PAY PEANUTS AND GET MONKEYS?

Evidence from NZ Universities

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PEANUTS AND MONKEYS, MONKEYS AND PEANUTS...

James Goldsmith...
BUT DO PEANUTS REALLY BEGET MONKEYS?

• Contrarian views
  - intrinsic motivation, not money
  - ‘peanuts attract a better class of monkey’

• Data difficulties
  - how does one identify ‘peanuts’ or ‘monkeys’?
  - privacy constraints
REQUIREMENTS FOR ‘CLEAN’ INVESTIGATION

• A single worker task

• Sub-group variation in remuneration

• Objective measure of sub-group performance

Due to PBRF, the NZ university system now provides data that meet these requirements.
PBRF

- Splitting of research and teaching funding

- All NZ academics required to submit a research portfolio for assessment by one of 12 panels covering 41 disciplines

- Each portfolio assigned a 'quality' grade
  \( (A, B, C, R = 10, 6, 2, 0) \)

- Individual scores not made public, but performance measures for each discipline computed and reported
PERFORMANCE MEASURES

• Average Quality Score
  - arithmetical average of discipline-researcher scores

• Proportion of R grades
  - ‘prevalence of monkeys’ in discipline
HOW ARE NZ ACADEMICS PAID?

- NZ academic pay depends only on rank, not on discipline

- But disciplines vary in labour market opportunities

  If a university went ahead and paid equally, lowering economists' pay and raising French professors' pay, it would have a great French staff and a dreadful bunch of economists. (Hamermesh, 2004, p180)
DISCIPLINE-SPECIFIC OPPORTUNITY COSTS

• Available proxy: US discipline-specific academic salaries

\[
\text{Remuneration Shortfall (RS)} = \text{average US salary} - \text{average NZ salary}
\]

If peanuts beget monkeys, then high RS should be associated with weak research performance
## SOME SIMPLE NUMBERS: I

<table>
<thead>
<tr>
<th>DISCIPLINE CHARACTERISTIC</th>
<th>MEAN</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Quality Score</td>
<td>2.79</td>
<td>4.74</td>
<td>0.34</td>
</tr>
<tr>
<td>Proportion of R grades</td>
<td>0.36</td>
<td>86.7</td>
<td>7.5</td>
</tr>
<tr>
<td>Remuneration Shortfall</td>
<td>$20,910</td>
<td>$90520</td>
<td>-$340</td>
</tr>
</tbody>
</table>
# SOME SIMPLE NUMBERS: II

## Top-5 Average Quality Score

<table>
<thead>
<tr>
<th>Discipline</th>
<th>RS ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy</td>
<td>36</td>
</tr>
<tr>
<td>Anthropology and Archaeology</td>
<td>35</td>
</tr>
<tr>
<td>Earth Sciences</td>
<td>23</td>
</tr>
<tr>
<td>Ecology, Evolution and Behaviour</td>
<td>21</td>
</tr>
<tr>
<td>Biomedical</td>
<td>14</td>
</tr>
</tbody>
</table>
# SOME SIMPLE NUMBERS: III

## 5 Most Underpaid

<table>
<thead>
<tr>
<th>Discipline</th>
<th>AQS ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting &amp; Finance</td>
<td>34</td>
</tr>
<tr>
<td>Management etc</td>
<td>31</td>
</tr>
<tr>
<td>Law</td>
<td>20</td>
</tr>
<tr>
<td>Marketing and Tourism</td>
<td>30</td>
</tr>
<tr>
<td>Computer Science etc</td>
<td>26</td>
</tr>
</tbody>
</table>
REGRESSION ANALYSIS

Research performance = $a + b \cdot RS + c \cdot X + e$

$X$= vector of control variables:

- History and research culture
- ‘Dilution’ of available resources
- Government funding category
- Ability to influence panel decisions
## RESULTS SUMMARY

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Effect of $25000 increase in RS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Quality Score</td>
<td>-0.45 (-15%)</td>
</tr>
<tr>
<td>Percentage of R grades</td>
<td>8.4pp (26%)</td>
</tr>
</tbody>
</table>

Both effects are ‘statistically significant’ at 0.1% level
### ‘RANKING’ OF EXPLANATORY VARIABLES

<table>
<thead>
<tr>
<th>Variable</th>
<th>‘Relative’ Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. History and research culture</td>
<td>2.5</td>
</tr>
<tr>
<td>2. ‘Dilution’ of available resources</td>
<td>2.0</td>
</tr>
<tr>
<td>3. Remuneration Shortfall</td>
<td>1.0</td>
</tr>
<tr>
<td>4. Government funding category</td>
<td>0.6</td>
</tr>
<tr>
<td>5. Ability to influence panel decisions</td>
<td>0.4</td>
</tr>
</tbody>
</table>
MONKEY ECONOMICS?

• ‘Monkey-mimicking’ behaviour
  - consulting work
  - but applies to other countries as well, and therefore shouldn’t affect research scores

• RS a signal of ‘quality’
  - but then high-RS disciplines should have high research scores

• Part-time workers
  - endogenous response

• New researcher bias
  - age
  - proportion of non-submissions
MONKEY ECONOMICS? cont.

• Sample size
  - but same relationship exists in department-level data

• “Teaching matters too!”
  - but requires +ve correlation between RS and teaching performance!
  - teaching and research quality +vely correlated

• Work shifting
  - takes place within disciplines
  - no reason for why high-RS disciplines should systematically differ from low-RS disciplines
CONCLUSION

• The greater a discipline's average salary in US universities, the weaker its research performance in NZ universities.

• NZ universities apparently get what they pay for: disciplines in which the fixed compensation is high relative to opportunity cost are best able to recruit high-quality researchers.

• Paying (relative) peanuts attracts mainly monkeys

HEALTH WARNING!