

SOME IMPACTS OF THE PERFORMANCE-BASED RESEARCH FUND ON ACADEMICS

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ABSTRACT

This discusses some of the impacts of the Performance-Based Research Fund (PBRF) on academic life. Earlier work (Curtis & Matthewman, 2005) suggested high levels of concern among New Zealand academics. Duncan (2007) argues that the PBRF prefigures the commodification of academic life. This is by not means certain. Forms of collegiality, particularly those that benefit the professoriate, seem likely to persist.

1 INTRODUCTION

"The New Zealand government has enthusiastically embraced the utilitarian discourse of the knowledge economy and has applied it to its shaping of higher education institutions. The PBRF is a critical component of this overall financial-administrative model. The effects of this, viewed in terms of academic freedom, have been to undermine the professional autonomy of academic staff and the values of independent critical inquiry. There has been little resistance to this from the academic community, partly due to their concerns about securing funding, and partly due to personal anxieties about 'performance'. Indeed, many academics now perform research 'because of' the new funding system – whereas funding used to exist as a prior condition for the conduct of research. In short, the PBRF has had a pernicious effect on academic life and intellectual independence, and university managers and academic staff have permitted, if not encouraged, these changes to occur." (Duncan, 2007).

Duncan's paper on the role of the Performance-Based Research Fund (PBRF) and academic freedom is a neat conceptual twinning of 'performance' in terms of the fund and of Lyotard's performativity (Lyotard, 1984). Duncan, like Roberts (1998) previously, looks to Lyotard for explanation of the impact of neoliberal language games on higher education. Whereas Roberts saw possibilities for resistance by academics, Duncan sees collaboration. Duncan paints a grim picture in which academic professional power is displaced by a 'regime of performance management' and teaching and research is commodified. Indeed Duncan argues that the PBRF and the Tertiary Education Strategy breaches, at least in spirit, Section 161 of the Education Act guaranteeing academic freedom because of its stated intention to align university activities with Government goals (Ministry of Education, 2003, 2005).

Duncan is engaged in a polemic and while his concerns about the commodification of teaching and research, including the role of the PBRF, express a scholarly zeitgeist his lack of attention to institutional and sectoral contexts undermine his argument. Although Duncan identifies a sense of angst –verified at least among academics within the humanities and social sciences (Curtis, forthcoming; Curtis & Matthewman, 2005; Phibbs & Curtis, 2006) – this needs to be contextualized. Rather like Burawoy's (1979) rejoinder to Braverman (1974), contextualizing 'performativity' or gaming in the workaday, everyday life of employment relations rather than seeing it as some semiotic juggernaut

provides, perhaps unexpected, connections. That is along with the commodification of academic life; continuity, collegiality and confusion are revealed as important drivers of change.

2 DISCUSSION

In the months following the announcement of the results of the 2006 Quality Evaluation considerable media and academic attention was paid to the success of Otago University in its rating success (for example, Otago's Quality Score edged Auckland by 0.04) rather than the actual bulk-funding effects (for example, Otago secured \$48 million compared to Auckland \$69 million). Table 1 shows the ranking of institutional Quality Scores for the eight New Zealand universities and compares the results of the 2003 and 2006 Quality Evaluations (Tertiary Education Commission, 2004b, 2007b).

Table 1. Ranking of universities for 2003 and 2006

Rank	University	FTE-weighted Institutional Quality Score
1	University of Auckland	3.96
2	University of Canterbury	3.83
3	Victoria University of Wellington	3.39
4	University of Otago	3.23
5	University of Waikato	2.98
6	Lincoln University	2.56
7	Massey University	2.11
11*	Auckland University of Technology	0.77

(Source: Tertiary Education Commission, 2004a: 11)

*Three bible colleges were ranked 8th, 9th, 10th overall

Rank	University	FTE-weighted Institutional Quality Score
1	University of Otago	4.23
2	University of Auckland	4.19
3	University of Canterbury	4.10
4	Victoria University of Wellington	3.83
5	University of Waikato	3.73
6	Massey University	3.06
7	Lincoln University	2.96
8	Auckland University of Technology	1.86

(Source: Tertiary Education Commission, 2007b: 53)

This emphasis on Quality Scores reflects one success of the PBRF (at least from the perspective of government and policymakers) in that the fund has displaced popular and academic perceptions about a crisis in funding of universities with more diffuse concerns about a crisis in research.

In 2007 funding allocated by the three components in the 2006 Quality Evaluation was about \$230 million. The universities secured 97.43% of the PBRF; twenty-three other institutions the rest. The PBRF is estimated to now provide around one-fifth of government funding to universities (the bulk of the balance deriving from funding for equivalent fulltime students (EFTS)) (Scott & Scott, 2005). The PBRF has become a key

component of university financing both in the sense of its bulk-funding arrangements and in terms of its reputational benefits and their putative multiplier effects. Table 2 shows the relative shares of the PBRF.

Table 2. Component shares of PBRF in 2003 and 2006

Institution	2003		2006	
	FTE Staff	Total PBRF	FTE Staff	Total PBRF
Auckland	19%	29%	18%	30%
Otago	16%	22%	14%	21%
Massey	16%	14%	14%	15%
Canterbury	8%	12%	8%	10%
Victoria	8%	9%	9%	9%
Waikato	7%	7%	6%	6%
Lincoln	3%	3%	3%	3%
AUT	8%	2%	5%	2%
Others	15%	2%	24%	2%

(Source: Tertiary Education Commission, 2004b: 71-74; 2007b: 73).

However Duncan (2007) is spot on in his assessment that actions on the part of senior management at a number of universities has rendered pointless fine-grained comparisons of Quality Scores between the 2003 and 2006 Quality Evaluations. The capacity of senior managers to game the PBRF in terms of the eligibility of academic staff and by constituting the Nominated Academic Units (for example, departments, schools, faculties) that are assessed as sub-divisions of each institute of higher education is discussed elsewhere (Curtis, forthcoming; Curtis & Matthewman, 2005). Most significantly in response to the 2006 Quality Evaluation considerable institutional effort went into removing existing R-rated (research inactive) staff from the Quality Evaluation. Vance, Alexander and Sandhu (2007) demonstrate the extent to which four of the eight universities (Massey, Otago, Waikato, AUT) gamed the PBRF by removing research inactive staff from eligibility (it would appear by rewriting their employment contracts). In these cases the benefits accruing to the universities concerned from hiring new, research active, staff or through improvements in the Quality Score of existing staff were swamped by a factor of at least 2:1 by the benefits of making research inactive staff ineligible. This gaming around eligible staff accounted for all the changes in the ranking of institutional Quality Scores (see Table 1). An initial response on the part of the CEO of the Tertiary Education Commission (TEC) to the effect that this simply represented a correction to the census of staff undertaken in the 2003 Quality Evaluation (Curtis, notes 26/06/2007) must surely further throw into doubt the validity of the initial staff census approved by TEC (Curtis, forthcoming; Curtis & Matthewman, 2005, Web Research, 2005).

The PBRF remains –as it was formally designed- a central instrument for the bulk-funding of institutions of higher education, albeit to the advantage of universities (Curtis & Matthewman, 2005). For universities –the primary beneficiaries of the PBRF- the new arrangements discriminate between funding generated by research activities from historic funding categories generated in effect by teaching (i.e., various EFTS based formulae). Funding generated by the measure and the comparison of research outputs is a new funding category in higher education. It, particularly the Quality Score, now informs any future bulk-funding arrangements including modifications to the EFTS based approach (Tertiary Education Commission, 2007a).

Clearly the PBRF signals a potential for the commodification of academic life insofar as it creates a new product market (the funding of research outputs) within which universities must now operate and compete. The most important component of this market is the Quality Score (which accrues sixty percent of the PBRF) and in so doing valorises individual staff for their research *qua* research. Nevertheless Duncan somewhat misses the point about utilitarian policies. New Zealand governments embraced 'utilitarian discourses' several decades ago and have unwaveringly pursued neoliberalism ever since (Kelsey 2002). In this context the PBRF and projected changes to EFTS-based funding constitute a second generation in neoliberal policy that both extends the fixation with markets as policy instruments and tries to address the accumulating market failures of the first (Easton, 2002). Peck & Tickell (2002) classify this second and putatively creative phase as at 'roll-out' neoliberalism.

The first moment of neoliberal policy dates to changes to funding in the late 1980s. These created the EFTS-based approach and heralded a quasi-market in higher education. Teaching became a product market. Universities and other institutions of higher education were encouraged to compete for students across this product market (Easton, 2002). The 1989 *Review of Post-Compulsory Education and Training* (the Hawke Report) was the main marker of the realignment of higher education with a market-led ethos (Hawke, 1988). Accordingly the Ministry of Education developed generic funding categories for degree (postgraduate and undergraduate) and sub-degree programmes, plus high and low cost courses, and simultaneously relaxed longstanding restrictions on the curriculum of the non-university sector (Hodder, 2003).

The institutions of higher education were constituted by EFTS-based funding as partially interchangeable providers of educational products. While the development of an EFTS-based product market in higher education undoubtedly stimulated competition for students it has since been argued that this form of funding has encouraged a negative isomorphism -particularly the proliferation of low quality programmes and courses by institutions in search of student enrolments (see Ministry of Education, 2004). In contrast the *Tertiary Education Strategy: 2002-2007* emphasizes the synergistic benefits of an educational hierarchy, at least when expressed as collaboration between the institutions of higher education and the differentiation of these institutions in terms of quality and capacity (Ministry of Education, 2003, 2005).

The PBRF is then an important moment in a modification of an existing market-led approach. In attempting to ameliorate a race to the bottom scenario in which curricula and standards declined as universities competed for students (and simultaneously lowered academic thresholds) the PBRF further commodifies academic life by providing a new potential income stream to universities. For academics, research is valorised by government funding in the same way that teaching is by EFTS-based funding. But whereas the value of teaching to an institution is relatively easy to capture in terms of staff/student ratios, the value of research calculated as the institutional quantum of individuals' Quality Scores and more broadly by all three components of Quality Evaluations, is far more complex.

Duncan (2007) joins a host of writers bemoaning the commodification of academic life and the tailoring of academic research to best suit funding arrangements. A number of these graft a Bravemanian concern with an academic labour process (Wilmott, 1995), class (Harvie, 2000), work degradation (Bryson, 2004; Yates 2001) and intensification (Chandler, Barry & Clark, 2002; Ogbonna & Harris, 2004) onto a discussion of academic life. The argument for commodification is at times compelling but it is also an overstatement insofar as it describes the PBRF. In this respect the most convincing countervailing element to a straight commodification thesis is the -non-market- ways in which Quality Scores are derived, that is by expert panels and peer review.

The PBRF does not increase government funding (Mallard, 2005) or even reverse historic declines in government funding as a proportion of university revenue (Scott & Scott, 2005). Scott and Scott demonstrate a clear decline in terms of real funding per EFTS, funding as a percentage of university operating revenues, and the ratio of EFTS to full-time equivalent (FTE) staff (see Curtis, forthcoming). The PBRF does however require universities and other institutions of higher education, and individual academics to engage in new forms of audit and (self)representation. Putting aside the extent to which the PBRF represents old wine in new bottles in terms of funding, the new fund can hardly be accused of the straightforward commodification of academic life.

Rather, it could be argued that, the PBRF provides some shelter for academics insofar as it reiterates the linkage of teaching and research. An emphasis on PBRF sanctioned activities – particularly those of a process nature (for example, building peer esteem) – might even provide academics limited scope for gaming line management (Curtis, 2006). This not to deny that the PBRF and similar forms of evaluation are part of managerial rhetoric around the intensification of academic work but to highlight the importance of institutional contexts and complexity.

More broadly, the key issue is how academic collegiality fares in the face of new managerial practices, which attempt to couple a bureaucratic concern with surveillance with market-like policy instruments (Becher & Trowler, 2001; Halsey, 1992).

Bearing in mind that academic collegiality is based on range of hierarchies that operate primarily to secure the professoriate as well as a range of secondary or peripheral labour markets (Connell & Wood, 2002), there are at least three elements are at play in New Zealand. First, the designers of the PBRF were concerned with the need for transparency and the extent to which collegiality might undermine this imperative. (Peters 2001a: 14). This concern -which is predicated on a neoliberal misrepresentation of markets as allocative devices (Pusey, 1993)- is cited as the main reason for compulsion and individual Quality Scores for all eligible staff (Boston, 2004, 2005).

Second, there was considerable support for the development of the PBRF from senior management and academic staff alike in universities in the lead up to the 2003 Quality Evaluation (Barnes, 2004; Roberts, 2006), as well as from the union representing academic and general staff in universities (Association of University Staff, 2002). This early enthusiasm expressed a collective judgment that any funding exercise which assessed the quality of research across the institutions of higher education would inevitably do so to the benefit of the university sector (Curtis & Matthewman, 2005; Roberts, 2006). The recent reservations expressed by the Association of University Staff about the PBRF coincide with drive on the part of union leaders to merge with the Association of Staff in Tertiary Education (which covers the polytechnic sector).

Third, while the designers of the PBRF strived for transparency the methodology they developed is absolutely dependent on the practices of peer review, the bedrock of academic collegiality. Thus twelve multi-disciplinary panels constituted by the Tertiary Education Commission did the ratings of individual staff in 2003 and 2006. Each panel involved around 20 academics comprised from the professoriate and including at least one senior academic employed outside New Zealand and one expert in Maori knowledge (Tertiary Education Commission 2004b: 245-249, 2007b: 260-266).

The panels then rated individual staff by their Evidence Portfolios. The rating was across three dimensions: Nominated Research Outputs (Crothers, 2006), Contribution to Research Environment and Peer Esteem. These dimensions were weighted seventy percent, fifteen percent and fifteen percent respectively in calculating a numeric grade out of 700. Individual academics were then rated A (600-700), B (400-599), C (200-399) or R (less than 200) (as was also noted above, the ratings of individual staff as A, B, C, R were valued at 10, 6, 2 and 0 respectively in the calculation of an institutional Quality

Score). The practices used by the multi-disciplinary panels in generating Quality Scores have not been codified. The chair of the moderating panel, Professor Paul Callaghan, suggested that the margin of error for specific ratings of staff might be as high as twenty percent in 2003 (author's notes from *PBRF Forum*, Royal Society of New Zealand, 21 May, 2004).

Nevertheless a telling measure of the collegial character of this peer review is how well the professoriate did *vis a vis* other academic ranks. Smart (2005) conducted a regression analysis of the 2003 Quality Evaluation results (for evaluated staff of professor, associate professor, senior lecturer and lecturer ranks). This amounted to about 70 percent of evaluated PBRF-eligible staff.

Table 3. Dimensions of Quality Score by Academic Rank

	Research Outputs	Peer Esteem	Contribution to Research Environment	Quality Score
Professor	5.4 / 7	5.4 / 7	5.1 / 7	534.4 / 700
Associate Professor	4.7 / 7	4.4 / 7	4.2 / 7	458.5 / 700
Senior Lecturer	3.5 / 7	3.0 / 7	2.9 / 7	335.1 / 700
Lecturer	2.8 / 7	2.1 / 7	1.9 / 7	253.8 / 700

(Source: Smart, 2005: 43)

Comparisons of average quality scores by discipline and by multidisciplinary panel suggest that typical hierarchies of academic life are replicated in New Zealand and captured (and reproduced by the PBRF). However the across the board success of the professoriate also points to the collegiality of the PBRF insofar as the methodology of the Quality Evaluations gives priority to the things professors do best (for example, lead authorship and international networking). While the PBRF is an undoubted threat to non-research active staff and a definite spur to new, junior and mid-ranking or just plain ambitious academics, it is primarily a validation of the professoriate and arguably the collegial status quo.

This continuity with prior forms of collegiality reflects that the methodology of the PBRF was at base designed by professors and administered by professors. As such the PBRF also signals a shift in concentration of responsibility (as distinct to authority) from the situation in which professors acted as Academic Heads to the proliferation of academically mid-ranked Heads of Department (the author acknowledges both). The powers of professors as Heads were reputedly those of grace and favour, essentially the unequal distribution of academic work and rewards to staff. The PBRF-based / EFTS-based HoD operates in a far more transparent environment in which inequities are more difficult to sanction. Add to this the situation in which university-based HR deals almost exclusively with general staff and the PBRF might be said to add considerably to the pressures facing HoDs as middle-managers without the right to hire or fire.

3 CONCLUSIONS

The most significant change heralded by the PBRF is the surveillance of academic staff by their employers, the senior managers of universities. The ratings of individual staff are made available to each academic and to senior management within each institution. It is tempting to suggest that the decision to individualise the PBRF speaks primarily to the

desire of senior management in institutions of higher education to undertake surveillance and assessment of their staff.

The PBRF is a driver for changes in higher education in New Zealand analogous to those identified by Clark (1998), Marginson & Considine (2000), Slaughter & Leslie (1997) and Slaughter & Rhoades (2004) in particular, forms of commodification like the rise of the 'entrepreneurial university'. But, the methodology developed for the PBRF (with the support of New Zealand Vice Chancellors and the active professoriate) has provided a surprisingly blunt instrument for university managers. Indeed the worrying comments from one Vice-Chancellor in the wake of the 2003 Quality Evaluation about the HR challenge and reworking academic life (Curtis & Matthewman, 2005; Walsh, 2004) now seem to be more bluster than strategic vision.

No clear set of policies or practices has yet emerged on how to manage academics in the context of the PBRF. Managerial theory seems to have outstripped practice (Clark, 1998). It seems reasonable to attribute at least some of the current managerial deficit or lag to the complexity of results produced by the methodology of the Quality Evaluation. This is precisely because the methodology of the PBRF follows a mixed model (Peters, 2001b), in which both institutions and individuals are assessed during rounds of Quality Evaluation.

The mixed model used by the PBRF has generated decidedly mixed messages: because institutional funding follows from rankings across three component scores –Quality Score, Research Degree Completions, External Research Income; and individual Quality Scores likewise - Nominated Research Outputs, Contribution to Research Environment and Peer Esteem. Universities are motivated to improve institutional rankings across each component and dimension which, in turn, produces conflicting demands on academics units and individuals. The inconsistencies in requiring individual staff and each Nominated Academic Unit to simultaneously improve their research outputs, secure more external funding, complete more PhDs and generate more EFTS (which because of the PBRF are now worth less per undergraduate student) should be obvious. While such 'contradictions' can be resolved by the simple intensification of academic work (Ogbonna & Harris, 2004), this sort of challenge to the prevailing professional ethos around academic life –which Marginson predicts- is also anticipated and resisted by staff (Curtis & Matthewman, 2005).

The obvious error in Duncan's polemic is to assume the existence of a regime of performance management rather than to examine the practices of work and organisations which may indeed include managerialist efforts at the intensification of work. He, like the majority of commentators, recycle the Braverman (1974) fallacy about, what Burawoy (1979) called, the despotic regime of production. Lyotard offers a semiotic take on this despotism.

Also it is worth reiterating the sour note expressed by the Minister of Finance in the aftermath of the 2003 Quality Evaluation and the success of Philosophy (Cullen, 2004). In other words –and in contrast to Duncan (2007)- the PBRF is regarded as insufficiently utilitarian in aligning academic practice with government goals for higher education.

The extension of collegiality into PBRF practice –peer review- seems absent from the utilitarian / Marxian formulations. It becomes possible to understand the PBRF as an important marker for senior management and simultaneously a dilemma for middle management.

4 REFERENCES

Association of University Staff, (2002), *Performance-Based Research Fund: Policy Statement*. Available at: www.aus.ac.nz/policy_professional/PBRF/policy.htm.

- Barnes, T. (2004), Transcript of Plenary Sessions, PBRF Forum: Evaluation the Assessment Framework, The Royal Society of New Zealand Social Sciences Committee, 21 May. Available at: www.rsnz.govt.nz/advisory/social_science/media/pbrf2004-plenary.php.
- Becher, R. & Trowler, P.R. (2001), *Academic tribes and territories: intellectual enquiry and the culture of disciplines*, Buckingham: Society for Research into Higher Education and The Open University.
- Boston, J. (2004), Evaluation of the assessment framework, paper presented at the *PBRF Forum*, Royal Society of New Zealand, Social Sciences Committee, 21 May. Available at: www.rsnz.govt.nz/advisory/social_science/media/pbrf2004-plenary.php.
- Boston, J. (2005), The performance-based research fund: key concerns and future directions – where to from here? in R. Smith and J. Jesson (Eds.) *Punishing the discipline – the PBRF regime: Evaluating the position of Education – where to from here?*, Auckland: Auckland University of Technology and University of Auckland: 173-185.
- Braverman, H. (1974), *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*, New York: Month Review Press.
- Bryson, C. (2004), What about the workers? The expansion of higher education and the transformation of academic work, *Industrial Relations Journal*, 35(1): 38-57.
- Burawoy, M. (1979), *Manufacturing Consent: Changes in the Labor Process Under Monopoly Capitalism*, Chicago: University of Chicago Press.
- Chandler, J., Barry, J. & Clark, H. (2002), Stressing academe: the wear and tear of the New Public Management, *Human Relations*, 55(9): 1051-1069.
- Connell, R. & Wood, J. (2002), Globalization and scientific labour: patterns in a life-history study of intellectual workers in the periphery, *Journal of Sociology*, 38: 167-178.
- Crothers, C. (2006), *Mapping the Social Sciences: Characteristics of new Zealand Academic Research Outputs*, BRSS Occasional Paper Series No. 3, ISSN 1177-2360, Palmerston North: Building Research Capability in the Social Sciences.
- Cullen, M. (2004), *Speech to Hamilton Club ABN AMRO Craigs Economic Breakfast Briefing: NZ's Path to Growth*, Hamilton Club, Hamilton, 15 July 2004.
- Curtis, B. 'The Performance Based Research Fund: The Performance-Based Research Fund: Research assessment and funding in New Zealand', *Globalisation, Societies and Education*, (forthcoming)
- Curtis, B. (2006) 'Tactics of resistance in academic work', in Colic-Peiskar, V. McNamara, B. and Tilbury, F. (eds.), *Sociology for a mobile world: TASA 2006 Conference Proceedings*, The Institute of Advanced Studies, University of Western Australia, ISBN-13: 978-1-74052-139-0.
- Curtis, B. (2007), notes from *Forum on the PBRF*, Co-hosted by the Institute of Policy Studies, Victoria University of Wellington, the Ministry of Education and the Tertiary Education Commission, Victoria University of Wellington, 26 June.
- Curtis, B. & Matthewman, S. (2005), The managed university: The PBRF, its impacts and staff attitudes (in the humanities and social sciences), *New Zealand Journal of Employment Relations*, 30(2): 1-18.

- Duncan, G. (2007), *Shifting Discourse: the value of the PBRF*, Public Policy Group, University of Auckland, 10 July.
- Easton, B. (2002), *Why economists don't understand education ... but still try to run it*. Available at: www.eastonbh.ac.nz/article120.html.
- Halsey, A.H. (1992), *Decline of donnish dominion: The British academic professions in the twentieth century*, New York : Oxford University Press.
- Harvie, D. (200), Alienation, Class and Enclosure in UK Universities, *Capital and Class*, 71: 103-132.
- Hawke, G.R. (1988), *Report on post-compulsory education and training in New Zealand*, Wellington: Office of the Associate Minister of Education.
- Hodder, J. (2003), *The Education (Tertiary Reform) Amendment Act 2002*, Wellington: Chapman Tripp.
- Kelsey, J. (2002), *At the Crossroads: Three essays*, Wellington: Bridget Williams Books.
- Lyotard, J. (1984), *The Postmodern Condition: A Report on Knowledge*, Minneapolis: University of Minnesota Press.
- Mallard, T. (2005), Tertiary education funding switches to quality. Press release, 19 May 2005, www.beehive.govt.nz/ViewDocument.aspx?DocumentID=23108.
- Marginson, S. (2006), Dynamics of national and global competition in higher education, *Higher Education*, 52(1): 1-39
- Ministry of Education, (2003), *Statement of tertiary education priorities: 2003/2004*, Wellington: Ministry of Education.
- Ministry of Education, (2005), *Statement of tertiary education priorities: 2005/2007*, Wellington: Ministry of Education.
- Ogbonna, E. & Harris, L. (2004), Work intensification and emotional labour among UK university lecturers: an exploratory study, *Organization Studies*, 25(7): 1185-1203.
- Peck, J. & Tickell, A. (2002,) Neoliberalizing Space, *Antipode* 34(3): 380-404.
- Peters, M.C. (2001a), *Performance-based research funding options for the tertiary education sector (Part B)*, Wellington: New Zealand Vice Chancellors' Committee.
- Peters, M.C. (2001b), *Performance-based research funding (PBRF): mixed model implementation details, discussion paper (Part C)*, Wellington: New Zealand Vice Chancellors' Committee.
- Phibbs, S., and Curtis, B. (2006), 'Gender, Nursing and the PBRF', *Nursing Praxis*, 22 (2): 4-12.
- Pusey, M. (1993), Reclaiming the Middle Ground: From New Right Economic Rationalism', in S. King and P. Lloyd (Eds.), *Economic Rationalism: Dead End or Way Forward?* Sydney: Allen and Unwin: 12-28
- Roberts, P. (1998), 'Rereading Lyotard: Knowledge, Commodification and Higher Education', *Electronic Journal of Sociology*, 3(3): 1-23.
- Roberts, P. (2006), Performativity, measurement and research: A critique of performance-based research funding in New Zealand in: J. Ozga, T. Popkewitz &

- T. Seddon (Eds.), *World Yearbook in Education: Education Research and Policy*, London: Routledge Falmer: 188-195
- Scott, W.A. & Scott, H.M. (2005), A Longitudinal Study of New Zealand University Income and Student Numbers, *New Zealand Journal of Tertiary Education Policy* 1 (2): 1-15.
- Smart, W. (2005), What determines the research performance of staff in New Zealand's tertiary education sector?: an analysis of the Performance-Based Research Fund Quality Evaluation, Wellington: Ministry of Education.
- Smith, R. (2005), Research counts: ranking the disciplines -39 of 41- is up the only way for education?, in R. Smith and J. Jesson (eds.) *Punishing the discipline – the PBRF regime: Evaluating the position of Education – where to from here?*, (Auckland, Auckland University of Technology and University of Auckland): 1-19.
- Tertiary Education Commission, (2004a), *Overview and key findings: Performance-Based Research Fund, evaluating excellence: the 2003 assessment*, Wellington: Tertiary Education Commission.
- Tertiary Education Commission, (2004b), *Performance-Based Research Fund, evaluating excellence: The 2006 assessment*, Wellington: Tertiary Education Commission.
- Tertiary Education Commission, (2007a) *Investing in a Plan: A New System for Investing in Tertiary Education*, Wellington: Tertiary Education Commission.
- Tertiary Education Commission, (2007b), *Performance-Based Research Fund, evaluating excellence: The 2006 assessment*, Wellington: Tertiary Education Commission.
- Vance, P., Alexander, S. & Sandhu, A. (2007), *Phase Two PBRF Evaluation – context for the analysis of data in Evidence Portfolios*, Wellington: Tertiary Education Commission.
- Walsh, P. (2004), Transcript of Plenary Sessions, *PBRF Forum: Evaluation of the Assessment Framework*, The Royal Society of New Zealand Social Sciences Committee, http://www.rsnz.govt.nz/advisory/social_science/media/pbrf2004-plenary.php, accessed 25 May 2005.
- Willmott, H. (1995), Managing the Academics: Commodification and Control in the Development of University Education in the U.K. *Human Relations*, 48(9), : 993-1027.
- Yates, M. (2000), Us Versus Them: Laboring in the Academic Factory, *Monthly Review* 51(8): 40-49 .