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**The Excellence in Research for Australia Scheme:
An Evaluation of the Draft Journal Weights for Economics**

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Abstract

In February 2008, the Australian government announced its intention to develop a new quality and evaluation system for research conducted at the nation's universities. Although the Excellence in Research for Australia (ERA) scheme will utilize several measures to evaluate institutional performance, we have chosen to focus on one element only: the assessment of refereed journal article output based on ERA's own journal weighting scheme. The ERA weighting scheme will undoubtedly shape the reward structure facing university administrators and individual academics.

Our objective is to explore the nature of the ERA weighting scheme for economics, and to demonstrate how it impacts on departmental and individual researcher rankings relative to rankings generated by alternative schemes employed in the economics literature. In order to do so, we utilize data from New Zealand's economics departments and the draft set of journal weights (**DERA**) released in August 2008 by ERA officials. Given the similarities between Australia and New Zealand, our findings should have relevance to the Australian scene. As a result, we hope to provide the reader with a better understanding of the type of research activity that influences **DERA** rankings at both the departmental and individual level.

Keywords

Economics Departments
University Rankings
Research Output
ERA

JEL Codes

A19, C81, J24

Introduction

In February 2008, the Australian government announced its intention to develop a new quality and evaluation system for research conducted at the nation's universities.¹ The scheme, denoted as "Excellence in Research for Australia" (ERA), will be based on a combination of bibliometric techniques and peer judgement; and unlike most government-wide research evaluation schemes employed internationally, will not be used to allocate research funding.² However, it defies logic to think that the scheme, given its complexity and aims, will not be used at some point to allocate directly, or indirectly, research funding. Although the ERA scheme will utilize several measures to evaluate institutional performance, we have chosen to focus on one element only: the assessment of refereed journal article output based on ERA's own journal weighting scheme.

It should be noted that the results will only be reported at the discipline and institutional level; however, if universities are to implement plans to improve their performance, they will track the activity measures back to individual responsibility centres such as the academic department. Furthermore, if individual departments are to take steps to design strategies to improve performance over time, they will focus on the publication and citation records of the individual researcher. We must stress the last point since the official ERA-line is that the research evaluation scheme is not based on individual assessment, unlike its New Zealand counterpart. This is technically correct, but in practice the individual researcher is the basic building block of the scheme and hence will be under pressure to perform.

Therefore, for both the academic department and academic staff members, the nature of the journal-specific weighting scheme is of some importance. The ERA weighting scheme will undoubtedly shape the reward structure facing university administrators and individual academics. Our objective is to explore the nature of the ERA weighting scheme for economics, and to demonstrate how it impacts on departmental and individual researcher rankings relative to rankings generated by alternative schemes employed in the economics literature. In order to do so, we utilize data from New Zealand's economics departments and the draft set of journal weights (**DERA**) released in August 2008 by ERA officials. Given the similarities between Australia and New Zealand, our findings should have relevance to the Australian scene. As a result, we hope to provide the reader with a better understanding of the type of research activity that influences **DERA** rankings at both the departmental and individual level.

The economics literature on the ranking of economics departments is extensive. Although much of the early work was USA-based, in more recent time research measurement and ranking studies have been conducted for many countries.³ The first rigorous study of Australian economics departments was conducted by Harris (1988). Harris arbitrarily developed a complex weighting system for virtually all

¹ See Australian Research Council (2008), "New ERA for Research Quality: Announcement of Excellence in Research for Australia Initiative", Media Release, 28 February.

² For details on the scheme see the ERA's official website (www.arc.gov.au/era). The information reported in this paper is based on website details as at 21 April 2009.

³ For a good overview of the economics department-related ranking literature, see Liner & Amin (2004) and Macri & Sinha (2006).

forms of academic research output. This was followed by several studies based, in part, on citation counts. Towes & Wright (1995) placed 78 journals in three categories and then developed rankings of all Australian economics departments for each category. They also developed an overall ranking but implicitly assumed that all categories were of equal value. Subsequent work by Promfret & Wang (2003), Neri & Rogers (2006 and 2007), and Macri & Sinha (2002, 2004, 2006, and 2008), and Sinha, Macri & McAleer (2009), employed various journal-based weighting schemes to rank Australia's economics departments and, in some cases, individuals.⁴

Of particular relevance to our study are three papers authored by Macri and Sinha: in these papers they incorporated New Zealand institutions into their analysis.⁵ Although Macri and Sinha (and in one case, with McAleer) generally found Australian institutions to occupy the top positions in their per-capita rankings, the average performance of New Zealand's economics departments generally matched those of their Australian counterparts. For example, Macri & Sinha (2006) derived per-capita rankings for 31 university economics departments: seven in New Zealand and 24 in Australia. Their overall ranking placed New Zealand institutions solidly in the middle of the pack: Canterbury (9), Otago (11), Auckland (12), Waikato (16), Victoria (19), Massey (22) and Lincoln (28).⁶ Although Australian departments occupied the top eight positions, New Zealand departments performed slightly better overall (a mean rank score of 16.36 versus 17.20 for Australian departments).⁷ This suggests that using New Zealand data to test the **DERA** journal weighting system should yield relevant results for Australian policy makers and university administrators.

There is another reason for using New Zealand data, rather than Australian, for testing the impact of DERA journal weights on departmental and individual rankings: independence. The discipline specific weights are derived from a committee process that is based, in part, on advice provided by other academic groups. Given that many, if not most, of the members of these groups were Australian academics, it is plausible to suggest that some degree of game playing may have taken place in the journal selection and allocation process. That is, some academics may have, on occasion, mixed their university specific role with their broader collegial duties.

Data

Our dataset covers all of New Zealand's academic economists on staff at its eight universities as at 15 April 2007, and we have collected information on each researcher's publication record over the six year period beginning on 1 January 2001 and ending 31 December 2006. It should be noted that relevant publications have been defined to be refereed articles in journals listed in *EconLit* as at 15 April 2007

⁴ For alternative approaches to ranking Australian economics departments, see Abbott & Doucouliagos (2003); Rodgers & Valadkhani (2006); and Rodgers & Neri (2007).

⁵ The relevant papers are: Macri & Sinha (2006); Sinha & Macri (2008) and Sinha, Macri & McAleer (2009).

⁶ The Auckland University of Technology (AUT) is not in this study due to the fact that the institution did not obtain university status until after the start of the sample period.

⁷ See Macri & Sinha (2006), pgs. 135-136.

(1217 in number). In total, we found that 102 of New Zealand's 139 academic economists' published 589 refereed papers in *EconLit* listed journals (in whole or in part) over the relevant time period.

We have followed prevailing practice by allocating author shares on multiple authored papers by utilizing the $1/n$ rule where n is the number of authors. Although the ERA scheme gives preferential weighting to papers with multiple authors, if one or more of the authors are from different institutions, we can find no justification in the literature for doing so. Our decision to use the $1/n$ allocation rule is based on the premise that journal editors (and reviewers) do not take into account the number of authors on a paper when making their accept/reject decisions.

The second allocation decision to be faced relates to the process of allocating papers to specific institutions. Under the Stock method, one allocates all of a given researcher's output to her/his employer at the census date (in this case, 15 April 2007) regardless of where the work was performed. The Flow method, on the other hand, assigns journal articles to a researcher's employer either at the time of publication or when the paper was completed. We have adopted the Stock method since it gives a better indication of a department's current and short to medium term research capability. Under the Flow method, a department may have been strong in the past, but now employs few of its past stars. Indeed, it should be noted that virtually all studies in Australia and New Zealand are based on the Stock method of journal allocation;⁸ and, furthermore, the ERA scheme is also based on this method of allocation.

We have also adopted the "share adjusted, weighted page" as our unit of output. The ERA scheme is based on the "weighted journal article" as the unit of output. This approach, at least the "share adjusted, weighted journal article" version, has merit as page length is not necessarily a good indicator of quality. On the other hand, a two page note is not usually held in same regard as a longer paper. Although each approach has its strengths and weaknesses, we have chosen to follow current practice and adopt the "share adjusted, weighted page" as our output measure.⁹

The draft ERA journal weighting scheme (**DERA**) was developed by a committee of the Australian Research Council (ARC); this group choose a large number of relevant academic journals, and allocated them to one of four categories.¹⁰ The top journals were classified as "A+", the next best an "A", followed by "B" and "C" groupings. According to the ERA website, recognized journals were to be designated as follows: the top 5% as "A+", the next 15% as "A", the next 30% as "B", and the remaining

⁸ The exception is the work of Neri & Rodgers (2006 and 2007).

⁹ We have also followed prevailing practice by adjusting for page size differentials between journals with the average-size *AER* page being the reference point. The page-size differences for 171 journals have been addressed by applying correction factors derived by Towe and Wright (1995) and Gibson (2000). For papers in all other *EconLit* referenced journals (69 in number), we have used the average value derived by Gibson for his Group4 journals; more explicitly, pages in such journals are assumed to contain 0.72 as many words as an average *AER* page.

¹⁰ We must stress that we are testing the draft version of the ERA journal weights for economics. As noted earlier, according to the ERA's website, as at 21 April 2009, the final version is expected to be released in late 2009.

50% as “C”. In the case of Economics, 611 journals were recognized as research relevant, and the actual percentage of journals assigned “A+” through “C” are 6.9, 16.0, 32.3 and 44.8, respectively. In order to arrive at the stated purpose of ranking academic units, numerical grades must be given to the “A+” to “C” classification system. For purposes of this paper, we assign a grade of “4” to an “A+”, and so on to a “1” for a “C”.¹¹ In addition, economics journals not officially recognized by the ERA scheme, but listed in *EconLit*, are given a grade of “0”. Therefore, in reality, the **DERA** ranking scheme is based on a five point scale.

In order to provide the reader with a frame of reference, we have selected four journal-based weighting schemes that have been used by economists to rank economics departments. The set of possibilities is large, so in order to keep the discussion manageable we have arbitrarily selected two schemes from each of the so-called “high” power and “low” power camps. By “high” powered we have in mind schemes that discriminate significantly between the very best and lesser quality journals. In such schemes, the top journals sometimes receive weights that are 1000 times or more the weight allocated to the lowest ranked journals. It is quite common to find, say, the 30th ranked journal receiving only 10-20% of the weight accorded to the top journal. Such systems are based on the pioneering work of Liebowitz and Palmer (1984), and are generally known as “impact-adjusted citation” measures. Liebowitz and Palmer’s work was updated and refined by Laband & Piette (1994); Kalaitzidakis, Theofanis & Stengos (2003); and Kodrzycki & Yu (2006).

We have chosen to use Kalaitzidakis, Theofanis & Stengos (**KMS**) weights because they are well known in the rankings community and are based on more recent citation counts than Liebowitz & Palmer (1984) and Laband & Piette (1994). On the other hand, although the Kodrzycki & Yu (2006) weights (henceforth denoted as **KY** weights) are based on more recent citation counts than **KMS**, we have chosen to employ the **KMS** scheme for the following reasons. First, to date, the **KY** weighting scheme has not been widely used in ranking studies;¹² and second, in a thorough evaluation of the characteristics of the **KMS** and **KY** schemes, Henrekson & Waldenstrom (2007) found the former to discriminate more sharply between high and low ranked performers. Given that our purpose is to demonstrate the differences in outcomes between using a generally accepted, aggressive weighting scheme and those generated by **DERA** weights, the **KMS** scheme is deemed to be appropriate.¹³

¹¹ We must stress that these are our weights, not those of the ERA scheme. Probably in order to avoid being responsible for a “government” sanctioned rating scheme, the developers of the ERA scheme stress that the information provided to the final decision-making group (Research Assessment Committee (RAC)) will not be aggregated. This means that the committee members will, by necessity, assign their own weights to each evaluation category. However, if the system is to be transparent, and if it is to be used eventually to allocate research funding, it is difficult to imagine that official weights will not be developed. We have chosen our weighting scheme based on academic convention- a version of the traditional weighting scheme employed by many universities, especially in North America, for converting from letter to numerical grades.

¹² The only paper we found that did so was that by Henrekson & Waldenstrom (2007).

¹³ In some respects, **KMS** stands out as first amongst equals in the rankings literature. For example, Macri & Sinha (2006) refer to it as the “industry standard”, and, although in disagreement, Henrekson & Waldenstrom (2007) state that the scheme is held in high regard by many influential economists.

Given the recent expansion of the citation-counting industry, several up to date weighting schemes, based on a variant of the “impact-adjusted citation” method, are available for selection. We have chosen to use the “recursive discounted impact factors” derived by *RePEc* (Research Papers in Economics), as displayed on their website on 23 January 2009.¹⁴ Not only is this scheme based on current citation practices, and on current areas of research interest, it also covers a broader range of journals than **KMS** (540 versus 143).

At the other extreme, we have arbitrarily selected two schemes that we have labelled as “low” powered. The most radical scheme is denoted as **EQUAL**; this implies that all journals listed in *EconLit* as at 15 April 2007, are of equal value. That is, a page in, say, the *AER* is considered to be of equal value to a page in a newly established regional journal. In practice, the **EQUAL** weighting scheme yields a quantity rather than a quality indicator of research activity. However, it is included here in order to give the reader some idea of how close the rankings generated by **DERA** correspond to those generated by an undifferentiated weighting system, and to shed some light on the underlying quantity versus quality debate.

Our second “low” powered scheme was derived by Bauwens (1998). Bauwens collected citation counts and derived simple impact factors for approximately 600 journals. He then multiplied the two results to generate a journal-specific score. Using an arbitrary allocation process, Bauwens assigned journals to one of five categories, with the highest ranking journals being given a “5”, the next group a “4” and so on. Under the **Bauwens** scheme, 1.33 percent of journals were placed in Group5 and 7.64 percent in Group4. The corresponding figures for Group3, Group2 and Group1 journals are 7.64, 7.64 and 75.75 percent, respectively.¹⁵ All journals in *EconLit* for which impact factors could not be calculated, were placed in Group1. For this weighting scheme, the spread between the best journals and the worst (5 to 1) is roughly comparable to the **DERA** scheme wherein the spread is formally 4:1, but some *EconLit* listed journals are unranked and thus receive a weight of “0”.

Before proceeding to discuss our findings, we should address a possible reason for **DERA** being based on peer-review or perceptions rather than on more traditional bibliometric techniques. If one of the objectives of the Australian government is to encourage research on local and regional issues to improve the economic and social well-being of Australians, citations counts are not likely to yield journal weights that encourage such behaviour. Instead, they tend to be biased in favour of issues and subjects with a global appeal or to research with a large countries or large region focus. For example, a study of labour issues in Tasmania is not likely to be as widely cited as an article of similar quality and methodology that focuses on the USA or the EU.¹⁶

To address this problem a number of researchers have arbitrarily added leading regional publications to their top journal lists. For example, see Harris (1988), **KMS** (1999), King (2001), Jin & Hong (2007), and

¹⁴ For details, see the organizations website (<http://repec.org>) and Zimmermann (2007).

¹⁵ Bauwens notes that the equal number of journals in categories 4 to 2 is not intentional.

¹⁶ For short discussion of this matter, in the Australian context, see Rodgers & Valadkhani (2006), pg. 32.

Anderson & Tressler (2008). A somewhat different approach to addressing the issue was taken by Pomfret & Wang (2003): they acknowledged the importance of six Australian journals by considering them to be a separate category for output determination purposes. The ARC committee has apparently followed the former approach rather extensively and perhaps aggressively.

As shown in Table 1, the DERA scheme has placed most of Australia’s *EconLit* listed economics journals in a much higher category than that found in several widely used international classification systems. Note that only the *Economic Record* and the *Australian Journal of Agriculture and Resource Economics* are consistently ranked by the leading schemes, and even then they are found in the middle to lower-middle echelons. However, under the **DERA**, they are designated as “A” journals. The other listed domestic journals are, in most cases, unranked internationally, but under the **DERA** they are frequently found in the “A” and “B” category, and in the case of the *Bulletin of Indonesian Economic Studies*, in the “A+” classification. The above discussion is not to belittle these journals, but to point out to the reader that the **DERA** journal weighting scheme aggressively attempts to off-set the small country bias of the pure citation-based ranking systems.¹⁷

Table 1: Journal Rankings Under Various Weighting Schemes

Journal Name	KMS	MSF	KYEI	CoupeIF	RePEc	LP84	LP94	DERA
Agenda	NR	NR	NR	NR	NR	NR	NR	A
Australian Ec History Review	82	NR	NR	256	NR	NR	NR	A
Australian Ec Papers	NR	NR	NR	NR	285	NR	NR	B
Australian Ec Review	NR	104	NR	NR	248	NR	NR	B
Australian J of Agr and Resource Ec	103	140	137	208	333	98	93	A
Australian Journal of Labour Ec	NR	MR	NR	NR	NR	NR	NR	B
Economic Record	58	88	133	232	208	65	85	A
Bulletin of Indonesian Ec Studies	NR	NR	NR	95	359	NR	NR	A+
Pacific Economic Bulletin	NR	NR	NR	NR	NR	NR	NR	A
Number of Journals Ranked	143	150	181	273	540	108	101	

Notes: NR (non-ranked); KMS (Kalaitzidakis, Mamuneas & Stengos (2003)); MSF (Mason, Steagall & Fabritius (1997)); CoupeIF (Coupe (2003), Impact Factors); KYEI (Kodrzycki & Yu (2006), Economic Impact Version); RePEc (Research Papers in Economics (2009)); LP84 (Liebowitz & Palmer (1984)); LP94 (Laband & Piette (1994)); and ERA (Excellence in Research for Australia (2008))

Departmental Results

¹⁷ Given that we are using New Zealand data, we face a similar problem in how to treat the *New Zealand Economic Papers*, the leading economics journal in the country. Following Anderson & Tressler (2008), we have given the *New Zealand Economic Papers* the same weight as the *Economic Record* throughout the study. The rationale is the same as that used by the ERA designers – the need to overcome the small nation bias in citation-based schemes. Indeed, one might argue that the problem facing New Zealand journals is even more severe than that facing their Australian counterparts given the relative size of the two nations.

Our findings are presented in Tables 2 and 3. In the former, we present the standardized scores¹⁸ for each New Zealand economics department for each of our five weighting schemes. In Table 3 we provide the associated departmental rankings; for discussion purposes we shall focus on the latter table. Note that under our “high” powered schemes (**KMS** and **REPEC**) Auckland is the leader, followed by Otago and Victoria, respectively.¹⁹ On the other hand, Waikato finishes in fifth place under each of these schemes. If we now move to look at our “low” powered schemes (**Bauwens** and **EQUAL**), we find that Waikato and Otago occupy either first or second place for each set of weights. Auckland now drops dramatically in the rankings, finishing in 5th and 7th place under **Bauwens** and **EQUAL**, respectively. At this point it should be noted that, for all of our weighting schemes, Lincoln, Massey and AUT always finish in 6th, 7th or 8th place, save for EQUAL.

**Table 2: Standardized Departmental Scores; Per Capita Output; Weighted Pages
New Zealand Economics Departments, 2001-2006**

	DERA	KMS	RePEc	Bauwens	EQUAL
Auckland	61.86	100.00	100.00	64.09	46.42
AUT	20.18	4.40	3.32	19.94	24.83
Canterbury	62.64	53.94	89.09	73.02	68.50
Lincoln	46.06	14.27	13.28	48.67	53.97
Massey	43.04	10.82	12.88	44.58	50.13
Otago	100.00	53.96	74.28	100.00	85.97
Victoria	65.97	45.68	99.73	68.85	48.75
Waikato	90.08	19.62	46.97	97.28	100.00

It is readily apparent from Table 3 that **DERA** results are rather similar to those generated by **Bauwens** and **EQUAL**, and somewhat different from the **KMS** and **RePEc** rankings.²⁰ This interpretation is reinforced by the pair-wise correlation coefficients of the standardized scores between **DERA** and the other journal-based weighting regimes employed in this study. The results for **DERA/KMS**, **DERA/RePEc**,

¹⁸ That is, the highest scoring department has been given a score of “100”, and all other raw scores are scaled accordingly. Therefore, a reported score in Table 2 of, say, 60.0, means that the average academic in that department produced 60% as many “share and size adjusted, weighted pages” as the average academic in the leading department.

¹⁹ It must be noted that Peter Phillips, an internationally renowned economist, is not included in the Auckland data. We have restricted our dataset to academics holding “regular” appointments at New Zealand universities. By “regular” we mean an appointment akin to what would be called in a North American setting, a tenure or tenure track position. A regular appointment need not be a full-time appointment.

²⁰ Some of the journals listed in *EconLit* as at 15 April 2007, and containing articles published by New Zealand economists over the period 2001-2006, are considered to be finance journals by the ERA scheme. For these journals, we have used the relevant weights listed under the “Banking, Finance & Investment” heading.

DERA/Bauwens, and **DERA/EQUAL** are 0.42, 0.59, 0.99 and 0.89, respectively. Under the **DERA** scheme, Otago leads the group, closely followed by Waikato, while Auckland holds 5th position. We have focussed our discussion on Otago, Waikato and Auckland in order to illustrate the underlying nature of the **DERA** scheme. Otago’s results are rather insensitive to the weighting scheme used; they are first or second for every measure, save for a fourth place finish under **RePEc**. Waikato also holds first or second place for all but our “high” powered schemes, but for these measures its performance drops to fifth. The reverse applies to Auckland: first place finishes under **KMS** and **RePEc**, but fifth place under **DERA** and **Bauwens**, and 7th under the **EQUAL** scheme.²¹

What accounts for these variable results, at least for Auckland and Waikato. First, it should be noted that Otago’s strength is that its average output level is high (as evidenced by a second place finish under **EQUAL**), and its researchers tend to publish in a broad mix of journals – a good proportion of which are highly valued by every weighting scheme in the study. In contrast, researchers at Auckland tend to publish relatively little (only AUT has a lower “share adjusted, unweighted page” output), but they tend to publish in mainstream international journals that are often highly ranked by “impact-adjusted citation” schemes. The reverse holds for Waikato: active publishers, but often in lesser ranked journals. In addition, Waikato-based researchers’ publish more widely in field and policy-oriented journals than their Auckland counterparts.

**Table 3: Departmental Rankings; Per Capita Output; Weighted Pages
New Zealand Economics Departments, 2001-2006**

	DERA	KMS	RePEc	Bauwens	EQUAL
Auckland	5	1	1	5	7
AUT	8	8	8	8	8
Canterbury	4	2	3	3	3
Lincoln	6	6	6	6	4
Massey	7	7	6	7	5
Otago	1	2	4	1	2
Victoria	3	4	2	4	6
Waikato	2	5	5	2	1

As shown by our **DERA** results, the new Australian scheme can be said to favour Waikato-style activity rather than that displayed by Auckland-based researchers. One can also see why the **DERA** results favour high volume over low volume producers by referring to Table 4. Note that over 50% of the papers published by New Zealand-based economists are in “A+” or “A” ranked journals and 75% of all

²¹ For comparison purposes, note that the New Zealand government’s “Performance Based Research Funding” scheme (PBRF) ranked the nation’s universities, under the economics category as follows: Otago (1), Auckland (2), Waikato (3), Canterbury (4), Victoria (4), Lincoln (6), Massey (7) and AUT (8). However, it is important to stress that the PBRF does not rank departments per se but disciplines. For a brief discussion of the PBRF programme, and its applicability to the economics discipline, see Gibson, Tressler and Anderson (2008).

such publications are in journals ranked “B” or above.²² The results for individual departments are rather striking: at Victoria 78% of all publications are rated “A” or above; the corresponding figure for Auckland is 64%. Equally interesting is the fact that 92% of the papers at Victoria and 86% at Auckland are rated “B” or higher. However, we must remind the reader that the overall **DERA** leaders, Otago and Waikato, have production profiles that are more widely distributed across the ranking system, but they generate substantially more publications per capita than Victoria and Auckland. More specifically, although Otago and Waikato have only 53 and 44% of their papers classified as “A” or above (still impressive numbers), they produce approximately twice as many refereed journal pages per-capita.

Table 4, Percentage Allocation of Publications By ERA Category

	A+	A	B	C	X*
Auckland	23.7	40.8	19.7	7.9	7.9
AUT	10.0	10.0	40.0	20.0	20.0
Canterbury	14.1	36.6	21.1	4.2	23.9
Lincoln	3.6	39.3	5.4	41.1	10.7
Massey	2.5	29.1	30.4	17.7	20.3
Otago	12.8	40.4	33.0	6.4	7.4
Victoria	23.8	54.0	14.3	0.0	7.9
Waikato	5.0	39.0	25.0	13.0	18.0
Weighted Average	11.8	39.0	23.0	12.2	14.0
ERA Scheme**	6.9	16.0	32.3	44.8	0.0

Notes: * X represents articles in journals not ranked by the ERA scheme.

** Percentage distribution of "Economics" journals in each ERA category.

The above suggests that the **DERA** scheme is not, in practice, a very discriminating weighting system. Another way of looking at this issue is to focus on the percentage of journals in the top rank of various schemes. As shown in Table 4, 6.9% of the journals ranked by ERA have been designated as “A+” journals; however, 11.8% of all publications by New Zealand economists in our study are to be found in ERA’s “A+” category. On the other hand, only 1.5% of such papers are given the “top” rankings by the **Bauwens** schemes.²³ Our view that the **DERA** scheme is a “low” powered weighting scheme is

²² As noted in footnote 18, we have given the *New Zealand Economic Papers (NZEP)* the same weight as the *Economic Record* for all schemes employed in this analysis. However, the **DERA** official weighting is a “C”, not an “A” as follows from our treatment of *NZEP*. Although it is difficult for us to imagine that if New Zealand officials were designing an ERA-like weighting scheme, that they would place *NZEP* in the “C” category, it is a possible outcome. If this were the case, the departmental rankings given above would not change, but the transfer of 38 publications from the “A” to the “C” category would obviously change the results presented in Table 3. The overall percentage of papers in category “A” would decline from 39.0 to 32.0; and the percentage of papers in category “C” would increase from 12.2 to 19.1.

²³ As noted earlier, the **Bauwens** scheme uses a five point scale with the top category holding 1.33% of ranked journals.

reinforced by the following Gini coefficients: **KMS** (0.738), **RePEc** (0.663), **Bauwens** (0.306) and **DERA** (0.220).²⁴

Individual Results

As noted previously, the formal ERA evaluation process does not rank individual researchers. However, given that individual research records are the basic building block of the scheme, it defies logic to think that such results will not be informally calculated and disseminated. That is, individual rankings are likely to be of interest to most members of Australia's academic departments since high rankings are likely to generate pecuniary rewards.²⁵ Highly ranked performers will undoubtedly use such information in promotion applications and, where possible, in merit-pay requests. Even more importantly, highly ranked individuals will find themselves in demand in the recruiting market as some departments attempt to game the system and improve their relative performance. Such behaviour is quite likely in subsequent rounds of the ERA process. Rephrased, high rankings have economic value in addition to traditional psychic benefits such as bragging rights.

In Table 5 we display the results for the top twenty-five **DERA** performers, and provide the corresponding rank for these researchers under each of our four competing schemes. The overall message is clear: how one measures research output does matter at the individual level. It is apparent that, at least at the upper levels, **DERA** rankings are closely associated with our "low" power schemes (**Bauwens** and **EQUAL**) and are far less so with our "high" power regimes (**KMS** and **RePEc**). For example, consider the top five performers under the **DERA**. These very same individuals hold the top five spots under the **Bauwens** and under **EQUAL** regimes. On the other hand, only one researcher in the **DERA** top-five is in the same group under **KMS**. For **RePEc** the results are less extreme, with three of **DERA**'s top-five holding such scores, but the two other individuals in the **RePEc** top-five hold the 17th and 25th positions in **DERA**, and the sixth ranked **DERA** performer is 35th under the **RePEc** scheme. It should also be noted that only eight of the top 25 ranked economists by **DERA** are also in the top 25 for all other weighting schemes used in this study.

Although the above analysis is based on casual empiricism, it is supported by the relevant pair-wise correlation coefficients of the output scores for the **DERA** top twenty-five researchers. The results are as follows: **DERA/KMS** (0.049); **DERA/RePEc** (0.471); **DERA/EQUAL** (0.858) and **DERA/Bauwens** (0.948).²⁶ The corresponding estimates for the full set of active researchers (N=102) are somewhat

²⁴ These results are for ranked journals only. Under the **KMS**, **RePEc** and **DERA** schemes, some journals are not formally ranked, and we have assigned a weight of zero to such journals. If all zero ranked journals are included in the analysis, the resulting Gini coefficients are as follows: **KMS** (0.898), **RePEc** (0.794), **Bauwens** (0.306) and **DERA** (0.412).

²⁵ It should be noted that it will be relatively easy for individuals to calculate their own outputs, and that of their colleagues, since the two critical components of the calculation will be in the public domain: refereed publications in *EconLit* and the requisite weights from the ERA website.

²⁶ The corresponding estimates based on the rank of the top twenty-five ERA researchers (as opposed to the correlations based on output scores) are as follows: **DERA/KMS** (0.285); **DERA/RePEc** (0.400); **DERA/EQUAL**

higher but still consistent with the above pattern: **DERA/KMS** (0.361); **DERA/RePEc** (0.598); **DERA/EQUAL** (0.897) and **DERA/Bauwens** (0.966). All of this suggests, that many academics that have performed well under more traditional, internationally recognized weighting schemes may be surprised by their standing under the ERA scheme, and may find their economic value to Australian-based departments reduced.

**Table 5: Individual Rank, Share-Adjusted Weighted Pages
New Zealand Academic Economists, 2001-2006**

Researcher's ID#	DERA	KMS	RePEc	Bauwens	EQUAL
R1	1	11	5	3	3
R2	2	10	4	1	2
R3	3	34	25	4	1
R4	4	2	1	2	5
R5	5	51	17	5	4
R6	6	29	35	6	7
R7	7	40	12	15	12
R8	8	5	22	14	21
R9	9	12	10	8	8
R10	10	18	27	9	17
R11	11	7	3	7	23
R12	12	48	58	20	9
R13	13	4	14	16	15
R14	14	24	34	10	20
R15	15	53	95	36	13
R16	16	33	42	19	19
R17	17	32	40	22	16
R18	18	28	23	23	33
R19	19	61	44	31	32
R20	20	35	38	26	26
R21	21	1	2	12	39
R22	22	36	41	17	25
R23	23	64	63	32	22
R24	24	13	13	18	24
R25	25	30	31	30	35

Conclusion

(0.851) and **DERA/Bauwens** (0.776). For the full set of active researchers (N=102), the correlation coefficients of rank are: **DERA/KMS** (0.603); **DERA/RePEc** (0.694); **DKMS/EQUAL** (0.903) and **DERA/Bauwens** (0.942).

In this paper we have attempted to show the impact of using the draft journal weights of the ERA scheme on the reported performance of New Zealand's economics departments and individual researchers. The results are then contrasted with those generated by alternative weighting schemes arbitrarily selected to represent so-called "high" and "low" powered schemes. The findings suggest that the outcomes generated by the draft version of the ERA weights for economics journals (DERA) are quite similar to those generated by our "low" powered schemes: EQUAL and Bauwens. This suggests that the DERA scheme does not aggressively differentiate between high and low quality journals.

Rephrased, articles in journals that are traditionally ranked highly in the economics literature continue to be highly ranked by the DERA, but they are joined by a number of other journals. Indeed, we found that over 50% of the articles published by New Zealand economists over the 2001-2006 period, were in "A+" or "A" journals. Our analysis was retrospective: we applied the DERA scheme to past research activity. If, on the other hand, researchers are aware of the rankings and target submissions accordingly, the percentage of publications in the top classifications should increase. Although this may be socially useful in that more research on domestic issue is likely to be forthcoming, departmental scores will become more compressed and the rankings less stable.

At this point we must stress two major qualifications to our work. First, we have arbitrarily converted a letter grading scheme to a numerical one: recall that we assigned an "A+" a grade of "4", an "A" a grade of "3" and so on. Clearly this may not be the implicit grading scheme used by the Research Assessment Committee of the ERA, but word of mouth will eventually occur to give academic researchers some idea of the prevailing norms. We have adopted a somewhat similar strategy: we have used the traditional conversion scheme used by many academic administrators to convert letter grades to numerical grades and visa versa. We believe our work is a useful starting point for evaluating the impact of using DERA journal weights on departmental and individual performance, and as an aid in helping administrators and researchers devise strategies to improve subsequent rankings.

Our second qualification is straight forward. Following universal practice in the departmental rankings game, we have defined research to be refereed journal articles only. This approach is largely adopted for pragmatic reasons, and it undoubtedly penalizes those who prefer to publish books, monographs, and engage in other scholarly activities.

Despite the above limitations, we believe our analysis is quite relevant to Australian economists and to department heads in Australian economics departments. As noted earlier, New Zealand economics departments may not perform as well as the top group of Australian institutions, but, on average, as calculated by Australian-based researchers, perform as well as their Australian counterparts. Furthermore, our findings suggest that some institutions that perform well under more conventional weighting schemes do not fare as well under the draft ERA journal weighting scheme. Perhaps the traditional leaders in Australia may suffer a similar fate under the journal article component of the new national evaluation scheme.

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