

Marsden Fund

Assessment of Strategy and Management, 2016

Terms of Reference

Context

1. The Marsden Fund (the Fund), established in 1995, invests in excellent investigator-led research. The Royal Society of New Zealand provides executive support to the fund on behalf of the Marsden Fund Council. The Marsden Fund Council is appointed by the Minister of Science and innovation.
2. The Fund received \$54 million in Government funding in 2015. Through Budget 2016, Government has committed significant additional funding to the Fund.
3. The administration of the Fund is governed by its Terms of Reference which state that:
 - 3.1. the Fund invests in investigator-initiated research aimed at generating new knowledge, with long-term benefit to New Zealand.
 - 3.2. the Fund supports excellent research projects that advance and expand the knowledge base and contribute to the development of people with advanced skills in New Zealand.
 - 3.3. the Fund encourages New Zealand's leading researchers to explore new ideas that may not be funded through other funding streams, and fosters creativity and innovation within the research, science and technology system.
 - 3.4. the research is not subject to Government's socio-economic priorities.
4. The National Statement of Science Investment (NSSI) sets out the Government's strategic direction for investment in research, including investigator-led research. It is based on two key pillars of excellence¹ and impact². It acknowledges the importance of investigator-led research in generating ideas, expanding the knowledge base, and contributing to the development of advanced research skills; confirms the role of the government as its primary funder because its nature means it is unlikely to be funded otherwise; and commits to focusing a greater proportion of additional public investment in this area over time.

Purpose

5. The Minister of Science and Innovation has requested officials to provide advice on how to maximise the long term benefit to New Zealand from continued investment in investigator-led research through the Fund.
6. The advice will be provided to the Minister following the Marsden Fund Assessment of Strategy and Management to:
 - 6.1. provide ongoing assurance of the benefit of government investment in the Fund, particularly in light of the additional investment made in Budget 2016, and
 - 6.2. ensure the Fund is making robust, fit-for-purpose investments in excellent investigator-led research with long-term benefit to New Zealand.

Key Drivers

7. The following are key drivers for the assessment:
 - 7.1. The 'business as usual' policy cycle, in particular the desire for ongoing assurance of the value for money of Government investment, particularly in light of the additional investment made in Budget 2016.

¹ Excellence – see page 13 of the National Statement of Science Investment.

² Impact – see page 11 of the National Statement of Science Investment.

- 7.2. Given the Fund's broad subject focus, assurance that the Fund's strategy and management does not give undue weight to particular fields of science and research and does not create various forms of bias.
 - 7.3. Whether the current selection process is the most robust way of ensuring that only excellent research is funded, and delivers on the Fund's goal of investing in investigator-led research aimed at generating new knowledge that delivers long-term benefit to New Zealand. In particular, how the Fund ensures that different fields of research are treated in an unbiased fashion across panels.
 - 7.4. The changing nature of research, for example the emergence of big data, the need for trans- and inter-disciplinary research, and the emergence of new disciplines.
 - 7.5. The rising focus in many countries of developing ways to improve the processes and approaches to peer review and funding allocations.
 - 7.6. The NSSI's key pillar of impact, and the extent to which this is being considered in selection, monitoring and follow-up. In considering impact, we do not wish to shift the overall focus of Marsden to a more mission-led orientation. It will remain investigator-led and not driven by specified impacts. However, we want to ensure that management of the Fund contributes appropriately to the NSSI goal of '...comprehensive evaluation and monitoring of performance, underpinned by easily available, reliable data on the science system...', and that identifying impact as well as excellence is considered as part of the ongoing evaluation and monitoring of funded proposals.
 - 7.7. The international positioning of the Fund, and the need to ensure that both the operation of the Fund and the projects funded are making an appropriate contribution to the NSSI goal of 'continuous improvement in New Zealand's international standing as a high-quality R&D destination'.
 - 7.8. The NSSI also requires that public investment in research be subject to comprehensive evaluation and monitoring of performance, underpinned by easily available, reliable data on the science system.
8. The assessment will seek to reach conclusions on the extent to which the issues noted above may suggest modifications to the Fund's mode of operation.

Out of Scope

9. The following factors are outside the scope of the Assessment:
- 9.1. The fundamental nature of the Fund as a funder of investigator-led discovery science and research in New Zealand.
 - 9.2. The role of the Marsden Council in making funding recommendations for the Fund.
 - 9.3. The role of the Royal Society of New Zealand as the provider of executive support for the Fund.
 - 9.4. The size of the Fund.

Scope

10. The assessment of the Fund will address the following issues of strategy and management, with a particular focus on investment processes over the last five years.

Investment Strategy for the Fund

- 10.1. the nature of the research funded in the investment portfolio
- 10.2. the balance of research across the investment portfolio
- 10.3. the mechanisms that determine the structure and balance of the overall investment portfolio
- 10.4. the size of research investments
- 10.5. the mechanisms that determine the size of research investments.

Management of the Fund

10.6. The operational processes for managing the Fund, including

- the overall process
- call for research proposals
- determination of selection criteria
- allocation of proposals to panels
- selection and membership of review panels (particularly the issue of conscious and unconscious bias in panels)
- the selection process and whether it might lead to particular fields of research being favoured
- management of conflicts of interest and any other potential biases in review panels
- application of selection criteria
- the peer review process
- feedback processes on proposals
- selection of proposals
- contracting, including key performance indicators
- monitoring, reporting and feedback on performance of individual contracts
- collection, dissemination and analysis of performance information
- assessment of impact of individual contracts
- assessment of the impact of the overall investment portfolio
- communication to the science sector and the public.

Key Questions to be Addressed

11. The Assessment will address key questions, including:

- 11.1. How, and to what extent, does the Fund's overall portfolio of research investment contribute to new knowledge and other outputs that generate long-term benefit to New Zealand?
- 11.2. Is the Fund's overall investment strategy fit-for-purpose, efficient and effective in terms of producing excellent research, improving research capability and delivering long-term benefit to New Zealand?
- 11.3. How, and to what extent, does the strategy and management of the Fund (e.g. composition of review panels) affect the investment portfolio?
- 11.4. How, and to what extent, does the structure and balance of the Fund's investment portfolio (e.g. by size of investment and area of research) contribute to excellent research, improving research capability and long-term benefit to New Zealand?
- 11.5. What is the Fund's influence on the behaviour and performance of the academic community and the tertiary sector, and on New Zealand's international standing?
- 11.6. Is the Fund providing knowledge of value to New Zealand in domains not being addressed through other mechanisms?
- 11.7. How does the Fund's overall investment strategy and management support the themes of Vision Mātauranga?
- 11.8. Is management of the Fund fit-for-purpose, efficient and effective in terms of producing excellent research, improving research capability and delivering long-term benefit to New Zealand?

- 11.9. How does the overall investment strategy and management of the Fund affect the behaviour of applicants (eg. in number, nature, size and composition of proposals) or of reviewers? Are there unintended or perverse incentives, and if so, how are they manifested and how can they be mitigated?
- 11.10. Is the monitoring and reporting of individual contracts efficient, effective and fit-for-purpose? Is the collection, dissemination and analysis of performance information appropriate and fit-for-purpose?
- 11.11. How can the Fund's overall investment strategy and management be improved to generate long-term benefit to New Zealand?

Method

12. The Assessment will be conducted by the Ministry of Business, Innovation and Employment (MBIE).
13. The Assessment will include interviews with key stakeholders (e.g. council members, funding panel members, departmental science advisors, institutions, researchers and grant recipients).
14. The Marsden Council and the Royal Society of New Zealand will also be interviewed and engaged at regular points during the process. They may choose to consult members or interested parties if appropriate, but should agree the mode and timing of such consultation with MBIE prior to doing so.
15. The Assessment will review relevant literature and material on investigator-led research in general and on the Fund (e.g. contracts, Gazette notices, Terms of Reference, and Marsden Fund Impact Reports).
16. The Assessment will include comparisons with other investigator-led funding mechanisms in other jurisdictions (e.g. European Research Council, Australian Research Council and National Science Foundation) and the analysis of data and other information held by MBIE or the Marsden Fund Council. Novel data collection will be limited to consultation with key stakeholders.
17. Public submissions will not be invited. Stakeholders may make written submissions to MBIE if they consider it appropriate.

Planning and Implementation Arrangements

18. MBIE will lead the project. A reference group, comprising senior officials, will meet on a monthly basis to ensure effective oversight of the project.
19. MBIE will report to the Minister of Science and Innovation by 1 October 2016 with a detailed report, which will include if necessary a set of recommendations aimed at improvement.
20. The Royal Society of New Zealand and the Marsden Fund Council will have the opportunity to review the report, provide feedback, and correct any matters of factual inaccuracy prior to the report being submitted to the Minister.