CAN ACADEMIC FREEDOM SURVIVE PERFORMANCE BASED RESEARCH FUNDING?

*Petra Butler* and Roderick Mulgan**

Academic Freedom is a largely under-explored right in the common law. Performance or Output Based Research Funding is a relative new phenomenon in regard to the distribution of Government money. Even though this research funding model has been the subject of educational, sociological and political science research, surprisingly little research has examined the implications for academic freedom. This article attempts to fill that lacuna. It examines the right to academic freedom in the context of New Zealand’s Bill of Rights Act 1990, and whether or not output based research funding is a justifiable limitation on the right to freedom of academia protected by that Act.

No [one] ought to meddle with the universities, who does not know them well and love them well…

I INTRODUCTION

Plato, in his *Republic*, proposed that philosophers, who devote their lives to obtaining insights that benefit their fellow citizens, can be trusted to be wise and good, and should govern not only themselves, but the rest of society, to optimise the benefit to all. Modern administrators are more demanding. Most countries provide universities with government funding, to reflect the public good of academic enquiry and widespread higher education. Due to the immense growth of student

---

* Associate Professor, Associate Director New Zealand Centre of Public Law, Victoria University of Wellington;

** LLB(Hons), MPP.

We would like to thank Professor Jonathan Boston and Grant Klinkum for the stimulating and challenging comments and discussions, the views and mistakes represented in this article are entirely our own.


numbers after World War II, and more recently a considerable decrease in available public funds, many Governments have asserted a need to manage public money with sophisticated funding regimes, to ensure the best value for what they spend.\textsuperscript{3} Britain, for example, has developed a model that attaches Government funding for university research to peer review of academic output, and around a dozen other countries, including New Zealand, operate some variant of this system.\textsuperscript{4} Output-based university research funding systems are all versions of the same basic model that ties future government funding to assessment of research already completed. Most commentators characterise them as part of a modern neoliberal imperative that emphasises accountability and efficiency, delivered through market mechanisms.\textsuperscript{5} They sit alongside other elements of that agenda, such as "user pays" student fees, and partnerships with industry. Others express concern that these imperatives erode the traditional ethos of a university, with its emphasis on higher learning as an end in itself, and the public good of wide spread education.\textsuperscript{6} Funding models have been extensively discussed in social science, political science and policy literature and have been the subject of a number of studies.\textsuperscript{7} However, surprisingly the authors were unable to find any in-depth discussion of university research funding models in legal literature.


\textsuperscript{4} Spain, Slovak Republic, Hong Kong, Australia, Poland, Portugal, Italy, Belgium, Norway, Sweden, Denmark, Finland. See Diana Hicks "Performance-based university funding systems" (2012) 41 Research Policy 252.

\textsuperscript{5} Bruce Curtis "The Performance Based Research Fund: research assessment and funding in New Zealand" (2008) 6 Globalisation, Societies and Education 179 at 180.

\textsuperscript{6} Cris Shore and Mira Taitz "Who 'owns' the university? Institutional autonomy and academic freedom in an age of knowledge capitalism" (2012) 10 Globalisation, Societies and Education 201 at 203. The authors do not intend to romanticise the past and acknowledge that other models, like an exclusively "user pays" funding models invoke their own problems. The authors in this article particularly concerned with output based university funding.

This article argues that peer review emphasises the contemporary usefulness of research, and inveigles researchers to favour conventional and well accepted lines of enquiry, neglecting or placing less value on innovative and controversial contributions. There is considerable historical precedent for insights arising in novel ways, and being rejected by the establishment (including the academic establishment) in the first instance. It is also the case that new insights may not prove valuable until they fall into place with other findings, which may be years after they are first described. One of academic freedom's utilitarian justifications is the value of qualified people pursuing knowledge that lacks immediate justification, for these reasons. That is why academia has historically stood apart from commercial imperatives and the need for economic returns. It is the academic researcher's raison d'être, and it is one of the building blocks that are necessary for social progress. Only recently the German Constitutional Court emphasised the significance of academia for society, the centrality of academia for the knowledge society, and the responsibility of academia.8

The authors contend that output-based peer review systems threaten academic freedom, in particular the freedom to research. If new knowledge has to demonstrate its worth at the time of its creation, knowledge that does not make the grade on this criterion will not be pursued. The risk is that focus on the present means that the larger view is lost. This chilling effect is an infringement of academic freedom. It has implications for the long-term quality of research, but also for the lawfulness of the system, if the limitation of academic freedom is unjustified. Even though the threat to academic freedom by Government funding regimes is not a New Zealand issue alone, the authors have focused in their analysis on New Zealand (given the recent completion of the New Zealand Performance Based Research Fund (PBRF) review). In the New Zealand context the unjustified limitation infringes s 14 of the New Zealand Bill of Rights Act 1990 (BORA).

This article starts in Part II by outlining the essential features of output-driven university funding systems. Part III sets out the parameters of academic freedom: its historical background, modern legal framework, and the ambit of the right it encompasses. Part IV outlines the way in which these funding regimes can infringe the researcher's academic freedom, or at least pose a serious risk of doing so. Part V argues that this infringement in the New Zealand context is not a justified limit under s 5 of the BORA.


8 Bundesverfassungsgericht 2 BvL 4/10, 14 February 2012 at [173] (W-Besoldung).
II PERFORMANCE BASED FUNDING SYSTEMS

Performance based funding systems are a relatively recent development, and are still in the process of development. Around a dozen countries have implemented them, starting with Britain in the mid-1980s. They are subject to substantial ongoing revision. For the purposes of this article, performance-based funding systems have the following characteristics:

- they evaluate research (not teaching);
- they are ex-post (that is, research completed, not research proposals);
- they evaluate research output, not proxy measures such as numbers of PhD students;
- they direct the allocation of state funding;
- they are national in their scope.

These systems have been created to deliver various goals, the most common of which is to enhance research excellence. Enhancing the quality of research, among other goals, was one of the key outcomes sought when New Zealand implemented the PBRF. The Ministry of Education has identified bibliographic measures in particular (the extent to which research from New Zealand universities is cited in academic literature) as a basis for claiming the system appears to have improved research quality.

A number of these systems are based on peer review, although there is no obvious reason peer review should be preferred. Peer review is not part of the definition of a performance-based funding system.

While substantial state funds are distributed on the basis of these systems, the amount that is redistributed from one institution to another is often not significant, particularly among the top tier of recipients. The influence of these systems seems to be primarily through the reputation associated with a high ranking, and not necessarily through the money the rankings attract.

---

9 Hicks, above n 4.

10 Spain, Slovak Republic, Hong Kong, Australia, Poland, Portugal, Italy, Belgium, Norway, Sweden, Denmark, Finland. See Hicks, above n 4, at 252.

11 Hicks, above n 4.

12 Hicks, above n 4, at 253.

13 Damien Cole Performance-Based Research Fund (Parliamentary Library, Wellington, April 2012) at 1; Warren Smart Analysis of the impact of PBRF, interim findings (Ministry of Education, 2013) at 2.

14 Smart, above n 13, at 27.

The systems are generally structured to deliver a single grant to each tertiary institution, with the institution retaining control over how the money is spent within its own needs. There is no guarantee that extra funding will wind up with the researchers who created the grade that attracted it.\textsuperscript{16}

The United Kingdom has undertaken national assessment of university research since 1986.\textsuperscript{17} It was the first country to implement a performance-based system for allocating research funding, and is the inspiration for the other countries that followed.

Since the 1990s, the New Zealand authorities have considered various models of targeted research funding. Section 159L of the Education Act 1989 gives the Minister control of the design of the funding mechanisms. The wording makes it clear the Minister’s scope is very broad: he or she may specify "general form and essential components of each funding mechanism"; the proportions of funding that relate to plans, or determined other than by plans; the amounts of money distributed by any mechanism; targeted amounts for organisations or groups; ways in which given mechanisms may be modified; and any conditions attached to funding. The Government in 2000 specifically established the Tertiary Education Advisory Commission to assist the Minister and the Government in devising a new funding regime; recommended performance-based funding for the research component of tertiary education activity.\textsuperscript{18}

The TEAC proposed a model that used both peer review and performance indicators. The funding is based on three components:\textsuperscript{19} measurement of external research income,\textsuperscript{20} the measurement of research degree completion,\textsuperscript{21} and a periodic quality evaluation, which determines the main portion of the funding.\textsuperscript{22} This recommendation differed from models that used only one or the other, such as in the United Kingdom (peer review) and Australia (performance indicators).\textsuperscript{23} Of significance for this analysis, the peer review was intended to apply to individual academics, not a school or university department.\textsuperscript{24}

\textsuperscript{16}Hicks, above n 4, at 253.
\textsuperscript{19}Cole, above n 13, at 2.
\textsuperscript{20}Weighed at 15 per cent (approx NZD 37.5 million).
\textsuperscript{21}Weighed at 25 per cent (approx NZD 62.5 million).
\textsuperscript{22}Weighed at 60 per cent (approx NZD 150 million).
\textsuperscript{23}Boston, Mischewski and Smyth, above n 18.
\textsuperscript{24}Most countries have followed the United Kingdom, where the concept of funding based on peer assessment was pioneered, and evaluated at the collective level, such as research unit, department, or institution.
TEC, established 2003 to help to administer the tertiary education strategy, including the PBRF, describes the process as follows:25

The Quality Evaluation process rests on the submission and evaluation of Evidence Portfolios (EPs). Specialist peer review panels assess and evaluate EPs, with additional advice from expert advisory groups (EAGs) and specialist advisers as needed. This process is moderated by the Principal Moderator and Deputy Moderators. Participating TEOs are also required to complete a census of their staff and participate in the TEC’s audit of the processes used to identify eligible staff and submit valid EPs and nominated research outputs.

The most recent round of the PBRF, in 2012, had 12 review panels.26 In addition, there was a moderation panel that oversaw the peer review panels to ensure consistency. The Law and Humanities panel, for example, contained 24 panellists (including the chair),27 and another 14 “specialist advisors.”28 Twenty-five out of the 38 academics involved in the law and humanities portfolio assessment were from New Zealand.29 Thirty were professors and six associate professors.30 Only five of the 24 panellists and two of the 14 specialist advisers represented law academics, although all seven were professors.31 Of the seven law professors, seven came from New Zealand universities.32 The single overseas law expert came from the University of Sydney.33 There was no law expert from the Northern hemisphere.

Each eligible researcher presented their panel with an “evidence portfolio” of three elements.34

---


26 Biological Sciences, Business and Economics, Creative and Performing Arts, Education, Engineering, Technology and Architecture, Health, Humanities and Law, Māori Knowledge and Development, Mathematical and Information Sciences and Technology, Medicine and Public Health, Physical Sciences, Social Sciences and Other Cultural/Social Studies. In addition, there were two expert panels: Professional and Applied Research EAG and Pacific Research EAG. See Cole, above n 13, at 2–3; Smart, above n 13, at 76.


28 At 16–17.

29 At 6–7.

30 At 6–7.

31 At 16–17.

32 At 16–17.

33 At 16–17.

34 Smart, above n 13, at 74.
• Research outputs: up to four items of research that the researcher deems their best, and up to 30 other research outputs;
• Peer esteem: evidence of that researcher's standing (awards, memberships, invitations to keynote speeches);
• Contribution to the research environment: membership in research consortia, generation of external research income, supervision of student research.

Each portfolio was assigned to a primary and secondary panellist, who made independent assessments and then agreed on a collaborative score. That score was then discussed with the whole panel to determine a final score. The scores for each component were weighted, to determine which of six quality categories the portfolio belonged in.\textsuperscript{35}

While the requirement to have the PBRF system is dictated by Government, the universities are actively involved in implementing it. The membership of the aforementioned panels, for instance, both review and moderation, is under their control.

The authors do not deny that the architects of the PBRF took the utmost care to create a system that was procedurally fair and methodologically robust. The analysis offered in this article is not intended to undermine the intentions behind the system, or the considerable body of scholarship expended on its creation. The article questions, however, whether the PBRF limits the researcher's freedom to research as protected by the New Zealand Bill of Rights Act 1990 in the least possible way. The article contends that the Government when designing the PBRF did not adequately take into account the protection of academic freedom.

\textbf{III PROTECTION OF THE UNIVERSITY RESEARCHER'S ACADEMIC FREEDOM IN NEW ZEALAND}

\textbf{A Introduction}

While institutions recognisable as universities have existed since the 12th century in Europe, it is only in relatively modern times that they have embraced the concept of academic freedom. Medieval universities were created to prepare students for the professions of law, medicine and holy orders,\textsuperscript{36} which they did by transmitting a received body of knowledge.\textsuperscript{37} Learning for its own sake

\textsuperscript{35} There were six quality categories: A, B, C, R for established researchers, "A" for the research of "world-class standard" and "R" for research "when it does not demonstrate the quality standard required for a "C" Quality Category or higher". See Cole, above n 13, at 4.

\textsuperscript{36} N Bhattacharya "The Evolution of Knowledge in the University" (2012) 28 The Information Society: An International Journal 208 at 209.

\textsuperscript{37} Terrence Karran "Academic freedom in Europe: Reviewing UNESCO's recommendation" (2009) 57 British Journal of Educational Studies 191 at 192.
was not a major consideration,\textsuperscript{38} nor was research. The body of knowledge was static and widely accepted\textsuperscript{39} (law, for instance, meant learning the Corpus Iuris Civilis), and teachers were expected to remain within the boundaries of orthodoxy.

The idea that knowledge was not fixed first emerged as a significant consideration in Germany in the 1800s, particularly at the University of Berlin, founded in 1810, under the influence of Wilhelm von Humboldt, who emphasised research and the freedom to pursue it as a core principle of university life.\textsuperscript{40} He and other academics and philosophers, such as Kant, argued that knowledge was open to permanent increase.\textsuperscript{41} The idea spread to the rest of Europe after 1850.\textsuperscript{42} It came to pass that a professor was accorded almost absolute freedom when researching and teaching within his field of expertise, even though in his personal sphere, such as political opinions, he was subject to the same censorship as everyone else.\textsuperscript{43}

Before the authors set out the ambit of the researcher's academic freedom in the New Zealand context in more detail, comparative research paints already a universally agreed core of the researcher's right to academic freedom. Interestingly, as far as the authors can establish, while contemporary research has established a universally agreed concept of the researcher’s right to academic freedom, jurisprudence on the freedom of research is not vast,\textsuperscript{44} and extensive legal commentary is predominantly – though not exclusively – confined to the United States and Germany.\textsuperscript{45}

\begin{flushright}
38 I Brockliss "Gown and Town: The University and the City in Europe, 1200–2000" (2000) 38 Minerva 147 at 150.
39 At 149.
41 At 490.
42 Brockliss, above n 38, at 162.
45 A caveat has to be made that the authors were limited by accessibility of foreign material.
\end{flushright}
B General Observations

The right to academic freedom is widely recognised in the modern world. 82 nations have constitutions that protect it. The Charter of Fundamental Rights of the European Union states: "The arts and scientific research shall be free of constraint. Academic freedom shall be respected." The UNESCO General Conference in 1997 adopted the following recommendation:

The right to education, teaching and research can only be fully enjoyed in an atmosphere of academic freedom...the open communication of findings, hypotheses and opinions lies at the very heart of higher education and provides the strongest guarantee of accuracy and objectivity of scholarship and research

Courts and commentators throughout the world recognise that academic freedom encompasses the utility of discovering and disseminating knowledge. Academic freedom includes the freedom of research and the freedom to choose the methods and subject matter of what is taught.

Comparative research establishes that freedom of research includes the right to pursue any research using any methodology that the researcher thinks fit as long as it is comprehensible and reproducible. The freedom of research is the freedom of the individual scholar in his/her research to pursue truth wherever it seems to lead without fear or punishment or termination of employment for having offended some political, religious or social orthodoxy.

46 Spain, art 20(1)(b); Portugal, art 42; Greece, art 16; Estonia, art 38; Finland, s 16; Italy, art 33; Lithuania, art 42; Slovakia, art 43; Austria, art 17; Czech Republic, art 15; Latvia, art 113; Hungary, art IX. See for a complete list of countries and the relevant provisions, ICSU Committee on Freedom and Responsibility in the conduct of Science <www.icsu.org/freedom-responsibility/pdf-images/Academic_freedom_constitutions.pdf>.


49 Hagen Kobor, Grundfaelle zu Art 5 III GG, JUS 2006, 695 at 696.

It is also uncontroversial that the freedom of research encompasses the freedom not to undertake a certain inquiry or not pursue research at any given time.\textsuperscript{51}

To allow for an environment where academic freedom can flourish to the most it is argued that academic freedom encompasses not only the subjective right of researchers against the state to be free from any state interference but also stipulates an objective value system. That objective value system compels the state to foster and guarantee research and scholarship, that is, the state has to provide the organisational framework in which research and scholarship can flourish unhindered.\textsuperscript{52}

\section*{C Legal framework protecting the university researcher's freedom of research}

In New Zealand academic freedom is protected by s 161 of the Education Act 1989\textsuperscript{53} and s 14 of the BORA. Academic freedom, which includes the freedom to research, identifies with the same theoretical foundations as freedom of expression, and is a natural subset of that right. This is discussed in section 1 below.

The authors define the scope or ambit of freedom of research (on the platform of the above parameters of academic freedom derived from comparative analysis) using the four paradigms of independence: economic, institutional, social and professional, and subject matter. They are the areas where freedom of research has its impact. This is discussed in section 2 below.

Section 14 of the BORA provides that:

Everyone has the right to freedom of expression, including the freedom to seek, receive, and impart information and opinions of any kind in any form.

\begin{enumerate}
\item John A Robertson "The scientist's right to research: a constitutional analysis" (1978) 51 Southern California Law Review 1203 at 1206; Scholz in Maunz/Dürig, above n 44, at \[100\].
\item Education Act 1989 s 159AAA: "(1) The object of this Part … is to foster and develop a tertiary education system that … fosters, … high quality … research outcomes …." Compare the United States where the discussion is slightly obscured by the First Amendment discussion: Robert Post "Discipline and Freedom in the Academy" (2012) 65 Arkansas Law Review 203 at 205–209; BVerfGE 35, 79 at 123, 124; BVerf, Beschluss vom 26.06.1979 – 1 BvR 290/79.
\item Education Act 1989, s 161(1):

It is declared to be the intention of Parliament in enacting the provisions of this Act relating to institutions that academic freedom and the autonomy of institutions are to be preserved and enhanced.

(2) For the purposes of this section, academic freedom, in relation to an institution, means—

(b) the freedom of academic staff and students to engage in research ….
Freedom of expression is a central fundamental right in society, and one of the most highly developed fields of human rights jurisprudence in the world. The ambit of this right is "as wide as human thought and imagination".

Section 14 does not mention academic freedom specifically, but freedom of expression and academic freedom are closely related. The affinity between the two was recognised by the United States Supreme Court in the leading case of *Keyishian v Board of Regents*, where the Court described academic freedom as a "special concern of the First Amendment". It is also recognised in the German Basic Law, where freedom of expression is protected in art 5(1), and academic freedom is protected by para 3 of that article. And, as already mentioned, 82 constitutions around the world explicitly recognise the importance of academic freedom, often within the freedom of expression provision.

The affinity occurs because both freedoms are concerned with free dissemination of information, and they both arise from the same theoretical justifications.

1 Dissemination of information

At the heart of academic freedom is the seeking, receiving, and imparting of information and opinions of any kind in any form. Unsurprisingly, academics themselves have always emphasised not only the importance of academia and research, but also the necessity of being totally undisturbed by the state and its institutions when embarking on the academic exercise.

[When] the most active and inquiring intellects find it advisable to keep the general principles and grounds of their convictions within their own breasts...the price paid for this sort of intellectual pacification is the sacrifice of the entire moral courage of the human mind.


55 *Moonen v Film and Literature Board Review* [2000] 2 NZLR 9 (CA) at [15].

56 See in regard to the acceptance of that proposition even in non-legal circles: Karran, above n 37, with further references.

57 *Keyishian v Board of Regents* 385 US 589 (1967) at 603.

58 See for example: Spain, art 20(1)(b); Portugal, art 42; Greece, art 16; Estonia, art 38; Finland, s 16; Italy, art 33; Lithuania, art 42; Slovakia, art 43; Austria, art 17; Czech Republic, art 15; Latvia, art 113; Hungary, art IX. See in regard to a complete list of countries and the relevant provisions, ICSU Committee on Freedom and Responsibility in the conduct of Science, above n 46.

59 Kayrooz, Kinnear and Preston, above n 48, at 44.

2 Theoretical justifications in common

The theoretical basis of freedom of expression rests on four overlapping principles, all of which encompass the academic endeavour as well: the "marketplace of ideas", "human self-fulfilment", "the engine-room of a democratic state", and "a social safety-valve".61

The marketplace of ideas is the principle that ideas should live or die on their merits, without state interference. Insights come in multiple forms, and progress is best served by allowing every claim and insight an opportunity to be heard. Academic freedom is also a search for truth.62 A contest of ideas works best if the ideas are as rich and varied as possible, and academics contribute professional perspectives and discoveries to it. The struggle for truth, often at the heart of the academic endeavour, is valuable in itself for the marketplace even if it ultimately proves wrong.

"Self-fulfilment" is a natural ally of the marketplace. Humanity grows through understanding the world better, and making the best use of its resources and opportunities.

Research and scholarship are highly relevant to "the engine-room of the democratic state".63 Both contribute to the economy through marketable inventions, and society generally through keeping both decision-makers and the citizenry well informed. For example, the economy works better when decision-makers understand how trade and money work, and the environment is better cared for when activities that damage it are widely appreciated.

Research and scholarship fuel public debate, and political decision-making. Society’s issues and their solutions require elucidation and explanation if they are to be addressed constructively. Research and scholarship are an ally in the battle for public order which is part of the freedom of expression’s safety-valve function.

---

61 Butler and Butler, above n 54, at 307 and following.
62 Keyishian v Board of Regents, above n 57, at 603; Byrne, above n 48, at 257; BVerfGE 35, 79 at 113: "die nach Inhalt und Form als ernsthafter und planmässiger Versuch zur Ermittlung der Wahrheit anzusehen ist"; see also P Badura Universitätsreform-Alternativen der Vernunft (Vandenhoeck u Ruprecht, Göttingen, 1971) at 9: “Science/academic scholarship is: methodical ordered search to find knowledge/insights that are objectively true and are integrated in coherent reasoning.”
63 Compare in regard to the political and economic relevance for the state of academic freedom: Scholz in Maunz/Dürig, above n 44, at [92].
D Ambit of the researcher’s academic freedom

In the authors' view, based on commentary and jurisprudence, the ambit of the researcher's academic freedom rests on four broad paradigms of independence: economic, institutional, social and professional, and subject matter.64

I The Paradigms of independence

(a) Economic independence

Freedom of research means freedom from economic pressures that direct a researcher's choices and/or steer him or her towards a certain inquiry. For the researcher's academic freedom to fulfil its important functions as, discussed earlier, in and for the state, the authors argue, the researcher's funding (personal and for his or her research) has to allow for independent decision-making. The researcher's independence that has to be secured by the State can be likened to a judge's remuneration and the state's mandate to ensure his or her independence. State funding has to provide researchers with the ability to pursue goals dictated entirely by the academic endeavour, that is, the search for truth. Only if state funding allows for entirely independent decision-making can the researcher thrive to search for the truth.

(b) Institutional independence

It is the business of a university to provide an atmosphere that is most conducive to speculation, experimentation and creation.65 The well-known 1940 statement of principle from the American Association of University Professors, widely endorsed in the United States,66 asserted that:67

Teachers are entitled to full freedom in research and in the publication of the results, subject to adequate performance of their other academic duties.

The reference to "other academic duties" implies this freedom has particular relevance to the researcher's relationship with their employing institution, to whom such duties are owed. It implies that if a researcher discharges his or her obligations to teach and otherwise contribute to the life of the university, as required by their employment contract, "full freedom" can be enjoyed with regard

---

64 Compare Keyishian v Board of Regents (No 105) (1995) 514 US 673; 255 F Supp 981, reversed and remanded; Elisabeth Maier "Zeitschriftenartikel als Leistungsnachweis - wo bleibt die Forschungsfreiheit" JUWissBlog (27 Aug 2013) <www.juwiss.de>; Scholz in Maunz/Dürig, above n 44, at [87]–[102].

65 Regents of University of California v Bakke (1978) 438 US 265 at 312.


to research. This can only be taken to mean the employing institution cannot dictate research methods and agendas, or the dissemination of results. In this, university researchers enjoy greater freedom than researchers in the private sphere, who must take directions from corporate employers in the same manner as any other employee.

It is not denied that an employing institution can hold researchers to certain basic criteria, such as undertaking research, complying with ethical requirements, pursuing ideas that have some reasonable basis for justifying enquiry, and demonstrating progress and results over time. However, the institution cannot dictate the research agenda. The freedom of research must encompass the ability of individual researchers to pursue ideas without unjustified restraint from the institution that employs them.

(c) Social and professional independence

Academic enquiry does not sit well with popular sentiment. Ideas that are popular may have little merit when examined critically, and unreasonable beliefs may likewise prove to have justification. It was once seriously argued that homosexuality was a psychiatric condition, and that smoking was "positive and pleasurable". If research was confined to social consensus these ideas might be with us yet.

Empirical science is a process of observation and argument, not a democratic election. The humanities likewise expect a substantial scope of autonomy for those who devote their careers to a subject, and attain a level of understanding well beyond the lay person. It follows that research will only be truly free, reflective (including critically reflective) and innovative if it is not required to conform to social expectations.

Pressures of consensus do not only arise from the masses. The academic community can also entertain accepted principles, and the same objections apply to allowing a professional consensus to stifle research into opposing views. As Yvette Tinsley, considering the role of science in criminal justice, observes:

In general, science studies research has shown that a number of social factors can affect what research is conducted and what results are accepted by the scientific community. Scientific results relate to the

68 See Scholz in Maunz/Dürig, above n 44, at [99].
70 Allan Brandt "The cigarette, risk and American culture" in Judith Leavitt and Ronald Numbers (eds) Sickness and Health In America: Readings in the history of medicine and public health (University of Wisconsin Press, Madison (Wisconsin), 1997) 494 at 495.
71 Yvette Tinsley "Science in the Criminal Courts: Tool in Service, Challenge to Legal Authority or Indispensable Ally?" (2013) 25 NZULR 844 at 848, 849.
questions posed, and which questions are asked is influenced both by current scientific knowledge and social factors.

Peer review and acceptance is of prime importance in science. Training of scientists educates them about the expectations of their chosen discipline, colleagues can deter publication of results inconsistent with the dominant perspective by way of peer review, funding may be targeted to projects that fit the dominant view, and employment decisions may also be subject to the same pressures and expectations, ensuring that selection and promotion is easiest for those who adhere to popular views. All of this means that “the collective imprimatur of scientists in a field is what ultimately determines what is ‘knowledge’ and ‘truth’ within the field, what work is valid, which scientists should be praised” while simultaneously rewarding those who manage to create new, widely accepted, understanding. In this way, the perspectives of scientists may shape the information (and therefore, the evidence) that is produced, as “scientific facts are negotiated and constructed, not just given or described”. There will often be no “right” answer or opinion: “harsh criticism is healthy science”, and disagreement does not necessarily mean that the evidence is not reliable. This is not to suggest that consensus is irrelevant to admissibility; simply that a realistic acknowledgement of the social aspects underlying consensus should be employed by the courts.

In the United States, some have argued that the greatest threat to academic freedom comes from within the academy. Critics claim that the dominant forces in the professoriate, mainly in the social sciences and humanities, seek to enforce “political correctness” – imposing academic orthodoxy, usually from a liberal or radical perspective, and seeking to silence those with opposing viewpoints.72

Yet freedom of research means the ability to proceed without a social consensus, and even the ability to proceed against opposition, including the opposition of research peers.

The State, therefore, is required to create room within its developed structures for the unobstructed, free exercise of research and scholarship through adequate organisational measures.73 That means that the academic framework in which research and scholarship is conducted has to be organised in a way that it neither endangers the functioning of research and scholarship nor affects the sphere of freedom necessary for the scientific endeavour.74 Freedom of academia demands that the organisation of universities and therewith also the organisational decision making processes must be regulated in a way that unhindered research is possible.75

72 Altbach, above n 43, at 215.
74 BVerf, Beschluss vom 26.06.1979–1 BvR 290/79.
Subject matter independence

A central consideration in the progress of knowledge is the value of what is called "blue-sky" or "curiosity driven" research. According to one leading biotechnology researcher:76

It should not be forgotten, however, that the origins of success for many biotechnology enterprises are in basic research sponsored by a government or charitable foundation…only the government and private charities have the capacity and vision to let an investigator pursue questions that come from his or her natural curiosity.

There are two reasons such research is not amenable to commercial imperatives. First, knowledge is produced in ignorance of the end uses to which it might one day be put. Many lines of enquiry might prove unhelpful, but the fruitful ones unfold in ways that simply cannot be known ahead of time. DNA, for instance, was discovered through a chain of discoveries over a period of 100 years, from 1869 when the Swiss chemist Friedrich Miescher isolated "nuclein" inside white blood cells, to the final insights of Watson and Crick in the 1950s who put the pieces of the puzzle together.77 None of the prior steps held promise of the final discovery, or its implications, but were pursued in a spirit of open-ended enquiry.78

Secondly, new insights often fail to impress knowledgeable people at the time of their creation. Charles Darwin’s theory of evolution, one of the most important insights in the whole of the natural sciences, was first presented to a scientific audience on 1 July 1858, at a meeting of the Linnean Society in London. It made no lasting impression on the fifty or so men of medicine and science who heard it. The meeting was chaired by Professor Thomas Bell, a zoologist and surgeon, who was so unimpressed that when he summarised the period in his report of May 1859 he recorded that:79

The year which has passed has not, indeed, been marked by any of those striking discoveries which at once revolutionize, so to speak, the department of science on which they bear…

Darwin himself wrote later, in his autobiography, that:80

Nevertheless, our joint productions excited very little attention, and the only published notice of them which I can remember was by Professor Haughton of Dublin, whose verdict was that all that was new in them was false, and what was true was old.

Ignaz Philipp Semmelweis was a 19th century Hungarian physician who proposed that the incidence of maternal infection after childbirth (a leading cause of female mortality) could be greatly reduced if the attending doctors disinfected their hands. He was able to demonstrate the benefit in practical trials, but there was no scientific explanation for his theory, and he was widely ridiculed by his colleagues. He died at 47 in a mental asylum, and was only vindicated years after his death when Louis Pasteur demonstrated the existence of bacteria.\(^{81}\)

Arguably, it is this ground which is most sensitive to funding systems that require researchers to show the benefit of their work, and it is this type of research which will be most affected by any 'chilling' influence of over-managed funding systems.

However, private researchers who work for companies seeking commercial returns may also progress society, as with new drugs, but no voices are raised that they enjoy unique rights, such as the ability to dictate their own research agenda. Academic freedom requires something more. It acknowledges that universities and their staff have a particular role in finding out truth, free of commercial constraints. Much of what enriches society, such as basic research (Grundlagenforschung), does not have a commercial application that will pay for people to investigate. Much of what advances science in the medium term are discoveries born from a spirit of enquiry, whose applications cannot be known ahead of time.

(e) Conclusion

In summary, for academic freedom, and in particularly the freedom to research, to be fully protected the state has to allow and foster research and scholarship through the allocation of personal, financial and organisational means. The four discussed factors all concern some aspect of the concept that academic freedom means freedom from external interference. Economic independence rests on freedom to pursue research without having to satisfy an external investor including the state. Institutional independence protects the researcher from a narrowing of the researcher's research sphere by the university or research institution. Social independence rests on freedom to proceed without a popular consensus. Curiosity emphasises the private passion of the researcher as the sole determinant of what is worth researching.

The conclusion is that academic freedom means the freedom of the individual researcher to pursue his or her concept of desirable research without economic, social, or institutional pressure to conform to any other agenda. This is the reason for the practice of funding university research without tying it to any externally imposed conditions. This practice is not a source of inefficiency to be resolved by better governmental scrutiny. It is the system's strength and purpose. It is at the heart of what research is about and for. The focus of this article is the danger that an output evaluation

oriented funding system poses to the fourth paradigm, the core of academic freedom. The danger lies in the way of the curtailment of the researcher's choices in regard to his or her research activity.

2 Definition of research

Research is a different kind of endeavour to most other businesses – by definition it cannot be purchased off-the-shelf from a supplier.\(^{82}\)

Academic research and scholarship in its widest sense constitutes a macro-economic productivity force of the first order. Its economic, social, and political significance is self-evident.\(^{83}\) It is a condition of progress.

For the purpose of this article it is pertinent issue to ask: what constitutes research? Although New Zealand legislation frequently uses the word "research" there is no statute that defines it. The definition by the TEC appears to be the most authoritative for official purposes. The TEC has defined research extensively, including what it does not cover. In essence, however, it defines research as:\(^{84}\)

… [the] original investigation undertaken in order to contribute to knowledge and understanding and, in the case of some disciplines, cultural innovation or aesthetic refinement. It typically involves enquiry of an experimental or critical nature driven by hypotheses or intellectual positions capable of rigorous assessment\(^{85}\) by experts in a given discipline.

The German Constitutional Court has held that research is "according to content and form […] a serious and methodical attempt to find truth."\(^{86}\)

Article 5(3) of the German Basic Law is generally considered by commentators to give academics the freedom to retrieve knowledge and search for the truth, but not to make any claim to absolute truth. The freedom only applies to research conducted methodically with comprehensible and reproducible scientific principles.\(^{87}\) Particular methodology is not prescribed, and the freedom

---

82 Peter Gluckman Which science to fund: time to review peer review? (Office of the Prime Minister's Science Advisory Committee, Wellington, 2012) at 10.

83 See European Commission Assessing Europe's University Based Research (Publications Office of the European Union, Luxembourg, 2010) at 9; compare Scholz in Maunz/Dürig, above n 44, at [99].

84 TEC "Performance-Based Research Fund – the 2012 Assessment" (Wellington, April 2013) at 23.

85 The authors note that "assessment" in their view has to be understood as the possibility to reproduce the research. See also Hagen Kabor "Grundfäelle zu Art 5III GG" (2006) JUS 695 at 696.

86 BVerfGE 35, 79 at 13: "die nach Inhalt und Form als ernsthafter und planmässiger Versuch zur Ermittlung der Wahrheit anzusehen ist"; see also P Badura, above n 62, at 9: "Science/academic scholarship is: methodical ordered search to find knowledge/insights that are objectively true and are integrated in coherent reasoning."

is not affected by the cogency of particular arguments. However, it is settled that research has to have formal methodology which is open to the scrutiny and formal evaluation of others. Astrology, for example, has been held to be outside the ambit of freedom of research in Germany. Ideological research, even if it is based on academic research, is not part of the ambit of freedom of research since it does not serve the finding of truth.

The British Research Assessment Exercise (discussed below) defines research as:

… original investigation undertaken in order to gain knowledge and understanding. It includes work of direct relevance to the needs of commerce, industry, and to public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research.

Research includes the preparatory work as well as communicative part of academic scholarship like the publication of one’s research findings. Not included in the ambit is the use of already-researched knowledge.

It is uncertain whether research undertaken for a third party falls within the ambit of freedom of research. It depends on whether the researcher is free to conduct his or her research as an unqualified search for truth, or whether he or she is influenced by the funder, even indirectly, to reach a certain outcome. A third party could provide research funding for a specific project, such as a new drug, or pay for a specific service, such as expert advice for court proceedings. Research into

---

88 At 696.
89 Scholz in Maunz/Dürig, above n 44, at [92].
90 See definition of research in TEC, above n 84, at 23; see in regard to the German Basic Law: Scholz in Maunz/Dürig, above n 44, at [93].
93 See definition of research in TEC, above n 84, at 23.
pharmaceuticals may emphasise benefits and de-emphasise harms, to reflect the company's commercial interests. Where a client or employer is paying, considerations such as future work, peer approval and career advancement may compromise objectivity.\(^{94}\) So whether privately funded research falls within the ambit of freedom of research depends on the facts of the individual case.

### IV LIMITATION ON RESEARCH

As discussed, freedom of research requires inter alia researchers to be "truly" free. That means, the researcher has to be able to be free to decide the subject matter, the methodology, the timing, and the mode of dissemination of his or her research.\(^{95}\)

Peer review driven evaluation systems (PBFS), like the PBRF, are not glaringly arbitrary. They have checks and balances, and undoubtedly their creators and executors operate with the best of intentions. They do not necessarily prevent the researcher from conducting the research he or she wants to conduct or publish. However, that does not mean these systems cannot infringe the freedom of research indirectly. As Philip Altbach observes:\(^{96}\)

Indeed, the challenges to academic freedom in the industrialized countries are more subtle, and perhaps in some ways more harmful than the more overt violations … that can be readily grasped and opposed.

Under a PBFS system the researcher may well be able to conduct the research he or she wants to conduct and disseminate the results as he or she sees fit in many instances, but this is not enough. Given the importance of freedom of research for society and the state, even a minor infringement by the state requires justification.\(^{97}\) The infringement of freedom of research by a peer reviewed

---

\(^{94}\) See extensive discussion in Germany in regard to third party funding where, for example, a cooperation agreement between Bayer and the University of Cologne in the area of medical research was the issue in a court case. The plaintiffs wanted to force the University of Cologne make the exact terms of the agreement with Bayer public. The plaintiffs claimed a prima facie infringement of freedom of research and teaching since Bayer potentially through the agreed terms influenced the content and emphasis of medical research at the University of Cologne. The administrative court denied the request holding that the University as the (institutional) holder of the right had the right to organise its research, including its financing ("the exercise of research includes preparatory measure as well as accompanying measures including the collection of third party funds") VG Köln. PharmR 2013, 70 at 72; see also Michael Fehling in Wolfgang Kahl/Christian Waldhoff/Christian Walter (eds) Bonner Kommentar zum Grundgesetz (HRJ Verlagsgruppe, Munich, 110th supplement, March 2004) Art 5 Abs 3 GG at [72]; Hans Jarass in Hans Jarass/Bodo Pieroth (eds) Grundgesetz für die Bundesrepublik Deutschland (10th ed, Beck, Munich, 2008 ) Art 5 GG at [122a]; Christian Starck, in Hermann v Mangoldt/Friedrich Klein/Christian Starck (eds) Das Bonner Grundgesetz (4th ed, Verlag Franz Vahlen, Munich, 2001) Art 5 Abs 3 GG at [331]; Thomas Oppermann, in Josef Isensee/Paul Kirchhof (eds) Handbuch des Staatsrechts Vol 6 (2nd ed, CF Müller, Heidelberg, 2001) § 145 at [47].

\(^{95}\) Robertson, above n 51, at 1206.

\(^{96}\) Altbach, above n 43, at 217.

\(^{97}\) Compare in regard to the Basic Law: BVerfG, NJW 1978, 1621 at 1623.
system, imposed by the state, lies in the indirect influence it exerts on researchers to enforce conformity with mainstream thinking. This is a function of peer review and the way it operates, which is discussed in the next section.

The authors note here that it could be argued that the pressure on a researcher to conform is ultimately exerted by university management, which wants to maximise their status and funding.98 Even if this is true, the imperative still arises from the state in the first place, and it is the state who is responsible for it.99

A Peer Review

If research is to be evaluated by an outside agency, freedom from undue influence will only be assured if the measure used is objective and apolitical. It is far from assured that peer review meets these criteria. Sir Peter Gluckman, Chief Scientific Advisor to the Prime Minister, observed in a recent report in regard to (albeit) research funding:100

The issues around the use of peer review are complex and there will be many divergent views. Statements of both of these kinds can be found: either that peer review is "the most effective and respected way to assess the quality of research outputs"101 or that "peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong."102

The same report further observed that:103

98 See for more detail Hicks, above n 4, at 259.
99 See in regard to New Zealand's PBRF: Curtis, above n 5, at 190:

At the same time, senior management at the institutional level signalled that they wish to pick winners and to develop a range of initiatives to improve results across all the components of the PBRF. Much of this is infuriating to academics; after all, the "crisis" facing universities is one of funding and not scholarship. Yet the PBRF and the managerial initiatives that flow from it convert the decline in state funding into a problem of research quality. In the subsequent rush of managerial initiatives to enhance research activity, research degrees completions and externally funded research, the on-going stagnation in funding, in particular the creation of the PBRF from EFTS funding, is overlooked or crowded out by managerial pronouncements on research excellence.

100 Gluckman, above n 82, at 11; see also Rebecca Eisenberg "Defining the Terms of Academic Freedom: A Reply to Professor Rabban" (1987) 66 Texas Law Review 1431 at 1437.


103 Gluckman, above n 82, at 4.
Because the most innovative research tends to involve intellectual risk and criticism, it is generally accepted that the general processes of grant awarding bias decisions towards conservatism and are in contradiction to the need of the nation for science to contribute to addressing cultural (in the academic sense), social, environmental and economic goals.

Likewise, a recent report commissioned by the Organisation for Economic Cooperation and Development (OECD) found that the whole concept of measuring performance with the help of peer review is problematic.\textsuperscript{104}

Another recent article examined the peer review procedure used by the National Health and Research Council of Australia to allocate research grants. It found that random variation affected the success of many proposals, and successful applicants were often those who knew the right tactics.\textsuperscript{105}

In regard to the general allocation by the National Health and Research Council found that panelist bias was greatest where proposals were innovative. Scores on such applications were likely to be controversial. The more innovative and edgy ideas often get disparate scores and are less likely to be funded.\textsuperscript{106}

That peer review promotes the orthodox is evidenced in regard to medical research where (orthodox) peer review is deliberately used to evaluate research to safeguard patients' safety and wellbeing.\textsuperscript{107} The level of existing scientific knowledge and medical experience are paramount considerations before allowing medical research that involves the "use of" patients.\textsuperscript{108} Recognition of the profession is a cornerstone of patient safety.\textsuperscript{109} Medical research that involves patients is deliberately researched in small steps to safeguard patients.

The problem is particularly marked in small countries, where academics are more likely to know each other, and a reviewer can be influenced by personality and reputation, often unconsciously.\textsuperscript{110}

\textsuperscript{104} Hicks, above n 4, at 255.
\textsuperscript{105} A Graves and others "Funding grant proposals for scientific research: retrospective analysis of scores by members of grant review panel" (2011) 343 British Medical Journal 4797.
\textsuperscript{106} Gluckman, above n 82, at 6.
\textsuperscript{108} Hart, above n 107, at 9, 10 and 14.
\textsuperscript{109} At 9, 10 and 14.
\textsuperscript{110} A Pouris "Peer review in scientifically small countries" (1988) 18 R&D Management 333.
B Performance-based Funding Systems

PBFS are liable to the general factors that produce bias in peer review, but also have some specialised factors of their own. Bias may arise in a PBFS where the academic elite had a significant hand in its design and implementation. Whitley suggests that novelty, innovation and intellectual diversity may be suppressed because elites judge proposals on their relevance to paradigms they themselves have established. Where the elite seek research excellence at the international level (that is, published in English), contributions of value to national and cultural identity may be lost.111

Curtis suggests the elite seek control and benefit for their agendas.112

It is tempting to suggest that the decision to individualise the PBRF speaks primarily to the desire of senior management in TEOs to undertake surveillance and assessment of their staff. As noted above, the compliance costs of the PBRF are high and a transfer of funds from the polytechnics to the universities could have been achieved more simply. Regardless the PBRF is a qualitative intensification of the more generalised appraisals of peer review and collegiality, and does not always confirm their pre-existing determinations or ethos.

Evidence suggests that at least in some disciplines researchers have changed their research pattern and produced research more aligned with the perceived relevant quality assurance criteria.113 McNay's survey found that nearly half the research managers surveyed felt the United Kingdom Research Assessment Exercise (RAE) hindered the pursuit of new research areas or risky "blue skies" research.114 Around one-quarter of staff also reported that they avoided new lines of research and speculative topics because they believed quality outputs could not be achieved by RAE submissions deadlines. This was corroborated by Evaluation Associates' study of the 1996 RAE, which found that 63 per cent of researchers felt pressure to get results published early to meet cut-off points, and a small minority felt that there was little incentive to focus on longer-term research at all.115

111 Butler and OECD, above n 15, at 147.
112 Curtis, above n 5, at 189.
113 See in regard to the same claim in regard to the tenure process in US universities: Byrne, above n 49, at 266: "the effort to obtain tenure usually will direct [the untenured’s] scholarship into those established channels more readily understood and likely applauded by the tenured."
114 McNay, above n 7, at 201.
115 Butler and OECD, above n 15, at 146. See also Talib, above n 7, at 286–287. Talib's PhD provides an extensive survey of research behaviour under the English RAE.
It is widely recognised that these systems risk disadvantaging novel and speculative research. As one author has observed:\(^{116}\)

... strong evaluation systems will reinforce the influence of conservative scientific elders, thereby suppressing novelty, new fields, diversity and pluralism. This problem will be exacerbated if a country’s scientific elite is cohesive and if they also control project-based funding through peer review.

A report issued by the OECD observed that:\(^{117}\)

A general concern of all PRFSs ... is that they favour "mainstream", disciplinary-based, basic, "safe" research at the expense of applied, interdisciplinary or speculative research.

Jonathan Boston, one of the engineers of the New Zealand PBRF, identified the negative and demotivating impact of low scores on early career researchers, and on capable and hard-working researchers not awarded an 'A' quality category. Furthermore, Boston points out, the PBRF has led to an incentive structure that in many respects works against disciplines with a significant applied, clinical, or professional component, which rely on professionally-trained researchers and professionally qualified staff, and/or where there is merit in having a reasonable flow of staff between the academic and non-academic worlds.\(^ {118}\)

Pointedly Boston states:\(^ {119}\)

The challenge posed by the PBRF is how to ensure it does not become all-consuming, thereby distorting and undermining the mission of tertiary institutions, damaging the character of academic research and scholarship, and generating a research treadmill that deadens the soul rather than inspiring the mind.

C Conclusion

The influence of a performance based funding system on research may well be subtle. The full effects of PBFS on the researcher's decisions to avoid certain directions or focus on others, or


\(^{117}\) Butler and OECD, above n 15, at 145.

\(^{118}\) Jonathan Boston "Will PBRF Go One Round Too Many?" (June 2013) TEU <www.teu.ac.nz>.

\(^{119}\) Boston, above n 118.
disseminate his or her research in a particular way, are impossible to identify, and may not have
their full impact for decades. An infringement of freedom of research does not require that all
researchers are influenced by peer review. The importance of research freedom, as outlined above,
means that even a subtle infringement of the researcher’s freedom constitutes a prima facie
infringement of academic freedom and must be justified by the state.

V IS THE LIMITATION THAT THE PBFS PLACES ON THE
RESEARCHER’S FREEDOM JUSTIFIED?

It may be trite, but to avoid doubt, the authors freely acknowledge that no right is without limits.
The state has to balance the rights of others or legitimate interests of the community against the right
in question. Courts have just a review function in regard to whether Parliament justifiably limits a
right and not the power to substitute its own view.120 Parliament is afforded a margin in regulating a
matter, which is wider when the matter concerns political, social, or economic issues.121 Tipping J
in R v Hansen sets out the test for determining whether the limitation was justified under s 5
BORA:122

(a) does the limiting measure serve a purpose sufficiently important to justify curtailment of the right
or freedom?

(b) (i) is the limiting measure rationally connected with its purpose?
(ii) does the limiting measure impair the right or freedom no more than is reasonably necessary
for sufficient achievement of its purpose?
(iii) is the limit in due proportion to the importance of the objective?

A Does the Limiting Measure serve a Purpose Sufficiently Important to
Justify Curtailment of the Right or Freedom?

The first issue to determine is whether the limiting measure serves a purpose sufficiently
important to justify the curtailment of the right or freedom. The standard must be high to ensure that
trivial objectives or those discordant with the principles of a free and democratic society do not gain
protection.123


121 At [116]. See also the comprehensive (comparative) overview in regard to the deference the court should
afford Parliament: Child Poverty Action Group Inc v Attorney-General [2013] NZCA 402 at [79] and
following [CPAG].

122 R v Hansen, above n 120, at [104].

123 At [103] citing R v Oakes [1986] 1 SCR 103 at "headnote".
As set out earlier, the university researcher fulfills an important role in regard to the social, political, and economic innovation within a state. It is argued in this article, based on a comparative analysis, that due to its importance academic freedom not only confers on the individual researcher the right to be "left alone", but has an objective value. This objective value mandates that to make freedom of research an effective right the state has to provide the organisational framework in which research and scholarship can flourish unhindered. That includes at least a minimum of funding so that the researcher can conduct his or her research. However, the state has finite funds to support the researcher. The aim of targeting finite funding to its best use via an unbiased and non-arbitrary funding model is sufficiently important to justify the curtailment of freedom of research. It is within the state's mandate to allocate the available funds among all the nation's stakeholders and more narrowly among the different tertiary education providers. The state will not be able and the researcher cannot expect the state to always deliver state-of-the-art equipment since those costs have to be weighed against costs arising in other areas of state responsibility, for example, health care. However, the universally accepted importance of university research for the well-being of the state mandates that the curtailment has to still allow the researcher to research free from real or perceived pressures that impact on his or her way of conducting research. Therefore, whether the curtailment by the peer review based funding systems have placed, as discussed under Part IV, a reasonable limit on freedom of research is discussed below.

In addition, the New Zealand PBRF is also designed to increase the quality of research. Since research provides an important ingredient of social, political, and economic innovation within a state, the aim to foster the highest possibly attainable quality of research to further innovation within New Zealand is prima facie a purpose sufficiently important to justify the curtailment of the right to research of some researchers or a certain aspect of that freedom.

Therefore, non-arbitrary and unbiased differentiating state funding systems of the tertiary sector in general, and the PBRF in particular, are sufficiently important to justify a prima facie curtailment of s 14 BORA, freedom of research. However, even if it is acknowledged that funding allocation systems are important and justify a curtailment of the right to freedom of research the question

124 See above Part III and especially IIID.
125 See above Part IID1a: "minimum funding" has to be understood as in including the researcher's livelihood and the necessary research requirements.
128 See above Part IIID.
arises due to the high value that research has for society whether the PBRF places a reasonable limit on that freedom.

B Is the Measure Proportional?

Section 5 demands not only an important aim but also that the curtailment of the right through the measure is proportional. The limbs of this requirement are examined in turn.

1 Is the limiting measure rationally connected with its purpose?

An unbiased and non-arbitrary system that determines the state's funding allocation is rationally connected to the aim of allocating finite funds in a manner that distinguishes universities from each other and recognises their strength. It is a measure that is directly connected to the purpose of the university.

However, it is arguable whether there is a rational connection between peer reviewed evaluation systems, such as the PBRF, and an increase in the quality of research, because of the considerable limitations of peer review, in particular its emphasis on orthodoxy. A rational connection would be arguable if the quality of research could be measured on the orthodoxy of the research output and its contemporary value. The Ministry of Education used the bibliographical citation indicator to measure quality. Using that indicator the Ministry found that quality of research in New Zealand had increased since 2003. At first glance the Ministry's analysis suggests that there is a rational connection between the use of the PBRF and the improvement of research quality. However, what the Ministry's quality indicator does not measure is the innovativeness of the research conducted since 2003. Therefore, innovation is a hard measure to capture and it could be argued that the rational connection between the PBRF and quality enhancement is only tenuous. Furthermore, it has to be noted that the bibliographical citation indicator used by the Ministry of Education to establish that the PBRF, the measure, led to an increase of research quality, the objective, was not used in the PBRF exercise to establish the researcher's quality score. It is, therefore, arguable that the Government does not meet threshold to establish that the measure led to the objective.

A study in 2009, comparing five European university funding models, revealed that the Dutch higher education institutions showed the most constant increase in both publication output and

129 See above Part IV; see also Byrne, above n 48, at 284–286 pointing out the impact of peer review on academic freedom in the US context, emphasising the good faith and neutrality expected from peers in the peer review process, and the danger of peer review on academic freedom.

130 Smart, above n 13, at 27.

131 At 27.

132 See above Part III D1d.
citation of all five European states.\textsuperscript{133} The Dutch funding system does not use a PBFS. In the Netherlands, universities assess their own activities, and the results are used for developing the internal policies and strategies of universities, not for allocating research funding.\textsuperscript{134} In comparison, growth in the United Kingdom in regard to publications and citations was very modest\textsuperscript{135} despite the peer review driven research assessment exercises carried out by the funding councils.

The 2009 study and the use in different methodology for the PBRF quality score the Ministry of Education quality study (at the least) cast doubt on whether there is a sufficient rational connection between the PBRF and its aim to enhance the quality of the research.\textsuperscript{136}

2 \textit{In achieving the objective does the limiting measure impair the right or freedom no more than is reasonably necessary}\textsuperscript{137} \textit{for sufficient achievement of its purpose?}

The authors do not contest that the state is entitled to promote and encourage research and science based on evaluative, selective, or prioritising decisions and methods.\textsuperscript{138} These aims can be achieved by more than one means and the Government and Parliament can choose, for example, the most cost effective measure.\textsuperscript{139} However, it is doubtful whether the PBRF, for example, is the most cost-effective measure. High transaction and compliance costs were identified by Boston as one of the negative features of the PBRF.\textsuperscript{140}

\begin{itemize}
\item \textsuperscript{133} Laura Himanen and others “Effectiveness of research funding and science policy on university research performance: a comparison of five countries” (2009) 36 Science and Public Policy 419.
\item \textsuperscript{134} At 424.
\item \textsuperscript{135} At 427.
\item \textsuperscript{136} Since the article’s focus is not an examination of s 5 BORA, the article does not enter into a discussion of the threshold to be met in regard to “rational connection”. See for divergent views Tipping J in \textit{R v Hansen}, above n 120, at [125] for whom “rational connection” is just a threshold issue. McGrath and Blanchard JJ in comparison treat “rational connection” not as a threshold question, at [212] and [70] and following respectively, and require a detailed analysis whether there is connection between the objective and the measure.
\item \textsuperscript{137} At [116] per Tipping J. As already stated above n 136, this article’s focus is not a discussion of s 5 BORA. The article, therefore, does not take a position in how far “reasonable” and “minimal” (a standard which seems to be used interchangeably) impairment promulgate the same standard. This article has taken the most Government friendly interpretation of this limb of the test, taking its lead from Tipping J in \textit{R v Hansen}. At [113] Tipping J emphasised that when applying s 5 BORA the court had to give deference to Parliament: “bullseye theory”.
\item \textsuperscript{138} Compare BVerfGE 35, 79 at 114.
\item \textsuperscript{139} \textit{R v Hansen}, above n 120, at [116].
\item \textsuperscript{140} Boston, above n 118.
\end{itemize}
The aim of PBFS is to distribute Government funding and to improve research quality. However, the paradigm within which the state can promote and encourage research is limited by allowing a maximum of scientific expertise to unfold and absolute autonomy of the researcher.  

Research, and especially innovative research, is a vital engine for the state’s well-being and of great public importance. A limitation of freedom of research can, due to the importance of research for the state in general and the attainment of also “unpredictable” research outcomes, only be reasonable if it infringes the right as little as possible, that is, it is the authors’ contention that Parliament’s deference is limited due to the importance of the right.  

As the authors have emphasised throughout this article it is the use of peer review as the quality assessment vehicle that creates the prima facie infringement of the researcher’s freedom since it relies on the subjectivity of the evaluators. Any quality assessment that uses criteria which demand a subjective evaluation of the quality of the research and is not based on objective assessment criteria will, in the authors’ view, prima facie infringe freedom of research.  

As outlined in Part IV, the PBFS have a direct impact on the research behaviour of researchers. The PBFS lead researchers to abandon certain research endeavours in favour of research more fitting with perceived criteria promulgated by the state through the peer review process. The change in behaviour is particularly marked the less established (generally younger) the researcher is. It can, for example, lead to risk-avoiding behaviour that means only outputs that are easily attainable and which are perceived "safe", that is, are within the orthodoxy, are produced. It threatens long term research projects that use uncharted research methodology and venture into new research areas.  

The question arises whether there are any alternatives, which fairly distribute state funds ideally without infringing academic freedom, or at least which infringe academic freedom less than the PBRF but still guarantee research quality. The literature recognises a considerable variety of funding models, which fall into several broad categories. First, there is strictly no need to evaluate research at all. Akin to the Dutch funding model, universities would still carry out their core functions if they received bulk funds from the Government to spend as they saw fit, with some basic measure to determine their relative allocations, such as student numbers or the size of their catchment areas. Research activity is motivated by curiosity and academic prestige, not financial...
reward. New Zealand universities were funded on student numbers prior to the PBRF, and although it was suggested this led to a proliferation of light-weight courses on the teaching side, there is no hard evidence it was inferior to the PBRF for producing research outcomes.

If money is tied to evaluation, the first choice is between ex-ante (research proposals) and ex-post (research completed). To allocate on ex-ante principles, the Government could call for tenders on projects it had an interest in, or put up a pool of contestable funding and make decisions on proposals received. In New Zealand, the Foundation for Research, Science and Technology and the Royal Society already have competitive bidding processes of this nature which could be emulated.\textsuperscript{146} A related idea is to fund centres of excellence on the basis that such centres are permanently accepted as "first among equals" and not subject to on-going evaluation. The problem for present purposes is that ex-ante evaluations also rely on peer review. They are likely to impact on academic freedom as much as peer review based output evaluations.\textsuperscript{147}

There are various measures for determining research quality ex-post. Hansen has divided these measures into three orders of indicators.\textsuperscript{148} First order indicators measure inputs, structures, and results. They include factors such as the amount of external research funding an institution secures; the attraction and retention of academic staff and doctorate students; seminar and conference activity; the number of occasions staff are asked to give keynote addresses; the number of visiting research appointments; the number of staff active in research; the number of prestige appointments (for example, editorships); reputation and esteem; facilities (for example, library and laboratories); the amount of published work; and the number of times published work is cited. Some of those indicators rely also on peer review, for example, external research funding or prestige appointments.\textsuperscript{149}

Second order indicators are a more sophisticated take on the same sort of data. The Journal Impact Factor, for instance, measures the average number of citations an article achieves within a given time. The H index gives the number of articles a researcher has published which have been cited more than the number of H. For instance, an H index of 20 means a researcher has published


\textsuperscript{147} See above under Part IV; the criticism and discussion in regard to peer review is mostly related to ex-ante research bidding processes.


\textsuperscript{149} At 53 and following.
20 articles with more than 20 citations.\textsuperscript{150} The advantage of an H index is that it measures consistency over time, not occasional “big hits”.

Both first and second order indicators are proxies of research performance. They have their strengths and weaknesses. Citation analysis approximates most closely to peer review as a means of identifying areas of particular research achievement. It is less subjective, being based on numerical formulas, but arguably reflects mainstream thinking in a similar way. However, it allows for the opportunity to recognise publications in non-“mainstream” and foreign journals without attaching any value on those publications which might be the case in a peer review process.

Third order indicators are peer review. It is acknowledged that peer review is currently more popular than proxy measures. A system of proxy measures was considered and rejected when the PBRF was first conceived, and Australia is in the process of dropping a citation based system in favour of a peer review one.\textsuperscript{151} However, popularity does not necessarily determine the best way forward (very much the authors’ point with regard to the whole concept of peer review). What is currently in vogue does not deserve to persist if its flaws cannot be addressed. The authors argue that the effect on research freedom is of fundamental importance, and the option of limited or no outside research evaluation should be reconsidered.

To safeguard freedom of research to its fullest extent funding decisions should not belong to the state but rather to the individual universities and its community of researchers.\textsuperscript{152} The importance of research demands a state funding system that is blind to the (at the time of assessment) “quality” of the individual researcher’s research. To allow the flourishing of research the state should regulate research to a minimum via funding but leave it to the community of researchers, as organised through the universities, to distribute funding (akin to the Dutch model). The management structure of universities is, however, not topic of this article. Self-governed funding would allow the special circumstances of research to be taken into account. The authors’ acknowledge that this has its own problems and that peer opinion would most likely still play a role in distributing funding. Arguably peer review within the confines of the same institution brings researcher and decision makers closer together, which allows ideas to be discussed directly, and eliminates the fear of the evaluation of an external committee. Fringe, unconventional ideas would have more chance of getting heard under such a system. A reconstructable methodology and comprehensiveness of the research would be the criteria that decide upon its value.

\textsuperscript{150} The formula is actually: "Index is h if researcher's $N_p$ papers have at least h citations each, and the other $(N_p - h)$ papers have no more than h citations each."

\textsuperscript{151} See Department of Innovation, Industry, Science and Research \textit{Focusing Australia’s Publicly Funded Research Review} (Canberra, October 2011) at [5.5].

\textsuperscript{152} See for Germany: Scholz in \textit{Maunz/Dürig}, above n 44, at [194].
C Summary

The authors freely acknowledge that no research funding system is perfect and free from legitimate criticism. The authors also do not dispute the state has the right to ration the funds provided for university research. It follows that the state can also devise a system to allocate funds to best use if desired. However, due to the importance of freedom of research any funding allocation system has to limit freedom of research as little as possible. The authors contend that, in the first instance, the PBRF arguably does not have a sufficiently rational connection with the goal of allocating money to its best use. For reasons discussed in detail in Part IV, PBRF favours conventional lines of enquiry at the expense of innovation. The PBRF also fails on the requirement of limiting the right as little as possible, as other, non-peer review methods of allocating funding are available.

Even if one would accept an increase in research quality in New Zealand due to the PBRF in the last nine years the issue arises whether it is justified to repeat the PBRF. A rational connection between another round of PBRF and the aim to enhance research quality can only be established if it can be shown that another PBRF round would enhance the research quality further. It has been suggested that it is very doubtful that an additional PBRF round would lead to a further increase in research quality.¹⁵³

Even if the quality of research in New Zealand increased because of the PBRF it does not follow that further rounds of the system are justified. Further rounds can only be justified if there is a rational connection between continuing to operate the same system and further increases in quality. Informed opinion considers that the increases in quality to date probably represent the limit that the system can be expected to deliver, and that further gains are unlikely.¹⁵⁴

VI CONCLUSION

The authors argue that peer review based evaluation systems, like the PBRF, unjustifiably limit freedom of research if particular safeguards are not put in place due the indirect compulsion they have upon at least parts of the research community. Whether and which part of the research community might be affected is unpredictable. Research suggests that early career academics are particularly affected in the choice and the conduct of their research by PBFSs. The influence may be subtle and take years to have any effect. It may be limited to a change in the tone and emphasis within the research community. It may well have its influence through the effect of the PBRF grading on academic standing, both of the individual and the university, as much as on any allocation of money. Because the argument concerns what did not happen (research that did not occur, or was influenced in a different direction), empirical evidence is difficult to obtain, although

¹⁵³ Boston, above n 118.
¹⁵⁴ Boston, above n 118.
the article by Heimanen and others is an intriguing indication that the chilling effect is more than speculative.155

Any consideration to continue the operation of the PBRF to allocate university research funding should at least acknowledge the threat the PBRF poses to the freedom of research. Measures to diminish the negative impact of peer review should be established. Those measures could include the evaluation of research in accordance with objective criteria, like reconstructable methodology and comprehensiveness of the research alone. The panel composition could deliberately include not only "established" academics but also young and mid-career academics. New Zealand research orthodoxy already would be prised open if the panel would include truly international experts that originate from non-English speaking academic communities. That would make it more likely that a view that is not in any way connected with the orthodoxy would be included in the assessment, such as, for example, the common law orthodoxy in legal studies” or similar. Although there is only a weak link between an individual's PBRF grade and his or her access to research money, it must be remembered the system carries influence through the effect of a grading on academic standing, both of the individual and the university, as much as on any allocation of money.

Although there is no uncontroversial research funding system, and although Governments undoubtedly have the right to limit the pool of research funds and impose rationing systems, the limit on academic freedom imposed by the PBRF and its sister systems is unjustified, which is in the New Zealand context a breach of the right to freedom of academic guaranteed by BORA. The limit is unjustified because of the importance of academic freedom, both in its practical benefits and its constitutional standing, and because alternative systems are available, that do not limit academic freedom to the same degree as PBRF does.

If the PBRF continues, the authors submit that its effect on academic freedom should be acknowledged and addressed as far as possible. Alternative measures for evaluating research should be considered, that emphasise purely objective criteria, like reconstructable methodology and research comprehensiveness. The evaluation panels should include young and mid-career academics as well as long established ones. A greater range of overseas experts, including ones from outside the English-speaking world, would challenge New Zealand orthodoxy. On this basis there is more chance that unconventional insights of merit would be recognised. The importance of academic freedom demands no less.

155 Himanen, above n 133.