

Introduction

University Alliance brings together 18 universities with a common mission to make the difference to their cities and regions. We use our experience of providing high-quality teaching and research with real world impact to shape higher education and research policy for the benefit of our students, businesses and civic partners. We innovate together, learn from each other and support every member to transform lives and deliver growth.

This paper forms our submission to the BIS Committee Inquiry on the Government's Productivity Plan. In line with committee guidance, we have opted to respond to Question 2a) and 2b) with reference to Productivity Plan priorities "World-leading universities, open to all who can benefit", "High-quality science and innovation" and "A highly skilled workforce".

Question 2: One pillar of the Government's Plan is to increase "long-term investment". It outlines eight areas with specific measures to increase productivity.

- a) Why has the UK's long-term investment been so low up to now?
- b) How can we ensure that the measures relating to long-term investment in the new Plan will contribute to productivity growth?

Contents

Introduction.....	1
Summary of recommendations in response to Question 2b)	2
2a) Why has the UK's long-term investment been so low up to now?	4
2b) How can we ensure that the measures relating to long-term investment in the new plan will contribute to productivity growth?.....	6
Annex A: Teaching Excellence Framework	15
Annex B: HE-BCI analysis.....	21
Annex C: Universities and the skills ecosystem	23

Summary of recommendations in response to Question 2b)

World-leading universities, open to all who can benefit

- a. We will only deliver the skills required to boost productivity growth if everyone with the ability and inclination to attend university has the opportunity do so. Following the removal of maintenance grants, Government must continue to protect Student Opportunity Funding to support widening participation.
- b. Lifting student number controls must be supported because the supply of graduate level skills drive productivity.
- c. We must ensure that the Teaching Excellence Framework (TEF) rewards genuine added-value, innovation and employer involvement. Ultimately, turning out graduates without the employability skills required for progression in the labour market will be bad for productivity.
- d. Inflation linked tuition fee increases are important for ensuring high quality teaching but this needs to be monitored to guard against perverse incentives and behaviour.
- e. Provided we have a regulatory framework that acknowledges risk-based differences between types of provider, the opening up of the higher education market should help to support productivity growth by increasing the supply and quality of graduates.

High-quality science and innovation

- f. Investment in research capital is important for productivity and must be accompanied by sufficient resource to run and maintain facilities.
- g. To support productivity, we must continue to fund research excellence wherever it is found.
- h. The science and innovation audits will help find excellence across the UK, but must be fully inclusive and capture the widest evidence of university-business engagement and innovation activities across the whole of the UK.
- i. In the spirit of rewarding excellence wherever it is found, the new Regius Professorships competition should be open to all institutions.
- j. Catapult centres must seek to incorporate the best research and researchers and therefore ensure that any single geographical 'hub' has

well-established links with pockets of genuine research excellence across the UK.

- k. Collaboration and commercialisation of research exist in a complex ecosystem which requires targeted and sustained support.

A highly skilled workforce

- l. Government must support greater flexibility for learners including degree apprenticeships, other workplace-based courses and part-time study.

2a) Why has the UK's long-term investment been so low up to now?

The Productivity Plan recognises that universities are essential drivers of productivity. Up to now, we believe the UK has invested at reasonable levels in university access but has underinvested in science and innovation relative to its international competitors.

Long-term investment in 'World-leading universities, open to all who can benefit'

1. Successive UK governments have leveraged long-term investment effectively in the form of public subsidies and the student loans system to open up our universities to more participants. Along with the introduction of targeted support for recruiting and retaining non-traditional students (e.g. HEFCE Student Opportunity Funding) there has been a steady expansion of degree places since the late 1990s which has accelerated with the lifting of student number controls in England. The same period has also seen higher levels of funding per student through the introduction of tuition fees and loans and subsequent increases in the amount universities can charge for tuition. Despite concerns over the impact of fees on participation, more full-time students are entering higher education than ever before; the loans system that supports them is proving to be both scalable and sustainable.
2. There are nevertheless some areas where long-term investment in university access might not have been fully optimised. High-quality teaching and the value a university experience adds, for example, have only recently, under the new Government, been judged worthy of rewarding through incentives. The Productivity Plan proposal to link future tuition fee increases to a universal Teaching Excellence Framework (see Annex A) is welcome for it has the potential to drive up standards of learning across the sector and the quality of graduates entering the labour market.
3. The expansion of higher education is also yet to be accompanied by significant changes in regulation. With a growing number of higher education providers, it is important that standards are independently maintained across the sector to ensure quality of provision and protect the student interest.

Long term investment in 'High-quality science and innovation'

4. University Alliance supported the last Government's commitment to invest more than £5.5 billion in science and research capital over the current parliament.

However, the UK's long-term investment in research and development (R&D) and innovation remains significantly lower than OECD and EU average. Public funding for R&D has dropped to 0.5% of GDP – putting the UK in last place among the G8. Moreover, the additional government funding allocated for research capital at the 2010 Comprehensive Spending Review has only partially offset the 45% decline in the research capital budget seen since.

5. Some may seek to defend the UK's lower R&D investment levels on the grounds of efficiency: research productivity as measured by output indicators 'articles and citations' puts us in a comparatively strong position.¹ Yet such thinking is counterproductive given the high social and economic returns associated with R&D and prospect of further inward investment by bringing funding levels in line with our international rivals.
6. We believe the Government must prioritise greater investment in research and innovation infrastructure – both capital and resource – for the UK to maintain its status as a leading science and research nation. Our proposals are detailed in the "High-quality science and innovation" section of our response to Question 2b) below.

¹ Elsevier (2013), *International Comparative Performance of the UK Research Base – 2013: A report prepared by Elsevier for the UK's Department of Business, Innovation and Skills*, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf

2b) How can we ensure that the measures relating to long-term investment in the new plan will contribute to productivity growth?

World-leading universities open to all who can benefit

Productivity Plan measure: "Lifting student number controls"

UA response: Lifting student number controls must be supported because graduate level skills drive productivity.

7. In the Productivity Plan, the Government commits to removing the student numbers cap "so that anyone with the right qualifications can study at university". We believe this is vital on the basis that the supply of graduate level skills has contributed significantly to productivity growth.
8. Research for BIS by NIESR found that a 1% increase in the share of the workforce with degrees increases the level of long term output by 0.2-0.5%.² The same study attributes at least one third of the 34% increase in productivity between 1994 and 2005 to the accumulation of graduate skills in the labour market.
9. Other research highlighted by Universities UK supports this analysis.³ McKinsey found that companies with higher concentrations of "knowledge workers" (35% of the workforce) create returns per employee that are three times higher than at companies with fewer knowledge workers (20% of the workforce or less).⁴ ONS data reveal a strong correlation between productivity and the number of hours worked by graduates at a regional level.⁵
10. Importantly, labour market demand for graduate skills continues to grow. The UK economy is increasingly knowledge-based with most new jobs in high skill areas. According to the CBI, half of all jobs by 2022 will require workers to have

² D. Holland, I. Liadze, C. Rienzo and D. Wilkinson (2013), *The relationship between graduates and economic growth across countries*, BIS Research Paper No. 110, Department for Business, Innovation and Skills, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229492/bis-13-858-relationship-between-graduates-and-economic-growth-across-countries.pdf

³ Universities UK (2015), *The economic role of UK universities*, available from:

<http://www.universitiesuk.ac.uk/highereducation/Documents/2015/TheEconomicRoleOfUKUniversities.pdf>

⁴ P. Bisson, E. Stephenson and S. Patrick Viguerie (2010), *The productivity imperative*, McKinsey & Company, available from: http://www.mckinsey.com/insights/growth/the_productivity_imperative

⁵ Universities UK (2015), *The economic role of UK universities*, available from:

<http://www.universitiesuk.ac.uk/highereducation/Documents/2015/TheEconomicRoleOfUKUniversities.pdf>

completed some form of higher education.⁶ UKCES states that “long term trends look set to continue favouring growth in [high skill jobs], making the sustained supply of new skills into the labour market an on-going priority”.⁷

Productivity Plan measure: “Replacing maintenance grants with loans”

UA response: We will only deliver the skills required to boost productivity growth if everyone with the ability and inclination to attend university has the opportunity do so. Following the removal of maintenance grants, Government must continue to protect Student Opportunity Funding to support widening participation.

11. The conversion of disadvantage-linked maintenance support from grants to loans in the Summer Budget makes it especially important that Government maintains Student Opportunity Funding (SOF). With maintenance grants gone, SOF is now the only HEFCE funding stream dedicated to widening participation students whom evidence shows are costlier to support.⁸
12. The removal of SOF – which has been speculated ahead of the Comprehensive Spending Review – would lead to the withdrawal of activities that are known to have a positive impact on student access, retention and progression. It would penalise institutions that are most successful at widening participation. To request details on the use and impact of SOF, please email Tom Frostick on tom@unialliance.ac.uk.

Productivity Plan measure: “Introducing a new Teaching Excellence Framework”

UA response: We must ensure that the Teaching Excellence Framework rewards genuine added-value, innovation and employer involvement. Ultimately, turning out graduates without the employability skills required for progression in the labour market will be bad for productivity.

⁶ Confederation of British Industry (2015), *Inspiring growth: CBI/Pearson skills survey 2015*, available from: <http://news.cbi.org.uk/business-issues/education-and-skills/gateway-to-growth-cbi-pearson-education-and-skills-survey-2015/>

⁷ UK Commission for Employment & Skills (2015), *Growth through people: evidence and analysis*, available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/410289/GTP_EA_final_v8.pdf

⁸ According to an independent report for HEFCE, supporting disadvantaged students and those with disabilities attracts an average 31% premium cost. See JM Consulting Ltd (2004), *The costs of widening participation in higher education*, A report to HEFCE, UUK and SCOP, available from: http://dera.ioe.ac.uk/5169/1/rd03_04.pdf

13. University Alliance welcomes the Government's commitment to introduce a Teaching Excellence Framework (TEF). We have consulted with our members and the sector more widely and developed a paper setting out principles and considerations that should be taken into account as the framework is developed. The headline recommendation is that the new framework should be introduced in phases. The paper is attached at Annex A.

Productivity Plan measure: "Allowing institutions offering high teaching quality to increase tuition fees with inflation"

UA response: Inflation linked tuition fee increases is important for ensuring high quality teaching but it needs to be monitored to guard against perverse incentives and behaviour.

14. Increasing the cap on tuition fees over time is important if our universities are to offer world class teaching. There are however certain risks that could dampen the incentive to charge students more. If TEF is to be used for the purposes of setting fee caps, there needs to be careful monitoring to ensure that it does not impact negatively on participation. We need to be sure, for instance, that able students are not deterred from going to teaching excellence universities that charge higher fees.
15. Broadly, the TEF should be designed in such a way that incentivises innovation in teaching and sharing of best practice. As with the Research Excellence Framework, this means rewarding success rather than penalising the need to improve through (for example) a markedly lower fees cap at institutions that underperform.

Productivity Plan measure: "Opening the higher education market to more new entrants"

UA response: Provided we have a regulatory framework that acknowledges risk-based differences between types of provider, the opening up of the higher education market should help to support productivity growth by increasing the supply and quality of graduates.

16. Lifting student number controls will produce a greater quantity of graduates but we also need to ensure the quality of participants in higher education. With a growing number of providers, it is imperative that standards are independently maintained across the market through an equitable playing field of risk-based regulation.

High-quality science and innovation

Productivity Plan measure: "Delivering on the science capital commitment"

UA response: Investment in research capital is important for productivity and must be accompanied by sufficient resource to run and maintain facilities.

17. Research and innovation are key to increasing the UK's productivity performance: innovation and technological change accounted for 51% and 32% of productivity growth between 2000 and 2008.⁹ However, the UK's investment in R&D and innovation remains significantly lower than OECD and EU average. Over the past five years we have welcomed additional funding from Government for research capital. Yet this has only partially offset the 45% decline in the research capital budget as a consequence of the 2010 Comprehensive Spending Review.

18. We are also concerned that capital investments will not be fully maximised if the resource (including human) is not there to support it. Nor can the capital strategy maximise the UK's research resource if it is planned in isolation. We urge the Government to produce a complementary research resource investment strategy to accompany – even direct – the capital strategy.

Productivity Plan measure: "Ensuring the UK's excellent science has a focus on those areas with greatest potential"

UA response: To support productivity, we must continue to fund research excellence wherever it is found.

19. Maintaining excellence across a broad range of subject areas and research activities will future-proof the UK research and innovation ecosystem. As the Government acknowledges, predicting future market changes is not an exact science and we need to make sure we are allowing all growth sectors to thrive. This is why the dual funding system for research, which includes the flexibility for universities to invest in new areas, remains critical. It sits alongside the importance of the autonomy of universities, which is directly proportional to the quality of a system.¹⁰

⁹ UK National Academies (2015), *Building a stronger future: Research, innovation and growth*, available from: <https://royalsociety.org/~media/policy/Publications/2015/building-a-stronger-future-research-innovation-growth.pdf>

¹⁰ L. De Dominicis, S.E. Pérez and A. Fernández-Zubieta (2011), *European University Funding and Financial Autonomy: A Study on the Degree of Diversification of University Budget and the Share of Competitive Funding*, available from: <http://dx.doi.org/10.2791/55199>.

20. We recommend that the UK should continue the long-term policy of selectively distributing research funding, based on quality, to drive the already high standards of UK research. In other words, research excellence should be funded wherever it exists. Selectivity makes economic sense in that it has “enabled the Government and funding bodies to maximise the return from the limited public funds available for...research”.¹¹
21. Currently there are instances where the principle of funding excellence wherever it exists is not being followed. Research Council policy to fund “fewer, larger, longer awards” in response to efficiency pressures has meant that some important funding streams for supporting research, postgraduates and knowledge exchange activities are no longer open to all higher education research institutions.¹² This has to change.
22. Quality-related Research (QR) funding is the most efficient way to support the continued production of excellent and innovative research. It is critical in allowing universities to develop areas of expertise including in new and high-risk areas, across the spectrum of research activities, and to react quickly to emerging opportunity areas.¹³ Government should consider increasing the proportion of research funding that flows through QR.

Productivity Plan measure: “The government will invite universities, cities, Local Enterprise Partnerships (LEPs) and business to work with the government to map the strengths of different regions through a series of science and innovation audits.”

UA response: The science and innovation audits will help find excellence across the UK, but must be fully inclusive and capture the widest evidence of university-business engagement and innovation activities across the whole of the UK.

¹¹ Research Assessment Exercise (2004), *Initial decisions by the UK funding bodies*, available from: <http://www.rae.ac.uk/Pubs/2004/01/rae0401.doc>

¹² We outline these in our recent report University Alliance (2015). *Evolve. Connect. Succeed. Funding a healthy research and innovation ecosystem* (pp. 17-18), available from: <http://www.unialliance.ac.uk/wp-content/uploads/2015/03/Evolve-Connect-Succeed-WEB-VERS-12MAR.pdf>

¹³ PACEC and Centre for Business Research at the University of Cambridge (2014), *A Review of QR Funding in English HEIs: Process and Impact. Report to the Higher Education Funding Council for England (HEFCE)*, available from: http://www.hefce.ac.uk/media/hefce/content/pubs/indirreports/2014/A,review,of,QR,funding,in,English,HEIs/2014_qrreview.pdf

23. The Productivity Plan proposes to audit excellence in science and innovation across the UK. We welcome this initiative – especially the commitment to identify excellence of different kinds as there is currently significant collaboration activity not being picked up. However it is clear that these audits need to be fully inclusive of all institutions. The aim of the exercise should also be to incentivise new forms of collaboration, as well as to reward existing networks. Following the audits, we would like to see funding directed towards both supporting existing activity and pump-priming new activity.
24. To ensure the audits are thorough and return the greatest value, it is important that a wide range of data sources are used to determine the full spread of research and innovation activities and excellence in institutions across the UK. In addition to data from the Research Excellence Framework, we suggest further data sources should underpin the audits, including:
- Granular level Research Council funding data. This should not be limited to information about principal investigators on successful funding bids (where the money goes), but should also take into consideration co-investigators and other collaborators (where the money is spent).
 - Private investment. National Audit Office data and Innovate UK funding data, including collaborative R&D, showing where private investment is spent, will provide an open market dimension on the spread of excellence.
 - HE-BCI data. As the maps in Annex B show, the contributions of universities to business productivity come through various activities beyond direct linear commercialisation of research, including collaborative and contract research, CPD courses, graduate start-ups and the sharing of facilities – all highly valued by businesses and trackable through HE-BCI data.
 - Alignment with local innovation plans. Recognising local clusters of expertise that already exist, as demonstrated through LEP Strategic Economic and Smart Specialisation plans.

For further information on our design and implementation principles for the science and innovation audits, please email Faye Taylor on faye@unialliance.ac.uk.

25. We also note that driving productivity and innovation requires a whole UK response. Any investment in the creation of city/regional hubs must also consider the ‘spokes’ elsewhere in the UK that have complementary activities, to build a more sustainable future.

Productivity Plan measure: "New Regius Professorships"

UA response: In the spirit of rewarding excellence wherever it is found, the new Regius Professorships competition should be open to all institutions.

26. REF 2014 showed that there were peaks of research excellence, with world-leading scientists driving this activity, across the sector. Any competition must be open to all universities to reflect this spread of excellence.

Productivity Plan measure: "Looking for opportunities to develop the UK's network of Catapult centres for commercialising technology"

UA response: For Catapult centres to be recognised as a mark of excellence in the UK and to achieve world-leading innovation, they must seek to incorporate the best research and researchers and therefore ensure that any single geographical 'hub' has well-established links with pockets of genuine research excellence across the UK.

27. Innovate UK is a proven support system for securing commercial benefits derived from university research, with effective mechanisms including innovation vouchers, Knowledge Transfer Partnerships and Catapult Centres. These mechanisms should not be replicated in new support systems; but rather more must be made of Innovate UK by strengthening its ability to support research and innovation.

28. We continue to back the Catapult Centre model of business-university collaboration as it develops. Yet for Catapult centres to be fully recognised as a mark of excellence in UK innovation, they must seek to incorporate the best research and researchers. We must therefore ensure that any single geographical 'hub' has well-established links with pockets of genuine research excellence. As part of a national science infrastructure, existing Catapults need to become more open and collaborative so that resources are shared to maximise the economic benefit.

Productivity Plan measure: "Supporting universities in collaborating with industry and commercialising research"

UA response: Collaboration and commercialisation of research exist in a complex ecosystem which requires targeted and sustained support

29. British SMEs with product or process innovations have declined in recent years and are an underperforming aspect of the UK's research and innovation ecosystem. Small businesses are often constrained by limited resource and time

and are often unable to capitalise on the knowledge and research that is available to them. Absorptive capacity and lack of leadership and management skills also act as barriers to innovation.

30. Universities provide particularly vital business and innovation support to SMEs, often acting as a hub around which specialist groups of businesses and supply chains cluster. Universities can match projects and use supply chain knowledge to link up innovative businesses. They also ensure that their significant capital research assets are available to a wider cohort of users.
31. Universities' SME interventions provide a shop window and go some way to hiding the wiring behind the complex funding system for innovation. Yet it is clear from the Dowling Review that current funding arrangements for university-business engagement are too complex. One way to simplify the landscape would be to bring several of the existing funds together into two regionally-sensitive funds: the first administered by Innovate UK and focussed on co-locating business and research expertise, and the second administered by the Research Councils and focussed on creating knowledge exchange hubs.
32. We will only make the most of university research and teaching if we support knowledge exchange. As Dowling recommends, the Government should make a long-term commitment to maintaining a form of flexible public funding for it. Higher Education Innovation Funding (HEIF) is a success story: it has leveraged over £6 for every £1 invested and achieved its original remit to build knowledge exchange capacity in universities. We argue that HEIF should remain flexible and stay within HEFCE's national portfolio, allocated directly to universities, as they have the knowledge, scale and connections to provide the best support to these activities.
33. In designing support for knowledge exchange, Government should:
 - a. Facilitate placements from industry to academia and for students and university staff into industry. Movement of people between academia and industry supports absorptive capacity and knowledge exchange. It is therefore a good use of government funding – and better than rewarding large research contracts that bring their own financial reward.
 - b. Use the funding for proof-of-concept support for collaborations between industry partners and universities. This would provide students and academics with enterprise and commercial experience to improve the innovative capacity of the UK workforce.

- c. Ensure funding is applied across all disciplines. The recent Global Innovation Index recognised that an over-focus on STEM would be misguided, since “graduates of tertiary arts programmes are among the most likely to contribute to product or service innovation”, and the UK has a highly service-dominated economy.
- d. Ensure the Innovate UK portfolio continues to recognise the importance of investing in people. Knowledge Transfer Partnerships provide high returns on investment, developing expertise and close relationships which often lead to longer and larger research and skills partnerships.

A highly skilled workforce, with employers in the driving seat

UA response: Government must support greater flexibility for learners including degree apprenticeships, other workplace-based courses and part-time study.

34. Universities have an important role in designing education other than degree-level study, ensuring it is relevant to local and national needs. Many universities, including all in University Alliance, work closely with 14-19 education providers (schools, FE colleges and UTCs) to form an effective skills ecosystem. As well as ensuring diversity of provision, the partnership work that our universities undertake brings learning closer to industry and helps address ‘cold spots’ in areas of low participation. Examples are provided in Annex C.
35. Alliance universities and similar institutions also have a strong record of collaborating with industry in the design of qualifications. This includes courses that:
 - Are co-designed and sponsored by employers
 - Involve flexible workplace-based placements
 - Are taught in university campus-based employer hubs
 - Are accredited by employer-led professional bodies
 - Are offered through part-time, distance learning or further education based learning routes.

Universities are therefore well placed to deliver learning, at a range of attainment levels, which is transferable and offers progression opportunities beyond immediate employer needs. Examples of these are also provided in Annex C.

Annex A: Teaching Excellence Framework

Introduction

1. University Alliance welcomes the new focus on teaching excellence. But defining teaching excellence and a way of measuring it is by no means a straightforward process. The 2015 budget raised the stakes with the announcement that from academic year 2017/18 universities which are deemed to offer excellent teaching will be able to increase their fees in line with inflation. This paper outlines University Alliance's principles for measuring teaching excellence.
2. The headline recommendation is that the new framework should be introduced in phases and improved as new data sources become available. This approach would allow for different ways of measuring excellence to be piloted and evaluated. During the early phases, TEF should have no consequences beyond the right to increase fees linked to inflation announced in the 2015 Summer Budget. As with the Research Excellence Framework, TEF must reward success not penalise the need to improve.

Policy objectives

3. In Jo Johnson's speech of 1 July 2015, he stated that the objectives of the TEF were:
 - a. to ensure all students receive an excellent teaching experience that encourages original thinking, drives up engagement and prepares them for the world of work;
 - b. to build a culture where teaching has equal status with research, with great teachers enjoying the same professional recognition and opportunities for career and pay progression as great researchers;
 - c. to stimulate a diverse HE market and provide students with the information they need to judge teaching quality – in the same way they can already compare a faculty's research rating; and
 - d. to recognise those institutions that do the most to welcome students from a range of backgrounds and support their retention and progression to further study or a graduate job.
4. While University Alliance recognises that these are all worthwhile objectives, we note that it will be challenging to produce a framework that delivers against all of these in a robust enough way to use as a basis for allowing (or not allowing) universities to increase fees.

5. In particular, it is hard to see how one framework could adequately signal to all students the excellence of the teaching they would receive and also recognise the additional effort made by those universities that have large numbers of students from non-traditional backgrounds – some of whom require additional support to succeed at university.

What evidence is there that there is a problem that a TEF needs to fix?

6. The main source of information about how satisfied students are with the teaching they receive is the National Student Survey. This shows an upward trend in student satisfaction. In 2011-12, 84% of students expressed overall satisfaction. In 2014-15, this had risen to 86%¹⁴. However, within this, the NSS does show that arts graduates are less satisfied than science graduates. This may be because universities expect arts graduates to do significant independent learning. These students may feel short-changed that they get so few contact hours in return for their higher tuition fees.
7. The way in which league tables are constructed, and the role they play as a signalling mechanism to prospective students and their advisors, may incentivise research-intensive universities to prioritise research at the expense of teaching and to reward research faculty over teaching faculty. Whether or not this has had an adverse effect on teaching is difficult to say and, even if it does, it only affects part of the sector. But it is true that it is very difficult for students to find out how much of their tuition fee is used to cross-subsidise research (or other activities that may not be directly related to their own student experience).
8. The Higher Education Academy (HEA) and Higher Education Policy Institute (HEPI) Student Experience Academic Survey¹⁵ recently concluded that many students are unconvinced they have received value for money from their university courses and a large majority do not think they have been given enough information about how tuition fees are spent. The research suggests students expect their teacher to have undergone some formal training, something the HE sector has not traditionally seen as a measure of quality or excellence.

¹⁴ See <https://www.hesa.ac.uk/unistats-dataset>

¹⁵ A. Buckley, I. Soilemetzidis and N. Hillman (2015), *The 2015 Student Academic Experience Survey*, Higher Educational Policy Institute and Higher Education Academy, available from: http://www.hepi.ac.uk/wp-content/uploads/2015/06/AS-PRINTED-HEA_HEPI_report_print4.pdf

9. In relation to graduate employment, the main measure is the Destination of Leaver in Higher Education survey (DLHE). This shows the vast majority of graduates are getting jobs. In 2011-12 88.2% of graduates were in employment or further study 6 months after graduation. In 2013-14, this rose to 89.9%.¹⁶ The latest Graduate Labour Market Statistics found that more graduates are in work this year than at any time since 2007 and that graduates earn almost £10,000 a year more than people without degrees.¹⁷
10. It therefore does not appear that there is a widespread problem with poor teaching. Of course, good universities will always want to do better. It would therefore be helpful if TEF were constructed in a way that incentivises universities to continually improve their teaching and facilitates open sharing of good practice.

Principles for the TEF

11. University Alliance suggests the following principles for the development of a TEF:
12. Audience. Clarity about audience from an early stage is critical as this will affect the design of the framework. In the first instance there are two primary audiences: Government for the purposes of setting fee / loan limits; and students in order to improve information and comparability between institutions. A number of secondary audiences should also be considered as they will have a significant impact on engagement with the TEF including: league table compilers, international stakeholders and employers.
13. Diversity. The framework must recognise that the UK HE system is diverse and not penalise particular courses or modes of learning. For example, teaching on a small conservatoire course in Creative Arts is fundamentally different from teaching on a Business course at a large metropolitan university. Teaching will also vary significantly for students who study via alternative routes, such as part time or distance learning. Measures of teaching excellence should therefore use university institutional benchmarks which employ a wide range of metrics to

¹⁶ See <https://www.hesa.ac.uk/unistats-dataset>

¹⁷ Department for Business, Innovation and Skills (2015), *Graduate labour market statistics: January to March 2015*, available from: <https://www.gov.uk/government/statistics/graduate-labour-market-statistics-january-to-march-2015>

ensure diversity is appropriately reflected – in the same way HEFCE use performance indicators such as underrepresented groups in HE data.

14. **Autonomy.** TEF must respect university autonomy, while balancing expectations and responsibilities that come from being a provider in a higher education system supported by public money.
15. **Innovation.** TEF must incentivise rather than discourage innovation in teaching. It should not be mechanistic with tight criteria that might push institutions towards a “vanilla” method of teaching.
16. **Iterative.** Given the timescales and the challenge of developing the TEF, it should be an iterative process – possibly introduced in several phases as measures are developed and pilots are run and evaluated. In the early phases, TEF should use existing measures but in later phases it could incorporate new and better ways of measuring teaching excellence once they become available. In all phases, it should allow for data to be contextualised.
17. **Robust.** The limitations of data metrics are well recognised. While the sector already collates a significant amount of data, for example, on student satisfaction, completion and employment, there are known drawbacks especially if any one measure is over-used to form judgements. For example, data gathered over the last two academic years from HESA returns on teaching qualifications has recently been published. However the lack of sufficient data (40% of all UK universities relevant staff qualifications ‘unknown’ in 2013-14) means that the quality and utility of the data is unreliable¹⁸. The importance of ensuring data that is robust and difficult to game will be especially important given the proposal to link TEF outcomes to fee levels and the propensity of the sector media to create league tables.
18. **Value added.** Developing an adequate measure of value added should be a priority - otherwise the TEF will run the risk of dis-incentivising the recruitment of students from disadvantaged backgrounds. In the longer term, TEF offers an opportunity to measure cognitive skills pre-entry and post-graduation, to provide a wealth of information on the value added (learning gain) being instilled by

¹⁸ Higher Education Funding Council for England (2015), *2013-14 Teaching qualifications of staff in higher education institutions*, available from:
http://www.hefce.ac.uk/media/HEFCE,2014/Content/Learning,and,teaching/Wider,information/Academic_teaching_qualifications_statement_July_15.pdf

universities. Input and output measures such as entry grade and graduate salary should be understood in context. This is an important step to recognising the role universities play in social mobility. That said, we recognise the current difficulties of finding appropriate input and output measures. For example, the concerns about DHLE have been well publicised. HESA's review of DLHE¹⁹ should support TEF to look beyond the DLHE and the 6 month period as a metric for graduate success. Once available, the TEF should explore whether data from HMRC could be used - the Small Business, Enterprise and Employment Bill passed towards the end of the last Parliament makes it possible to link graduates' income tax records with their background as students. Alongside this we are highly supportive of HEFCE's learning gain pilots trialling new ways of measuring value added and skills gain²⁰. In the shorter term institutions could be asked to provide information about added value through written supportive statements to sit alongside metrics.

19. Employers. Excellent teaching must prepare students for the world of work, meaning the involvement of employers views in the development and implementation of TEF is essential. Employers already have a significant role in many universities, for example advising on curriculum content, providing student placements and sponsoring degrees.
20. Whole system approach. TEF must complement the new quality assessment system and any official body empowered to implement TEF must have sufficient independence from Government and the HE sector.
21. Metrics. There is a significant volume of progression, retention and achievement data available through universities' HESA returns which could be used as part of TEF; for example, the Key Information Set (KIS), which includes NSS, DLHE, and contact hours, class size and dropout rates. Other information available includes outcomes from QAA reviews, OIA cases, External Examiner reports and data gathered as part of HEFCE's annual monitoring. TEF should also consider using measures – like accreditation by professional bodies – which indicate that employers have been involved in course development. Proposed new NSS questions are going to encourage universities to measure elements of student

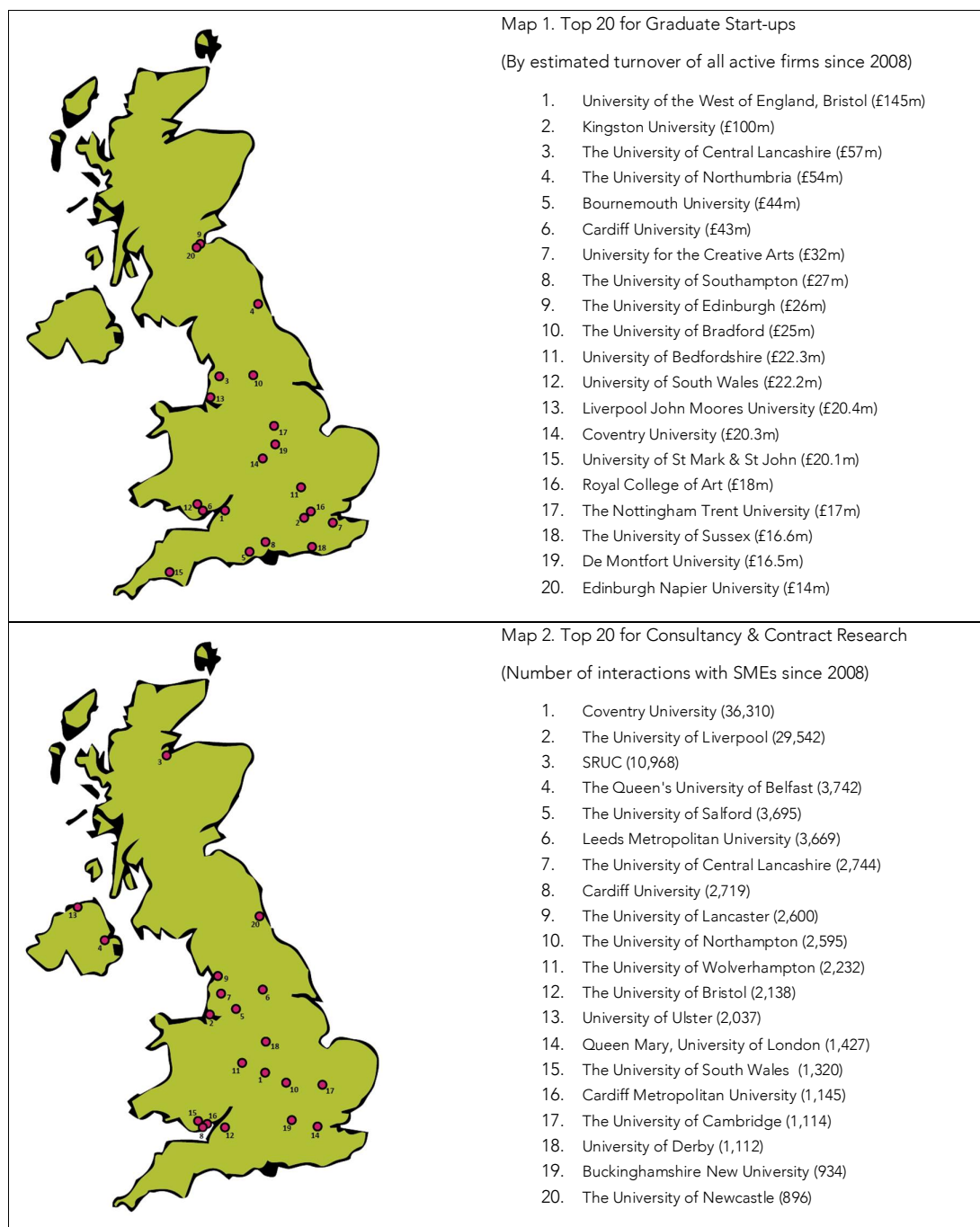
¹⁹ See <https://www.hesa.ac.uk/hesa-latest-news/278-hesa-news/frontpage-items/1895->

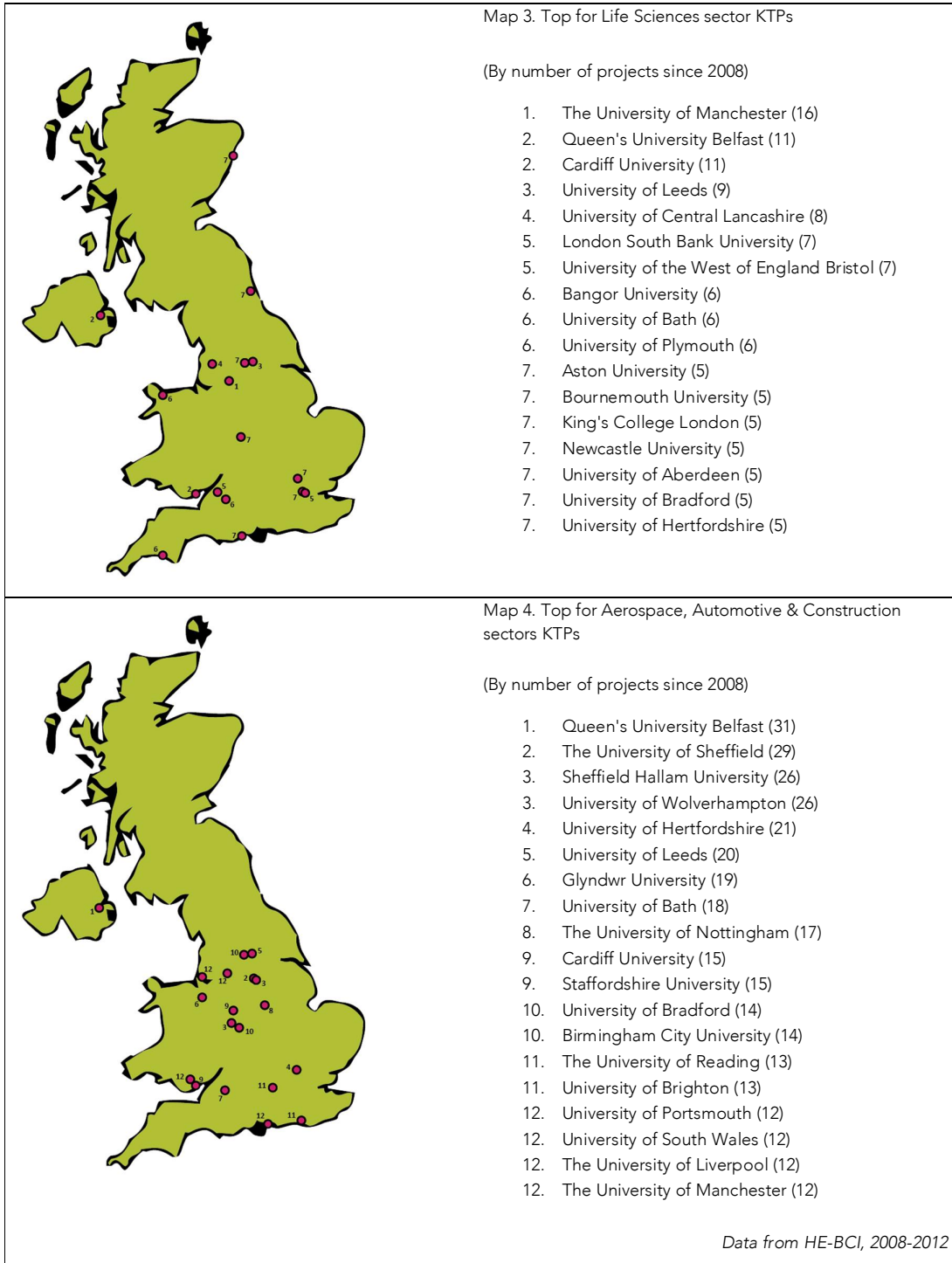
²⁰ See <http://www.hefce.ac.uk/lt/lg/>

- engagement with learning. TEF should encourage universities to use the findings from these questions to enhance their teaching.
22. Department level focus. Excellence in teaching sits at the departmental level, so must be measured at that level, but there needs to be a way of aggregating the finding to a university score.
 23. Context. There is no easy way to measure teaching excellence. In order for the TEF to be robust and trusted it will be important for a range of benchmarked metrics to sit alongside qualitative information such as supportive statements written by universities. We can learn lessons from the development of the Research Excellence Framework (REF). An environment statement would enable universities to provide an overview of their individual strategy incorporating things like innovative practices. Over time an impact statement could also be developed drawing on testimony from employers that universities work with and even reflections from graduates several years after graduation (so that they can reflect on the link between what they learned and the development of their career).
 24. Peer review will provide important context, including the use of student reviewers. Any concerns about the cost of this should bear in mind the planned reductions in burden following conclusion of the current review of quality assessment.
 25. Broader perspective. Data used as part of TEF should be reviewed over a significant period of time, not just a single academic year. This will allow patterns to be identified and universities to reflect on abnormalities in the data. Weighting the use of data over different periods of time could be an effective way of implementing this, taking the view that the most recent year's data is the most relevant.
 26. Outcomes. There may be potential for multiple outcomes of TEF, for example a 'performing' or successful outcome could come in a number of levels, allowing differentiation of universities and giving them the opportunity to reflect on their score and plan ahead.

Annex B: HE-BCI analysis

The contributions of universities to business productivity come through various knowledge exchange activities, not just the direct commercialisation of research.





Annex C: Universities and the skills ecosystem

Many universities, including all in University Alliance, work closely with 14-19 education providers (schools, FE colleges and UTCs) to form an effective skills ecosystem. For example:

- a) The University of Hertfordshire works in collaboration with four local consortium colleges and other HE, enterprise and local authority partners to ensure that students in the local area have the best possible access to widening participation activities. The University set up Watford UTC which has a special focus on the technical skills, trades and technologies that support the computer and digital communication industries, hospitality and tourism. The University's involvement ensures the education on offer is relevant to industry, thereby giving students the best possible opportunity to secure employment after finishing. To date, more than 15,000 graduates of the University began their post-school education in the consortia colleges.
- b) The University of Lincoln sponsors the Lincoln UTC and one secondary and one primary academy school in Holbeach. The University Academy Holbeach (secondary) is unique as it not only offers sixth form provision, but also a range of apprenticeship training. The HE participation rate in South Holland is one of the lowest in the country at 7% and since the University has sponsored the Academy, the size of the sixth form has increased from 9 to 275 and the numbers of students progressing to university has increased from 1 to 24. There are now over 80 students in apprenticeship training. The Lincoln UTC is also sponsored by Siemens and is designed to help address the shortage of engineering and other higher level skills in Lincoln and beyond.
- c) Portsmouth University is engaged in extensive outreach and aspiration raising programmes – an incremental and increasingly intensive progression package from year 5 to year 13 which systematically develops an interest in higher study. Through this programme the university works actively with staff and pupils at schools and colleges across the region, raising expectations and providing practical support, including subject conferences and masterclasses, aimed at improving educational outcomes at 16 and 18 and making Higher Education a viable opportunity for more local children. The university also runs a number of franchised courses in collaboration with local FE colleges, including courses in business, education and engineering.

Alliance universities and similar institutions also have a strong record of collaborating with industry in the design of qualifications. Examples are:

- a) In partnership with BMW, who have a regional base in Oxford, Oxford Brookes University offer foundation degrees in Electronic Engineering and Mechanical Engineering. With significant input from BMW they have developed a practice-embedded curriculum as part of BMW's apprenticeship scheme. Aspects of the course are delivered with local college partners and the course is accredited by the Institute of Mechanical Engineers and the Institute of Engineering and Technology. Oxford Brookes University also supports their local University Technical College (UTC) in Swindon, which has over 90 local and national business partners. The UTC is developing a curriculum driven by these businesses needs, with involvement from the Institute of Engineering and Technology and their Local Enterprise Partnership. Oxford Brookes University are launching a mechanical Engineering Foundation Degree and Top degree at Swindon College as a clear progression route from the University Technical College.
- b) Plymouth University has worked on a Higher Apprenticeship in Construction with South Devon College which is approved by the Sector Skills Council for the construction industry (CITB-Construction Skills) and is endorsed by some large employers such as Seddon Group and Lovell Partnership as well as the Federation of Master Builders. This Higher Apprenticeship includes a Plymouth University Foundation Degree, which means that students gain an academic qualification whilst also gaining practical experience.
- c) Coventry University set up Coventry University College (CUC) in 2012 in response to concerns that higher fees might deter non-traditional students from applying to higher study. The curriculum has been designed to provide qualifications from Foundation Level to Degree with each stage resulting in an award (Foundation Cert, HNC, HND or Honours Degree). This enables students to join and leave the College at a variety of points and to manage the pace of their learning and their ability to earn money for subsistence and further study. The majority of courses have been designed around professional body qualifications thus providing a complementary mix of employability skills and academic knowledge. CUC provides a high level of personal and academic support which has enabled it to accept students with lower entry qualifications, on a staged entry programme whilst not sacrificing levels of student retention or success. Recruitment has exceeded expectations with full time numbers ahead of target by 50% in the first

year. Currently over 300 students study for their degrees on a part time basis. Whilst many Foundation Level (Year 0) students elect to continue with CUC, 40% progressed to degree programmes at Coventry University and a further 40% received offers from other Universities. It is unlikely that these students, having only gained low entry points aged 18, would have been able to continue with their higher education had they not attended CUC.

- d) Through the Higher Level Apprenticeship model, Manchester Metropolitan University has offered a long-distance work-based learning route for chemical scientists since 2012. Trainee scientists gain a foundation degree at the end of three years while developing specialist and generic skills of work in the chemical related industries. Partnerships between MMU and industry include work with pharmaceutical giant GlaxoSmithKline. Students undertake work-based learning and complete their academic learning online with a residential week at MMU in each of the three years of study. The success of the scheme is the strong working relationship between staff in industry and Higher Education and the support in development and recruitment by Cogent, the Sector Skills Council for the chemical, pharmaceutical, nuclear, life science, petroleum and polymer industries.