29	31
CHINESE J CHEM	0.768	0.596	0.883	2	3	0.868	2	3	4	33	32	32	25
CHEM J CHINESE U	0.764	0.585	0.847	4	3	0.756	2	3	4	34	34	34	34
DRUG CHEM TOXICOL	0.695	0.709	1.171	3	5	0.867	4	5	6	35	28	23	26
MENDELEEV COMMUN	0.640	0.513	0.806	8	3	0.654	2	3	4	36.5	37	37	35
POL J CHEM	0.640	0.454	0.616	6	3	0.570	2	3	4	36.5	44	42	43
QUIM NOVA	0.627	0.505	0.768	5	3	0.610	2	3	4	38	38	39	38
J CHIN CHEM SOC-TAIP	0.593	0.501	0.736	3	5	0.644	4	5	6	39	39	40	36
TURK J CHEM	0.579	0.460	0.579	2	3	0.587	2	3	4	40	43	47	41
CHEM RES CHINESE U	0.538	0.100	0.656	4	3	0.526	2	3	4	41	62	41	45
RUSS CHEM B+	0.529	0.476	0.590	3	4	0.539	3	4	5	42	40	46	44
J SERB CHEM SOC	0.522	0.356	0.522	2	3	0.515	2	3	4	43	46	48	46
ACTA CHIM SLOV	0.517	0.345	0.517	2	3	0.457	2	3	4	44	48	49	48
P INDIAN AS-CHEM SCI	0.493	0.528	0.813	4	3	0.612	2	3	4	45	36	36	37
CHEM UNSERER ZEIT	0.492	0.387	0.607	2	7	0.415	6	7	8	46	45	43.5	49
RES CHEM INTERMEDIAT	0.446	0.576	0.981	4	7	0.881	6	7	8	47	35	28	24
SOLVENT EXTR RES DEV	0.419	0.316	0.600	6	4	0.410	3	4	5	48	49	45	50
J CHEM RES-S	0.368	0.471	0.607	7	6	0.606	5	6	7	49	41	43.5	39
CHEM LISTY	0.348	0.212	0.343	2	4	0.294	3	4	5	50	55.5	53	55
BOL SOC CHIL QUIM	0.309	0.230	0.305	5	4	0.301	3	4	5	51	53	56.5	53
REV CHIM-BUCHAREST	0.308	0.212	0.308	3	2	0.244	1	2	3	52	55.5	54.5	56
CHINESE CHEM LETT	0.305	0.222	0.305	3	2	0.213	1	2	3	53	54	56.5	57
CHEM PAP-CHEM ZVESTI	0.285	0.309	0.479	3	5	0.361	4	5	6	54	50	50	52
ASIAN J CHEM	0.262	0.233	0.288	4	3	0.300	2	3	4	55	52	58	54
PRZEM CHEM	0.256	0.463	0.791	3	2	0.574	1	2	3	56	42	38	42
OXID COMMUN	0.241	0.277	0.455	6	4	0.391	3	4	5	57	51	51	51
CHIM OGGI	0.218	0.187	0.268	2	5	0.209	4	5	6	58	57	59	59
AFINIDAD	0.174	0.148	0.246	5	3	0.172	2	3	4	59	60	60	60
J CHEM SOC PAKISTAN	0.172	0.352	0.414	4	5	0.492	4	5	6	60	47	52	47
B CHEM SOC ETHIOPIA	0.143	0.152	0.308	3	5	0.210	4	5	6	61	59	54.5	58
ACTUAL CHIMIQUE	0.123	0.107	0.163	5	2	0.094	1	2	3	62	61	62	62

Table A.3: The ranking for Chemistry, Multidisciplinary (continued)

Chemistry, Multidisciplinary (109)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 4													
NANO LETT	8.449	0.940	8.449	3	2	5.613	1	2	3	1	9	1	2
LAB CHIP	5.047	2.387	7.468	4	3	5.986	2	3	4	2	4	2	1
CHEM-EUR J	4.517	3.441	4.870	4	3	4.583	2	3	4	3	1	3	3
J COMB CHEM	4.197	2.755	4.197	3	2	2.796	1	2	3	4	2	4	5
GREEN CHEM	3.503	2.550	3.503	2	3	3.601	2	3	4	5	3	5	4
CRYST GROWTH DES	2.856	1.639	2.856	3	2	1.943	1	2	3	6	7	7	8
ULTRASON SONOCHEM	2.105	1.748	2.639	3	4	2.604	3	4	5	7	5	8	6
J NANOPART RES	1.955	1.284	1.768	4	3	1.724	2	3	4	8	8	9	9
J MOL MODEL	1.638	1.736	2.864	2	4	2.405	3	4	5	9	6	6	7
ENANTIOMER	0.955	0.898	1.110	6	5	1.071	4	5	6	10	10	10	10
NACHR CHEM	0.168	0.159	0.204	2	4	0.121	3	4	5	11	11	11	11

Table A.4: The ranking for Mathematics

Mathematics (163)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
B AM MATH SOC	2.962	2.336	6.526	3	6	2.879	5	6	7	1	3	1	3
ACTA MATH-DJURSHOLM	2.200	3.442	6.500	7	4	3.442	3	4	5	2	1	2	2
ANN MATH	1.845	2.377	4.871	7	6	3.722	5	6	7	3	2	3	1
AM J MATH	0.938	1.026	1.500	6	7	1.299	6	7	8	4	5	7	4
P LOND MATH SOC	0.872	0.809	1.139	3	6	1.028	5	6	7	5	6	8	7
LECT NOTES MATH	0.548	1.309	2.083	9	5	1.275	4	5	6	6	4	4	5
B SOC MATH FR	0.500	0.721	1.619	3	9	0.771	8	9	10	7	7	6	8
SB MATH+	0.453	0.437	0.810	3	5	0.607	4	5	6	8	12	10	12
CAN J MATH	0.446	0.549	0.698	10	6	0.654	5	6	7	9	9	12	11
Q J MATH	0.408	0.393	0.623	5	4	0.505	3	4	5	10	14	13	13
FUNCT ANAL APPL+	0.406	0.438	0.877	6	5	0.661	4	5	6	11	11	9	10
RUSS MATH SURV+	0.393	0.512	0.701	3	5	0.731	4	5	6	12	10	11	9
MATH SCAND	0.279	0.408	0.621	5	10	0.500	8	9	10	13	13	14	14
J AUST MATH SOC	0.252	0.065	0.254	2	3	0.176	2	3	4	14	17	17	17
AM MATH MON	0.212	0.224	0.351	8	4	0.235	3	4	5	15	15	15	15
ABH MATH SEM HAMBURG	0.146	0.146	0.333	8	6	0.224	5	6	7	16	16	16	16
ANN MATH STUD	0.143	0.643	2.067	5	9	1.044	8	9	10	17	8	5	6
Group 2													
INVENT MATH	1.926	1.820	2.198	7	5	2.233	4	5	6	1	3	4	3
COMMUN PUR APPL MATH	1.694	2.028	2.739	7	5	2.529	4	5	6	2	1	2	2
MEM AM MATH SOC	1.193	1.454	2.345	9	5	1.793	4	5	6	3	5	3	6
ANN SCI ECOLE NORM S	1.186	1.142	1.800	3	5	1.429	4	5	6	4	6	7	7
DUKE MATH J	1.118	1.057	1.497	5	4	1.410	3	4	5	5	8	10	8
ADV MATH	1.067	1.100	1.884	5	7	1.243	6	7	8	6	7	6	11
J MATH PURE APPL	0.926	0.839	1.270	3	4	1.122	3	4	5	7	12	13	12
COMPOS MATH	0.906	0.704	0.993	4	3	0.890	2	3	4	8	19	18	16
J REINE ANGEW MATH	0.885	0.785	1.326	7	3	0.919	2	3	4	9	13	11	15
J DIFFER GEOM	0.863	1.903	3.480	8	9	3.040	8	9	10	10	2	1	1
T AM MATH SOC	0.839	0.710	0.819	4	5	0.789	4	5	6	11	18	24	20
COMMENT MATH HELV	0.816	0.727	1.077	4	2	0.630	1	2	3	12	17	17	31
MATH ANN	0.790	0.752	1.136	4	7	0.795	6	7	8	13	15	16	19
INDIANA U MATH J	0.784	0.957	1.698	4	6	1.931	5	6	7	14	10	8	5
TOPOLOGY	0.727	0.770	1.233	5	7	0.883	6	7	8	15	14	14	18
J LOND MATH SOC	0.663	0.634	0.887	4	5	1.060	4	5	6	16	21	21	14
J ANAL MATH	0.634	0.870	1.200	4	6	1.284	5	6	7	17	11	15	10
J COMB THEORY B	0.618	0.733	1.306	5	4	1.074	3	4	5	18	16	12	13
ASTERISQUE	0.570	1.663	2.193	5	10	2.167	8	9	10	19	4	5	4
ANN ACAD SCI FENN-M	0.556	0.438	0.685	7	6	0.643	5	6	7	20	32	31	29
TOHOKU MATH J	0.550	0.500	0.803	8	3	0.565	2	3	4	21	27	27	37
MATH Z	0.546	0.548	0.844	5	3	0.634	2	3	4	22	22	22	30
STUD MATH	0.527	0.512	0.807	5	6	0.728	5	6	7	23	25	26	24
P AM MATH SOC	0.508	0.384	0.531	6	5	0.476	4	5	6	24	38.5	45	41
J OPERAT THEOR	0.490	0.489	0.833	3	4	0.762	3	4	5	25	28	23	23
J COMB THEORY A	0.485	0.408	0.613	5	3	0.470	2	3	4	26	35	40	42
ANN I FOURIER	0.480	0.638	0.889	6	5	0.764	4	5	6	27	20	20	21.5
PAC J MATH	0.465	0.481	0.656	3	4	0.648	3	4	5	28	29	35	28
MATH PROC CAMBRIDGE	0.438	0.407	0.564	6	9	0.522	8	9	10	29	36.5	43.5	39
HIST MATH	0.424	0.441	0.774	6	5	0.605	4	5	6	30	31	28	32
ISRAEL J MATH	0.410	0.539	0.915	4	5	0.887	4	5	6	31	23	19	17
CAN MATH BULL	0.407	0.284	0.564	7	3	0.395	2	3	4	32	44	43.5	44
B LOND MATH SOC	0.404	0.379	0.598	4	5	0.580	4	5	6	33	41	41	34.5
FUND MATH	0.394	0.501	0.658	3	4	0.667	3	4	5	34	26	33.5	26
COMBINATORICA	0.388	0.958	1.581	6	10	1.344	8	9	10	35	9	9	9

Table A.4: The ranking for Mathematics (continued)

Mathematics (163)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 2													
MICH MATH J	0.387	0.461	0.748	4	5	0.764	4	5	6	36	30	29	21.5
ILLINOIS J MATH	0.380	0.428	0.630	4	3	0.592	2	3	4	37	33	39	33
LINEAR MULTILINEAR A	0.377	0.368	0.652	8	7	0.566	6	7	8	38	42	36	36
J MATH SOC JPN	0.366	0.359	0.570	7	5	0.448	4	5	6	39	43	42	43
J SYMBOLIC LOGIC	0.331	0.407	0.633	8	4	0.482	3	4	5	40	36.5	38	40
BOL SOC MAT MEX	0.289	0.245	0.640	2	6	0.333	5	6	7	41	45	37	45
ACTA MATH HUNG	0.278	0.197	0.368	4	3	0.308	2	3	4	42	48	47	48
J MATH KYOTO U	0.259	0.383	0.667	5	9	0.533	8	9	10	43	40	32	38
NAGOYA MATH J	0.257	0.414	0.658	4	6	0.657	5	6	7	44	34	33.5	27
PUBL RES I MATH SCI	0.255	0.533	0.813	4	6	0.726	5	6	7	45	24	25	25
ARCH MATH	0.236	0.235	0.342	7	4	0.323	3	4	5	46	47	49	46
OSAKA J MATH	0.214	0.384	0.718	4	5	0.580	4	5	6	47	38.5	30	34.5
DIFF EQUAT+	0.184	0.244	0.290	4	5	0.315	4	5	6	48	46	51	47
STUD SCI MATH HUNG	0.169	0.166	0.380	4	9	0.216	8	9	10	49	50	46	52
MATH NOTES+	0.159	0.162	0.252	5	4	0.242	3	4	5	50	51	52	50
SIBERIAN MATH J+	0.142	0.156	0.249	7	5	0.193	4	5	6	51	53	53	53
FIBONACCI QUART	0.134	0.160	0.330	7	4	0.230	3	4	5	52	52	50	51
CZECH MATH J	0.131	0.183	0.363	7	4	0.269	3	4	5	53	49	48	49
B UNIONE MAT ITAL	0.043	0.101	0.193	8	7	0.156	6	7	8	54	54	54	54
Group 3													
J AM MATH SOC	2.581	2.255	3.270	9	6	2.384	5	6	7	1	1	1	1
RANDOM STRUCT ALGOR	0.966	1.106	1.523	6	4	1.464	3	4	5	2	4	8	7
J FUNCT ANAL	0.962	1.017	1.340	7	5	1.254	4	5	6	3	6	11	10
GEOM FUNCT ANAL	0.889	1.012	1.711	8	5	1.255	4	5	6	4	7	6	9
J DIFFER EQUATIONS	0.877	1.050	1.641	7	6	1.515	5	6	7	5	5	7	5
CALC VAR PARTIAL DIF	0.786	0.905	1.934	3	4	1.511	3	4	5	6	10	5	6
J ALGEBRAIC GEOM	0.776	0.789	1.446	8	10	1.274	8	9	10	7	12	9	8
COMP GEOM-THEOR APPL	0.742	1.249	2.213	7	8	1.644	7	8	9	8	2	2	4
NUMER LINEAR ALGEBR	0.727	0.641	1.386	5	8	1.129	7	8	9	9	16	10	13
J ALGEBR COMB	0.677	0.524	0.735	3	5	0.529	4	5	6	10	26	30	38
COMMUN PART DIFF EQ	0.671	0.936	1.297	5	6	1.174	5	6	7	11	9	14	11
DISCRETE COMPUT GEOM	0.620	0.755	1.315	7	6	1.074	5	6	7	12	14	12	14
COMPUT COMPLEX	0.615	0.992	2.100	10	7	1.667	6	7	8	13	8	3	3
COMMUN ANAL GEOM	0.595	0.858	1.308	6	7	1.167	6	7	8	14	11	13	12
FORUM MATH	0.587	0.497	0.821	2	4	0.598	3	4	5	15	28	23	29
CONSTR APPROX	0.578	0.730	1.136	5	7	0.840	6	7	8	16	15	17	17.5
TRANSFORM GROUPS	0.571	0.764	1.211	5	6	0.982	5	6	7	17	13	15	16
POTENTIAL ANAL	0.570	0.558	0.792	9	5	0.707	4	5	6	18	22	26	24
REV MAT IBEROAM	0.565	1.149	2.065	7	6	2.091	5	6	7	19	3	4	2
J ALGEBRA	0.554	0.520	0.691	5	4	0.617	3	4	5	20	27	35.5	27
INTEGR EQUAT OPER TH	0.511	0.534	0.891	6	5	0.764	4	5	6	21	23	21	20
ANN PURE APPL LOGIC	0.509	0.528	0.764	8	5	0.745	4	5	6	22	24.5	28	21
J MATH ANAL APPL	0.490	0.605	0.933	5	4	0.824	3	4	5	23	18	19	19
P ROY SOC EDINB A	0.487	0.562	0.816	10	4	0.724	3	4	5	24	20.5	25	22
MATH INTELL	0.465	0.562	1.173	8	7	0.987	6	7	8	25	20.5	16	15
J GRAPH THEOR	0.460	0.528	0.895	6	8	0.716	7	8	9	26	24.5	20	23
NONLINEAR ANAL-THEOR	0.459	0.449	0.959	8	4	0.530	3	4	5	27	32	18	37
K-THEORY	0.456	0.629	0.864	6	7	0.840	6	7	8	28	17	22	17.5
J PURE APPL ALGEBRA	0.446	0.417	0.558	3	4	0.522	3	4	5	29	35	45	39
INT J ALGEBR COMPUT	0.443	0.338	0.679	3	8	0.573	7	8	9	30	46.5	37	33

Table A.4: The ranking for Mathematics (continued)

Mathematics (163)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
MATH NACHR	0.434	0.343	0.579	4	3	0.470	2	3	4	31	45	43	44
GEOMETRIAE DEDICATA	0.433	0.335	0.466	9	3	0.412	2	3	4	32	48	55	51
CHINESE ANN MATH B	0.431	0.320	0.541	4	3	0.478	2	3	4	33	55	48	42
SEMIGROUP FORUM	0.429	0.293	0.447	3	4	0.388	3	4	5	34	58	58	54
ACTA MATH SIN	0.427	0.474	0.699	3	5	0.597	4	5	6	35	30	33	30
DIFFER GEOM APPL	0.418	0.437	0.693	5	8	0.476	7	8	9	36	34	34	43
ACTA ARITH	0.406	0.473	0.691	8	4	0.591	3	4	5	37	31	35.5	31
COMB PROBAB COMPUT	0.404	0.488	0.753	4	7	0.581	6	7	8	38	29	29	32
J NUMBER THEORY	0.388	0.397	0.573	4	9	0.414	8	9	10	39	36.5	44	50
DISCRETE MATH	0.374	0.363	0.516	5	3	0.382	2	3	4	40	41	50	55
ANN GLOB ANAL GEOM	0.370	0.397	0.557	3	4	0.540	3	4	5	41	36.5	46	35
ORDER	0.367	0.371	0.700	3	10	0.407	8	9	10	42.5	39	32	53
Z ANAL ANWEND	0.367	0.305	0.346	4	3	0.366	2	3	4	42.5	57	67	56
TOPOL APPL	0.364	0.328	0.601	6	3	0.340	2	3	4	44	52	40	57
J APPROX THEORY	0.360	0.383	0.629	7	5	0.468	4	5	6	45	38	39	46
EXP MATH	0.356	0.592	0.819	5	4	0.628	3	4	5	46	19	24	26
COMMUN ALGEBRA	0.350	0.338	0.411	4	5	0.416	4	5	6	47	46.5	61	49
MONATSH MATH	0.348	0.346	0.648	4	5	0.552	4	5	6	48	44	38	34
P EDINBURGH MATH SOC	0.336	0.312	0.534	3	4	0.489	3	4	5	49	56	49	41
CALCOLO	0.333	0.331	0.769	9	4	0.649	3	4	5	50	49	27	25
MANUSCRIPTA MATH	0.330	0.366	0.589	5	4	0.534	3	4	5	51	40	42	36
INT J MATH	0.323	0.448	0.706	8	5	0.609	4	5	6	52	33	31	28
J KNOT THEOR RAMIF	0.308	0.322	0.511	5	4	0.420	3	4	5	53	54	51	48
HOUSTON J MATH	0.306	0.254	0.416	6	4	0.331	3	4	5	54	62	60	58
P INDIAN AS-MATH SCI	0.304	0.279	0.462	3	4	0.410	3	4	5	55	59	56	52
EUR J COMBIN	0.303	0.352	0.590	7	4	0.492	3	4	5	56	43	41	40
ARCH MATH LOGIC	0.295	0.330	0.468	3	4	0.457	3	4	5	57	50.5	54	47
INTEGR TRANSF SPEC F	0.274	0.228	0.375	4	7	0.188	6	7	8	58	64	64	71
B AUST MATH SOC	0.262	0.226	0.329	9	4	0.298	3	4	5	59	65	68	63
ALGEBRA UNIV	0.261	0.278	0.402	5	3	0.278	2	3	4	60	60	62	65
P JPN ACAD A-MATH	0.253	0.196	0.324	5	3	0.257	2	3	4	61	66	69	67
INDAGAT MATH NEW SER	0.241	0.272	0.452	3	5	0.299	4	5	6	62.5	61	57	62
PUBL MAT	0.241	0.330	0.542	5	8	0.306	7	8	9	62.5	50.5	47	60
GLASGOW MATH J	0.240	0.244	0.429	5	9	0.270	8	9	10	64	63	59	66
PUBL MATH-DEBRECEN	0.236	0.156	0.237	4	3	0.231	2	3	4	65	70	71	69
GRAPH COMBINATOR	0.235	0.325	0.479	6	3	0.254	2	3	4	66	53	53	68
ROCKY MT J MATH	0.199	0.356	0.508	8	10	0.469	8	9	10	67	42	52	45
ARS COMBINATORIA	0.178	0.195	0.395	7	5	0.281	4	5	6	68	67	63	64
J COMPUT MATH	0.140	0.190	0.370	6	5	0.323	4	5	6	69	68	65	59
ACTA MATH SCI	0.132	0.182	0.347	6	5	0.301	4	5	6	70	69	66	61
INDIAN J PURE AP MAT	0.105	0.141	0.265	4	8	0.207	7	8	9	71	71	70	70
Group 4													
DISCRETE CONT DYN S	0.994	0.849	1.318	5	3	1.204	2	3	4	1	1	1	1
INT MATH RES NOTICES	0.906	0.764	1.260	7	3	1.113	2	3	4	2	3	2	2
MATH RES LETT	0.716	0.816	1.116	4	8	1.082	7	8	9	3	2	4	3
J COMB DES	0.662	0.680	1.027	7	5	0.825	4	5	6	4	4	5	5
THEOR COMPUT SYST	0.538	0.516	0.677	6	7	0.678	6	7	8	5	7	7	6
J CONVEX ANAL	0.425	0.529	0.727	9	3	0.575	2	3	4	6	6	6	7
B BELG MATH SOC-SIM	0.295	0.365	0.425	3	4	0.391	3	4	5	7	8	10	10
J LIE THEORY	0.280	0.181	0.353	6	7	0.284	6	7	8	8	12	12	12
B SYMB LOG	0.278	0.599	1.257	4	6	0.945	5	6	7	9	5	3	4
MATH LOGIC QUART	0.263	0.272	0.448	3	4	0.400	3	4	5	10	9	9	9
ALGEBR COLLOQ	0.168	0.232	0.370	9	4	0.333	3	4	5	11	10	11	11
DOKL MATH	0.160	0.121	0.159	2	3	0.154	2	3	4	12	13	13	13
MATH INEQUAL APPL	0.125	0.195	0.455	6	5	0.418	4	5	6	13	11	8	8

Table A.4: The ranking for Mathematics (continued)

Mathematics (163)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
New journals													
POSITIVITY	0.226	0.291	0.652	6	7	0.600	6	7	8				
RAMANUJAN J	0.267	0.323	0.632	8	4	0.437	3	4	5				
TAIWAN J MATH	0.292	0.306	0.567	5	6	0.467	5	6	7				
ELECTRON RES ANNOUNC	0.320	0.515	1.077	4	5	1.000	4	5	6				
J INEQUAL APPL	0.349	0.259	0.553	6	5	0.515	4	5	6				
J GROUP THEORY	0.471	0.455	0.714	4	7	0.333	6	7	8				
FINITE FIELDS TH APP	0.542	0.440	1.145	4	3	0.707	2	3	4				
COMMUN CONTEMP MATH	0.561	0.493	1.032	5	6	0.688	5	6	7				

Table A.5: The ranking for Physics, Multidisciplinary

Physics, Multidisciplinary (60)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
ANN PHYS-NEW YORK	3.006	1.703	3.006	3	2	2.132	1	2	3	1	1	1	1
J EXP THEOR PHYS+	1.281	0.794	1.281	2	3	1.193	2	3	4	2	2	2	2
CAN J PHYS	0.782	0.716	1.052	4	3	0.916	2	3	4	3	3	3	3
ANN PHYS-PARIS	0.417	0.143	0.144	7	10	0.121	8	9	10	4	4	4	4
Group 2													
REV MOD PHYS	32.771	20.340	19.419	6	3	34.118	2	3	4	1	1	1	1
J PHYS CHEM REF DATA	4.788	7.224	17.121	8	7	16.370	6	7	8	2	2	2	2
RIV NUOVO CIMENTO	3.250	1.883	4.929	4	2	5.154	1	2	3	3	3	3	3
PROG THEOR PHYS	1.985	1.202	2.171	4	2	1.628	1	2	3	4	4	4	4
JETP LETT+	1.455	0.870	1.552	2	3	1.524	2	3	4	5	5	5	5
GEN RELAT GRAVIT	1.178	0.850	1.178	3	2	0.973	1	2	3	6	6	6	6
ANN PHYS-BERLIN	1.101	0.742	1.030	5	6	0.915	5	6	7	7	7	7	7
AM J PHYS	0.844	0.612	0.879	3	6	0.778	5	6	7	8	8	8	9
Z NATURFORSCH A	0.799	0.523	0.775	4	3	0.818	2	3	4	9	9	9	8
THEOR MATH PHYS+	0.651	0.403	0.732	4	3	0.631	2	3	4	10	11	10	10
PROG THEOR PHYS SUPP	0.607	0.450	0.669	3	2	0.506	1	2	3	11	10	11	11
NUOVO CIMENTO B	0.307	0.306	0.392	4	5	0.362	4	5	6	12	12	12	12
SPRINGER TR MOD PHYS	0.205	0.204	0.345	2	6	0.286	5	6	7	13	13	13	13
Group 3													
PHYS REP	14.742	8.920	13.925	3	5	10.721	4	5	6	1	1	1	2
REP PROG PHYS	7.842	8.617	12.197	5	6	11.967	5	6	7	2	2	2	1
PHYS REV LETT	7.218	5.773	7.521	4	3	7.283	2	3	4	3	3	3	3
PHYS TODAY	5.211	4.529	6.060	8	6	5.031	5	6	7	4	4	4	4
PHYS LETT B	4.619	3.168	4.619	2	3	4.218	2	3	4	5	5	5	5
CLASSICAL QUANT GRAV	2.941	2.213	2.941	3	2	2.279	1	2	3	6	6	6	6
EUROPHYS LETT	2.120	1.782	2.247	4	3	2.151	2	3	4	7	7	8	8
FEW-BODY SYST	1.948	1.156	1.948	3	2	1.133	1	2	3	8	12	9	18
CONTEMP PHYS	1.756	1.532	2.675	5	6	2.230	5	6	7	9	9	7	7
PHYSICA D	1.666	1.548	1.907	5	7	1.676	6	7	8	10	8	10	9
J PHYS SOC JPN	1.577	1.256	1.529	2	4	1.404	3	4	5	11	10	13.5	13
CHINESE PHYS	1.559	0.829	1.559	2	3	1.472	2	3	4	12	17	12	12
WAVE RANDOM MEDIA	1.558	1.216	1.529	8	4	1.529	3	4	5	13	11	13.5	11
CHAOS SOLITON FRACT	1.526	1.149	1.526	3	2	1.148	1	2	3	14	13	15	16
J PHYS A-MATH GEN	1.504	1.132	1.504	3	2	1.136	1	2	3	15	16	16	17
PHYS LETT A	1.454	1.134	1.619	3	4	1.558	3	4	5	16	15	11	10
J KOREAN PHYS SOC	1.383	0.783	1.383	3	2	0.871	1	2	3	17	22	18	21
PHYSICA A	1.369	1.136	1.384	2	3	1.377	2	3	4	18	14	17	14
ACTA PHYS SIN-CH ED	1.250	0.811	1.250	2	3	1.262	2	3	4	19	19.5	19	15
CHINESE PHYS LETT	1.176	0.727	1.176	3	2	0.813	1	2	3	20	23	20	23
PHYS WORLD	1.020	0.826	0.981	5	4	0.896	3	4	5	21	18	23	19
WAVE MOTION	0.902	0.811	1.143	6	8	0.879	7	8	9	22	19.5	21	20
COMMUN THEOR PHYS	0.871	0.573	0.871	3	2	0.608	1	2	3	23	26	26	28
ACTA PHYS POL B	0.687	0.650	0.687	3	2	0.646	1	2	3	24	24	30	25
FORTSCHR PHYS	0.680	0.789	1.110	2	5	0.848	4	5	6	25	21	22	22
PHYS SCRIPTA	0.661	0.497	0.627	3	4	0.595	3	4	5	26	28	31	29
FOUND PHYS	0.575	0.618	0.942	4	6	0.654	5	6	7	27	25	25	24
INT J THEOR PHYS	0.531	0.512	0.699	5	6	0.609	5	6	7	28	27	29	27
ACTA PHYS SLOVACA	0.513	0.412	0.754	7	3	0.534	2	3	4	29	29	27	30
HIGH PRESSURE RES	0.504	0.314	0.717	3	9	0.469	8	9	10	30	32	28	31
ACTA PHYS POL A	0.495	0.275	0.479	4	3	0.465	2	3	4	31	36	33	32
BRAZ J PHYS	0.435	0.331	0.980	5	6	0.627	5	6	7	32	31	24	26
INDIAN J PURE AP PHY	0.399	0.297	0.446	4	3	0.401	2	3	4	33	33	34	34
FOUND PHYS LETT	0.352	0.338	0.544	3	4	0.459	3	4	5	34	30	32	33
PRAMANA-J PHYS	0.301	0.290	0.426	4	3	0.342	2	3	4	35	35	35	35

Table A.5: The rank for Physics, Multidisciplinary (continued)

Physics, Multidisciplinary (60)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
J PHYS IV	0.294	0.295	0.347	8	2	0.260	1	2	3	36	34	37	38
CZECH J PHYS	0.292	0.274	0.389	9	3	0.333	2	3	4	37	37	36	36
CHINESE J PHYS	0.289	0.242	0.298	4	5	0.273	4	5	6	38	38	38	37
REV MEX FIS	0.229	0.184	0.229	3	2	0.181	1	2	3	39	39	39	39
Group 4													
NEW J PHYS	3.095	0.346	3.095	3	2	2.015	1	2	3	1	3	1	1
MICROSCALE THERM ENG	0.783	1.004	1.957	8	4	1.667	3	4	5	2	1	2	2
ANN HENRI POINCARE	0.525	0.490	1.425	5	3	0.687	2	3	4	3	2	3	3
DOKL PHYS	0.291	0.215	0.277	4	3	0.286	2	3	4	4	4	4	4

Table A.6: The ranking for Business, Finance

Business, Finance (30)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
J FINANC ECON	2.551	3.209	4.688	8	5	4.023	4	5	6	1	1	1	1
J ACCOUNTING RES	1.844	1.970	2.464	7	3	1.839	2	3	4	2	2	4	5
J MONETARY ECON	1.577	1.785	2.867	10	6	2.487	5	6	7	3	3	2	2
ACCOUNT REV	1.420	1.607	1.872	3	9	2.044	8	9	10	4	4	6	4
J FINANC QUANT ANAL	1.215	1.334	1.927	8	9	1.821	8	9	10	5	6	5	6
J IND ECON	1.170	1.492	2.588	4	7	2.099	6	7	8	6	5	3	3
ACCOUNT ORG SOC	1.098	0.962	1.658	8	10	1.505	8	9	10	7	7	7	7
FINANC MANAGE	0.714	0.729	1.500	5	4	1.393	3	4	5	8	8	8	8
Group 2													
J ACCOUNT ECON	1.893	3.140	4.861	10	4	4.265	3	4	5	1	1	1	1
REV FINANC STUD	1.624	2.470	3.487	6	4	2.876	3	4	5	2	2	2	2
J RISK UNCERTAINTY	1.480	1.598	2.788	4	6	2.569	5	6	7	3	3	3	3
J MONEY CREDIT BANK	0.920	1.386	2.591	9	10	2.458	8	9	10	4	4	4	4
NATL TAX J	0.759	0.953	1.473	6	5	1.412	4	5	6	5	6	6	5
IMF STAFF PAPERS	0.709	1.003	1.593	4	7	1.387	6	7	8	6	5	5	6
J RISK INSUR	0.441	0.498	0.929	5	8	0.746	7	8	9	7	8	8	8
J PORTFOLIO MANAGE	0.330	0.405	0.620	8	7	0.511	6	7	8	8	10	10	10
J FUTURES MARKETS	0.280	0.492	0.781	9	6	0.566	5	6	7	9	9	9	9
AUDITING-J PRACT TH	0.279	0.664	1.313	9	6	1.281	5	6	7	10	7	7	7
Group 3													
J FINANC	3.110	3.967	5.832	5	8	5.186	7	8	9	1	1	1	1
MATH FINANC	1.900	2.037	4.050	8	6	3.045	5	6	7	2	2	3	3
WORLD BANK ECON REV	1.000	2.007	4.972	4	9	3.089	8	9	10	3	3	2	2
J FINANC INTERMED	0.935	1.111	1.793	10	5	1.611	4	5	6	4	4	4	4
J BANK FINANC	0.675	0.912	1.682	7	5	1.344	4	5	6	5	5	5	5
WORLD ECON	0.667	0.541	0.756	3	5	0.656	4	5	6	6	8	8	8
J INT MONEY FINANC	0.645	0.883	1.500	7	6	1.273	5	6	7	7	6	6	6
J REAL ESTATE FINANC	0.475	0.591	1.338	8	7	1.118	6	7	8	8	7	7	7
FORBES	0.043	0.025	0.043	2	3	0.033	2	3	4	9	9	9	9
Group 4													
REAL ESTATE ECON	0.500	0.594	1.061	6	7	0.885	6	7	8	1	1	1	1
INT J FINANC ECON	0.119	0.193	0.667	6	8	0.569	7	8	9	2	2	2	2
FINANC UVER	0.083	0.049	0.169	2	7	0.050	6	7	8	3	3	3	3

Table A.7: The ranking for Business

Business (50)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
ADMIN SCI QUART	3.405	9.285	13.360	6	8	12.500	7	8	9	1	1	1	1
J CONSUM RES	2.463	3.150	6.407	8	7	5.952	6	7	8	2	3	2	2
J MARKETING RES	2.222	3.494	5.213	8	6	4.487	5	6	7	3	2	3	3
J BUS	1.400	1.458	2.609	3	5	2.297	4	5	6	4	4	4	4
BUS HIST REV	0.290	0.464	1.571	3	6	0.700	5	6	7	5	5	5	5
ADV CONSUM RES	0.066	0.146	0.351	7	10	0.260	8	9	10	6	6	6	6
Group 2													
ACAD MANAGE REV	3.717	7.324	10.363	6	7	10.422	6	7	8	1	1	1	1
MARKET SCI	3.391	3.544	5.044	6	5	4.056	4	5	6	2	5	5	7
J MARKETING	3.100	5.554	7.364	6	9	8.494	8	9	10	3	2	4	2
ACAD MANAGE J	2.647	5.417	8.690	9	10	8.100	8	9	10	4	3	2	3
STRATEGIC MANAGE J	1.980	4.715	7.529	5	9	6.296	8	9	10	5	4	3	4
J INT BUS STUD	1.286	2.406	3.293	4	9	3.684	8	9	10	6	7	10	8
J RETAILING	1.250	2.070	4.150	8	5	2.723	4	5	6	7	9	9	9
J MANAGE	1.241	2.697	4.224	6	5	4.136	4	5	6	8	6	8	6
J BUS VENTURING	1.231	1.411	2.491	8	7	2.325	6	7	8	9	13	12	12
J MANAGE STUD	1.180	1.475	2.309	5	4	2.055	3	4	5	10	12	13	13
HARVARD BUS REV	1.148	2.199	4.549	8	7	4.286	6	7	8	11	8	6	5
J ENVIRON ECON MANAG	1.076	1.738	2.592	8	10	2.577	8	9	10	12	10	11	10
J ADVERTISING	0.926	1.588	4.310	8	6	2.333	5	6	7	13	11	7	11
INT MARKET REV	0.673	0.631	1.071	10	7	0.833	6	7	8	14	18	18	19
J ADVERTISING RES	0.642	1.200	1.844	9	6	1.767	5	6	7	15	14	14	14
ORGAN DYN	0.627	0.870	1.625	8	5	1.257	4	5	6	16	15	15	15
IEEE T ENG MANAGE	0.573	0.829	1.556	9	4	1.250	3	4	5	17	16	16	16
R&D MANAGE	0.479	0.658	1.016	4	7	1.036	6	7	8	18	17	19	17
TECHNOL FORECAST SOC	0.461	0.431	0.710	7	5	0.625	4	5	6	19	20	20	20
BUS HIST	0.432	0.334	0.591	5	3	0.444	2	3	4	20	21	21	21
J CONSUM AFF	0.289	0.561	1.212	5	4	0.957	3	4	5	21	19	17	18
Group 3													
J ACAD MARKET SCI	1.417	2.494	4.597	10	5	4.023	4	5	6	1	2	2	2
CALIF MANAGE REV	1.345	2.641	5.185	6	7	4.484	6	7	8	2	1	1	1
INT J RES MARK	0.886	1.655	4.194	10	9	3.528	8	9	10	3	4	3	3
J PROD INNOVAT MANAG	0.885	1.837	2.860	8	7	2.640	6	7	8	4	3	4	4
IND MARKET MANAG	0.880	0.876	1.342	3	5	1.285	4	5	6	5	8	8	7
PSYCHOL MARKET	0.750	0.815	1.333	8	5	1.064	4	5	6	6	9	9	10
AM BUS LAW J	0.688	0.965	1.235	4	5	1.020	4	5	6	7	7	10	11
RES TECHNOL MANAGE	0.677	0.542	0.853	9	8	0.730	7	8	9	8	14	14	13
J INT MARKETING	0.614	1.193	2.439	6	5	2.016	4	5	6	9	5	5	5
J BUS RES	0.607	0.739	1.097	5	6	1.156	5	6	7	10	11	11	8
LONG RANGE PLANN	0.580	0.650	0.897	5	8	0.596	7	8	9	11	12	13	15
J PROD ANAL	0.559	1.007	2.077	5	9	1.423	8	9	10	12.5	6	6	6
PUBLIC RELAT REV	0.559	0.465	1.000	5	7	0.686	6	7	8	12.5	15	12	14
J PUBLIC POLICY MARK	0.549	0.772	1.569	7	5	1.128	4	5	6	14	10	7	9
J BUS ETHICS	0.457	0.573	0.841	7	5	0.804	4	5	6	15	13	15	12
J BUS PSYCHOL	0.319	0.334	0.538	6	4	0.453	3	4	5	16	18	18	18
J BUS TECH COMMUN	0.280	0.349	0.600	8	4	0.571	3	4	5	17	17	17	16
BETRIEB FORSCH PRAX	0.247	0.222	0.328	7	5	0.243	4	5	6	18	19	19	19
CAN J ADM SCI	0.156	0.359	0.615	7	5	0.464	4	5	6	19	16	16	17
FORTUNE	0.143	0.096	0.143	3	2	0.145	1	2	3	20	20	20	20
Group 4													
INT J ELECTRON COMM	1.044	1.286	2.267	8	4	1.725	3	4	5	1	1	2	2
MIT SLOAN MANAGE REV	1.013	0.685	2.344	3	4	2.361	3	4	5	2	2	1	1
J WORLD BUS	0.593	0.633	1.419	7	6	1.318	5	6	7	3	3	3	3

Table A.8: The ranking for Economics

Economics (157)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
J POLIT ECON	2.622	4.213	6.600	7	10	5.878	8	9	10	1	1	1	1
ECONOMETRICA	2.163	3.115	5.071	5	9	4.195	8	9	10	2	2	2	2
REV ECON STUD	1.789	2.252	3.291	7	6	3.043	5	6	7	3	3	3	3
J LAW ECON	1.265	1.768	2.250	6	7	2.101	6	7	8	4	4	4	4
J ECON HIST	0.769	0.681	1.210	9	7	0.845	6	7	8	5	6	6	6
ECONOMICA	0.615	0.859	1.400	4	7	1.020	6	7	8	6	5	5	5
J MATH ECON	0.253	0.346	0.556	5	7	0.401	6	7	8	7	7	7	7
Group 2													
Q J ECON	4.412	6.758	10.848	6	8	8.566	7	8	9	1	1	2	2
J FINANC ECON	2.551	3.209	4.688	8	5	4.023	4	5	6	2	3	3	3
ECON J	1.723	1.953	2.359	9	8	2.379	7	8	9	3	6	15	10
AM ECON REV	1.655	2.766	3.614	4	9	3.491	8	9	10	4	4	5	4
J MONETARY ECON	1.577	1.785	2.867	10	6	2.487	5	6	7	5	8	10	9
BROOKINGS PAP ECO AC	1.500	6.053	18.417	7	10	12.250	8	9	10	6	2	1	1
REV ECON STAT	1.383	1.754	2.801	7	9	2.036	8	9	10	7	10	11	15
J ECONOMETRICS	1.320	1.784	2.919	6	9	2.552	8	9	10	8	9	9	7
RAND J ECON	1.312	2.329	3.545	5	7	2.533	6	7	8	9	5	6	8
J FINANC QUANT ANAL	1.215	1.334	1.927	8	9	1.821	8	9	10	10	15	19	17
J BUS ECON STAT	1.208	1.909	3.159	7	10	2.585	8	9	10	11	7	8	6
J IND ECON	1.170	1.492	2.588	4	7	2.099	6	7	8	12	13	14	14
ECON SOC	1.069	1.366	2.722	9	5	2.167	4	5	6	13	14	12	13
J HUM RESOUR	1.038	1.726	3.694	9	10	3.327	8	9	10	14	12	4	5
J LAW ECON ORGAN	1.025	1.745	3.294	10	6	2.343	5	6	7	15	11	7	11
LAND ECON	1.012	1.265	1.723	9	4	1.578	3	4	5	16	16	20	20
J URBAN ECON	0.938	1.113	1.989	6	7	1.757	6	7	8	17	20	17	18
J PUBLIC ECON	0.908	1.252	1.959	6	7	1.684	6	7	8	18	17	18	19
INT ECON REV	0.817	1.249	2.624	6	7	2.260	6	7	8	19	18	13	12
J ECON THEORY	0.816	0.972	1.401	8	7	1.305	6	7	8	20	23	25	24
IMF STAFF PAPERS	0.709	1.003	1.593	4	7	1.387	6	7	8	21	22	22	21
REG SCI URBAN ECON	0.692	1.040	1.515	9	6	1.313	5	6	7	22	21	24	23
ECON HIST REV	0.689	0.902	1.174	7	10	0.913	8	9	10	23	24	30	30
OXFORD ECON PAP	0.642	0.860	1.554	6	7	1.230	6	7	8	24	26	23	25
AM J AGR ECON	0.622	1.204	2.223	6	8	1.894	7	8	9	25	19	16	16
KYKLOS	0.590	0.610	1.000	5	6	0.778	5	6	7	26	31	33.5	35
ECON INQ	0.584	0.854	1.388	8	7	1.209	6	7	8	27	27	27	26
SCAND J ECON	0.531	0.809	1.238	6	5	1.111	4	5	6	28	28.5	28	28
J TRANSP ECON POLICY	0.500	0.741	1.167	8	4	1.000	3	4	5	29	30	31	29
OXFORD B ECON STAT	0.472	0.864	1.595	9	6	1.186	5	6	7	30	25	21	27
MANCH SCH	0.419	0.332	0.557	5	3	0.412	2	3	4	31	41	41	41
PUBLIC CHOICE	0.401	0.429	0.687	7	6	0.648	5	6	7	32	38	39	38
REV INCOME WEALTH	0.390	0.512	0.827	9	4	0.899	3	4	5	33	36	36	31
SOUTH ECON J	0.385	0.465	0.786	4	6	0.784	5	6	7	34	37	37	34
ECON DEV CULT CHANGE	0.373	0.809	1.394	5	6	1.356	5	6	7	35	28.5	26	22
EXPLOR ECON HIST	0.361	0.596	1.049	4	10	0.821	8	9	10	36	32	32	33
ECON PHILOS	0.357	0.577	1.208	7	5	0.683	4	5	6	37	35	29	37
ECON REC	0.314	0.396	0.620	5	6	0.577	5	6	7	38	39	40	39
INT J GAME THEORY	0.244	0.587	0.985	6	9	0.773	8	9	10	39	34	35	36
THEOR DECIS	0.214	0.365	0.717	4	6	0.538	5	6	7	40	40	38	40
J INST THEOR ECON	0.209	0.588	1.000	1	9	0.850	8	9	10	41	33	33.5	32
DESARROLLO ECON	0.119	0.145	0.213	9	7	0.213	6	7	8	42	42	42	42
HITOTSUB J ECON	0.000	0.052	0.130	8	10	0.091	8	9	10	43	43	43	43

Table A.8: The ranking for Economics (continued)

Economics (157)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
J ECON LIT	4.400	8.070	12.676	6	7	12.088	6	7	8	1	1	1	1
J ECON PERSPECT	2.951	3.314	4.933	7	10	4.192	8	9	10	2	2	4	4
J HEALTH ECON	2.495	2.434	3.707	6	8	3.341	7	8	9	3	5	7	5
NBER MACROECON ANN	2.333	3.083	9.583	5	8	5.056	7	8	9	4	4	2	2
ECON GEOGR	2.325	1.897	3.550	3	9	2.552	8	9	10	5	12	8	14
MATH FINANC	1.900	2.037	4.050	8	6	3.045	5	6	7	6	7	6	7
J ACCOUNT ECON	1.893	3.140	4.861	10	4	4.265	3	4	5	7	3	5	3
HEALTH ECON	1.591	1.730	3.060	7	4	2.659	3	4	5	8	14	12	10
ECON POLICY	1.586	1.995	3.458	4	5	2.800	4	5	6	9	9	9	9
POST-SOV GEOGR ECON	1.500	0.738	0.800	6	4	0.786	3	4	5	10	44	66	59
J RISK UNCERTAINTY	1.480	1.598	2.788	4	6	2.569	5	6	7	11	15	14	13
J INT ECON	1.368	2.124	3.077	5	4	2.591	3	4	5	12	6	11	11
ECOL ECON	1.266	1.439	2.150	4	5	2.087	4	5	6	13	17	21	18
WORLD DEV	1.227	1.310	1.880	6	4	1.712	3	4	5	14	19	26	23
EUR ECON REV	1.169	1.274	2.575	9	6	1.964	5	6	7	15	20	17	19
J COMMON MARK STUD	1.167	1.039	2.423	3	4	2.130	3	4	5	16	23	18	17
J ECON MANAGE STRAT	1.143	0.954	1.596	10	8	1.286	7	8	9	17	27	31	33.5
J ENVIRON ECON MANAG	1.076	1.738	2.592	8	10	2.577	8	9	10	18	13	16	12
WORLD BANK ECON REV	1.000	2.007	4.972	4	9	3.089	8	9	10	19	8	3	6
J LABOR ECON	0.986	1.898	2.679	6	8	2.398	7	8	9	20	11	15	15
WORLD BANK RES OBSER	0.955	1.920	3.308	6	5	2.944	4	5	6	21	10	10	8
ENERGY J	0.947	1.535	2.837	5	6	2.260	5	6	7	22	16	13	16
OXFORD REV ECON POL	0.926	1.159	1.723	6	7	1.463	6	7	8	23	21	27	25
EUR REV AGRIC ECON	0.915	0.907	1.667	3	4	1.149	3	4	5	24	31	29	40
J APPL ECONOM	0.892	1.315	2.288	4	5	1.918	4	5	6	25	18	19	20
POST-SOV AFF	0.889	0.921	1.565	3	6	1.158	5	6	7	26	29	33	38
ECONOMET THEOR	0.829	0.784	1.283	3	10	1.095	8	9	10	27	38	45	43
B INDONES ECON STUD	0.812	0.806	0.884	6	5	0.797	4	5	6	28	36	64	58
J DEV ECON	0.800	1.095	1.577	9	5	1.402	4	5	6	29	22	32	29
J HOUS ECON	0.765	0.763	2.000	6	9	1.091	8	9	10	30	40	24	44
NATL TAX J	0.759	0.953	1.473	6	5	1.412	4	5	6	31	28	37	28
J POPUL ECON	0.740	0.761	1.452	5	7	1.205	6	7	8	32	41	38	35
WORK EMPLOY SOC	0.736	0.973	1.444	5	4	1.286	3	4	5	33	26	39	33.5
WELTWIRTSCH ARCH	0.710	0.759	0.897	8	5	0.785	4	5	6	34	42	62	60
J BANK FINANC	0.675	0.912	1.682	7	5	1.344	4	5	6	35	30	28	31
RESOUR ENERGY ECON	0.667	0.988	1.938	8	6	1.351	5	6	7	36.5	25	25	30
WORLD ECON	0.667	0.541	0.756	3	5	0.656	4	5	6	36.5	60	67.5	66
J ECON BEHAV ORGAN	0.633	0.873	1.195	6	7	1.097	6	7	8	38	33	49	42
AGR ECON	0.620	0.678	1.260	5	7	0.887	6	7	8	39	47	46	51
ENVIRON RESOUR ECON	0.616	0.536	0.913	7	3	0.693	2	3	4	40	61	61	65
SCOT J POLIT ECON	0.612	0.510	0.892	3	4	0.832	3	4	5	41	63	63	54
INSUR MATH ECON	0.602	0.603	0.970	3	4	0.872	3	4	5	42	54	58	52
J ECON PSYCHOL	0.570	0.802	1.231	6	10	1.010	8	9	10	43	37	47	47
J PROD ANAL	0.559	1.007	2.077	5	9	1.423	8	9	10	44	24	22	27
FOOD POLICY	0.532	0.583	1.338	5	4	1.293	3	4	5	45	56	42.5	32
CHINA ECON REV	0.529	0.685	1.054	3	4	1.030	3	4	5	46	46	54	46
J ECON	0.525	0.399	0.525	2	3	0.467	2	3	4	47	72	78	72
J EVOL ECON	0.522	0.472	1.122	4	6	0.810	5	6	7	48	68	50	56
TIJDSCHR ECON SOC GE	0.518	0.543	0.847	3	4	0.854	3	4	5	49	58.5	65	53
J WORLD TRADE	0.517	0.374	0.545	5	2	0.381	1	2	3	50	74	76	79

Table A.8: The ranking for Economics (continued)

Economics (157)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
INT REV LAW ECON	0.508	0.667	0.959	3	9	0.624	8	9	10	51	51	59	68
INT J IND ORGAN	0.507	0.766	1.405	5	10	1.188	8	9	10	52	39	40	37
CAMBRIDGE J ECON	0.506	0.905	2.188	10	6	1.723	5	6	7	53	32	20	22
ENERG ECON	0.500	0.706	1.650	7	5	1.090	4	5	6	54	45	30	45
J ECON DYN CONTROL	0.477	0.672	1.078	4	8	0.893	7	8	9	55	48.5	52	49
J REAL ESTATE FINANC	0.475	0.591	1.338	8	7	1.118	6	7	8	56	55	42.5	41
REV IND ORGAN	0.462	0.491	0.756	8	6	0.647	5	6	7	57	67	67.5	67
ECON DEV Q	0.460	0.627	1.119	6	5	0.888	4	5	6	58	53	51	50
J REGUL ECON	0.458	0.562	0.983	6	9	0.537	8	9	10	59	57	57	69
SMALL BUS ECON	0.448	0.839	1.311	4	7	1.445	6	7	8	60	35	44	26
J RISK INSUR	0.441	0.498	0.929	5	8	0.746	7	8	9	61	66	60	63
J AGR ECON	0.436	0.756	1.226	7	6	1.154	5	6	7	62	43	48	39
CAN J ECON	0.420	0.670	1.075	4	9	0.908	8	9	10	63	50	53	48
SOC CHOICE WELFARE	0.417	0.506	0.717	3	4	0.697	3	4	5	64	64	69	64
GAME ECON BEHAV	0.397	0.846	2.060	9	10	1.760	8	9	10	65	34	23	21
ECON EDUC REV	0.382	0.663	1.485	6	5	1.189	4	5	6	66	52	36	36
FUTURES	0.370	0.283	0.470	10	6	0.297	5	6	7	67	80	79.5	86
ECON LETT	0.361	0.427	0.543	4	8	0.506	7	8	9	68	70	77	71
J ECON ISSUES	0.348	0.286	0.359	6	8	0.330	7	8	9	69	79	87	84
S AFR J ECON	0.337	0.271	0.574	5	3	0.437	2	3	4	70	82	75	77
JPN WORLD ECON	0.333	0.330	0.594	4	6	0.457	5	6	7	71	75	73	74
ECON THEOR	0.332	0.423	0.709	7	9	0.447	8	9	10	72	71	70	75.5
J JPN INT ECON	0.314	0.672	1.556	9	8	1.478	7	8	9	73	48.5	34	24
ECONOMIST-NETHERLAND	0.311	0.268	0.404	7	3	0.344	2	3	4	74	83	83	83
J ECON EDUC	0.306	0.380	0.636	8	4	0.429	3	4	5	75	73	72	78
J AFR ECON	0.305	0.543	1.000	5	8	0.803	7	8	9	76	58.5	56	57
J MEDIA ECON	0.267	0.526	1.520	4	7	0.762	6	7	8	77	62	35	61
ECON MODEL	0.256	0.290	0.576	5	6	0.534	5	6	7	78	77	74	70
APPL ECON	0.211	0.313	0.468	4	5	0.447	4	5	6	79	76	81	75.5
J POST KEYNESIAN EC	0.205	0.288	0.387	3	1	0.265	1	2	3	80.5	78	86	87
OPEN ECON REV	0.205	0.172	0.392	4	5	0.319	4	5	6	80.5	86	85	85
AM J ECON SOCIOL	0.203	0.265	0.470	8	6	0.379	5	6	7	82	84	79.5	80
DEV ECON	0.190	0.162	0.647	9	7	0.460	6	7	8	83	87	71	73
J AGR RESOUR ECON	0.188	0.504	1.370	7	4	0.758	3	4	5	84	65	41	62
J MACROECON	0.185	0.272	0.400	8	9	0.365	8	9	10	85	81	84	81
J POLICY MODEL	0.177	0.238	0.459	5	4	0.353	3	4	5	86	85	82	82
JAHRB NATL STAT	0.174	0.103	0.191	3	6	0.150	5	6	7	87	89	88	88.5
POLIT EKON	0.156	0.153	0.153	4	3	0.150	2	3	4	88	88	90	88.5
TRIMEST ECON	0.067	0.046	0.167	10	6	0.064	5	6	7	89	90	89	90
NEW ENGL ECON REV	0.042	0.455	1.029	9	8	0.815	7	8	9	90	69	55	55

Table A.8: The ranking for Economics (continued)

Economics (157)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 4													
J ECON GROWTH	2.379	2.363	5.714	5	9	3.714	8	9	10	1	1	1	1
REV INT POLIT ECON	1.190	0.877	1.608	5	3	1.184	2	3	4	2	2	3	3
ECON TRANSIT	0.614	0.874	1.667	6	5	1.448	4	5	6	3	3	2	2
MACROECON DYN	0.500	0.589	1.489	5	8	0.716	7	8	9	4.5	6	4	6
REAL ESTATE ECON	0.500	0.594	1.061	6	7	0.885	6	7	8	4.5	5	6	5
AUST J AGR RESOUR EC	0.400	0.371	0.619	8	5	0.438	4	5	6	6	8	7	8
EUROPE-ASIA STUD	0.362	0.339	0.616	4	3	0.425	2	3	4	7	9	8	9
LABOUR ECON	0.356	0.600	1.095	4	5	1.018	4	5	6	8	4	5	4
CONTEMP ECON POLICY	0.295	0.375	0.553	9	5	0.527	4	5	6	9	7	9	7
EASTERN EUR ECON	0.233	0.223	0.381	5	4	0.349	3	4	5	10	10	10	10
APPL ECON LETT	0.135	0.147	0.246	6	4	0.207	3	4	5	11	11	12	11
JPN ECON REV	0.127	0.096	0.250	7	10	0.167	8	9	10	12	12	11	12
New journals													
STUD NONLINEAR DYN E	0.242	0.247	1.115	9	8	0.949	7	8	9				
POST-COMMUNIST ECON	0.250	0.188	0.377	5	3	0.277	2	3	4				
INF ECON POLICY	0.259	0.214	0.473	3	5	0.298	4	5	6				
FEM ECON	0.326	0.424	0.925	7	5	0.764	4	5	6				
J ECON SURV	0.326	0.525	1.548	5	4	1.279	3	4	5				

Table A.9: The ranking for Management

Management (63)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
ADMIN SCI QUART	3.405	10.159	13.360	6	8	12.917	7	8	9	1	1	1	1
MANAGE SCI	1.934	2.635	3.615	6	7	3.592	6	7	8	2	2	3	3
ORGAN BEHAV HUM DEC	1.473	2.532	4.680	10	9	4.006	8	9	10	3	3	2	2
Group 2													
MIS QUART	2.884	5.050	7.872	6	10	6.981	8	9	10	1	2	2	2
ACAD MANAGE J	2.647	5.417	8.690	9	10	8.100	8	9	10	2	1	1	1
STRATEGIC MANAGE J	1.980	4.715	7.529	5	9	6.296	8	9	10	3	3	3	3
J INT BUS STUD	1.286	2.406	3.293	4	9	3.684	8	9	10	4	5	7	7
J MANAGE	1.241	2.697	4.224	6	5	4.136	4	5	6	5	4	5	6
J MANAGE STUD	1.180	1.475	2.309	5	4	2.055	3	4	5	6	8	9	9
HARVARD BUS REV	1.148	2.287	4.549	8	7	4.286	6	7	8	7	6	4	5
HUM RELAT	0.898	1.305	2.304	7	5	1.741	4	5	6	8	10	10	10
GROUP ORGAN MANAGE	0.865	1.320	2.541	5	6	2.140	5	6	7	9	9	8	8
DECISION SCI	0.764	2.143	4.152	10	7	4.339	6	7	8	10	7	6	4
ORGAN DYN	0.627	0.870	1.625	8	5	1.257	4	5	6	11	11	11	11
LONG RANGE PLANN	0.580	0.668	0.938	5	8	0.599	7	8	9	12	15	18	18
IEEE T ENG MANAGE	0.573	0.829	1.556	9	4	1.250	3	4	5	13	13	12	12
J OPER RES SOC	0.515	0.733	1.245	6	7	1.138	6	7	8	14	14	14	13
J FORECASTING	0.500	0.648	1.209	6	5	0.933	4	5	6	15	18	15	16
R&D MANAGE	0.479	0.658	1.016	4	7	1.036	6	7	8	16	16	16	15
INTERFACES	0.477	0.843	1.422	5	10	1.131	8	9	10	17	12	13	14
J SMALL BUS MANAGE	0.291	0.650	0.970	7	8	0.814	7	8	9	18	17	17	17
NEGOTIATION J	0.109	0.233	0.486	10	4	0.313	3	4	5	19	19	19	19
Group 3													
ACAD MANAGE REV	3.717	6.354	10.363	6	7	10.422	6	7	8	1	1	1	1
ORGAN SCI	2.295	3.392	5.778	6	9	4.813	8	9	10	2	2	2	2
HUM RESOURCE MANAGE	2.040	2.036	2.818	3	10	1.939	8	9	10	3	4	9	10
INFORM MANAGE-AMSTER	1.815	1.701	2.947	4	3	2.089	2	3	4	4	9	6	8
LEADERSHIP QUART	1.769	1.817	2.776	6	3	1.975	2	3	4	5	8	10	9
RES POLICY	1.536	1.853	2.906	4	5	2.939	4	5	6	6	6	7	4
ACAD MANAGE EXEC	1.460	1.527	2.253	3	7	1.928	6	7	8	7	11	11	11
CALIF MANAGE REV	1.345	2.641	5.185	6	7	4.484	6	7	8	8	3	3	3
J MANAGE INFORM SYST	1.271	1.967	2.986	5	4	2.462	3	4	5	9	5	5	7
J ECON MANAGE STRAT	1.143	0.954	1.596	10	8	1.286	7	8	9	10	12	15	15
BRIT J MANAGE	1.051	0.952	1.911	9	4	1.500	3	4	5	11	13	13	12
J PROD INNOVAT MANAG	0.885	1.837	2.860	8	7	2.640	6	7	8	12	7	8	6
ORGAN STUD	0.882	1.673	3.104	8	10	2.740	8	9	10	13	10	4	5
IND MARKET MANAG	0.880	0.876	1.342	3	5	1.285	4	5	6	14	16	21	16
J INF TECHNOL	0.850	0.908	1.109	6	5	1.246	4	5	6	15	14	23	17
SYST DYNAM REV	0.833	0.849	1.483	5	8	1.152	7	8	9	16	18	19	22
RES TECHNOL MANAGE	0.677	0.542	0.853	9	8	0.730	7	8	9	17	25	27	25
INT J OPER PROD MAN	0.566	0.727	1.370	5	6	1.232	5	6	7	18	20	20	18
NEW TECH WORK EMPLOY	0.548	0.557	1.792	4	5	1.412	4	5	6	19	23	14	13
INT J HUM RESOUR MAN	0.531	0.625	1.020	4	5	0.893	4	5	6	20	21	25	23
GROUP DECIS NEGOT	0.509	0.257	1.151	2	4	0.679	3	4	5	21.5	34	22	27
TOURISM MANAGE	0.509	0.515	0.840	5	3	0.587	2	3	4	21.5	26	28	29
INT J FORECASTING	0.467	0.882	1.527	8	5	1.185	4	5	6	23	15	18	20
REV IND ORGAN	0.462	0.491	0.756	8	6	0.647	5	6	7	24	27	29	28
INT J SERV IND MANAG	0.333	0.571	1.528	5	10	1.351	8	9	10	25.5	22	17	14
J MANAGE INQUIRY	0.333	0.546	0.940	6	5	0.845	4	5	6	25.5	24	26	24
ADV STRATEG MANAGE	0.320	0.767	1.923	9	1	1.211	1	2	3	27	19	12	19
OMEGA-INT J MANAGE S	0.286	0.851	1.564	4	6	1.182	5	6	7	28	17	16	21
INT J TECHNOL MANAGE	0.284	0.274	0.393	9	7	0.362	6	7	8	29	33	34	34
J ORGAN CHANGE MANAG	0.237	0.468	1.029	9	6	0.706	5	6	7	30	28	24	26

Table A.9: The ranking for Management (continued)

Management (63)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
INT J MANPOWER	0.235	0.277	0.577	3	6	0.402	5	6	7	31	32	32	33
TOTAL QUAL MANAG BUS	0.201	0.353	0.563	6	5	0.528	4	5	6	32	30	33	31
SERV IND J	0.186	0.278	0.591	7	6	0.475	5	6	7	33	31	31	32
CAN J ADM SCI	0.156	0.398	0.696	7	5	0.571	4	5	6	34	29	30	30
Group 4													
CORP GOV	1.083	0.780	1.302	3	4	1.119	3	4	5	1	4	5	5
MIT SLOAN MANAGE REV	1.013	0.685	2.344	3	4	1.440	3	4	5	2	5	1	3
INT J SELECT ASSESS	0.968	1.039	1.656	2	4	1.513	3	4	5	3	1	3	2
ORGANIZATION	0.929	1.034	1.984	8	5	1.577	4	5	6	4	2	2	1
MANAGE LEARN	0.872	0.854	1.364	8	7	1.227	6	7	8	5	3	4	4
New journals													
SYST PRACT ACT RES	0.160	0.181	0.338	4	5	0.245	4	5	6				
SYST RES BEHAV SCI	0.169	0.135	0.643	7	4	0.403	3	4	5				

Table A.10: The ranking for Political Science

Political Science(71)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
AM POLIT SCI REV	2.744	3.316	5.022	7	10	4.014	8	9	10	1	1	1	1
PUBLIC OPIN QUART	1.000	2.298	4.750	8	5	3.473	4	5	6	2	2	2	2
POLIT SCI QUART	0.917	0.603	1.343	5	2	0.831	1	2	3	3	3	3	3
PUBLIC CHOICE	0.401	0.429	0.687	7	6	0.648	5	6	7	4	4	4	4
PENSEE	0.095	0.048	0.113	7	2	0.071	1	2	3	5	5	5	5
Group 2													
AM J POLIT SCI	1.849	2.507	3.542	8	5	3.174	4	5	6	1	1	1	1
J CONFLICT RESOLUT	1.479	1.565	2.704	3	8	1.869	7	8	9	2	2	3	4
NEW LEFT REV	1.153	1.116	1.806	3	5	1.165	4	5	6	3	5	5	6
COMP POLIT	1.021	1.163	1.745	5	8	1.385	7	8	9	4	4	6	5
J POLIT	0.991	1.400	2.590	6	9	1.891	8	9	10	5	3	4	3
BRIT J POLIT SCI	0.970	0.978	1.561	5	10	1.131	8	9	10	6	7	7	8
SCOT J POLIT ECON	0.612	0.510	0.892	3	4	0.832	3	4	5	7	10	10	9
POLIT BEHAV	0.414	1.002	2.867	8	4	1.955	3	4	5	8	6	2	2
LEGIS STUD QUART	0.404	0.757	1.377	10	5	1.156	4	5	6	9	8	9	7
POLIT THEORY	0.400	0.415	0.577	3	4	0.594	3	4	5	10	11	13	11
ANN AM ACAD POLIT SS	0.390	0.579	1.425	4	6	0.571	5	6	7	11	9	8	12
POLICY STUD J	0.262	0.377	0.732	9	10	0.658	8	9	10	12	12	11	10
J STRATEGIC STUD	0.203	0.312	0.645	6	4	0.433	3	4	5	13	13	12	13
NEW REPUBLIC	0.178	0.111	0.178	3	2	0.135	1	2	3	14	17	17	17
POLIT SCI	0.158	0.126	0.261	7	5	0.161	4	5	6	15	16	16	16
CAN J POLIT SCI	0.153	0.252	0.486	8	7	0.426	6	7	8	16	14	14	14
COMMENTARY	0.102	0.091	0.135	5	7	0.111	6	7	8	17	18	18	18
POLITY	0.082	0.177	0.417	5	7	0.250	6	7	8	18	15	15	15
Group 3													
J DEMOCR	1.510	0.907	2.308	3	10	1.448	8	9	10	1	9	3	5
POLIT GEOGR	1.316	1.441	1.928	4	5	1.833	4	5	6	2	2	4	3
POLIT SOC	1.278	1.747	4.250	7	4	2.619	3	4	5	3	1	1	1
J PEACE RES	1.274	0.929	1.727	6	3	1.144	2	3	4	4	8	7	8
COMP POLIT STUD	1.268	1.235	1.852	5	3	1.363	2	3	4	5	3	5	7
SURVIVAL	1.038	0.784	1.074	4	2	0.807	1	2	3	6	12	15	14
STUD COMP INT DEV	1.028	1.199	1.405	3	4	1.622	3	4	5	7	4	10	4
J THEOR POLIT	0.886	0.903	1.356	5	6	1.134	5	6	7	8	10	11	10
POLIT PSYCHOL	0.853	1.019	1.729	4	7	1.438	6	7	8	9	6	6	6
WEST EUR POLIT	0.848	0.666	1.148	5	3	0.758	2	3	4	10	14	14	16
POLICY POLIT	0.781	0.860	1.339	4	5	1.099	4	5	6	11	11	12	11
INT POLIT SCI REV	0.778	0.463	0.778	2	3	0.723	2	3	4	12	24	24	19
EUR J POLIT RES	0.694	1.073	2.412	7	5	2.255	4	5	6	13	5	2	2
SCAND POLIT STUD	0.677	0.573	1.029	3	6	0.643	5	6	7	14	19	17	22
POLIT COMMUN	0.644	0.937	1.521	6	4	1.136	3	4	5	15	7	8	9
POLICY REV	0.638	0.530	0.617	4	3	0.629	2	3	4	16	21	25	24
ELECT STUD	0.574	0.587	1.013	10	5	0.744	4	5	6	17	17	19	17
LOCAL GOV STUD	0.544	0.467	0.852	4	6	0.534	5	6	7	18	23	23	26
ISSUES STUD	0.483	0.515	0.560	4	3	0.603	2	3	4	19	22	27	25
E EUR POLIT SOC	0.466	0.423	0.857	2	7	0.631	6	7	8	20	25	22	23
POLIT QUART	0.417	0.352	0.531	3	5	0.380	4	5	6	21	27	28	28
PS-POLIT SCI POLIT	0.388	0.309	0.459	10	3	0.367	2	3	4	22	31	30	29
HUM RIGHTS QUART	0.375	0.590	0.953	6	4	0.733	3	4	5	23	16	20	18
POLIT RES QUART	0.366	0.632	1.035	7	4	0.982	3	4	5	24	15	16	12
PARLIAMENT AFF	0.337	0.281	0.444	2	4	0.311	3	4	5	25	33	31	32
GOV OPPOS	0.327	0.310	0.516	3	8	0.407	7	8	9	26	30	29	27

Table A.10: The ranking for Political Science(continued)

Political Science(71)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
POLIT STUD-LONDON	0.325	0.582	1.220	5	9	0.705	8	9	10	27	18	13	20
NATION	0.321	0.268	0.328	3	4	0.289	3	4	5	28	34	34	34.5
MON REV	0.320	0.255	0.320	2	3	0.289	2	3	4	29	35	35	34.5
AUST J POLIT SCI	0.300	0.283	0.377	3	4	0.333	3	4	5	30	32	33	31
DISSENT	0.288	0.142	0.307	8	3	0.271	2	3	4	31	38	36	36
OSTEUROPA	0.287	0.192	0.287	3	2	0.195	1	2	3	32	36	37	37
POLIT VIERTELJAHR	0.278	0.350	0.576	9	6	0.310	5	6	7	33	28	26	33
PUBLIUS J FEDERALISM	0.273	0.667	1.435	9	4	0.843	3	4	5	34.5	13	9	13
WOMEN POLIT	0.273	0.571	1.025	4	8	0.772	7	8	9	34.5	20	18	15
LAT AM PERSPECT	0.247	0.314	0.404	3	7	0.352	6	7	8	36	29	32	30
CURR HIST	0.188	0.119	0.216	4	2	0.147	1	2	3	37	39	38	39
STUD AM POLIT DEV	0.182	0.356	0.867	7	5	0.667	4	5	6	38	26	21	21
POLIT EKON	0.156	0.153	0.153	4	3	0.150	2	3	4	39	37	39	38
CHINESE LAW GOV	0.041	0.020	0.081	3	4	0.049	3	4	5	40	40	40	40
Group 4													
REV INT POLIT ECON	1.190	0.877	1.608	5	3	1.184	2	3	4	1	1	1	1
J POLIT PHILOS	0.711	0.548	1.089	3	7	0.739	6	7	8	2	3	3	3
PARTY POLIT	0.688	0.729	1.590	4	10	1.131	8	9	10	3	2	2	2
COMMUNIS POST-COMMUN	0.442	0.455	0.739	7	5	0.662	4	5	6	4	4	4	4
EUROPE-ASIA STUD	0.362	0.339	0.616	4	3	0.425	2	3	4	5	5	5	5
PROBL POST-COMMUNISM	0.323	0.252	0.338	6	3	0.297	2	3	4	6	6	6	6
New journals													
INT POLITIK	0.155	0.110	0.155	3	2	0.103	1	2	3				
HARV INT J PRESS/POL	0.488	0.474	0.700	6	4	0.560	3	4	5				

Table A.11: The ranking for Sociology

Sociology (84)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 1													
AM SOCIOL REV	2.855	4.360	7.796	7	9	6.429	8	9	10	1	2	1	1
AM J SOCIOL	2.121	4.575	6.636	9	6	5.808	5	6	7	2	1	2	2
SOC PROBL	1.778	1.589	3.000	5	8	2.000	7	8	9	3	6	6	7
SOCIOL METHODOL	1.120	1.844	4.857	8	10	3.500	8	9	10	4	5	3	4
LAW SOC REV	0.955	2.143	4.241	8	7	3.927	6	7	8	5	3	4	3
SOC NETWORKS	0.947	1.015	1.583	8	6	1.510	5	6	7	6	9	12	9
SOCIOL EDUC	0.744	1.862	3.061	10	7	3.043	6	7	8	7	4	5	5
LANG SOC	0.732	0.868	2.500	5	7	1.271	6	7	8	8	10	7	10
J LEISURE RES	0.718	1.412	1.831	5	7	2.667	6	7	8	9	7	9	6
SOCIOL METHOD RES	0.594	1.194	2.250	9	4	1.648	3	4	5	10	8	8	8
CAN REV SOC ANTHROP	0.548	0.450	0.625	2	4	0.700	3	4	5	11	15	16	15
REV RELIG RES	0.420	0.444	0.860	4	9	0.453	8	9	10	12	16	15	16
COMP STUD SOC HIST	0.377	0.656	1.641	6	10	0.932	8	9	10	13	13.5	11	13
SYMB INTERACT	0.361	0.656	1.067	4	9	0.704	8	9	10	14	13.5	14	14
SOCIOL QUART	0.338	0.726	1.450	9	10	1.194	8	9	10	15	11	13	11
HUM STUD	0.205	0.242	0.550	5	6	0.387	5	6	7	16	18	18	18
J MATH SOCIOL	0.167	0.666	1.727	10	4	1.000	3	4	5	17	12	10	12
INT J SOCIOL LAW	0.097	0.319	0.553	8	6	0.449	5	6	7	18	17	17	17
Group 2													
ANNU REV SOCIOL	2.682	4.919	7.316	5	7	7.353	6	7	8	1	1	1	1
POPUL DEV REV	1.548	2.058	2.983	5	4	2.964	3	4	5	2	3	4	3
LEISURE SCI	1.341	1.120	1.878	10	3	1.323	2	3	4	3	8	7	12
J MARRIAGE FAM	1.288	2.438	3.939	6	5	3.474	4	5	6	4	2	2	2
SOC FORCES	1.204	2.032	3.104	5	8	2.711	7	8	9	5	4	3	4
SOCIOLOGY	1.047	1.035	1.930	7	6	1.623	5	6	7	6	9	6	6
SOCIOL THEOR	1.025	0.702	1.255	5	3	1.051	2	3	4	7	13	15	15
J SCI STUD RELIG	0.980	0.969	1.813	3	7	1.620	6	7	8	8	11	9	8
HUM ECOL	0.978	1.016	1.667	5	6	1.423	5	6	7	9	10	11	10
RURAL SOCIOL	0.961	1.131	1.483	6	7	1.450	6	7	8	10	6	12	9
BRIT J SOCIOL	0.855	1.144	2.164	9	5	1.622	4	5	6	11	5	5	7
GENDER SOC	0.607	1.121	1.824	9	8	1.833	7	8	9	12	7	8	5
SOCIOL REV	0.588	0.673	1.328	7	6	1.136	5	6	7	13	17	13	13
ANN TOURISM RES	0.550	0.681	0.818	9	8	0.766	7	8	9	14	16	25	23
SOC INDIC RES	0.509	0.692	0.946	4	5	0.900	4	5	6	15	14	24	20
J CONTEMP ETHNOGR	0.500	0.528	0.727	4	6	0.635	5	6	7	16	23	28	26
KOLNER Z SOZIOL SOZ	0.492	0.470	0.807	5	9	0.513	8	9	10	17	28	26	31
INT J INTERCULT REL	0.486	0.644	1.027	5	9	0.857	8	9	10	18	20	20	22
DEVIANT BEHAV	0.478	0.660	0.974	5	7	1.060	6	7	8	19	19	22	14
ARMED FORCES SOC	0.449	0.566	1.280	5	6	0.933	5	6	7	20	22	14	19
RACE CLASS	0.439	0.330	0.703	4	10	0.545	8	9	10	21	31	29	29
YOUTH SOC	0.421	0.951	1.795	6	8	1.351	7	8	9	22	12	10	11
MEDIA CULT SOC	0.385	0.472	0.729	9	5	0.660	4	5	6	23	27	27	25
REV FR SOCIOL	0.344	0.309	0.511	8	3	0.390	2	3	4	24	32	32	33
ACTA SOCIOL	0.303	0.501	0.947	7	9	0.741	8	9	10	25	25	23	24
SOCIOL INQ	0.291	0.484	1.038	9	8	1.014	7	8	9	26	26	19	17
SOZ WELT	0.289	0.511	1.087	8	4	0.605	3	4	5	27	24	18	27
J HIST SOCIOL	0.286	0.233	0.471	5	6	0.412	5	6	7	29	34	33	32
SOCIOL FORUM	0.286	0.665	1.125	5	6	1.046	5	6	7	29	18	17	16
SOCIOL SPORT J	0.286	0.691	1.159	5	10	0.983	8	9	10	29	15	16	18
CAN J SOCIOL	0.273	0.388	0.638	4	5	0.554	4	5	6	31	29	30	28
ARCH EUR SOCIOL	0.241	0.354	0.548	5	4	0.522	3	4	5	32	30	31	30
SOCIOL SPECTRUM	0.206	0.253	0.400	7	9	0.303	8	9	10	33	33	34	34
TEACH SOCIOL	0.197	0.628	1.000	6	7	0.866	6	7	8	34	21	21	21
SOC COMPASS	0.188	0.147	0.246	10	7	0.191	6	7	8	35	35	35	35
SOCIETY	0.119	0.095	0.143	3	4	0.127	3	4	5	36	36	36	36

Table A.11: The ranking for Sociology (continued)

Political Science(71)										Rank			
Journal Title	JCR	CHL	M2	peak		M3	peak			JCR	CHL	M2	M3
Group 3													
SOCIOL RURALIS	1.617	1.680	2.536	4	5	2.140	4	5	6	1	4	4	4
SOCIOL HEALTH ILL	1.325	1.730	2.528	4	6	2.157	5	6	7	2	3	5	3
POLIT SOC	1.278	1.747	4.250	7	4	2.619	3	4	5	3	2	1	1
WORK OCCUPATION	1.081	1.941	2.432	8	6	2.531	5	6	7	4	1	6	2
THEOR SOC	0.930	1.341	2.795	5	7	1.851	6	7	8	5	5	3	6
SOC NATUR RESOUR	0.820	0.862	1.214	5	4	1.156	3	4	5	6	9	15	11
DISCOURSE SOC	0.803	0.992	2.150	7	6	2.034	5	6	7	7	7	7	5
WORK EMPLOY SOC	0.736	0.973	1.444	5	4	1.286	3	4	5	8	8	9	9
RATION SOC	0.735	0.826	1.417	10	7	1.056	6	7	8	9	10	10	12
Z SOZIOL	0.688	0.471	0.844	5	3	0.615	2	3	4	10	19	19	19
ETHNIC RACIAL STUD	0.644	1.105	2.000	7	6	1.677	5	6	7	11	6	8	7
SOCIOL PERSPECT	0.550	0.781	3.962	6	10	1.486	8	9	10	12	11	2	8
J LAW SOC	0.500	0.395	0.667	5	7	0.475	6	7	8	13	21	20	21
BRIT J SOCIOL EDUC	0.488	0.657	1.176	5	6	1.021	5	6	7	14	12	16	13
EUR SOCIOL REV	0.483	0.618	1.297	6	7	1.234	6	7	8	15	14	11	10
J SOCIOL	0.467	0.406	1.217	7	5	0.583	4	5	6	16	20	14	20
SOCIOL RELIG	0.458	0.638	1.222	4	6	0.853	5	6	7	17	13	13	14
CONTEMP SOCIOL	0.409	0.480	0.848	4	5	0.670	4	5	6	18	18	18	18
BERL J SOZIOL	0.389	0.206	0.446	3	5	0.284	4	5	6	19	25	25	25
INT SOCIOL	0.346	0.539	0.927	7	5	0.744	4	5	6	20	16	17	17
SOC ANIM	0.271	0.526	1.296	8	6	0.795	5	6	7	21	17	12	15
J HIST SEXUALITY	0.263	0.602	0.630	5	8	0.786	7	8	9	22	15	21	16
SOCIOL TRAV	0.224	0.286	0.610	3	7	0.467	6	7	8	23	22	22	22
AM J ECON SOCIOL	0.203	0.265	0.470	8	6	0.379	5	6	7	24	23	24	23
SOCIOL CAS	0.200	0.210	0.391	2	4	0.257	3	4	5	25.5	24	28	26
SOCIOLOGIA	0.200	0.150	0.408	3	5	0.222	4	5	6	25.5	26	27	28
DRUS ISTRAZ	0.162	0.133	0.491	5	6	0.345	5	6	7	27	27	23	24
SOTSIOL ISSLED+	0.154	0.131	0.181	4	2	0.117	1	2	3	28	28	29	29
CONTRIB INDIAN SOC	0.062	0.101	0.438	9	7	0.250	6	7	8	29	29	26	27
Group 4													
SOCIOL RES ONLINE	0.337	0.354	0.563	8	6	0.463	5	6	7	1	1	1	1