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research policy

Retrospective Evaluation (1971–1999)

1. Introduction

At the time when *Research Policy* began publication in November 1971 there were scarcely any journals in Europe, America or Japan which dealt with the themes of innovation in industry, government policies for science and technology, or university–industry relationships in research. Since that time, it has become a well-known and respected journal and more than a dozen other journals have started publication in this field. So far from resenting this competition, we welcome it as evidence of the growing recognition of the great importance of understanding and debating fundamental problems of industrial and government policies for research, development and other innovative activities.

After more than 25 years of publication it is a good time to make a retrospective evaluation of what the journal tried to achieve, how far it has been successful, and what improvements could be made in the future. We already published a master author and subject index for the first 20 volumes (Vol. 22, No. 2), together with abstracts of more than thirty of the most important papers which had appeared in those first 20 years. On this occasion, together with a revised author and subject index, we are also making a brief retrospective assessment, including some comments on the coverage of the journal, of its most-cited papers and its published special issues, its readers and authors and its electronic presence and dissemination. The last issue of the millennium is an appropriate one for such an assessment.

2. Editorial policy

An editorial in the first issue of *Research Policy* declared firmly that it intended to cover both industrial R & D policies and government policies. It also declared our intention to take a much broader view of 'policy' than simply the efficient management of laboratories. The journal recognised from the outset that much wider issues were involved in decision-making for research and development than a simple enumeration of expected costs and benefits. Whilst we certainly always accepted project and programme evaluation as an essential part of our remit, we never confined ourselves to these topics, nor yet to any single discipline. Rather we sought to provide a theoretical framework for what was a very unstructured field of research. This entailed combining aspects of the economics and sociology of science and technology with the more prosaic management literature. From the very beginning, we have given a particularly warm welcome to papers with a strong empirical basis and this is indeed one of the criteria that we have applied in reviewing submitted papers. However, we have always looked for papers which ideally contributed to the formulation of valid theoretical generalisations from this firm empirical base. It is notable, as we shall see that of the dozen most cited papers published between 1971 and 1999, at least three-quarters were indeed major contributions to theory, although firmly grounded in empirical research.

Analysis of the contents of the journal for the first 28 years shows that it did succeed in covering both problems of government policy and those of industrial R & D and innovation.

Over 500 articles were mainly concerned with innovation in industry, agriculture and services, whilst over 300 dealt with government policies. In the very first issue, the former head of Philips R & D and outstanding physicist, Professor Casimir, contributed an article on 'Industries and academic freedom' in which he outlined some of the problems of the relationship between industry and universities. In

drawing attention to this paper, the editors emphasised that they would welcome further papers on the relative roles of university, industry and government in the formulation and conduct of research policies. In fact, over the next 28 years, *Research Policy* published over 200 papers dealing with universities and basic research, many of which of course dealt with industry–university relationships and science–technology relationships. Whilst project evaluation and R & D management have been the main focus of several other journals, they have not been the primary concern of *Research Policy*. Nevertheless, well over 200 papers were published on these topics, which must of course always remain themes which are intimately related to a broader conception of policy.

It can thus be seen that the main aims of the journal, as enunciated in the first issue, have been sustained. The journal has found a niche in the study of innovation and of those policies in government, industry and universities, which promote research and innovation. Perhaps the emphasis has moved a little towards industrial innovation, rather than scientific research, but if such a shift can be discerned it is relatively small and most of the outstanding papers in this field have been concerned to illustrate the strong interdependence between science, technology and innovation. This emerges with special clarity from an analysis of the most cited papers to which we now turn in the third section of this introduction.

3. Impact and citation analysis

Citation analysis is now itself a specialised branch of *Research Policy* studies and indeed two of our own most cited papers are concerned partly or mainly with citations and related bibliometric (scientometric) techniques. However, the practitioners of this art themselves have warned us, in the best traditions of sociology of science, to take account of the limitations of the method. Citations are a measure of *impact* and not necessarily of intrinsic *value*, although the two may often coincide. More importantly, for our present purpose, we should remember that there is necessarily a time lag between the publication of a paper and its citation in other literature. Sometimes, this lag may be very short and the paper may be cited within a year or two of publication. More commonly, the lag is longer and citation may reach a peak five to ten years later or even more. With the most influential papers citation may continue for a very long time. Our most cited paper received 38 additional citations during the last year and our second most cited paper received 27 new citations. These papers were published in the 1980s, but even papers published in the 1970s received new citations in 1999. Consequently, in considering the tables on the next pages, it must be remembered that for Table 1 showing the most highly cited papers for the whole period 1971–1999, it is unlikely that papers published in the 1990s would appear in the list. Indeed, only six do so and of these, five were published in 1991, one in 1992 and none later than this.

For Table 2, on the other hand, showing the 15 most cited papers from 1992 to 1999, sufficient time has not elapsed for any of these papers to reach the frequency of citation of the older papers shown in Table 1, although some of them may well do so over the next ten years. If in a future issue of *Research Policy* an analysis is made of citations from 1971 to 2022, it will certainly be of great interest to see which of the papers shown in Table 2 appear in a ranking of the most cited papers from the whole period 1971–2022.

Only seven papers (Table 1) have had more than a hundred citations each and it is certainly of interest that all of these represented major contributions to the theoretical literature, although drawing upon much empirical evidence. Most of them were very influential in the broader literature on the economics of technical change and the management of innovation. The fact that the most cited paper 'Profiting from technological innovation: implications for integration, collaboration, licensing and public policy', by David Teece, 260 citations, is of great interest to managers as well as academics indicates that the focus on industrial innovation, which the journal has sustained, has been well justified.

The paper by Nelson and Winter 'In Search of Useful Theory of Innovation' is also an indication of the abiding interest in this field, having 192 citations. The only other paper to receive more than 200 citations was that of Giovanni Dosi on technological paradigms and trajectories, which once more illustrates the strong interest in the fundamental theory of technical change and innovation.

Table 1
Top 25 of the most highly cited papers published in *Research Policy* during 1971–1999*. Ranked by total citations, since the paper was published, in the Social Science Citations Index. The table also shows the author(s), title, volume and publication year.

Rank	Author(s)	Title	Volume	Year	Total citations
1.	Teece, D.J.	Profiting from technological innovation: implications for integration, collaboration, licensing and public policy	15	1986	260
2.	Dosi, G.	Technological paradigms and technological trajectories: a suggested interpretation of the determinants and directions of technical change	11	1982	232
3.	Nelson, R.R. and Winter, S.G.	In search of useful theory of innovation	6	1977	192
4.	Rothwell, R., Freeman, C., Horsley, A., Jervis, V.T.P., Robertson, A.B. and Townsend, J.	Sappho updated — project Sappho phase II	3	1974	149
5.	Pavitt, K.	Sectoral patterns of technical change: towards a taxonomy and a theory	13	1984	135
6.	Abernathy, W.J. and Clark, K.B.	Innovation: mapping the winds of creative destruction	14	1985	125
7.	Martin, B.R. and Irvine, J.	Assessing basic research: some partial indicators of scientific progress in radio astronomy	12	1983	117
8.	Leonard-Barton, D.	Implementation as mutual adaptation of technology and organization	17	1988	85
9.	Moed, H.F., Burger, W.J.M., Frankfort, J.G. and van Raan, A.F.J.	The use of bibliometric data for the measurement of university research performance	14	1985	76
10.	Clark, K.B.	The interaction of design hierarchies and market concepts in technological evolution	14	1985	67
11.	Mowery, D. and Rosenberg, N.	Influence of market demand upon innovation: a critical review of some recent empirical studies	8	1979	58
12.	Dorfman, N.S.	Route 128: the development of a regional high technology economy	12	1983	56
12.	Von Hippel, E.	Cooperation between rivals: informal know-how trading	16	1987	56
14.	Mansfield, E.	Academic research and industrial innovation	20	1991	55
15.	Freeman, C.	Networks of Innovators: a synthesis of research issues	20	1991	50
16.	Gibbons, M. and Johnston, R.	The roles of science in technological innovation	3	1974	49
17.	Saxenian, A.L.	The origins and dynamics of production networks in Silicon Valley	20	1991	48
18.	Rosenberg, N.	Why do firms do basic research with their own money?	19	1990	47
18.	Lichtenberg, F.R.	Issues in measuring industrial research and development	19	1990	47
20.	Maidique, M.A. and Zirger, B.J.	The new product learning curve	14	1985	45
20.	Scherer, F.M.	Inter-industry technology flows in the United States	11	1982	45
22.	Storper, M. and Harrison, B.	Flexibility, hierarchy and regional development: the changing structure of industrial production systems and their forms of governance in the 1990s	20	1991	44
23.	Narin, F., Noma, E. and Perry, R.	Patents as indicators of corporate technological strength	16	1987	42
24.	Healey, P., Rothman, H. and Hoch, P.K.	An experiment in science mapping for research planning	15	1986	40
24.	Basberg, B.L.	Patents and the measurement of technological change: a survey of the literature	16	1987	40

* Source: CWTS, data: SCI (ISI), 1971–August 1999.

Table 2
Top-15 of the most highly cited papers published in *Research Policy* during 1992–1999 *. Ranked by total citations, since the paper was published in the Social Science Citations Index. The table also shows the author(s), title, volume and publication year.

Rank	Author(s)	Title	Volume	Year	Total citations
1.	Rosenberg, N. and Nelson, R.R.	American universities and technical advance in industry	23	1994	32
2.	Hagedoorn, J. and Schakenraad, J.	Leading companies and networks of strategic alliances in information technologies	21	1992	31
2.	Dasgupta, P. and David, P.A.	Towards a new economics of science	23	1994	31
3.	Utterback, J. and Suarez, F.	Innovation, competition and industry structure	22	1993	30
4.	Narin, F. and Olivastro, D.	Linking between Technology and Science	21	1992	27
5.	Granstrand, O., Hakanson, L. and Sjolander, S.	Internationalization of research and development: a survey of some recent research	22	1993	25
6.	Gambardella, A.	Competitive advantages from in-house scientific research: The US pharmaceutical industry in the 1980s	21	1992	20
7.	Langlois, R.N. and Robertson, P.L.	Networks and innovation in a modular system: lessons from the microcomputer and stereo component industries	21	1992	20
8.	Peters, H.P.F. and van Raan, A.P.J.	Co-word-based science maps of chemical engineering: 1. Representations by direct multidimensional scaling	22	1993	19
9.	Kleinknecht, A. and Reijnen, J.O.N.	Why do firms cooperate on research and development? An empirical study	21	1992	17
10.	Mowery, D.	The US national innovation system: origins and prospects for change	21	1992	16
11.	Klevorick, A.K., Levin, R.C., Nelson, R.R. and Winter, S.G.	On the sources and significance of interindustry differences in technological opportunities	24	1995	14
12.	Kim, L.S. and Dahlman, C.J.	Technology policy for industrialization: an integrative framework and Korea's experience	21	1992	15
12.	Hakanson, L. and Nobel, R.	Foreign research and development in Swedish multinationals	22	1993	15
12.	Arora, A. and Gambardella, A.	The changing technology of technological change: general and abstract knowledge and the division of innovative labor	23	1994	15
13.	Ulrich, K.	The role of product architecture in the manufacturing firm	24	1995	15
13.	Folster, S.	Do subsidies to cooperative research and development actually stimulate research and development investment and cooperation	24	1995	15
14.	Miller, R.	Global research and development networks and large scale innovations: the case of the automobile industry	23	1994	14
14.	Robertson, P.L. and Langlois, R.	Innovation, networks and vertical integration	24	1995	14
15.	Dunning, J.H.	Multinational enterprises and the globalization of innovatory capacity	23	1994	13

* Source: CWTS, data: SCI (ISI), 1971–August 1999.

The journal can justifiably claim that it has made a major contribution to the use and interpretation of a wide variety of measurement indicators, including especially patent data, as well as bibliometric and citation data. Papers using scientometric data or other measurement indicators of scientific and tech-

Table 3
Special issues published in *Research Policy*, 1971–1999.

Topic	Year	Volume	Papers	Pages	Editor(s)
Special Issue on Innovation in Medical Technology	1985	Vol. 14, No. 4	6	62	S.S. Blume and S.N. Finkelstein
Special Issue in Honor of Yvan Fabian	1987	Vol. 16, No. 2–4	8	172	C. Freeman
Evaluation of Government Innovation Programs	1989	Vol. 18, No. 6	6	86	J.D. Roessner
Networks of Innovators	1991	Vol. 20, No. 5	10	152 + ii	C. DeBresson and R. Walker
Anniversary Issue (Master index Vol. 1–20)	1993	Vol. 22, No. 2		82 + ii	
Special Issue in Honor of Nathan Rosenberg	1994	Vol. 23, No. 5	8	142	D.C. Mowery, R.R. Nelson and W.E. Steinmueller
Evaluation of Industrial Modernization	1996	Vol. 25, No. 2	8	139	P. Shapira and J.D. Roessner
New Technology-based Firms in the European Union	1996	Vol. 26, No. 9	7	138	D.J. Storey and B.S. Tether
Technology and the Firm	1998	Vol. 27, No. 5	6	113	J. Cantwell
EU Research Funding Policy	1998	Vol. 27, No. 6	7	95	T. Luukkonen and T. Lemola
Influence of Society on Science — Linking Theory and Practice	1998	Vol. 27, No. 9	10	132	R. Mayntz and U. Schimank
The Internationalization of Industrial R & D	1999	Vol. 28, No. 2/3	12	219	J. Noisi
Science and Technology Indicators. Selected papers from the Fifth International Conference on Science and Technology Indicators	1999	Vol. 28, No. 5	6	113	H. Moed

Source: *Research Policy*.

nical performance are strongly represented among the leading papers, notably the pioneering paper by Martin and Irvine which used a variety of indicators. The special issue devoted to the memory of Yvan Fabian, who inspired much of this work at the OECD was a notable landmark in this respect. This special issue, published in 1987, received 182 citations in the 1990s (Table 3).

Special issues published through *Research Policy* have been influential on the literature. According to the Social Science Citations Index from the year of publication through August 1999, the special issue on: 'Networks and Innovators' (1991) received some 256 citations, the special issue: 'In honor of Nathan Rosenberg' (1994) received over 60 citations. More recently published special issues, for obvious reasons, have not been cited as much yet. It is worthwhile mentioning however that the special issue on: 'Evaluation of Industrial Modernization' (1996) so far received some 20 citations.

The citation data shown in Tables 1 and 2 are of interest not only for what they show about articles which appear in the tables, but also for what they show about articles which do not appear. Weakly represented or hardly represented at all are papers which deal with policy in one individual country, or on individual industry or firm. Perhaps this result is not surprising since obviously it is the papers which generalise about the whole field or contain results relevant to almost every country that will tend to be the most frequently cited.

This point illustrates one of the problems of dealing with the most highly cited papers. High level generalisation is certainly valuable in any branch of science but as the papers by Nelson and Winter and by Pavitt (themselves among the most highly cited papers) make clear, generalisations can also

be dangerous if they ignore real world complexity. These two papers pointed to the need to recognise the major differences with respect to innovations in various industrial sectors. Innovation in textiles is not the same as innovation in the aircraft industry and any satisfactory theory must take into account the differences as well as the similarities. Much standard economic theory has suffered from over-reliance on generalisations about the 'representative firm', ignoring differences of sector and scale. The analysis in Tables 1 and 2 fails to bring out the point that *Research Policy* has accepted the conclusions of the papers by Nelson and Winter and by Pavitt and has published numerous papers on individual sectors, including chemicals (14), pharmaceuticals (12), aircraft (14), electronics and computers (16), agriculture (12), scientific and medical instruments (10), satellites and telecommunications (6), machinery (9), food (4) and miscellaneous industries (15). The numbers in brackets refer to papers published between 1971 and 1999 and there were of course numerous other papers which referred to several industries, as for example, the paper by Rothwell et al. (No. 4 in Table 1) which compared chemical firms with firms in scientific instruments. Thus, *Research Policy* could hardly be reproached for ignoring the diversity of industrial sectors. Even the very first issue (1971, Vol. 1, No. 1) carried an article specifically on innovation in pharmaceuticals, while the second issue carried one on optical instruments. On average, each volume of *Research Policy* has included three papers on specific industrial sectors.

However, it would be a fair criticism that we have neglected some sectors. Only one article has dealt with the construction industry, very few with textiles and none at all with mining or with shoes and clothing. There has been a bias towards the R & D-intensive industries. More seriously, service industries have been largely neglected despite their growing importance and their growing use of more advanced technologies. We have begun to rectify this imbalance but clearly this is an area which will demand considerable future effort by editors and authors, building on the pioneering studies by Richard Barras on a theory of innovation in services (1986) and on financial service innovations (1990) as the vanguard of the 'service revolution'. In the 1990s, we have published several further papers on banking and more still on software applications and services.

4. Authors and editors

From the outset *Research Policy* has had editors from more than one country and the number of countries has increased over time. However, the Anglo-American bias has been strong both in terms of readership and of authorship, and indeed in terms of articles dealing with a particular country. This reflects in part, of course, the Anglo-American bias in the wider literature, and the English language dominance. When the journal began publication in 1971, the great majority of books and papers in its field of interest were published in the United States and it is notable that of the 25 most cited papers, see Table 1, two-thirds were by United States authors and most of the remainder by English authors. Since the 1970s, the balance has changed and *Research Policy* can justifiably claim some of the credit for stimulating a greater contribution from European authors in particular. The Editors have also attempted to encourage Japanese authors, but so far with only a small amount of success. It must be recognised that in the whole field of policy studies, national culture and national languages inevitably play a much greater role than in the natural sciences. Nevertheless, the Editors will continue their efforts to broaden the international character of the journal both in terms of authorship and of readership, and indeed of editorship itself.

Out of the nearly 1,000 articles, reviews, editorials and communications that have been published so far, W-European authors contributed more papers than US authors (Fig. 1).

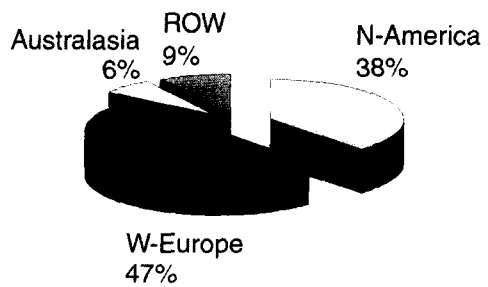

Fig. 1. Author breakdown *Research Policy*, 1971–1999.

The W-European group includes authors from Great Britain (19.2%), the Netherlands (5%), Germany (4.4%), France (4%), Italy (3.2%), Sweden (2.5%), Belgium (1.3%) and Finland and Denmark (each 0.7% respectively).

The Australasia group includes authors from Japan (2.4%) South Korea (0.8%) and Australia (1.6%). The 9% ROW group includes authors from Israel (2.7%), India (1.5%) Iraq, South Africa, Brazil, Poland and Hungary.

In the most recent period there are indications of a growing contribution to the journal from West European countries other than the UK, especially from the Netherlands, France, Italy, Spain and Scandinavia. In part, of course, this reflects the differential rate of growth of the community of scholars in different parts of the world and in part the coverage of the journal. Thanks to the participation of our German colleagues as Editors, we have had a higher contribution from German authors. We would like to see this trend continue towards a greater involvement of all the countries of the European Union and we intend in the future to extend our coverage of issues pertaining to the European Union as a whole, as for example in Volume 26, No. 9 on: '*New technology-based firms in the European Union*', and Volume 27, No. 6 on: '*EU research funding policy*' (Table 3).

In fact, if all the articles dealing with member countries of the European Union are added together, the number (about 200) exceeds those dealing with USA and Canada, although the USA remains by far the biggest coverage of a single country with over 100 papers between 1971 and 1999. However, fewer than 10 articles dealt with the former Soviet Union or other East European countries and only about 25 with Japan.

Looking at authors in terms of their institutional affiliation, 64% were from Universities, 15% from large research institutes such as nuclear energy centres, 6% from other institutions of higher education (non-university), 5.5% from companies such as Philips and other large multinational companies, 4% from governmental organisations such as national ministries and research councils, and 3% from international organisations such as the IMF and World Bank.

5. Readership

Without weakening our coverage of the United States or the European Union, the Editors intend to broaden our international coverage, as well as our inter-sectoral coverage so that the journal can more fully represent the major worldwide trends in policies for research and innovation. This should lead to a wider circulation of the journal in all parts of the world. At the moment, while the journal is represented on the library shelves in almost every country, its circulation is still concentrated in the European Union, North America and Australasia (Fig. 2).

Because of its multidisciplinary character, *Research Policy* has always attracted a very broad readership base both inside and outside academia. Today,

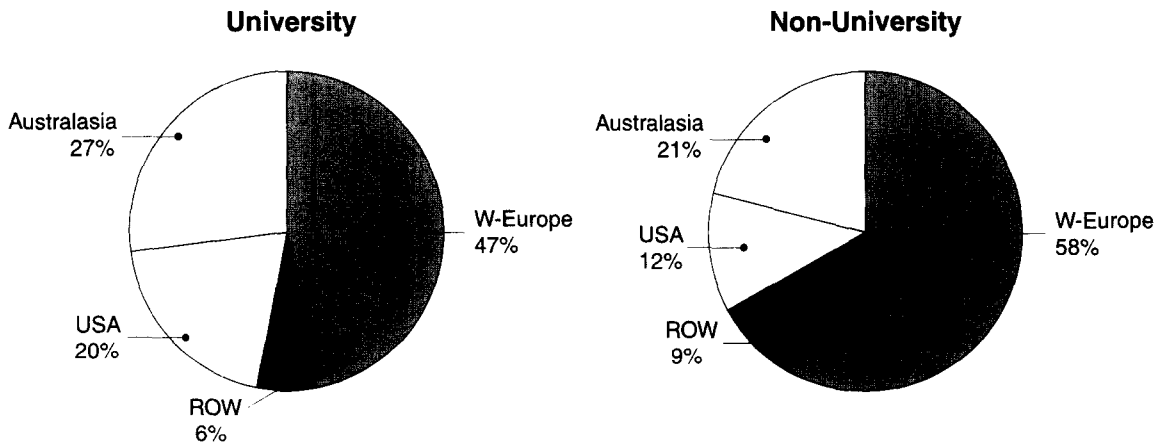

Fig. 2. Geographical spread of institutional subscribers, *Research Policy*, 1999.

nearly 38% of the total institutional subscriber base belongs to the governmental and corporate sectors. Corporate subscribers include research departments of large globalized companies such as petrol companies, consumer goods manufacturers and the like. Governmental subscribers are national ministries, European bodies and world institutes like the IMF and the World Bank, United Nations Agencies, National Research Centres and Development Institutes.

The remainder, 62%, of the institutional subscribers is a university library, spread all over the world. Fig. 2 depicts the geographical spread of the total group of *institutional* subscribers, divided into university and non-university subscribers.

6. Electronic presence and dissemination

Since 1994 *Research Policy* has had its own WEB site at: **http://www.elsevier.nl/homepage/sae/econbase/respol/menu.sht** providing the following information on the journal:

- Abstracts archive and Tables of Contents
- Complete papers on line
- Keyword and author index
- List of special issues
- Full search facilities on authors, article title, abstracts and keywords
- Instructions to Authors
- Article Status information (for authors)
- Editorial Board
- Aims and Scope
- Subscriptions information
- Sample copy request information
- Dispatch dates

Research Policy's homepage also has a large number of useful links to 64 other economics, finance and econometrics journals. Currently, some 200 distinct hosts visit *Research Policy*'s WEB site in ECONbase each month, who all together request an average of 595 abstracts each month.

The complete papers online archive for *Research Policy* includes full text papers as from Issue No. 27.1 (1998) and onwards. In the first 6 months of 1999, 3,185 complete papers from *Research Policy*'s online paper archive were downloaded.

The Top-3 complete paper downloads in the first six months of 1999 were:

No. 1	**Jon Guice**, *Designing the future: the culture of new trends in science and technology, Research Policy* 28(1) (1999) pp. 81–98	(147 downloads)
No. 2	**Samuel Kortum, Josh Lerner**, *What is behind the recent surge in patenting? Research Policy* 28(1) (1999) pp. 1–22	(135 downloads)
No. 3	**Giorgio Sirilli, Rinaldo Evangelista**, *Technological innovation in services and manufacturing: results from Italian surveys, Research Policy* 27(9) (1998) pp. 881–899	(106 downloads)

6.1. Broad dissemination of Research Policy's papers

Research Policy benefits from a number of author-supporting initiatives that North-Holland, as the publisher, has taken in connection with articles published in its journals. In order to serve *Research Policy's* authors and increase the visibility of their published research, the following initiatives have been introduced:

6.1.1. ECONbase

A searchable database, covering:

- 65 journals in economics, econometrics and finance
- 13,500 searchable abstracts (as per September 1999)
- 3,400 online papers (as per September 1999)

Each month ECONbase is updated with some 200 new abstracts and articles. All information within ECONbase — *except for the complete papers section per individual journal* — is within the public domain. Functionalities such as being able to search through the heads (titles, authors, abstracts, key words) and to retrieve abstracts of all journals are free. For the public section, no registration is needed. Condition to access the complete paper section of the journals is in all cases that the library should hold a current institutional subscription to the printed version of the journal(s) concerned.

Some 20,000 active distinct hosts currently visit ECONbase each month, who each month download nearly some 40,000 abstracts and on average 25,000 complete papers.

6.1.2. Contents Alert Economics

Contents Alert Economics is an e-mail service alerting readers to published articles in 65 economic journals published by Elsevier/North-Holland. In weekly instalments, it provides full titles, authors with their affiliations, keywords, JEL classifications, volume, issue and page numbers for easy retrieval or the full article. Started early in 1994, the service now has more than 13,000 subscribers. *Research Policy*'s contents list is also included.

6.1.3. Economics Alert

This is a paper alerting service published three times per annum, featuring details of articles published in some 45 economics and econometrics journals, including *Research Policy*. In addition to bibliographical information, Economics Alert also publishes the abstracts and keywords of each article. Circulation of Economics Alert is gratis and close to 13,000 copies. All of those on the mailing list are active researchers: authors, subscribers to specialised journals, participants of conferences and members of international societies.

7. Future outlook

At the time *Research Policy* started in 1971, it was publishing 400 pages per annum. Due to the growing recognition of the great importance of understanding and debating fundamental problems of both industrial and government policies for research, development and other innovative activities, the number of submissions increased tremendously over the years, thus enabling *Research Policy* to expand its total number of published pages.

Today the backlog has been reduced to an acceptable number enabling *Research Policy* more than ever before to serve as a niche outlet for a large variety of papers in the area of innovation and of policies in government, industry and universities.

From 2000 onwards *Research Policy* will strive to publish two special issues per volume thus providing an outlet for 'fashionable' issues and serving *Research Policy's* large and diverse group of corporate and academic readers. Special Issues can contain either:

(i) a collection of invited papers from a guest editor, possibly with the addition of unsolicited manuscripts on the same theme
(ii) a selection of papers presented at conferences, co-organized by *Research Policy* with a sponsoring institution, or
(iii) a collection of unsolicited manuscripts 'packaged' in the same issue

Ideas for these types of special issues have reached Research Policy via advisory and industrial editors, referees, conference organizers and various other sources and have so far resulted in a wide variety of important special issues (Table 3).

In the past nearly 30 years, the area of research policy, research management and planning has grown and expanded. At the same time the number of journals plus the number of submissions in the field has also grown substantially. During the past 28 years *Research Policy's* key success factors have been:

- its wide variety of papers, special issues on ground breaking issues in both industrial R and D policies and government policies
- its broad reader base both inside and outside the academia
- the people who have been associated with the journal in the past 28 years, authors, referees, advisory and industrial editors

This retrospective assessment provides us with the opportunity to thank all those people and institutions that have contributed their time and talent to *Research Policy*. With all your continuing interest and co-operation *Research Policy* will be able to maintain its current position as one of the top quality journals in the area of research policy, management and development.

M. CALLON	*Ecole Nationale Superieure des Mines, France*
R. COENEN	*Forschungszentrum Karlsruhe, Germany*
W.M. COHEN	*Carnegie Mellon University, USA*
C. FREEMAN	*SPRU, University of Sussex, UK*
F. KODAMA	*University of Tokyo, Japan*
F. MEYER-KRAHMER	*Fraunhofer-Institut für Systemtechnik und Innovationsforschung, Germany*
K.L.R. PAVITT	*SPRU, University of Sussex, UK*
G.P. PISANO	*Harvard Business School, USA*