ANDERSON & LAW

LEGAL PERSPECTIVES ON:

The complexities and considerations when spinning out companies from universities to commercialise research

MARK ANDERSON
Anderson Law LLP

UCI EXPERT INSIGHTS PAPER 01
September 2023

UNIVERSITY OF CAMBRIDGE

UCI POLICY EVIDENCE UNIT
UNIVERSITIES | COMMERCIALISATION | INNOVATION

About the Author

Mark is an English solicitor (attorney) and managing partner of Anderson Law LLP. He has over 35 years' experience as a commercial and intellectual property lawyer.

For several years, Mark has been recommended in Chambers Directory as a leading UK lawyer in fields of life science transactions, and intellectual property. He is highly recommended for transactions in IAM1000, a guide to the World's Leading Patent Practitioners. He has chaired the Intellectual Property Law Committee of the Law Society, and led the Society's work which resulted in the passing of the Intellectual Property (Unjustified Threats) Act 2017, including giving oral evidence to Parliament.

Mark drafts, negotiates and advises on commercial agreements, particularly those that concern intellectual property rights, such as R&D contracts, IP licences and spinout transactions. He has extensive experience of advising clients in various technology sectors, including life sciences, information and communications technology, and engineering.

Mark's clients include commercial companies (both publicly-quoted and private companies, including SMEs), professional service firms (including overseas law firms), universities, hospitals and other charities, funding bodies, investors, and individual inventors and entrepreneurs. His clients are based mostly in England and Wales, but also in Continental Europe, North America and Australasia.

As well as advising clients, Mark is increasingly involved in helping with complex issues, e.g. as a facilitator of multi-party negotiations. He accepts instructions as an arbitrator or mediator of IP disputes, including disputes concerning the interpretation or performance of IP related contracts.

Mark regularly speaks at conferences in Europe on intellectual property and commercial law subjects, including contract drafting. He has been a guest lecturer at the London Business School and at Harvard Law School. He is an honorary professor of practice at the Institute of Brand and Innovation Law of University College London (UCL). He devised and is the course director of a five day course for IP lawyers, Intellectual Property Transactions: Law and Practice. Run annually at UCL, this course has won two awards: a Law Society Excellence Award (Highly Commended) and a UCL Provost's Teaching Award.

Mark has written several practitioner textbooks on IP and commercial law subjects, including *Technology Transfer* (fourth edition, 2020, Bloomsbury). He is the lead author of a legal blog, IP Draughts[1], which has won an American Bar Association award.

[1] https://ipdraughts.wordpress.com/

Contents

Executive summary 4
Introduction 6
Overview of areas of law, policy and practice affecting UK universities 6
Charities and public authorities 7
Tax issues 9
Research funding terms and licensing to the spinout 10
Consumer protection laws 12
Intellectual property 14
Intellectual property and insolvency 15
National security and investment 16
Policy and practice in the university sector 17
Concluding remarks 20
Appendix 1 - Summary table of legal issues 21
Appendix 2: Equity stakes in spinout companies Extracts from the judgment in the case of Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat) 24

LEGAL PERSPECTIVES ON:
The complexities and considerations when spinning out companies from universities to commercialise research

Mark Anderson

Executive summary

E1. This paper[2] considers the main legal obligations upon UK universities when engaging in spinout company formation and investment (Spinout Activity).

E2. The obligations are based on legislation across a wide range of subjects (e.g. charity law, subsidy controls, tax, IP, consumer protection, and national security), interpretation of laws (e.g. from the High Court in the recent *Oxford* case), guidance from supervisory bodies (e.g. the Charity Commission, Office for Students, and Competition and Markets Authority), and legal obligations under contracts (e.g. the research funding terms of government agencies).

E3. If a significant change in university practice is sought in relation to Spinout Activity, this may require changes to those laws, associated guidance, and funding terms. This paper discusses some potential changes, which are based on the premiss that UK universities *should* streamline their approach to Spinout Activity. In other words, the focus is on what is different about investing in university spinouts (compared with, say, investing in a commercial company), and how those differences might be reduced. The author considers that some of those differences arise from the non-commercial nature of universities, and should not be changed. Nevertheless, the paper provides possible routes to change, irrespective of the author's personal views.[3]

E4. Some of those changes are likely to be easier for government to initiate than others. At the easier end of the spectrum may be:

(a) **Charity law guidance:** Inviting the Charity Commission to issue new guidance on the role that universities play in forming spinout companies, with particular reference to the societal benefits of such companies.

(b) **Standardisation of government funders' terms:** Requiring all UK government departments and agencies (e.g. UKRI, NIHR) to standardise their contract terms with universities in areas such as IP ownership, obligations to commercialise,

[2] This paper is intended to assist policy-makers when considering options for reform. It was commissioned by the University Commercialisation and Innovation (UCI) Policy Evidence Unit at the University of Cambridge, with support from Research England. The author would like to acknowledge the support of his Anderson Law colleagues Lionel Jermy and Stefano Incarbone in research for this paper. All views expressed are the author's.

[3] The author's views are briefly stated in the "concluding remarks" section at the end of this paper.

requirements to seek consent for commercialisation, revenue sharing, and walk-in rights.

(c) **Funding for university due diligence:** Providing funding to universities to enable them to invest in "due diligence" activities for potential spinout companies, e.g. internal contractual diligence and freedom to operate searches.[4]

E5. Other areas of change may require greater planning and effort, including:

(a) **Legal status of universities as charities:** Either changing charity law as it applies to universities (e.g. to recognise the commercialisation of knowledge as part of a university's primary charitable purpose), or creating a new, "social purpose" category[5] for universities that gives them greater freedom to consider commercial issues in Spinout Activity.

(b) **Legislation on university IP:** Introducing legislation that would follow similar principles to the Bayh-Dole Act in the USA, under which the national interest in government-funded IP would be clearly stated. This should help to standardise the approach of UK universities in Spinout Activity, and reduce the need for time-consuming, individual negotiations.

(c) **Funding for hub and spoke technology transfer activities:** Forming regional knowledge transfer "hubs" for universities, which would acquire the IP rights to university technology and enter into commercial transactions with investors and licensees. These would work with "spokes" at each university, i.e. individuals who would act as a liaison point between the university and the regional hub. It may also be appropriate to consider funding to universities to recruit a dedicated senior manager responsible for commercial activities, who would have relevant commercial and risk management experience, and who would form part of the senior university management team.

(d) **Tax incentives:** Increasing the tax incentives/benefits for investment in spinout companies, for universities, founders and investors respectively.

(e) **Pension fund investment rules:** Allowing pension fund trustees to invest in a wider range of "risky" investments including university spinout companies, and thereby increasing the number of investors in such companies.[6]

[4] A few leading universities, e.g. Imperial College, already have due diligence teams.

[5] By analogy with Community Interest Companies, which may be considered in a category between charities and commercial companies.

[6] Something similar has recently been announced by the Chancellor of the Exchequer in relation to stakeholder pensions. See https://www.theguardian.com/business/2023/jul/10/jeremy-hunt-to-unveil-pension-fund-reform-plan-to-help-uk-startups

Introduction

1. In March 2023, the UK government[7] commissioned an independent review of university spinout companies. The terms of reference of the review[8] include, in brief summary:
   - Comparing how UK and US universities spin out companies.
   - Comparing how long universities take to complete spinout deals.
   - Examining different approaches to equity and intellectual property.
   - Looking at the role of angel investors and venture capital investors.
   - Considering the barriers to academics pursuing commercial interests.

2. A context of the review is the Chancellor of the Exchequer's statement: "We want the UK to be the world's next Silicon Valley and to get there the government must help spinouts to thrive."[9] In other words, the government's focus is on economic performance and the commercial success of spinout companies.

3. When UK universities set up spinout companies, they do so in a context that is not purely commercial. Most UK universities are charities and public authorities. The first priorities of universities are research and teaching. Any commercial activity in which a university engages must comply with the law, and be aligned with the university's mission.

4. This paper explains the legal framework within which UK universities operate, and discusses certain legal, policy and practice issues that affect how a UK university approaches the formation of spinout companies, particularly in the context of the present government-sponsored review.

Overview of areas of law, policy and practice affecting UK universities

5. The main areas of law that affect a UK university's role in forming spinout companies, and which are discussed in greater detail later in this paper, are:
   (a) **Charity:** Compliance with charity law
   (b) **Public authority:** Laws affecting public authorities: e.g. subsidy controls and freedom of information law
   (c) **Tax:** Tax issues for universities, founders and investors
   (d) **Funding terms:** Contractual obligations on universities under funding terms
   (e) **Consumer protection:** Consumer law and students
   (f) **Intellectual property:** Ownership of academic inventions, revenue-sharing, rights of assignees
   (g) **National security:** National Security and Investment law

[7] The review was commissioned jointly by HM Treasury and the Department for Science, Innovation and Technology. See https://www.gov.uk/government/news/university-and-investor-experts-to-head-up-review-of-uk-spin-out-landscape

[8] The review's terms of reference can be found at https://www.gov.uk/government/publications/terms-of-reference-for-the-independent-review-of-university-spin-outs/independent-review-of-university-spin-outs-terms-of-reference

[9] See Chancellor's quoted remarks at https://www.gov.uk/government/news/university-and-investor-experts-to-head-up-review-of-uk-spin-out-landscape

6. The main areas of university policy and practice that affect the formation of spinout companies, some of which are underpinned by legal requirements, are:
   (a) **Recruitment, retention and academic priorities:** The need to attract, develop and retain, high quality staff and students.
   (b) **Employment relationships:** The relationship between individual academics and their university.
   (c) **Technology transfer policies:** University policies on IP, revenue sharing, equity allocation, and conflict of interest.
   (d) **Legal and reputational risk:** Attitudes to, and understanding of, risk.
   (e) **Financial resources:** The resources available for commercial due diligence.

7. Appendix 1 to this paper provides a summary of the main legal issues in a table format. The remainder of this paper discusses the same issues in more detail.

Charities and public authorities

8. Perhaps the most significant legal issues affecting Spinout Activities are that universities are both charities and public authorities.[10] As charities, they must act in accordance with their charitable objectives, as set out in the university's constitutional documents – typically education and research[11]. They must also comply with charity law, including acting for the public benefit. They would be well advised to follow guidance on compliance with their legal obligations from the Charity Commission and from other relevant regulators, including the Office for Students, and the Competition and Markets Authority. For example, the Charity Commission has issued guidance on points that university trustees (or their delegated staff) must consider when deciding whether research projects and spinout activities are aligned with the university's charitable objectives.[12] A linked issue is that, as charities acting in accordance with their charitable obligations, universities receive certain exemptions from corporation tax. Failure to comply with charity law may result in the university's income becoming subject to tax.

9. Universities are also public authorities.[13] As such, they are bound by various laws, e.g. the Subsidy Control Act 2022 and the Freedom of Information Act 2000. The Subsidy Control Act is similar in principle to the State Aid rules applicable within the European Union. It prevents a public authority from giving a financial subsidy to a private company, e.g. by undercharging for

[10] There are a very few exceptions (e.g. the private University of Buckingham), but this statement is true in most cases.

[11] For example, UCL's Royal Charter provides: "The objects of the University shall be to provide education and courses of study in the fields of Arts, Laws, Pure Sciences, Medicine and Medical Sciences, Social Sciences and Applied Sciences and in such other fields of learning as may from time to time be decided upon by the University and to encourage research in the said branches of knowledge and learning and to organise, encourage and stimulate postgraduate study in such branches."

[12] Charity Commission guidance, *Research by Higher Education Institutions* 2009

[13] See, for example, paragraph 53 of Schedule 1 to the Freedom of Information Act 2000.

goods or services, including the assignment or licensing of university-owned intellectual property (IP).

10. There should be no conflict between compliance with charity laws and the laws applicable to public authorities. Rather, they are separate layers of regulation, along with several other layers mentioned in this paper, which require the university to take an approach to Spinout Activity that is not wholly commercial.

11. Wholly-owned subsidiaries of universities are also public authorities. Many leading universities have formed wholly-owned subsidiaries through which they conduct their technology transfer activities.[14] Thus, assigning the university's IP to the subsidiary technology transfer company does not remove the need for the university to consider the laws affecting charities and public authorities when the subsidiary licenses or assigns to a spinout company.

12. If it is thought desirable to "free" a university's IP from these laws so as to streamline Spinout Activity, a possible solution would be changing the law to require universities to transfer their IP to an independent legal entity that would manage the commercialisation of university IP, including the formation of spinout companies. This could be coupled with a clarification that, once the IP is transferred to this entity, the university has no continuing obligations to ensure that the relevant IP is commercialised for the benefit of society. In fact, this was the arrangement in the UK until 1985. All IP generated at UK universities in respect of research funded by Research Councils had to be assigned to the National Research and Development Corporation, later renamed British Technology Group. In 1985, the Conservative government announced that BTG would no longer have this monopoly. University technology transfer activity in the UK mostly started after this date.

13. This step would enable the IP owner to be free of university responsibilities, but it would come at a price. Particularly in the early stages of technology transfer, it is very helpful to have the full cooperation of the academic inventors, for formally assigning the IP to the technology transfer function, for finding and having discussions with investors and licensees, and for making further improvements and developments of the technology. The further the technology transfer function moves away from university control, the less it is trusted as being supportive of academic values, and the less incentive the academic has for cooperating with it. In the author's view, this may help to explain why the former Imperial College model, of a technology transfer company that had outside investors, and for a time was listed on a stock exchange, was not emulated in any other university, and is no longer Imperial's preferred model.

14. Another potential advantage of placing university IP in the hands of an independent entity is that the entity might be more proactive in asserting IP rights against infringers, and not be concerned about reputational damage (e.g. being accused of being a "patent troll") in the way that a university owner of IP might be.

[14] As far as the author is aware, the only example of a UK technology transfer company that was not a wholly-owned subsidiary was Imperial College's company, which had outside investors and was listed on a stock exchange. See comments at paragraph 13 below.

15. Some alternative ways of avoiding or mitigating these compliance issues for universities, if such a step is thought desirable, would be:

    (a) To ask the Charity Commission to update their guidance to universities and to include in the updated version an explicit recognition of the societal benefits of forming spinout companies, perhaps combined with some case studies showing the thought process that a university should go through when deciding to form and invest in such a company. This might reassure universities about compliance with charity law.

    (b) As an alternative to (a), revise the law to make it easier for universities to take a more commercial view when forming spinouts.

    (c) Create a new category of social enterprise, analogous to the Community Interest Company, somewhere between a charity and a commercial company and having similar tax exemptions to charities, and encourage universities to restructure themselves within that new category.

    (d) Create a general exemption scheme under the Subsidy Control Act for universities forming spinout companies (if it doesn't already exist; or publicise it widely if it does exist), or if necessary, amend the legislation to provide a general exemption.

Tax issues

16. It is appropriate to consider separately the tax issues for universities, founders and investors in spinouts.

17. For the university, the primary issue is retaining its tax exemptions as a charity.[15] As part of its tax-efficient operation, the university may wish to hive off its technology transfer activities into a subsidiary company. The subsidiary typically gift aids its profits to the university, thereby ensuring that they do not incur corporation tax.

18. For the academic founders, there is a significant risk that their shares in a spinout may be treated as a benefit in kind from their university employer, such that the value of the shares is taxed (upon issue of the shares) via the PAYE and NI system. Any such liability is likely to arise long before the shares have realised their value, e.g. by a private sale to a corporate purchaser or sale following listing of the shares on a stock exchange. To address this risk, universities have to be very careful in how the spinout company is structured. A technique that is sometimes used is to fit within an exemption negotiated by UNICO (now PraxisAuril) with HMRC some years ago.[16]

[15] See *The Corporation Tax Treatment of UK Universities Guidance Note*, of 2009, which was updated in 2014. These guidelines, agreed by the British University Finance Directors Group and Ernst & Young LLP in consultation with HMRC to assist universities in planning for and meeting their corporation tax obligations, are not mandatory (universities can negotiate separate arrangements with HMRC).

[16] See Memorandum of Understanding between HMRC and UNICO (now PraxisAuril) on the tax treatment of academics' shareholdings in university spinouts; and updates.

19. In relation to investors (including academic founders), there are already some generous tax incentives for spinouts, including the EIS and SEIS schemes, and the system of tax-efficient share option schemes. A relevant comparator, given the terms of reference of the present review, may be the tax environment in the USA; the government may wish to consider whether any tax incentives in the USA should be introduced in the UK.

20. A more general revenue issue is that UK pension funds are restricted in the proportion of risky investments (e.g. university spinouts) that they can include in a pension portfolio. It seems that US individuals have more control over their pension funds and can invest them more widely. This may be an issue for the government to consider.[17] In the author's experience, universities sometimes find there is only one investor (or group of investors) interested in a spinout opportunity. Introducing more competition into the investor market would be beneficial to universities. In the longer term, a larger UK investor community might reduce the need for UK companies to move to the USA to attract further investment.[18]

Research funding terms and licensing to the spinout

21. A significant, delaying factor in some spinout transactions is what might be broadly described as IP due diligence, i.e.:

    (a) the time taken to investigate the contract terms associated with the research that led to the IP that is being spun out, and in particular the terms dealing with issues such as IP ownership, consents required for commercialisation, revenue sharing obligations to the funder, rights of the funder to claw back the IP if it is not commercialised, and so on.

    (b) Associated discussions with the funders at the same time as the spinout transaction is being negotiated, e.g. to confirm consents, firm up on revenue sharing terms, etc.

    (c) Making the spinout company and its prospective investors aware of the funding terms, and helping to get them comfortable with those terms as they may affect the licensing of IP to the spinout.

    (d) Negotiating IP warranties and indemnities, including terms dealing with the university's obligations to its funders, and capping or excluding certain liabilities. This may include personal warranties to be given by the founders.

22. It would streamline the negotiation of spinout transactions if the terms of funding were consistent between funders, and consistently applied. As a first step, the government should try to make the terms of funding of UK government departments and agencies consistent. To

[17] Something similar has recently been announced by the Chancellor of the Exchequer in relation to stakeholder pensions. See https://www.theguardian.com/business/2023/jul/10/jeremy-hunt-to-unveil-pension-fund-reform-plan-to-help-uk-startups

[18] Several of the author's former UK clients moved to the USA to obtain funding, e.g. Biovex (a UCL spinout) which moved to Massachusetts, and was eventually sold to Amgen for up to $1B - https://www.prnewswire.com/news-releases/amgen-to-acquire-biovex-a-privately-held-biotechnology-company-headquartered-in-woburn-mass-114508909.html

take a simple example, the author was recently involved in negotiating two agreements relating to a PhD studentship, one with a Research Council and one with a government department. The funding was essentially for the same project, and there was no clear division of work between funders. The terms of the relevant Research Council (i.e. committee of UKRI) required the university to own any resulting IP and to take steps to commercialise it. The terms of the government department required that resulting IP be owned by the Crown. It is difficult to reconcile these terms. Another example is that during the COVID pandemic, different government departments were funding COVID research at universities, and some allowed the university to own the resulting IP and others required that the government own the resulting IP. There seemed to be no clear reason why different departments had different IP terms.

23. Charitable funders take different approaches to funding terms. Some now require the revenue sharing terms that have been recommended by the Association of Medical Research Charities. Some universities resist those terms. Companies have their own terms, some of which fail to recognise the priorities of universities, e.g. to publish research and to obtain a return from commercialised IP.

24. These and other inconsistencies add a significant cost burden to universities, both at the time of negotiating the funding terms, and when it comes to sorting out the IP for a spinout transaction.

25. These issues could be tackled in different ways, including:

    (a) National recognition of the wasted expenditure on negotiating contract terms, and encouragement to interested parties (including across government) to negotiate more standardised terms. One of the issues for universities is that they are not set up to have strategic discussions of this kind. The topic is sometimes too technical for senior university management and "above the pay grade" of those negotiating individual contracts. It may be appropriate to introduce more commercial managers into university senior management teams (e.g. at the level of deputy vice chancellor). For this to work, the appointed person would need to be someone with hands-on experience of contract negotiation and an understanding of commercial risk, rather than (say) a senior academic who was once involved in forming a spinout.

    (b) Providing funding for universities to conduct internal due diligence on their IP position prior to establishing a spinout. There is currently no incentive for a university to spend money on this subject, even at the very basic level of having an up to date, comprehensive file of all contracts relating to an academic's research.

    (c) Passing legislation analogous to the Bayh-Dole Act in the USA, which would establish standard principles for university ownership and licensing of IP, and reduce the scope for individual (time-consuming) negotiations.

Consumer protection laws

26. University IP is sometimes generated by students, either alone or in collaboration with permanent university staff. Many universities have policies on when student-generated IP must be assigned to the university, and the benefits to the student of doing so (typically they benefit from the university's revenue sharing policy, in the same way as permanent staff).

27. A potential concern for investors is whether those policies are legally binding on the student, in light of consumer protection laws.[19] If they are found to be not legally binding, the IP may not be validly licensed or assigned to the spinout company, and the investors may lose some or all of the value of their investment. In the recent *Oxford* case,[20] the High Court was asked to decide whether PhD students were consumers in their relationship with the university, and whether a range of university policies were fair and therefore legally binding on the student. Specifically, the defendant in that case argued that the following university policies and actions were unfair:

    (a) Requiring a PhD student to assign their IP to the university.

    (b) Retaining 50% of the initial shareholding in the spinout company. It was argued that this was too high a percentage.

    (c) Leaving it to the inventors to agree among themselves how the inventor's share under the university revenue sharing policy would be divided among them. It was argued that this favoured the professor at the expense of the student, because of the power dynamic between them.

28. The judge decided that, in general, PhD students were consumers and therefore the university had a duty not to act unfairly. On the facts of the case, he decided that the university had been "not unfair" on all three of the issues mentioned in the previous paragraph.

29. Of particular interest to the present review are the judge's comments on the shareholding retained by the university. It was argued that Oxford in particular, and UK universities in general, require too high a percentage of the shares, compared with universities in the USA. This is a familiar argument that is made by some investors. Published articles were cited to him in support of this contention. The judgment considers the evidence in detail and concludes: "none of this material, taken as a whole shows that it was out of line, unreasonable or unfair for Oxford to have a guideline (but negotiable) equity split for its spin outs and that this should be 50:50 researchers: university."

30. A more detailed extract of the judge's comments on this issue is set out in Appendix 2 to this paper. It is worth reading the detailed comments as they provide a reasoned, objective analysis of a common investor complaint.

[19] See Consumer Protection Act 2015, which makes contracts with consumers unenforceable if the terms are not fair.

[20] Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat).

31. One of the aspects mentioned by the judge was that Oxford's shareholding was diluted by subsequent rounds of investment. It has been noted that comparisons between the shareholdings taken by UK and US universities may be misleading, if the US university has anti-dilution provisions in its shareholder agreements. In other words, though the initial shareholding may be low, it is preserved at the same percentage through subsequent rounds of investment. The point is made forcefully in a Russell Group briefing:

"Unlike many US universities, UK universities' equity is usually dilutable, meaning it reduces over time as new investors come into a spinout. Importantly, this means British universities typically end up owning comparable shares of a company to their US counterparts."[21]

32. A similar point is mentioned in the recently-published *USIT Guide.*[22] The guide is the product of discussions between certain leading UK universities and professional investors. It recommends terms for UK spinout investment agreements. It includes the following comments:

"When the spin-out receives investment from an investor, additional shares are issued and distributed to the investors (investment equity), diluting the equity of the existing shareholders.[23] At each additional investment round, more shares are issued to the investors putting new money into the company. This further dilutes the existing shareholders. Ideally, the company gains value during the course of its development. So, whilst the existing shareholders own a smaller percentage stake in the company after each investment round, the price per share and aggregate value of their shares continue to rise."

33. It is, perhaps, surprising that the question of university shareholdings in spinouts was considered in a court case about compliance with consumer protection law, but that was the way the defendant chose to bring its case. Although some may be reassured by the judge's analysis and decision, it should be pointed out that:

(a) The decision was based on the facts before the court, and a different set of facts in another case might lead a judge to a different conclusion.

(b) The case has highlighted that there is a risk that student IP assignments will be subjected to after-the-event analysis and criticism, with potentially disastrous implications for IP assignments.

(c) The Court of Appeal has given the defendant in the *Oxford* case permission to appeal, and a hearing of the appeal is expected to take place next January.

---

[21] Russell Group briefing on university spinouts (https://russellgroup.ac.uk/policy/policy-documents/university-spinouts-a-british-success-story/)

[22] https://ten-u.org/news/the-usit-guide

[23] The Guide illustrates this point with a capitalisation table that shows that the university shareholding is diluted in the second and subsequent rounds of investment.

34. Anecdotally, the author has heard that some companies may be reluctant to allow students to participate in research projects because of the risk that their IP may not be validly assigned to the university, thus jeopardising the commercialisation of that IP. A possible solution to this problem is for relevant regulators[24] to issue new guidance about treating students fairly in relation to IP agreements, which may reassure investors and others involved in IP commercialisation agreements.

35. Whether or not such guidance is issued, the *Oxford* case illustrates that Spinout Activity typically involves multiple conversations and agreements within the university that may delay the transaction with investors. Investors who are used to investing in commercial companies may not always understand the complexities involved in a university transaction.

Intellectual property

36. As discussed in the previous section, a factor that may be thought to slow down spinout activities is the need to reach agreement between the university and the inventors on assignment of IP to the university or its technology transfer company, including associated revenue sharing terms.

37. There are two aspects to this: (a) obtaining written assignments (i.e. formal transfers of ownership) of IP from the inventors, and (b) agreeing to share any revenue received from commercialisation of the IP with the inventors. Where there is more than one inventor, typically the university leaves it to the inventors to agree among themselves in what proportions the inventor's "share" will be allocated among them.[25]

38. Most UK universities have a policy[26] under which the inventors and their department receive what might be viewed as a generous share of any licensing revenues received by the university – certainly more generous than employees in companies would typically receive, and probably more generous than the statutory compensation provided for under section 40 of the Patents Act 1977.

39. Where the route to commercialisation involves setting up a spinout company, the revenue sharing policy may provide that the inventors receive shares in the company as well as, or instead of, a share in licensing income.

40. In the author's experience, reaching agreement on the above matters is not a significant delaying factor, but it is part of a process that requires the university to work with the inventors and other stakeholders when deciding on spinout activity. It might be possible to streamline the process by changing the rules on IP ownership, e.g. (a) to provide clarity that the duties of an academic employee including making inventions so that they clearly belong to

[24] E.g. the Office for Students, and the Competition and Markets Authority.

[25] A possible exception to this is Cambridge, which keeps an eye on what the inventors are agreeing, and may intervene if the agreement is thought to be unfair to one or more of them. In the *Oxford* case, a student, Mr Jing, claimed that leaving it to the academics to agree was unfair – see discussion of consumer law above.

[26] For example, Cambridge's policy can be found at https://www.enterprise.cam.ac.uk/for-the-university/develop-a-commercial-opportunity/revenue-sharing/

the university (see discussion of duties below), or (b) to allow the academic employee to own any IP that they generate at the university, as happens in Sweden and to some extent in Germany, but not in most jurisdictions.

41. In the author's view, the current system usually works well, and doesn't need to be changed. But it may be useful to explain the legal framework for that system. Under UK IP laws, whether IP generated by an employee belongs to the employer or employee depends on the type of IP and the duties of the employee. For all IP other than patents, the test provided for in IP legislation is whether the IP was created "in the course of employment" of the employee. Typically, the employment contract will set out the ownership arrangement in detail.

42. For patents, Parliament introduced a complex set of rules when it debated what became the Patents Act 1977. An invention (and associated patents) will belong to the employer if made in the course of the employee's (a) normal duties, or (b) specially assigned duties; or (c) duties, and the employee has a special obligation to further the employer's interests (e.g. as a director or senior employee). It is not possible to "contract out" of these rules.

43. In the author's experience, academic staff typically do not have a contract of employment that states that their duties including making inventions, unlike researchers in some commercial companies. Therefore, the author recommends a formal written assignment from the inventor(s) to the university in all cases.

44. In the recent *Oxford* case,[27] the court considered whether the duties of an intern at Oxford University included making inventions, and decided on the facts that they did, so that the resulting IP belonged to the university. Whether or not one agrees with that conclusion (and, as mentioned earlier, the case is being appealed), the decision highlights a risk for spinout companies and licensees of university IP more generally – that some of the IP may have generated by a student or intern, and there may be legal uncertainty over whether their IP belongs to the university, either because no formal assignment was executed, or because the requirement to assign is considered unfair under consumer protection law.

Intellectual property and insolvency

45. Ownership of employee IP is not the only IP law issue that arises in university spinouts. Many spinout investors ask for an assignment (outright transfer of ownership) of IP from the university, rather than a licence. Universities have become stronger at resisting such pressure, and some agree to this only once the spinout has raised a defined amount of investment.[28]

46. The focus of the government in commissioning the present review may be to increase the number of successful spinouts. But spinouts are inherently a high risk investment, and (no matter how streamlined a university's spinout process) a significant number of spinouts will not be successful. Some run out of money before a product is brought to market, and enter insolvent liquidation. Typically, the university would like to recover the IP that it has assigned

[27] Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat).

[28] The USIT Guide refers to the fact that different universities have different approaches to this subject.

to the company, so that it can try to find another route to getting the IP used for the public benefit. But this is usually impossible, unless they pay a market price for the IP to the liquidator. Provisions in an assignment stating that the IP automatically reverts to the university are generally unenforceable under insolvency laws.[29]

47. If the IP is licensed, rather than assigned, to the spinout company, and the company becomes insolvent, there will typically be a clause in the licence agreement allowing the university to terminate the licence. However, the enforceability of such a right has been brought into serious question following the passing of the Corporate Insolvency and Governance Act 2020. This Act prevents termination of contracts for goods or services on the grounds of a party's insolvency. In the author's view, a licence of intellectual property is neither a good nor a service, but that doesn't appear to be the government's view. At the time the legislation was passed, the government stated that it intended that goods and services covered by the Act would include: "Contractual licences, e.g. of software or patents".[30]

48. Both of these legal provisions are unattractive to a university that is trying to ensure that the IP is commercialised for the benefit of society. They may be attractive to investors who want to maximise their returns (or minimise their losses) from a spinout: they may wish a liquidator to obtain the greatest possible return from selling off the IP, and to avoid having a licence to a spinout terminated. If the focus of government policy is on maximising the return to the country, rather than maximising the return to a particular set of investors, then the government may wish to increase the legal rights of universities to recover their IP from an unsuccessful business, by amending the insolvency laws mentioned above. Specifically (a) allow a university to recover IP from a liquidator, and (b) allow a university to terminate an IP licence on grounds of the licensee's insolvency, i.e. that the Corporate Insolvency and Governance Act 2020 does not apply to IP licences.

National security and investment

49. The National Security and Investment Act 2021 gives the government powers to scrutinise and intervene in business transactions, such as takeovers, to protect national security, particularly in 17 areas of technology/activity, e.g. AI and communications. The Act provides for both a voluntary regime and a compulsory regime for notifying transactions to the relevant government department:

    (a) The compulsory regime applies to investment in companies, including university spinouts.

    (b) The voluntary regime applies to certain other transactions, e.g. research contracts.

50. It has been said that universities have taken a cautious approach to the voluntary regime, notifying more transactions (e.g. research contracts) than might be considered necessary.

[29] section 178, Insolvency Act 1986: liquidator of spinout can "reject onerous property" including contracts, e.g. obligation to reassign IP to university upon insolvency. The author has sought advice from specialist insolvency counsel on this issue, for a university client.

[30] See Briefing Paper CBP8291, 5 December 2019.

51. Any notification (whether compulsory or voluntary) is likely to slow down a spinout transaction, and in some cases prevent the transaction from occurring. For example, the company may decide that it is not willing to proceed with the transaction if the university makes a voluntary notification. For an example of the government prohibiting a university IP agreement under the Act, see the government's decision here on a proposed licence agreement between The University of Manchester and Beijing Infinite Vision Technology Company Ltd. The grounds of the decision were that the "[licensed] technology could be used to build defence or technological capabilities which may present national security risk to the United Kingdom."

52. It is possible that universities could be encouraged (e.g. via updated government guidance) to take a less risk-averse approach in relation to voluntary notifications, i.e. by making fewer notifications, and this may speed up some university transactions, though it is unlikely to help with investment agreements that are the subject of the compulsory regime.

Policy and practice in the university sector

53. The above-mentioned legal issues affect the environment in which universities engage in commercialisation activities. In the author's experience that environment includes the following features:

    (a) *Academic priorities generally*: The core focus of universities is research and teaching. Academics are employed to do research and teaching. Making inventions and commercial products is secondary to the academic career path, with the incentives facing academics still largely driven by their research and publications.[31]

    (b) *Academic priorities and spinouts:* On a similar point, and as the judge in the *Oxford* case noted, it is legitimate for a university to consider a range of non-commercial, academic objectives when deciding on its spinout policies. To take a few examples from his judgment:

    "…it would be permissible for the University to take the view that its charitable objects were better fulfilled either by disseminating the fruits of work done there at lower cost to potential users of the research output or by ensuring that its own charitable (including educational and research) activities were favoured in any commercial deal over significant benefit to individual entrepreneurs on matters such as equity (or royalty shares) from commercialisation."[32]

    "…a university may decide, if it conforms with charity law principles and others, that it is appropriate to return (or recognise to a greater extent) the research council funding by way of allocating them a tranche of equity in the companies founded upon projects using their money rather than allocating more significant shares of equity to commercial

[31] Hughes, A., Lawson, C., Kitson, M., Salter, A., 2016. The Changing State of Knowledge Exchange: UK Academic Interactions with External Organisations 2005-2015. National Centre for Universities and Business, London, UK.

[32] See paragraph 549 of the judgment as published on the BAILII website.

investors or splitting equity between researchers and the university alone. I cannot see anything wrong in principle with a university deciding that preferring a greater allocation of equity shares to public sector funding bodies which supported the research in question than to investment funds or private individual researchers may foster to a greater extent the mission of the university and research in the area. A university may also consider that retaining a larger equity share enables it to ensure that the benefits do not accrue to an undue extent into private hands and remain more focussed on the overall research mission. It is not for this court to say which course (or combination of approaches) is right or wrong."[33]

"Against that background, a university may take the view that it does not wish to over-incentivise researchers to undertake commercial research instead of fundamental and perhaps not very profitable research. Put simply, universities - and the University in particular - are not obliged to think or act like a venture capital fund or backer in every aspect of their IP policies and are not obliged to allocate benefits from this research as though they were."[34]

(c) *Managing relationships with academic staff*: There is a sense in which academics are their own small businesses, required to seek funding from multiple sources. The central administration of the university (which includes its contract management and technology transfer functions) are a separate activity. The relationship between academics and the centre is not as fully integrated as it might be in a commercial company that conducts research, and this can result in time being spent on trying to align or reconcile different perspectives. In relation to spinouts, an academic's priorities may diverge considerably from those of the central university. Generalising:

(i) The academic is often interested in short term research funding, and developing an academic reputation. He may trust/respect funders and investors more than the university. Long term IP returns are sometimes not a priority.

(ii) The university may be interested in generating revenue from the academic's IP, but it is also concerned about reputational risks to university, contractual risks in spinout agreements, and compliance with contractual obligations to funders.

(d) *Lack of investment due diligence; risk aversion*: In a commercial company, decisions to invest in an area of research might be taken after extensive due diligence, e.g. patent searches, market analyses, etc. This is often not done in a university, as research is driven by non-commercial objectives and money is usually not available for due diligence activities. Nor does the university always keep coordinated records of the terms of all of its research funding and associated contracts, e.g. material transfer agreements, as such work is expensive, in many cases is unlikely to produce a clear benefit, and requires the cooperation of the relevant academics, who may have other priorities. An investor in a spinout might wish an IP licensor or assignor to give warranties about the IP position. Universities are often reluctant to do so. In the author's view, it is appropriate that universities, which are charities dependent on public funding, should be risk averse. Whether they can and should invest in due diligence and other commercial activities (e.g.

[33] See paragraph 552 of the judgment.
[34] See paragraph 555 of the judgment.

freedom to operate searches) may depend on where the financial resource for such activities is to come from. The government may wish to consider providing funding to universities that is earmarked for IP due diligence activities.

(e) *Commercialisation: skills and approach*: Some universities have become skilled at managing the technology transfer process; others lack some or all of the relevant skills, which are many, and include:

(i) Understanding the technology
(ii) Managing the protection of IP, and instructing external advisers
(iii) Marketing
(iv) Contract negotiation
(v) People management and liaison
(vi) Navigating the complex structure of universities
(vii) Understanding and managing risk

Where this expertise is not to be found in-house, it may be sensible to establish regional technology transfer offices (hubs) staffed by experienced commercial managers, who would work with a local liaison person in each university that they serve (spokes).

(f) *Understanding commercial risk.* Clearly, it is important for the technology transfer manager to understand commercial risk when negotiating the terms of a spinout transaction. In the author's view, it is also important for senior management of the university to understand commercial risk, and often they don't. This lack of understanding may slow down spinout transactions, for example if the university finds it difficult to decide whether a warranty or indemnity requested by an investor should be a deal breaker. In the author's view, it would be a good national investment for government to find a way to inject commercial expertise into the higher levels of university management, e.g. by funding a post at deputy vice chancellor level. A related issue is that it can be difficult to recruit high quality commercial managers within the pay scales of universities, so it might be sensible for senior commercial managers to be employed outside the university pay structures.

(g) *Spinout opportunities*: In the author's experience, many spinouts from universities struggle to find investors, and often end up with only one investor (or set of investors) who is willing to invest. There is therefore a limited market, which may place the university in a weak bargaining position. Spinouts are often a high-risk "punt", and many fail, sometimes through lack of follow-on investment. In the author's view, the government should consider measures to increase the number of investors in spinouts, e.g. via tax incentives or loosening the rules on pension fund trustees investing in risky investments, as mentioned earlier in this paper.

Concluding remarks

54. This paper focuses on legal issues. Many ways of addressing the terms of the reference of the present review fall outside the scope of this paper.[35]

55. If the government wishes universities to take a more agile, commercially-focussed approach to spinout opportunities, it will need to make adjustments to the legal framework, and fund or otherwise encourage changes to the operational environment within universities. This paper considers some ways to promote that objective, but they are not a set of recommendations. For the reasons discussed in this paper, universities are different to commercial companies, and the differences are not all "faults" that need to be corrected.

56. The author has worked with universities and other research-based organisations on commercial transactions, IP policies and other legal issues since 1984. In light of that experience, and standing back from the detail, he offers the following thoughts:

    (a) Universities should be free to set their IP and spinout policies to take account of academic priorities.

    (b) Complaints by some investors about the initial shareholdings taken by UK universities are unpersuasive, in light of the reasoned analysis by the High Court in the *Oxford* case, as quoted in Appendix 2 to this paper. While investors have a financial interest in lowering university expectations, the judge was a neutral observer.

    (c) We need more investors in early-stage technology companies, to create more competition in the market. Increased tax incentives and revised rules for pension fund trustees may be more effective at increasing spinout formation and growth than intervening on IP policies.

    (d) The recently-published *USIT Guide* show that universities and investors can work together to streamline spinout deals, without government intervention.

    (e) The most fruitful area of reform would be to standardise the contract terms of government funders, including IP terms. This would save significant costs in negotiating the terms, and would streamline and simplify the negotiation of licences and assignments to spinout companies.

[35] An example that interests the author is the career path of academics, and whether universities should be encouraged to make it easier for academics to spend time working in spinouts without loss of seniority, and whether academic incentives, assessments and league tables should make greater allowances for academics who have done so.

Appendix 1 - Summary table of legal issues

Topic/ source of legislation	Examples of key documents and case law	Implications for spinouts from universities
Charity laws Charities Act 2006 & constitution of university: Charities must act in according with their charitable objects (e.g. education) and for the public benefit	Charity Commission guidance, *Research by Higher Education Institutions* 2009	Universities are charities, and must pursue their charitable aims (e.g. education) and act for public benefit. Some activities (e.g. commercial research, or investment in spinouts) may fall outside charitable aims and should be conducted through subsidiary companies. For universities, the main purpose of commercialising IP is to ensure that products and services are developed for the benefit of society, and not to maximise financial returns. Many investors are focused purely on financial returns, resulting in a mismatch of expectations between investors and universities.
Tax laws 1. Exemptions from income tax and corporation tax for charitable activities (the rules are set out in Part 10 of the Income Tax Act 2007 and Part 11 of the Corporation Tax Act 2010. 2. Conducting commercial activities through subsidiaries: gift-aiding profits to university 3. Allocating shares in spinouts to academics: taxable benefits in kind 4. Share option schemes 5. Tax efficient investment schemes (e.g. SEIS)	Memorandum of Understanding between HMRC and UNICO (now PraxisAuril) on the tax treatment of academics' shareholdings in university spinouts; and updates. The tax-efficient routes for academic spinouts include the 'statutory exemption' introduced by the Finance Act 2005 (creates a 183-day window to transfer IP into the spinout and avoid an income tax charge on the researchers under the Employment Related Securities ('ERS') rules). Chargeable under the ERS rules in Part 7 of the Income Tax (Earnings and Pensions) Act 2003 ('ITEPA 2003').	Universities must be careful not to incur liability to corporation tax by engaging in non-charitable activities. If the spinout formation is not carefully planned, universities may expose their employees to tax liabilities on spinout shareholdings (value of shareholding is benefit in kind, liable to tax and NI via the PAYE system), at a time when the employee has not received any financial value from the shareholding. Approved share option schemes defer liability to tax.
Funding terms: Contract terms of public funders (e.g. UKRI, HEFCE, government departments) and charitable funders (e.g. Wellcome Trust) may constrain university's ability to commercialise resulting IP. Where IP results from multiple funding sources, the terms of funding may be inconsistent and create additional complexity. Some of the variations in terms seen in practice include: 1. Funder claims ownership of IP	For example, see: 1. Section 8 (Intellectual Property) of Wellcome Trust funding terms here. (University owns IP, WT has veto over commercialisation) 2. UKRI funding terms here. (University owns IP and must ensure it is commercialised). 3. MOD i-cloud for supply of research, description here. (MOD requires ownership of IP).	Significant research typically involves multiple funding sources, each with their own terms. This can lead to complexity and expense when commercialising the fruits of that research, e.g. through negotiating licence agreements with a commercial company. It may be observed that funding terms sometimes do not cover all the university's costs of conducting the research, and typically do not include a "profit" element that might pay for commercial work such as due diligence prior to offering IP to a spinout.

2. Funder allows university to own IP but requires licence rights 3. Funder has veto on commercialisation 4. Funder constrains use that may be made of IP, e.g. imposing public benefit criteria 5. Funder has "walk in rights" to take over IP		An example of a significant but complex licence agreement, involving multiple parties, is summarised here.
Intellectual property: 1. Who owns IP generated by an employee? (E.g. section 39, Patents Act 1977) 2. Enforcing royalty obligations following assignment (rather than licence)	Guidance on section 39 is given in the High Court judgment in the case of Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat). Judge decided that intern was employed to invent, therefore university owned his IP. NB case is going to appeal, probably in January 2024. On enforcement of royalty obligations, see Assignments and Royalties Don't Mix, by Mark Anderson (Journal of Intellectual Property Law and Practice, OUP, 2009)	Ownership of academic IP is sometimes unclear. Best practice is to obtain an assignment from the inventor(s) before filing patents or commercialising. Assigning IP to a spinout company results in loss of control by university over commercialisation for the public benefit, not least because if spinout assigns the IP, new owner is not bound by contractual obligations between university and spinout.
Subsidy controls (known as State Aid when UK was part of EU): Subsidy Control Act 2022	See government guidance on the Act here.	Universities are public authorities. A university should be careful not to provide services or sell or license IP at less than market price, as this might be an unlawful public subsidy.
Insolvency laws: 1. IP assignments: section 178, Insolvency Act 1986: liquidator of spinout can "reject onerous property" including contracts, e.g. obligation to reassign IP to university upon insolvency. 2. IP licences: Corporate Insolvency and Governance Act 2020: prevents termination of contracts for **goods or services** on grounds of party's insolvency	Government response to a consultation exercise on what became the Corporate Insolvency and Governance Act 2020 (see paragraph 5.104 of this response paper, dated 26 August 2018): *"The Government intends that contractual licences, such as for use of software or patents, will be covered by the 'ipso facto' provisions, acknowledging the importance of these to certain businesses and sectors.*" See also Briefing Paper CBP8291, 5 December 2019, where the government stated that it intended that goods and services covered by the Act would include: *"Contractual licences, e.g. of software or patents"*.	On the first point, universities that assign IP to spinouts often want to recover "their" IP if the spinout becomes insolvent, not least so that they can retain a degree of control over the commercialisation of the IP for the public benefit. However, it is very difficult or impossible to do this in light of liquidators' powers. Liquidators generally sell the IP to the highest bidder, which may not have the public interest, or UK interests, at heart. On the second point, it is very unhelpful that the law is not clear. In the author's view an IP licence is neither a good nor a service, despite the government's comments quoted to the left of this paragraph.
Consumer protection laws: Consumer Rights Act 2015, and the Unfair Terms in Consumer Contracts Regulations 1999	Extensive discussion of the application of consumer protection laws to the relationship between university and student, including on IP policies, can be found in the High Court judgment	Commercial companies may be hesitant about taking a licence or assignment of IP from a university if some of that IP has been generated by a student, if consumer laws require the

Obligations of supplier of services (e.g. university) to act fairly to consumers of those services (e.g. students)	in the case of Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat). See CMA paper on students as consumers here See Office for Students guidance here.	university's IP be "fair", and if fairness is considered on a case-by-case basis.
National security and investment National Security and Investment Act 2021. The Act gives the government powers to scrutinise and intervene in business transactions, such as takeovers, to protect national security, particularly in 17 areas of technology/activity, e.g. AI and communications.	Government general guidance here and here. Guidance specific to research organisations and investors (including mention of university spinouts) is here. See also government guidance on protecting researchers' work from hostile activity here.	University research contracts, licence agreements and spinout activity could all potentially be subject to either the compulsory or voluntary notification regimes. In our experience, universities have taken a risk-averse approach to voluntary notification (e.g. of research agreements and licence agreements). In some situations, notifications may slow down or even prevent the conclusion of a spinout transaction. For an example of the government prohibiting a university licence agreement under the Act, see here.
Other areas of law, e.g.: **Patent law: government walk-in rights** s.55 Patents Act 1977 **Money laundering** Sanctions and Anti-Money Laundering Act 2018 and associated regulations		Section 55, Patents Act 1977 has been described as a "nuclear option" which gives the government certain rights to take over patent rights for defence or public health purposes. It has been suggested that if the government ever exercised these rights, investor confidence in companies that own the patents would plummet. The rights were not exercised during the Covid pandemic. In that light, this seems to be a minor issue, mentioned for completeness only. Similar rights exist in certain UK government research funding terms, e.g. those of the Department of Health and Social Care, and in US laws. The author has encountered problems in forming a university spinout, where the formation agent refused to act due to a risk of breaching money-laundering laws, simply because one of the academics/founders was a Pakistani national. Company formation is a regulated activity for the purposes of those laws. Forming university spinouts would seem to be at the low risk end of the spectrum.

Appendix 2: Equity stakes in spinout companies

Extracts from the judgment in the case of Oxford University Innovation Ltd v Oxford Nanoimaging Ltd [2022] EWHC 3200 (Pat)

524. [The University of Oxford's Intellectual Property Advisory Group] IPAG undertook a study in 2018 which considered trends in Oxford's equity stakes. This showed that the mean Oxford equity stake had been approximately 40% from a period pre-2015 up to 2017 when the mean stake taken reduced somewhat. During that period, the number of Oxford spinouts increased dramatically from less than 10 a year before 2015 to over 20 in 2016 and 20 in 2018. Although this material was not formally in evidence it was recorded in one of the disclosure documents and in my view is credible. It is not possible to conclude from this material that there is any significant correlation between the level of equity taken by Oxford and the success of its spin out programme. It does not suggest that the University's approach was deterring the creation of spin outs or putting researchers off.

525. Material of this kind must be treated with caution. At least some university researchers in so far as they are entrepreneurs as well may want to have as much equity as possible in spin outs (just as they may want to pay as little tax as possible). But as with tax policy, so with spin out equity shares, detailed expert evidence would be needed to show that any given level would have any particular effects on the "market" for entrepreneurial university activity. It would be glib to suggest, as aspects of ONI's case did at points, that for the University to allocate a greater equity share to researchers would improve entrepreneurial activity or increase the number of inventive researchers coming to the University who would otherwise go elsewhere. The evidence in the present case did not come close to showing that the levels of equity participation in its spin outs which Oxford sought and obtained under the IP Provisions was likely to be having a detrimental effect in this respect.

529. ONI relies particularly on the survey of the equity deal terms and the differences between universities in the United Kingdom and the United States. The authors obtained online policy documents from a number of universities, including several where there was no specified guideline, as to the split in equity between university and researcher.

530. This material shows a wide range of approaches to equity shares, from the University of Wisconsin-Madison which apparently did not claim IP (although that was described as being because of special arrangements with WARF, which is its designated patent management organisation) and MIT which apparently only claimed a 5% equity share to CalTech which apparently claimed a 100% equity share which were not stated to be negotiable. Between these extremes, among the US universities claiming a 50% or greater equity share, in some cases negotiable, were well known scientific research-rich institutions such as NYU (50%), University of Texas (50%), Texas A&M (63%), University of Rochester (65%), Cornell (67%), Georgia Institute of Technology (67%), University of Pennsylvania (70%).

531. Although the article contrasts the position in the United Kingdom with that in the US and it is said that in the United Kingdom a typical licensing deal is "a rarely negotiable 50:50 split between the university and the academic bioentrepreneur whereas US interviewees reported universities taking a 5-10% negotiable equity share", it is at best unclear that the data in the article bears this out. It is also complicated by the fact that these equity shares can ultimately be heavily affected by whether or not there are non-dilution provisions.

532. The article states that US institutions are "clearly" more willing to take a lower proportion of equity than UK institutions. That statement is however hard to reconcile with an adjacent entry in the table showing a number of prominent US universities with guideline participation shares which appeared to be above even the highest percentage in any of the UK university policies the court was shown, in so far as they have guidelines. Moreover, the article does not contain any analysis of the percentage of net licensing income in addition to equity share to which a university researcher (or "bioentrepreneur") would be entitled under the policy of the university in question. Nor does it go into detail on potentially relevant other provisions which can have a significant impact on equity share over time or any other benefits available from the university. There is nothing in the article which addresses the value of the shareholdings resulting from these shares or any dynamic effects (such as the evolution of equity over time or how well off – relative to the university – a notional bioentrepreneur ends up being after some years of operation of the spin-out under different benefit sharing regimes).

533. It does not seem to me appropriate to compare merely one aspect - headline equity share - of the suite of potential benefits which Oxford and other UK universities may offer a researcher with just a percentage headline of equity share of only some of the United States universities and conclude from this that the University has been acting unfairly or is out of line to the detriment of researchers.

534. The article also compares the equity share taken by selected UK universities. This also shows a wide range from Cambridge (20% - said to be negotiable) to University of Bath (67% - said to be non-negotiable). The majority of UK universities are said to take either negotiable or non-negotiable shares of between 50% and 60%. The article states that Oxford's 50% share was "negotiable (rarely)" although it is not clear on what material that qualification was based. It appears from one of the footnotes to been based on anecdotal information rather than a systematic survey.

535. The article made two other points which, in the present context, are important. First, that while a non-negotiable fixed 50:50 split may have overestimated the contribution of the university to the venture "this fixed rate does simplify and thus shorten, the initial negotiation time, the length of which is a major complaint of bioentrepreneurs." This shows that fixed 50:50 splits can have advantages (in the sense of tangible commercial benefits to both parties). Second, the article pointed out that "a few" bioentrepreneurs highlighted the non-equity-based benefits of their deals such as increased research finding from the school.

536. The article then says that it is difficult to understand the justification of UK TTOs such as Oxford's Isis Innovation taking 50% of a company's equity at formation. It also highlighted what it described as "double dipping" by taking significant equity and royalty but without mentioning that a significant proportion of that royalty went to the researchers in question (which meant that the researchers were "double dipping" as well).

537. The article also said that it was notable that the regions attracting the most successful life science spinouts (the San Francisco Bay Area, Boston and Cambridge UK) had technology transfer offices that "rewarded the academics and investors the most." I do not think this conclusion can be drawn from the limited data in that article. There is no evidence to suggest a causal connection. CalTach one of the leading Bay Area universities is there said to take a non-negotiable 100%. Harvard's policy is not stated and it is for question whether a comparison between (for example) Oxford and Cambridge at any given time is fruitful. Account would need to be taken of the nature of the science in which the respective universities were engaged at any given time and the whole of the equity and general financing market. It is also for question what is meant by the most successful life-

sciences spin outs. A company may be very successful as a spin out, even if it is less profitable, precisely because it prioritises dissemination of the fruits of research at lower (and less profitable) prices or at cost. The point here is that financial performance of an undertaking especially in the biosciences is only one marker of "success" in that some may regard it as a mark of failure if a spin-out company in that domain was very profitable as a result of pricing its products at a level that (for example) few could afford. The article did not analyse matters in that way.

538. Moreover, if a university is focussing on (say) a general platform technology such as antibody therapies, as it is well known that Cambridge and region has done since a method for production of monoclonal antibodies was devised in the MRC laboratories there, it may be more likely that the region will attract bioentrepreneurs interested in that area and corresponding spinouts. They may have been research students of the originators of the platform or at the institution. The topic of what the real drivers are of spin-out success is worthy of academic study. It is not established on the evidence in this case that (within a reasonable range) the equity split between university and researcher plays a significant or dominant role, even within the comparatively narrow confines of purely commercial success let alone other criteria of value.

539. However, this material establishes with reasonable reliability that Oxford's IP Provisions as regards equity split appear prima facie to be somewhere in the middle of the range of the headline shares taken by US universities (effectively ranging from 5%-100%) and are in the cluster of shares around 50-60% taken by UK universities. The material supports Oxford's case that, as regards equity split, its approach is not in any material respect out of the norm and that to have a policy of a 50:50 split may even have some advantages in getting a deal done. I refer below to other reasons why there may be advantages in that policy approach of which a university may be entitled to take account. This evidence goes nowhere near proving that allocating a greater share to researchers or other investors would produce an overall result in a given case more likely to foster the University's (or even given researcher's) objectives, narrow or broad.

540. The second article relied on by ONI is by a journalist, Mr Mark Mardell, in the New European for 22 January 2021 entitled The Inside Story of the Oxford Vaccine. The focus was a wide-ranging interview with Professor Sir John Bell, Regius Professor of Medicine at the University. He is a major figure in medical research in this country with considerable experience in commercialisation of academic and other research. He was reported in that article as having said that universities were trying to "skim" (to use the reported words) as much as they can out of the system including 40% of the equity which he is reported as saying "doesn't leave much for anyone else". While Professor Sir John's views, if the article completely reflects them, are entitled to the greatest respect, I am not satisfied that this article, which is not a peer reviewed paper or even an article written by him, presents a sufficiently complete account even of his own views, let alone a survey of the views of other senior scientists at the University or elsewhere whose opinions are entitled to equal respect. Professor Sir John is reported as being a strong supporter of university spin outs and as having expressed the view that "the most exciting, interesting, innovative, game changing science is not happening in universities but small companies". That may be true in some academic disciplines but he may well not have intended that to be taken as reflecting the position across the board. Another, unnamed, senior academic is reported in that article as having said that, in contrast, he was not a "big fan of spin outs because they pull academics out of the university into companies and they may move away from their research" with "financial drivers" distorting their "direction of travel". It is clearly not for this court to act as an arbiter in this important policy debate.

541. However, none of this material, taken as a whole shows that it was out of line, unreasonable or unfair for Oxford to have a guideline (but negotiable) equity split for its spin outs and that this should be 50:50 researchers: university.

542. There is a further general consideration. The court must be wary of criticising approaches to equity share allocation or making assumptions about how these operate over time. I have noted that the articles do not deal with this. There may be complex factors in play relating to the way a given subsequent funding market may work. It is possible that to have a powerful and commercially experienced (albeit charitable) institution with a name recognised around the world, such as Oxford, allocated about half the initial equity may make it easier to raise further rounds of funding than if the institution had less and individual researchers more.

543. This court cannot take this sort of thing for granted, one way or the other, or be confident that, in the long run, for any given spin out, an initially larger share allocation to researchers would end up being more beneficial for them than a relatively larger share allocation to a university. There are situations one can readily envisage in which an individual would be better off with 10% equity in a well-funded/supported fledgling company to which an institutional majority shareholder was committed (and was better plugged into funding networks) than the same individual would be with 90% of the equity in that company (which, because of that share split, the institutional shareholder was less prepared to back). It would require evidence to show that any particular allocation which appeared out of kilter at the outset was sub-optimal in a given case over time. The court cannot assume without proof even the narrow proposition that, in this case, the 90:10 share allocation which Professor Kapanidis and Mr Jing were seeking would have left them better off today than the 50:50 allocation which they ultimately agreed. There was no expert evidence to that effect and it is for question whether that counterfactual is reliably testable.

552. […] I cannot see anything wrong in principle with a university deciding that preferring a greater allocation of equity shares to public sector funding bodies which supported the research in question than to investment funds or private individual researchers may foster to a greater extent the mission of the university and research in the area. A university may also consider that retaining a larger equity share enables it to ensure that the benefits do not accrue to an undue extent into private hands and remain more focussed on the overall research mission. It is not for this court to say which course (or combination of approaches) is right or wrong.

562. Taken as a whole, I therefore do not find that there was any unfairness in the way in which Oxford allocated benefits under its IP Provisions as between researchers and University, including as to share of royalties and share of equity. The outcome as regards benefit sharing in this case has been that those most involved in the project and key designs, Professor Kapanidis and Mr Jing, have received substantial equity shares in a successful spin out and substantial royalty streams and so has the University which supported this work for years (with Dr Crawford receiving more modest benefits) ensuring that the benefits from a programme of work of which this was one fruit are spread more widely. That, to my mind, is not unfair: the reasonable response to such a scenario is not a complaint but: “what’s not to like?”

601. In so far as it was reasonable for Oxford to claim the rights, the terms as a whole provided a reasonable share of benefits to the researchers as against the University, a reasonable approach to splitting benefits between researchers, and reasonable provisions relating to equity shares in spin-outs. There were fair and reasonable opportunities to challenge the allocation of benefits. I do not think in this respect there was a “one size fits all” policy. To the contrary, significant aspects of the

overall benefit were open to negotiation. But even if there had been a more rigid approach, it would not have been unfair on that ground.