

Fifty years of *New Zealand Economic Papers*: 1966 to 2015¹

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Abstract

New Zealand Economic Papers was launched 50 years ago, seven years after the New Zealand Association of Economists was established. This paper discusses the journal's development including challenges of establishing and editing it. We examine the nature of the contributions, the contributors, their origins, the gender distribution of authors, and whether the growth in joint authorship evident in other fields of research is displayed in *NZEP*. We also examine how research has evolved over the life of the journal. The evolution of the content of the journal is related to economic developments and events in New Zealand and globally, and to developments in the economics profession. The journal continues to reflect contemporary New Zealand issues, which was one of the original aims of establishing the journal. It also displays an increasing use of empirical techniques, joint authorship and contributions from female authors. Contributions were initially predominantly from New Zealand academics, but the shares of contributions by authors from overseas and from New Zealand policy institutions have been increasing in recent decades.

Keywords: New Zealand Economic Papers; New Zealand Association of Economists; editorship; joint authorship; economics profession.

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Introduction

The New Zealand Association of Economists launched *New Zealand Economic Papers* (*NZEP*) in 1966, seven years after the Association was established. After 50 years it remains the only New Zealand journal publishing peer reviewed research articles on economics. There have been 18 editors, and 82 issues published in the 49 volumes of *NZEP* during this period. The purpose of this paper is to review the history of the journal from several angles.

Different approaches have been applied by economics associations around the world to celebrate significant anniversaries of their peer-reviewed journals. These approaches range from special issues on topics that are sometimes disconnected from the history of the journal to a more sociological approach analysing its development. The Royal Economic Society adopted the first approach after a century of the publication of *The Economic Journal*. The Society commissioned leading economists to write 100-year prophecies, including forecasting how the economics profession is likely to develop, or how they would like it to develop.³

An approach that is more reflective of the history of the journal was taken by the associations hosting the *American Economic Review* and the *Scottish Journal of Political Economy*. To commemorate its 100th anniversary, the *American Economic Review* (*AER*) published a special issue in February 2011. The special issue edited by Moffitt (2011) included a paper by Arrow *et al.* (2011) on their selection of the 20 most important articles published in the *AER* during its 100-year history, an essay on the history of the *AER* by Margo (2011), and a reprint of the lead article in the inaugural issue accompanied by three further articles by current researchers reflecting on the issues addressed in that lead article. Marmby *et al.* (2013) marked the 60th anniversary of the *Scottish Journal of Political Economy* by publishing in a special issue the ‘most influential’ article from each of the six decades of the journal’s history. Each article was accompanied by a commentary written either by the original author or by an expert from the relevant field.

Further along this spectrum is the approach of Millmow and Tuck (2013) to celebrate the 100-year anniversary of *The Economic Record*, the flagship journal of the Economic Society of Australia. They described their approach as a ‘forensic examination of the journal over the last 50 years’ (2013, p. 112). This included exploring the content of articles, identifying the most cited articles and the most frequent contributors.

³ The Royal Economic Society also has a brief history of the establishment of *The Economic Journal* on its website (Royal Economic Society, 2015).

The approach taken here to recognise the 50th anniversary of *New Zealand Economic Papers* is at this ‘forensic’ end of the spectrum. The present paper describes the type of research published in *NZEP*, including the topics covered, the research methods used and the origins of the researchers. The analysis includes all research articles, along with substantive comments and ‘replies’, and extensive introductions to special issues.⁴ It does not include book reviews and reviews of research or policy papers. It also excludes papers published in the proceedings of the 1990 Sesquicentennial Conference.

Amongst the author characteristics examined are the number of authors per paper and the gender of authors. The relative contributions of papers from universities and other institutions are examined, including differentiation between New Zealand, Australian and other overseas institutions. An overwhelming majority of authors have contributed toward just one article in *NZEP*, while a small number of authors have contributed a large proportion of the 569 papers published over its fifty-year history.

We also evaluate the degree to which the topics published in *NZEP* reflected developments that are ‘external’ to the profession, including events such as the mid-1970s primary commodity and oil price shocks, the economic emergence of Asia, and the recent global financial crisis. Other external events are contemporary policy debates and developments such as the 1980s and 1990s economic reforms, the establishment of an independent central bank, and taxation reforms. We also examine how the papers reflect developments that are ‘internal’ to the economics profession, such as the use of mathematical, econometric and experimental methods.

Section 2 ‘sets the scene’ by briefly describing broad changes to the environment for the New Zealand economics profession over the fifty-year period. Section 3 discusses the motivation for launching the journal and the challenges in establishing it. In 1966 the New Zealand economics profession was in its infancy and many New Zealand economists were members of the more established Economic Society of Australia and New Zealand which had already been publishing *The Economic Record* for 40 years. Section 4 documents the editors, publication frequency and the format of the journal. Section 5 summarises author characteristics. Section 6 discusses the institutional origin of authors, and an analysis of the leading authors is contained in Section 7. Section 8 contains an analysis of the type of research published by *NZEP*, distinguishing the internal and external factors mentioned above. Brief conclusions are in Section 9.

⁴ Each ‘reply’ is treated as a separate article, so that the relevant authors are counted as having published two articles on the subject. However, this applies to relatively few cases.

1. Broad changes over the 50 years

At the time *NZEP* was launched, New Zealand was experiencing a golden period of economic growth, and the unemployment rate had been low for the entire post-war years. New Zealand was subjected to import controls and high tariffs, a centralised wage-setting process. Great Britain was the dominant external market. Econometrics was in its infancy and the availability of data and computing power was considerably limited. During the subsequent 50 years the economy has been through a period of significant transformation, the significance of international markets has changed from Britain and Europe to the Asia-Pacific region, and research techniques and databases have developed considerably.

The economics profession in New Zealand has also changed. It is much larger and more international, with greater opportunities for international engagement and collaboration. This has been associated with a growing acceptance of the value of economic analysis for business management and investment decisions, along with growth in the public sector and increased application of economic analysis to public policy. Academic positions for economists have grown substantially and the seven-fold growth in the number of tertiary students since 1966 has increased the supply of trained economists⁵.

Growth in New Zealand demand for economists has spilled over into increased demand for economists from overseas. For example, the number and proportion of academic economists from overseas, or who had overseas training, has increased substantially. The number of USA or European-based applicants to advertised vacancies at New Zealand and Australian university economics departments is affected by economic and financial conditions in those regions. This has been evident during the recent global financial crisis which significantly affected the funding of universities in USA and Europe. The internationalisation of the profession has facilitated greater collaboration with overseas economists in universities, research institutions and policy agencies.

Changes in the funding sources and accountability of universities have had a significant influence on the profession, including on the research and publication rates of academic economists. The Performance Based Research Fund (PBRF) established in 2002 was intended to 'ensure that excellent research in the tertiary sector is encouraged and rewarded' (Ministry of Education, 2012). This has meant that since 2003 a portion of Government funding of New Zealand tertiary education institutions is allocated on the basis of research output. Academic staff are therefore encouraged to be research active and a greater

⁵ The total number of domestic and international students in formal tertiary education in New Zealand increased from 51,603 students in 1965 to 349,199 students in 2013 (Ministry of Education, 2014).

emphasis is placed on recruiting research-active staff. Similar accountability and tertiary funding allocation schemes based on research output were introduced earlier in Australia, the United Kingdom, Hong Kong, and they have also been introduced in Denmark, Norway and Sweden.⁶

An increased emphasis on evidence to underpin public policy advice has also had an influence on the economics profession in New Zealand. This has been manifest in more collaboration by policy institutions with academic economists. It has led to the emergence of working papers and submissions of articles to peer-reviewed journals by staff employed in Government Departments. On a wider global scale, the rapid growth of the number of universities in Asia has had a profound effect on the growth in academic economists. Globally, these influences have contributed to increases in submissions of research articles to peer-reviewed journals and to the growth in the number of journals.

New Zealand Economics Papers is a general-purpose peer-reviewed journal and we would expect these influences to have increased the supply of papers submitted to *NZEP*. Growth in publications of articles by non-academic New Zealand-based economists, and by overseas economists, is expected. The period has also seen a considerable increase in the degree of specialisation of academic economists and the concomitant growth of field journals. These developments are reflected in the content of papers in *NZEP*.

2. Origin of *New Zealand Economic Papers* and early challenges

The New Zealand Association of Economists was established in October 1959. By 1963 the Council of the Association was discussing whether to publish its own peer-reviewed journal (Holmes, 2011, pp. 1, 4). A proposal to launch a journal was evidently resurrected at a meeting of the Council of the Association held in February 1965 and agreement was obtained at its August meeting that year (Holmes, 2011, p.5).

One issue the Council seems likely to have considered is the possible conflict with *The Economic Record* and the challenges that journal experienced attracting sufficient membership and supply of suitable articles⁷. The *Record* was established in 1925 as the ‘flagship journal of the Economic Society of Australia and New Zealand’ (Millmow and Tuck, 2013). New Zealand economists had been welcome members of the Society from its

⁶ See Ministry of Education (2013) and Bakker *et al.* (2006).

⁷ Frank Holmes (2011) refers to the likelihood of this conflict. At the time the New Zealand Association of Economists’ Council was debating whether to launch a journal, he was President of the Central Council of the Economic Society of Australia and New Zealand. In his ‘Memories’ he recalled that he had ‘established good relations with the Editorial Board of the *Economic Record*’ and that he ‘apparently reported that there was little likelihood of any conflict with the *Economic Record*’. Holmes, 2011, p. 6).

inception. Its first constitution stated that ‘There shall be Branches in each capital city of Australia and in the four main cities in New Zealand’ (Copland, 1925, p. 142). The constitution also specified that at least one member of the editorial board of *The Economic Record* was to be resident in New Zealand (Copland, 1925, p. 143). In 1965 the Society still had active members and branches in New Zealand (Holmes, 2011, p. 6).

Therefore, it seems likely that some members of the Association of Economists would have been aware of the challenges that early editors of *The Economic Record* had experienced while establishing its viability, and the competition it was facing during the early 1960s for submissions. Efforts had been made in the 1930s, for example by the *Record’s* first editor, Douglas Copland, to increase international readership of the journal. This included canvassing support from Keynes, as editor of the *Economic Journal*, to increase British readership of the *Record* (Millmow and Tuck, 2013)⁸. It was not until 1960 that the *Society* increased the number of issues of the *Record* to four per year.

By the early 1960s the *Record* was still the only generalist economics journal for both Australian and New Zealand economists and was evidently well regarded internationally.⁹ However, it seems to have been facing growing competition from several sources, including a domestic one. *Australian Economic Papers* was launched in 1962. Although, according to Groenewegen and MacFarlane (1990, p. 178), this journal was more theoretically orientated and was attracting proportionally more foreign authorship, it seems likely to have created competition for subscriptions and the supply of suitable submissions.

The other source of competition came from the internationalisation of the economics profession. International journals that offered better prospects for citations and international recognition were increasingly attractive to local economists, intent on building an international reputation and seeking employment overseas.¹⁰

The financial viability of hosting and sustaining an academic journal is likely to have been another factor taken into account by the Council. The number of members of the Association was only 98 in the 1964-65 financial year (Holmes, 2011, p. 4). However, the Association built up its financial assets in anticipation of the resources required to launch and sustain the publication of a journal. Holmes recalls that the Association’s membership subscription was increased in 1963 in anticipation of the need to fund a journal. Donations

⁸ Keynes was Editor of *The Economic Journal* from 1911 to 1944 (Robinson, 1947).

⁹ See estimates by Laband and Piette (1994) of the impact of economic journals during the 1970s.

¹⁰ See the discussion in Millmow and Tuck (2013) pp. 113-114.

were also sought from universities and the Reserve Bank (Holmes, 2011, pp. 4, 6; Holmes, 1967)¹¹.

Despite these challenges the Association went ahead. It is not clear if one motivation for doing so arose because New Zealand economists were finding difficulty in getting articles published in the *Record* and other Australian economics journals. New Zealand-based economists did publish in the *Record*, but the frequency was low. The number of *Economic Record* articles, notes and comments by New Zealand-based economists in the five years from 1961 to 1965 was 13, which is only 6.2% of all articles, notes and comments published in the 20 issues. This proportion includes five annual commissioned articles describing the state of the New Zealand economy. If these are excluded the number of research articles by New Zealand based economists published in the *Record* was only five and the proportion only 4%.

The number of all types of article published in the *Record* (notes and comments were no longer published) by New Zealand-based economists in the five years 1966 to 1970 remained low. There were only 12, which is just 5.7% of total articles published in the 20 issues of the *Record* during this period. Excluding annual commissioned articles on the New Zealand and Australian economies, there were eight research articles, constituting only 4% of total research articles.

It is difficult to draw firm conclusions from these data without knowing the number and quality of articles submitted during this period by New Zealand-based economists, and the rejection rate. But the fact that the publication frequency in the 1966 to 1970 period was maintained at the same rate as that for the previous five years, while at the same time *NZEP* published a further 36 papers by New Zealand-based economists, is consistent with the possibility that New Zealand-based economists were frustrated during the early 1960s with the editorial policy of the *Record*. Only one New Zealand-based economist published more than one article in the *Record* during the 10 years from 1961 to 1970. Albert Brownlie, who was at that time Professor of Economics at the University of Auckland, published three articles in the *Record* during this period. All three articles were applied econometrics, an emerging field during those years. Apart from an article discussing the features and initial results of the *Quarterly Survey of Business Opinion*, launched by the New Zealand Institute of Economic Research in the early 1960s (Gillion, 1964), research articles by New Zealand-based economists in the *Record* during the ten-year period from 1961 to 1970 were either in

¹¹ The universities that provided financial support were Lincoln College, Massey University, University of Canterbury, University of Otago, and Victoria University of Wellington (Holmes, 1967).

the emerging field of applied econometrics or were on open-economy issues, a field clearly of relevance to Australia. Although the *Record* published articles on Australian public policy, industry and applied economics, no papers addressed issues solely concerned with New Zealand public policy or non-econometric applied economics. However, this type of paper did emerge between the covers of *NZEP* immediately after it was launched.

Frank Holmes, Professor of Economics at Victoria University of Wellington, was appointed as the first editor, a position he held until 1968. An editorial board was appointed comprising local members of the Association, including two academic economists (Professors A.D. Brownlie and B. Philpott), a public sector employee (J.V.T. Baker) and a business journalist (C. Larsen).

Despite a good financial base and editorial support, *NZEP* failed to meet initial publication goals. The first volume was meant to include two issues in 1966, but only one issue appeared that year. The second issue was published in 1967: this explains why there have been only 49 volumes over 50 years. In 1968 and 1969 the editors managed to publish two issues per year, but they included only five papers per issue. By 1970, the editor reverted to just one issue per volume.

The reasons for the delay publishing the second issue of the first volume, and the failure to sustain two issues per year, are not clear. However, a lack of supply of suitable articles seems to have been the reason. The third editor, Albert Brownlie, who by then was Professor of Economics at the University of Canterbury, reported to the Council in 1971 that there was ‘a serious lack of suitable material for the journal’ (Holmes, 2011, p. 6). It is not clear whether this was a consequence of editorial policy or the quality of submissions. In a report to the Council in 1973, the fourth editor, Professor Gary Hawke, observed a decline in discursive articles relating to the New Zealand economy and an increase in more quantitative and theoretical articles during Brownlie’s term as editor (Holmes, 2011, p. 7). Hawke considered there was insufficient material to support an academic journal in quantitative economics. He sought to reverse the trend away from discussions on the New Zealand economy and asked the Council to encourage members of the Association to increase the submission of high quality, non-mathematical papers (Holmes, 2011, p. 7).

Figure 1 shows that the number of research papers per volume increased during Hawke’s term as editor from 1974 to 1977.¹² Despite the change in editorial policy under

¹² Hawke also invited reviews of policy documents and research papers, although these are not included in our definition of research articles and are therefore not examined here.

Hawke, the practice of publishing one issue per volume from 1970 prevailed for 21 years. Nevertheless, there was a general tendency for the number of papers per volume to gradually increase over time (with the notable exception of volumes 21 and 22 published in 1987 and 1988). By 1991 the tenth editor, Anthony Endres was able to publish two issues per volume again. This policy was sustained for 19 years. The growth of papers per volume faltered again from 2005 to 2008, but recovered from 2009 onwards when the fifteenth editor, Ananish Chaudhuri, increased the number of issues to three per volume, a policy that has been sustained.

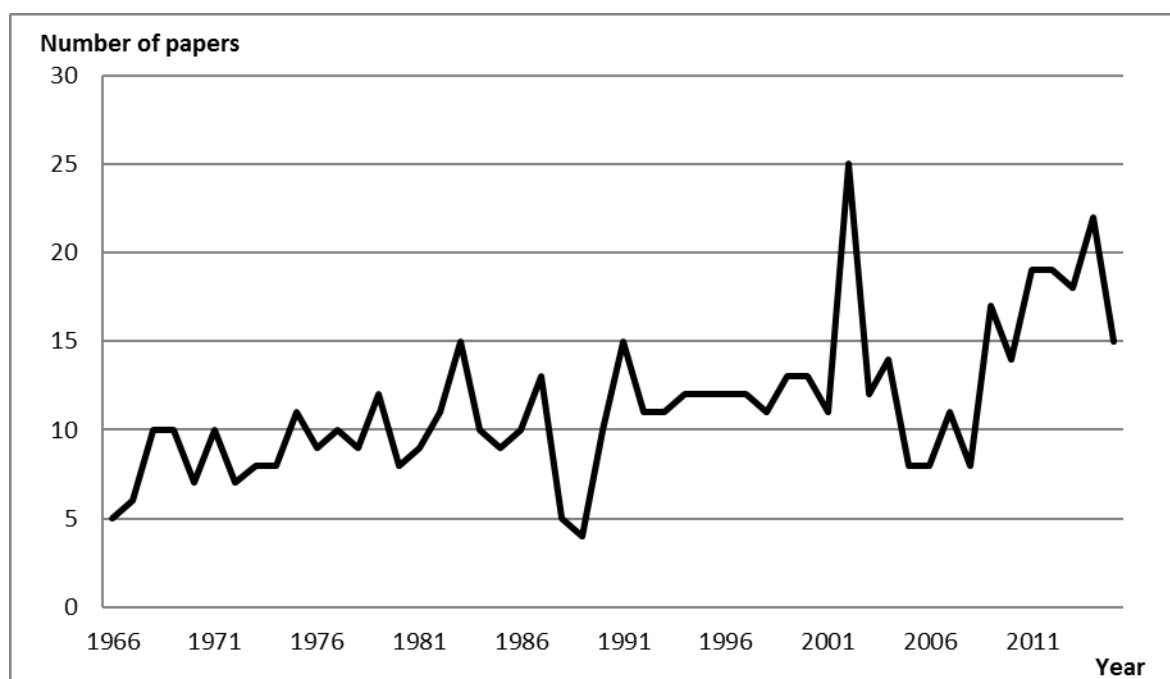


Figure 1 Number of papers published per year in *New Zealand Economic Papers*; 1966 to 2015

After 2008, editors were also more active in encouraging submissions by commissioning special issues. During the six years from 2003 to 2008, when there were two issues per year, there was only one special issue amongst the 12 issues published. During the six years from 2009 to 2014, when there were three issues per year, the frequency of special issues increased to eight of the 18 issues.

3. Editors and publication styles

Table 1 lists the editors, along with their terms, the volumes they edited, and the number of issues, papers and authors during their tenure.

Table 1. Editors, issues and number of papers in *New Zealand Economic Papers* ¹³

Editor	Institution*	Term	Volumes	No. of Issues	No. of papers	No. of Author entries	
1. Frank Holmes	VUW	1966-1968	1-2	3	16	17	
2. Ian McDougall	MU	1968-1969	2-3	2	10	11	
3. Albert Brownlie	UC	1969-1973	3-7	4	37	41	
4. Gary Hawke	VUW	1974-1977	8-11	4	38	49	
5. Allan Catt	UA	1978-1979	12-13	2	21	30	
6. Brian Silverstone	UW	1980-1983	14-17	4	43	56	
7. Paul Wooding	UO	1984-1986	18-20	3	29	45	
8. David Giles	UC	1987-1988	21-22	2	18	24	
9. Lewis Evans	VUW	1989-1990	23-24	2	14	23	
10. Anthony Endres	UA	1991-1994	25-28	8	49	64	
11. Dorian Owen	UO	1995-1997	29-31	6	36	47	
12. Frank Scrimgeour	UW	1998-2001	32-35	8	48	72	
13. Tim Hazledine	UA	2002-2004	36-38	6	51	89	
14. Ian King	UO	2005-2006	39-40	3	16	27	
15. Ananish Chaudhuri	UA	2007-2010	41-44	10	50	92	
16. Mark Holmes	UW	2011-2014	45-48	12	78	158	
17. Gael Pacheco and Arthur Grimes	AUT; AU & Motu	2015-	49-	3	15	32	
Totals:	18	8	50 years	49	82	569	877

*VUW = Victoria University of Wellington; MU = Massey University; UC = University of Canterbury; UA = University of Auckland; UW = University of Waikato; UO = University of Otago; AUT = Auckland University of Technology.

Until 2015 the editors were entirely sole editors. Gael Pacheco and Arthur Grimes were appointed in 2015 as the first joint editors. Gael Pacheco is the first female editor and is also the first editor from Auckland University of Technology. The editors have been drawn entirely from the Commerce Faculties of New Zealand universities, although Arthur Grimes is also associated with Motu. Five of the editors have come from the University of Auckland. Victoria University of Wellington, University of Waikato and University of Otago have each provided three editors. University of Canterbury has provided two editors, while Massey and AUT have each provided one editor. Four former editors are Distinguished Fellows of the New Zealand Association of Economists (Frank Holmes,

¹³ The papers examined are those included in the first two issues of Volume 49, but do not include other forthcoming papers that are posted online at: <http://www.tandfonline.com/action/showAxaArticles?journalCode=rnzp20>. The final version of this paper will include all papers eventually published in the three issues of Volume 49.

Hawke, Giles and Evans) and six are Life Members of the Association (Frank Holmes, Brownlie, Hawke, Silverstone, Owen and Scrimgeour).

The average term of the 16 sole editors from 1966 to 2014 is 3.06 years and they published on average 4.94 issues. The duration of editors has ranged from two years and two issues (McDougall, Catt, Giles and Evans) to four years (Hawke, Silverstone, Endres, Scrimgeour, Chaudhuri, and Mark Holmes) and 12 issues (Mark Holmes). There has been a tendency for the length of editorial terms to increase. Since 1990 and until the end of 2014, the average editorial term was 3.4 years and 7.6 issues. This compares with 2.8 years and 2.9 issues per editor during the first 25 years.

Nevertheless, by the standards of some economics journals, the duration of editorships has been relatively short. Editorship terms during the very early years of the establishment of peer-reviewed economics journals were much longer. For example, the first two editors of *The Economic Journal*, Francis Ysidro Edgeworth and John Maynard Keynes, had editorial terms of 35 years and 33 years respectively. However, soon after the establishment of the journal, Edgeworth had the support of an assistant editor (Henry Higgs, from 1896 to 1905), and was joint editor with Keynes from 1912 until 1925. Keynes continued the practice of appointing joint editors. He edited alongside David MacGregor¹⁴ and Austin Robinson.¹⁵ Since 1925, the practice has been to continue to appoint joint editors and other support editors. The terms of editorial roles at *The Economic Journal* since 1925 (excluding the terms of the current editorial members) has ranged from 1-35 years and the modal term is five years. Since the early 1990s, the duration of editorial terms has been shorter (Royal Economic Society, 2015).

The terms of the early editors of the *Economic Record* were also of a longer duration than observed for *NZEP*. Douglas Copland was the first editor and was sole editor for 28 years from 1925 until 1953. Richard Downing was the second editor and his tenure extended for 20 years from 1953 to 1973, although evidently he was editor intermittently with Alan Boxer after 1968, and Heinz Arndt served as assistant editor for many years (Millmow and Tuck, 2013, p. 113).

¹⁴ D.H. MacGregor, Professor of Political Economy at Leeds and a former student of Alfred Marshall.

¹⁵ Whether Keynes was required by the Royal Economic Society to continue this practice or decided himself to do so in the light of the pressure of his other duties (which included appointment as Secretary of the Society in 1913) and the desire to impart a more professional approach to the role is unclear. However, the Society did require a change in the management approach for the journal. Robinson (1947) notes that Keynes's 'relative inexperience (he was still only twenty-eight in a society in which then, as later, greyheads predominated) dictated the appointment of an editorial committee'. (Robinson, 1947, p 15). The previous editor, Edgeworth was a member of that committee.

The style of *NZEP* has changed several times during its fifty-year history in response to changes in technology, the ability of the Association to finance improved publication styles, changes in the quality and format of international peer-reviewed academic journals, and the requirements of international publication houses. Apart from several unfortunate changes to the colour of the cover during the late-1980s and mid-2000s, there have been four major changes in the style of the journal. These four styles are illustrated in Figure 2.

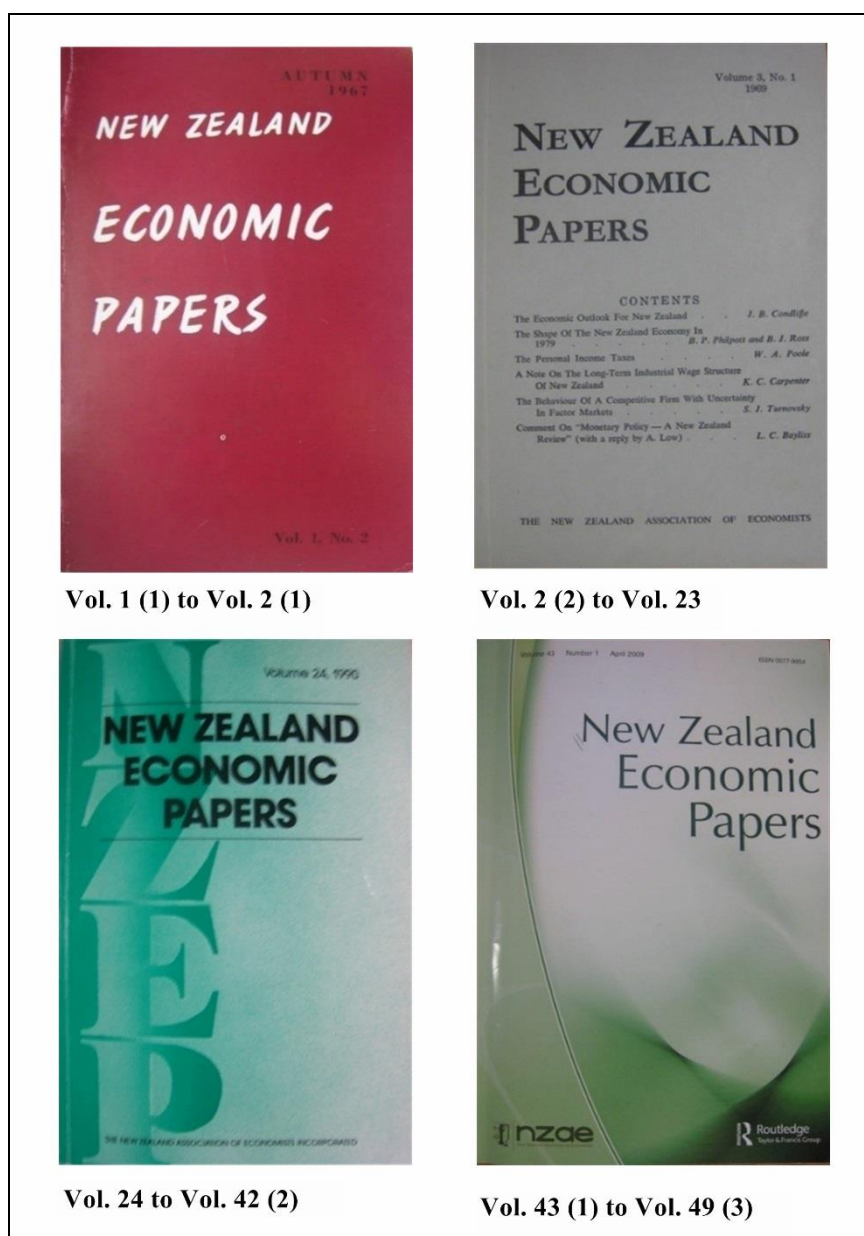


Figure 2 The styles of *New Zealand Economic Papers*, 1966 to 2015

The first two volumes appeared between a glossy maroon front cover and white back cover. The front cover simply included the name of the journal and the volume and issue number. In contrast to the standard style for most academic journals, the contents initially

did not appear on either the front or back covers.¹⁶ The first style change occurred in 1968 when issue 2 of volume 2 appeared between an embossed grey coloured board cover. This was the first of 23 volumes to be published in this (predominantly grey) style. The other significant change was the inclusion of the contents on the front cover. This style prevailed until 1990, apart from unfortunate changes to the colour of the cover in the late-1980s when the colour changed to blue in 1986, orange in 1987, yellow in 1988, then reverting back to grey in 1989.

Issue 2 of volume 2 also ushered in the start of additional material, including notices of Australasian conferences and a list of economics research theses (PhD and Masters) in process at NZ universities. Hawke introduced book reviews in volume 8 in 1974, reviews of New Zealand institutional research paper series were introduced in volume 11 in 1977 and were a feature for many subsequent volumes. In 1980, Silverstone included in volume 14 an index of articles published in volumes 1 to 14, a process no longer required after the journal was digitized by Taylor and Francis after 2009. He also included an index of economic research theses completed at New Zealand universities between 1968 and 1980. Silverstone also started to include in each volume, a list of discussion and working papers published in each year in university and other institutional economics departments. The only practice that has been sustained until the 50th year is the rare inclusion of book reviews and the occasional announcement of prizes or conferences.

The desire to ensure a standardised print style, coupled with a long-overdue need to catch up with international improvements in the presentation and print quality of academic journals, prompted the Editor (Lew Evans) and the President of the Association (Bob Buckle) to design a new style. The journal was given a new distinctive green cover (thought to be appropriate for New Zealand) and changes were made to the information presented on the covers. The initials 'NZEP' were presented vertically, with a reverse green shading, and the name and volume of the journal was printed across the top of the cover. The list of contents was moved to the back cover. These changes provided a more modern look and, following international practice, included at the top of the first page of each article was the name and volume of the journal, with the page numbers for the article. The green shading has remained the journal's signature colour to this day, apart from volumes 41 and 42 when for some reason the editor reverted to blue as the shade for the cover.

¹⁶ A printing error occurred early in the series when issue 1 of volume 2 was incorrectly labelled on the front cover as issue 3 of volume 1.

The final major design change occurred in 2009 with volume 43. The Association entered into a contract with international publishers Taylor and Francis, who took over publication and distribution of the journal. The green shading of the journal was retained but with a different pattern on the cover, and the publisher's name appeared on the front cover. The practice of presenting the contents on the back cover was retained. Taylor and Francis now also include advertisements of other economics journals published by the Taylor and Francis Group. The membership of the editorial board was expanded substantially to include a global distribution of prominent and mainly academic economists. This is now a common practice, used to try to raise the international profile of journals.

Under the terms of the agreement, the number of issues was to increase from two to three issues per year. It was also expected that the journal would reach a steady state of four issues per year by 2011 (Chaudhuri, 2008). Three issues were achieved in 2010 and, although sustained, the journal has yet to achieve four issues per year.

4. Author characteristics

As discussed in Section 2, several changes have taken place to influence the incentives to publish in academic journals and to change the production process of research and publication. This section examines the tendency toward joint authorship and the gender of authors.

4.1 Growth in joint authorship

There are several reasons why the frequency of joint authorship and the average number of authors per article are expected to have changed significantly over the life of the journal. The growth in databases and growing sophistication of research methods, including econometric techniques and skills required to manage large data sets, has increased the need for a variety of skills and the demand for specialist skills. This has encouraged a tendency toward increased division of labour in the production of economic research papers. The global spread of the availability of the internet has fostered this development by enabling collaboration with a wider range of researchers.

The incentive for research collaboration and joint authorship has been enhanced by an increased imperative for academic economists to publish. The growing expectation that public policy institutions will base their policy advice on robust empirical evidence has also induced more collaborative research and joint authorship. These incentives for joint

authorship have been enhanced by research funding organisations that have insisted on collaboration and multi-disciplinary approaches to research.

Growth in the importance of citation rates may have also contributed to the growth in joint authorship. Card and DellaVigna (2013) have found, from their analysis of articles published in five leading economics journals from 1970 to 2012 that citation counts are significantly higher for longer papers and for those written by more authors.¹⁷ The observation that articles with more co-authors are associated with more citations is not limited to articles in economics journals. Wood (2014) found the same relationship for articles published in 2012 in 25 elite journals in the accounting, economics, management, marketing, psychology, and natural science disciplines.

The annual average number of authors per article published in *NZEP* per year is shown in Figure 3. In 1970 and 1971, 78% of the papers were sole authored and the average number of authors per paper was 1.2. By 2011 and 2012, just over 76% were joint authored and the average number of authors per paper was 2.2. This change in the annual average number of authors per article is remarkably similar to that observed by Card and DellaVigna (2013). They observed that in the early 1970s, three-quarters of articles were sole authored, and the average number of authors was 1.3 per article. By 2011 and 2012, more than three-quarters of papers were joint authored and the average number of authors was 2.2 per article.¹⁸

However, the patterns of growth differ between these two samples. Card and DellaVigna observed for the five leading economics journals, a monotonic linear trend growth in joint authorship between 1970 and 2012. In contrast, the pattern of growth in the average number of co-authors in *NZEP* reveals significant variation over its fifty-year history. The growth rate of the number of co-authors for articles in *NZEP* was on average lower in the first 30 years than in the subsequent 20 years. A non-linear trend appears to provide the best representation of growth in the *NZEP* annual average numbers of authors per paper, with a

¹⁷ The five journals analysed by Card and DellaVigna are *The American Economic Review*, *Econometrica*, *Journal of Political Economy*, *The Quarterly Journal of Economics*, and *The Review of Economic Studies*.

¹⁸ The annual average number of co-authors per paper for the most recent years for *NZEP* and for the Card and DeVilla sample of five leading journals are similar to that reported by Wood (2014). Wood reports a mean of two co-authors (and a median of 3.5 co-authors) in his sample of papers published in accounting, economics, finance, management, marketing and psychology journals in 2012. The mean number of co-authors per paper is much higher at nine (and a median of 33 co-authors) in Wood's sample of papers published in natural sciences journals in 2012.

significant increase in the trend growth rate since the late-1990s.¹⁹

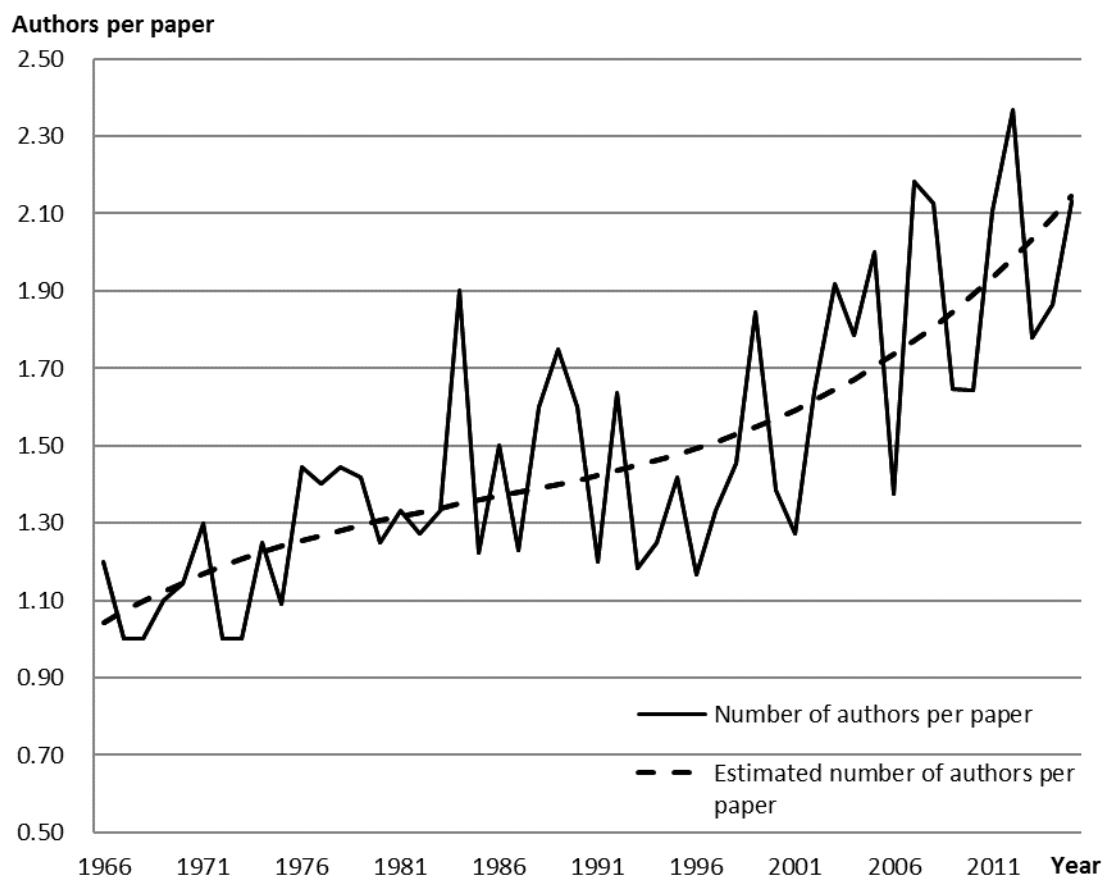


Figure 3 Average number of authors per paper published in *New Zealand Economic Papers*: 1966 to 2015

In addition to the increased incentives and opportunities for research collaboration and joint authorship mentioned above which have been common to many countries, a number of other developments have taken place in New Zealand since the late-1990s that are likely to have encouraged joint authorship, and which may have contributed to the more rapid growth in joint authorship since the late-1990s. The introduction of the PBRF scheme in 2002

¹⁹ The preferred estimated trend equation for the annual average number of authors per paper (aapp) published in *NZEP* from 1996 to 2015 is $aapp_t = \alpha_0 + \alpha_1 t + \alpha_2 t^2 + \alpha_3 t^3 + \varepsilon_{it}$ where aapp is average number of authors per paper and t is the time period for the observed aapp, $\alpha_n, n=0...3$, are constants and ε_{it} is a random error term. Estimation of this model of the trend for aapp provided the following parameters:

$\alpha_0 = 1.017$; $\alpha_1 = 0.038$; $\alpha_2 = 0.001$; $\alpha_3 = 0.00001225$, where $\bar{R}^2 = 0.58$; DW = 2.06; F-statistic = 23.76 (prob = 0.00).
 (8.457) (1.809) (-1.397) (1.659)

This model was also compared with a model that assumed $\alpha_2 = \alpha_3 = 0$. The \bar{R}^2 increased when these restrictions were removed from 0.5588 to 0.5817. Visually, the cubic trend model looks a better representation throughout the period. Based on an F-test where $F(2,46) = 2.36$, the additional time variables would not be judged significant. This conclusion was also upheld when the unusually high observation for 1984 (.9 average number of authors per paper) was adjusted by eliminating one paper that had seven authors (and which reduced the average number of authors per paper in 1984 to 1.33). The trend equation plotted in Figure 3 includes the actual value of 1.9 for the 1984 observation.

increased incentives for New Zealand universities to encourage staff to raise publication rates in peer-reviewed journals. One way to achieve this is to undertake joint authorship. The introduction of PBRF also increased the incentive for universities to increase post-graduate research students and thesis supervision. This, in combination with funding linked to staff research quality, is also likely to have led to increased joint authorship, particularly between supervisors and graduate students.

4.2 Growth in number of female authors

During the first four years of *NZEP* all authors were male, reflecting the fact that during the early years the authors were predominantly from New Zealand university economics departments and the gender composition of these departments was predominantly male.

The first woman to publish in *NZEP* was Kathrin M. Steele. Her paper ‘Electricity demand in New Zealand, 1951-78’ was published in Volume 4 in 1970, during Brownlie’s term as editor. Kathrin Steele was a University of Canterbury student who completed a BSc before making the ‘knights move’ to complete a MCom, a path that was to become common for many Canterbury students undertaking a Master’s degree in Economics. It was a further six years before another female author published a paper in *NZEP*. Claudia Scott, at that time at the University of Auckland, published her article ‘Local authority reorganisation and finance’ in volume 10 in 1976, during Hawke’s term as editor.

Thereafter, the frequency of female authors increased. Prue Hyman, from Victoria University of Wellington, published ‘Trends in female labour force participation in New Zealand since 1945’ in volume 12 in 1978, also during Hawke’s tenure as editor. Both Scott and Hyman subsequently had second articles published in Volume 13 in 1979, during Alan Catt’s term as editor.

During Brian Silverstone’s term as editor from 1980 to 1983 a higher frequency of female authors was sustained. Susan St John was the next female to publish in *NZEP* and was the first to publish two papers in one issue (in volume 15 in 1981). Jan Whitwell followed with articles jointly published with David Sheppard in 1982 and 1983; Bridgett Daldy was a co-author with John Ward in 1982; Phillipa Marks was author of the lead article for volume 17 in 1983, which also included an article by Nicola Blyth.

The frequency of female authors declined during the 1990s, but since then the frequency has increased and this higher frequency has generally been maintained. These patterns are revealed in Figure 4, which plots the number of ‘weighted’ female authors per year and the annual proportion of authors who were female. An author’s weighted number

of articles is defined as the sum of their share of authorship. The share is derived simply as the number of articles for which they are an author, divided by the number of authors of those articles.²⁰ Both series in Figure 4 reveal a similar pattern: an increase in the frequency of female authors during the 1980s, a slight decline in the frequency during the 1990s, and a sustained rise in the frequency of female authors since the 1990s.²¹

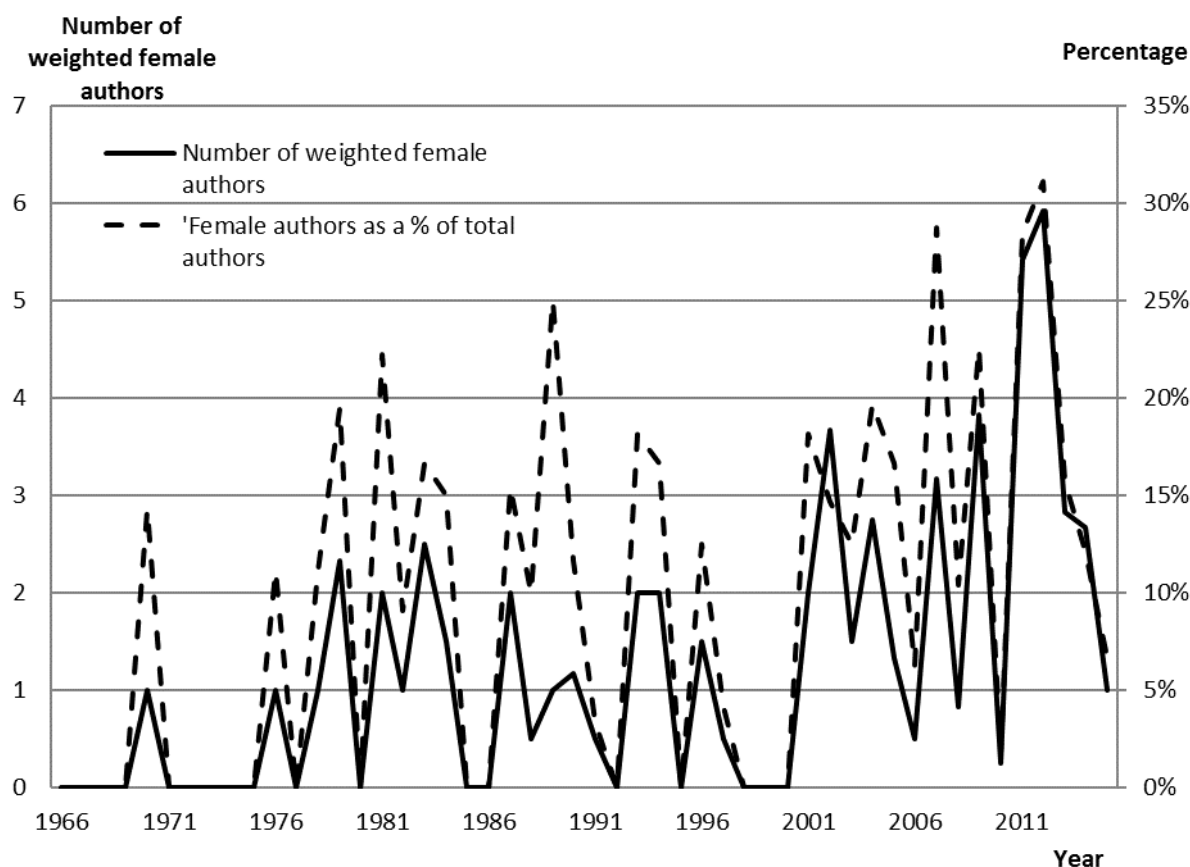


Figure 4 Number of female authors in *New Zealand Economic Papers*; 1966 to 2015

4.3 Gender analysis of joint authorship

This section examines the relationship between joint authorship and the gender of authors. As suggested above, the growth of joint authorship is likely to be explained by a number of

²⁰ An institution's weighted share of author contributions is simply the sum of weighted author articles contributed by authors from that particular institution. In fields such as physics, chemistry, biology, medicine, and psychology, where there is a tendency to order the authors according to their relative contributions, this approach to weighting would not be appropriate. But this is not a common practice in economics where more often the order is alphabetical without regard to relative contributions.

²¹ We found that a linear trend model is the best fit for the growth in the number of weighted female authors. We compared the linear model with a cubic model but found the additional parameters did not make a significant difference to the predictability of the model. The estimated trend model is $nfa_t = \alpha_0 + \alpha_1 t + \varepsilon_{it}$ where $\alpha_0 = -5.71$ and $\alpha_1 = 0.00292$ (*significant at 1% level),
 (-3.50)* (3.56)*

where nfa is the number of female authors and t is the time period for the observed nfa , α_n , $n=0,1$ are constants and ε_{it} is a random error term.

factors associated with incentives to publish and the division of labour of an increasingly complex production process. Associated with this trend has been significant growth in the proportion of female authors publishing articles in *NZEP*. It is of interest to examine whether there is a significant difference between the propensity for male and female researchers to participate in joint research and publication.

Table 2 provides the frequency of male and female sole and joint authors for each of the five decades from 1966 to 2015. Over the 50 years there are 877 authors. Of the sole author entries, 316 are male and 28 are female. Of the joint authorship entries, 452 are male and 81 are female. Several patterns are immediately obvious. Despite the growth of female authors, male authors have dominated the authorship of both sole and joint authored papers. There are 678 male author entries (87.5% of total entries) and there are 109 (12.5%) female author entries. There is a difference between male and female authors in the simple ratio of the number of authors partaking in joint compared to sole authorship. This ratio is 1.43 for males and 2.89 for females, which suggests that females are more likely than male researchers to publish as joint authors.

Table 2. Distribution of sole and joint authorship in *NZEP* by gender

Period	Sole Author		Joint Author		Total
	Male	Female	Male	Female	
1966-1975	72	1	18	0	91
1976-1985	63	8	65	7	143
1986-1995	64	7	67	5	143
1996-2005	70	4	112	21	207
2006-2015	47	8	190	48	293
Totals	316	28	452	81	877

This proposition is tested by comparing the actual frequency of male and female sole and joint authors with an expected frequency, and using a chi-square test to assess whether there is indeed a significant difference in the propensity for males and females to participate in joint authorship. The expected frequencies are derived from the total (male plus female) *NZEP* sample frequencies for sole and joint authorship. The observed frequencies differ significantly from the expected frequencies. The frequency of female authors participating

in joint authorship is significantly higher than the frequency for male authors.²² This conclusion holds, despite the sharp growth in joint authorship by male researchers during the last decade, evident from Table 2.²³

One possible explanation is that there is a greater tendency for younger researchers to participate in joint authorship. If fewer of the younger female economists remain in the profession there will be a relatively lower proportion of older female researchers compared to younger female researchers, and therefore a smaller proportion of female sole authors. This tendency is evident in the research papers published by public sector researchers. This, combined with a growth in recent years in the number of *NZEP* joint articles by younger male and female economists in the public sector, could contribute to the frequency observed. Another possible explanation is that the career paths for female economists are more disrupted than for male economists and the opportunities for pursuit of sole authorship are not as great as for male economists throughout their careers. This growing tendency for joint authorship may therefore be a force encouraging greater research participation by female economists, which in turn may be fostering a growing proportion of female authors.

5. Institutional origins of authors

Academic economists dominate the authorship of articles in peer-reviewed economics journals. Nevertheless, the growth in demand for policy-relevant research by public policy institutions and the growth in contestable research funding may have influenced the institutional origins of authors. Globalisation of research and greater international collaboration may have also influenced the institutional origins of authors. This section examines the way the institutional origin of authors of articles in *NZEP* has evolved. Table 3 shows institutional contributions, where the score for each institution is based on the number of papers in which an institution has a contributing author ('Papers'). These papers are then weighted by the institutions share of authors per paper and aggregated to give a total weighted score ('Weighted number of papers').

During its history, *NZEP* has published 569 research articles.²⁴ Table 3 shows that New Zealand university-based authors have contributed 294.22 weighted papers of the total

²² The derived chi-square statistic for three degrees of freedom $9.98 > \chi^2_1 = 3.84$ at the 5% level of significance. The null hypothesis that the male and female frequencies are the same is therefore rejected at the 5% level of significance for a two-tail test.

²³ This approach focusses on a randomly selected author and observes whether male or female. If the focus was switched to papers, the difference between male and female would be amplified.

of 569 papers, or 51.7%. The leading New Zealand university contributors have been Victoria University of Wellington (71.29 weighted papers, or 12.6% of the total), University of Canterbury (69, or 12.1%) and University of Auckland (51.17, or 9%). Other New Zealand Universities contributed 102.76 weighted papers, which is 18.0% of the total.

Other New Zealand Institutions contributed 108.21 weighted papers, or 19.1% of all papers. Hence, the total number of weighted papers contributed by New Zealand-based authors is 402.43 which is 70.7% of the total. The main Other New Zealand Institutional contributors have been the Reserve Bank of New Zealand (29, or 5.1%), the NZ Treasury (21.33, or 3.7%), NZIER (9.83, or 1.7%) and Motu (9.48, or 1.7%).

The remaining 29.3% of all contributions, or 166.58 weighted papers, have come from authors based in overseas institutions, particularly universities. Authors from Australian universities have contributed 42.92 papers (7.5%), while those from all other overseas universities have contributed 93.25 papers (16.4%).

²⁴ However, as mentioned earlier, this includes a number of comments, replies and introductions to special issues.

Table 3. Institutional origin of authors of articles in *New Zealand Economic Papers*

Institution	Papers	Number of Authors				Weighted number of papers	Proportion of Total No. of weighted papers
		1	2	3	4 or more		
NZ Universities:							
VUW	89	46	31	9	3	71.29	12.6
UC	76	43	27	4	2	69.00	12.1
UA	59	38	12	9	0	51.17	9.0
UW	41	20	12	9	0	31.17	5.5
Massey	29	16	12	1	0	25.17	4.4
UO	26	16	6	3	1	22.42	3.9
Lincoln	25	7	12	6	0	20.50	3.6
AUT	6	0	3	3	0	3.50	0.6
Other NZ Institutions:							
NZ Govt. Agencies	62	18	23	16	5	42.31	7.5
RBNZ	36	18	15	3	0	29.00	5.1
Other	49	25	11	9	4	36.90	6.5
Australia:							
Universities	55	28	17	9	1	42.92	7.5
Other Australia	12	3	4	4	1	7.08	1.3
Other countries:							
University	109	58	28	22	1	93.25	16.4
Other	34	12	10	12	0	23.33	4.1
Total	569					569.00	100.00

The share of institutional contributions has changed markedly over time. Figure 5 shows the weighted shares of articles by type of institution in five-year intervals since 1966. It reveals some clear patterns. The share of contributions by each New Zealand university has changed considerably over the 50 years. University of Canterbury and Victoria University of Wellington were the leading contributors amongst New Zealand universities during the first 20 years, with Canterbury dominating in the first decade, then Victoria during the second decade. During the late-1980s the relative contributions of other New Zealand universities has increased. The share of contributions from University of Auckland increased during the late-1980s and early 1990s. The share of contributions from the University of Otago increased during the late-1980s. The shares of contributions from each New Zealand university has tended to be more evenly spread during the last two decades.

Victoria University of Wellington and University of Canterbury have more consistent contributions levels throughout the history of *NZEP*.

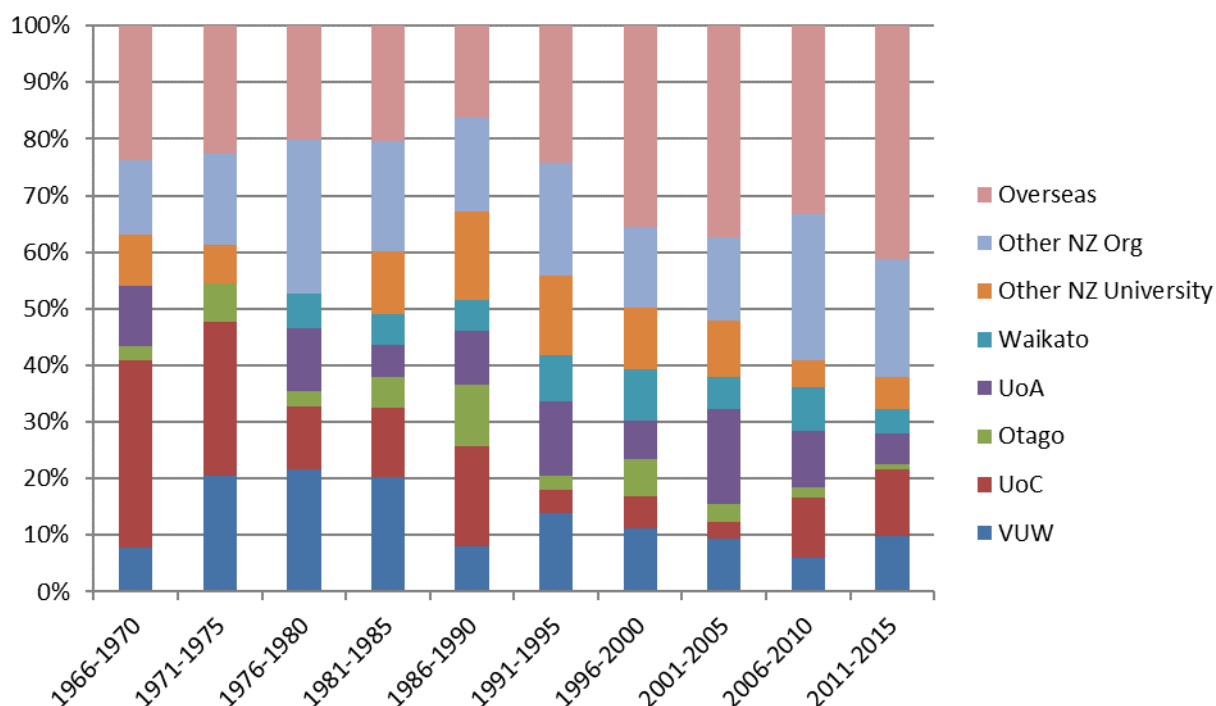


Figure 5 Institutional origins of weighted author shares of articles in *New Zealand Economic Papers*; 1966 to 2015

The frequency of the contributions from these other New Zealand institutions has changed over the course of the 50 years. During the first 30 years, authors from the Reserve Bank of New Zealand were the largest contributors to this groups share. During the last 15 years, authors from the New Zealand Treasury and Motu have been much more prominent. The changes are associated with developments internal to policy agencies, requiring more robust research to support economic modelling, forecasting and policy advice, with the development of working paper series, and leadership within these organisations. Another likely influence in more recent years is the improved availability of official data, and especially the linking of micro-data bases used to analyse business productivity, personal savings, the impact of fiscal policy, and so on. The emergence of policy forums and policy working groups in recent years advising policy agencies and Government have also been influential forces.

The highest contributions from the RBNZ occurred from the early 1970s until the mid-1990s. This coincided with the development of an econometric macroeconomic model building and research programme during this period. This programme was initiated by

Roderick Deane, sustained by subsequent RBNZ economists and supported by an active research paper series.

Contributions from researchers at Treasury were infrequent until the 2000s, but increased after 2000. During the 34 years from 1966 to 1999, Treasury authors contributed only 5.67 of weighted papers. During the 16 years from 2000 to 2015 their contribution rate trebled to 15.66 papers. The increase in contributions from Treasury coincides with the increased emphasis on empirical evidence to support policy advice that was initiated during Alan Bollard's term as Secretary to the Treasury. It was supported by the introduction of a working paper series, which became the largest working paper series in economics in New Zealand for several years during the 2000s, and by research seminars, workshops and conferences that also attracted international researchers. Although Treasury contributions to *NZEP* declined in the later 2000s, which coincided with a decline in contributions to its working paper series, there has been a recovery in more recent years. This recent recovery is associated with special issues of *NZEP* on fiscal policy and macroeconomic analysis and advice Treasury has supported *via* policy forums such as the New Zealand Macroeconomic Imbalances Forum (Treasury, 2011), and policy review panels, such as the Treasury Long-Term Fiscal External Panel (Treasury, 2013).

Authors based at NZIER, which was established several years prior to the launch of *NZEP*, were immediate contributors during the early years of the NZIER and continued to contribute intermittently until the mid-1990s. Only one NZIER-based author contribution has occurred since then. Motu was established in 2000 with the aim of promoting policy research and debate relevant to New Zealand. Motu staff have been regular contributors of papers to *NZEP* since it was established, and in 15 years have contributed as many papers as the NZIER has during its 55-year history. This reflects the shift in priorities of NZIER from its initial priorities which were similar to those for Motu, to a more commercial focus during the last 20 years.

A third pattern that is evident is the steady increase in the share of contributions from overseas authors since 1990. Authors from Australian and other overseas universities have been the main contributors to this growth. The internationalisation of the academic publishing market and the promotion of special issues have contributed to this pattern.

Figure 6 shows the institutional origin of the weighted number of papers published in *NZEP* since 1966. It shows in more detail why the shares shown in Figure 5 evolved.

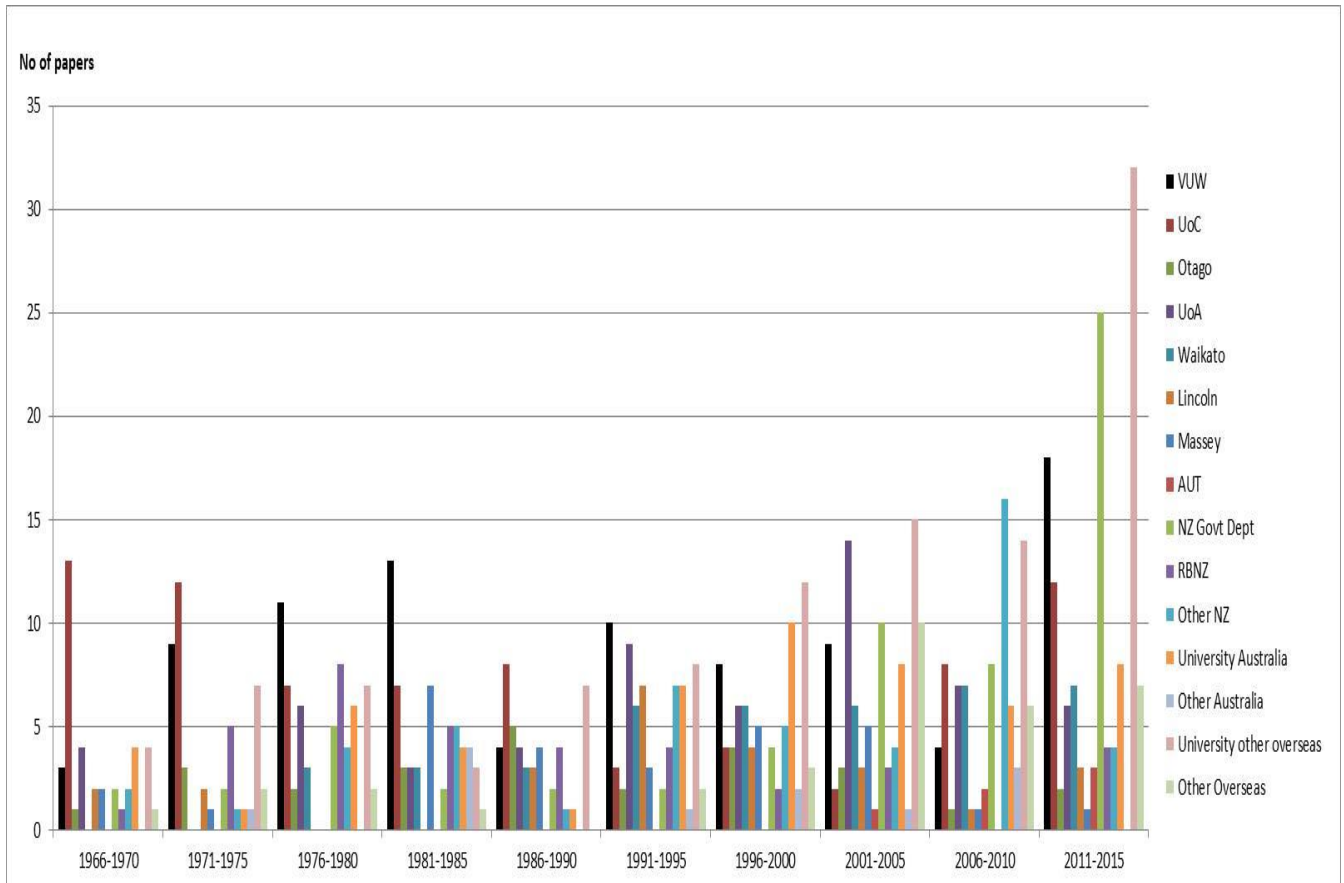


Figure 6 Institutional origins of weighted number of articles in *New Zealand Economic Papers*; 1966 to 2015

6. Leading authors

There have been 527 authors with one or more publications in *NZEP* during its fifty-year history, contributing 569 articles. Hence, the overwhelming majority of authors (378 or 71.7%) have contributed either as a sole or joint author to just one article. Another 25.6% have contributed to between two and five articles. The frequency of publications per authors drops sharply beyond five articles. Nevertheless, there are 14 authors (2.7% of authors) who have contributed to six or more articles over the 50 years.

Figure 7 compares the frequency of weighted papers published by individual authors with the duration of their periods of publication with *NZEP*. Although the large majority of authors have contributed to just one paper during the 50 years, there is a significant association between the duration of author publication with *NZEP* and the number of papers published by an author.

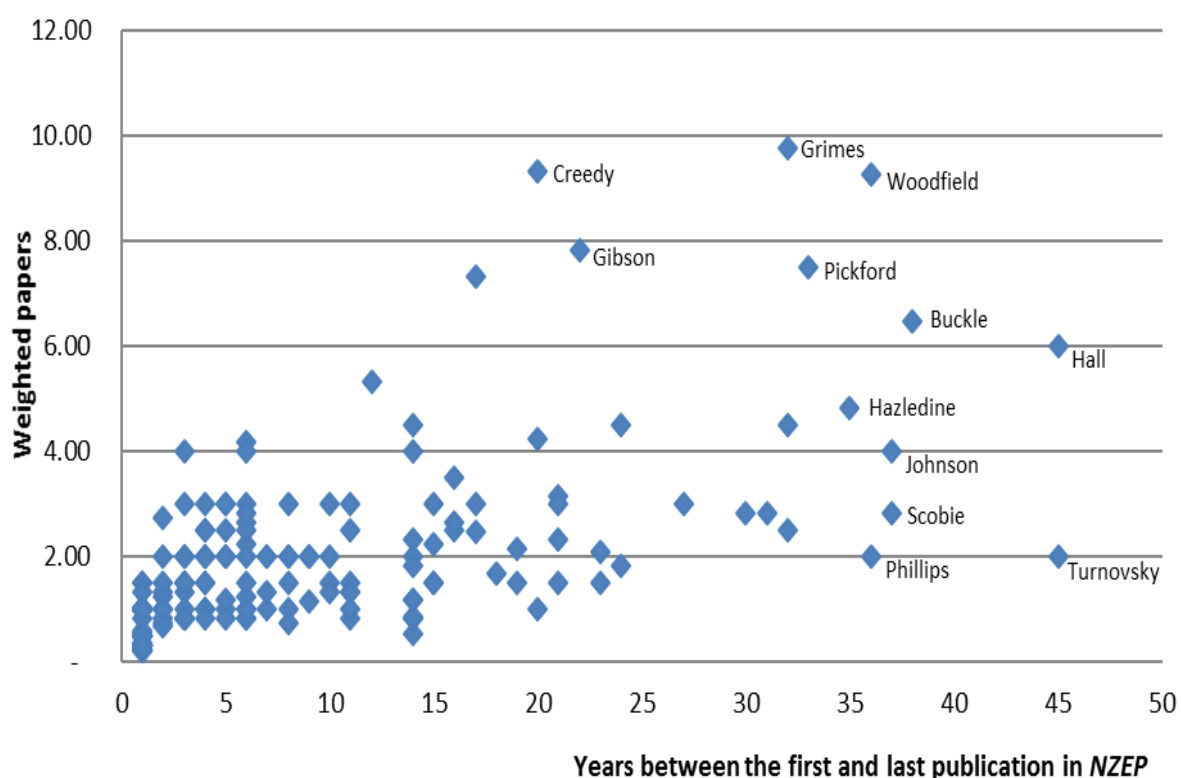


Figure 7 Frequency and duration of authors in *New Zealand Economic Papers*

The 14 top publishing authors, who have been sole author or joint authors on six or more papers, are listed in Table 4. The top 14 authors (2.7% of all authors) have contributed toward 134 articles (23.6% of all articles) as either a sole or a joint author. The lead author in terms of frequency of contributions to papers is John Creedy with 18 contributions. Alan Woodfield (13), John Gibson (12), Bob Buckle (12), Arthur Grimes (11) and Viv Hall (10) make up the next five leading authors. When weighted by the share of authors per paper, the top fourteen authors have contributed a total of 86.25 papers (15.2% of all papers). On a share weighted contribution per paper basis the ranking of the top 14 authors changes only slightly. On this basis the top publishing author is Arthur Grimes (9.75 papers), followed by John Creedy (9.33) and Alan Woodfield (9.25).

Table 4. Top publishing authors in *New Zealand Economic Papers*

Author	Institutions*	Volumes in which first and last papers appeared	Number of authors per paper			Total papers	Weighted No. of papers
			1	2	≥ 3		
A. Grimes	RBNZ, VUW, Motu.	13(1) 1979-44(2) 2010	9	1	1	11	9.75
J. Creedy	University of Melbourne, VUW, NZ Treasury.	30(2) 1996- 49(3) 2015	2	13	3	18	9.33
A.E. Woodfield	UO, UC.	6(1) 1972- 41(1) 2007	6	6	1	13	9.25
J. Gibson	UW.	25(1) 1991-46(2) 2012	5	4	3	12	7.83
M. Pickford	MU, Commerce Commission.	16(1) 1982-48(1) 2014	6	3	0	9	7.50
P.C. Dalziel	UO, LU.	20(1) 1986-36(2) 2002	6	2	1	9	7.33
R.A. Buckle	Monetary and Economic Council, NZIER, VUW, NZ Treasury.	11(1) 1977- 48(2) 2014	3	4	5	12	6.48
V.B. Hall	UA, University of Sydney, VUW.	3(2) 1969-47(1) 2013	3	4	3	10	6.00
P. Hampton	UC.	1(1) 1966- 11(1) 1977	4	2	1	7	5.33
T. Hazledine	Dept of Agriculture (Canada), UA.	11(1) 1977- 45(3) 2011	3	3	1	7	4.83
D.E.A. Giles	RBNZ, Monash.	8(1) 1974-13(1) 1979	2	3	2	7	4.17
R. Cullen	UO, LU.	15(1) 1981- 44(3) 2010	0	3	4	7	2.83
G.M. Scobie	CIAT, NZ Treasury.	7(1) 1973- 43(3) 2009	1	1	4	6	2.83
S. Stillman	Motu, UO.	41(1) 2007- 46(2) 2012	1	1	4	6	2.83
Total			51	50	33	134	86.25

Includes all authors who have published six papers or more over the fifty-year period as either author or co-author.

*VUW = Victoria University of Wellington; MU = Massey University; UC = University of Canterbury; UA = University of Auckland; UW = University of Waikato; UO = University of Otago; AUT = Auckland University of Technology; LU = Lincoln University.

The leading authors have all spent significant periods working in New Zealand. The two exceptions are John Creedy and David Giles, who have spent the majority of their careers in the UK and Australia, and Australian and Canada, respectively. They have nevertheless spent periods working in New Zealand: Giles with the RBNZ and University of Canterbury during the early years of his career; and Creedy with the NZ Treasury from 2001 to 2003 and then with the NZ Treasury and Victoria University of Wellington from 2011 to 2015. Hall and Scobie have also spent long periods of their careers overseas but also in Victoria University, and at University of Waikato and the NZ Treasury, respectively.

7. Topics and approaches

Having considered the characteristics of contributors to *NZEP*, it is of interest to examine the nature of the contributions. Initially the aim of *NZEP* was to publish research ‘upon aspects of economics and economic history relevant to New Zealand’, although it also stated that ‘the Board will seriously consider the publication of articles, notes or reviews of quality on any aspect of economics and economic history’. By 2015 the aims of the journal were more ambitious and the notes to authors now state that it publishes ‘research of the highest quality from leading international scholars in all areas of economics, both theoretical and empirical’. The geographical relevance of the journal has also changed. It is expected to ‘serve as the primary outlet for world-class research on important issues relevant to New Zealand, Australia and the Asia-Pacific’ and encourages articles which ‘explore important policy initiatives affecting the region and the implications of those policies’.

Reviewing the contents of a journal naturally leads to reflections on the development of economics more generally. In the introduction to his well-known *Economic Theory in Retrospect*, Blaug (1985, p. ix) suggested that, ‘It is perfectly obvious that much of what we think of as economics had its origin in intellectual responses to major unsettled policy questions. ... But, equally obviously, it must be insisted, great chunks of the history of economic thought are about mistakes in logic and gaps in analysis, having no connection with contemporary events’. These distinctions may be referred to broadly as ‘external’ and ‘internal’ influences. They concern the changing subject matter – the nature of economic questions considered – and developments in what Alfred Marshall called the ‘engine of analysis’. The contrast may also be described in terms of the fundamental questions and the tools used to tackle those questions.²⁵

The relative weight attached to the two types of influence has clearly varied over time. With the increased professionalization and specialisation in economics, it is perhaps not surprising that even the more general journals over the last century reflect a greater influence of developments in the economic tools (internal developments) than of external factors, despite the many upheavals in the world economy over the same period. The comment made

²⁵ An allusion to the distinction was also made by Friedman (1991) when reviewing the first 100 years of the *Economic Journal*. Notwithstanding the introduction of new fields of specialisation in economics, Friedman (1991, p. 37) suggested that, ‘there has been little change in the major issues occupying the attention of economists: they are very much the same as those that Adam Smith dealt with more than two centuries ago. Moreover, there has not been a major sea change in our understanding of those issues. We can still read the *Wealth of Nations* ... with pleasure and intellectual profit. Major improvements have been made in the ‘engine of analysis’ ... as a result, I believe that we have a fuller understanding of the basic economic forces than our predecessors did’.

by Friedman (1991, p. 33), when reviewing the *Economic Journal*, that ‘the language in which economic analysis is presented has changed so drastically that few economists who contributed to the early volumes [of the EJ] would have been able to read most articles in recent volumes’, applies equally to *NZEP*.

An associated point relates to the changing way the journal is read. Again, Friedman’s following point, in relation to the *Economic Journal*, probably applies equally well to all modern journals. He suggested (1991, p. 35) that the ‘representative subscriber ... in the early years may well have read many if not most of the articles and notes ... The representative subscriber [today] may skim many articles but is unlikely to read seriously more than a very few’.

Those who have been reading over the whole of the 50 years will have gone through several transitions.²⁶ Initially, they may have started reading much of the content of the few journals then existing. They then moved to a period of struggling to keep up with the literature on their own subjects as the amount of research and number of journals multiplied at rapid rate. Finally, they struggle to filter all the published material to decide what is actually worth reading, bearing in mind the high costs involved. *NZEP* has had to make its way in this changing environment, competing both for readers and contributors.

Turning to the details of *NZEP* articles, consider first the major fields of study. Table 5 lists the number of articles during each of the five decades with the main categories distinguished by the Journal of Economic Literature classification. Despite the reference to economic history in the initial editorial statement of aims, there have been very few papers in that field, which has largely been served by its own specialist journals (and affected by the organisational ‘splitting’ of economics from economic history over the period). Macro and monetary economics have provided by far the largest number of papers over the period (117 papers) followed by labour and demography (65), public economics (62) and industrial organisation (61).

²⁶ Furthermore, changes that began from an external stimulus may subsequently undergo internal developments. For example, challenges initially raised by the introduction of railways actually stimulated many microeconomic and welfare analyses of the so-called marginal economists later in the nineteenth century, which stimulated research in many avenues which may then have the appearance of being internal developments.

Table 5. Papers in *New Zealand Economic Papers* classified by field of study

FIELD OF STUDY	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	Total
A: General Economics	0	0	0	5	9	14
B: HET, Methodology	0	1	6	2	2	11
C: Math and Quant Methods	6	5	2	1	1	15
D: Microeconomics	5	5	1	6	12	29
E: Macro and Monetary	18	27	32	23	17	117
F: International	8	5	7	8	11	39
G: Financial	3	3	1	4	8	19
H: Public	2	13	11	10	26	62
I: Health, Education, Welfare	3	0	7	15	9	34
J: Labour and Demographic	9	11	9	25	11	65
K: Law and Economics	0	0	1	2	2	5
L: Industrial Organisation	14	15	8	10	14	61
M: Business Admin etc.	0	1	1	0	0	2
N: Economic History	0	0	3	0	0	3
O: Econ Development etc.	4	3	2	10	6	25
P: Economic Systems	2	0	1	0	0	3
Q: Agriculture, Ecological etc.	0	7	6	6	6	25
R: Urban, Rural, Regional etc.	8	5	1	3	5	22
Z: Other	0	1	4	1	14	20
Total	82	102	103	131	153	571

Profiles of the proportion of papers in the six largest fields over the five decades are shown in Figure 8. Given the relatively small numbers involved, these proportions have remained relatively steady, although variations are larger in the three most prominent fields. The reduction in the absolute number and proportion of macroeconomic and monetary articles in more recent decades perhaps reflects a reduction in the proportion of economists working in this area.²⁷ The more recent increase in the proportion of papers in public economics may reflect higher contributions from within government departments, as mentioned above.

²⁷ It is seen below that the Global Financial Crisis has stimulated very few papers in this field.

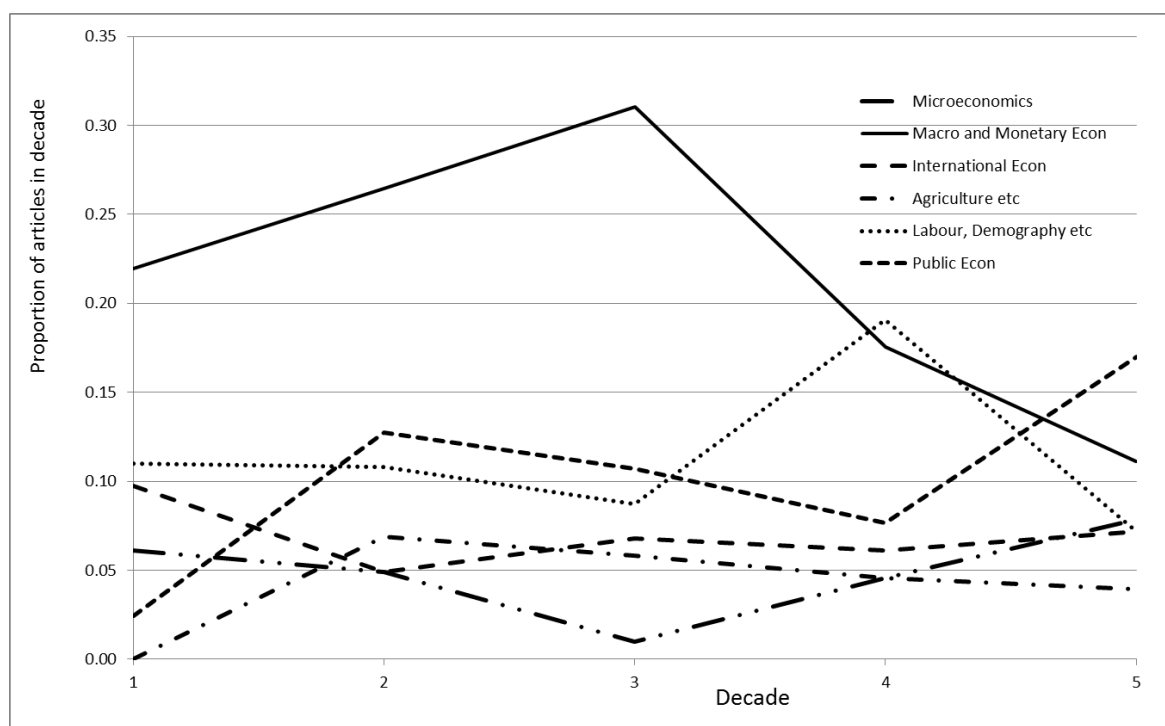


Figure 8 Major fields of study

A more disaggregated view of fields of research is shown in Table 6, which lists the number of papers in a range of sub-fields, arranged alphabetically, over the five decades. Ignoring the miscellaneous category (with the largest number of articles, particularly in more recent years), the two sub-fields contributing most articles are income distribution (34), and macroeconomic models (33): the first is increasing while the second is decreasing during the second half of the period. These are followed by productivity (27), competition (24), regulation (24) and exchange rate policy (20).

Table 6. Articles in *New Zealand Economic Papers* classified by sub-field of study

SUB-FIELD OF STUDY	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	Total
Banking regulation	0	0	1	0	0	1
Business cycle	1	0	2	6	1	10
Centralised wage setting	1	0	0	0	0	1
Closer economic relations	1	1	0	0	0	2
Competition	2	1	3	8	10	24
Consumption and demand	2	3	5	4	4	18
Corporate taxation	1	0	1	0	0	2
Customs union	0	0	0	0	3	3
Databases	0	0	0	9	0	9
Econometric modelling	7	3	0	0	0	10
Economic aggregates	2	7	3	2	3	17
Economic geography	0	1	0	1	1	3
Economic institutions	2	7	3	2	2	16
Education	2	0	2	5	11	20
Exchange rate policy	0	1	3	3	3	10
Expectations	0	1	1	2	1	5
Expenditure targets	0	0	3	0	0	3

SUB-FIELD OF STUDY	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	Total
Experimental economics	0	0	0	0	8	8
Exports and export subsidies	1	2	4	0	0	7
Financial crisis	0	0	0	1	0	1
Fiscal policy rules	0	1	0	0	1	2
Forecasting	6	3	1	2	6	18
Foreign direct investment	0	1	0	0	2	3
Game theory	2	0	2	1	2	7
Goods & services tax, & excise tax	0	0	0	1	1	2
Government debt	0	0	3	2	0	5
Health economics	1	3	3	1	1	9
Housing	2	2	1	3	4	12
Immigration	1	1	0	2	2	6
Imports, import controls & tariffs	7	1	2	0	0	10
Income distribution	7	3	3	13	8	34
Indigenous economics	0	1	1	1	2	5
Industrial action	2	1	0	0	0	3
Industrial concentration	2	6	6	3	0	17
Industry subsidies	0	1	0	0	0	1
Inflation	0	5	3	4	2	14
Inflation-unemployment trade off	0	1	1	2	0	4
Interest rates	0	0	1	1	1	3
Investment	2	2	2	7	6	19
Labour demand	2	0	0	0	0	2
Labour supply	1	2	4	1	1	9
Macroeconomic models	9	7	9	5	3	33
Mergers and acquisitions	0	1	0	0	1	2
Miscellaneous	9	5	11	6	22	53
Pensions and superannuations	0	0	0	1	4	5
Personal taxation and transfers	1	2	0	0	1	4
Population ageing	0	0	0	1	7	8
Poverty	0	0	0	2	2	4
Prices and incomes policy	0	0	0	1	0	1
Productivity	0	2	3	15	7	27
Public choice	0	0	0	0	2	2
Public finance	0	2	1	0	1	4
Regulation	1	5	6	7	5	24
Savings rates	0	0	0	1	2	3
Stabilisation policy	3	4	1	1	3	12
Taxation reform	0	4	2	0	6	12
Technology	2	1	2	2	1	8
Unemployment measures	0	8	4	2	0	14
Total	82	102	103	131	153	571

In attempting to trace the influence of external factors, 18 events or external considerations were distinguished; these may be regarded as being among the important characteristics of economic change in NZ over the period. These include inflation in the late 1960s and 1970s, the oil price shocks of the early 1970s, rising unemployment during the 1970s and 1980s, Britain joining the European Economic Community, New Zealand's closer economic relations with Australia (NAFTA and CER), the evolution of public policy institutions such as the establishment of an independent Central Bank in NZ, the challenge of low productivity, economic reforms of the 1980s including labour market reforms,

financial liberalisation, the removal of industry subsidies, the Asian financial crisis and the Global financial crisis, fiscal and taxation reforms.

The number of *NZEP* articles falling into the ‘external’ categories in each decade are shown in Table 7. The most striking feature of the table is the number of articles classified as ‘none of the above’. The only categories to reach double figures are economic reforms of the 1980s and early 1990s (19), taxation reforms (13), inflation of the late 1960s and 1970s, low productivity growth (11) and population ageing (11). However, in the case of taxation reform and population ageing, these have been heavily influenced respectively by the Tax Working Group (2010) and the Treasury’s Long Term Fiscal Statement of 2013, in which members of the NZ Treasury played a primary role. The driving force for the potentially important external influence of the economic reforms of the 1980s came from the Treasury, but did not result in *NZEP* publications. Similarly, the commentary and evaluation in NZ regarding the establishment of an independent central bank was not associated with any significant journal literature.

Table 7. Influence of external factors on articles in *New Zealand Economic Papers*

External Factors	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	Total
Inflation in late 1960s and 1970s	0	8	3	0	0	11
Oil price shocks in the early 1970s	0	7	1	0	0	8
Primary commodity price shocks	0	1	1	0	0	2
Rising unemployment in the 1970s and 1980s	0	2	3	0	0	5
Stagflation of the 1970s and early 1980s	0	1	1	0	0	2
Britain joining the EEC in the 1970s	0	1	1	0	0	2
Closer economic relations with Australia	1	1	1	1	1	5
The economic emergence of China and Asia	0	0	0	0	0	0
Economic policy reforms in NZ during the late 1980s and early 1990s	0	1	13	5	0	19
Central Bank independence	0	0	3	0	0	3
Fiscal policy reform	0	0	0	0	0	0
Taxation reforms	0	4	0	0	9	13
Trade unions and labour market reforms	0	0	0	0	0	0
Immigration	0	1	0	0	4	5
Asian financial crisis of the late 1990s	0	0	0	3	1	4
Global financial crisis of the late 2000s	0	0	0	0	2	2
The challenge of low productivity growth in New Zealand	0	3	1	2	5	11
Fiscal effects of population ageing	0	0	0	0	11	11
None of the above	81	67	73	119	115	455

A detailed examination of ‘internal’ influences would need to consider specific technical problems, details of modelling innovations and challenges, along with the development of new ‘tools of analysis’, which is beyond the scope of the present review. However, it is useful to look at the various research methods used in *NZEP* publications. A decomposition is given in Table 8, which shows the number of papers in each decade falling into a range of categories. These are of course not mutually exclusive; any paper may fall into several groups. The small number of papers using experimental economics and game theory are associated mainly with special issues, and it is clear that those working in these areas are better served by specialist journals. While a substantial number of papers make substantive use of more technical economic theory approaches, the decline over the last three decades perhaps also reflects the effect of competition from other journals.

Table 8. Papers in *New Zealand Economic Papers* classified by approach

Internal factors	1966-1975	1976-1985	1986-1995	1996-2005	2006-2015	Total
Empirical	54	69	65	92	104	384
Econometrics/Stat/Math	34	35	44	61	80	254
Economic Measurement	7	5	12	16	20	60
Modelling/Programming	9	3	2	9	23	46
Economic Theory	14	12	20	12	7	65
Experimental Economics	0	0	0	0	16	16
Game Theory	2	0	2	1	8	13
Comments	2	11	12	15	2	42
NZ Related	57	85	87	97	101	427

The table shows clearly the steady increase in the absolute number of articles making use of modelling, econometric and empirical methods. However, the changing proportions of articles falling into the main categories in Table 8 in each decade are displayed in Figure 9. Both Table 8 and Figure 9 include the category ‘New Zealand related’, though it conveys motivation rather than method. Of interest is that about 70 per cent of papers may be described as New Zealand related: this is larger than any other category. The fact that such a large proportion of papers are New Zealand related contrasts with the earlier finding that the various potential external influences have received little attention.²⁸ Major economic events may not have stimulated research papers in *NZEP*, but there are clearly many practical, and often policy-related, questions involving the NZ economy which have formed the focus of

²⁸ This may reflect to some extent, the application of techniques to New Zealand data rather than the application of techniques to solve a New Zealand ‘problem’.

journal articles. What cannot be known is whether these articles would find a home in other journals (and of course a number of papers using NZ data and examining NZ policy issues are actually published in overseas journals). Nevertheless the initial editorial aims of *NZEP*, stated above, are clearly being fulfilled.

The proportion of papers falling into the other categories are relatively steady over the period, although there is a small increase in the proportion of those using econometric or statistical methods and a slight decline in the second half of the period in the proportion using programming methods.

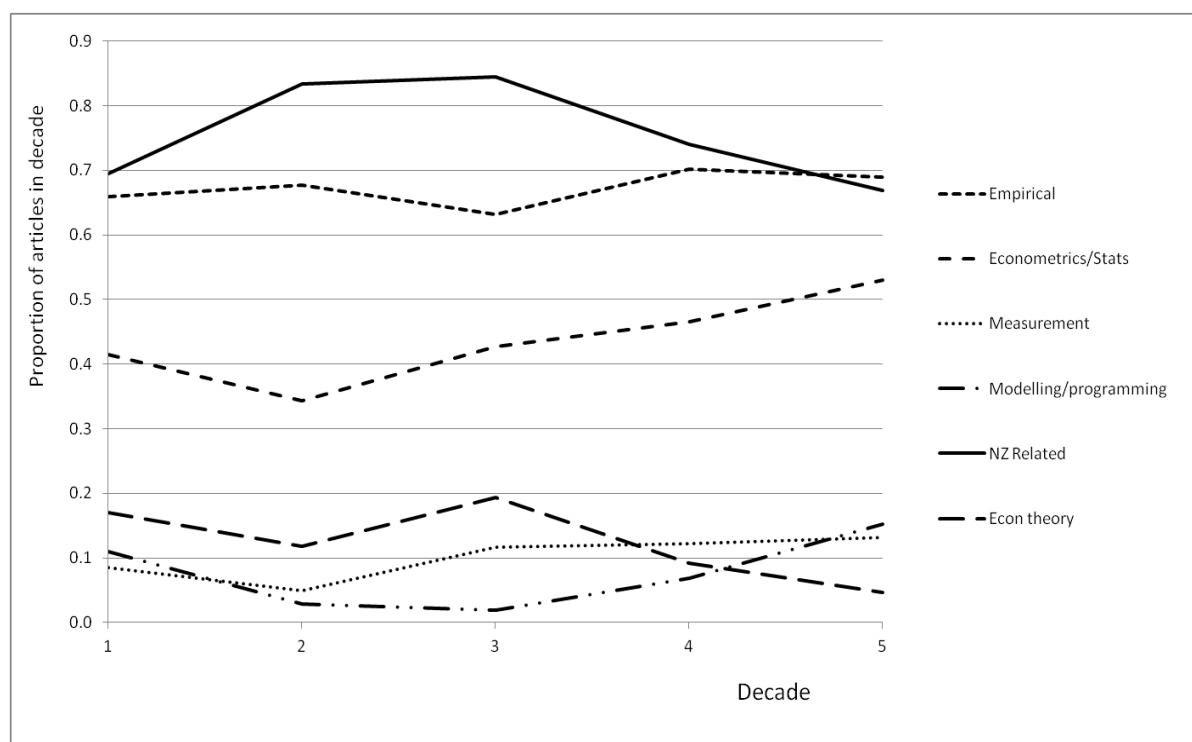


Figure 9 The proportion of articles in *New Zealand Economic Papers* using various approaches

9. Conclusion

During its establishment years, *NZEP* initially struggled to attract a sufficient supply of articles to sustain more than one issue of the journal per year. Successive editors have encouraged readership and growth in submissions by encouraging submissions focusing on contemporary New Zealand economic issues, broadening the appeal of *NZEP*, improving the print quality of the journal, and in recent years by promoting special issues. These initiatives have complemented the impact of growth in the number of economists in New Zealand, increased incentives for academics to publish in peer reviewed journals, the growing propensity for research in some policy institutions, and globalisation of research

activity, to increase suitable submissions to *NZEP* to the point where it is able to sustain three issues per year.

Through an examination of the papers published by the journal, a number of interesting characteristics have emerged. There has been significant growth in joint authorship, a feature also evident in overseas economics journals and in other fields. In the early 1970s, nearly 80% of articles published in *NZEP* were sole authored. Today, nearly 80% of articles are joint authored. The growth of female authors has been another feature and this trend has been associated with the growth in joint authorship. New Zealand university-based authors have been the leading contributors to *NZEP*. Of those authors, there is a small number who have contributed a relatively high proportion of articles. There are 14 authors (2.7% of all authors) who have contributed as sole or joint authors, at least six or more papers and their combined contributions represent 23.6% of all articles. Nevertheless, the relative share of contributions from New Zealand university-based authors has declined in recent decades as the share of articles from overseas researchers (especially those domiciled at overseas universities) and from authors associated with New Zealand policy agencies has increased.

Any assessment of the quality and impact of the journal over a long period would of course be highly subjective and would require an extensive analysis that is beyond the scope of this paper. It can be argued that in its first 50 years the journal does not appear to have published any particular papers which have become important seminal contributions, with associated huge citation counts. Furthermore, it has not attracted the leading world figures of the profession. However, such claims can be made for only a small proportion of journals. A cursory review of citations made to articles in *NZEP* indicates highly respectable citation counts for many articles.²⁹ It may be argued that innovative NZ-related papers in *NZEP* can attract international attention and, indeed, digital bibliographic searches are these days more likely to pick up strong papers wherever they are.

It has been found that a range of noteworthy economic events over the last 50 years appears to have provided very little direct stimulus to *NZEP* authors. Nevertheless this could be said of the majority of the hundreds of economic journals now in existence. In addition, nearly three-quarters of *NZEP* articles can be said to be related to New Zealand in some way. *NZEP* has clearly provided a valuable role in encouraging public and academic debate relating to NZ and has provided a 'home' for papers which may have experienced some

²⁹ See, for example, http://scholar.google.com.au/scholar?hl=en&q=new+zealand+economic+papers&btnG=&as_sdt=1%2C5&as_sdtp

difficulty being accepted in alternative journals which are either too specialised or insular (although this cannot be established quantitatively).

A distinguishing feature of the Economics Association in New Zealand is that it welcomes a substantial role for non-academics. This is clearly evident both in presentations at the annual conference and an increasing number of articles published in *NZEP* by people working in government departments. It is suggested that this is a healthy and valuable role.

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