16 August 2013

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Dear Ms Schofield

Universities Australia response to the discussion paper: “Assessing the wider benefits arising from university-based research”

Universities Australia welcomes the opportunity to comment on the Department’s discussion paper Assessing the wider benefits arising from university-based research. We have also appreciated the opportunity to speak with you and your colleagues in the process of preparing our submission.

The paper raises many important questions in relation to assessing the impact of research, including university research. UA supports this worthwhile endeavour, especially as the paper acknowledges the contribution that "...science and research make towards driving innovation and to addressing the social, economic, technological and environmental challenges..." This echoes the position adopted in the UA Policy Statement, A Smarter Australia, calling for a national commitment to a long-term, broadly based, integrated and sustainable national research capability.

We recognise that determining viable options for assessing research impact without distorting or unintentionally constraining the potential of the research process, is a worthwhile but complex and challenging task.

We look forward to continuing the discussion.

The UA contact on this matter is Allan Groth on 02 6285 8106.

Yours sincerely

Belinda Robinson
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Universities Australia response to the DIICCSRTE discussion paper “Assessing the wider benefits arising from university-based research”

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Introduction

The Universities Australia (UA) policy statement A Smarter Australia recommends that the Australian Government ‘partner with universities in the development and resourcing of an assessment of the impact of research’.

In this context UA commends DIICCSRTE (the Department) for producing the discussion paper, and notes the assessment trials, studies and workshops leading to it. Consultation by the Department over the previous 12 to 18 months is appreciated.

UA’s member universities consider that some further work could help to improve the aims, outcomes, principles and methodologies outlined in the paper.

Universities play an increasingly important role in underpinning Australia’s prosperity. Australia is regarded as one of 35 innovation-driven economies and this position must be strengthened to maintain Australia’s relative level of prosperity. As the resources boom starts to slow it is more important than ever to invest in research and innovation in driving the social and economic restructuring necessary for the careers and industries of the future. UA recognises the Department is seeking, through this exercise, to ensure Australia optimises the benefits that come from our research sector, and is better able to demonstrate those benefits to the community. UA argues that an effective and systematic assessment of research impact should improve research and the research process, recognising at the same time the potentially controversial nature of a comparative assessment of public value and the funding implications that come with it.

Assessment of university-based research occurs within a broader context of system-wide appraisal of universities’ performance in general undertaken by a range of entities such as TEQSA and the Australian Research Council. ‘Evidence matters when policymakers accept it and have the motive and opportunity to act on it’. The regulatory environment, culture and public opinion, commercial pressures, and the political process all exert influence on the process of change. What is important to capture is recognition that the relative power of evidenced-based ideas (as generated through university-based research) needs to be elevated in importance. Policies designed by the government to facilitate this would be supported by UA.

Uncertainty is inherent in research particularly as the scientific method and almost all research outcomes rarely commit to definitive findings, thus limiting their conclusions specifically to the variables measured and the outcomes observed. ‘Communicating an understanding of the value of this uncertainty will help build public and political confidence in decision-making’ and mechanisms to better illustrate this would be of immense value to the university sector.

Some of the research activity that is undertaken by universities is not yet fully captured and illustrated in traditional mechanisms for research output and/or quality. If we are to sustain efforts to increase the contribution of university-based research to Australia’s prosperity, a counterweight to the ERA as well as some form of alignment is necessary and, subject to the risks identified in this response and those identified by the sector more broadly being adequately addressed, would be supported by UA. UA would anticipate that a system of profiling or assessing the impact of research would complement and not in any way detract from other effective measures of research quality.

General Statements

As an overarching comment, UA warns against the development of an assessment mechanism for its own sake. There needs to be an explicit statement of purpose. Further discussion about the policy outcomes that might be achieved, and the mechanisms by which the Department in partnership with the university sector could achieve them, would be welcomed by UA.
The two drivers of: a) using existing data sets to limit new work for the sector, and b) genuinely evaluating impact, are not reconciled by the paper. This is a significant issue that needs to be addressed.

If the Department intends to assess ‘engagement’ it should set out to do so, and clearly define what this means, as either a qualitative or quantitative measure: the number of ‘engagements’ is not as important as what they produce. Similarly if it intends to assess ‘benefit’ or ‘impact’ then this should be explicit. These are distinct objectives and will have relevant metrics, measures, and assessment mechanisms associated with each. The coalescing of these separate objectives detracts from the intent of the policy.

At the risk of stating the obvious, it should also be recognised there are conceptual issues to be resolved in separating qualitative from quantitative measures on the one hand, and deciding on the relevant metrics. Qualitative measures could imply a degree of subjectivity about the (non-economic) value of an outcome, whereas quantitative measures are concerned more with volume or scale, for example.

Current attempts to retro-fit existing data sets with new policy objectives will not deliver the requisite policy outcomes required by the Department.

**Specific Responses**

1.4 Approaches to assessing benefits

UA agrees with the view that the realisation of benefit occurs on a variable time-scale. More often than not a long-term view will be needed to accurately assess broad research outcomes. Case studies may be an appropriate vehicle for capturing this information and could certainly be used to illustrate the impact of university-based research. However using case-study based comparisons may not only be difficult, but could be methodologically flawed and unhelpful. UA appreciates the value of case studies, particularly in publicly profiling excellent university research, but would have real reservations about using case studies as the sole evaluative mechanism.

Case studies rely largely on narrative, which may lead to the complication of over- or under-emphases in the interests of telling a good story. In the final analysis, however, most or all assessment requires rigorous moderation so that any comparisons of competing narratives for the purpose of (say) funding decisions are valid and objective. We would expect all case studies, however used, to be supported by measurable outcomes that could be validated.

The identification of lead indicators for research benefit is a potential solution to a complex problem. UA believes however that the metrics as currently determined are incorrect and insufficient to capture the intent of the policies driving the assessment exercise.

UA appreciates the need to avoid creating perverse incentives for researchers, research units, or institutions.

1.5 Definitions

**Benefits**: UA welcomes the Department’s view that “benefit” goes beyond the economic and must attempt to capture welfare, social and broader environmental impacts. Any definition would be improved by explicitly recognising the role of research in acquiring new knowledge and the creation of public knowledge. However it is arguable that different criteria might be relevant to evaluating these categories and sub-categories, and this could imply that different templates would be needed for the assessment of projects claiming social and/or environmental and/or economic benefits (for example using variations on methodologies such as the ABS SEO codes – see below).
There is a singular problem in excluding “…changes to the body of academic knowledge…” etc from the assessment of “benefit” as the paper suggests. More often than not research is a train of activities that follow different tracks and reach different destinations at different times, and often lead to further research as a direct or indirect beneficial outcome either inside the host institution or across a wider network. Moreover, the train of benefits can extend over many decades.

**Research engagement:** The identification of a number of ‘sign posts’ on the pathway(s) to impact may be able to deliver a representative, quantifiable and comparable set of metrics that might form the basis for an assessment regime. The current definition is decontextualized however and it is likely to offer little insight into the development of research ‘impact’. The contextual misstep here is that each part or step of engagement will need to have appropriate benefit or influence on the others.

If, for example, we measured the ‘engagement’ of a salesperson based on the number of customers greeted or the number of sales quotes written up, it is unlikely that we would get a thorough understanding of her or his ‘impact’. Alternatively, more impact-driven metrics would need to be developed. In the case of our salesperson it might be more appropriate to measure actual units sold and subsequent rates of customer satisfaction for example.

Similarly, giving a presentation on a group’s research findings will rarely be sufficient to measure the impact. Given the problems with narratives noted above, questions such as to whom was the presentation given, was the research timely, how powerfully were the arguments for change put, and how knowledgeable or receptive was the audience, are all relevant factors. UA would also alert the Department to the potential for such an approach, managed incorrectly, to lead to a ‘tick box’ approach to compliance and politicisation. The current definition of research engagement defines ‘university research’ specifically. There may be attribution issues that arise from such an approach.

**Research:** UA generally supports the definition of research as outlined in the discussion paper. UA would reiterate to the Department the need to find commonality, where appropriate, with the Draft Standards for Research, Research Training and Research Outcomes that are currently being developed. Nationally consistent and agreed terms will assist universities in meeting their quality, registration, outcome, and reporting obligations with the Commonwealth.

Some level of stratification of research by typology may have some purpose in differentiating assumed or likely prospective impacts. UA would alert the Department to the following should they consider applying this or any other stratification of research by type:

- Research rarely falls neatly into boxes and will by its nature tend to evolve (from basic to experimental or otherwise) – and it would be counterproductive to establish arrangements that might constrain this;
- Pre-emptive qualification of research would have to be managed specifically and carefully;
- Ernest Boyer’s 1990 paper titled ‘Scholarship Reconsidered’ provides a useful model for discussion as an alternative typology if stratification is favoured by the Department in the development of research impact assessment.

**Comments on aims, outcomes and principles**

**Aims:**

1. *Demonstration of public benefit is not an aim unto itself.* There needs to be a rationale as to why demonstration is necessary and what, from a public policy perspective, might be achieved by doing so.
2. Identifying the successful pathways to benefit should not be an aim unto itself. If identification contributes to the development of policies that increase the reach of university based research, UA supports this aim.

3. Collaborative engagement is supported as an aim but is not in itself a guarantee of better research outcomes. Greater clarity is needed on why an assessment is needed to achieve this. There are many identified barriers to greater collaborative engagement which are in part influenced by current government policy settings.

4. A larger base of evidence is desirable, as long as it does not constitute further intrusive data-gathering. If it is the intent of the Department to expand the evidence base and an argument can be sustained for an ongoing need for collecting more evidence, universities will need to be resourced sufficiently to accommodate such requests.

Outcomes:

If the desired policy outcome from this assessment is transparency in decision making, the assessment will need to be comprehensive, accurate, and provide an indication of real-time research activity in order to suit the policy outcomes. UA has reservations as to whether this is an achievable outcome. Collaborative engagement is a worthwhile outcome in some discipline areas; however there is a question as to the most effective mechanism for achieving it. Refinement of current intellectual property regimes, long-term funding for collaborative research programs, a meaningful dialogue and progress on international collaborative policy for research, and stabilisation of business taxation treatment with respect to research and development, might achieve this outcome more effectively.

Benchmarking of standards is better undertaken with regard to the parallel development of research standards. Duplicative and conflicting processes must be avoided. These outcomes could be better addressed elsewhere.

If the outcome sought by the Department is to design and implement a mechanism to link funding allocations then a national assessment is one method for achieving this. Given the Department’s own concerns regarding the limitations of research impact assessment noted in this discussion paper, UA finds it difficult to understand how an assessment of impact or benefit before the event linked to funding allocation would be workable and transparent in any meaningful sense.

In terms of the question on whether there are additional purposes or uses that should be considered to assist the design of the assessment, UA recommends that the outcomes of the assessment measure should be as precise and clear as the reported outcomes themselves. Outcomes based on increasing the influence of evidence and research in the process of creating benefit could act as a central tenet. Greater visibility of research conducted and its actual (and potential) benefit would form a part of this larger outcome.

2.3 Principles for design and implementation

Principle 1: Provide useful information to universities.

Clearly, accessibility is central and any information that gives universities guidance on research effectiveness and benefits is useful. Among other things it helps universities and institutes to internally discriminate between competing priorities and for ranking these in the search for external funding sources and/or collaborators.

Principle 2: Minimise administrative burden

The paper seems to misconstrue ‘impact’ and ‘engagement’ in a real and critical sense. While it is difficult not to agree with the need to minimise administrative burden, the metrics outlined seem to
focus on the development of ‘engagement’ almost exclusively. If engagement is the intent of this aspect of assessment the Department needs to make this explicit.

**Principle 3**: Encourage research engagement and collaboration, and research that benefits the nation.

The principle implies that assessment of benefits will encourage collaboration. UA fully supports efforts to increase collaborative engagement for the purposes of research, subject to the caveats mentioned above.

**Principle 4**: Involve research users

UA fully supports this principle. The Aid and Development sector, for example, has developed a number of sector and program-specific models that provide for input by beneficiary groups into decision making processes (many developed at Australian universities). This also assists in the socialisation of outcomes and UA would be happy to work through a number of these models in relation to the impact assessment mechanism.

**Principle 5**: Collect and assess at the institution level, with some granularity by discipline

While benefits might most conveniently be assessed at the institution level, UA asserts that this is not the most meaningful level for collection and or assessment. Research is undertaken by teams of researchers, clustered variously, over time and (hopefully) in collaboration with others (cross discipline, cross institution, internationally, with industry and so on). Both aggregation and dis-aggregation will have different methodological consequences. Comprehensiveness could also be compromised and this would not be favoured given the intent of the exercise.

**Questions:**

What other principles or considerations should be addressed?

UA recommends that the following principles guide further development of a research impact assessment:

- Impact assessment must contribute to informing and improving the research process from initial hypotheses through to finalisation/product marketing/policy change implementation/new research leads etc;
- Impact assessment must recognise the full range of disciplines and the contextual and political conditions that affect the impact of research;
- The assessment process must value the role of research in acquiring new knowledge and the creation of public knowledge;
- Reporting and compliance impost on universities and researchers must be recognised, minimised and resourced appropriately;
- Perhaps the success of an institution in attracting high standard HDR students and post-doctoral researchers could help assess both public and specialist engagement;
- The process should not seek to deliver a one-size fits all approach, but aim to examine a range of approaches and options to accurately reflect the full breadth of research diversity, strengths and impacts across the various fields of research.
3. Methodological considerations

3.1 Rationale for the use of metrics and case studies

The mixed method assessment proposal could be a useful approach to providing an assessment provided it is with minimum administrative burden. However, engagement does not equate with impact. An attempt to measure impact through the measurement of engagement metrics is flawed and should not be progressed. If an assessment is to be progressed UA considers a metrics approach to be a useful component, however further development of the metric types is needed.

3.2 Research engagement metrics

Given the reservations noted above, if it were possible to analytically (for the purposes of assessment for instance) distinguish ‘engagement’ from ‘impact’, engagement could be assessed using a metrics-based approach as we believe is being proposed in the discussion paper. It is not obvious that many of the data collections suggested could provide a meaningful measurement at the level appropriate to the research being conducted. For example:

- **ERA**: Some ERA measures such as professional and applied research publications may provide an indication of engagement although further work would be required to provide a more accurate and comprehensive picture, and potentially some weighting. A collaborative index may provide a better index, however collaborations are subject to government policies (and proxies such as linkage grants have been scaled back in recent years and so may provide an incomplete picture).

- **HERDC**: There would be merit in examining the HERDC data collection to see if some elements would be suitable for inclusion as part of a realistic engagement metric.

- **National Survey of Research Commercialisation**: Care must be taken to ensure that ‘commercialisation’ does not become synonymous with ‘engagement’. Referring to UA comments in relation to section 1.5, impact should be considered beyond the economic impact and seek (as the Department has suggested) to capture social and environmental considerations.

- **AusPAT**: Similar to the comment above, care would need to be taken to ensure that ‘commercialisation’ did not become synonymous with ‘engagement’. Patents are sometimes considered to be a proxy indicator of engagement but the concept needs to be broadened.

- **Graduate Destination Survey**: Metrics that are able to capture the contribution to public knowledge creation and the socialisation of research conducted at universities through its students, to industry and the community, should be explored as part of this exercise. UA is unsure whether the GDS has the scope to adequately reflect this in metric form.

3.2.7 Unit of Evaluation

FoR codes will align with the ERA and, insomuch as this might be relevant to the Department, it is a sensible approach. Socio-Economic Objective (SEO) codes as used by the ABS are not currently collected by universities and would have to be added to collection and administrative processes. Threshold concerns remain that research leading to impact may span various FoR codes at various levels of granularity (2, 4, or 6 digit) and be relevant to a field that is not where the research is conducted or funded. Research into sensors for example will have many applications including, for example, urban water, health care and the mining industry.
3.3 Research benefit case studies

Noting the reservation outlined above, UA supports using a sample of case studies as a way to illustrate research benefits. With suitable guidelines to ensure objectivity, narrative-based case studies can also be used to demonstrate the influence of research and help to convey a sense of the importance and relevance of research to national prosperity and productivity.

All universities in receipt of public funding for research can expect to participate in the publication of case studies. Reflecting on the experience of the United Kingdom’s REF exercise, UA would hope that a limited number of case studies as relevant to the institution should be the threshold consideration.

Case studies should not be amalgamated or scored, however some criteria could be provided to elicit specific information and assist in the identification of successful pathways to assessing benefit.

3.3.2 Establishing timeframes

In order to identify pathways to impact, some level of currency might be needed. However for the purpose of a case study there is value in being able to show the long, iterative and patient process behind development of a particular innovation. If the purpose of the exercise is to illustrate benefit there is little, if any, added value in establishing timeframes requirements.

3.3.3. Unit of Evaluation

The use of SEO codes may provide some classification use if properly defined. The identification of beneficiaries and likely beneficiaries as part of the research process, and the subsequent illustration of this in the case studies is likely to have a more significant impact.

3.4 Use of publicly collected information

UA strongly encourages the Department to ensure that the information collected is relevant to and supports the intent of the policy. Given that further clarity on policy intent is required, it is important that the implementation of methodologies does not confuse the matter further.

If the policy intent is to assure the contribution of research to the national interest then the metrics and methodologies should enable the value of the research to be visible and comprehensible to the taxpayer.

Conclusions

Reflecting upon the issues and proposals raised in this discussion paper, the difficulties and risks associated with developing a set of meaningful, useful and robust research impact measure(s) should not be under-estimated. It is a meritorious concept but not without substantial and substantive challenges. There is potential for measures to be compromised, overly simplified, and/or poorly designed as a consequence of prioritising administrative simplicity over other relevant design criteria. Further, there is a risk that assessment arrangements might not inform the research process and/or accurately reflect the amorphous character of research impacts and benefits. Narrow and overly standardised measures could have the unintended consequence of distorting research processes and outcomes. Universities have reported concern about the inappropriateness of generalising and comparing research impacts.

In further developing research impact mechanisms, UA draws the Department’s attention to a key point that will be critical to the adequate development of these mechanisms. The 2011 paper Focusing Australia’s Publicly Funded Research points to the need for a ‘system wide’ approach. It will be important that any assessment mechanisms are comparable to broader mechanisms developed for
PFRI’s, MRI’s, the business community, any Government funded research, social research and any other research that is a beneficiary of public funds.

1 http://blogs.lse.ac.uk/impactofsocialsciences/2013/07/16/evidence-matters-tobacco-and-alcohol-comparison/
2 http://blogs.lse.ac.uk/impactofsocialsciences/2013/07/22/making-sense-of-uncertainty-sense-about-science/