

West's Quantum Mechanics

The following article, "West's Quantum Mechanics", by **David Phillips**, appeared originally in *The Australian* of July 1st, 1998, page 41. David Phillips formerly headed the Higher Education Division of the Commonwealth Department of Employment, Education, Training and Youth Affairs. I am indebted to him for his permission to make his article available on my web site.

Rod Nilsen, August 2006.

Most universities face big research funding losses under little-debated proposals of the West review. **David Phillips** looks at the winners and losers

The West review of higher education advocated funding changes that are almost as far-reaching as its proposals for undergraduate teaching.

Education Minister Dr David Kemp was quick to express a view on key aspects of the committee's undergraduate teaching proposals when the West report was released in April, at least temporarily ruling out vouchers and deregulation of fees, but we still do not know his views in relation to research. All we know is his intention, announced in the recent Budget context, to issue a statement on research policy.

It is surprising that the higher education sector seems to have been almost silent about the West proposals for research. It is doubly surprising, given that most universities would lose if the proposals were to be implemented.

The West proposals for research have two primary objectives: to increase the concentration of research funding and to increase the influence of student choice in the distribution of research training places. Arguably, both objectives have merit. But neither can be achieved within a fixed sum of resources without a transfer of funds between universities. Depending on the final mix of policies, that transfer could be significant for some institutions.

The first potential ingredient in the research-policy mix is the size of the research quantum. This is the funding that notionally supports research activities other than those directly linked to teaching and research training. It is the component of institutional operating grants distributed on research performance rather than on student load.

According to the Department of Employment, Education, Training and Youth Affairs Higher Education Funding Report for the 1998-2000 triennium, the research quantum stands at \$219 million, or about 4.5 percent of total operating grants.

If the objective is to increase the concentration of research funds, one of the simplest ways to do so is to increase the size of the research quantum.

The more money distributed according to research performance and the less according to student load, the more concentrated the funds become in the leading research universities.

In its discussion paper, the West committee floated three possible levels for the research quantum as a proportion of operating grant: 4.9 percent, 6 percent (which is roughly where it started) or 10 percent.

There are credible arguments for going back to a figure of about 6 percent. If concentration is a policy objective, then 10 percent or higher is conceivable. Australian Vice-Chancellors Committee president John Niland (wearing his University of NSW hat) has publicly argued for up to 15 percent. From Niland's UNSW perspective, it makes good sense to advocate a higher figure.

Any increase in the size of the research quantum must come from a corresponding reduction in the remainder of the operating grant – the teaching component – unless there is an increase in total funding, which is not in prospect.

Therefore, a university will be a winner from an increase in the size of the research quantum if its share of the research quantum is greater than its share of the teaching component of operating grants. UNSW is one of only 11 universities in that position.

Big winners from an increase in the size of the research quantum would be universities whose share of research funds is much higher than their share of funded student load, especially Melbourne, UNSW, University of Queensland, University of Western Australia, Adelaide and Sydney, in that order. On current performance, Monash, Flinders, Macquarie, Tasmania and Newcastle also would gain.

Other institutions would be net losers – losing more from the reduction in the teaching component of operating grants than they would gain from the increase in the research quantum.

For example, each time the research quantum increases by one percentage point of operating grant, from say 4.5 percent to 5.5 percent, the University of Melbourne (the biggest winner) gains around \$3.2 million and the University of Western Sydney (the biggest loser) loses \$1.6 million.

An increase to 15 percent would produce annual gains in the order of \$34 million for Melbourne and losses of \$16.7 million for UWS. UNSW would gain around \$28.7 million. (All calculations are based on the 1998 shares of the research quantum – see the first column of the table.)

This is the policy objective of concentration being achieved: funds would be transferred from less research-intensive universities to more research-intensive ones.

A loser from an increase in the research quantum would be the Australian National University because its principal research funding comes separately, in the form of a block

grant to the Institute of Advanced Studies.

Such calculations were not included by the West committee in its report; neither did it reach a conclusion on the desirable size of the research quantum.

The committee sidestepped the issue by noting that it is inextricably linked with the committee's other recommendations regarding undergraduate student entitlements and research training places.

Indeed, the potential shifts of resources around the system from increases in the research quantum are relatively trivial compared with those implied by the research training proposals. The teaching component of operating grants notionally has two sub-components, one relating to the teaching of undergraduates and postgraduate coursework students, the other relating to the training of higher degree research students.

West proposes that this second sub-component – calculated to be \$470 million – should be identified separately and distributed in a new way.

As a first step, the proposed approach would use an index of research performance similar to the composite index used to distribute the research quantum. (The second step would be to replace the index with national merit lists of HDR candidates in each discipline.)

The impact of the first step would depend on the detailed construction of the index but, given the correlation between most of the available measures of research performance, it is likely that the outcome would be broadly similar to that of the composite index. It would be like increasing the research quantum by \$470 million, or almost 10 percentage points of operating grant (on top of whatever increase might come for the research quantum).

The winners and losers would be the same institutions, but the impacts would be compounded. For example, in addition to the impact of any increase to the research quantum, Melbourne would gain a further \$31.5 million annually and UWS would lose a further \$15.4 million.

Another way of implementing this proposal might be to take the amount of funded higher degree research student load (about 23,000 equivalent full-time student units) and reallocate it according to each institution's share of the new index. If this were to be done and the new index produced results similar to the composite index, eight universities would gain at the expense of the rest.

On a straight application of the formula, UNSW would be the biggest winner, picking up an extra 932 EFTSUs. Royal Melbourne Institute of Technology University would be the biggest loser, dropping 479 EFTSUs. (See the second column of the table.)

The size of the potential swings is bizarre, especially if applied on top of an increase in the research quantum.

This leaves wide open the question of what, if anything, might be said on these issues in Kemp's forthcoming research policy statement.

If the two basic objectives of the West committee are attractive to the Government, there are other options available that would be less dramatic in their impact.

A modest increase in the research quantum could be phased in to achieve a manageable increase in the concentration of research funds.

Postgraduate student choice could be given a larger influence by addressing financial barriers to movement by research students through modest additional funding (advocated by West) and by improving information.

There are also approaches that draw on overseas experience, such as the UK research assessment exercise.

The other issue on the research policy front is the projected fall in funds for research infrastructure. The combined total of the two specific research infrastructure funds is scheduled to drop from \$126 million this year to \$62 million in 2000.

With the stakes so high and a ministerial research statement in the wind, surely the sector won't remain quiet on these issues for much longer.

THE WEST RESEARCH IMPACT

Institution	Impact of each 1% point growth in the Research Quantum as a proportion of operating grant* (\$'000)	Change in funded HDR load if HDR load is distributed according to share of the RQ (EFTSU)
New South Wales		
Charles Sturt Uni	-845	-50
Macquarie Uni	215	-58
Southern Cross Uni	-448	-85
Uni of New England	-73	-77
Uni of New South Wales	2741	932
Uni of Newcastle	25	200
Uni of Sydney	1625	-32
Uni of Technology, Sydney	-944	-189
Uni of Western Sydney	-1592	-371
Uni of Wollongong	-101	-85
Victoria		
Deakin Uni	-1194	-316
La Trobe Uni	-369	-161
Monash Uni	973	85
RMIT	-866	-479
Swinburne Uni of Technology	-351	-153
Uni of Ballarat	-282	-37
Uni of Melbourne	3243	550
Victoria Uni of Technology	-823	-197

THE WEST RESEARCH IMPACT (continued)		
Institution	Impact of each 1% point growth in the Research Quantum as a proportion of operating grant* (\$'000)	Change in funded HDR load if HDR load is distributed according to share of the RQ (EFTSU)
Queensland		
Central Queensland Uni	-516	-49
Griffith Uni	-784	-127
James Cook Uni	-123	-86
QUT	-1360	-175
Uni of Queensland	2387	438
Uni of Southern Qld	-538	-35
Western Australia		
Curtin Uni of Technology	-461	-117
Edith Cowan Uni	-951	-230
Murdoch Uni	-58	-77
Uni of Western Australia	1986	474
South Australia		
Flinders Uni of SA	497	234
Uni of Adelaide	1866	562
Uni of South Australia	-877	-1
Tasmania		
Uni of Tasmania	37	-25

THE WEST RESEARCH IMPACT (continued)		
Institution	Impact of each 1% point growth in the Research Quantum as a proportion of operating grant* (\$'000)	Change in funded HDR load if HDR load is distributed according to share of the RQ (EFTSU)
Northern Territory		
Northern Territory Uni	-83	-5
ACT		
Australian National Uni	-979	-121
Uni of Canberra	-308	-73
Multi State		
Australian Catholic Uni	-668	-65

*Assuming no increase in total operating grant and 1998 shares of the RQ.

Source: DEETYA, Higher Education Funding Report for 1998-2000 Triennium; DEETYA, Selected Higher Education Student Statistics, 1997.

Higher education consultant David Phillips formerly headed the higher education division of DEETYA.