Grading Journals in Economics: The ABCs of the ABDC

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1. Introduction

The Australian Business Deans Council (ABDC) has graded over 760 journals in the Field of Research categories of Statistics, Economics Theory, Applied Economics, Econometrics and Other Economics.

These journals have been ranked to evaluate the research conducted by the academic members within and across institutions. Each journal is given a grade according to a four-interval scale defined as: A*, A, B, and C.

Our purpose is to examine the degree to which these grades match grades implied by a set of available bibliometric measures.

The genesis of the ABDC list is the now defunct Excellence in Research for Australia (ERA) journal rankings list thatwas discontinued in 2010. The reasons for this are varied:

"*.. feedback from Research Evaluation Committees that they relied on their own expert knowledge of the quality of research outlets relevant to their discipline ..*"

rather using a ranking list (ARC website).

The then Australian government minister for Science and Research Kim Carr, stated

"*that the ERA (Excellence in Research for Australia) could work perfectly well without the rankings and their existence was focussing ill-informed undesirable behaviour in the management of research*" (Rowbotham 2011)

Two prominent critiques of the influence of journal grading:

In Economics

The session at the 2017 American Economic Association Meetings entitled "Publishing and Promotion in Economics: The Curse of the Top Five" – the recording of this session is on line and quite informative. In this session five eminent economists – Heckman, Hansen, Akerlof, Fudenberg and Deaton - provide a critical eye to the emphasis on publications in a limited set of journals.

In Science

"The Leiden Manifesto for Research Metrics" by Hicks et al *Nature*, (2015), 520, 429-431. With references to: "The San Francisco Declaration of Research Assessment" aka DORA.

The use of the ABDC grades

Advertisements for academic positions in Australia explicitly require that applicants demonstrate a record of consistent publication in A* journals as defined by the *ABDC* gradings with a reference to the web-address of the list.

A cursory on-line search revealed numerous public university web-sites that refer to the *ABDC* list:

- Towson University in Baltimore Md
- Sacramento State University
- Florida Atlantic University
- San Francisco State University
- Worcester Polytechnic Institute in Boston MA
- Stetson University in DeLand FL
- Middle Tennessee State University in Murfreesboro TN
- Pondicherry, India
- Vellore Institute of Technology, India.

In our examination of the relationship between the ABDC journal grades and the scores that are based on ranks of a set of widely available bibliometric statistics, we find that the ABDC grades vary in their consistency with the bibliometric measures. And this is especially the case for those non-A* journals and those that are on the grade borders.

This paper proceeds as follows:

1. We provide a background for the ABDC list and the bibliometric measures we use.
2. We define a measure of interrater agreement.
3. We then compute this measure for journals in the ABDC list for 46 bibliometrics and consider the interrater agreement of these measures with each other.
4. Then, we determine how the consistency of the ABDC and AJG groupings compare to determine which journals are either ranked above or below their expected rank.

2. The Journal Quality Metrics.

2.1 The ABDC grades.

The Australian Business Deans Council represents 39 Australian university business faculties and schools.

The ABDC publishes a ranking list of journals in most of the fields under which research is performed in these institutions. The journals are ranked by a letter grade from A*, A, B and C.

The current list grades 760 journals in the Field of Research codes for: Statistics, Economic Theory, Applied Econometrics and Other Economics.

ABDC score	ABS Field of Research (FoR)					
	Statistics	Economic Theory	Applied Economics	Econometrics	Other Economics	Total
C	24*	8	221	14	75	342
	3.16**	1.05	29.08	1.84	9.87	**45.00**
	7.02†	2.34	64.62	4.09	21.93	100.00
	28.57‡	**26.67**	**43.76**	**41.18**	**70.09**	
B	26	9	166	6	27	234
	3.42	1.18	21.84	0.79	3.55	**30.79**
	11.11	3.85	70.94	2.56	11.54	100.00
	30.95	**30.00**	**32.87**	**17.65**	**25.23**	
A	23	9	82	8	5	127
	3.03	1.18	10.79	1.05	0.66	**16.71**
	18.11	7.09	64.57	6.3	3.94	100.00
	27.38	**30.00**	**16.24**	**23.53**	**4.67**	
A*	11	4	36	6	0	57
	1.45	0.53	4.74	0.79	0.00	**7.50**
	19.30	7.02	63.16	10.53	0.00	100.00
	13.10	**13.33**	**7.13**	**17.65**	**0.00**	
Total	84	30	505	34	107	760
	11.05	3.95	66.45	4.47	14.08	100.00
	100.00	100.00	100.00	100.00	100.00	

* Number in cell, ** % in cell, † % with the same ABDC score, ‡ % in the same FoR.

Table 2.1, The distribution of journals by their ABDC scores and Field of Research.

2. Bibliometrics

The universe of bibliometrics is wide and has spawned several studies in this area with researchers making claims for each measure. (Waltman 2016).

Although there is a considerable literature that concentrates on journals in economics, we will be concentrating on the primary measures that are publicly available and are kept up-to date (with one exception noted below).

The 46 bibliometric measures we use have been generated by several different sources here we consider the metrics from:

- 9 Scopus CiteScore metrics
- 9 SCImagojr Journal metrics
- 9 from IDEAS/RePEc citation indices
- 3 from the LogEc access measures
- 7 Web of Science InCites Journal Access Metrics
- 8 Altmetrics Journal Indicators
- 2 Combes and Linnemer Bibliometrics

3. The Journal Bibliometrics.

Mnemonic	*Source**	*Label*	*N*	*Mean*	*Sd*	*Min*	*Max*
h_index	R	Hirsch-index	478	12.43	12.62	0	100.00
e_c_score	R	Euclidian citation score	478	152.22	257.64	0	2528.79
s_impact	R	Simple impact factor	478	3.33	5.82	0	55.67
d_impact	R	Discounted impact factor	478	0.88	1.57	0	15.63
dr_impact	R	Discounted recursive impact factor	478	0.33	0.90	0	10.91
r_impact	R	Recursive impact factor	478	0.35	0.93	0	10.76
Number	R	Number of items listed	478	408.28	469.92	1	3840
absv_item	R&L	Abstract Views / Item	478	117.75	163.76	0	1831.67
dl_item	R&L	File downloads / Item	478	25.37	38.17	0	488.50
sjr_cscore	C	SCImago Journal Rank Index	510	1.20	2.09	0.1	24.77
SNIP	C	Source Normalized Impact per Paper	510	1.07	0.84	0	6.75
CiteScore	C	Average citations per document	510	1.18	1.11	0	8.21
Citation_Count	C	# cites in 2016 for 2013-15 papers	510	245.81	766.94	0	15407
Percent_Cited	C	% of papers in 2013-15 cited	510	44.79	19.94	0	96.00
Percentile	C	Relative standing in its subject field.	510	61.23	25.14	0	99.00
Scholarly_Output	C	Documents published in 2013 – 15	510	163.07	240.47	6	3424
i_rnk_area	C	5000 - Rank in subject area	510	4863.26	141.79	3700	4999
Total_2016	S	Total Docs. (2016)	509	60.83	85.34	0	1192
Total_3yr	S	Total Docs. (3years)	509	167.91	256.45	5	3424
Cit_Doc_3yr	S	Citable Docs. (3years)	509	156.58	224.26	3	2343
h_ind_sjr	S	Hirsch index	509	36.00	33.13	0	300
SJR	S	SCImago Journal Rank	509	1.19	2.10	0.1	24.77
Cites_p_D__2yr	S	Cites per document in the last 2 yrs	509	1.07	1.03	0	8.77
Total_C_3yr	S	Total Cites (3years)	509	245.53	765.46	0	15342
i_rnk_sjr	S	30000 - SJR overall rank	530	20878.32	6827.31	1901	29993
Total_Refs	S	Total Refs	509	1961.17	2222.33	0	16656

Mnemonic	*Source**	*Label*	*N*	*Mean*	*Sd*	*Min*	*Max*
D_p_AV	L	Downloads/Ab Views 2013-17	531	0.21	0.07	0	0.41
File_Ds	L	File Downloads 2013-2017	542	10425.33	23483.73	0	314208
Abs_Vs	L	Abstract Views 2013-2017	542	43970.46	86030.92	0	1197132
jif_inc	I	Journal Impact Factor	364	1.30	1.13	0.04	9.44
jif_wo_inc	I	Journal Impact Factor w/o self-cites	364	1.17	1.09	0.03	9.31
jif5_inc	I	5yr Journal Impact Factor	364	1.69	1.50	0.07	10.70
EIFac_inc	I	Eigenfactor	364	0.0057	0.0135	0.00	0.1833
im_index_inc	I	Immediacy Index	364	0.3055	0.4216	0.00	5.0770
inf_sc_inc	I	Article influence score	364	1.27	1.89	0.02	17.15
av_jif_inc	I	Average Journal Impact Factor	364	48.53	27.35	0.14	99.86
Blog_mentions	A	Blog mentions	573	38.10	126.35	0.00	1737
Wikipedia_mentions	A	Wikipedia mentions	573	24.96	74.79	0.00	1128
Facebook_mentions	A	Facebook mentions	573	33.29	104.87	0.00	1288
Policy_mentions	A	Policy mentions	573	174.36	578.08	0.00	6036
Twitter_mentions	A	Twitter mentions	573	901.36	3140.21	0.00	59256
Number_of_mentioned	A	Number of mentioned outputs	573	227.67	475.12	1.00	7659
Total_mentions	A	Total mentions	573	1248.40	4000.31	1.00	70978
Mentions_p_Output	A	Mentions per outputs	573	4.04	5.94	1.00	103.46
CLM	CL	Combes-Linnemer medium	480	13.19	14.73	4.40	100.00
CLH	CL	Combes-Linnemer high	480	3.91	11.75	.20	100.00
* Codes for sources: R – *RePEc*, C – Scopus CiteScore, S – SCImago, L – *LogEc*, R&L match of *RePEc* and *LogEc*, I – InCites, A – Altmetrics, CL – Combes and Linnemer							

Table 3.1 Summary statistics for journal bibliometrics (*N* indicates the number of *ABDC* journals matched).

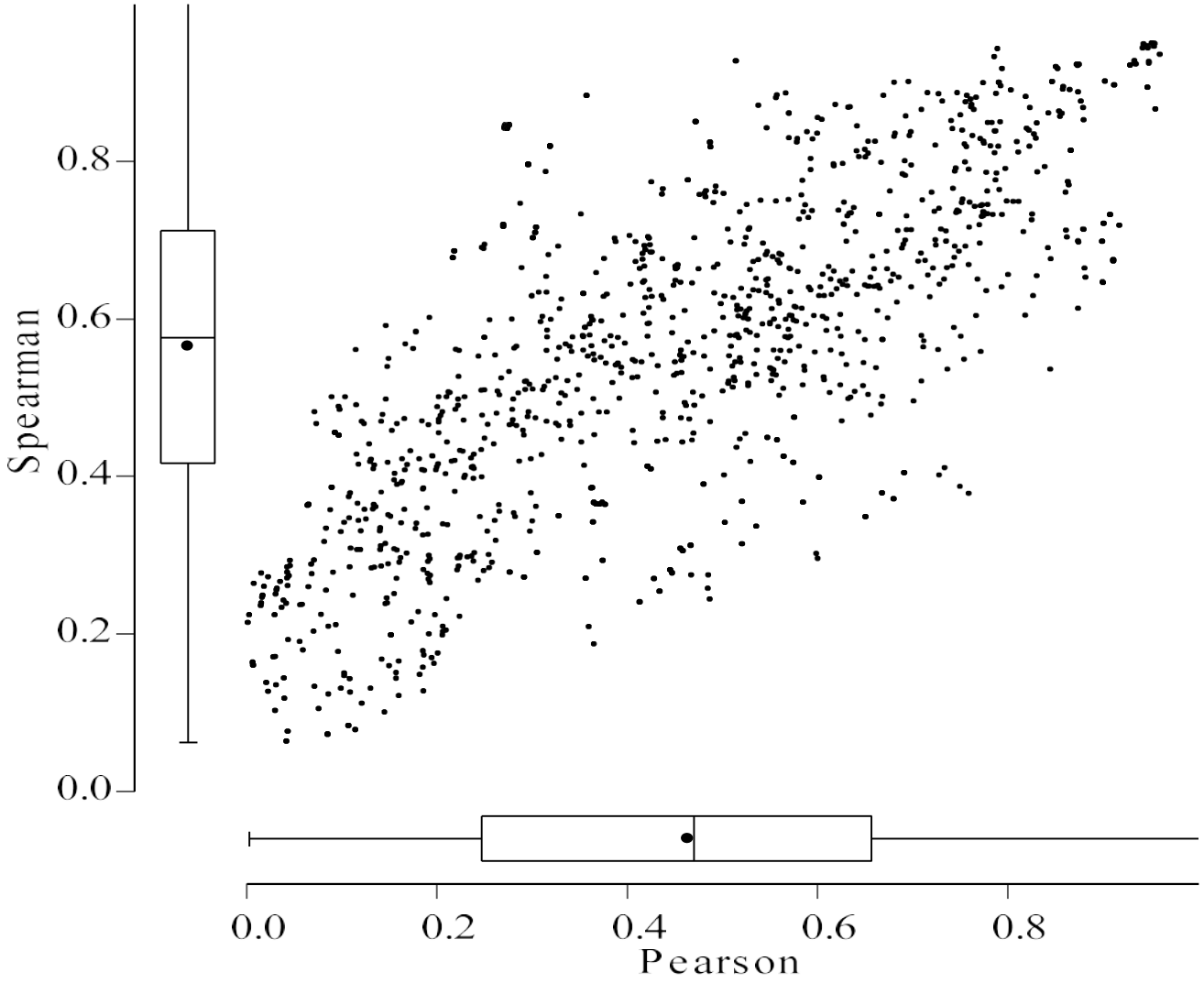

Figure 3.1 Scatter plot of the correlations between the bibliometrics described in Table 3.1 with the boxplots of the correlations.

1. The interrater agreement statistic(IAS)

For our analysis we employ the ranks of these metrics since our objective is to match them to theABDC journal grading. Here we match the distribution of the ABDC grades to the equivalent grades based on different bibliometrics by enhancing the method employed by Zainuba and Rahal (2015)

An Interrater Agreement Statistic (IAS) is generated by the following steps:

1. Determine the distribution of the ABDC grades for the journals covered by the bibliometric. (these would differ by coverage).
2. Rank the bibliometric data and assign a grade to each journal based on the distribution derived in step 1.
3. Construct a cross-tabulation table to compare the ABDC grade and the grade determined by the rank of the bibliometric from step 2.
4. Compute the IAS from the cross-tabulation table.

3.2 Forexample, using the RePEc rankings

First, we determine the equivalent categorisation into the A*, A, B and C designation of the journals that could be matched in the RePEc bibliometric list.

	RePEc		ABDC (all)	
Score	Number	%	Number	%
C	166	34.73	342	45.00
B	163	34.10	234	30.79
A	100	20.92	127	16.71
A*	49	10.25	57	7.50

Table 3.2. The distribution of grades assigned to the journals covered by the RePEc metrics by the ABDC as compared to the original distribution of the full set of journals graded by the ABDC.

Thus, we grade the top 10.25% as A* in the set of RePEc metrics, the next 20.92% as A, the next 34.10% as B and the remaining 34.73% as C.

If we rank the journals that we observe in the RePEc data by the Hirsch index (*h-index*) into A*, A, B and C based on the 10.25%, 20.92%, 34.10% and 34.73% categorisation. Then we construct the cross-tabulation table of grades assigned by the rank of the h-index against the ABDC grades for the same journal.

	RePEc *h_index*				
ABDC	C	B	A	A*	Total
C	**119**	42	5	0	166
B	40	**98**	22	3	163
A	6	22	**63**	9	100
A*	1	1	10	**37**	49
Total	166	163	100	49	478

Table 3.3 The cross-tabulation table of the classification by rank of Hirsch index reported in RePEc to the ABDC classification.

Measures of this type of table are referred to as a special case of an interrater agreement statistics (IAS) (Fleiss et al 2003).

In this case we have 66.32% of the classifications are the same. (*%same*)

We can also establish the number that are classed higher by the Hirsch index than the ABDC as percent of cases above the diagonal 16.95%. (*%high*)

And the percent that are classed higher by the ABDC than the Hirsch index as the number below the diagonal divided by the total as: 16.74%. (*%low*)

3.3 Cohen's kappa

Alternatively, we could compute Cohen's kappa defined by:

$$\kappa = \frac{p_0 - p_c}{100 - p_c}$$

where x_{ji} is the number in row i and column j, N is the number of journals compared, p_0 is the *%same* defined as $p_0 = \frac{100}{N}\sum_{i=1}^{4} x_{ii}$, and p_c is the hypothetical *%same* based on the product of the marginal percentages defined by $p_c = \frac{100}{N^2}\sum_{i=1}^{4} x_{.i}x_{i.}$ where $x_{.i} = \sum_{j=1}^{4} x_{ji}$ and $x_{i.} = \sum_{j=1}^{4} x_{ij}$.

We have constructed p_c to be the same for every bibliometric source. Consequently, the value of κ is approximately a linear transformation of the *%same*. Banerjee et al (1999) propose that values of $\kappa > .75$ indicate excellent agreement with values of $.75 > \kappa > .40$ as an indication of fair to good agreement.

3.4 The IAS for all bibliometrics and the ABDC

Because several of the bibliometrics we use are integer valued, the rank for journals with the same value is arbitrary. To avoid ties we add a very small random value to each metric.

However, breaking ties could influence the IAS when the ties are at the limiting rank for moving a journal from one ABDC score to another.

To check the degree to which this perturbation influences our results we re-estimated the values *%same* for 1,000 potential draws from this random variable for each metric to establish their influence.

The column labelled CV in Table 3.4 is the coefficient of variation for the *%same* for each metric. Note that those metrics where no ties occurred do not have a value in this column.

Bibliometric	*Source*	*Label*	*%Same*	*%high*	*%low*	*κ*	*CV*
CLH	CL	Combes-Linnemer high	72.08	13.96	13.96	**0.60**	1.15
CLM	CL	Combes-Linnemer medium	71.67	14.17	14.17	**0.59**	0.36
h_index	R	Hirsch-index	66.32	16.74	16.95	**0.52**	0.53
dr_impact	R	Discounted recursive impact factor	64.23	17.57	18.20	**0.50**	0.23
e_c_score	R	Euclidian citation score	63.81	17.78	18.41	**0.49**	na
r_impact	R	Recursive impact factor	62.97	18.20	18.83	**0.48**	na
d_impact	R	Discounted impact factor	62.34	18.41	19.25	**0.47**	0.17
s_impact	R	Simple impact factor	62.13	19.04	18.83	**0.47**	na
h_ind_sjr	S	Hirsch index	59.62	19.81	20.57	**0.43**	0.78
i_rnk_sjr	S	30000 - SJR overall rank	58.30	19.06	22.64	**0.42**	na
SJR	S	SCImago Journal Rank	57.92	19.25	22.83	**0.41**	0.25
sjr_cscore	C	SCImago Journal Rank Index	57.45	19.41	23.14	**0.41**	na
EIFac_inc	I	Eigenfactor	56.59	20.33	23.08	0.38	0.57
inf_sc_inc	I	Article influence score	55.22	20.60	24.18	0.37	na
Wikipedia_mentions	A	Wikipedia mentions	54.62	22.69	22.69	0.36	0.64
Policy_mentions	A	Policy mentions	53.75	23.56	22.69	0.35	0.13
Number_of_mentioned	A	Number of mentioned outputs	52.53	23.21	24.26	0.33	na
CiteScore	C	Average citations received per paper	51.96	21.57	26.47	0.33	0.51
Total_C_3yr	S	Total Cites (3years)	51.89	21.70	26.42	0.33	na
Abs_Vs	L	Abstract Views 2013-2017	52.40	23.62	23.99	0.32	na
Citation_Count	C	# cites in 2016 for 2013-15 papers	51.37	22.16	26.47	0.32	na
Blog_mentions	A	Blog mentions	51.66	23.39	24.96	0.32	0.45
SNIP	C	Source Normalized Impact per paper	51.18	23.14	25.69	0.32	na
File_Ds	L	File Downloads 2013-2017	51.29	24.72	23.99	0.31	na
Cites_p_D 2yr	S	Cites per document in the last 2 years	49.43	22.26	28.30	0.29	0.38

Bibliometric	*Source*	*Label*	*%Same*	*%high*	*%low*	*κ*	*CV*
Percent_Cited	C	% of papers in 2013-15 cited	48.82	23.53	27.65	0.29	0.44
jif5_inc	I	5yr Journal Impact Factor	49.45	22.80	27.75	0.28	na
Total_mentions	A	Total mentions	48.34	24.96	26.70	0.27	na
Number	R	Number of items listed	47.49	24.69	27.82	0.26	na
av_jif_inc	I	Average Journal Impact Factor	47.25	23.63	29.12	0.25	na
jif_wo_inc	I	Journal Impact Factor w/o self-cites	46.15	24.18	29.67	0.24	na
dl_item	R&L	File downloads / Item	44.98	26.78	28.24	0.22	na
jif_inc	I	Journal Impact Factor	45.05	24.18	30.77	0.22	na
Percentile	C	Relative standing in its subject field.	43.33	26.08	30.59	0.21	0.24
Twitter_mentions	A	Twitter mentions	43.80	28.10	28.10	0.21	0.09
absv_item	R&L	Abstract Views / Item	43.72	26.15	30.13	0.21	na
Facebook_mentions	A	Facebook mentions	42.41	27.57	30.02	0.19	0.69
Cit_Doc_3yr	S	Citable Docs. (3years)	41.89	28.11	30.00	0.19	0.28
Total_Refs	S	Total Refs	40.57	27.74	31.70	0.17	na
Total_3yr	S	Total Docs. (3years)	40.00	28.87	31.13	0.16	0.40
Scholarly_Output	C	Documents published in 2013 – 15	39.80	29.22	30.98	0.16	0.17
Total_2016	S	Total Docs. (2016)	39.62	29.62	30.75	0.15	0.69
i_rnk_area	C	5000 - Rank in subject area	37.65	30.78	31.57	0.13	0.09
im_index_inc	I	Immediacy Index	37.64	28.85	33.52	0.12	0.07
Mentions_p_Output	A	Mentions per Outputs	36.65	30.19	33.16	0.11	na
D_p_AV	L	Downloads/Abstract Views 2013-17	35.78	32.20	32.02	0.09	na

* Codes for sources: R – *RePEc*, C – Scopus CiteScore, S – SCImago, L – *LogEc*, R&L match of *RePEc* and *LogEc*, I – InCites, A - Altmetrics, CL – Combes and Linnemer

Table 3.4 The interrater agreement statistics for different metrics and the ABDC classifications.

3.5 The IAS as a distance measure to compare the bibliometrics between each other.

To make comparisons between these metrics we construct cross-tabulation tables. For example, if we compared the downloads to abstract views from LogEc with the h-index from RePEc we can construct the cross-tabulation table given as:

	LogEc D_p_AV				
RePEc *h_index*	C	B	A	A*	Total
C	**71**	44	28	16	159
B	55	**65**	33	10	163
A	29	39	**26**	6	100
A*	4	11	18	**16**	49
Total	159	159	105	48	471

Table 3.5 The cross-tabulation of RePEc *Hirsch index* and the LogEc ratio of article downloads to abstract views.

These two metrics agree on their grades for 178 out of 471 journals for which there is a match in both series %*same* = 37.8% of the rankings they match.

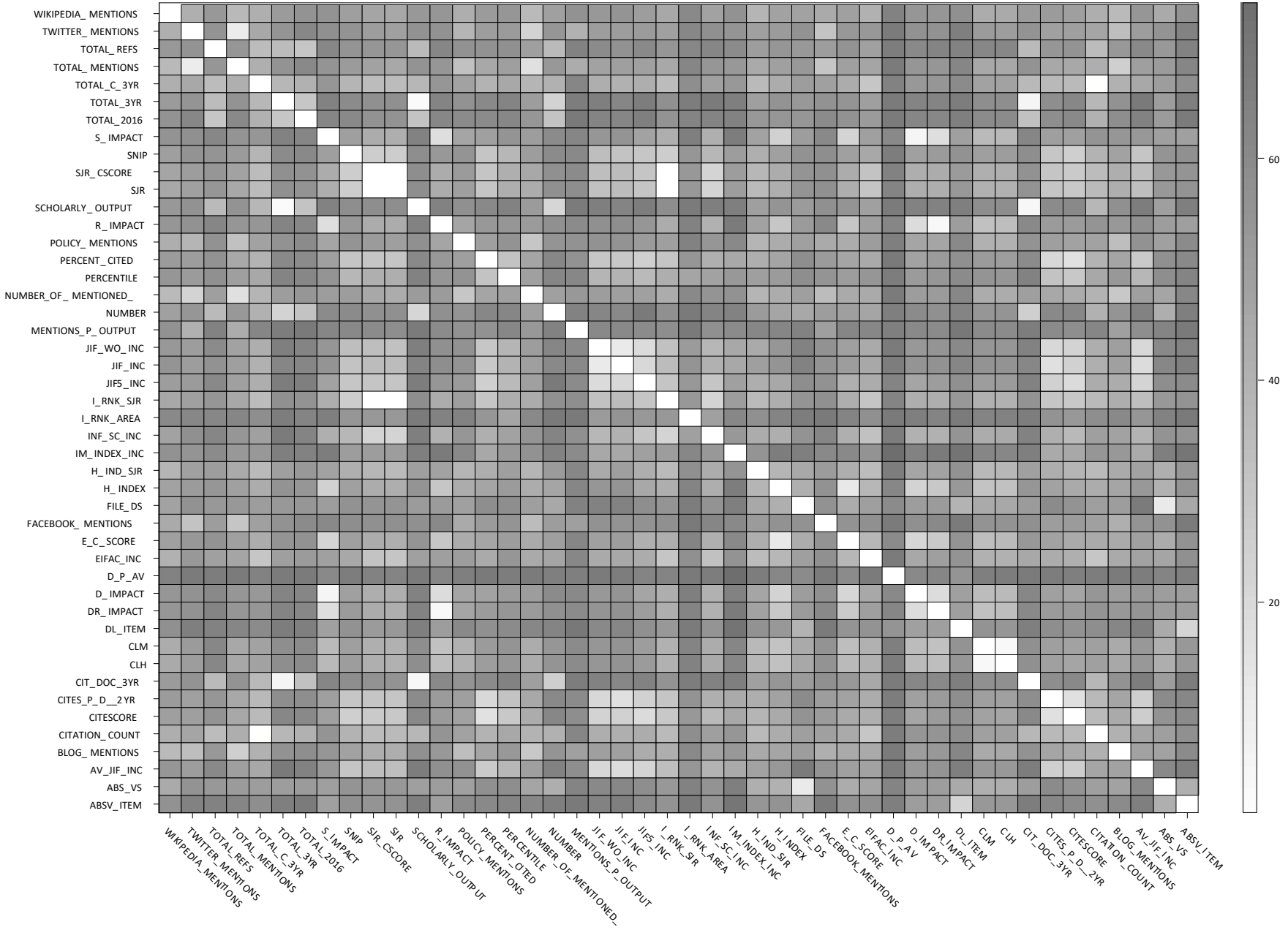

Figure 3.1 The Heatmap of the distance matrix of $100(1-\kappa)$ distance measure (κ is used since the margins are not equal)

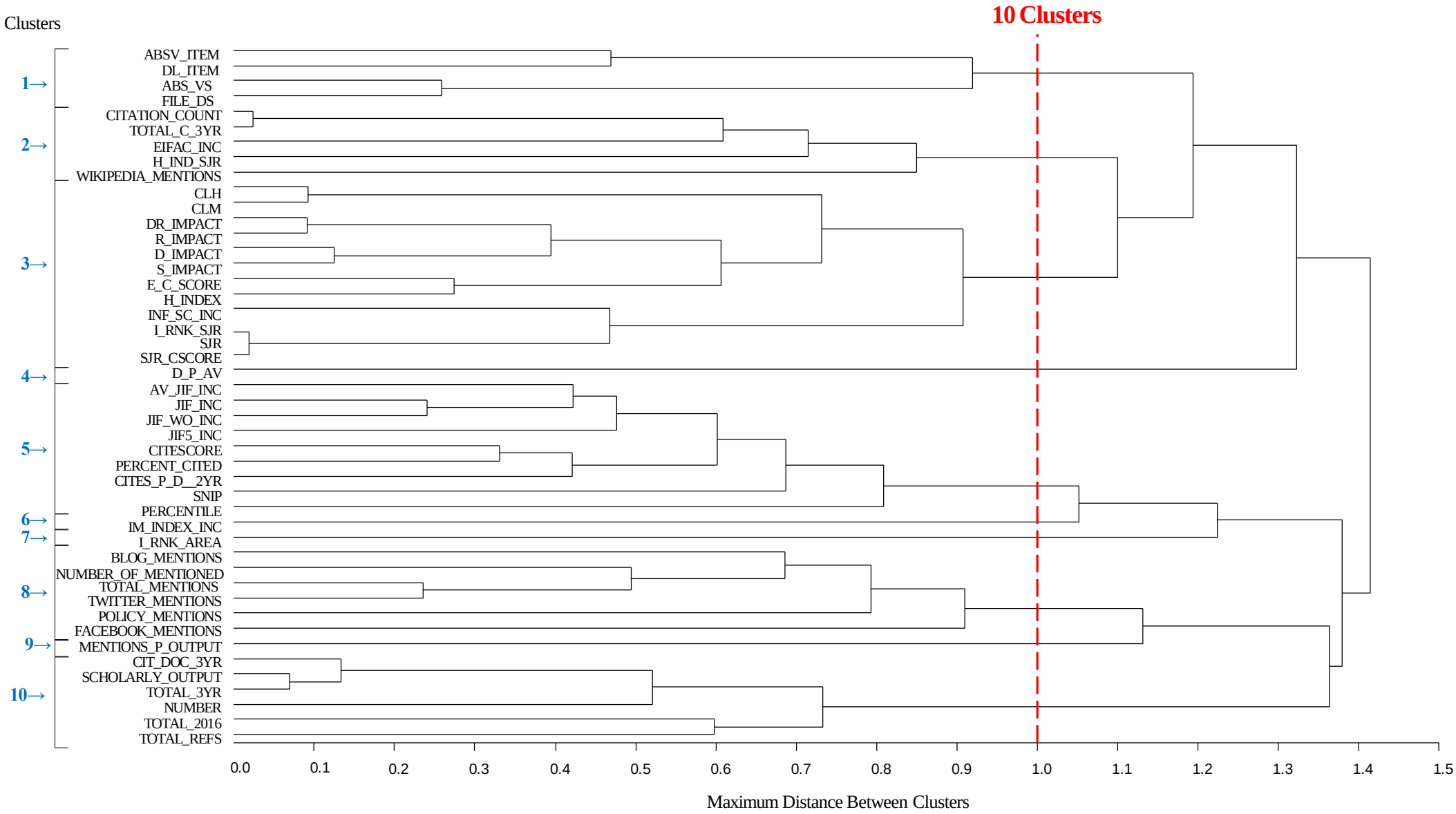

Figure 3.2 The dendrogram of the clustering of the $100 - \%same$ distance measure using a complete linkage hierarchical algorithm.

Cluster	*Bibliometric*	*Source**	*Label*
1	*absv_item*	***R&L***	Abstract Views / Item
	dl_item	***R&L***	File downloads / Item
	Abs_Vs	***L***	Abstract Views 2013-2017
	File_Ds	***L***	File Downloads 2013-2017
2	*Citation_Count*	***C***	# cites in 2016 for papers from 2013-15
	Total_C_3yr	***S***	Total Cites (3years)
	EIFac_inc	***I***	Eigenfactor
	h_ind_sjr	***S***	Hirsch index
	Wikipedia_mentions	***A***	Wikipedia mentions
3	*clh*	***CL***	Combes – Linnemer high
	clm	***CL***	Combes – Linnemer medium
	dr_impact	***R***	Discounted recursive impact factor
	r_impact	***R***	Recursive impact factor
	d_impact	***R***	Discounted impact factor
	s_impact	***R***	Simple impact factor
	e_c_score	***R***	Euclidian citation score
	h_index	***R***	Hirsch-index
	inf_sc_inc	***I***	Article influence score
	i_rnk_sjr	***S***	30000 - SJR overall rank
	SJR	***S***	SCImago Journal Rank
	sjr_cscore	***C***	SCImago Journal Rank Index

Cluster	Bibliometric	Source*	Label
4	*D_p_AV*	**L**	Downloads/Abstract Views 2013-2017
5	*av_jif_inc*	**I**	Average Journal Impact Factor
	jif_inc	**I**	Journal Impact Factor
	jif_wo_inc	**I**	Journal Impact Factor w/o self-cites
	jif5_inc	**I**	5yr Journal Impact Factor
	CiteScore	**C**	Average citations received per document
	Percent_Cited	**C**	% of papers in 2013-15 cited
	Cites_p_D 2yr	**S**	Cites per document in the last 2 years
	SNIP	**C**	Source Normalized Impact per Paper
	Percentile	**C**	Relative standing in its subject field.
6	*im_index_inc*	**I**	Immediacy Index
7	*i_rnk_area*	**C**	5000 - Rank in subject area
8	*Blog_mentions*	**A**	Blog mentions
	Number_of_mentioned	**A**	Number of mentioned outputs
	Total_mentions	**A**	Total mentions
	Twitter_mentions	**A**	Twitter mentions
	Policy_mentions	**A**	Policy mentions
	Facebook_mentions	**A**	Facebook mentions
9	*Mentions_p_Output*	**A**	Mentions per Outputs
10	*Cit_Doc_3yr*	**S**	Citable Docs. (3years)
	Scholarly_Output	**C**	Documents published in 2013 – 15
	Total_3yr	**S**	Total Docs. (3years)
	Number	**R**	Number of items listed
	Total_2016	**S**	Total Docs. (2016)
	Total_Refs	**S**	Total Refs

** Codes for sources: R – RePEc, C – Scopus CiteScore, S – SCImago, L – LogEc, R&L match of RePEc and LogEc, I – InCites, A - Altmetrics*

4. The Applying Metrics to the Journals.

We now match the journal bibliometrics to the list of journals in the ABDC rankings to determine consistency of the rankings with the bibliometrics.

For example, *Journal of Political Economy* is classified as an A* in the ABDC list but its grade is an A based on the rank of the *JIF_INC* (Journal Impact Factor from InCites) and its grade is a B based on the *TOTAL_3YR* (Total number of documents in 3yrs from Scopus).

Thus, we can determine degree to which the bibliometric grades for each journal agree with the ABDC grade by using a heat map we can plot a multidimensional version of Moosa's (2016) bucket plot.

Figure 4.1 The heatmap of the 46 bibliometric grades for the journals designated as A* journals in the ABDC rankings.

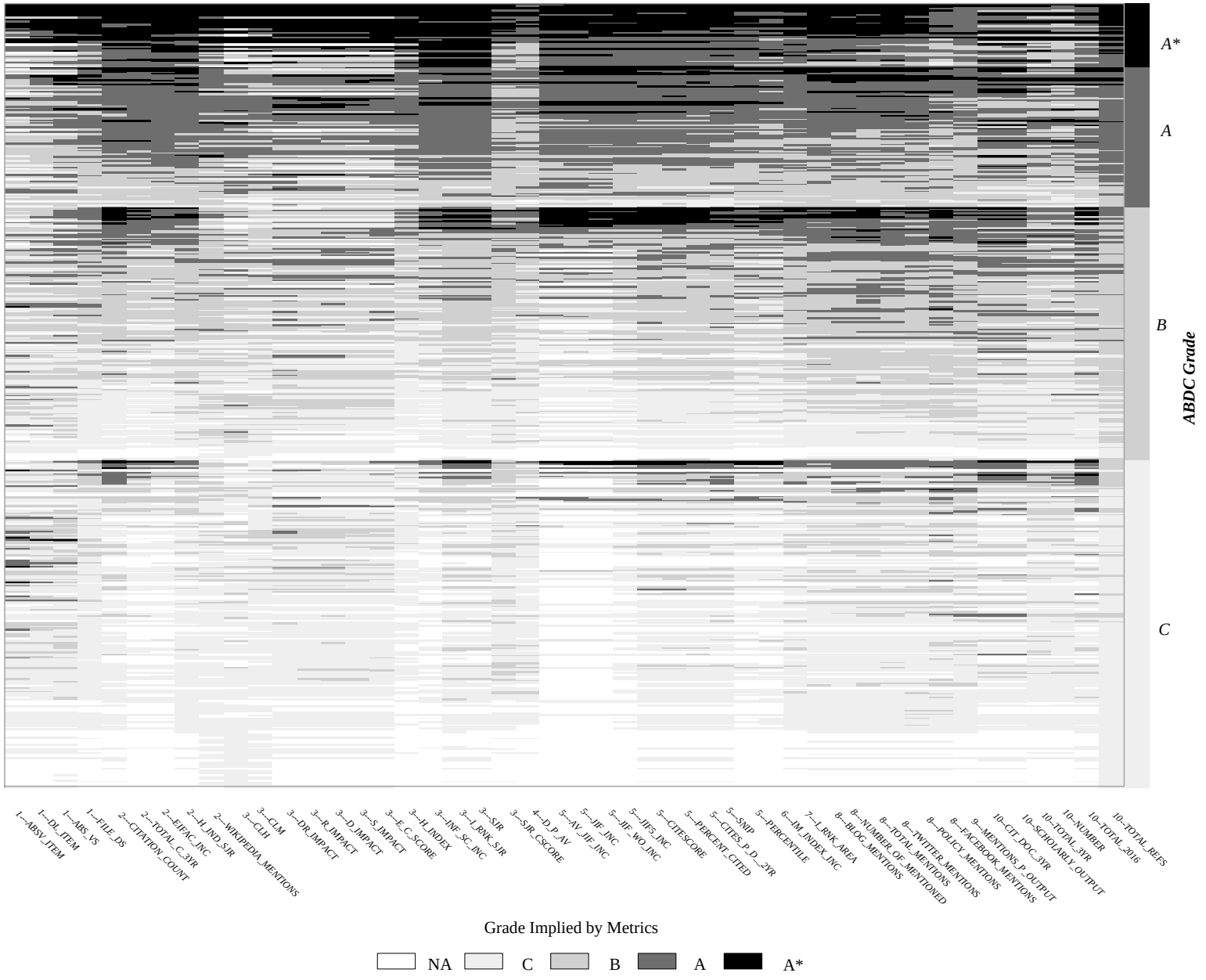

Figure 4.2 The heatmap of the grades for the 708 journals for which we observe the at least one of the 46 bibliometrics.The Grade Point Averages

We can determine the grade point average for each journal across the bibliometrics (GPA), where C = 1, B = 2, A = 3 and A* = 4, and the median grade (GPM).

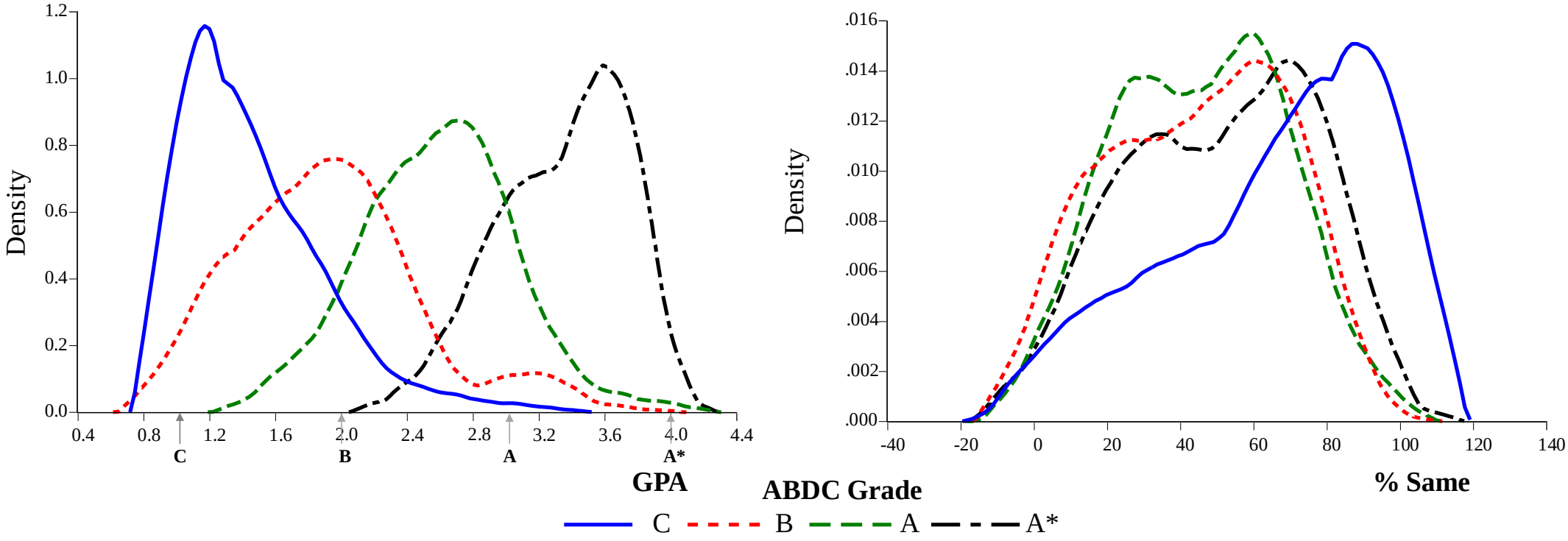

Figure 5.3 The distributions of the GPA and %Same by ABDC grade

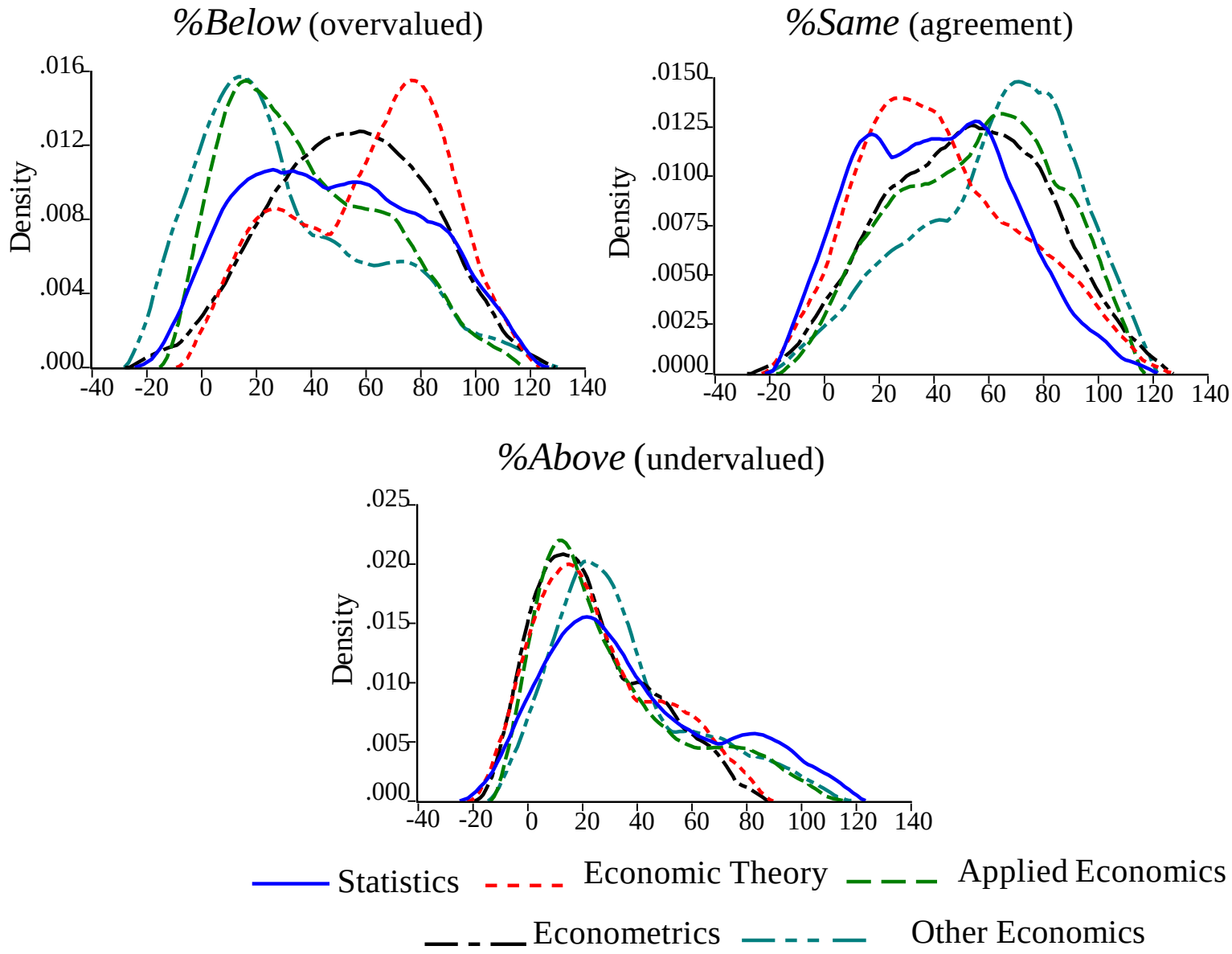

Figure 5.4 The distributions of the %Below, %Same, and %Above by Field of Research.

Appendix A The undervalued journals with at least 50% of bibliometrics indicating the grade would be higher.

Table A.1 Undervalued journals with an *ABDC* ranking of C .

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Journal of Medical Economics	100	0	-	2.24	3.24	3	25	3.31	13	
Economic Systems Research	100	0	-	1.87	2.87	3	46	3.07	27	2
Journal of Consumer Policy	97	3	-	1.13	2.13	2	39	2.09	22	2
Journal of Statistical Computation and Simulation	97	3	-	1.50	2.50	2	32	2.56	18	
Journal of Biopharmaceutical Statistics	97	3	-	1.28	2.28	2	32	2.33	18	
Journal of Statistical Software	95	5	-	2.07	3.07	3	44	3.36	25	
Socio Economic Planning Sciences	95	5	-	1.14	2.14	2	37	2.20	20	
Expert Review of Pharmacoeconomics and Outcomes Research	94	6	-	1.71	2.71	3	34	2.60	20	
CES IFO Economic Studies	94	6	-	1.06	2.06	2	34	2.10	20	2
Energy Sources. Part B. Economics, Planning, and Policy	94	6	-	1.34	2.34	2	32	2.61	18	
Empirica	93	7	-	0.98	1.98	2	46	2.04	27	1
Applied Health Economics and Health Policy	93	7	-	1.67	2.67	3	30	2.80	15	
Sustainable Development	93	7	-	1.57	2.57	2	44	2.56	25	
Monetary and Economic Studies	93	7	-	1.50	2.50	2	14	2.33	9	
Cost Effectiveness and Resource Allocation	92	8	-	1.60	2.60	3	25	2.38	13	
World Trade Review	91	9	-	1.02	2.02	2	46	2.07	27	
Journal of Theoretical Probability	91	9	-	1.22	2.22	2	32	2.50	18	
Forest Policy and Economics	86	14	-	1.91	2.91	3	44	3.04	25	
International Journal of Energy Economics and Policy	86	14	-	1.21	2.21	2	29	2.25	20	
Review of Black Political Economy	83	17	-	1.03	2.03	2	30	1.93	15	
Journal of Industry, Competition and Trade	83	17	-	0.87	1.87	2	30	1.87	15	2

Table A.2 Undervalued journals with an *ABDC* ranking of B

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Value in Health	97	3	0	1.72	3.72	4	32	3.72	18	
Statistical Methods in Medical Research	97	3	0	1.44	3.44	3	32	3.72	18	
Food Policy	93	7	0	1.48	3.48	4	46	3.44	27	3
Journal of Economic Surveys	89	11	0	1.20	3.20	3	46	3.26	27	2
Journal of Happiness Studies	86	5	8	1.19	3.19	3	37	3.10	20	1
Journal of Common Market Studies	83	7	11	1.22	3.22	3.5	46	3.22	27	3
European Journal of Health Economics	81	16	3	1.22	3.22	3	37	3.30	20	2
Annual Review of Economics	80	18	2	1.25	3.25	3	44	3.48	25	3
Health Policy	80	11	9	1.16	3.16	3	44	3.12	25	2
International Journal of Urban and Regional Research	76	11	13	1.17	3.17	4	46	3.15	27	2
International Organization	76	20	4	1.17	3.17	3	46	3.07	27	
Journal of Financial Stability	76	24	0	1.02	3.02	3	46	3.26	27	3
Agriculture and Human Values	76	22	3	0.92	2.92	3	37	3.00	20	
Stochastic Environmental Research and Risk Assessment	75	22	3	1.13	3.13	3	32	3.50	18	
British Journal of Mathematical and Statistical Psychology	75	19	6	1.09	3.09	3	32	3.28	18	
Resources Policy	74	24	2	0.98	2.98	3	46	2.96	27	2
Biometrical Journal	72	28	0	0.75	2.75	3	32	2.72	18	
Development and Change	72	11	17	0.61	2.61	3	46	2.56	27	3
Bayesian Analysis	63	38	0	0.72	2.72	3	32	2.72	18	
Applied Economic Perspectives and Policy	59	32	9	0.50	2.50	3	44	2.56	25	2
Cambridge Journal of Regions, Economy and Society	55	36	9	0.73	2.73	3	44	2.88	25	3
Annual Review of Financial Economics	55	34	11	0.64	2.64	3	44	2.88	25	3
Annual Review of Resource Economics	55	32	14	0.45	2.45	3	44	2.68	25	2
Environmetrics	55	20	25	0.30	2.30	3	44	2.36	25	
Journal of Institutional Economics	54	39	7	0.52	2.52	3	46	2.56	27	3

Table A.3 Undervalued journals with an *ABDC* ranking of A .

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Bioinformatics	97	3	0	0.97	3.97	4	32	4.0	18	
World Development	78	22	0	0.78	3.78	4	46	3.7	27	3
Ecological Economics	63	28	9	0.54	3.54	4	46	3.5	27	3
PharmacoEconomics	62	27	11	0.49	3.49	4	37	3.5	20	2
Statistics in Medicine	50	47	3	0.47	3.47	3.5	32	3.3	18	
Economics Letters	50	13	37	0.13	3.13	3.5	46	2.9	27	3

Appendix B The overvalued journals with at least 50% of bibliometrics indicating they would be lower.

Table B.1 Overvalued journals with an *ABDC* ranking of A*.

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Annals of Applied Probability	-	3	97	-1.16	2.84	3	32	3.00	18	
Economic Theory	-	5	95	-1.41	2.59	3	37	2.85	20	3
Biostatistics	-	6	94	-0.97	3.03	3	32	2.94	18	
Journal of Computational and Graphical Statistics	-	9	91	-1.00	3.00	3	34	3.00	20	
Econometric Theory	-	17	83	-1.24	2.76	3	46	2.96	27	4
Quantitative Economics	-	18	82	-1.61	2.39	2	44	2.92	25	3
Theoretical Economics	-	20	80	-1.39	2.61	3	46	3.07	27	3
Journal of Law and Economics	-	20	80	-1.15	2.85	3	46	2.74	27	3
Biometrika	-	23	77	-1.18	2.82	3	44	2.88	25	4
Experimental Economics	-	24	76	-1.02	2.98	3	46	3.19	27	3
Games and Economic Behavior	-	26	74	-0.96	3.04	3	46	3.15	27	3
Biometrics	-	27	73	-1.23	2.77	3	44	2.68	25	
Annals of Applied Statistics	-	28	72	-0.81	3.19	3	32	3.28	18	
Journal of Economic History	-	28	72	-0.93	3.07	3	46	2.93	27	3
American Economic Journal: Microeconomics	-	30	70	-1.09	2.91	3	44	3.20	25	3
Probability Theory and Related Fields	-	31	69	-1.00	3.00	3	32	3.39	18	
Journal of Business and Economic Statistics	-	35	65	-0.85	3.15	3	46	3.37	27	4
Review of Economic Dynamics	-	35	65	-0.80	3.20	3	46	3.33	27	3
RAND Journal of Economics	-	37	63	-0.89	3.11	3	46	3.22	27	4
Journal of Money, Credit and Banking	-	39	61	-0.70	3.30	3	46	3.41	27	4
American Journal of Agricultural Economics	-	39	61	-0.65	3.35	3	46	3.30	27	3
International Economic Review	-	41	59	-0.70	3.30	3	46	3.44	27	4
Journal of the Royal Statistical Society Series B	-	43	57	-0.91	3.09	3	44	3.28	25	4

Table B.2 Overvalued journals with an *ABDC* ranking of A.

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Australian and New Zealand Journal of Statistics	0	0	100	-1.17	1.83	2	35	1.83	18	
Statistica Neerlandica	0	2	98	-1.32	1.68	2	44	1.68	25	
Environmental and Ecological Statistics	0	3	97	-1.03	1.97	2	32	1.94	18	
BE Journal of Theoretical Economics	0	4	96	-1.46	1.54	1.5	46	1.59	27	2
IZA Journal of Labor Economics	0	11	89	-1.46	1.54	1	28	1.31	13	2
Studies in Nonlinear Dynamics and Econometrics	2	9	89	-1.09	1.91	2	46	2.00	27	2
Theory of Probability and its Applications	0	13	88	-1.22	1.78	2	32	1.83	18	
Journal of Institutional and Theoretical Economics	0	13	87	-1.26	1.74	2	46	1.70	27	2
Canadian Journal of Agricultural Economics	0	15	85	-0.85	2.15	2	34	2.15	20	2
Journal of Cultural Economics	2	15	83	-0.96	2.04	2	46	1.85	27	2
Journal of Public Economic Theory	0	20	80	-0.87	2.13	2	46	2.33	27	2
Review of Industrial Organization	0	22	78	-0.83	2.17	2	46	2.15	27	2
Scottish Journal of Political Economy	0	22	78	-0.83	2.17	2	46	2.19	27	2
BE Journal of Macroeconomics	0	24	76	-1.22	1.78	2	46	1.81	27	2
Mathematical Social Sciences	0	24	76	-0.93	2.07	2	46	2.00	27	2
Economics of Transition	0	24	76	-0.89	2.11	2	46	2.15	27	2
NBER Macroeconomics Annual	16	8	76	-1.05	1.95	2	37	2.00	20	
Journal of the Japanese and International Economies	0	25	75	-0.75	2.25	2	44	2.16	25	2
Annals of the Institute of Statistical Mathematics	0	26	74	-0.8	2.2	2	35	2.44	18	
Journal of Human Capital	4	22	74	-0.93	2.07	2	46	2.11	27	
Economics and Philosophy	0	26	74	-0.85	2.15	2	46	2.07	27	2
Economic and Industrial Democracy	0	26	74	-0.82	2.18	2	34	2.00	20	3
Journal of Applied Probability	13	16	72	-0.69	2.31	2	32	2.39	18	2
Journal of Agricultural and Resource Economics	0	28	72	-1.00	2.00	2	46	2.19	27	2
Theory and Decision	0	28	72	-0.78	2.22	2	46	2.37	27	2
Marine Resource Economics	0	30	70	-1.00	2.00	2	46	2.07	27	1
Journal of Forecasting	0	30	70	-0.72	2.28	2	46	2.33	27	2

Table B.3 Overvalued journals with an *ABDC* ranking of B.

Journal	%			All Bibliometrics				CL 2, 3, 5 only		
	Above	*Same*	*Below*	*Diff*	*GPA*	*GPM*	*N*	*GPA**	*N**	*AJG*
Asia Pacific Journal of Economics and Business	0	0	100	-1.00	1.00	1	14	1.00	9	
International Journal of Development and Conflict	0	0	100	-1.00	1.00	1	12	1.00	7	
Recherches Economiques de Louvain	0	0	100	-1.00	1.00	1	17	1.00	7	
Statistics Education Research Journal	0	6	94	-0.94	1.06	1	17	1.08	13	
History of Economic Ideas	0	8	92	-0.92	1.08	1	38	1.07	27	
Review of Urban and Regional Development Studies	3	8	90	-0.87	1.13	1	39	1.00	22	
Politica Economica	2	13	85	-0.83	1.17	1	46	1.19	27	
Competition and Regulation in Network Industries	0	16	84	-0.84	1.16	1	31	1.14	22	
El Trimestre Economico	3	14	83	-0.79	1.21	1	29	1.29	14	
Revue d tudes Comparatives Est Ouest	0	18	82	-0.82	1.18	1	34	1.25	20	
Decisions in Economics and Finance	0	20	80	-0.80	1.20	1	30	1.27	15	1
International Journal of Stochastic Analysis	0	20	80	-0.80	1.20	1	25	1.15	13	
Indian Growth and Development Review	3	18	79	-0.77	1.23	1	39	1.23	22	
Hitotsubashi Journal of Economics	8	13	79	-0.71	1.29	1	38	1.04	27	
Review of Economic Design	5	16	78	-0.73	1.27	1	37	1.25	20	2
Agenda	4	19	78	-0.74	1.26	1	27	1.13	15	
International Journal of Business and Economics	9	14	77	-0.68	1.32	1	22	1.00	9	
Problems of Economic Transition	9	14	77	-0.64	1.36	1	22	1.33	9	
Spanish Economic Review	0	23	77	-0.77	1.23	1	13	2.00	2	
Journal of Gambling Business and Economics	8	17	75	-0.67	1.33	1	12	1.00	7	1
Mathematical Methods of Statistics	11	14	75	-0.64	1.36	1	28	1.69	13	
International Game Theory Review	0	26	74	-0.74	1.26	1	39	1.32	22	1
Australian Journal of Labour Economics	0	27	73	-0.73	1.27	1	22	1.56	9	1
Japanese Economy	0	27	73	-0.73	1.27	1	22	1.00	9	
Journal of Quantitative Economics	14	14	73	-0.59	1.41	1	22	1.22	9	
Journal of Statistics Education	0	28	72	-0.72	1.28	1	25	1.23	13	
Journal of Income Distribution	3	26	71	-0.68	1.32	1	31	1.38	16	1

5. Conclusions

By comparing the bibliometrics for journals classified by the ABDC we can determine that some journals are undervalued by over 50% of measures.

Although we find that most of the journals that are scored as C journals that would be higher are specialist journals (*Journal of Medical Economics*, *Economic Systems Research*, *Forest Policy and Economics*), some are more mainstream (*Journal of Economic Surveys*, *Monetary and Economic Studies*, *Applied Econometrics*, *Networks and Spatial Economics*).

We are also able to identify many journals that are classed by the ABDC as A* journals that metric ranks would order as Bs. These include *Quantitative Economics*, *Journal of Law and Economics and Economics Theory*, and *Econometric Theory*. Many of these are in highly specialised areas that do not register many cites outside their discipline.

It is assumed that these rankings provide some indication of research quality and that they provide an inexpensive method for measuring research output. However, Haucap etal (2017) find little relationship between an economist's academic reputation and the rankings of the journals in which they publish. Based on these results they question the use of research productivity measures based on journal rankings.

Others have remarked on the influence their use has on research. This was the position taken by Biagioli (2016) who claimed that "All bibliometrics of scientific evaluation are bound to be abused" along the lines of Moosa's (2016) assertion that such "bucket categories" lead inevitably to "publication arbitrage" – whereby authors search for the lowest entry barrier in the highest graded journal – the bottom of the bucket.

Important questions that need to be asked:

Why such great disparity between bibliometrics and grading?

What are the motives of those that upgrade and downgrade their own and others research?

How has this list that is weighted so heavily by US journals influenced research into Australian Policy Issues?

It is also important to keep in mind that these bibliographic metrics were originally designed to aid in the planning of library holdings and a number of authors have recently examined their short comings.

One recent vein of this research is that citations do not account for the desire for original contributions or ***neophilia***.

Packalen and Bhattacharya (2017) propose a metric that is based on the originality of contributions where the innovative aspects of articles are characterised. They find that although the rank of the usual citation indices for journals in the area of General and Internal Medicine are related to the index of neophilia the correlation is -.47 there are a significant number of outliers. Wang et al (2017) investigate a similar phenomenon with research into the bias against novelty in scientific research.

Another area of concern that relates to the development of bibliometric measures is the movement away from considering single statistic for measurement and using the full distribution.

Lariviere et al (2016) suggest that one use the full distribution of citations for a journal. In this way one could account for the nature of the skewness that may dominate the journal level citation count. The Hirsch index is a measure of the nature of the distribution – however there are other metrics that could be defined for a distribution.

A caveat to this analysis is that none of the citation and access statistics match the full set of the journals in the ABDC list.

Partly this is due to the imperfect information available in both the ABDC list and the citation information lists where journals have conflicting titles, changing titles and problems in translation from non-English titles and where non-English characters are used.

In addition, some of the smaller and less frequently published journals are not included in the major citation indices and the RePEc and LogEc lists only include those outlets that are primarily oriented toward economics and econometric journals and do not cover all the statistics journals.

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7. The Academic Journal Quality Guide (AJG)

Alternative journal classification schemes have been proposed by individual institutions and in other countries. The most similar such classifications to the ABDC list have been proposed by the UK Chartered Association of Business Schools' *Academic Journal Guide* (AJG) (2018).

The guide provides a ranking of journals into 5 categories 4*, 4, 3, 2, and 1. Where the 4* category is very small and reserved for only a handful of journals designated as "Journals of Distinction". In this study we compare these rankings for the economics, econometrics and statistics journals in the ABDC list by including the 4* journals in the highest category.

Thus the %*same* is 52.71% while 40.96% of the journals are ranked higher by the ABDC ranking than the AJG list and only 6.32% are ranked higher by the AJG than the ABDC rankings. Since the marginal totals differ we use the more appropriate Cohen's *kappa* statistic which in this case is .3397 with an estimated standard deviation of .0387.

	ABDC				
AJG	**C**	**B**	**A**	**A***	**Total**
1	**33**	58	1	0	92
2	9	**66**	51	0	126
3	0	9	**52**	26	87
4+4*	0	0	3	**24**	27
Total	42	133	107	50	332

Table 5.1 The cross tabulation of the AJG rankings for 2015 and the ABDC rankings.

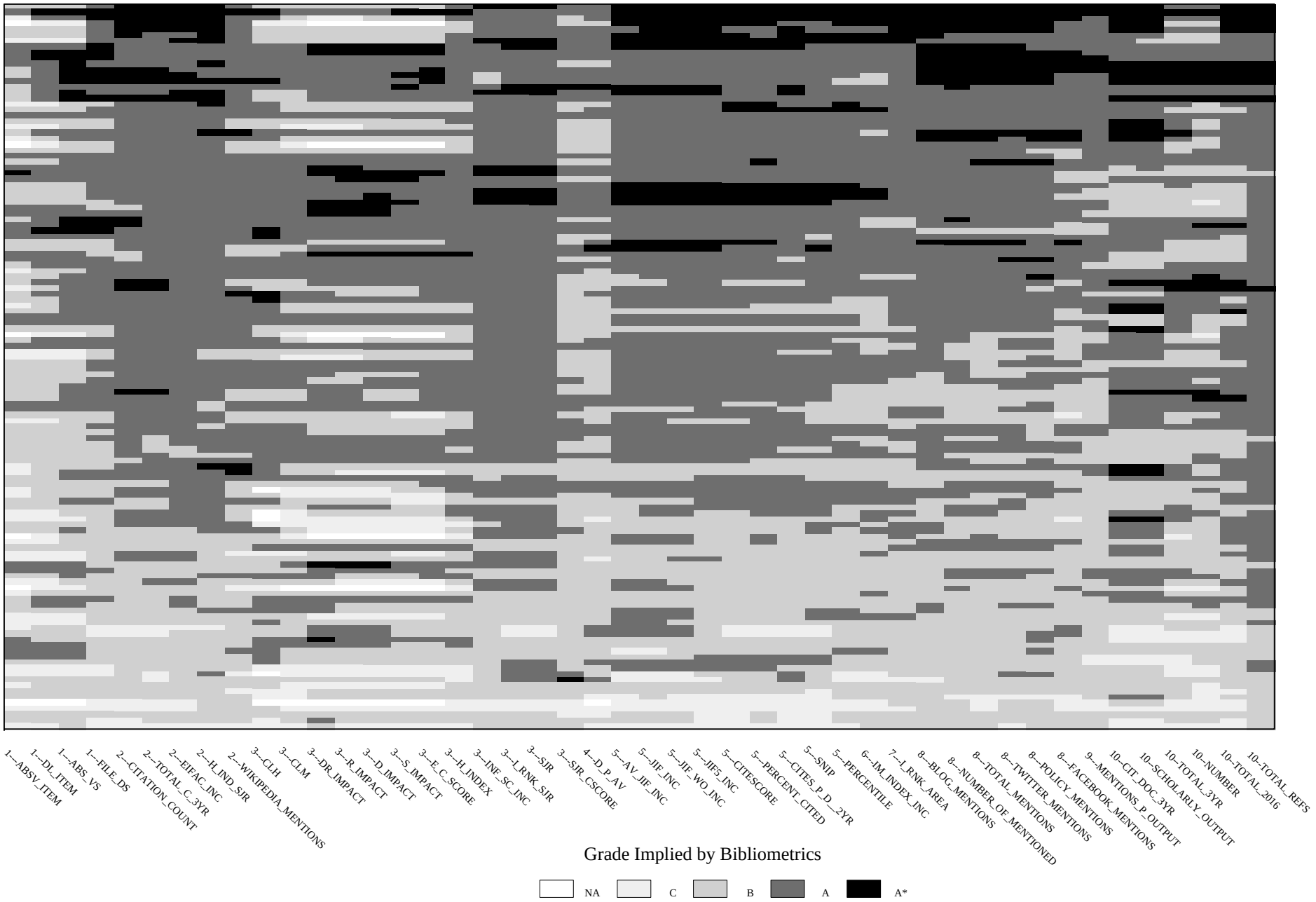

Figure C.1 The bibliometric grades for *ABDC* grade A journals.

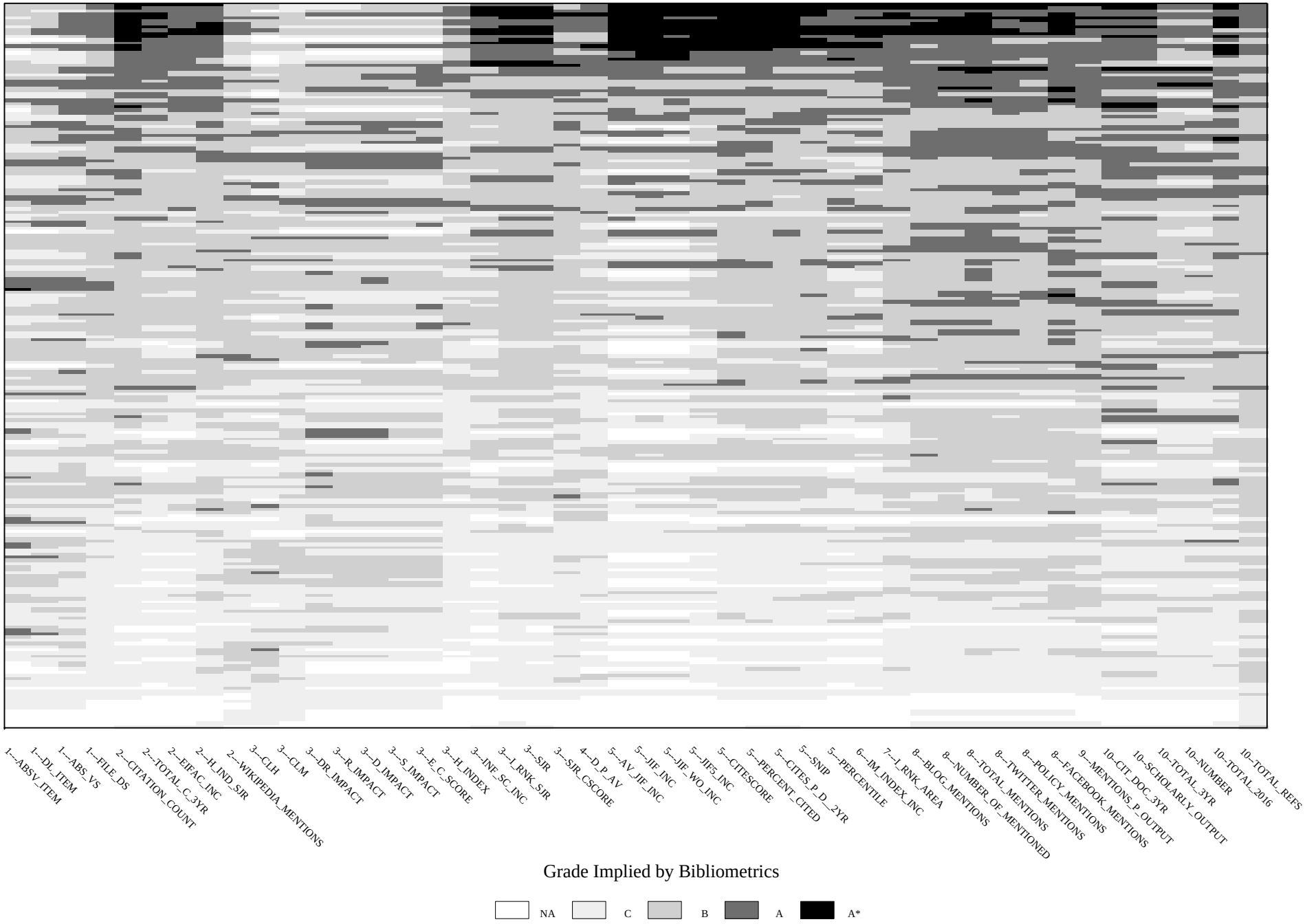

Figure C.2 The bibliometric grades for *ABDC* grade B journals.

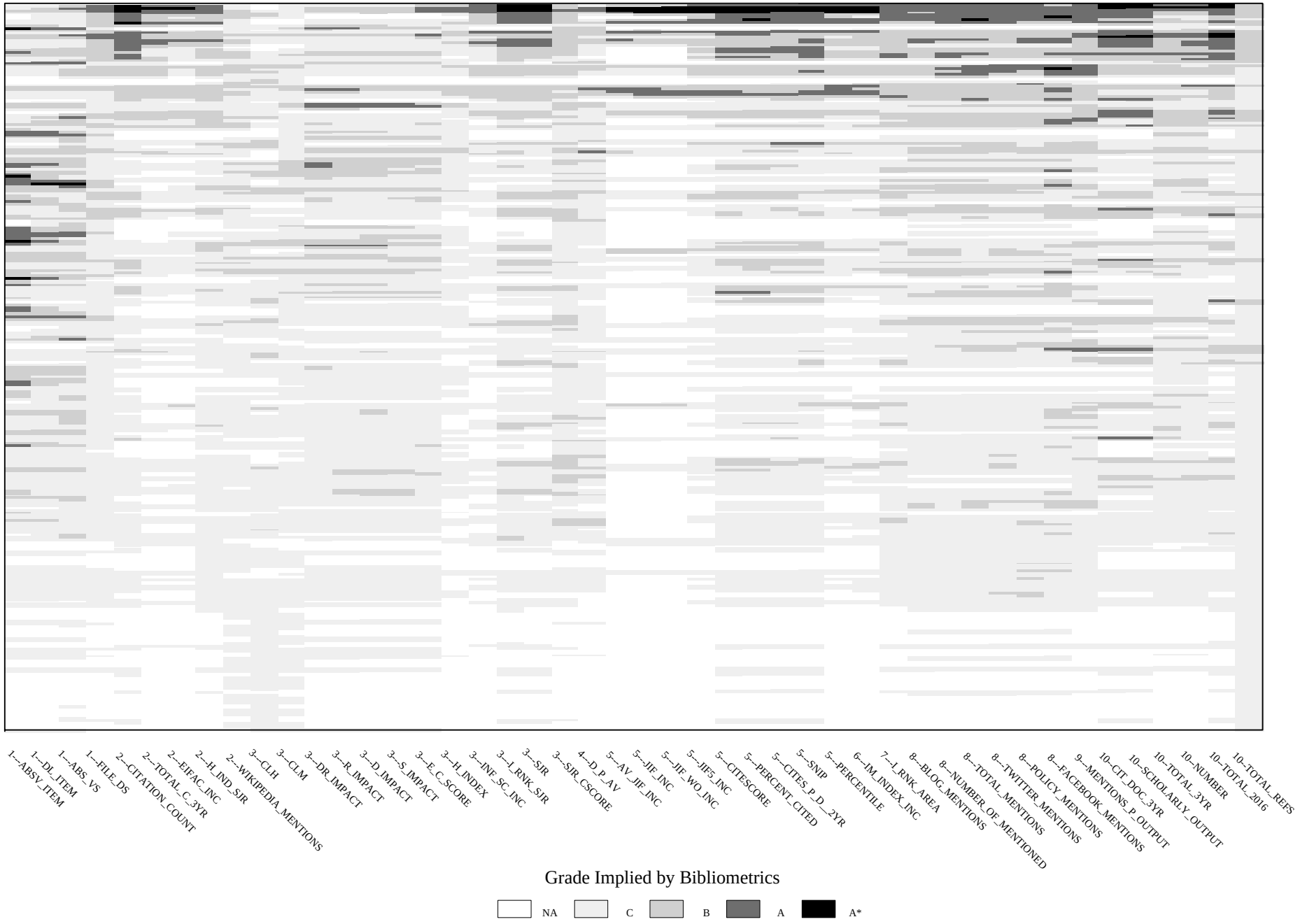

Figure C.3 The bibliometric grades for *ABDC* grade C journals.