Editorial delay of food research papers is influenced by authors' experience but not by country of origin of the manuscripts

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Abstract

Editorial delay, the time between submission and acceptance of scientific manuscripts, was investigated for a set of 4,540 papers published in 13 leading food research journals. Groups of accelerated papers were defined as those that fell in the lower quartile of the distribution of the editorial delay for the journals investigated. Delayed papers are those in the upper quartile of the distribution. Editorial stage is related to the peer review process and two variables were investigated in search of any bias in editorial review that could influence publication delay: countries of origin of the manuscript and authors' previous publishing experience in the same journal. A ranking of countries was established based on contributions to the leading food research journals in the period 1999-2004 and four categories comprising heavy, medium, light and occasional country producers was established. Chi square tests show significant differences in country provenance of manuscripts only for one journal. The results for influence on editorial delay of cross-national research and international collaboration, conducted by means of the Fisher statistic test, were similar. A two-tailed Student's *t* test shows significant differences ($p < 0.05$) in the distribution of experienced and novel authors across the delayed and accelerated groups of papers. Although these results are time and discipline limited, it can be concluded that authors' publishing experience causes a faster review and acceptance of their papers and that neither country of provenance nor cross-national research influence the time involved in editorial acceptance of the papers.

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Abbreviations

CerC: Cereal Chemistry
FAdC: Food Additives and Contaminants
FChe: Food Chemistry
FCTx: Food and Chemical Toxicology
IJFM: International Journal of Food Microbiology
JAFC: Journal of Agricultural and Food Chemistry
JDSc: Journal of Dairy Science
JFng: Journal of Food Engineering
JFSc: Journal of Food Science
JFPr: Journal of Food Protection
JFSA: Journal of the Science of Food and Agriculture
EuFR: European Food Research and Technology
Meat: Meat Science
PHar: Postharvest Biology and Technology

Introduction

There is considerable evidence of bias in the research evaluation processes. Bias is defined as “any systematic effect on ratings unrelated to the true quality of the object being rated” (Blackburn and Hakel, 2006). Peer evaluation, the main mechanism in the assessment of scientific achievement, takes place in several environments. The main ones are review of manuscripts submitted to research journals and scientific meetings, grant proposals and project funding applications. These processes are not interchangeable because they involve different evaluation criteria and different sets of merits.

In his extensive review on the journal peer review process, Campanario (1998b) identified the tendency toward positive results and the redundant treatment of the same findings as causes of manuscript discrimination. He also mentioned systematic negativism, evaluation of authors' status and manuscript merits in combination, institutional prestige and consideration of the previous contributions of the authors as evidences of favoritism in the evaluation of scientific manuscripts (Campanario, 1998a).

Geographical bias

In addition to these sources of bias, the provenance of the authors of scientific papers has been recognized as a “not a neutral piece of information when assessing a paper” (Gannon, 2007). The corresponding author living in the same country as that of the publishing journal has been proved to be a characteristic associated with acceptance of papers in the biomedical field (Link, 1998; Lee et al., 2006). The opposite is also true: some reviewers rate manuscripts from their own country significantly lower (in the cases of Italy and Japan, but not the USA, the UK and France) than papers from other countries (Opthof et al., 2002). It has been also found a considerable and increasing over time impact of country development on manuscript selection in a random set of controlled clinical trials (Yousefi-Nooraie et al., 2006). Analysis of the fate of manuscripts submitted to *Acta Psychiatrica Scandinavica* reached similar conclusions: manuscripts from medium and low income countries are rejected more than those from high income countries (Konradsen and Munk-Jorgensen, 2007).

As a source of bias, country of origin is rarely implied in the evaluation of grant or research funding of projects applications, although some evidence suggests that the nationality of assessors from the same countries as the applicants affect (again negatively) the ratings of grant applications when compared with ratings of foreign assessors (Marsh et al., 2008). On the other part, taking into account the scientific career or past achievements of researchers looking for a grant or for financial support for their research activities is a natural issue. See for example, the review criteria established for the US NIH for grant and contract projects proposals (National Institutes of Health, 2004). Institutional prestige has not been related with bias in evaluating research projects proposals submitted to a private funding institution (Bornmann and Daniel, 2006).

There are some shortcomings in the studies referred to above. In most, countries appear aggregated by continents or subcontinents. For example Amit Sood and collaborators (2007) differentiate papers coming from the USA, Europe and Asia in their analysis. Both Yousefi-Nooraie (2006) and Konradsen (2007) use the World Bank Classification to categorize papers by their country of origin. This type of categorization can be hardly associated with cultural distance between authors and reviewers or the better-than-average effect, the tendency for most people to believe that they (and by extension their nationals) are better than average on many dimensions (Van Lange, 1999). When extended to the national level, it is not difficult to refer to this effect as chauvinism.

Another possible shortcoming of these and other investigations is the difficulty involved in isolating the variable “country of origin” from those related to the language of the authors (Yousefi-Nooraie et al., 2006), and to the experimental and methodological design and the statistical treatment of the results (Ioannidis, 1998; Yousefi-Nooraie et al., 2006; Sood et al., 2007). Furthermore, country of origin could be confused with “institutional prestige”, the favoritism toward recognized institutions, as a source of bias. On the other part, it is a notable lack of reference in the above referred studies to the controversies maintained between IEEE (Bhattacharjee, 2003), ACS (Rovner, 2004) and other scientific societies (Bhattacharjee, 2004) with the Office of Foreign Assets Control regulations regarding the publication by US journals of papers from banned countries like Iran, Iraq, Cuba, Libya, Sudan or North

Korea. Yet, also political regulations can affect editorial decisions regarding where the manuscripts are coming from.

Finally, the effect of cross-national provenance of manuscripts on the acceptance, rejection or delay of manuscripts has not been addressed. Highly collaborative or “multicentric” works might have a more success in the review process if it is assumed that the number of research teams involved in its development is indicative of higher research standards. The only investigation related to this issue is that of James Hartley (2005) who, contrary to the natural hypothesis, found that single authored papers were refereed more quickly than those with more than one author in three Psychology journals and so multi-authored papers became delayed.

Prepublication bias and editorial delay

Publication delay for scientific papers should not be taken for granted. Even if a research paper is accepted and becomes finally published, some bias can have affected its editorial review. Thomas Stamm and colleagues (2007) use the term “prepublication bias” to refer to any interference in the review process, which usually implies publication delay of articles. Although they do not find any bias in their investigation others have identified the statistical significance of results (Ioannidis, 1998; Dickersin et al., 2002) and the study outcome (Stern and Shimes, 1997; Hopewell et al., 2007) as factors that delay the publication of clinical trials results in journal articles.

Publication delay has several components or stages (Diospatonyi et al., 2001). An initial *editorial stage* reflects the process of review of the manuscript and its limits are the date of receipt and the date of acceptance of the contribution. This is followed by a *technical stage*, which extends from acceptance to the effective publication date, and includes the transformation of the manuscript into its final print or online appearance. The editorial stage is related to the peer review process and can be affected by some bias. In a recent work, Amat (2008) investigated the publication delay of papers in a group of leading food research journals and showed that there was a clear relationship between the range of editorial delay and the extension of total publication delay. Both variables were normally distributed and it is possible to define a group of “accelerated” papers and other group of “delayed” ones for every journal investigated.

What causes a manuscript (DOI: 10.1016/j.postharvbio.2003.09.009) to be accepted for publication after 1,257 days after submission?. Comparing data from the quickly accepted set of manuscripts with the set of long delayed ones could be a useful method to determine eventual bias in the editorial review of scientific works in the field. The country of origin of the papers and the mutual knowledge of authors and referees are factors worth to be investigated as eventual bias that either slow down or speed up the publication of a research paper.

Basic assumptions and objectives

In this work, it is assumed that there is some distance between the nationalities of editorial referees and the country of provenance of manuscripts for review. This distance is not only based on chauvinism, but has its roots in cultural differences between countries, territories and even continents and takes part in what has been called the “scholarly-cognitive background of a reviewer” (Langfeldt, 2006) or the “ideological framework” of referees (Weller, 2001). These differences affect the peer review process and may result in prolongation of the editorial stage of the publication process.

The second assumption refers to the possibility of a mutual knowledge of authors and reviewers in specialized subfields, where there is a reduced population of researchers. It must be taken into account that single-blind peer review is the usual method of evaluation of contributions in the food research and other scientific fields. Supporters of this type of review argue that *“knowing authors’ identities makes it easier to compare the new manuscript with the author’s previously published work, to ensure that a true advance is being reported”* (Nature, 2008). Some sort of success breeds success effect may impulse the authors to submit repeatedly their works to the same journals, where indeed they become familiar with editorial style, rules and requirements (Weber et al., 2002). The consequence of this is some degree of familiarity between authors and referees.

The main purpose of the present work is to determine if the editorial delay of papers in the food research journals is influenced by their country of provenance and if previous publishing experience of the authors is also a source of bias in the peer review process. In the next sections, some definitions and variables are introduced, the accelerated and delayed groups of papers are identified and country provenance and authors’ publishing experience are compared in both groups. The results are discussed and some conclusions are drawn from them.

Sources and method

In a previous work (Amat, 2008) 14 journals were selected from the “Food Science and Technology” category of Thomson ISI 2004 Journal Citation Reports. Only journals having an ISI Impact Factor higher than 1 and more than 100 papers published were selected. The 4,836 papers published in 2004 were examined and dates of reception, acceptance and publication were recorded. As one of the journals does not provide acceptance date, it has been discarded here as source. Table 1 contains descriptive statistics for the 4,540 papers published in the remaining 13 journals. All figures are in days. Editorial delay is submission to acceptance time. Accelerated papers are defined as the set of papers that fall in the lower quartile of the distribution for the editorial delay for every journal. Delayed papers are those that fall in the upper quartile of the distribution.

[Table 1 about here]

Countries and authors’ experience

The country or countries of origin and the corresponding author were recorded for both accelerated and delayed papers. Country of origin is defined

as the geographical location(s), usually expressed at a national level, of the institutions participating in the research reported in the paper. The corresponding author is considered to be the representative of the collaborators. So, authors' experience is defined as the number of works previously published by the corresponding author of a paper in the same journal.

Country or countries of provenance and the corresponding author were determined by direct examination of papers in both delayed and accelerated groups. All the countries of the participating institutions were recorded. When several research institutions came from the same country (national collaboration) a single value was recorded. The exclusive source for country identification was authors' affiliation. Indications on changes of address for any of the authors were discarded. For some authors, dual nationality would seem possible, *id est*, that of their country of origin and that of the country in which they conducted their research; however, for the purposes of this study, country is determined following only by institutional affiliation. In order to identify differences in the provenance of papers in both the accelerated and delayed groups, the Chi square test was applied for cross-tab of delay and country category. Cross-national contributions were also investigated; we divided accelerated and delayed papers into two groups regarding the existence of cross national collaboration or not. Fisher's statistic was applied to the cross tabulation values.

Country of origin of journals' chief editors, associate editors and editorial board members were also recorded.

Corresponding authors were identified by explicit mention of their status or the provision of their electronic mail in footnotes.

Number of previously published papers by the corresponding authors in the same journal was obtained by searching the Scopus data base, combining in the search strategy author name and journal name, and limiting result to papers published before 2005. Relationship between authors' previous experience and editorial delay of their papers were investigated by means of a Student's *t* test for independent samples.

Ranking countries' popularity

Editors and reviewers are familiar with the literature in their fields of expertise. The most part of leading food research journals are published in, distributed from and edited by senior researchers, for the most part in developed countries. While it might seem reasonable to apply OECD country classification to innovation studies in the food area (Rama, 1996) it is hard to believe that this or World Bank Classification (Yousefi-Nooraie et al., 2006; Konradsen et al., 2007) would adequately reflect the reviewers' perceptions about countries of provenance of the manuscripts. Repeated submissions from the same country will inevitably make reviewers more aware of those areas and may change their perception about the research being conducted there. Thus, it would be reasonable to argue that, for any research field, ranking countries by the number of papers originating there might be a good approximation to the reviewers' perceptions.

The journals selected published 25,015 articles between 1999 and 2004, which is a large enough sample for there to be complete representation

of the countries contributing to the food research field. Using the Thomson ISI analytical feature, country distribution of the articles published by every journal was obtained. The results were statistically analyzed and four groups were identified based on the distribution quartiles: the heavy, medium, light and occasional (country) producers.

Results

National composition of editorial boards

Table 2 presents the distribution by countries of the chief and associate editors and editorial boards of the 14 leading Food Research and Technology journals. Countries are ranked by percentages. The source of most these data is the composition of editorial boards in 2003, but in five cases 2008 data was used. About half of the 674 members are from the US and the distribution of geographic origin of the reviewers and the journals shows the overall pre-eminence of developed occidental countries. The 2003 year was chosen because, taking into account the average publication delay for these journals (Amat, 2008) this was the time when the articles published in 2004 were reviewed.

[Table 2 about here]

Determination of country popularity

The 25,015 articles published in the food research journals between 1999 and 2004 represent 29,952 national contributions, an overall average of 1.2 contributing countries per paper. These articles originated from 132 different countries. Two countries' institutions, USA and Spain, originate about one third of all contributions; six countries account for practically half of the contributions and 32 out of the 132 countries accumulate the 90% of the contributions. Quartile punctuations allow defining four groups: heavy (upper quartile, more than 170 contributions, $n=32$) medium (>18 and <169 , $n=32$), light (>3 and <18 , $n=30$) and occasional (lower quartile, less than 3 contributions, $n=38$) producers. Only countries in the upper quartile of the distribution are ranked in Table 3. Full distribution is available upon request.

[Table 3 about here]

Not all journals have a similar distribution with regard to contributing countries. Some of the countries can be located in the heavy or medium contributors groups in some journal distributions and not in the overall distribution. For example USA, the top ranked country in the general distribution, is ranked only 12th in *European Food Research and Technology* and thus is categorized as a medium producer in this case. Similarly, India, a heavy producer, has no contributions to the *Journal of Dairy Science*. The relationship between overall distribution and that from every journal was investigated by means two-sided Pearson correlation coefficient. Values are shown in the last row of Table 3. All were significant at $P < 0.01$. The general

country distribution was used for the journals showing a coefficient of 0.9 or higher. In the remaining cases, the distribution particular to the journal was used and countries were distributed based on individual journal statistics.

Country of origin of the accelerated and delayed papers and cross-national research

The results in Table 4 generally show no significant differences between accelerated and delayed articles in terms of country of provenance. The only exception is *Journal of Food Protection* (coded JFPr) which shows the greatest Chi square value at $P < 0.05$.

[Table 4 about here]

The average number of contributing countries per paper is shown in Table 5. Except for *Food and Chemical Toxicology* (FCTx), figures do not vary from the overall mean of 1.2. Data were simplified, and accelerated and delayed papers were distributed into two groups depending on the existence or not of cross national collaboration. Fisher's statistic was applied to the cross tabulation values. As the figures in the last column of Table 5 indicate, papers coming from more than one contributing country are not published faster than articles with no international collaboration. The only exception is *Journal of Food Science* ($P < 0.05$).

[Table 5 about here]

Authors' experience

Table 6 presents the mean (SD) number of previous papers from authors of accelerated and delayed articles for every journal. These figures were compared using the 2-tailed Student's t test, and significance was defined at $P < 0.05$.

The variable number of previously published papers in the same journal does not follow a normal distribution. Correlation between this variable and editorial delay of the manuscripts from the same corresponding author was investigated by means Kendall's tau b. The last column in Table 6 presents the significant values.

[Table 6 about here]

In seven out of thirteen cases, results indicate that differences in means are significant and manuscripts from experienced authors are published faster than those from novel authors.

Discussion and conclusions

Bias in journals' editorial peer review is usually interpreted in a discrete way- a manuscript is or is not published. But there is some gradation between the extremes in the same way as there are several intermediate responses in the reviewers' judgments, from "accept with minor corrections"

to “resubmit after major revision”. In this study the approach taken is a rather “continuous” one and introduces certain nuance in the editorial treatment of manuscripts, reflecting the differences in terms of time spent from submission to acceptance. If records from the editorial offices of the journals would be available, a more complete picture of the process could be obtained. Indeed, a complete tracking of relationship between authors and referees is not possible due to the scarcity of indications about successive versions and corrections of the manuscripts prior their final acceptance. Thus, delay of publication is not only referees’ responsibility.

In a recent review of their editorial policy, the editors of the *Journal of Agricultural and Food Chemistry* (coded in this study JAFc) noted that “*Developing countries still fall short of many developed countries in terms of percentage of manuscripts accepted and published, owing to above-average reject rates, but this gap is closing...*” (Seiber and Kleinschmidt, 2008). In fact, their data show that China is the top ranked country as origin of the published papers in 2007 while in 2003 it was in the 7th position. This example illustrates a possible shortcoming of this study: it is based on data from one year, providing a static consideration of some variables that could change over time. In relation to this limitation, it is difficult to think of changes in the rank order of countries as being radical. Peoples’ Republic of China, to follow the example provided by the editors of JAFc, was already a high producer country in the 1999-2004 period (Table 3). In other words, it is difficult to make claims about changes when a particular country has been in the same category for several years. On the other part, perception of countries and territories by reviewers may be considered as cumulative, as new countries start contributing to the common pool of research in the area and the old ones reinforce their presence with more contributions.

A second criticism could be directed against the source data for this study. Data are drawn from journals in the Food Science and Technology category of Thomson ISI Journal Citations Reports, so overcoming other categories like Nutrition and Dietetics or Biotechnology and Applied Microbiology, very frequented by some authors in the field. However, this study does not pretend to investigate the full range of papers published by food scientists, but rather is a reflection of the editorial practices among a group of leading food research journals.

Another weakness of this study is the lack of discrimination between the assessment of country recognition and institutional prestige, treating them as indistinguishable concepts. In addition it could be argued that the existence of external reviewers may distort the data on the national composition of editorial boards. But these occasional (guest) reviewers are selected on the basis of their expertise in particular aspects of research and not on a national basis.

Finally, there would be an alternative strategy to investigate the relationship of publication delay and previous publishing experience: the longitudinal study or follow up of editorial delay times of successive contributions from a number research groups. This method presents problems in terms of identifying the groups and only partially addresses the relationship between authors and journals. Moreover, it does not exploit data from the full sets of the papers published in the journals and would result in a reduction of factors for comparison.

Papers submitted to food research journals are either promptly or lately reviewed. The focus in this study is on the mechanisms or factors that cause such heterogeneous treatment of manuscripts. Editorial delay is influenced neither by country of provenance of the manuscripts in leading food research journals nor by the cross national nature of the experiments depicted in those papers. Manuscripts from exotic or rare (from an occidental point of view) provenances are evenly distributed across accelerated and delayed groups. The only cases where country of provenance of the manuscripts affects their publication are *Journal of Food Protection* (JFPr) and *Journal of Food Science* (JFSc). While JFPr shows significant differences regarding country of provenance of manuscripts, JFSc publishes significantly more quickly articles from cross national experiments. In the first case, the proportion of US editorial team members is above the average (73.03 % compared with 47.92 %) although the *Journal of Dairy Science* (81.18 %) which is also a society journal do not show such a significant difference.

Previous publishing experience of the authors results in faster acceptance of their manuscripts. This is not a general finding and, in some cases, average publishing experience of authors in the delayed groups was greater than that for the accelerated manuscripts group (Table 6). The overall distribution of the variable “number of previous published papers” among the 1,106 and 1,119 accelerated and delayed manuscripts shows comparable dispersion, with means of 5.79 and 6.99 and standard deviations of 8.63 and 11.79 respectively. But the two-tailed significance of the T test for independent samples is 0.006 not assuming equal variances. Thus it can be concluded that authors’ status, as reflected by the chosen variable, has an influence on the time for manuscripts acceptance for publication.

The primary purpose of this study was to explore some of the factors that might influence time from submission to acceptance of the manuscripts in the leading food research journals. It is clear that, in general terms and despite the strong national concentration of editorial teams, editorial review and editorial delay are influenced neither by country of provenance of the papers nor by the fact that several institutions from different countries participate in the experiments reported. It appears that editorial treatment of manuscripts is related more to authors’ status or a combination of authors’ status with manuscripts’ merits, as Campanario (Campanario, 1998a) pointed out. Double-blind review could reduce the heterogeneous treatment of manuscripts and the unbalanced editorial delay imposed upon them.

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Table 1. Editorial delay in the Food Research and Technology journals and accelerated and delayed papers (2004)*

Journal	CerC	FAdC	FChe	FCTx	IJFM	JAFC	JDS	JFng	JFSc	JFPr	JSFA	Meat	PHar
Total papers	127	124	411	192	229	1257	489	303	304	421	282	273	128
Mean editorial delay	166.27	167.82	135.85	137.43	206.1	128.7	129.46	196.24	119.34	124.11	321.39	167.56	194.94
SD editorial delay	74.53	105.24	72.27	88.06	104.88	61.71	91.77	136.14	75.8	51.72	201.64	103.14	117.81
Percentile 25	114	113.5	87	77.5	138.5	84	71	118	68.25	91.5	165.25	98	140
Percentile 75	210	196	173	175.75	259	158.5	162	211	146.75	145	440.25	221	227
Accelerated papers (AP)	26	31	102	47	57	308	114	75	76	105	70	67	28
Mean delay for AP	85.93	85.35	56.9	51.68	95.86	64.99	49.34	93.39	52.46	70.46	101.06	59.72	103.64
SD for AP	35.05	19.63	21.54	22.02	35.08	14.85	14.15	20.22	13.8	14.52	41.35	28.6	30.15
Delayed papers (DP)	27	32	102	48	57	314	120	75	72	104	70	68	30
Mean delay for DP	261.67	284.19	233.35	258.19	343.63	214.35	247.73	368.08	214.85	193.48	598.37	302.49	316.87
SD for DP	43.96	144.62	57.99	79.05	95.78	50.07	108.32	175.13	89.79	47.83	150.21	96.48	184.89

*Source: Editorial and publication delay of papers submitted to 14 selected Food Research journals. Influence of online posting (Amat, 2008). All figures in days.

Table 2. Country distribution of the members of the editorial boards of the leading food research journals in 2003

	JAFc	JDS^c*	JSFA	CerC	FAdC*	Fche	FCTx*	JFng	JFPr*	JFSc	EuFR*	Meat	Phar	IJFM	TOTAL	%
USA	27	69	10	20	5	6	18	7	111	23	2	2	11	12	323	47,92
UK	2		18	2	1	11	7	5	3	3	3	4	2	4	65	9,64
Canada	2	5	1	1	3	3	2	3	9	4		2		7	42	6,23
Germany	3				1	1	1	1	1		10	1		4	23	3,41
Netherlands			1	1		2	3		1	1	1	1	2	3	16	2,37
Australia			3			2			3			1	1	5	15	2,23
France		1	3	1	1	1		3	3		1	1			15	2,23
Italy	1	1			3	2	1	1			3	1	1		14	2,08
Spain		2	1	1	1	1		1	2		2	1			12	1,78
Belgium		1		1		1		1	1		2		1	3	11	1,63
Denmark	1		1				1		1		1	1		5	11	1,63
New Zealand		2	1			1	1	1	2			1	2		11	1,63
Greece		1		1				1	3				1	1	8	1,19
Japan	1		2				1	1	1			1	1		8	1,19
Finland						1			2		1	1		2	7	1,04
Ireland		1	1			1	1	2				1			7	1,04
Switzerland		1	1		1				1	1	2				7	1,04
Other (25)	1	1	4	6	7	7	5	11	8	2	6	11	2	8	79	11,72
Reviewers	38	85	47	34	23	40	41	38	152	34	34	30	24	54	674	

For journals marked, the data on the national composition of editorial boards correspond to 2008

Table 3.To ranked countries and territories contributing to the leading Food Research and Technology journals in 1999-2004

	JAFC	JDS	JSFA	CerC	FAdC	Fche	FCTx	JFng	JFPr	JFSc	EuFR	Meat	Phar	IJFM	TOTAL	%	% ACC
USA	1813	1357	166	465	70	103	301	121	1077	1041	28	228	215	183	7168	24.10	24.10
Spain	848	80	305	10	57	267	21	108	163	184	358	196	43	153	2793	9.39	33.49
France	467	106	98	41	39	109	55	115	39	64	24	85	12	173	1427	4.80	38.29
Japan	610	64	55	54	38	73	109	26	75	144	8	33	36	60	1385	4.66	42.94
Italy	490	73	64	26	76	122	27	58	67	52	74	68	30	89	1316	4.42	47.37
England	229	81	169	27	104	94	152	54	60	46	28	55	29	122	1250	4.20	51.57
Canada	313	239	69	64	28	57	42	27	113	105	5	44	26	77	1209	4.06	55.63
Germany	381	43	43	21	39	59	69	41	26	34	249	20	16	62	1103	3.71	59.34
Netherlands	157	118	48	19	44	27	87	22	25	22	19	25	38	83	734	2.47	61.81
Denmark	137	69	35	5	33	22	34	5	12	17	57	93	11	71	601	2.02	63.83
Taiwan	210	8	28	16	4	62	54	20	41	86	4	13	0	28	574	1.93	65.76
India	108	0	64	6	8	100	61	80	7	26	54	18	5	13	550	1.85	67.61
Australia	117	33	42	46	9	36	9	30	21	29	2	62	44	61	541	1.82	69.43
South Korea	173	10	12	26	20	22	24	14	49	124	15	19	6	13	527	1.77	71.20
Belgium	122	44	12	19	30	21	36	22	28	19	17	25	47	82	524	1.76	72.96
Turkey	36	8	34	5	7	91	2	113	9	34	101	28	8	14	490	1.65	74.61
Brazil	119	24	32	7	35	78	38	37	30	17	14	15	15	16	477	1.60	76.21
PR China	192	2	40	16	8	75	19	24	5	23	18	5	18	7	452	1.52	77.73
New Zealand	62	55	37	7	3	26	9	27	9	26	1	42	72	26	402	1.35	79.08
Sweden	86	36	34	24	26	29	21	27	5	14	15	41	3	34	395	1.33	80.41
Ireland	34	38	14	9	14	31	3	77	18	37	25	46	1	35	382	1.28	81.69
Greece	95	6	37	1	21	57	0	51	11	18	9	17	10	19	352	1.18	82.88
Finland	89	41	17	23	19	16	6	5	28	14	25	20	0	43	346	1.16	84.04
Switzerland	116	34	6	7	21	15	26	9	11	18	47	6	1	24	341	1.15	85.19
Argentina	72	32	18	10	16	10	3	41	41	50	11	6	5	24	339	1.14	86.33
Portugal	119	14	28	0	7	32	3	31	14	21	40	5	5	19	338	1.14	87.46
Mexico	82	15	43	15	9	18	9	19	26	42	12	10	17	13	330	1.11	88.57
Norway	27	33	26	6	7	22	8	5	11	33	12	18	2	59	269	0.90	89.48

Poland	70	3	18	4	21	46	5	18	3	7	42	22	3	4	266	0.87	90.35
Israel	87	54	12	0	0	8	3	5	11	8	6	0	57	4	255	0.86	91.21
Scotland	46	52	62	1	4	11	8	4	6	4	8	8	0	11	225	0.76	91.96
Nigeria	9	2	35	1	1	53	13	30	3	2	25	2	0	8	184	0.62	92.58

Correlation 0.978 0.935 0.72 0.934 0.668 0.619 0.886 0.696 0.954 0.963 0.392 0.702 0.632 0.792

Heavy producer countries falling in the upper quartile of the distribution by number of contributions (full data available upon request). Last row indicates the relationship (two-sided Pearson correlation coefficient) between overall distribution and that from every particular journal.

Table 4. Papers from the selected journals distributed as to the country categories and their editorial delay

	Accelerated				Delayed				Significance
	Heavy	Medium	Light	Occasional	Heavy	Medium	Light	Occasional	
JAFC	297	8	1	2	298	7	8	1	$\chi^2 = 5.79$; p = 0.12
JDS	111		2		117	2	1		$\chi^2 = 2.28$; p = 0.32
JSFA	55	13	2		55	14		1	$\chi^2 = 3.04$; p = 0.39
CerC	22	3		1	27				$\chi^2 = 4.49$; p = 0.11
FAdC	20	7	4		20	7	3	1	$\chi^2 = 1.43$; p = 0.77
Fche	87	11	4		80	13	9		$\chi^2 = 2.38$; p = 0.3
FCTx	39	7		1	34	7	3	4	$\chi^2 = 5.13$; p = 0.16
JFng	50	19	3	3	62	10	2	1	$\chi^2 = 5.28$; p = 0.15
JFPr	105				97	5	2		$\chi^2 = 7.31$; p = 0.03*
JFSc	73	3			67	3	2		$\chi^2 = 2.15$; p = 0.34
Meat	55	9	3		49	12	7		$\chi^2 = 2.37$; p = 0.31
Phar	21	7			26	4			$\chi^2 = 1.28$; p = 0.26
IJFM	48	8	1		48	7	1	1	$\chi^2 = 1.07$; p = 0.79

Table 5. Number of contributing countries per paper

	Accelerated papers	Delayed papers	p*
	Mean (SD)	Mean (SD)	
CerC	1.15 (0.46)	1.19 (0.4)	0.7
FAdC	1.29 (0.78)	1.32 (0.94)	1,00
Fche	1.12 (0.35)	1.14 (0.37)	0.83
FCTx	1.49 (0.95)	1.17 (0.38)	0.15
IJFM	1.26 (0.67)	1.19 (0.48)	0.48
JAFC	1.18 (0.43)	1.17 (0.42)	1,00
JDS	1.28 (0.66)	1.26 (0.48)	0.77
JFng	1.23 (0.58)	1.13 (0.34)	0.18
JFPr	1.13 (0.56)	1.18 (0.66)	0.29
JFSc	1.2 (0.43)	1.03 (1.17)	0.003**
JSFA	1.34 (0.61)	1.17 (0.56)	0.15
Meat	1.07 (0.32)	1.13 (0.38)	0.37
PHar	1.29 (0.53)	1.16 (0.46)	0.32

* Chi square

**Significant difference

Table 6. Average number of previously published papers by the authors of accelerated and delayed articles

	Accelerated	Delayed	T test
CerC	5.42 (5.94)	8.44 (7.79)	0.12
FAdC	3.61 (7.31)	4.52 (8.73)	0.003*
FCh	3.79 (3.79)	3.01 (2.99)	0.000*
FCTx	4.93 (8.25)	3.19 (4.17)	0.000*
IJFM	4.16 (4.37)	3.03 (3.59)	0.000*
JAFC	8.75 (14.31)	6.78 (9.86)	0.046*
JDSc	11.72 (16.35)	10.46 (12.93)	0.512
JFng	4.97 (5.78)	6.89 (11.09)	0.19
JFPr	10.17 (18.36)	5.77 (8.4)	0.027*
JFSc	6.32 (6.35)	4.56 (4.46)	0.05
JSFA	2.24 (2.01)	2.48 (1.82)	0.509
Meat	4.7 (5.1)	5.04 (5.48)	0.707
Phar	7.25 (5.86)	4.33 (4.87)	0.045*

* Significant at $p < 0.05$