

Treasury Consultation: 'Financing Growth in Innovative Firms'

Response from PraxisUnico and AURIL

**Introduction**

PraxisUnico and the Association for University Research and Industry Links (AURIL) merged on 1 April 2017 to create the UK's national association for Knowledge Exchange and Commercialisation (KEC) professionals working in universities and research organisations to manage IP, commercialisation activities, and external collaborations to deliver social and economic impact. Our network includes industry representatives and professional service providers (such as patent attorneys and commercialisation companies) to create a community with a variety of perspectives that can inform and influence policy and debate.

We are primarily a professional network and training organisation, dedicated to sharing expertise and experience across the sector. Our role in responding to this consultation is to highlight the impact of interventions on university activities across our membership, which is very diverse. Many of our members will make responses reflecting their specific circumstances. We particularly acknowledge the expertise held by the '6U' group of universities who are responding as a group but who also inform our advocacy and training activities. Several of our members have helped to shape UUK's response on behalf of the sector. Recent group discussions with BEIS and the British Business Bank on spin-out funding issues have been well received by all: we hope that this is just the start of the conversation as outcomes from this consultation (and others) are considered.

**Response summary**

- We welcome this consultation's focus on funding for 'scaling-up' but this should not detract from the need to maintain a balanced approach, considering the whole funding cycle (Proof-of-Concept onwards) to provide pathways for innovation and commercialisation.
- Investment funds that help to develop the outcomes of research are required that stimulate and avoid fragmentation. PraxisUnico has previously supported the University Challenge Fund scheme as an investment stimulus which could be deployed effectively in a multidimensional way. HEIF is highly valued for its non-hypothecated nature.
- The UK's research intensive universities have led the way in establishing university funds for 'patient' investment and trialling new collaborative business models to attract and retain investors. They must be part of the conversation towards new policy or finance interventions.

- There is no one-size fits all solution to commercialising research and we must ensure that the right frameworks are in place to build capacity across the UK's university sector. University spin-outs have particular characteristics in terms of capital requirements, management skills and sector challenges which require specialist investors who can work with academic founders and commercialisation offices.
- University commercialisation offices are important resources that should not be overlooked or undervalued in terms of the services they provide to academic entrepreneurs. Increasing the number and quality of spin-outs clearly has implications for resources to deliver on that ambition: to protect IP, build investor relationships, draw up and negotiate contracts, manage seed funds etc.

### **Main response**

1. The issues faced by university spin-outs are not new and have been scrutinised by many government and independent reviews: we have responded to the former and commented on many of the later<sup>1</sup>. Our response to the 'Valley of Death' inquiry in 2012 has messages that hold true today:

*"There are many different calls on funds and the simple answer is that all investment funds that help develop the outcomes of the research are required. These vary from the costs of IP protection (there seems to be a real lack of funding for this activity, budgets are required), undertaking effective market research, bringing in design and engineering expertise earlier into the process, professional advice/advisors and lawyers, investment readiness, expansion of technology transfer training for young researchers, proof of concept funding, entrepreneurs in residence etc. But the answer is to stimulate these areas and avoid fragmentation by initiatives which tackle only one component at a time, which seems to be the present policy dynamic."*<sup>2</sup>

2. Most recently, our response to the House of Lords Inquiry 'Life Sciences and the Industrial Strategy' addressed questions around commercialisation and support for university life science spin-outs: comments made in that context are general as well as sector-specific. The Science & Technology Select Committee's 'Managing IP and Technology Transfer' Inquiry, to which PraxisUnico contributed, also has important messages about investment and growth for spin-outs (paragraphs 55-62).

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<sup>1</sup>See <https://www.praxisunico.org.uk/resource/consultation-responses>

<sup>2</sup>PraxisUnico response to 'Bridging the "Valley of Death" Improving the Commercialisation of Research Inquiry, Science & Technology Select Committee, 2012.

3. Universities are ambitious and want to do more: recent HEIF strategies are evidence of this. But there is a need for real engagement with the university research commercialisation environment; around culture, capacity, incentives, investment risks and timescales. PraxisUnico and AURIL members have specific expertise in this area and it is vital that they are part of the discussion when interventions are being proposed: we noted with disappointment at the time that there was no university commercialisation office representation on the Patient Capital Review industry panel. This omission was also noted by the Science & Technology Select Committee.

4. The challenges of commercialising early-stage technologies are recognised by Innovate UK in its 'Emerging Technologies and Industries' strategy. Public funding is vital to 'de-risk' private investment and provide more certainty for emerging companies. It is important that the kind of funding is available at the right stage and follows-on from basic research to provide pathways for impact. The *diversity* of funding needs at the *different stages* of university spin-out company development are emphasised in the UUK and 6U responses to this consultation, as are their particular characteristics:

- University spin-outs need specialist investors who understand their technical discipline, are comfortable with early stage, high risk profile ideas and are experienced in working with academics.
- They require specialist, sector specific management. They may require (often scarce) management talent that is tailored for that sector. Investors may not invest without this. They do not come in 'one flavour'.
- They are highly variable in their sector and capital needs. 'One size fits all' funding solutions are not appropriate and a mixed ecology of funders is required.

5. Despite these challenges, UK universities set up twice as many new companies as the US per £m of research funding; Spinouts UK's database has over 2,000 companies listed. However, annual HEBCI data demonstrates that the majority of spin-outs are from a small number of high-research intensity universities – most universities do not create spin-outs on a regular basis, if at all, and so are not necessarily spin-out specialists. This is where PraxisUnico training can intervene to build skills and contribute to building capacity, and where peer-to-peer networking is particularly valuable for asking '*how do you do this?*'. Our 'New Venture Creation' course is for those with little practical experience of company formation, seeking to explore when creating a new venture is appropriate from a range

of different stakeholder perspectives. Responding to demand, NVC2 takes the next step in spin-out formation and finance. Our 'Practical Guide to Spin-Outs' is being updated to reflect today's market<sup>3</sup>.

5. The lack of long-term early stage investment led the university sector to encourage so-called 'patient' capital with a much longer investment perspective than traditional venture capital, vital for supporting early stage companies. Specifically, the patient capital approach pioneered by universities has encouraged a class of capital that can stay with the company for as long as it takes<sup>4</sup>. This and the creation of university seed funds demonstrate how universities themselves are responding to short-falls in financing for commercialisation<sup>5</sup>. In its 2015 analysis of university spin-outs, the ERC found that *"The form of support received by [University Spin Outs] USOs which the greatest proportion identified as being important to their development was seed capital investment from their university. Although less than a third...of USOs received this support, 75% of these firms stated that it was important to their development..."*<sup>6</sup>

6. This consultation's focus on patient capital and 'scaling-up' is welcomed but should not give the impression that early stage start-up capital is largely available in the UK; feedback from our members is that Proof of Concept and pre-seed funding is still thin on the ground and requires constant government and charity intervention to address this stage of the company creation lifecycle. We welcome the Life Science Industrial Strategy's focus on the Charity Research Support Fund in this context. We also support this consultation's proposals to 'crowd in' investment (7.6-7.21) and particularly to establish a series of university innovation funds with cornerstone investment from funds of funds to help de-risk and boost investor confidence.

7. The UK research base and industry are working together in new ways to commercialise research and improve market pull: Apollo Therapeutics being one example in the Life Science Sector. The HEIF

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<sup>3</sup> See <https://www.praxisunico.org.uk/training-events/training-catalogue>

<sup>4</sup> 'Patient Capital: a new way of funding the commercialisation of early stage UK science'; Tony Hickson, Managing Director Technology Transfer, Imperial Innovations, 2014 [http://www.hefce.ac.uk/media/HEFCE,2014/Content/Knowledge,exchange,subjects,and,skills/Good,practice/Patient\\_Capital\\_A\\_new\\_way\\_of\\_funding\\_UK\\_Science.pdf](http://www.hefce.ac.uk/media/HEFCE,2014/Content/Knowledge,exchange,subjects,and,skills/Good,practice/Patient_Capital_A_new_way_of_funding_UK_Science.pdf)

<sup>5</sup> IP Pragmatics review of Proof of Concept (2015) funding noted a rise in the number of universities managing their own funds over the previous 5 years. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/510998/Innovate\\_UK\\_Proof\\_of\\_Concept\\_Review\\_Report\\_-\\_Final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/510998/Innovate_UK_Proof_of_Concept_Review_Report_-_Final.pdf).

<sup>6</sup> Enterprise Research Centre, Research Paper No. 35: 'Profiling UK university spin-outs', 2015

grant, being non-hypothecated, is particularly valued for its flexibility; enabling English universities to build on local strengths and invest where the private sector will not. The SETSquared partnership is a well-known example of universities working together to improve conditions for company creation (both finance and management); Midlands Innovation is another partnership aiming to *"exploit what is best within our institutions enabling us to deliver at a scale that we couldn't reach as individual universities"*. These initiatives agglomerate opportunities to present to investors. This increases deal flow but also improves the quality of ideas and fosters collaboration between ventures. This in turn can reduce the distance from venture capital that many parts of the UK feel.

8. Many universities put additional funding into the support of commercialisation activities, staff, infrastructure and, increasingly, early stage investment. (For example, the South-East Seed Fund was established with funding from HEIF 3 (2006-8)). We welcome the recent increase in HEIF but note that because it is flat cash, its real terms value has been declining steadily. We advocate making HEIF a permanent funding stream and support calls for it to be increased so that ambitious KE strategies can be implemented, whilst supporting the diversity in KE models across the sector. We also support calls for innovation funding to be made available in devolved nations to provide equality of opportunity.

9. Universities also have a role as private investors in commercialisation infrastructure by establishing incubators and accelerators which can cluster early stage companies and provide good 'hunting ground' for investors. There are many models of university incubator and the strength of links back to the 'parent' university and its commercialisation office will vary: larger and more established incubators may have their own commercialisation services (such as at the Babraham campus near Cambridge). PraxisUnico, AURIL and UKSPA work together to improve connections between our members and collaborate on issues that affect us all. This may be about enterprise finance but often it is also about business advice, skills, equipment and recruitment.

10. There is no one-size fits all solution to commercialisation but we need to ensure that the right frameworks are in place to provide opportunity and support those institutions that want to increase activity in particular a direction. There is a need for public intervention at early-stage because that is where the risk appetite by private investors is low. We need a 'mixed economy' with flexible funding for different conditions and stage of growth e.g. Research Council type funding to get to business plan stage. Crossing the 'thresholds' of grant and non-grant funding can be tricky – not least from a timing point of view - and this is perhaps where the formation of UKRI will be beneficial as it brings together RCUK, Innovate UK and can link up to later stage finance e.g. at British Business Bank.

## The Role of University Commercialisation Offices (TTOs)

11. Universities are trying to foster a funding ecosystem in which companies can attract significant funding and also be sustainable over the long term. Most commercialisation staff are focused on building corporate relationships which themselves can provide network opportunities and introductions for new ventures. Pre spin-out, the university role is to select, prepare and support companies in their earliest stages. Further on, they have a role in helping their portfolio companies to access specialist capital and finding management. One Director commented that: *“As shareholders in these ventures we have a responsibility to help them develop and we are often in a unique position to introduce them to new funds and to shape the funding environment.”*

12. Universities have to decide what part of the market they can most usefully shape; whether they can achieve more in partnership with others or have the ambition and resources to go it alone. The option of establishing a university seed fund so that "good ideas don't die at the point where no investor is interested" is not possible for all universities. This is where interventions such as the Connecting Capabilities Fund may be helpful but the market will still need encouragement to invest outside areas where it is currently concentrated.

13. Increasing the number and quality of spin-outs clearly has implications for resources to deliver on that ambition: to protect IP, build investor relationships, draw up and negotiate contracts, manage seed funds and so on. Some universities have established partnerships to share commercialisation services at the regional level in response to these resource constraints. Many already employ external agencies to manage commercialisation activities. Commercialisation staff also have to consider incentives for academic entrepreneurs where *“...there can be a tension between delivering research and teaching activities while attempting to spin-out a new venture”*<sup>7</sup>. Universities wanting to respond to government expectations around university-business collaboration are taking initiatives to balance the demands of teaching and research (where expectations are also high) e.g. in academic promotional criteria or buying out time from other responsibilities.

14. These points are important because they relate to the capacity within universities to support academic enterprise: as well as the Science & Technology Select Committee report mentioned above, research commercialisation is currently being reviewed in a BEIS-commissioned survey. We are, of course, participating in HEFCE's current review of research commercialisation practices as part of the

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<sup>7</sup> Enterprise Research Centre, Research Paper No. 35: 'Profiling UK university spin-outs', 2015

KE Framework initiative. These reviews and consultations need to be considered on a cross-departmental basis and with all stakeholders – universities, Learned Societies, funders, investors – to avoid 'piecemeal' solutions and deliver workable and sustainable pathways to growth for UK university spin-outs.

End

### **About us**

PraxisUnico/AURIL is a network of over 5000 members from 200+ universities and research organisations, service providers and businesses. PraxisUnico has delivered professional training to over 4000 individuals from 40 countries, both in the UK and overseas. Although originally focused solely on 'technology transfer' (commercial deals involving intellectual property generated by universities), today PraxisUnico/AURIL members are engaged across the whole range of knowledge exchange activities, promoting collaboration and commercialisation for societal and economic impact.

### **Further information**

If you have any questions or would like to discuss the points made in this paper in more detail, please contact Tamsin Mann, Head of Policy, PraxisUnico/AURIL

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