

State of Social Science in New Zealand: supplementary material

This supplement to the editorial turns to building up a brief profile of the parameters of the contemporary NZ social science community, generally organised around the flow of stages involved in producing research: topic choice, production sites, funding and other resourcing, outputs and outcomes/impact. This overview should indicate where more data-collection and analysis is required to provide sufficient underpinning for better development of policy for social research in New Zealand. To provide a comparative perspective for a review of social research infrastructure in Germany see German Data Forum (RatSWD) (2011).

Social Science research and researchers is/are spread across (at least):

- University research (and teaching) units
- Polytechnics and Wananga
- COREs (Centres of Research Excellence)
- NSCs (National Science Challenges)
- CRIs (Crown Research Institutes)
- Central and Local Government
- Quangos (Quasi-governmental organisations)
- NGOs (Nongovernmental organisations)
- Consultancies
- Independent Scholars.

Recent science developments have included COREs and NSCs. Of the existing Centers for Research Excellence only *Nga Pae o te maramatanga* has a particular concentration in social sciences, although others have some. New COREs are being assessed by RSNZ and will be known by the end of 2020. Similarly amongst the NSCs only one, NSC11 on Building Better homes and Cities, has a major focus on social science, while there are substantial social science presences in some others such as A Better Start, Aging Well, and Healthier Lives [see <https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/national-science-challenges/the-11-challenges/>]. Some studies have been carried out recording the process of some NSCs: e.g. Calude et al 2019; Prussing & Newbury 2016. Universities over the last couple of decades have become festooned by research units of varying capacities and sustainabilities, but which have undoubtedly raised the productivity of research by focusing talent on delimited research production sites. Two important stand-alone research organisations with useful client linkages and a depth of research expertise are the long-established *NZ Council for Educational Research - NZCER* (and later) *NZ Institute for Economic Research - NZIER*. Little is known about government social research (see Preston, 2018 and for an historical account see MacKay, 1975).

Abutting institutions include the official statistical system (Statistics NZ and data-producing operational agencies: e.g. Ministries of Education, Health, Justice etc.) and the market research industry. Together these supply much of the data used in quantitative and some qualitative analyses. The Blogosphere, Investigative Journalism (Hollings, 2017) and Documentaries (Campbell, 2011) are other extensions of social research. Other organisations assist with processing of social research outputs, especially journals but also monograph and textbook publishing. The main disciplines are represented in NZ by associations which usually run conferences, publish journals and represent their discipline to tertiary education and other authorities, and to the general public.

Workforce and funding

The best and most recent tertiary education sector ‘manpower’ data was collected as part of the 2018 PBRF exercise, although only ‘research-active’ university and other tertiary institution staff were included. Thirteen panels developed quality scores for 42 subject-areas. In terms of panels the Social Sciences & Other Cultural/Social Studies panel is central but also Business & Economics, Education, Humanities, and Māori Knowledge & Development and Pacific Research, while the subject-areas are identified with the accompanying tables (1 & 2). Demographic data is available on numbers in each Subject field together with their employment status, age, gender and ethnicity (see Table 2). In addition to the 825 in the Social Sciences panel, there are another 175 in Maori and just over 50 in Pacific studies, almost 800 in Business-related fields and nearly 500 in Education, totalling nearly 1550. The quality scores indicate that the Social sciences cover a range of quality-levels from medium-high to low, with those fields with lower scores tending to be community and/or service related (see also Curtis, 2008).

<i>Table 1: Subject Areas for Social Science related areas (more pertinent subjects in red)</i>	<i>FTE (research-active) Staff</i>	<i>Average Quality Score (max. 5)</i>
Philosophy	60.34	3.36
English Language and Literature	72.35	3.17
History, History of Arts, Classics and Curatorial	148.47	3.11
Psychology	249.47	3.09
Anthropology & Archaeology	68.00	3.03
Human Geography	75.12	3.01
Political Science, International Relations and Public Policy	117.30	2.82
Religious Studies and Theology	40.50	2.82
Management	260.32	2.66
Māori Knowledge and Development	174.87	2.64

Sociology, Social Policy, Social Work, Criminology and Gender Studies	199.20	2.64
Communications Journalism and Media Studies	116.24	2.58
Economics	136.64	2.58
Pacific Research	54.61	2.57
Public Health	306.31	2.53
Education	487.96	2.50
Marketing and Tourism	171.36	2.45
Other Health Studies (including Rehabilitation Therapies)	180.24	2.42
Accounting and Finance	212.00	2.37
Nursing	88.07	2.20
<i>Table 1b Panels</i>		
Humanities and Law	633.29	3.00
Social Sciences and Other Cultural/Social Studies	825.33	2.86
Māori Knowledge and Development	174.87	2.64
Pacific Research	54.61	2.57
Business and Economics	780.32	2.52
Education	487.96	2.50
Health	496.06	2.50

Some fields (see Table 2) are very female-dominated: Education (70%), Anthropology (57%), Maori & Pacific (58%), and Sociology (60%) etc., whereas only 25% of Economists are female. More service-orientated fields have lower proportions full-time. Average age for each field hovers around 50 years within a tightly confined range. In terms of ethnicity, clearly Maori and Pacifica dominate in their respective ethnicity-linked fields, but otherwise are spread thinly and Asians have a large presence in a few economic and mathematically-orientated fields.

Table 2: Demographics by Subjects (PBRF data)

<i>Field</i>	<i>Female</i>	<i>Full-time</i>	<i>Average Age</i>	<i>European</i>	<i>Maori</i>	<i>Pasifika</i>	<i>Asian</i>
Accounting and Finance	36.4	97.6	48.86	29.3	.9	1.4	39.6
Anthropology and Archaeology	57.0	94.1	49.9	63.6	4.4	.0	4.4
Architecture, Design, Planning, Surveying	35.6	89.9	50.6	59.4	3.8	.7	8.5
Communications, Journalism and Media Studies	46.7	97.2	49.95	69.9	2.6	.9	9.0
Economics	24.8	95.1	48.5	45.1	.7	1.5	27.6
Education	69.4	88.5	55.75	71.1	3.8	1.2	5.5
History, History of Art, Classics and Curatorial Studies	41.5	92.9	53.2	68.9	2.7	.7	2.0
Human Geography	52.2	89.2	47.7	69.7	5.3	.0	2.5

Law	45.1	94.5	50.3	63.3	4.8	1.1	4.3
Management, Human Resources, Industrial Relations and Other Businesses	45.4	93.0	50.9	64.6	3.8	.0	14.0
Māori Knowledge and Development	58.0	89.8	50.0	5.6	88.6	.0	1.1
Marketing and Tourism	45.2	96.3	49.2	58.2	1.8	1.2	11.2
Pacific Research	71.1	93.4	49.7	9.2	3.7	71.8	.0
Political Science, International Relations and Public Policy	42.6	91.2	50.7	60.2	.9	1.7	10.9
Psychology	54.2	91.8	48.6	67.4	5.6	1.9	4.7
Religious Studies and Theology	24.4	93.8	53.0	72.8	.0	.0	2.5
Sociology, Social Policy, Social Work, Criminology & Gender Studies	60.6	86.8	52.2	69.3	4.3	2.4	4.4

In addition, there has developed a very considerable and very relevant literature on PBRF and its effects, too large to attempt to review here. Surveys (e.g. Curtis 2008) have indicated that respondents are at best ambivalent about this research assessment exercise, with many feeling it is too constraining, while recognising that it can be helpful in energising academic staff.

The 2018 TEU survey (Sedgwick & Proctor-Thomson, 2019) puts more flesh on the characteristics of social scientists in University and other Tertiary Institutions; although non-union staff are not well covered and the survey includes an undue proportion of Polytechnic staff. In most ways, social scientists have similar characteristics to other academics. The data suggests there are some numbers of social scientists in Polytechnics and Wananga. Other surveys of social scientists might also be drawn on to paint a fuller picture of their experiences as academics and researchers: e.g. Curtis (2008) and Witten & Hammond (2010). In 2006 & 2009 the Building Research Capability for the Social Sciences (BRCSS) carried out National Surveys of Social Scientists finding a wide range of interesting information besides the customary demographics. For example, in terms of impact (Witten & Hammond, 2010), 45% reported obtaining funding (either from their own institution or from central Government agencies, and with more reporting HRC funding than from Marsden. 42% of respondents reported at least one example of research transfer or uptake, often targeted at government departments although often in the passive form of merely making material available. Few (only 20%) claimed their research was single-discipline although strangely collaboration was reportedly mainly within their own discipline.

One broad clientele for social science research are various professions and semi-professions together with applied social scientists. While many in this grouping are restrained to clinical or advisory work, some will publish clinical and other research, and/or be appropriate audiences. The 2018 census data (with trends identifiable in comparison to the two previous censuses: see Table 3) shows the several occupations that directly relate to the social sciences. (These are unlikely to include academics since these would give their prime occupation as university teacher etc.) Some 14,000 fit this broad grouping – especially policy analysts, planners and a range of psychologists together with economists, ‘intelligence officers’ and historians – although other social science knowledge-dependent professions and semi-professions (e.g. teachers, nurses, social workers – see Beddoe, 2010) could be readily added.

Table 3: Census Data 2006-2018

<i>Occupation</i>	<i>2006</i>	<i>2013</i>	<i>2018</i>
Clinical Psychologist	1878	1476	2514
Educational Psychologist	90	69	201
Organisational Psychologist	33	24	54
Psychotherapist	522	531	600
Psychologists nec	48	72	63
Historian	132	126	147
Economist	540	435	546
Intelligence Officer	456	261	537
Policy Analyst	5100	4221	7353
Land Economist	54	45	39
Urban and Regional Planner	1815	1629	3012

Little is known about other (non-academic) Social Science workforces largely as they are difficult to research and there is no agency with a particular responsibility or even interest. Central Government social researchers are embedded within the ‘Policy Analyst’ occupation (see <https://ssc.govt.nz/assets/Legacy/resources/PSWD-Report-2017.pdf>). There are some 3000 of these - 58% women, with an average age of 39 (the youngest State Services occupation grouping), 76% European, 8% Maori, 4% Pacific, 7% Asian, and with a gender pay gap of 10%. Most are posted in Departments or Ministries where it is likely that many might be doing research activities but there are also government units where they are occupied more as desk officers (e.g. MFAT). There is a small NZ literature on policy analysts (e.g. Blewden et al., 2010;

Lofgren & Cavagnoli, 2015; Witten & Hammond, 2010). The Preston Report (2017) provided a partial picture of contemporary government research units (see table 4 for a summary).

Table 4: Information on Selected Research Units (Preston 2017)

Ministry	Unit	Staff/Budget
MSD	Research and Evaluation	26
MSD	Reporting	23
MSD	Data management and Information	45
MSD	Client and Business Intelligence	17
Min. Children/ Oranga Tamariki	Evidence Team	c30
Ministry of Justice	Evidence and Evaluation group	17
Ministry of Education	Analysis, Research and Evaluation group (ARE)	30
Ministry of Education	Tertiary Sector Performance analysis team	?
Ministry of Health	Research and evaluation contracts	\$25M
Housing NZ Corporation	Evaluation and research	3
Accident Compensation Corporation	Central research team	11
ACC	Contracted research	\$10M
NZ Council for Educational Research	Research	c25

Much of the funding of social research comes from Government, supplemented by some charitable and other sources. The major source is the Marsden Fund whose Social Sciences Committee has supported some 300 projects over the last 2 decades at a cost of \$145M. There is other funding (e.g. MSD's Children Research Fund or the Lotteries Commission Community Research Fund) but most tertiary education social researchers rely on internal institutional research funds (see Sedgwick and Proctor-Thomson, 2018). The three-yearly Statistics NZ Research & Development Survey yields some data, where the research purpose is classified as 'Social structures and relationships (includes education)' or 'Other civil research - includes large amounts of biosecurity and cultural R&D'. This source indicates that most research under this title is carried out by Central Government. Much government social research activity merges with policy development and thus measurement of its cost is difficult: some useful but now older data is in Morst, 2008 which looks at a wider range of research (including research related to policy), although still underestimating much quasi-research (such as much survey social research). A very interesting case study of housing research funding and outputs is Saville-Smith et al, 2018.

Outputs

A preliminary examination of data from *Scival* is provided to reveal the parameters of social science production and the characteristics of the various individual and organisational producers of social science research outputs from NZ over the 4-year period (large enough to provide a firm statistical base) 2015-2018. *Scival* is an analysis-system based on the *Scopus* bibliographical system and allows more systematic extraction of information, which is made more consistent through the deployment of unique identifiers. Social Sciences are spread over several categories. The data for this study was supplied by the RSNZ.

There is a very large literature on types of research (publishing) productivity and the factors/predictors shaping this. This extends to the productivity of collective units, departments and universities, and also countries. Some of this work has been concerned fairly broadly to assess NZ's research productivity performance, but since the advent of PBRF in 2003 some of this work has been more closely focused on assessing the impact of PBRF on research productivity (e.g. Buckle & Creedy 2018a, 2018b, 2019; Gush et al. 2017). More generally, productivity is also touched on in international university ranking studies, which include citation impact for subject areas amongst other measures (see Crothers, 2017a). The literature seems summarisable on several points:

- For NZ there is some concentration on the social sciences, especially economics, political science and sociology. NZ has a good output rate although a lower citation rate (so this is not adequately converted into impact);
- There has been a distinct increase in outputs (perhaps because of 'salami-slicing');
- The quality appears to have decreased in terms of the prestige of the journals that the material appears in;
- There is more emphasis on journal articles compared to other publication types.

Scopus has a set of 36 field classifications. Those examined are "Arts and Humanities"; "Business, Management and Accounting"; "Decision Sciences"; "Economics, Econometrics and Finance"; "Psychology"; and "Social Sciences". All of these are part of a broad Social Sciences and Humanities 'subject cluster'. In turn these fields are broken down into sets of sub-fields. There is a lot of overlap with publications spanning several subjects, although appropriate analyses are presented below that attempt to account for the effects of multiple entries in the dataset. There can also be an issue with 'size' since the metrics for any group of publications less than 100 (and really less than 200) will not be robust.

The combined datafile included some 22000 items, but with considerable overlap. Multiple items were indicated using the SPSS aggregate procedure. Some common item types which tend not to be citeable research contributions: e.g. 'introduction', 'preface', 'editorial', were excluded. Only the 'first-mentioned' occurrence of an item was used, which may classify items

in a rather arbitrary fashion. The time period was chosen to provide data reflecting the current situation and to provide a reasonably good dataset size without being overwhelming. The more recent material included has limitations for this study since citations to recent publications included do not settle down for at least two years post-publication year – especially in the social sciences where citation lags are longer.

There is also difficulty about what is meant by ‘NZ’ coverage. Here the information is based on those affiliated (during the period) with NZ institutions. But this does not necessarily mean that the material is NZ-related. It possible to code journal titles into those which are NZ-related, although again this does not necessarily mean that their material is necessarily on NZ. A separate investigation using NZ as a keyword in Scopus was developed – reported below - to explore the extent of more specifically NZ-related material. For some disciplines, too, their content is not necessarily country-specific (for example, much psychology research). As well as country being identified it is possible that knowledge is tied rather to particular locations within NZ (e.g. Auckland), and so might not be picked up using NZ as a keyword, or locality-reference. Data was organised by Outputs (i.e. ‘citation characteristics’); Institutions and Authors. In this study the emphasis is on outputs.

The vast majority of outputs recorded in *Scopus* are journal articles, but there are some books, book chapters and other material. This discussion does not include this other material since it is not clear how well these sample the relevant ‘population’ of outputs. Over 70% were articles, with 12% chapters and 2% books (over 300 books is quite a substantial total). The remainder were conference papers, editorials, reviews, and notes. The sampling revealed that some outputs were authored by NZ-based authors or by teams that included a NZ-based author. It was found that similar numbers of outputs are produced for each of the years covered. Of the 15.5 thousand unique outputs included, most (60%) fell within the generic ‘social sciences’ category with the other categories having considerably lesser proportions – see Table 6. Of more interest, since it better approximates the various fields across which social researchers are located, a more detailed table based on the next level of classification is appended (Table 7). Less than 6% of the outputs were published in those NZ-based journals included in the data set, namely, *New Zealand Sociology*, *New Zealand Journal of Educational Studies*, *New Zealand Economic Papers*, *Kotuitui*, *New Zealand Geographer* and *New Zealand Journal of Psychology*, each with over 65 items in the 4-year period. (Several other NZ-based journals are not included in Scopus.)

Table 6: Area of Study (Source: *SciVal*)

	<i>Frequency</i>	<i>Percent</i>
Arts	1145	7.4
Business	2256	14.6
Decision	404	2.6
Economics	759	4.9
Psychology	1587	10.3
Social Sciences	9287	60.2
Total	15438	100.0

Almost all the social science research was produced by the set of 8 universities, with a small scatter of work from polytechnics, health organisations and other organisations, although not apparently from Government social researchers or other sites. The highest concentrations of business/economics were produced at Lincoln and AUT, and for Psychology and Social Sciences, at Auckland and Otago (perhaps because these Universities have medical schools), although social sciences also featured strongly at Waikato and Massey, and Arts especially at VUW and Otago.

Only 30% of items were by sole authors, with a further one-quarter authored by duos and 21% by trios; the average number of authors was 2.96, with a standard deviation of 4.2 (the largest team was 221 authors!!) Many of the authorial teams included many overseas authors. One way of indicating apparent importance is to note that about 55% of the articles were headed by a NZ-based author. It is also possible to identify prolific authors in each category but this is not reported here.

Finally, impact – as conventionally measured by citations – can be examined. The average number of citations was 2.5 with a standard deviation of 6.7. Many (48%) were not cited at all, although since most are recent, they may be more cited later. One item had already attracted 385 citations. It is useful that *SciVal* also included field-weighted citations, which tend to have levels about half that of all citations for the various fields covered in this study.

Table 7: Number of Research Outputs for more Detailed Classification Categories
(Based on 1st subject code in the database)

<i>Scopus Subject Code</i>	<i>Scopus Subject</i>	<i>No. of Items 2015-2018.</i>

1200	General Arts and Humanities	508
1201	Arts and Humanities (miscellaneous)	155
1202	History	235
1203	Language and Linguistics	152
1204	Archeology (arts and humanities)	61
1205	Classics	12
1206	Conservation	14
1207	History and Philosophy of Science	77
1208	Literature and Literary Theory	142
1209	Museology	11
1210	Music	49
1211	Philosophy	200
1212	Religious Studies	66
1213	Visual Arts and Performing Arts	205
1400	General Business, Management and Accounting	325
1401	Business, Management and Accounting (miscellaneous)	71
1402	Accounting	197
1403	Business and International Management	186
1404	Management Information Systems	48
1405	Management of Technology and Innovation	125
1406	Marketing	305
1407	Organizational Behavior and Human Resource Management	115
1408	Strategy and Management	276
1409	Tourism, Leisure and Hospitality Management	303
1410	Industrial Relations	24
1800	General Decision Sciences	39
1801	Decision Sciences (miscellaneous)	1
1802	Information Systems and Management	80
1803	Management Science and Operations Research	94
1804	Statistics, Probability and Uncertainty	47
2000	General Economics, Econometrics and Finance	375
2001	Economics, Econometrics and Finance (miscellaneous)	63
2002	Economics and Econometrics	583
2003	Finance	158
3200	General Psychology	497
3201	Psychology (miscellaneous)	16
3202	Applied Psychology	229
3203	Clinical Psychology	166
3204	Developmental and Educational Psychology	242
3205	Experimental and Cognitive Psychology	133

3206	Neuropsychology and Physiological Psychology	39
3207	Social Psychology	155
3300	General Social Sciences	1429
3301	Social Sciences (miscellaneous)	186
3302	Archeology	73
3303	Development	127
3304	Education	1378
3305	Geography, Planning and Development	544
3306	Health (social science)	283
3307	Human Factors and Ergonomics	37
3308	Law	149
3309	Library and Information Sciences	95
3310	Linguistics and Language	203
3311	Safety Research	77
3312	Sociology and Political Science	556
3313	Transportation	68
3314	Anthropology	136
3315	Communication	219
3316	Cultural Studies	268
3317	Demography	39
3318	Gender Studies	62
3319	Life-span and Life-course Studies	27
3320	Political Science and International Relations	104
3321	Public Administration	36
3322	Urban Studies	74

A parallel investigation into the NZ-focused literature using *Scopus* was carried out. In terms of author affiliation about 70% were based in NZ (or had at least one NZ-based member in a team). One third had 'New Zealand' or cognate term (3% with Māori and 6% with Māori and NZ) in their article title; some 10% were in NZ-published journals with another 2% in Australasian, and finally 85% were journal articles, nearly 10% books or book chapters with the few percentage residue being shorter items.

It can be difficult tracking the 'grey literature' into which much government social research falls. Fortunately for NZ, Superu (and now the Social Investment Agency) have developed a bibliographical depository - Hub [<https://thehub.sia.govt.nz/>] which attempts to record all such items over the last years: there are nearly 4000 items (see Table 8). The main producers are some of the bigger Ministries: Health, Social Development, but also the Health Promotion Agency. Many are evaluations which is a type of report increasingly appearing. Another research registry *Community research* (<http://www.communityresearch.org.nz/>) retains

much usefulness for community level researchers and there are several other very useful database compilations.

Table 8: Areas covered by Government Social Research

	<i>Number of Reports</i>	<i>% of Total</i>
Advocacy & Support	398	10.94
Communities	398	10.94
Conflict & Safety	1053	28.94
Economy	2179	59.89
Education & Learning	2262	62.17
Environment & Energy	240	6.59
Families & Whānau	992	27.26
Governance & Government	1435	39.44
Health	2277	62.58
Māori	543	14.92
Population & Demography	2080	57.17
Quality of Life & Wellbeing	1153	31.69
Social Diversity	707	19.43
Technology & Communication	718	19.73

Source: SIA Hub, ‘reports’ over last 2 decades

It is increasingly of policy concern (e.g. the ‘impact agenda’ of the Research Councils of the UK), as well as intellectual interest, to consider what the ‘real-world’ impact of studies might be. One (albeit problematic) source is the PBRF exercise. The report includes several PBRF panels which indicated the proportion of ‘contribution to research environment’ outputs in their area comprised the ‘outreach’ or ‘applied’ types (applicants could list up to 16 such items: see Table 9). For the relevant panels, ‘outreach’ comprised some 10% of outputs while about half that proportion were ‘applied’. Another area needing investigation is the involvement of NZ social scientists in the media and in affecting government policy. Studies include those by Smith 1998; Witten & Hammond 2010; and Blewden et al. 2010. Smith found that in two social policy fields between a quarter and one third of cabinet papers referenced research. Blewden et al. were able to document complex interactions between policy-makers and researchers in the immigration policy field which varied with the stages of development of both research and policy development.

Table 9: % PBRF Outputs: Outreach or applied

<i>Panel</i>	<i>Outreach (%)</i>	<i>Applied (%)</i>
Business and Economics	7.80	4.20
Education	6.30	4.10
Māori Knowledge and Development	10.10	3.80
Pacific Research	11.10	3.40
Social Sciences	9.50	4.10

Source: TEC. Report on 2018 PBRF round

In sum, this compilation indicates some of the data-sources for examining the social research community and reports some of the parameters of the NZ social research enterprise. But much more information would need to be collected to investigate how it ‘works’ and if it might be able to be made to ‘work better’.

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Charles Crothers, School of Social Sciences, AUT (and University of Johannesburg).

Acknowledgements for assistance with data: Fei He & Jason Gush, RSNZ and Helen Rayner (AUT).