Efficiency, effectiveness and value for money
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Executive summary

Performance of UK higher education

UK universities are significant economic actors. The sector:

• contributes at least £73 billion a year to the national economy
• is responsible for over £10 billion in export earnings
• supports more than 700,000 jobs across the UK
• generates more gross domestic product (GDP) per unit of resource than health, public administration and construction
• creates 117 jobs in the wider economy for every 100 people employed directly in universities

Our economic and societal impact is grounded in providing world-class education; in excellence and diversity in research and innovation; in supporting the needs of business and industry; and in our global reputation for quality higher education.

The sector is moving towards a ten-year track record of delivering efficiencies. Universities have consistently met efficiency targets that had been set in successive Comprehensive Spending Reviews (£1.38 billion of efficiencies were reported against a cumulative target of £1.23 billion) and have made over £1 billion in efficiency and cost savings over the last three years.

Drivers for efficiency and value for money are about more than just austerity. Universities across the UK are responding to a more competitive environment, with the needs of a diverse student community paramount. There is an imperative to invest in facilities in a more restrained public funding environment, and to ensure a world class workforce is available to serve the needs of learners and to deliver excellent research. These factors mean that universities have had to work hard to continue delivering value for money.

Key messages from the evidence base

Pay and reward

A world-leading higher education system is dependent on attracting and retaining world-leading staff. Academic professionals are among the most internationally mobile of all workforce communities, with leading teaching and research staff frequently moving between institutions and private sector companies, across national borders, when more attractive opportunities arise. It is important to recognise that the pay and reward packages found within UK universities are subject to such market forces, and as such must be competitive to ensure continued excellence.

UK universities have maintained control over pay costs. Pay growth in the period 2004 to 2009 was as a result of specific, targeted interventions to address low pay, as rightly identified by both the Dearing and Bett reviews. Since 2009, the sector has recognised the imperatives of the fiscal environment and maintained below-inflation increases to the pay spine; overall staff costs have continued on a downward trend as
a proportion of income (and now stand at 55.2%); and pay growth of higher education professionals (at 5.5%) over the period has been lower than in either the public (6.8%) or private (6.6%) sectors.

**Automatic incremental pay is not prevalent across the higher education sector.** Analysis shows that median workforce eligibility for service-related pay progression is 36%. The perception that there is no performance management or contribution-related evaluation of pay and reward is also misplaced. For example, 50 institutions are part of the Performance for All project and a majority of institutions include a contribution-related element to reward packages.

**Since 2001–02, the ratios on measures of chief executive pay to recognised benchmarks have been relatively stable.** Over the last decade, ratios to the lowest pay spine point (between 14.9 to 16.5) and median teaching professional full-time earnings (from 5.7 to 6.4) have been relatively stable.

**The higher education estate**

The last decade witnessed a substantial public investment in the higher education estate, which in turn has delivered significant returns. Overall, the quality, condition and suitability of university infrastructure have all improved. The percentage of space rated in the top two categories of building condition has increased by over 19 percentage points (to 78%), and the percentage of space rated as ‘excellent’ and ‘good’ with regards to functional suitability is now 85% – an increase of nearly 22 percentage points.

**Trends in space use in universities demonstrate significant efficiencies.** Analysis of data from the last decade shows that:

- Total net non-residential space per FTE student is down by over 8%.
- Teaching space per student FTE is down by nearly 17%.
- Academic office per academic staff FTE is down by 0.5%.
- Support office space per support staff FTE is down by nearly 11%.

Analysis commissioned by AUDE and UUK estimates that over the last 10 years, efficiency gains from better use of space total £886 million.

**Total income related to the estate size increased substantially over the last decade.** In real terms, income per student and member of staff went up by over 21% over the last decade, and income per square metre increased by over 34% over the same period. This indicates a more efficient and effective use of space over the period.

**The efforts of estate management teams to improve energy efficiency have reduced the sector’s carbon footprint.** Without improvements to energy efficiency and space use, nearly 1.2 billion kg of additional carbon dioxide equivalent emissions would have been released.

**Efficiency and sustainability in the research base**

Science and research is vital to the UK economy and ongoing support is needed to support growth. Maintaining the science ring-fence in cash terms alone will – by the end of 2015 – mean that science and research has experienced a real-terms cut of around £600 million. This has only been mitigated in part by efficiencies delivered through research funding mechanisms.
The research community is on track to meet the overarching target of £428 million in total savings, with a cumulative £283 million so far delivered against a target of £251 million (to 2013–14). Universities have delivered £194 million of savings against a cumulative target of £187 million on research council awards; a further £133 million of efficiency savings are scheduled to be delivered in 2014–15.

The efficiency measures stimulated by the Wakeham report have succeeded in lowering average indirect cost rates charged to the research councils and for other research. However, institutions are recovering a lower proportion of the total cost of research. This is likely to impact negatively on long-term sustainability.

Asset sharing

There has been a groundswell of cooperation and collaboration across the sector. As equipment has become more expensive and financial challenges have needed to be accommodated, more innovative approaches have been taken – both within and between universities. This has, in part, been stimulated by the need to reduce costs brought about by the Wakeham review and has more recently been reinforced by recognition in the government’s science and innovation strategy.

Well managed, strategic asset sharing arrangements can produce a range of significant benefits beyond efficiencies. The sharing of assets can lead to better science, by providing access to higher specification equipment than would otherwise be affordable for individual teams. Furthermore, sharing can bring together different research disciplines, which can enable new and multi-disciplinary scientific and technical advances, and improves the training and skills-sets of students, researchers and technicians. These benefits are in addition to savings from shared investment and running costs.

It is important that sharing is not seen as a panacea, and significant barriers remain. Establishing effective sharing mechanisms can involve substantial transaction costs before operational efficiencies can be realised, which means that there is currently only a strong business case for the sharing of very high-cost equipment items. Increased operational costs include spending on consumables, maintenance, travel, training and technical support, plus an additional VAT charge on sharing if the appropriate arrangements are not put in place.

Creating value from data

Throughout higher education, data already plays a vital role in institutional management and for underpinning public accountability. Universities are supported in this by the Higher Education Statistics Agency, which operates as a shared service for the sector to collect and disseminate data about higher education, fulfilling the requirements of a range of stakeholders.

Open data is already having a significant impact in areas of the public sector and in public policy, identifying where significant cost savings may exist and raising strategic issues for policy makers. There is a widespread commitment in the sector to shared data collection and dissemination of data. However, there is a need to consider whether more sector-produced data held by third parties and sector agencies should be made open.

The academic community, research funders, sector stakeholders and government are making progress in the field of open research data. There are significant barriers to overcome in making research data open; however, the sector is taking the lead on addressing these.
Shared services, infrastructure and procurement

Adoption of the VAT cost sharing exemption by government in 2012 has helped to stimulate a number of new cost-sharing groups. UK higher education is now home to the largest cost sharing group (CSG) in the UK – Jisc. However, proposed CSGs have met with varying degrees of support from government agencies.

There are important examples of shared infrastructure that ensures that universities have access to the very best technology, and helps reduce costs. Janet, the UK’s national research and education network, provides a vital part of the infrastructure that supports collaboration between UK institutions, and with overseas institutions. This is one of the most powerful academic networks in the world, and one of the fastest networks in the UK. It is provided as a shared service to UK institutions.

There have been positive developments in procurement since 2011. Procurement Maturity Assessments have been rolled out across England, with over 90 institutions taking part in the programme. This has demonstrated (a) examples of best practice across the sector, in every category of assessment, and (b) an upward trend in performance among all institutions to have been through at least one complete PMA cycle. This mirrors trends in Scotland, where all universities participate in a similar exercise.

The annual Efficiency Measurement Model survey (reinstated by HEFCE) has shown that procurement efficiencies totalled £153 million in 2013-14, up from £132 million in 2011–12. Analysis has also estimated the level of collaborative procurement in England to be 25.7% of relevant non-pay spend (in 2013–14); the value of collaborative spend identified through this exercise has increased from a little over £1 billion in 2010–11 to more than £1.6 billion in 2013–14.

A number of mechanisms support universities to monitor their performance with regard to costs, efficiency and sustainability. Value-for-money reports are produced voluntarily by universities for their own internal management processes, and many are submitted to funding bodies. This provides valuable evidence of the scale and scope of work to deliver savings. The Transparent Approach to Costing (TRAC) mechanism provides a shared, sector-owned framework for understanding costs and for assessing sustainability at the sector level, while university governing bodies also play an important role in providing oversight of institutional sustainability.

The Efficiency Exchange has been established as a sector-owned resource for sharing good practice on efficiency and value for money in higher education. A growing network of partners contribute to and syndicate the exchange’s regular output of news, updates, thought leadership blogs, tools and examples of case studies for the benefit of sector professionals seeking practical guidance and inspiration.

See www.efficiencyexchange.ac.uk/resources/efficiency-report-2015 for further resources
The sector is adapting to a more competitive environment, and we must recognise and master the complexity of this turbulent landscape if both success and sustainability are to be achieved.

Foreword

UK higher education is a national success story. We enjoy a global reputation for excellence in teaching and research, and our universities continue to be in the vanguard for advancing individuals and wider society, helping to solve the many problems facing people across the globe today. In addition we are seen globally as an efficient sector; one which uses every pound wisely.

However, the challenge of ensuring that we maintain this standing should not be underestimated. Many nations are investing in higher education, seeing that the higher level skills of graduates and the social and economic benefits of research are central to an advanced 21st century society. Internationally, higher education is becoming ever more competitive and UK higher education must work tirelessly to maintain our international standing and to become both financially and environmentally sustainable.

In this context, delivering efficiency and value for money is an absolute operational priority. All stakeholders rightly expect efficient use of resources and in the current financially austere times investment to maintain excellence in both education and research will often come through such efficiencies. Thus, to meet the demands of competitiveness in the 21st century, universities must work in ever smarter and more innovative ways.

This report builds on the work of the 2011 UUK Efficiency Task Group and, four years on, develops a new agenda for efficiency, effectiveness and value for money in higher education. It highlights the fantastic work that the dedicated professionals in all parts of the higher education workforce have delivered and describes the great efforts that have been made in recent years to scale the twin peaks of efficiency and effectiveness. However, we need to do more. We must continue to demonstrate our commitment to making every pound count. We need to make a clear case: every pound invested in higher education is a sound investment, both now and in the future.

To do so, we need to set out a clear programme of work, and be able to evidence our progress. This report – which has been made possible thanks to the efforts of a huge number of colleagues from all parts of the sector, working in all parts of our universities – sets this agenda. It aims to provide a focal point for all our efforts in the coming years, as we strive to ensure that UK higher education continues to be recognised the world over as the home for both excellence and efficiency.

Professor Sir Ian Diamond
Principal and Vice-Chancellor, University of Aberdeen
Chair, UUK Efficiency Task Group
Introduction

Later this year, spending decisions that have the potential to significantly impact on the higher education and research funding environment will be made, and be made in the most challenging of circumstances.

There will be intense pressure on all aspects of government spending, and the higher education sector must be in a position to demonstrate its value and importance to the prosperity of the UK – and a continued commitment to delivering efficiency and value for money. A robust case needs to be made in favour of the enhancements seen over the last decade, and a clear agenda that sets the future direction of travel. Only by making this case can the higher education sector make a compelling argument for continued investment.

It is also important that the university sector is able to demonstrate how changes to the operating environment over the last decade have ensured a continued focus on efficiency, value for money and investment. Austerity is not the only reason that universities strive to be efficient; a complex range of factors already drive behaviour and ensure that universities focus on efficiency as a fundamental operational priority to support their core activities of teaching, research and knowledge exchange. This applies to all types of institution, in all parts of the UK.

This report represents the culmination of Universities UK’s efforts to help make this case. Across eight thematic chapters, it sets out:

• the critical role UK higher education plays in the economy and wider society
• enhancements to efficiency and effectiveness in key strategic areas over the last decade
• high-level commitments that the sector will embrace over the next five years to ensure a continued focus on efficiency
• recommendations for further action that will help to incentivise and stimulate change

Established in November 2013, the programme has been guided by a high-level panel of senior university leaders, sector stakeholders and experts from a wide range of higher education professional bodies. Over 100 individuals representing universities, professional bodies, funders, government and experts from a range of fields have engaged with the programme and helped to develop the evidence base on which it rests; and a number of thematic workshops with experts helped to orientate the findings and to critique and challenge the commitments and recommendations.

It is important that all of those working in higher education continue to show this same level of engagement and enthusiasm for delivering efficiency, effectiveness and value for money, so that universities in the UK are able to continue doing what they do best: delivering excellence and opportunity for all in teaching, research and knowledge exchange.
UK higher education: ‘among the most important, the most exciting and the most proud of our national assets’
A national success story: the impact, performance and reputation of UK higher education

The impact of UK higher education

Universities matter. They play a critical role in the UK, providing the education, training and research that underpins economic growth, provides societal benefits, enriches lives and helps to address the many serious challenges facing society today.

In purely economic terms, UK higher education is a major player. With annual expenditure of £27.9 billion, the sector generates £73 billion a year for the national economy, is responsible for over £10 billion in export earnings and supports more than 700,000 jobs. Our universities create more gross domestic product (GDP) per unit of resource than health, public administration and construction; and for every 100 full-time jobs in our universities, another 117 are created in other parts of the economy.1

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1 Rt. Hon. Greg Clark, Minister for Universities, Science and Cities, Speech given at the annual gathering of university leaders at the Universities UK ‘Strength in Diversity’ conference, 9 September 2014
2 UUK (2014) The impact of universities on the UK economy, pp.4–5
This huge impact is grounded in four key roles universities fulfil:

- **Providing world-class education:** Universities educate more than 2.5 million students, from diverse backgrounds. For them, the economic returns of higher education continue to be very high and graduates continue to experience better life outcomes in terms of health and welfare. And our students recognise the quality of their education. Over the last decade, overall student satisfaction has continued to increase – from a little over 80% in 2005 to 86% in 2014 (see Figure 2). There is also a link between the increase in enrolment rates in UK higher education and economic growth, and 20% of GDP growth in the UK (between 1982 and 2005) can be attributed to the accumulation of graduate skills. For every 1% increase of graduates in the share of the workforce, the level of productivity is raised between 0.2 and 0.5%.

- **Excellence and diversity in research and innovation:** The UK has one of the very best research bases in the world, and this is founded on the excellence of the research in all our universities. UK higher education is unrivalled for its broad-based excellence. The recent outcomes from the Research Excellence Framework 2014 exercise found 76% of research submitted to be of world-leading or international quality and that excellent research was to be found throughout our universities. In addition, the REF was able to demonstrate, for the first time, the enormous impact that research is having on all aspects of society and the economy. Research has consistently demonstrated the far-reaching impact that investment in science has on society.

- **Supporting the needs of business and industry:** Universities support research and development in the private sector, supply highly skilled graduates, provide technical support to businesses of all sizes, and develop the skills of the workforce. The latest Higher Education – Business and Community Interaction survey showed that in 2012–13 universities’ contribution to the economy through services to business and the community (as measured by their knowledge exchange income) was worth over £3.5 billion.

- **Underpinning a global reputation for high quality education:** UK higher education is world-renowned, and this is evidenced in part by the popularity of the sector among international students. More than 425,000 international students were enrolled in UK higher education institutions 2012–13, while a recent exercise by *Times Higher Education* found that the UK is home to the second highest concentration of universities that rank in the top 100 worldwide (after the United States).
Universities therefore play a critical role in the UK, bringing myriad benefits to society as a whole, and have a global reputation for excellence that makes them a strategic asset to the country.\(^\text{13}\)

**The challenge facing universities**

A major benefit of UK higher education is the sector’s autonomy. Universities must make decisions about their strategic focus and operational effectiveness every day. In the extremely competitive national and international market – in terms of both teaching and research – it is imperative that universities are agile, responsive and efficient. Without this focus, it would be impossible to deliver the excellent outcomes reported above.

**What drives efficiency in universities?**

The drivers for universities making efficiency both a strategic and operational priority are – unarguably – about more than simply responding to austerity and the public funding environment, important as this may be. Universities across the UK are managing the emergence of a more competitive environment, and a constrained fiscal environment\(^\text{14}\), by acknowledging the need to continue to make strategic investments in people and in infrastructure. Among these investments are:

- **Outreach activities and student support:** Universities in England estimate that they will spend £673 million on improving access to higher education in 2014–15 – or 27% of fee income.

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\(^{14}\) On economic and funding challenges, see UUK (2013) The funding challenge for universities. On investment priorities for universities, see UUK (2013) Where student fees go. For recent discussion on wider trends, see for example ‘Vice-chancellors tackle rising bills and overseas competition’ Financial Times, 27 January 2015, p.3
HEFCE has estimated that efficiencies totalling more than £1 billion have been delivered between 2011 and 2014.

- **Investment in teaching and learning:** Increased tuition fees in England have led to new demands from students, with universities needing to ensure that their learning offer is competitive and that there are top class support services and infrastructure. Elsewhere in the UK, there are increasing pressures to improve the educational experience of all students.

- **New facilities and capital investment:** There has been a significant cut to public investment in capital infrastructure, and so universities have had to respond by funding, through loans and surpluses, the investment needed to remain competitive.

**Regulation**

The sector is subject to a range of compliance requirements. As well as requirements from HEFCE and the QAA, and those placed on the Higher Education Statistics Agency to collect data, there are those set by accreditation, professional and statutory regulatory bodies that are independent of the sector. On top of this are also the significant costs associated with immigration compliance and freedom of information. While there is no authoritative evidence on the total costs of regulation there is little doubt that costs have increased at a time of little or no real increase in income. It should be noted though that commitments to reduce regulatory burden have seen qualified success.

The recent Universities UK report on regulation calls for significant reform of the regulatory landscape to meet the challenges of a changing sector. In taking this forward regulation must not stifle the responsiveness and competitiveness demonstrated by the sector. It will also be important that the costs associated with regulation are fully understood and reduced. Lightening the regulatory burden can be achieved through targeting interventions effectively, and only where absolutely necessary, in a risk based way.

**A decade of success: meeting the efficiency challenge**

In 2013, a report to the Department for Business, Innovation and Skills (BIS) showed that the UK higher education sector had made significant progress in delivering efficiency and cost savings. This report demonstrated efficiencies in both operational and academic areas over a sustained period of time, concluding that “the sector is moving towards a ten-year track record of delivering efficiencies.”

English universities consistently met efficiency targets that had been set in successive Comprehensive Spending Reviews. In total, £1.38 billion of efficiencies were reported against a cumulative target of £1.23 billion, and in the last three years for which data are available (2011–12 to 2013–14) HEFCE has estimated that efficiencies totalling more than £1 billion have been delivered. Universities in Scotland, Wales and Northern Ireland have also had to manage challenging efficiency targets and funding settlements over a similar period and have placed a similar emphasis on efficiency.

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15 UUK (2015) *Quality, equity, sustainability: the future of higher education regulation*
16 For example, an inventory of higher education collections carried out as part of the Higher Education Data and Information Improvement Programme – HEDIIP – found over 500 different statutory, regulatory and professional data collections. See [http://www.hediip.ac.uk/inventory-of-he-data-collections/](http://www.hediip.ac.uk/inventory-of-he-data-collections/) for further details.
17 Analysis of the costs of regulatory compliance for Tier 4 visas alone was estimated to be at least £66.8m in 2012–13. See also UUK (2011) *Efficiency and effectiveness in higher education: A report by the UUK efficiency and modernisation task group*, p.66
18 See UUK (2015) *Quality, equity, sustainability: the future of higher education regulation*
20 UUK (2011) *Efficiency and effectiveness*, p.16
21 Analysis of institutional value for money reports, courtesy of HEFCE
22 See for example Universities Scotland (2011) *Working smarter: The next level for university efficiencies*
These achievements have only occurred through universities driving behavioural and attitudinal change, with efficiency and value for money becoming core operational priorities. That these efficiencies have been achieved while delivering world-class teaching, learning and research, overseeing a continuous rise in student satisfaction and maintaining high demand for places is a clear indicator of the effectiveness of universities.

The performance of UK higher education is highly regarded on the international stage. Studies by the European Commission have argued that UK universities are a ‘top performer’ in using resources effectively to deliver excellent outcomes in both teaching and research.23 Autonomy and funding mechanisms which both promote competition and reward excellence have been identified as important factors underpinning this success.

The need to sustain capital investment

The organisational agility needed for institutions to thrive in the new funding environment requires decision making based on maintaining excellence but at the same time controlling cost and maximising efficiency - and on high levels of engagement with students. Students are, rightly, increasingly seen as partners in institutional decision making, and being responsive to their needs across many core areas of university activity is a priority for institutions.24 Two reports by UUK have set out the ways in which universities have invested income from increased tuition fees, for example to deliver excellence in education and research and in enhancing the student experience.25

Since 2010, universities have experienced a reduction in public funding. While the introduction of higher tuition fees (in England) has led to an injection of resource for teaching (which helped to mitigate a long-term deficit), data from HEFCE demonstrates that there are still significant shortfalls in research,26 and there were significant cuts to capital funding over the same period. This came about as a consequence of the public funding environment at the beginning of the decade.

The cuts in capital funding, coupled with the need to invest in infrastructure to remain competitive, has led universities to generate greater surpluses in order to fund investment. Figure 3 shows actual and forecast changes to funding council capital funding over the period 2000–2017 overlaid with the average surplus delivered by institutions in England. As can be seen immediately, the rise in the surplus, often generated by efficiencies, anticipated the extremely challenging fiscal environment that lay ahead, and was part of an informed and appropriate response developed across the sector.

24 For example, the work of The Student Engagement Partnership group and the work on student charters led by Professor Janet Beer and Aaron Porter. See pp. 30-32 for more details.
25 UUK (2010) Making it count; how universities are using income from variable fees, and UUK (2013) Where student fees go
26 Analysis of TRAC data, courtesy of HEFCE. See Chapter 4 for further details.
However, as one can see from Figure 3, questions may be asked over the long-term sustainability of such an approach; the size of the surplus as a proportion of income has fallen since 2010, and is predicted to continue on this path until at least 2015-16. Uncertainty in the political and funding environment, plus further forecast reductions to funding council capital grants, mean that the funding and investment environment will continue to be challenging for universities. The science capital investment of £1.1 billion per year 2015–2020 (real terms) announced alongside the Science and Innovation Strategy is to be welcomed. However, there is currently a great deal of uncertainty with regards to the allocation and distribution of this funding, while questions remain around the future of public funding of non-research facilities that are essential to enhancing the student experience.

UK higher education has, during this period, been excellent in maintaining financial sustainability. Figure 4 shows that overall investment in capital remained relatively stable over the period 2010–2013, with significant increases forecast in subsequent years.
Importantly, this level of investment – which remains absolutely critical to ensuring universities are at the very forefront of teaching, learning and research, and for maintaining the quality and suitability of the higher education estate\(^\text{27}\) – has been possible only through investment from internal reserves and through borrowing on the commercial markets. From a base level of £274 million in 2009–10, funding from internal reserves looks set to reach £2.5 billion this year (2014–15), with overall investment forecast to exceed £4.4 billion in the current year.

Across the UK, similar pressures have impacted on universities. In Scotland, Wales and Northern Ireland, challenging spending settlements and competitive pressures have placed a similar emphasis on the need to invest in a high quality university estate.

\(^{27}\) See Chapter 3 for further details.
These investments have only been possible through a more rigorous and strategic focus on managing costs, allied with the development of new and more diverse funding streams. The trends in workforce costs set out in the next chapter – with overall staff costs falling as a proportion of income – and, for example, the more efficient use of the estate set out in Chapter 3, are but two examples of the ways that universities have managed overall costs. They are testament to the difficult decisions university leaders have made in order to prioritise ongoing investment.28 Similarly, other evidence in Chapter 3 suggests that universities are increasing the value delivered from activities outside of teaching and research; the last decade saw an increase in the value of ‘other’ income (per square metre) by 87%.29 This demonstrates both a greater degree of commercial activity, and a more intensive use of space to generate income that supports core activities. Finally, analysis undertaken by UUK has shown that the proportion of UK higher education institutions’ income from public sources fell below 50% in 2011–12 for the first time.30

As autonomous institutions operating in an increasingly competitive market, universities must ensure that they are able to invest in the facilities, capital and human resources to provide a world-class higher education environment. The drivers for greater efficiency outlined here, allied to the need to continue investing in the university estate and infrastructure in the face of cuts to public funding, informed the development of a resilient financial strategy. A cornerstone of this new approach has been to deliver sustainable margins for reinvestment; margins that have enabled university leaders to make strategic investments, and to exploit favourable lending rates from commercial financial markets.

About the following chapters

The remainder of this report sets out the narrative, arguments and future commitments identified by the oversight panel in a number of important areas. The focus of the report was agreed through dialogue between UUK, BIS and the oversight panel, and chapters follow on:

• Excellence, reward and the higher education workforce
• Delivering value from the higher education estate
• A world class and sustainable research base
• Harnessing the benefits of asset sharing
• Creating value from higher education data
• Shared services, infrastructure and the role of procurement
• Evidencing efficiency and sharing good practice

28 On the range of approaches employed by universities to deliver efficiency and cost savings, see UUK (2011) Efficiency and effectiveness and HEFCE (2014) Analysis of value for money annual reports submitted to HEFCE by English higher education institutions, especially pp.8–9.
29 Unpublished analysis of EMS data, courtesy of Kilner Planning and London Economics. For a discussion, see http://www.efficiencyexchange.ac.uk/5701/the-higher-education-estate-delivering-increased-value-for-money/
30 UUK (2014) The impact of universities on the UK economy, p.9
In each of these thematic areas, evidence and expertise has been sought from as wide a community as possible, with the process led by experts in the field. Working groups developed the evidence base for chapters on the higher education workforce (chaired by UCEA and UHR, Chapter 2); estates (led by AUDE and supported by BUFDG and HEFCE, Chapter 3), efficiency and the research base (including HEFCE, RCUK and BIS, Chapter 4), asset sharing (led by the N8 Research Partnership, Chapter 5) and open data (as part of a joint UUK-ODI programme, Chapter 6). Evidence relating to procurement has been garnered through Procurement UK (chaired by Professor Nick Petford, Vice-Chancellor of the University of Northampton), on shared services by HEFCE (both in Chapter 7), and work on evidencing efficiency (Chapter 8) has been led by HEFCE. The narrative, conclusions and recommendations set out in this report are, however, the sole responsibility of UUK.

For more information on the development process, evidence base, working groups and engagement and consultation activities, please go to:
www.efficiencyexchange.ac.uk/resources/efficiency-report-2015

Each section begins with a small number of high-level commitments, which (as a sector) universities should work towards. These commitments provide a framework for the future development of implementation activities and for evaluating progress. The narrative in each chapter then sets out an evidence base of changes and significant developments that have taken place over the last five to ten years and raises questions for the sector. Chapters conclude with a set of recommendations which set out a number of suggested actions and activities that will support the achievement of the high-level commitments.

When will this happen?
The high-level commitments that have been identified throughout this report provide a framework against which senior leaders, higher education professionals and government colleagues should agree appropriate implementation plans and targets. These are, necessarily, a matter for dialogue and negotiation. However, the importance of setting clear objectives and timeframes for action are recognised. To this end, UUK proposes that the parties identified as members of the stakeholder groups will set a deadline of May 2015 for clear, robust implementation plans to address these commitments. A symposium of relevant stakeholder groups and colleagues from BIS will be hosted by UUK at this time, which will enable implementation plans to inform future government spending decisions.

Further details of this symposium will be announced at the Fourth Annual Efficiency in Higher Education conference, to be hosted by UUK on 25 March 2015.
Excellence, reward and the higher education workforce
Universities will:

- Continue monitoring pay growth in the higher education sector, providing public accountability through an annual report setting higher education professionals’ pay in context with changes in the public and private sectors.
- Deliver reform of the sector-owned USS pension scheme, and work with stakeholders and government to lobby for greater engagement and representation in public sector schemes.
- Support universities in embracing innovative approaches to teaching, learning and enhancing the student experience, by identifying and reporting on trends and sharing good practice.

Introduction

Universities are dependent on the quality of the workforce they recruit. This applies to all aspects of the institution; world-class academics are needed to deliver excellence in teaching, research and knowledge exchange activities, while similarly world-class operational and support staff must be capable of meeting the myriad challenges that face any large, complex commercial organisation on a daily basis. Productivity and effectiveness have enabled the higher education sector to deliver excellent outcomes throughout a period of change and uncertainty, and this has required high calibre staff and (consequently) competitive reward packages. Issues around reward, performance and wellbeing in the higher education workforce must be of paramount importance to everyone involved in higher education. But higher education is part of the national economic ecosystem, and this chapter demonstrates how higher education has recognised and responded to this context over the past half-decade.

Pay, reward and workforce change

As the single largest proportion of university expenditure, staff costs have been subject to considerable pressure in recent years. Over the last decade, two main phases of development can be seen in relation to pay and reward. First, in the early part of the decade (2004 to 2009), there was steady pay growth. This was as a direct result of targeted interventions to address low pay in the sector, following a number of important reviews. Second, changes since 2009 (and the convergence of challenges around a more difficult and complex operating environment and pressure on public funding across the UK, outlined in Chapter 1) have been more limited; the sector has shown great restraint in pay, in step with developments in the public and private sector.

Universities have been able to react to these different demands quickly and effectively precisely because of their autonomy, and the central role that institutional leadership plays in making decisions around pay and reward.

31 See https://www.hesa.ac.uk/pr201#Expenditure
32 See pp. 21-22
Pay growth since 2009

As with much of the UK labour force, pay restraint has been a feature of human resource strategies since 2009. Awards relating to the uplift of the New JNCHES single pay spine (which are currently determined through voluntary collective negotiations for 150 out of 164 institutions) have been significantly below the level of inflation over the period. This pay spine is used by universities as the basis of their own locally determined reward frameworks. Recent developments include:

- The uplift to the pay spine since 2009 has been 5.4%, against inflation of 17.2% over the same period.
- Evidence suggests pay restraint had a noticeable impact on pay growth in higher education more quickly than in both the public and private sectors; overall earnings growth in 2010 was negligible in the higher education sector, but was 2.9% and 1.8% in the public and private sectors respectively.
- Over the period 2009 to 2013, pay growth for the academic workforce has been in step with broader trends in both the public and private sectors.

Analysis of ONS/ASHE data undertaken by UCEA demonstrates that the academic workforce now has comparable earnings to similar professional groups, and that growth has been in step with these occupations. Figure 5 highlights relative pay growth since 2009, setting that of higher education teaching professionals (an accepted proxy for the academic community) in the context of public and private sector trends, and professional occupations.

Figure 5: Growth in median full-time earnings, selected sectors and occupations, 2009 to 2013

Index 2009 = 100

Source: UCEA, based on ONS Annual Survey of Hours and Earnings

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33 Joint Negotiating Committee on Higher Education Salaries. For further information, see http://www.ucea.ac.uk/en/empres/paynegs/new-jnches/
34 Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR (forthcoming).
35 Ibid.
As this shows, pay restraint has been more pronounced among higher education teaching professionals than in the public sector, where multi-year pay deals delayed limitation on pay settlements in 2009 and 2010. Growth in academic pay has been lower than overall private sector pay growth (5.5% and 6.6% respectively) since 2009, and a little higher than for comparable professional occupations. The effect of annual national pay settlements [which allow the sector to respond to a changing environment effectively] and the decreasing numbers of staff receiving service-related pay progression [see pages 23 to 25] are in part responsible for these trends.

**Longer-term trends in reward and the higher education workforce**

Over the longer term, pay growth in the higher education sector has been managed in the context of changes to sector income and expenditure, and in relation to other sectors. The absolute rise in staff costs over the last decade has consistently been below the rate of increases in income, and staff costs represent a declining proportion of total expenditure. As Figure 6 shows, staff costs represented 55.2% of total expenditure in 2012–13.37

![Figure 6: Changes in higher education income and staff costs as a proportion of total expenditure, 1998–99 to 2012–13](image)

Source: UCEA, based on HESA data

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36 See https://www.hesa.ac.uk/pr201#Expenditure
37 Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR (forthcoming). Based on HESA data.
It is also instructive to consider earnings growth in higher education over the past decade and the reasons for this. While median full-time annual earnings in the sector increased by 8.8% above RPI between 2002 and 2013, this must be viewed in the context of policy interventions introduced in response to concerns over low pay. The Dearing38 and Bett39 reviews (1997 and 1999 respectively) found certain categories of higher education staff to be under-rewarded relative to comparator groups. Importantly, this was identified as a risk to the long-term quality, vitality and competitiveness of higher education in the UK and, rightly, was addressed as a priority. The change in median earnings has also been affected by changes in the composition of the workforce, with [for example] outsourcing taking lower-paid employees out of the sector figures – often as a result of efforts to lower overall operational costs and to improve service quality, again as a response to strategic imperatives.40 Occupation-based analyses typically show lower growth; for example, the full-time annual earnings of academic staff are only 3.4% higher in real terms than they were in 2002.41 Changes in pay over the decade have been the result of targeted, appropriate interventions to ensure that the sector could continue to recruit the staff to deliver excellent teaching, learning and research, and to remain globally competitive. Throughout, higher education has recognised both affordability and the wider economic context.

Other approaches to managing staff costs

Evidence shows that the sector has used flexibility within the existing reward framework to ensure that pay remains competitive, while also engaging with broader trends towards, for example, performance management and contribution-related pay, and securing restraint in aspects of the reward package that are negotiated collectively. Given the drivers and incentives noted above that have driven universities to deliver greater efficiencies, institutions have employed many of the mechanisms found across both the public and private sectors and set about restructuring their staffing profiles to provide more flexible teaching and support services.

The UCEA Workforce Survey (2013)42 identified staffing reductions in 88% of responding institutions, with over 9,000 redundancies and severances reported in the previous two years. In terms of overall staff numbers, universities have prioritised investment in academic staff. Over the period 2004–05 to 2013–14, numbers of academic staff increased by 20.9%, whereas the numbers of professional and support staff showed a more modest rise (8.6%). Indeed, since 2009–10 the number of professional and support staff has decreased by 2.1% while academic staff numbers have increased by 7%. This is in the context of a 28.2% increase in student numbers over the same period (2004–05 to 2013–14).43

The slight reduction in support staff may be attributed to a number of factors. An increase in the outsourcing of support services, the adoption of lean processes and the use of new technology have all influenced this trend. Universities are, however, ensuring that standards are maintained and improved with regards to the student experience, as evidenced by the overall increase in staff numbers, and a consistent rise in overall student satisfaction results throughout this period.44

38 National Committee of Inquiry into Higher Education (1997) Higher education in the learning society (esp. chapter 14). Dearing argued that: ‘In this era of continuing change the rewards offered must be sufficient to recruit, retain and motivate staff of the required quality. Recent evidence suggests that the majority, but by no means all, of staff in higher education are paid substantially below comparable private and public sector rates.’


41 Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR (forthcoming).


43 Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR (forthcoming).

Research with universities has also shown that redundancies and severances formed only one element of a more holistic and considered approach to managing costs over this period. The Workforce Survey found that one-in-four universities have either implemented or planned to implement a recruitment freeze, while more than 60% were focusing on alternative mechanisms such as restructuring and redeployment of staff to help manage costs. Over 70% of institutions stated that they had implemented changes to HR processes to improve efficiency and effectiveness; and 91% had employed one or more of a range of other efficiency measures such as shared services, outsourcing and process improvement.45 These approaches reflect the trends and priorities articulated in UUK’s 2011 review of efficiency and effectiveness.46

Service-related pay progression and contribution recognition

The reward framework in higher education includes service-related pay progression (SRPP), often referred to as ‘incremental pay’. While there is an expectation of progression stated in the Framework Agreement governing pay in the higher education sector, this does not preclude assessment of contribution, performance or skills developments being part of the progression process.48

The Framework Agreement for the Modernisation of Pay Structures in Higher Education

Agreed in 2004, the Framework Agreement was a significant reform to pay structures in the higher education sector and introduced the single 51-point pay spine, to be reviewed nationally each year from 1 August. A central feature of the reform was the need for each institution to reach its own local agreement on grading, use of pay points and related conditions of service within the broad national framework agreement. This enshrined institutional autonomy in the way that pay, grading and conditions of service were determined, and subsequently limited the voluntary national negotiations to the uplift of the values on the 51-point pay spine.

How SRPP is employed as part of institutional reward strategies is a matter for universities to decide – it is not a feature of national agreements. Indeed, a consequence of the national agreement has been a significant reduction in the use of ‘incremental progression’. Eligibility for SRPP is limited to certain categories of staff, and the evidence shows a clear trend towards more responsive reward frameworks. It does not apply to those members of staff not subject to the national pay spine – which includes senior leaders and professorial appointments, or up to 15.4% of the higher education workforce. Across UCEA members the median workforce eligibility for SRPP reported in 2014 was 36%.49

46 UUK (2011) Efficiency and effectiveness
48 Ibid.
49 Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR (forthcoming). Based on UCEA data.
There is clear evidence that institutional behaviours reflect broader trends found in both the public and private sectors; for instance, in two-thirds of institutions SRPP accompanies a system of contribution-related pay progression that reflects the growing experience and skill of the job holder as well as making an assessment of performance. The 2014 UCEA member survey showed that around half of institutions either have made or plan to make all progression subject to evaluation of satisfactory performance. Many others operate a hybrid system, with SRPP existing alongside performance evaluation mechanisms, and often focused on particular categories of staff (for example, early career researchers).

Case study
University of Sheffield – Innovation in pay and reward
Like many universities, the University of Sheffield introduced a contribution-related pay system in 2006 and has evolved the system over time. This has included linking appraisal ratings to reward eligibility, devolving more responsibility to heads of department and identifying ways to make the system more flexible. This recognised the diversity of motivations and incentives for those delivering excellence in teaching, research and enterprise – and in both the academic and professional workforce.

The move towards different reward frameworks and incentives requires appropriate governance, management and assessment mechanisms to be in place and to have the confidence of the workforce. Investment in performance management and evaluation processes is therefore necessary for the adoption of more responsive reward frameworks, and there is much evidence of these systems in place across the sector. The majority of universities now have an element of contribution-related pay, which assumes having such systems in place, and there have been a number of institutional and sector-led initiatives to implement these systems and to share best practice.

Case study
A sector-led approach to enhancing performance
Universities have made significant progress in developing and adopting approaches to recognise the contribution of operational, support and academic staff. For example, the Performance for All project has been set up with the involvement of around 50 institutions to develop an online performance enhancement tool for the education and research sector. It is a self-developed project, with no central funding. This demonstrates how the sector is driving change in practices through autonomous decision making allied with a capacity for collaboration.
The perception of the higher education workforce as benefiting from universal automatic progression, without recourse to evaluation of contribution or performance, is therefore outdated. The direction of travel evident across the sector is towards nuanced and responsive modes of pay and reward that work for different institutional strategies and settings and which are aimed at maintaining the institutional competitiveness that requires a top-class motivated workforce. This is a trend that should continue.

Diversity and wellbeing in the higher education workforce

Higher education employers have ensured that they offer good pay and conditions to their lower paid staff, often being among the most sought after employer within their community and early adopters of the living wage or equivalent level of pay. UCEA is undertaking a survey to provide information on the use of the lowest points on the 51-point pay spine, different weekly hours and the actual hourly equivalent rates of pay as well as some additional information on approaches to the living wage. The survey is being conducted as part of the employers’ commitment made in the 2014–15 pay agreement to ‘review the use and usefulness of the bottom points on the pay spine’ and the findings will inform discussions in the 2015–16 pay negotiations. The 2014–15 agreement also included a commitment to establish a joint working group with the trade unions on equal pay within higher education that will identify and promote good practice.

Case study

The Equality Challenge Unit

The Equality Challenge Unit was established by the sector in 2001 to promote equality for higher education staff. Its role was expanded in 2006 to cover equality and diversity issues for students as well as staff.

The unit supports the sector in its mission to realise the potential of all staff and students whatever their race, gender, disability, sexual orientation, religion and beliefs or age, to the benefit of those individuals, higher education institutions and society.

Universities are keenly aware of the need to address the challenges present in attracting, retaining and promoting a diverse workforce, in step with evolving priorities and progressive leadership within other similar organisations. Although levels of diversity are improving, the higher education sector has a particular challenge in attracting, promoting and retaining women at senior levels of academia. The most recent report by the Equality Challenge Unit shows that the proportion of academic staff who were women has seen a 4.5% increase, from 40.0% in 2003–04 to 44.5% in 2012–13. Of all academic staff at professorial level, 21.7% are women. This ratio can be considered in light of the overall gender ratio of the entire higher education workforce of 53.9% women, underscoring the degree of underrepresentation.

53 Evidence collated by UCEA suggests that over 60% of higher education institutions meet, exceed or plan to adopt the living wage. See also the example at Queen Mary University of London, http://www.qmul.ac.uk/media/news/items/54934.html.
54 See for example the work on the Concordat to Support the Career Development of Researchers and other activities led by www.vitae.ac.uk.
Case study
Athena SWAN charter

Founded in 2005, the Athena SWAN Charter is awarded to whole institutions or individual departments at any university or publicly funded research organisation. The Athena SWAN charter is awarded in order to recognise commitment to advancing women’s careers in science, technology, engineering, maths and medicine (STEMM) employment in higher education and research. There are currently 114 Athena SWAN members and the latest report shows 394 awards made to institutes and departments.

The talent pipeline with regards to women has been improving, but there is significant progress still to be made. The sector has committed to tackling this issue with support from the Equality Challenge Unit, Athena SWAN and the Leadership Foundation. Additionally, 17 higher education institutions have pledged action to boost the role of women in science and engineering, in support to the recently announced government campaign Your Life.56

Leadership and governance in universities

The higher education workforce is one of the most complex and diverse bodies of staff seen in any organisation, working in a huge variety of modes and locations. This workforce has played a critical role in delivering everything else discussed in this report. We have seen over the last ten years in particular a significant investment in the development of the leadership and management of that workforce to contribute to an effective and motivated staff.57

The past decade has been challenging for the sector, and without good leadership, management and governance it would have been very difficult for institutions to navigate successfully through a period of such uncertainty and change. Most institutions now have well established internal development provision supplemented by their buying in development from local providers, professional associations and the Leadership Foundation. The Leadership Foundation’s Top Management Programme58 is now seen as a key prerequisite for anyone aspiring to a senior management position.

Senior executive remuneration

Senior executive pay in each university is set by a remuneration committee, and it is the responsibility of each governing body to ensure that pay and reward is appropriate and competitive, and that best practice has been followed.

Senior executive pay has for some time been an area of contention for students, media and trade unions59 yet average increases for heads of institution have remained in line with changes for the lowest paid and with average pay increases in the sector. Since 2001–02, the ratios on measures of chief executive pay relative to

56 For more on the Your Life campaign, see http://yourlife.org.uk/about/
57 See for example Tourish D (2012) Leadership development within the UK higher education: its impact on organisational performance, and the role of evaluation. Stimulus paper. London: Leadership Foundation for Higher Education. Tourish argues that: ‘Robust models of leadership development could make an important contribution to enhancing leadership effectiveness in higher education. They can equip individuals and institutions with the mind-sets and skills that will be required in the demanding new environment in which they now operate.’
58 See http://www.lfhe.ac.uk/en/programmes-events/you/top-management-programme/
59 For example The Daily Telegraph, ‘Ministers warned of “hypocrisy” of vice-chancellors’ pay’, 9 January 2014

Efficiency, effectiveness and value for money
the lowest pay spine point, median higher education sector full-time earnings and median teaching professional full-time earnings workforce pay have been relatively consistent, with only a slight uplift over the period.\textsuperscript{60} This is illustrated in Figure 7.

For comparison, the ratio between the highest and lowest paid across UK FTSE250 companies is 232:1 (which are on average three times larger than universities), and in the NHS, 12:1. Note that the head of institution to lowest spine point ratio (16.5:1) remains below the 20:1 ratio that has previously been suggested by government for public sector organisations.\textsuperscript{61}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure7.png}
\caption{Ratio of median head of institution pay to lowest spine point and median higher education pay, 2004–05 to 2013–14}
\end{figure}

Source: UCEA, ONS ASHE

However, it is important that both the higher education workforce and wider society have confidence in the processes through which remuneration is set. According to the Committee of University Chairs’ updated \textit{Higher Education Code of Governance},\textsuperscript{62} the ‘primary elements’ that underpin sound and robust governance include:

- protecting institutional reputation by being assured that clear regulations, policies and procedures that adhere to legislative and regulatory requirements are in place, ethical in nature, and followed
- ensuring that governance structures and processes are fit for purpose by referencing them against recognised standards of good practice

University governing bodies should ensure that processes to support remuneration follow best practice, such as the guidelines in the Financial Reporting Council’s revised UK Corporate Governance Code\textsuperscript{63} (published in September 2014).

\textsuperscript{60} Analytical and evidence briefing paper for the HE workforce working group, courtesy of UCEA and UHR [forthcoming]
\textsuperscript{61} The 20:1 ratio was considered by Lord Hutton in his review of public sector pensions, but discounted as a proposal. See Hutton (2011) \textit{Hutton Review of Fair Pay in the public sector: Final Report}, pp.27–28
\textsuperscript{63} Financial Reporting Council (2014) \textit{The UK Corporate Governance Code}, esp. pp. 20–21
The pensions challenges facing UK higher education

The higher education sector has a diverse and complex set of pension arrangements, each with its own unique governance, costs and challenges. The main schemes are:

• Universities Superannuation Scheme (USS)
• Self-Administered Trust schemes (SATS)
• Superannuation Arrangements of the University of London (SAUL)
• Local Government Pension Scheme (LGPS)
• Teachers’ Pension Scheme (TPS)
• NHS pension scheme (for clinical academics in medical schools)

In relation to USS, there is a recognition from both university employers and the University and College Union (as representative of members) that a package of benefit reforms is needed to ensure that the scheme remains affordable and sustainable.64 Negotiations on these reforms are currently under way, with the aim of securing a deficit recovery plan acceptable to the Pensions Regulator by July 2015. A significant level of sector focus and resource is currently invested in securing appropriate and sustainable reform.

The substantial, persistent and volatile nature of the USS deficit is a significant issue which the sector is addressing urgently. As part of this, university employers have already proposed that their contribution should increase from 16% to 18% of payroll, at a cost of around £135 million per annum.65 These costs are being taken on, alongside significant future benefit reform, as part of a clear plan seeking to place the sector-owned pension scheme on a sustainable footing, while retaining benefits that enable the sector to be competitive.

The challenge of a complex pensions landscape

Recent reforms have seen increasing divergence in higher education sector pension provision. This is the case both within and between institutions. For example, many of the schemes available in pre-92 universities have closed their final salary sections to new staff, who now join either career average or defined contribution arrangements.

These varied arrangements place significantly different burdens on universities, who also have varying levels of control over the costs they incur. Universities with staff enrolled in the LGPS and TPS have limited representation and engagement on these schemes. This can act as a discriminator between institutions and may impact on their competitiveness in the employment market.

64 See for example Times Higher Education ‘University staff back revised USS reform plan’, 29 January 2015
65 For further information on proposed reforms to the USS, see http://www.universitiesuk.ac.uk/aboutus/AssociatedOrganisations/Partnerships/EPF/Pages/QAsontheUSS.aspx
In the public sector schemes (eg, TPS, LGPS) universities have less direct ability to influence and control changes to the schemes. This includes fundamental employer considerations such as the terms of participation in the scheme by employers and employees, the benefits offered and the cost to the employers or employees. This can lead to the employer having an increase in their employment costs that they are unable to mitigate. The lack of flexibility on behalf of many university employers to consider different pension arrangements for staff is restrictive, and the lack of influence over changes to costs for universities linked to the public sector schemes is therefore problematic.

Examples of organisational change and workforce development

Managing pay costs and meeting the pensions challenge are critical issues for the higher education sector. However, a focus on organisational change and workforce development has long been a feature of universities. Innovation and evolution in working practices are found everywhere, and HR professionals play a central role in managing and mediating these changes. There is also an acknowledgement that taking forward such changes can cause its own strains and pressures on the workforce. The Employee Engagement Toolkit66 is a joint project between UCEA and UHR intended to identify and spread good practice across the sector. As well as practical guides on how to embed and measure engagement, the toolkit provides an extensive source of case study examples. UCEA has also facilitated an employee engagement and wellbeing network for practitioners in universities to share and develop their work.

Case study

Durham University – Statute reform to support more effective working

Durham University was among the first group of institutions to reform its statutes. This removed HR procedures that were seen as cumbersome and time consuming, and installed a shorter, ‘enabling’ statute, which set out the guiding principles and signalled a new approach to managing employee relations. Among other outcomes, timescales for formal processes have been reduced by up to 60%, resulting in improved managerial engagement and improved feedback on HR support quality.

Swansea University – Improving staff engagement and performance

The Performance Enabling Programme at Swansea University was established to drive cultural change through the introduction of a unique set of individual staff key performance indicators. These have led to significant improvements to staff engagement and performance.

University of West London – A new employment framework

The University of West London overhauled the way in which scholarly workloads were defined with a move away from allocated hours towards ‘bundles’ of activity related to three specific groups: research academics, teaching academics and academic practitioners. A new employment framework was launched and 86% of academic staff have shifted to new contracts.

66 Available at http://www.ucea.ac.uk/en/publications/eetoolkit/
Future challenges for the higher education workforce

Clearly, it is vital that the higher education workforce remains in step with – indeed, at the forefront of – innovation, and this is true across the institution. Staff in both academic and operational positions must be able to embrace new technology and working practices to meet the needs of the 21st century learning and research environment. Any failure to do so would constitute a major risk to long-term sustainability and effectiveness, hence both training and staff development (as well as reward packages) must support a competitive workforce.

Senior leaders in the higher education sector have argued that challenges lie ahead in terms of the academic pipeline. Notably, a number of interrelated issues have been suggested which impact on the future supply of academic staff. Leaders noted the difficulty in recruiting the most high calibre staff in competitive and strategically important areas, such as engineering, and in professional areas where there is clear competition with both the public and private sectors (such as ICT and finance). Universities also compete in a global marketplace for the best staff. It is important that universities are able to offer reward packages that reflect the marketplace for many staff, which involves competing with private business and international competitors.

There has also been a clear reduction in the number of UK-domiciled entrants to taught postgraduate courses, with overall numbers falling by 17% between 2009–10 and 2012–13.\(^67\) As an important step in the development of the future academic workforce, this is a cause for concern and could lead to a ‘squeeze’ on talent over the next five to ten years. Finally – and partly as a consequence of the factors noted above – there will continue to be a significant international dimension to the UK higher education workforce; as such, immigration and other related policies that enable recruitment from a global talent pool are likely to be important to the long-term health and vitality of our university sector.\(^68\)

Students at the heart of the system?

The new student funding model in England places greater emphasis on student choice as a mechanism for encouraging competition between universities. This competition is one of the factors driving universities to become more responsive to the evolving needs of students. Universities have continued to recognise that excellence is central to all that they do while at the same time ensuring that efficiency is an operational priority. This ensures that students and taxpayers are provided with a system that offers excellent value for money, while maintaining a level of quality that is recognised internationally.

\(^{67}\) UUK (2014) Postgraduate taught education: the funding challenge, pp.10–13
\(^{68}\) For more information, see http://www.universitiesuk.ac.uk/aboutus/whatwedo/Campaigns/BackUniversities/Facts/Documents/PolicyInternationalStudentsStaff.pdf
Innovation in teaching, learning and enhancing the student experience

A 2014 survey by the Department for Business, Innovation and Skills\(^69\) found evidence of recent widespread changes across a number of metrics, constituting what could be considered a `culture shift` across the sector – one which reflects the central role of students. Although many of these developments are part of longstanding trends, rather than in response to the change in funding arrangements, notable areas of heightened activity in the last two years include:

- **Student support:** At least eight out of ten institutions indicated improvements in five of the six areas of investigation relating to student support, including a focus on skills and opportunities to enhance employability.

- **Learning resources:** Nine out of ten institutions reported improvements to library facilities and an even greater proportion had made changes to teaching buildings or spaces, including IT facilities.

- **Student engagement and consultation:** At least seven out of ten institutions had taken steps to improve the level of engagement and consultation across all areas of investigation.

Evidence from the National Student Survey (NSS) supports the argument that institutions have been making significant improvements to the student experience. An analysis of NSS results (2005–2013) undertaken by HEFCE\(^70\) found that satisfaction with `assessment and feedback` (59 to 71%) and `academic support` (68 to 80%) had improved by the most significant margins. While this suggests that there is still much to be done, it does paint a picture of a sector placing greater emphasis on the student experience.

In recognition of the central position that students hold in the developing higher education ‘market’, there has been a rise in the use of student charters – information for students when they are starting a course (and during the course) so that expectations of students and the university are clear and enshrined as policy. A report by the Student Charter Group\(^71\), which was co-chaired by NUS and university leaders, encouraged universities to produce a student charter, as they have great utility for providing clarity and consistency throughout the institution, across all subject areas; a single overview document which clearly signposts additional information; a focus for regular engagement and review with student representatives, to consider alongside other feedback from students; and internal quality assurance and management information. A toolkit with recommendations and best practice has been developed for institutional use.

The ongoing review of quality assurance mechanisms will also raise questions and make recommendations that have the potential to impact significantly on the student experience, and it is important that the outcomes of this process facilitate excellence and innovation for the benefit of learners.

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69 BIS (2014) Improving the Student Learning Experience – a national assessment, pp. 5–8
70 See above, fn.44. Data available at http://www.hefce.ac.uk/whatwedo/lt/publicinfo/nss/nsstrend/
71 See for example the work in BIS (2011) The Student Charter Group: Final report
Success for students and universities is to some degree mutually dependent, and productive cooperation is key. To this end, the Student Engagement Partnership was launched as a joint initiative between HEFCE, the NUS and the higher education sector in England. It supports, develops and promotes student engagement activity in the higher education sector in England. In its latest report, the group describes three sets of principles, essential for creating and maintaining a culture of productive student-university partnership. These support a view that complementary university cultures, systems and processes must be in place to support responsive change, and that the workforce is able to accommodate, and maximise the benefits of, innovation. By doing so, innovation is able improve both the student experience and job satisfaction within universities.

Teaching professionalism in the higher education workforce

Institutions are increasingly looking to reward academics who focus on teaching, with moves to recognise professionalism in this area showing significant progress. The Higher Education Academy is leading work on supporting academics in gaining professional accreditation status through its UK Professional Standards Framework (UKPSF), which sets a framework for accreditation for teaching academics, in lieu of any qualified teacher status within the sector.

There are now over 50,000 academics in the UK with professional recognition in teaching.

![Figure 8: Individuals recognised against UK Professional Standards Framework, 2004–05 to 2013–14](image)

Source: Higher Education Academy

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72 For more on The Student Engagement Partnership (TSEP) group, see http://tsep.org.uk/
73 https://www.heacademy.ac.uk/
As Figure 8 shows, there are now over 50,000 academics in the UK with professional recognition in teaching; numbers have nearly doubled in the last five years, and some institutions now require all their teaching staff to have (or be working towards) UKPSF accreditation.74 This highlights the focus on the quality and professionalism of teaching that has, at least in part, been stimulated by the new operating environment. As a result of this, new progression pathways have emerged that reward skills, expertise and professional competence in fields beyond academic research: rewarding teaching excellence, expertise in innovation, knowledge transfer activities and engagement with business.75

**Enhancing the learning experience**

Universities have embraced numerous approaches to ensuring that the student learning experience represents world-class quality and value for money. Focusing on reducing staff-student ratios, creating long-term plans to better link research with teaching, and ensuring that programmes meet the needs of students – all have been common approaches in recent years.

**Case study**

**University College London – Connected Curriculum**76

UCL launched an institution-wide initiative in September 2014 that aims to set a new standard for education at the university by ensuring that students are able to **participate in research at all levels of their programme of study**. This joined-up approach defines the relationship between students’ learning and their participation in research, and also draws out possible connections between disciplines, years of study, and staff and students.

Informed by research, and building on the university’s strengths and mission, the initiative seeks to integrate research at every stage to equip graduates with robust critical thinking and problem solving skills, improve levels of student satisfaction, and increase UCL’s ability to compete internationally to attract both staff and students.

**Kingston University – Academic promotion and progression**

Kingston University has conducted a large scale, university-wide programme of change which has **modernised the academic workforce** by revisiting both the framework of job roles and associated promotional routes. The programme has focused on rewarding academic excellence and on clarifying expectations and career pathways, especially for teaching and learning and professional practice. Career development has also been linked with UKPSF accreditation where appropriate.

Development needs across the whole academic community have been identified and supported, and issues of diversity have been identified and solutions embedded within workforce systems and processes. This latter development secured the university a Guardian University Award in 2014.

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74 Data on individuals with UKPSF accreditation courtesy of the Higher Education Academy. For more on the positive impact of UKPSF accreditation, see HEA [2013] *Measuring the impact of the UK Professional Standards Framework for Teaching and Supporting Learning (UKPSF)* York: HEA. Case studies available at https://www.heacademy.ac.uk/ukpsf-impact-study
75 See the discussion in FSSG (forthcoming, March 2015) *The sustainability of learning and teaching in higher education in England.*
76 [http://www.ucl.ac.uk/teaching-learning/strategic_priorities/connected-curriculum](http://www.ucl.ac.uk/teaching-learning/strategic_priorities/connected-curriculum)
Case study

University of Hull – Curriculum 2016 programme

As part of its engagement with the Changing the Learning Landscape project, the University of Hull is aiming to position itself distinctively at the leading edge of the sector in flexible programme delivery, while maintaining the highest levels of academic quality in research-led teaching. It is achieving this through its Curriculum 2016 programme, a major initiative that is seeing the development of the Virtual Campus, a web-based service that enables students to engage with the university throughout their learning experience, from pre-enrolment through course engagement, graduation and beyond.

With technology being embedded at the centre of the student experience, the university aims to increase flexibility in delivery, achieve greater levels of satisfaction for both students and staff, and also up-skill both groups in digital literacy skills via an approach to technology-enhanced learning that permeates university culture, policies and processes.
Summary and recommendations

Universities have taken significant steps to ensure that staff costs have been managed appropriately, and there are challenging decisions being made which will place those pensions where universities have the controlling interest on a sustainable footing. Yet higher education pay and reward needs to be viewed in context, and the sector must have the freedom and flexibility to remain competitive in terms of both the academic and the professional/support workforce.

- While decisions around pay and reward, performance and contribution management mechanisms, and strategic decisions on working practices are matters for individual institutions, there will continue to be ongoing pressure on both institutional and public finances. **We urge that:**
  - Pay and reward settlements continue to recognise the wider economic and political context, are in step with comparable sectors and are such as to maintain competitiveness.
  - The direction of travel regarding service related pay progression and performance management is maintained.
  - Reform of sector-owned pension scheme USS remains a priority.

- As a sector, there should be an annual report setting pay growth in the wider context. This should form part of the evidence base that will inform the overarching report on efficiency and value for money.

- Many universities have a statutory duty to offer pension schemes over which they have very little control. Therefore **we would also urge that sector constraints and obligations with regard to public sector pensions are reviewed as part of any future development of the higher education legislative framework.**

- Universities will continue to innovate in terms of working practices and teaching and learning aiming at enhancing the motivation and wellbeing of the workforce. UCEA, Universities Human Resources and the Leadership Foundation should continue to collate good practice examples of organisational change and development, and report on significant trends on an annual basis. This activity should be conducted in partnership with the Efficiency Exchange, to ensure good practice is disseminated widely.

This work will be led by a stakeholder group including HEFCE, LFHE, UCEA, UHR and UUK.

For more information on the higher education workforce see www.efficiencyexchange.ac.uk/workstreams/he-workforce
Delivering value from the higher education estate
Universities will:

- Develop a balanced scorecard of metrics that will be used to demonstrate estates performance in efficiency and effectiveness, and report on these annually to improve accountability
- Further enhance improvements in space use and utilisation and delivering value from the higher education estate, and provide robust estimates of the efficiency savings being delivered from these changes
- Develop a package of tools and guidance material that will support senior leaders and estate professionals to make more informed strategic choices about the university infrastructure

The higher education estate in context

The size of the higher education sector is not something that everybody readily grasps. At over £27 billion, the turnover of the sector as a whole would put it in fourth place in the FTSE 350 on revenues alone – behind only Tesco (£63 billion), Vodafone (£38.3 billion) and SSE (£30.6 billion). With a total floor area for its buildings of 26 million square metres, it is seven times bigger than Tesco and only slightly smaller than the NHS (30 million square metres).77

Considerable investment is required to ensure this estate is fit for purpose and able to support world-class teaching, learning and research. According to the annual report of the Association of University Directors of Estates (AUDE), capital expenditure on the higher education estate – excluding residential property – was £2 billion in 2012–13, a rise of 9% on the previous year. To put this in context, this level of annual investment makes the university estate a bigger investment than Crossrail.78

And the university estate matters. It is central to the operational effectiveness of the university, the experience of staff and students alike, and plays a critical role in ensuring that a university is able to meet the many demands placed on it. But as the higher education sector adapts to a new and more competitive environment, the role and purpose of the estate as a potential competitive advantage has also increased.79 For example, studies suggest that a third of students have rejected an institution based on the facilities they observed, and 80% of students say that the quality of the estate influenced their decision on where to study.80

University management teams have correspondingly sought to maximise the outcomes of any investment into the university estate. A key development over recent years, in line with much of the public sector, has been the exploration of pioneering methods in order to materially enhance the physical estate with a particular focus on improving the student experience, while maintaining financial and environmental sustainability.

For example, institutions increasingly finance projects through innovative approaches such as bonds, capital receipts from student accommodation deals and by repurposing internal resources. Such approaches to financing new developments have only been possible because of the way in which universities have been perceived as a sound investment by commercial providers.81

78 Ibid.
79 See the discussion at http://www.efficiencyexchange.ac.uk/5676/the-role-and-value-of-the-he-estate/
80 Research commissioned by AUDE. See http://www.aude.ac.uk/news-and-events/news/news_studentexperience/. See also HEDDF (2013) Estates Matter! Report on Survey of Students’ views of their universities’ estates 2013, pp.14–15, which reports that over 80% of new students say that the quality of the estate is an important issue, and more than a third reported that they had rejected an institution based on the quality of facilities they observed.
Case study
University of Hertfordshire – 2020 Estates Vision

The University of Hertfordshire has established an estate strategy (2020 Estates Vision) which signals the university’s development objectives for the future. With capital investment of around £400 million, with over £200 million already committed and on-site, the university intends to materially enhance the physical estate with student experience, sustainability and community at its heart.

Financed through a combination of pioneering off balance sheet unwrapped bonds, a capital receipt from a student accommodation deal and its own resources, the strategy will bring a number of new build projects to the campus, including the country’s first ‘true zero carbon’ 3,000 student residences scheme.

Quality and suitability of the university estate

The last decade witnessed a substantial public investment in the higher education estate, which delivered significant returns. Overall, the quality, condition and suitability of university infrastructure has improved. Figure 9 shows changes to both condition and suitability of the estate during that time. Sector-wide trends show a marked improvement in the quality of the estate over the period, measured in terms of improvements in building condition and the fitness for purpose of the estate. The percentage of space rated ‘as new’ and ‘sound, operationally safe and exhibiting only minor deterioration’ has increased by over 19% to 78% between 2003–04 and 2012–13. In fitness-for-purpose, the percentage of space rated as ‘excellent’ and ‘good’ is now 85% – an increase of nearly 22% over the same period.

Figure 9: Non-residential building condition and functional suitability – sector-wide trend, 2003–04 to 2013–14 (weighted average)

Index 2003-04 = 100


Year

Source: London Economics

The last decade witnessed a substantial public investment in the higher education estate, which delivered significant returns.


83 All subsequent analysis based on unpublished analysis and evidence papers commissioned by AUDE from Kilner Planning and London Economics. Details available on request.
However, it is important to note that such developments might not be sustainable without ongoing investment. Some major challenges include:

- Reduction in the real value of the tuition fee: Although some universities have seen an increase in student numbers in recent years, there has not been an indexed increase in tuition fee income over the same period as fees are not subject to inflation.
- Lower rates of investment in keeping the estate fit for purpose: Capital and maintenance spend as a percentage of Insurance Replacement Value (IRV) has seen a recent decline, with the fall being marked since 2010–11.

In recent years, the level of investment by universities in capital infrastructure has resulted in better, more efficient facilities. This has potentially lessened the pressure to invest in maintenance over the short term. Nevertheless, there has been a trend of underinvestment in maintenance [as a percentage of the IRV – 4.5% is held to be the good practice benchmark for overall estates investment]85. There is a clear need to ensure that a sustainable level of investment in maintenance is viewed as an ongoing priority across the sector.

Space use and utilisation in universities

The overall efficiency and effectiveness of the university estate depends on a range of measures, and the effective use of space is an important consideration that is of particular concern to government. An analysis of space usage indicators over the last decade tells a very positive story, with improvements realising significant cost and efficiency savings.

Trends in space use have been mapped over the last ten years. The evidence presented in Figures 10 and 11 shows a general downward trend in space use for most indicators. In summary:

- Total net non-residential space per full-time equivalent (FTE) student is down by over 8%.
- Teaching space per student FTE is down by nearly 17%.
- Specialist research space per research student FTE is up by just over 9%.
- Academic office space per academic staff FTE is down by 0.5%.
- Support office space per support staff FTE is down by nearly 11%.

Within the total net non-residential internal area, support space per student has increased by nearly 3%, while core teaching space per student has declined by nearly 17%. This may reflect the expansion of student support services such as informal social learning spaces combined with increased sharing and improved utilisation of teaching facilities, and shifts in delivery models providing more online and independent learning.86

Figures 10 and 11 show that over the ten-year period, the ratio of space per student declined until 2011–12, only to increase in 2012–13. This spike was the result of the initial fall in undergraduate numbers following the change in the fee regime in England and will likely reduce again following the increases in subsequent years.87 Counterfactual scenarios created for the space indicators involving taught students show that without the recent reduction in student numbers, the ratios of space per student would have continued to decline while support space per student would only have increased slightly.

84 See the discussion at http://www.efficiencyexchange.ac.uk/6007/the-higher-education-estate-hard-investment-choices-for-universities/.
85 Ibid
86 For example, http://www.wonkhe.com/blogs/the-tea-fund/
87 Unpublished analysis by London Economics. Details available on request.
Teaching space per student FTE is down by nearly 17%.
Support staff office ratios show a decline in the area per member of support staff (some 11%), whereas the decline in academic office space ratio per member of academic staff is modest, at 0.5%. This is an area where continued focus may be needed, and more research should be done to understand the trends. That the average space per academic staff (at over 13m² per FTE) is close to historic space norms may in part be a legacy of the expansion of the sector in the 1960s and 1970s, and the difficulties of adapting buildings of that era.

Efficiency gains from improvements in space use

The overall reduction in space per student FTE indicates that the sector has used its space more effectively to accommodate the expansion in student and staff numbers. Research commissioned by AUDE and UUK into counterfactual scenarios produced estimates of efficiency savings delivered by the changes in space use indicators over the 10 years to 2012–13. Cumulative efficiency savings on recurrent property costs (such as maintenance and energy) are estimated at £886 million over this period. This demonstrates the profound impact that efforts to improve the efficiency of the university estate has had on accommodating a rise in student supply at a reduced financial cost to the sector.

Income and property cost indicators

Total income (adjusted for inflation) per student and staff (FTE) increased by over 21% over the last decade, and income per square metre increased by over 34% over the same period. Thus the increase in the ratio of income per square metre exceeded the income generated per student and staff (FTE), indicating more efficient and effective use of space over the period. Figure 12 illustrates the very significant increases in income (real terms) per square metre over the period 2003 to 213.
In terms of different types of income, the most significant increase was in the category of ‘other’ income, at 87%. This suggests that the sector has been diversifying and growing its income base and increasing non-teaching and research income.

It is also worth noting that non-residential property costs (after adjusting for inflation) per square metre have increased, rising by 26% over the same period. Three quarters of the increase in property costs is attributable to increased spending on maintenance and electricity alone88. Figure 13 illustrates that although property costs per student have also risen, they have increased at a slower rate than the cost per square metre (just above 15%) as a result of more effective space use, investment in energy efficiency and efforts to reduce maintenance liabilities.

88 Unpublished analysis by London Economics. Details available on request.
Figure 13 Cost indicators – sector-wide trend over time (weighted average), 2003–04 to 2012–13

Index 2003-04 = 100

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Source: London Economics, based on EMS data
Note: The data series are indexed to 100 in 2003-04. Total property costs adjusted for inflation. Total property costs do not include the Rateable Value.

Energy efficiency and carbon reduction

Over 20% of the increase in total property costs\(^\text{89}\) shown in Figure 13 over the last decade has been the result of electricity price rises. Students and staff increasingly expect access to buildings for longer hours than before, and expect better environments within them – coolness in the summer and warmth in the winter, for example. Demand for access to electrical sockets for charging laptops and other electrical equipment continues to rise, reflecting a trend in technologically enabled (and therefore energy-intensive) teaching and research methods and facilities. This is especially true of research space, which is using ever more energy.\(^\text{90}\)

Despite this significant rise in energy demand, Figure 14 shows that consumption has remained relatively stable over time. This can in part be explained by significant levels of investment in energy saving technology, which has been supported by sector-led initiatives such as HEFCE’s Revolving Green Fund (RGF) and the S-Labs programme\(^\text{91}\), which promotes best practice in sustainable laboratories. Increased energy demand has therefore not equated to an equal increase in consumption, as energy efficiency has simultaneously been increased in response.

\(^\text{89}\) Unpublished analysis by London Economics. Details available on request.
\(^\text{91}\) For more on sustainable development and the Revolving Green Fund, see http://www.hefce.ac.uk/whatwedo/lgm/sd/.
On the S-Labs programme, see http://www.goodcampus.org/s-lab/.
The efforts of estate management teams to improve energy efficiency have in turn reduced the sector’s carbon footprint, with a slight drop in carbon emissions per square metre since a peak in 2008–09. Without improvements to energy efficiency and space use, nearly 1.2 billion kg of additional carbon dioxide equivalent emissions would have been released (see Figure 15).\(^2\) Given the increased energy demand across the period, this also signals the considerable impact of investment in green technologies.

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\(^2\) Unpublished analysis by London Economics. Details available on request.
A 2014 evaluation of the RGF found that supported projects are expected to result in lifetime savings of £281 million and will generate annual carbon savings of 103,000 tonnes, around 12% of the sector’s 2020 carbon targets.

Case study

Lancaster University – Green energy initiative

The Lancaster University Wind Turbine project was completed on time and under budget at a cost of £3.4 million and now supplies the university with 13% of its energy requirements. It benefited from funding from the Revolving Green Fund. The success of this programme has not only earned the university a Green Gown Award in 2014, but has also enabled the establishment of an energy company through which other energy-related projects can be developed.
Case studies

Manchester Metropolitan University – Delivering a radical estate strategy

Over the past ten years, MMU has implemented a major rationalisation and renewal strategy for its estate. This has transformed the estate and benefited all the university’s faculties. It has seen the university reduce its campuses from seven to two and deliver a high quality, consolidated and sustainable estate.

Financed entirely from MMU’s existing resources, the delivery of this £350 million estate strategy represents one of the largest and most ambitious investment programmes of any UK university, and provides MMU with two high quality university campuses, in central Manchester and Crewe, Cheshire. As well as achieving space and cost efficiencies, this long-term commitment has also had a positive impact on the student experience, the university locality and the wider community.

University of Strathclyde – The Technology and Innovation Centre

The University of Strathclyde is developing a centre for technological research in Glasgow city centre to enable academic staff and industry partners to work together on innovative technology programmes. The landmark facility is currently under construction, and will house specialist, shared and flexible laboratory facilities for multidisciplinary teams with strengths in engineering, science, business, the humanities and the social sciences.

The low carbon and low energy development aims to strengthen collaboration and partnership with the private and public sectors to drive innovation in practical research. This partnership with industry is projected to have an annual economic impact of £64.5 million by 2021–22.

Loughborough University – New uses for a historic building

Loughborough University has recently completed the efficient and effective conversion of an historic building from its original use as a student hall of residence into flexible shared offices for the vice-chancellor and the professional services department, leading by example a transition to open plan working for the wider university.

Although unable to meet the demands of modern student accommodation, the building is popular with students, and the university felt it important to retain the oldest building on campus as a cornerstone of the surrounding conservation area. The redesign has created a focal point for the university by providing a modern, open plan office environment for 140 staff while retaining the building’s original character.

The cost of the conversion per square metre was £1,585, which compared favourably with other local heritage refurbishment projects and offered a significant cost saving compared with the construction of new buildings. Additionally, the redesign has unlocked the co-location of academic activity elsewhere on campus.
Summary and recommendations

The sector has shown clear and demonstrable improvement across a range of measures, including space use, increasing and diversifying income, and the quality and suitability of the estate. There has also been continued investment in infrastructure in spite of reductions to capital funding. This direction of travel must be maintained. To help achieve this:

- **AUDE, HEFCE and UUK will agree a balanced scorecard of metrics against which progress will be monitored.** These will assess space use, income, quality and investment, and will be reported on an annual basis.

- **The tools used by estates professionals and institutional leaders to manage the estate must be fit for purpose.** In particular:
  - Space utilisation ratios should be updated, and a study undertaken to evaluate the appropriateness of developing new ratios which will allow for a more comprehensive tool.
  - Existing space management models (SMM) should be revised. These allow the affordability of the estate to be assessed, and they need to be reviewed to ensure that norms set out in the SMM are relevant in the new operating environment.
  - Senior leaders should have appropriate oversight of space management and the university estate, and ensure that adequate governance mechanisms are in place. The AUDESAT self-assessment tool should be reviewed, and a revised model rolled out.

University leaders will of course continue to make strategic decisions regarding both investment and efficiency measures, and there can be no ‘one size fits all’ approach dictated in this report. However, the balanced scorecard will demonstrate macro-level trends in space use, investment, the quality and suitability of facilities and the value being leveraged from the university estate. The stakeholder group should work to develop a set of robust metrics in the context of this balanced scorecard, identifying a small number of key benchmarks and reporting against these over time. Importantly, the stakeholders should develop a robust mechanism for articulating efficiency savings and additional value being leveraged from the estate from changes in these metrics, and report these on an annual basis.

It is, however, important that universities continue to make improvements in their use and utilisation of space; as the evidence presented in this chapter demonstrates, significant efficiencies have been delivered through this better and more effective use of space.

This work will be led by a stakeholder group including AUDE, BUFDG, HEFCE and UUK.

For more information on estates see www.efficiencyexchange.ac.uk/workstreams/estates-management
A world class and sustainable research base
Universities will:

- Continue to make a robust case for greater investment in the research base, and for the need to maintain support for the dual support system of research funding
- Propose a proportionate mechanism for delivering efficiencies from research funding, with a focus on stimulating behavioural change and supporting long-term sustainability of the research base
- Develop a robust set of metrics to account for a wider set of efficiencies delivered from the research base that will inform a more holistic, sector-wide view of cost and efficiency savings

The performance and impact of UK science and research

On an array of metrics, UK research is a world leader. Importantly, this continuing success has been delivered with significantly lower investment – both public and private – in research and development than many of our competitor countries.

UK research: the home of international excellence

In December 2014, HEFCE announced the outcomes of the Research Excellence Framework. This periodic evaluation of the quality of university research highlighted some remarkable progress. Over three quarters (76%) of research activity at UK institutions was rated world-leading (4*) or internationally excellent (3*), compared to 54% in the 2008 Research Assessment Exercise.96

96 HEFCE (2014) REF2014: Key Facts. For more on the REF2014 exercise, see http://www.ref.ac.uk/
Outcomes of the Research Excellence Framework 2014: a national success story

The performance of universities in the REF 2014 exercise demonstrated the continuing excellence and diversity of the UK research base, with peaks of excellence found across the UK, in all types of institution and across all subject areas. Some of the more notable findings include:

- **Across UK nations:** The proportion of excellent research was consistently high across all UK nations, with Scottish, Welsh and Northern Irish universities achieving the highest performance on the environment, output and impact sub-profiles respectively.

- **Across English regions:** The distribution of research excellence across England was relatively homogeneous. The proportion of internationally-excellent research has risen for institutions in all English regions, and the East Midlands and the North West achieved the highest growth in the proportion of staff rated 3* and 4* compared to RAE 2008.

- **Across research disciplines:** All four REF main panels received significant proportions of world-leading and internationally excellent research. No Unit of Assessment witnessed a fall in performance.

- **Across institutions:** REF 2014 found significant peaks of excellence throughout the sector, particularly in terms of research outputs and impact.

This reinforces the message that the UK research base is characterised by broad-based excellence, with world-leading research found in all parts of the country, in all disciplines and across all parts of the sector.

These outcomes alone provide a robust evidence base for judging the quality of UK research. However, a wider array of measures supports the assertion that the UK is among the very best places for research. Since 2008, the UK’s share of the world’s most highly cited papers (top 1%) – an accepted benchmark of outstanding research quality – has increased by nearly 44%, mirroring the rise in outputs judged to be world-leading in the REF.97

The UK has also been ranked highly across a range of significant measures:

- 1st for the **reach, impact and well-roundedness** of its research, having recently overtaken the United States in terms of field-weighted citation impact98
- 1st for **research productivity** – 3.87 times the world average, and growing 4% per year between 2008 and 2012 – and 1st for the **productivity of its higher education sector**99
- 1st in the OECD for the **proportion of R&D funded from abroad**100
- 2nd (only to the United States) for the **quality of its scientific research institutions**101
- 2nd out of 50 higher education systems for outputs [but only 21st for inputs]102

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98 BIS (2013) International Comparative Performance, p.32
99 Ibid, pp 80–85
100 Schmuecker K and Cook W (2009) Beyond bricks and mortar boards: universities’ role in building regional economies
Overall, the UK research base exhibits consistently strong performance relative to its peers – particularly given the UK’s low gross domestic expenditure on R&D compared to many of its international competitors.103

Universities at the heart of the system

Higher education institutions are at the heart of the UK science and research ecosystem. Universities are by far the leading hubs of publicly-funded R&D in the UK and also crucial contributors to the domestic R&D base as a whole.104 This is reflected in the proportions of domestic R&D they perform: UK universities carry out nearly three quarters (74.3%) of publicly-funded Gross Expenditure on Research and Development (GERD) and over one quarter (26.5%) of total GERD, significantly above the OECD median.105 The role that higher education institutions play in the UK science and research ecosystem means that there is a critical need to ensure that they are able to invest in building capacity and the research infrastructure.

Effectiveness and productivity of the UK research base

As noted above, the UK has consistently underinvested in science and research relative to comparator economies, yet has continued to produce excellent outcomes.106 The university-centred approach found in the UK is at the heart of one of the most efficient, effective and productive science and research ecosystems in the world. Despite representing just 0.9% of the world’s population, 3.2% (and falling) of R&D expenditure and 4.1% of researchers, the UK accounts for 9.5% of downloads, 11.6% of citations and 15.9% of the world’s most highly-cited articles.107 Also, over 90% of the UK’s most highly-cited papers are produced by universities.108

The higher education system that delivers these excellent research outcomes is also recognised as one of the most efficient in the world. A study by the European Commission noted that the UK was a ‘top performer’ in the efficient and effective spending of public funds on tertiary education – for both teaching and research.109

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103 UUK (2014) Research and postgraduate research funding, pp. 7–9
104 Ibid. p.6
105 Ibid. pp. 6–7
106 Ibid. pp.5–9
109 St Aubyn et. al., Study on efficiency and effectiveness, p.81. cf. fn. 23, above.
Funding changes and the efficiency challenge for UK research

Science and research funding since 2010

All major political parties have consistently highlighted the importance of research for the UK economy, and the central role that university-based science and scholarship plays in driving economic growth.\(^\text{110}\) In the context of austerity and pressures on public spending, the ring-fencing of the science and research budget in cash terms over the course of the last Spending Review was significant in demonstrating support for the sector.\(^\text{111}\) More recently, the announcement by government of a £5.9 billion investment in science capital\(^\text{112}\) has been welcomed by the sector and the science and innovation strategy (launched in December 2014) again highlighted a long-term commitment to research.\(^\text{113}\)

However, while welcoming these important commitments, maintaining the science ring-fence in cash terms alone will – by the end of 2015 – mean that science and research has experienced a real-terms cut of around £600 million.\(^\text{114}\) The efficiency savings set out in the remainder of this chapter have in part mitigated this cut, but a funding gap remains. Given the current funding position for science and research in the UK, this represents a severe challenge for the research community – and a threat to the long-term health, vitality and competitiveness of the UK economy.\(^\text{115}\)

The Wakeham proposals

As a condition of maintaining the science and research budget in cash terms, research funders committed to an efficiency programme through which any savings realised would be reinvested in research. Jointly developed by research funders and sector stakeholders, the 2010 report on Financial Sustainability and Efficiency in Full Economic Costing of Research in UK Higher Education Institutions set a challenging agenda which was to deliver savings and to stimulate behavioural change in the research community.\(^\text{116}\) This report – also known as the Wakeham review – recognised the success of the UK research base and stressed the importance of moves to secure a more sustainable approach to research funding, and represented the collective efforts of the sector to demonstrate a commitment to delivering efficiencies from the science and research budget.

The report set an overarching target of £428 million in savings to be achieved from the science and research budget over the Spending Review period 2011–2015; the savings were to be delivered through a combination of approaches, including:\(^\text{117}\)

- Lowering the rate of indexation (by which funding is normally uprated in line with inflation)
- Administrative and process efficiencies in the research councils
- Reducing the indirect cost rates charged by research organisations

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\(^{110}\) See for example http://blog.bioindustry.org/2015/01/16/election-year-case-debate-probes-mps-on-science-policies/

\(^{111}\) UUK (2013) Universities UK submission to the 2013 Spending Round, pp.16–20

\(^{112}\) BIS (2014) Government response to consultation on proposals for long-term capital investment in science & research

\(^{113}\) HM Treasury/BIS (2014) Our plan for growth: science and innovation

\(^{114}\) UUK (2014) Research and postgraduate research, see pp.10–15 for a comprehensive analysis.

\(^{115}\) UUK (2014) Closing the research funding gap between the UK and its competitors

\(^{116}\) RCUK/UUK (2010) Financial Sustainability and Efficiency in Full Economic Costing of Research in UK Higher Education Institutions

\(^{117}\) For more on the Wakeham review and subsequent activity, see http://www.rcuk.ac.uk/research/efficiency/efficiency2011/
It should be noted that the overall £428 million target includes savings from research council funding, which supports large research institutes; these lie outside of the higher education sector. Given the need to protect excellence, and that financial sustainability requires proper investment in estates, infrastructure and staff, the Wakeham proposals did not recommend any changes to direct costs or estates rates for research. The report did, however, propose that a more effective approach be taken to stimulating equipment sharing and enhanced asset utilisation.

Efficiency savings in UK research, 2011–2015

The research community is on track to meet the overarching target of £428 million in total savings, with a cumulative £283 million so far delivered against a target of £251 million (to 2013–14). The story is similar for the portion of the research council efficiency savings that was expected from university award holders. Over the period 2011–12 to 2013–14, universities in receipt of research council awards delivered £194 million of savings against a cumulative target of £187 million; a further £133 million of efficiency savings are scheduled to be delivered in 2014–15. Figures 16 and 17 illustrate the year-on-year and cumulative savings targets and those delivered over the reporting period.

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118 The analysis below will focus on efficiency and cost savings attributed (in the vast majority of cases) to universities.
119 For more on asset-sharing, see Chapter 5.
121 See Table 1 in ibid., p.1
As can be seen in these graphs, the profile of savings set out in the Wakeham review was ‘back loaded’, with more challenging targets set in the final years. With regards to indirect cost rates, an ‘efficiency factor’ was applied to all research council awards, the scale of which was dependent on the rate being charged by awardees. In the three years up to 31 March 2013, savings on indirect cost rates from (mostly) universities had contributed £60 million to the efficiencies reported.

**Wider impacts of efficiency savings in research**

Since the introduction of the Wakeham efficiency programme there has been an overall reduction in the average indirect cost rates reported by higher education institutions. In real terms, Transparent Approach to Costing (TRAC) data suggests that these cost rates have fallen from a high of £42,603 (in 2008–09) to £38,764 (2012–13) per FTE – a real-terms reduction of over 9%. It is also notable that the fall in cost rates preceded the implementation of the Wakeham review, suggesting that universities had already begun making efficiency savings as part of wider institutional management strategies.

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122 Analysis of TRAC data, courtesy of HEFCE
While cost rates fell in the first years of the Wakeham programme, data from the latest period show that the average rate rose slightly in 2012–13. On average, indirect cost rates remain lower (in real terms) than before the start of the efficiency programme. However, the research for this report has revealed that it is increasingly difficult for some universities to make further reductions in the indirect cost rates. There is also diversity in the sector, with some institutions achieving larger reductions than others. As highlighted throughout this report, many of the efficiency and cost saving initiatives in universities have mitigated or slowed the rate of cost increases (for example, investment in energy efficiency) or have supported increased productivity which may not translate to real–terms reductions to indirect cost rates. Given that research councils already pay only a proportion of the full economic costs of delivering the research, it is likely that any further reduction would require universities to find the funds from other sources, thus impacting negatively on other aspects of their activity.

Research undertaken by HEFCE suggests that total indirect costs allocated to research now make up a lower proportion of total research costs, and that indirect costs as a proportion of total research costs declined by 1.7 percentage points from 2008–09 to 2012–13. As this data is for all costs allocated to research (regardless of the source of funding) this reduction may suggest that higher education institutions have increased efficiency in the indirect costs of delivering research more generally, beyond that specifically supported by research council funding.

Changes to QR funding

Quality-related (or QR) funding represents a vital part of the science and research base. A recent report published by HEFCE and UUK noted the critical role that QR plays in supporting the science and research ecosystem.\(^{123}\) It highlights the interconnectedness and complementarity of the funding streams that underpin the quality of UK research, with university leaders arguing that QR funding is ‘irreplaceable’.\(^{124}\)

The role and value of QR\(^{125}\)

- QR is valued as a stable source of funding that enables long-term development of research and the development of critical mass research capability.

- The greater predictability and certainty of QR funding is important for developing institutional research strategies and sustaining research competitiveness.

- QR provides the opportunity to allocate resources to priority research areas, to new and emerging areas of research, and more generally to those areas of research which may not easily secure financial support from the research councils.

- QR is widely used to attract research funding into institutions, including matched funding in bids for research council, charity or European Union funding.

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125 PACEC/CBR (2014) A review of quality-related research funding, p. viii
However, while recognising this importance, a number of changes have been made to QR in recent years that have delivered significant efficiencies. As a result of successive developments outlined in the grant letter, HEFCE undertook to reprofile QR funding towards excellence. In 2012–13 funding for 2* activity was removed, to focus on research deemed to be of international (3*) or world-leading (4*) quality. By doing so, over the Spending Review period 2011–15, HEFCE has achieved efficiency savings in QR funding of £270.23 million against a target of £238 million.126

With funding set to be redistributed as a result of the REF 2014 exercise across the UK, additional efficiency and productivity gains will likely be delivered over the next five years.

Future challenges

Concerns over sustainability

The efficiency measures stimulated by the Wakeham report have succeeded in lowering indirect cost rates and have helped to stimulate behavioural change in the research community, with a greater emphasis on efficiency and value. However, reductions to the grants paid by the research councils as part of this programme mean that, where institutions have been unable to reduce costs by the required efficiency savings, universities are also recovering a lower proportion of the total cost of research. This has an impact on the ability of institutions to be financially sustainable.

Data for UK institutions shows that the rate of cost recovery for research funded across all sources stood at 76.2% in 2012–13, down from 78.5% in 2010–11. The cost recovery rate from research councils on the research they sponsor has reduced from a peak of 75.7% in 2009–10 to 73.8% in 2012–13. Analysis of TRAC data undertaken by HEFCE suggests that the deficit in research funding stood at £2.5 billion in 2012–13, and that this was largely subsidised by non-publicly-funded teaching and ‘other’ activities.127

UUK members have raised concerns that the long-term sustainability of research could be brought into question should the Wakeham mechanism be rolled forward into future years with similar expectations of savings. A further erosion to full economic cost could present very considerable challenges for the research base.

Where next? Looking beyond Wakeham to the 2015 Spending Review

The research community understands the importance of demonstrating and incentivising efficiency in the research base. However, any extension of the provisions in Wakeham beyond 2015–16 should consider possible implications for future sustainability. Mechanisms attached to research funding can lead to a disconnect from wider institutional efficiency developments, and may not be the most effective way of stimulating behavioural change across the sector.

Any future development of Wakeham must be proportionate, appropriate to the objectives of the system and seen in the context of wider efforts to deliver efficiency savings in the higher education sector. The sector must continue to demonstrate efficient and effective use of public funding for research; however, an automatic continuation of the Wakeham programme may not be appropriate.

The commitments and recommendations set out throughout this report will provide a clear framework for delivering efficiency and cost savings, and it will be important that the savings realised from these activities – for example, better use of the estate across all higher education activities, shared use of research assets, efficiencies delivered through smarter procurement and so on – are coordinated and recognised as part of a more holistic and comprehensive view of university efficiency.

126 See Jackson (2013) Making the best better, p.5
127 Analysis of TRAC data, courtesy of HEFCE
In research funding, it may be possible to maintain aspects of the Wakeham framework in a more sustainable approach; for example, retaining an efficiency grouping to encourage a continued focus on indirect costs to help prevent short-term ‘roll-back’ on indirect costs yet without setting new targets that have the risk of being unsustainable. Similarly, indirect cost rates should be benchmarked (in real terms) against 2010–11 levels, as this demonstrates continued efficiency savings in the system beyond the purview of Wakeham. Other aspects – such as retaining an element of indexation on future research grants – should also form part of future discussions.

Summary and recommendations

UK research is among the very best in the world, and continues to produce world-leading outcomes with comparatively less investment than other nations. The sector has managed efficiency targets successfully over the last Spending Review period. However, any further erosion of the recovery rate for publicly-funded research may undermine the sustainability of the research base. In this context, a new approach for delivering efficiency savings from the research base should be considered:

- There needs to be a better evidence base on the sustainability of research funding. This should also explore how universities have managed the reductions put in place following the Wakeham review.
- Research Councils UK, in consultation with UUK and the wider sector, will develop proposals for an alternative approach to delivering efficiency and cost savings from the research base.
- The provisions of the Wakeham review have led to savings that will remain in the system beyond 2015–16. These should be included in the holistic approach to evidencing sector-wide efficiency and cost savings that will be developed by HEFCE (see Chapter 6).
- Universities lie at the heart of the UK science and research ecosystem. Excellent outcomes have consistently been delivered in spite of comparatively low rates of public investment in research. There should be an ambitious target from government to raise investment in science and research.
- The dual support mechanism has produced excellent outcomes, as evidenced by the outcomes of the REF 2014 exercise. This system should continue to be supported by government.

This work will be led by a stakeholder group including HEFCE, RCUK and UUK, in close liaison with colleagues from BIS.

For more information on the research base see www.efficiencyexchange.ac.uk/workstreams/research
Harnessing the benefits of asset sharing
Universities will:

• Support and deliver significant progress on both the scale and scope of asset sharing in the higher education sector
• Develop a robust set of metrics through which the scale of asset sharing can be better understood and monitored, and from which an estimate of efficiencies can be calculated
• Work with research funders and other sector stakeholders to deliver policy incentives that will stimulate greater sharing of research assets in all parts of the research community

In recent years there has been, for both intellectual and fiscal reasons, a groundswell of cooperation and collaboration across the sector. Big research problems have required teams, often multidisciplinary, and few institutions alone have the skill sets to staff entire teams. As equipment and laboratories have become more expensive there have also been increased financial challenges stimulated, in part, by the response to Wakeham. There was also a focus on stimulating collaboration and asset sharing in the 2014 consultation on future science capital spending; it is clear that making the most of public funding will lie at the heart of research capital investment plans in the future.

Yet the benefits that can accrue from sharing research equipment go beyond efficiency and cost savings; indeed, managing shared assets effectively can lead to some non-trivial costs being incurred. But the benefits of well-managed sharing can be significant, as shown in Figure 9.

Figure 19: Productive and operational efficiencies resulting from equipment sharing

<table>
<thead>
<tr>
<th>Productive efficiencies</th>
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<tbody>
<tr>
<td><strong>New science and technical advances</strong></td>
</tr>
<tr>
<td>Access to equipment of a higher specification than would have otherwise been affordable</td>
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<table>
<thead>
<tr>
<th>Operational efficiencies</th>
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</thead>
<tbody>
<tr>
<td><strong>Cost of equipment</strong></td>
</tr>
<tr>
<td>Reduction in procurement costs – purchase, service or maintenance costs</td>
</tr>
</tbody>
</table>

128 The material in this chapter is based on work undertaken by Luke Georghiou and Sarah Jackson and is reproduced by permission, courtesy of the N8 Research Partnership. The report to the working group will be available shortly; see Georghiou L & Jackson, S (forthcoming) Raising the Return- benefits and opportunities from sharing research equipment: Report to Professor Sir Ian Diamond and Universities UK, Review of efficiency and effectiveness in Higher Education. See also http://www.efficiencyexchange.ac.uk/workstreams/asset-sharing/
In addition to operational and productive efficiencies, there are a number of significant non-monetary benefits and changes that have emerged over the last two to three years. These include:

- The development of ‘translational research facilities’ through co-investment by industry and public bodies
- Supporting universities to share equipment with partners across the research base, through the national register
- The rapid formation of clusters of research intensive universities, which will enable greater collaborations and longer-term research capital investment planning

**Costs and challenges**

It is important to recognise that sharing arrangements are complex and will take time to bed in. For example, new administrative and management processes must be put in place. Universities operate in an extremely competitive environment, and increasing asset sharing requires significant cultural change. The benefits from increased cooperation, strategic planning and co-investment will take time to materialise. It is also crucial to avoid compulsory arrangements, where there is no interest in or ability to share to work effectively, and instead to develop an environment that supports and rewards effective asset sharing. The research councils have a significant role to play in this regard as funding strategies can drive behavioural change positively.

**Progress to date**

There has been significant progress made by the sector to develop the infrastructure to support sharing and deliver a number of benefits. These include: creating equipment databases; sharing of facilities within universities; new approaches to strategic planning and complementary specialisations by clusters of universities; complementary provision of local facilities; sharing of facilities with business; formation of clusters of research intensive universities; and asset sharing in the social science disciplines.

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129 See http://equipment.data.ac.uk
Case studies

University of Aberdeen – Centralised facilities and sharing within institutions

The new Centre for Genome-Enabled Biology and Medicine at the University of Aberdeen has, instead of purchasing two machines to meet the demands of two separate disciplines, opted to purchase one superior machine to cater for both. This will:

- ensure high occupancy rates of around 75% once fully operational (around the maximum for a machine of this nature)
- reduce costs per sample by 30 to 40% through pooling samples in a single run
- create new UK-led scientific advances – for example through biologists bringing in ecologists to use genomics, which researchers report is revolutionising the discipline

Bristol, Oxford, Southampton and UCL – Mid-scale facilities in High Performance Computing

The Emerald High Performance Computing facility is shared by the universities of Bristol, Oxford, Southampton and UCL. It has enabled the partner institutions – and, indeed, research organisations – to undertake new, world-leading research activity:

- Researchers at UCL are working with specialists at Oxford to optimise the performance of a tsunami simulation code.
- Scientists at Bristol are investigating how mutations of a key enzyme in H1N1 (the ‘swine flu’ virus) lead to the development of resistance to current antiviral flu treatments.

The Emerald HPC has also directly engaged with SMEs including NAG Ltd, Zenotech and Cresset Biomolecular Discovery Ltd.

National facilities – The Diamond Light Source at Harwell

The Diamond Light Source on the Harwell Science and Innovation Campus in Oxford is the UK’s national synchrotron facility and is a medium energy source. It is the largest UK-funded scientific facility to be built for over 40 years.

The applications of synchrotrons cover virtually all sciences, including fundamental physics, engineering, environmental sciences, medicine, biology, chemistry and cultural heritage. The facility is operated by the Science and Technology Facilities Council for the academic community; in 2012–13 there were 2,500 unique users who made 6,300 visits to the facility.
Realising further benefits

There is clear evidence of the progress being made in equipment sharing and the benefits of doing so, and the sector has developed the capability to facilitate greater equipment utilisation. It is important to note that sharing is not a panacea, and significant barriers remain. Sharing can involve substantial transaction costs and is best done for larger equipment items. Increased costs need to be met for consumables, maintenance, travel, training and technical support, plus an additional VAT charge on sharing if the appropriate arrangements are not put in place.

These transaction costs are only in part dependent on the scale of investment – for example, access arrangements and the provision of technicians are both largely fixed costs irrespective of the size of equipment under consideration. For that reason, formal inter-institutional sharing is generally only a viable proposition for equipment of a cost of around £1 million, so that costs associated with the management of and access to shared equipment are small in comparison to the purchase price, and can be recouped through efficiencies during the equipment’s operational lifetime.130 This should not, however, restrict the ability of organisations to consider and develop other approaches that operate on a smaller scale and it is an imperative that models to support this are developed as a priority.

University of Liverpool – Strategic partnerships and UKRPIF

The University of Liverpool is establishing a new Materials Innovation Factory that aims to push manufacturing to a more advanced level and support world leading research in advanced materials. The project includes a commitment of £6.04 million for equipment for the improving and streamlining of advanced materials analysis, including the programmed synthesis of organic materials and the analysis of microbial populations by direct DNA sequencing.

The factory offers shared space for academics and industry, plus an ‘analyst hotel’ which provides incubation space for two to three-month periods. Around 150 Unilever staff will be co-located with university researchers as part of this facility.

From an initial investment through UKRPIF of £11 million, an additional £22 million has been leveraged from private sector partners (notably Unilever).

Sharing data assets

There are significant efficiencies to be gained through the open sharing of research data. By doing so, the efforts of multiple research teams analysing similar datasets are not wasted through duplication, and secondary research is not frustrated by prohibitive access or execution costs.

A leading example of data sharing in the sector is the ESRC-funded UK Data Service, which aims to provide users with access to a wide range of data resources, and focuses in particular on facilitating high quality social and economic research and education. The service holds the nation’s largest collection of digital research data in the social sciences and related fields, and has more than 6,000 datasets available at no cost to the user. Datasets include: major UK government-provided surveys; cross-national surveys; longitudinal studies; UK census data; international macrodata; business macrodata; and qualitative and mixed methods data. The service has over 25,000 registered users and is able to provide access and training in a range of formats and locations.

130 This limit was recommended by the working group. However, this should be tested with a wider community of stakeholders so as to not create an arbitrary barrier to future sharing.
Summary and recommendations

There has been considerable progress in developing the infrastructure to enable greater sharing of research assets, and this should continue to be supported. Overall, the sector must develop the scale and scope of asset sharing. Universities should make the most of opportunities for extending the benefits of asset sharing to other organisations, and for accounting for smaller scale activity.

- **HEFCE, Research Councils UK, Jisc and university research partnerships should establish a working group to develop metrics to evaluate the scale and scope of asset sharing.**

- **To improve uptake of asset sharing in the sector, a number of related activities should be considered, including:**
  - Funders should allocate credit on large grants more fairly.
  - Funders should promote greater flexibility in institutional requirements for capital and operational costs of newly shared facilities.
  - Assessment of funding bids should include mechanisms for sharing as an explicit criterion where appropriate.
  - All new equipment purchased using public funding sources and over the OJEU threshold should be registered on the equipment.data.ac.uk national database to enable greater sharing.
  - Cross-research council interest groups should be considered for specific equipment classes to support best practice (for example e-infrastructure and bio-imaging).

- **The role of funding and research councils in supporting sharing has been significant, and it is important that they are able to continue providing targeted interventions to further extend the benefits of sharing. Consideration should be given to mechanisms for funding shared equipment, such as a catalyst fund.**

This work will be led by a stakeholder group including HEFCE, Jisc, RCUK, UUK and representatives of existing research collaborations.

For more information on asset sharing see www.efficiencyexchange.ac.uk/workstreams/asset-sharing
Unlocking value from higher education data
Universities will:

- Facilitate and stimulate greater use of open data by providing support and practical guidance on how to make use of opportunities
- Undertake an audit of collective data assets held by the sector and make recommendations for how these might benefit from being made open
- Work collectively with the research community to stimulate cultural change around open research data

Background

In September 2014 the Royal Statistical Society published The Data Manifesto, which set out the critical role that data is set to play in transforming all walks of life. As the manifesto declared, ‘What steam was to the 19th century, and oil has been to the 20th, data is to the 21st.’ The Shakespeare review (2013) highlighted where innovation was already having a major impact on services, and estimated the potential social and economic value of better use of public sector data to exceed £5 billion. And a more recent Policy Exchange report identified a potential benefit of more than £10 billion from smarter and more collaborative use of data and new technology in local government.

The review identified three main areas in which benefits would occur:

- innovation, efficiency and effectiveness
- transparency, empowerment and accountability
- knowledge from analysis of combined data sources

Universities – as with all major organisations – will be part of this transformative movement, and must continue to innovate if they are to make the most of new data capabilities and technologies. UUK’s report on Efficiency and effectiveness in higher education (September 2011) highlighted how better and more innovative use of data supports better decision making and the development of new products and services, and it is from a strong foundation that the higher education sector can begin to reap value from data.

The importance of using data effectively is well known to universities as they adapt to operating in an increasingly complex market environment, especially during the admissions cycle. And universities understand the power of data through their research activities and the benefits of exposing data to scrutiny and reuse to drive discovery and innovation.

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131 Royal Statistical Society (2014) The Data Manifesto
134 UUK (2011) Efficiency and effectiveness, pp.23–29
135 See the examples at: http://www.efficiencyexchange.ac.uk/workstreams/open-data/
Creating value from higher education data

Higher education data as a shared service

Throughout higher education, data already plays a vital role in institutional management and for underpinning public accountability, and universities are supported in this by the Higher Education Statistics Agency (HESA). HESA operates as a shared service for the sector, to collect and disseminate data about higher education, fulfilling the requirements of a range of stakeholders including government departments, the funding councils, higher education providers and the public. It also provides a single, trusted authority for data on higher education, collecting and disseminating robust datasets covering finances, staffing, students, estates indicators and a range of performance indicators. Much of this data is freely available online.

In addition to making a wide range of data readily available online, HESA has developed ‘Heidi’, an interactive management information service for higher education providers. This has been in operation since 2007 and provides web-based access to datasets covering the full range of HESA data streams as well as hosting datasets from other organisations such as UCAS and the REF. Access to the data resources within Heidi are also made available via an Application Programming Interface (API) which allows users to automate the process of exporting data from Heidi to their own data warehouses and business intelligence systems. HESA is now embarking on a collaborative project with Jisc to redevelop Heidi using a business intelligence software product to be made available to the sector. Further, the project will see the introduction of a new facility enabling higher education providers to share data on professional services activity costs, conforming to a taxonomy developed by a Universities UK-led project, thereby supporting peer-to-peer benchmarking for improved efficiency.

HESA and higher education data in an international context

HESA has been collecting data about higher education and making it widely accessible to all interested parties for over 20 years. This has created a trusted and maintained dataset that is increasingly available in formats online that promote and support download and reuse. Many countries have investigated the model adopted by HESA over the years, on occasion through British Council introductions or resulting from some direct user-based interaction. HESA has provided training and consultancy as well as responding to overseas government and university agency invitations to explain its processes and governance, as an efficient shared sector service.

In particular the arrangements made for the wide access and use of the data beyond government and indeed beyond official statistics have been investigated by many countries that wish to understand how opening access to well-constructed and trusted datasets can improve the quality and efficiency of higher education. Recently HESA has been invited to India, Romania and Japan and has hosted visits from South Korea and China, with an extended period of training provided in Pakistan and Saudi Arabia. HESA also maintains a watching brief to learn from the data collection activities of other countries.

Many countries have investigated the model adopted by HESA over the years.

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136 https://www.hesa.ac.uk/
137 https://www.hesa.ac.uk/free-statistics
138 For more information on Heidi, see http://www.heidi.ac.uk/
139 See http://www.jisc.ac.uk/rd/projects/business-intelligence-project for an overview of the review project
140 For more information on UUK’s benchmarking work, see http://www.efficiencyexchange.ac.uk/3811/benchmarking-universities-performance-management-information/
In addition HESA has commissioned research into accessible international datasets that would support benchmarking activities looking at higher education provision overseas. This investigation of usable data has been published on the HESA website\(^{141}\) and opportunities are taken to strengthen links with others who collect and provide related data. HESA’s data is also provided to OECD to support international comparison and analyses of the provision of higher education globally.

### Reforming the data landscape in higher education

The Higher Education Data & Information Improvement Programme\(^{142}\) (HEDIIP) has been established to redesign the information landscape in order to arrive at a new system that reduces the burden on data providers and improves the quality, timeliness and accessibility of data and information about higher education. By standardising and rationalising data collections, the burden of data collection can be reduced and the value of the data that is collected can be increased. The programme is also working to improve the efficiency and effectiveness of data within institutions by developing tools to improve data capability across the sector.

#### Case study

**The New Landscape Project**

The New Landscape project\(^{143}\) is creating a vision and blueprint for the higher education data and information landscape. HEDIIP commissioned a team of experts to help define a new vision and architecture for the information landscape. This work, which will involve extensive stakeholder engagement, will define the key building blocks of the new landscape and set out a roadmap to their realisation.

This project is focusing on a number of critical issues, including:

- the barriers to higher education data governance
- reducing the costs of data processing
- the most significant challenges that need to be addressed
- the quick wins that may be achievable
- what is perhaps desirable but probably unachievable in terms of the blueprint
- what would enable the various data demands to be more easily fulfilled

\(^{141}\) PA Consulting/HESA (2011) *International benchmarking in UK higher education*

\(^{142}\) See [www.hediip.ac.uk](http://www.hediip.ac.uk) for more information

\(^{143}\) For more information on the New Landscape Project, see [http://www.hediip.ac.uk/new-landscape/](http://www.hediip.ac.uk/new-landscape/)
Providing linked sector data to better inform policy and strategy

Sector agencies have also been working to provide linked datasets that can help to inform policy dialogue. In October 2014, HEFCE launched a new and highly detailed dataset of the provision of higher education across England.144 Presented visually using accessible maps, this powerful new interactive tool can provide evidence to support the role of higher education providers in their localities. Information includes the provision of advanced and higher level skills, graduate employment, retention and mobility in employment – each critically important to the sector growth priorities of the Strategic Economic Plans of Local Enterprise Partnerships (LEPs) – as well as data showing the take up of higher education at very local levels – highlighting those neighbourhoods where more can be done to improve social inclusion through widening participation. The maps draw on data from a variety of sources including HESA and Individual Learner Record data, the Destinations of Leavers from Higher Education (DLHE) survey, census data collected by the Office for National Statistics (ONS), and Participation of Local Areas (POLAR) data.

Open data and higher education

Open data is already having a significant impact in areas of the public sector and in public policy, identifying where significant cost savings may exist and raising strategic issues for policy makers.145 As the volume of open data grows there are significant opportunities for universities to augment their practices and decision making by drawing on open datasets produced by third parties. There is already widespread commitment in the sector to shared data collection and dissemination of data through HESA and UCAS, and both organisations make much of this data available. However, while efficiency is an important factor in open data, the key drivers are effectiveness, quality and value. The unique status of universities as private, autonomous organisations in receipt of public funding must also be recognised in any move towards greater openness: the case for and projected benefits of open data, to institutions and to the wider community of stakeholders, must be clear and robust.

The use of open, linked data is already developing in the sector. The data.ac.uk146 initiative is becoming a central point for open datasets that encourages the community to share, utilise, update, grow and generate demand for open data. The ESPRC has supported equipment.data.ac.uk147 to improve visibility and utilisation of UK research equipment. Using a standard open data approach to equipment data made it easier for institutions to contribute to the UK national equipment sharing database. Jisc and initiatives such as linkeduniversities.org148 and the linkedup-project.eu149 are also developing and disseminating good practice. Institutions are also embracing new users of open, linked data: for example, both the Open University and the University of Southampton have begun to explore how open, linked data practice can be applied to their own administrative data.

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144 Available at http://www.hefce.ac.uk/whatwedo/crosscutting/coldspots/
145 See fn. 132 and fn. 133
146 http://www.data.ac.uk/
147 http://equipment.data.ac.uk/
148 www.linkeduniversities.org
149 www.linkedup-project.eu
Case study

University of Southampton – Using open data to enhance the student experience and share equipment

The University of Southampton has developed its own open data service (www.data.southampton.ac.uk) which utilises as much of the university’s unrestricted administrative data as possible in providing an information service using linked open data. Aggregated data is used to create a number of map-based apps for students, such as for finding the closest available computer workstation, menus at different catering outlets or when the next bus into town leaves the bus interchange. As all the data is freely open, students can also design their own apps around their personal needs.

Separately, the university has used linked open data techniques to design a database of its research facilities and equipment combining finance asset data with data from its open data service.150 This allows researchers to gain the best possible value from Southampton’s existing facilities and equipment while avoiding needless duplication.

Opportunities for open data in higher education

The scope and scale of activities to enhance the utility of open data in higher education needs to be extended if significant benefits are to be realised. In both the public and private sector, the Open Data Institute has used open data to give powerful new insights, to develop innovative new services and to identify significant cost savings.151 To provide a stimulus to encourage the better use of open data in university management, administration and in support of the student experience, UUK, sector stakeholders (including Jisc and the Higher Education Strategic Planners Association) and university partners have established a programme of work152 on open data that will analyse and evaluate opportunities in the following four critical areas:

• Student choice and recruitment: looking at how existing data, including datasets such as the Key Information Set and X-CRI153, as well as third party datasets, can be better used to help institutions attract students from the UK and overseas

• Business processes and intelligence: looking at how administrative data can be better used to lower costs and modernise processes to improve the efficiency and effectiveness of institutions, such as in procurement

• Research management: looking at how open data methods can facilitate the research management process, including collection and sharing of research outputs for future assessment exercises

• Learning and the student experience: looking at how open data may be used to support analytics or other services that help improve the learning experience and support better outcomes for students

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150 http://data.southampton.ac.uk/facilities.html
151 See http://opendatainstitute.org/ for more information. For examples of benefits derived from open data, see the presentation by Gavin Starks, CEO at the ODI: http://www.slideshare.net/UniversitiesUK/building-the-web-of-data-to-solve-global-challenges-gavin-starks-ceo-the-odi
152 For more information on the joint programme, see http://blog.universitiesuk.ac.uk/2014/06/24/creating-value-open-data/
153 XCRi-CAP stands for eXchanging Course Related Information, Course Advertising Profile. XCRi-CAP is the UK standard for describing course marketing information. It shows how to structure the information, defines and names the data components and specifies the types of data permitted within each component. See http://www.xcri.co.uk/ for further details.
These thematic areas have been identified through dialogue with sector and open data experts, and are considered those with the most potential for open data to realise significant benefits in terms of efficiency, effectiveness and quality of service. A seminar programme has been underway since November 2014 exploring these opportunities and setting out the challenges that must be overcome if best use is to be made of open data. The working group will produce a white paper and a roadmap that will outline the direction of travel and practical applications of open data principles.

Open approaches to research data

Of all the areas in which universities operate, openness and transparency in research data provides the greatest opportunity, but also some of the most difficult challenges. In 2012, the Royal Society report on Science as an open enterprise argued that ‘intelligent openness’ requires some fundamental changes if the potential benefits are to be realised:

The changes that are needed go to the heart of the scientific enterprise and are much more than a requirement to publish or disclose more data. Realising the benefits of open data requires effective communication through a more intelligent openness: data must be accessible and readily located; they must be intelligible to those who wish to scrutinise them; data must be assessable so that judgments can be made about their reliability and the competence of those who created them; and they must be usable by others.

The academic community, research funders, sector stakeholders and government are focused on making this a reality. In government, the Research Sector Transparency Board provides a high-level forum to ‘advise government on how to increase access to research data, with the aim of fuelling new discovery and innovation, and ultimately economic growth and societal benefit’. Similarly, the UK Open Research Data Forum has been established to help address the challenges set out in the Royal Society report, and to outline the steps needed in order to establish a practical, effective approach to openness in research.

One of the initiatives being taken forward by the academic community is the development of a concordat on open research data. A sector-led working group has been established by Research Councils UK with the aim of establishing sound principles that respect the needs and interests of the many stakeholders in the research ecosystem, while advancing the potential of open data. It is not the intention to mandate, codify or require specific activities, but to establish an expectation of good practice on data access. A draft will be put out to consultation in spring 2015.
Summary and recommendations

Open data has the potential to impact on all aspects of university activity – in operations, in academia and in student choice and engagement. However, while there is considerable scope for development, more needs to be done to understand the options and challenges and to sketch a way forward. To this end:

- A joint programme of work led by the Open Data Institute and UUK will produce a white paper on open data, evaluating opportunities and setting out a roadmap for implementation.
- There should be an assessment of collective data assets held by sector agencies and other stakeholders, with recommendations made as to how these might be released as open data.
- The concordat on open data being developed by Research Councils UK and other partners should receive the support of the sector. There should be a programme of work established to stimulate openness in research data.

This work will be led by relevant stakeholder groups. HESA, Jisc, the ODI and UUK will coordinate activity on open institutional data. RCUK and the UK Open Research Data Forum will lead on work to stimulate open research data.

For more information on open data see www.efficiencyexchange.ac.uk/workstreams/data
Shared services, infrastructure and the role of procurement
Shared services since 2011

The potential for shared services to play a critical role in improving quality and distributing and lowering costs has long been acknowledged by the higher education sector. Sector-owned shared services such as Jisc, UCAS, the Janet network and numerous local and regional collaborations demonstrate this.

However, UUK’s 2011 report highlighted a challenge for universities wishing to adopt shared services: the question of VAT. As a result of long-term lobbying by stakeholders in the higher education sector, and the recommendation of the 2011 review, the government provisionally adopted the EU directive on cost sharing groups, and implemented VAT exemption in the Finance Act 2012. HMRC issued guidance on adopting the exemption through cost-sharing groups shortly after, and HEFCE, in collaboration with the British Universities Finance Directors’ Group (BUFDG) and Universities UK, issued further guidance to aid institutions wishing to benefit from the new arrangements. This has helped to stimulate a number of new cost-sharing groups, with the potential to deliver significant benefits to universities and other higher education stakeholders.

Case study

Jisc: the largest cost sharing group in the UK

Jisc provides digital solutions for UK education and research activities as a shared service. With 149 higher education members drawn from the Association of Colleges, GuildHE and Universities UK, Jisc saves its members an estimated £259 million a year in cost savings and cost avoidance, and has enabled productivity gains in excess of an estimated £100 million. The VAT exemption saves its members an additional £2 million a year.

HEFCE provided significant support to cost-sharing groups by funding the launch of a number of pilot projects. The projects aim to explore where opportunities exist and to develop best practice models for establishing and delivering cost-sharing group services, each with the potential to deliver significant savings to group partners. For example:

- **HE Shared Legal** provides legal guidance to subscribing UK institutions, and assists with the selection, engagement and instruction and monitoring of law firms.

- Work is underway to develop a cost-benefit analysis model, based on the experience of the jointly owned service delivery partner of Falmouth University and the University of Exeter, FX Plus. The model aims to help institutions to maximise the benefits of sharing services by analysing a range of shared service and partnership arrangements.

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162 For the guidance on cost-sharing groups, see http://www.hefce.ac.uk/pubs/rereports/year/2013/csgexemption/


164 For more on the HEFCE shared service pilot projects, see http://www.hefce.ac.uk/whatwedo/gm/efficient/ss/

165 http://www.hesharedlegal.ac.uk/

166 http://www.fxplus.ac.uk/
• N8, a collaboration of the eight most research-intensive institutions in the north of England, are developing a cost-sharing-group model for use in their high performance computing facility, as part of their wider work to develop policy and practice to support equipment sharing in the sector.\(^{167}\)

**Providing a world-class sector infrastructure**

There are many examples of shared infrastructure providing high-quality services to universities, and also demonstrating robust approaches to financial management. The Heidi service offered by HESA (and referred to in the previous chapter) is an example of such a service, and the approach to benchmarking operational costs that is being developed will provide a sector-owned, shared resource for producing management information. In a similar vein, TRAC represents a shared approach to understanding costs of university activities, providing a common framework against which robust management information can be obtained, and which can be used to provide information on trends at the sector level.

In particular, Janet,\(^{168}\) the UK’s national research and education network, provided by Jisc, provides a vital part of the infrastructure that supports such collaboration between UK institutions, and indeed between UK universities and overseas institutions. With a two terabit per second backbone capacity, Janet is one of the most powerful academic networks in the world, and one of the fastest networks in the UK. It is provided as a shared service to UK institutions, providing the best possible connectivity at the lowest reasonable cost. It is also highly resilient, with no single point of failure.

Connectivity to the network is crucial to meeting the very high bandwidth requirements of many of the UK’s cutting edge research activities. Janet connects more than 18 million end-users in using the latest Janet6 version of the network, which is designed with the flexibility to meet demand for the next five to ten years. From 2014 onwards, Janet’s services will save the academic community £49 million per year. This includes Janet’s e-infrastructure work, which over the course of five years would cost subscribing institutions five times more (£50 million compared with £10 million) if purchased from the market individually.

**Ratings: an example of collaborative bargaining in the sector interest**

Since 1990, Universities UK, with the support of a professional rating advisor, has overseen the development of a Rating Revaluation Memorandum of Agreement with the Valuation Office Agency (VOA) on the rating of universities in England and Wales. This is a technical shared service provided by UUK, which is coordinated by a group consisting of heads of estates and finance directors from England, Scotland and Wales.

The group is considered as being among the longest standing examples of high-level collaboration between sector stakeholders, and the group’s work has resulted in a number of benefits, including significant financial savings (estimated at £20 million per exercise), for English and Welsh members. The Scottish Assessors Association (SAA) has also used the VOA’s framework as a basis for agreeing a similar valuation scheme in Scotland, enabling similar benefits for Scottish universities.\(^{169}\)

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\(^{167}\) http://www.n8research.org.uk/asset-collaboration/n8-est/


\(^{169}\) For more on UUK’s ratings work, see UUK (2010) Revaluation 2010 Memorandum of Agreement: Higher education institutions in England and Wales.
Enhancing the effectiveness of procurement: progress since 2011

The 2011 UUK review of efficiency identified the potential for procurement to make a greater contribution to efficiency in universities, and set a challenging agenda for the sector. The report recommended:¹⁷⁰

- Better strategic leadership of procurement
- More joined-up collaborative procurement in England
- Tools and support to enhance effectiveness in procurement within universities
- Adopting a target of 30% of non-pay spend through collaborative mechanisms by 2016

The review also recognised that investment in national infrastructure in Scotland had helped to create a successful service. In England, there has since been significant progress. The Higher Education Procurement Academy has been established and is now embedded in the sector, following a merger with the Procurement Professionals Group.¹⁷¹ The academy provides support, training and guidance to support the professional development of procurement experts in the sector, and to raise the profile of procurement among senior leaders. Procurement Maturity Assessments (PMAs) have also been rolled out across England, with at least 97 institutions now taking part in the programme¹⁷². A progress report by the Southern Universities Purchasing Consortium (SUPC) has demonstrated that:¹⁷³

- There are examples of superior performance in English universities in each of the nine categories evaluated through the assessment.
- There has been a continuous improvement of sector-wide scores in each category of assessment since 2010–11.
- The first English university to achieve ‘superior’ grade has been identified.

Case study

Reaping the benefits – Success stories from the Procurement Maturity Assessment programme¹⁷⁴

The PMA programme has inspired real change both within institutions and on a wider national scale. Universities that returned for a follow-up assessment showed an average 22% improvement in their overall performance, meaning that their procurement functions had significantly improved. Individual universities have seen measurable savings improvements. For example, the University of West London increased its procurement maturity by 23% and saw its savings rise from 3.37% to 5.24%, while through additional support the University for the Creative Arts made £1 million of savings.

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¹⁷¹ For more on the role of the HE Procurement Academy, see http://www.efficiencyexchange.ac.uk/6117/raising-the-status-of-procurement-in-higher-education/
¹⁷² For a discussion on the role and progress of Procurement Maturity Assessments in England, see http://www.efficiencyexchange.ac.uk/5972/an-he-success-story-the-procurement-maturity-assessments/
¹⁷⁴ See fn. 172
The successful roll-out of the PMA programme demonstrates positive commitment to enhancing the effectiveness of procurement, on behalf of both the procurement community and senior leaders in the sector. There is more to be done – the analysis undertaken by SUPC found that only 23% of institutions had achieved either of the top two maturity levels (Planned or Superior) – and there must be a continued focus on this programme to ensure that the excellent progress made to date continues apace. It should, however, also be noted that institutions achieving either Planned or Superior levels represent 38% of overall spend.175

In Scotland, universities are able to have a clear view of procurement performance via the Procurement Capability Assessment programme, which has been in place since 2009 and has seen very high levels of engagement. Of the twelve Scottish universities to participate in 2013, three achieved a rating of ‘superior performance’, and a further eight achieved ‘improved performance’. It should be an aim of English universities to achieve a similar level of performance.176

There has also been progress made in enhancing both the effectiveness and the scope of collaborative procurement – and in evidencing the impact this has on the sector. Analysis and modelling undertaken by HEFCE – in line with guidance agreed by the stakeholders involved with Procurement UK – estimated the level of collaborative procurement to be 25.7% of relevant non-pay spend (in 2013–14). This demonstrates excellent progress towards meeting the 30% target (by 2015–16) set out in the 2011 review. The value of collaborative spend identified through this exercise increased from a little over £1 billion in 2010–11 to more than £1.6 billion in 2013–14. The regional procurement consortia in England have also taken steps to integrate and create a more streamlined service, with the establishment of an umbrella body, Procurement England Ltd.177 This is an important step, and the consortia are urged to continue exploring ways in which the collaborative procurement landscape in England can be refined to continue delivering excellent services to their members.

The impact of better and smarter procurement across the higher education sector has been significant. The Efficiency Measurement Model survey, reinstated by HEFCE in 2014 as a result of discussions with Procurement UK, has shown that procurement efficiencies totalled £153 million in 2013–14 (the latest year for which data is available) with over £435 million of efficiency and cost savings evidenced in the last three years alone. Over 90 universities now take part in the survey – an increase of over 20% between 2011–12 and 2013–14.178

Given that the challenging agenda set out in the 2011 review of efficiency called for targets in procurement to be addressed over a five-year timeframe, it is inappropriate to set a new agenda at the present time. However, this report urges that the successful PMA programme described above should continue in England, with an ambitious objective of improving the maturity levels of all universities over the period 2015 to 2020. Similarly, progress against the 30% collaborative procurement target in England should continue to be monitored and will be revisited in 2015–16. Finally, the development of Procurement England Ltd should continue, with opportunities for further service enhancement identified in collaboration with service stakeholders.

For more information on procurement and shared services see www.efficiencyexchange.ac.uk/workstreams/procurement and www.efficiencyexchange.ac.uk/workstreams/shared-services

175 See fn. 173
176 See http://www.scotland.gov.uk/Topics/Government/Procurement/about/Review/PRDG/PCAoutcomes/PCSoutcome2012
177 Data on collaborative procurement spend and progress towards the 30% target courtesy of HEFCE. Further details are available on request. On Procurement England Ltd., see http://www.efficiencyexchange.ac.uk/network/procurement-england-ltd-pel/
178 Data based on returns to the Efficiency Measurement Model survey, analysis courtesy of HEFCE. The EMM survey is a voluntary exercise; as such, the overall level of efficiency and cost savings presented here underestimates the real value, as coverage of the survey is not 100%. For more on the survey, see http://www.efficiencyexchange.ac.uk/4710/efficiency-measurement-model-emm-survey-procurement/
Evidence, oversight and sharing good practice
Universities will:

- Develop robust, proportionate approaches to accounting for efficiencies delivered within institutions, which can be reported annually to the relevant funding councils.
- Establish a set of sector-level metrics across the areas outlined in this report to demonstrate progress on efficiency and value for money in the higher education sector.
- Use these measures to inform a single report evidencing efficiency in higher education, which will be produced for government on an annual basis with a robust estimate of total efficiency and cost savings delivered.

It is imperative that universities continue to evidence their success in delivering efficiency and cost savings. Universities require investment, and in the context of austerity and continuing pressures on public spending must therefore be willing and able to demonstrate what they have done to deliver both excellence and value for money. Similarly, in the new funding environment, there is also an obligation on universities to demonstrate to students that they are working efficiently. Principles of transparency, openness and accountability dictate that there needs to be a greater emphasis on value for money in the future.

If universities are to learn from one another, and from good practice in other sectors, there must also continue to be opportunities for sharing experiences and a focal point for development activities. The Efficiency Exchange, established as a sector-owned resource for sharing good practice on efficiency and value for money in higher education, should continue to be supported and should act as a focal point for annual reporting and for coordinating and disseminating the collection of case studies and examples of best practice. A growing network of content partners contribute to and syndicate the exchange’s regular output of news, updates, thought leadership blogs, tools and examples of good practice for the benefit of sector professionals seeking practical guidance and inspiration. The representative bodies of key professional communities, who have played such an important role in the development of this report, are encouraged to continue developing their links with the exchange in order to facilitate multi-professional learning opportunities.

However, there is also a need for the exchange to develop a wider community, and challenging targets for future sector engagement should be set in order to support continued innovation.

To help ensure that the sector can evidence progress there is a need for:

- a simple, proportionate and robust approach to collecting data on efficiency and value for money activities in universities.
- a way of coordinating and collating this data to provide a robust account of efficiency and cost savings at the sector level.
- new mechanisms to improve openness and transparency at the level of the institution.
- clear, transparent and understandable presentation of key data on efficiency and value for money to inform debate in the sector.
In the devolved nations, funding councils have similar accountability mechanisms in place that help provide transparency and accountability to the public, such as Outcome Agreements and Efficient Government returns in Scotland. Consideration might be given as to how these mechanisms can be used by the sector to provide greater insight into the efficiency and value for money activities of universities.

At the level of the institution, there is also an important role for university governing bodies to understand how the universities they represent perform in terms of efficiency, effectiveness and value for money. Monitoring institutional sustainability in all its forms (including both academic and financial) is a key role for governing bodies (as specifically noted in the most recent Higher Education Code of Governance, published by the Committee of University Chairs in 2014).

In terms of future oversight and reporting of progress against the commitments set out in this report, a strategic oversight group will be established, including representation from funders and government. This oversight group will meet twice a year, and will be responsible for publishing a summary of progress on an annual basis. This group will be chaired by UUK.

**Summary and recommendations**

The existing value for money reports produced by institutions in England provide a valuable resource for understanding efficiency and cost savings in the sector. However, a more robust, accessible and comprehensive mechanism is needed. To this end:

- A common framework of key information on efficiency should be developed, which institutions can use to inform their own value for money reports. Consideration should be given to how the information collated in the framework can be applied in the devolved nations.

- It will be recognised as good practice for institutions to submit the common framework of key information on efficiency and value for money reports to a central repository.

- HEFCE will develop a sector-level framework of metrics and data from the work streams identified in this report (including research efficiencies), data from the common framework of key information on efficiency, and other relevant sources such as procurement savings and shared services.

- Total efficiency and cost savings achieved by the sector will be reported on an annual basis.

This work will be led by a stakeholder group including the funding councils, UUK and BUFDG.

For more information on evidencing efficiency see www.efficiencyexchange.ac.uk/workstreams/evidencing-efficiency

For updates on sharing good practice, subscribe to the Efficiency Exchange: www.efficiencyexchange.ac.uk/subscribe
Annexe A
Summary of commitments

Excellence, reward and the higher education workforce
• Continue monitoring pay growth in the higher education sector, providing public accountability through an annual report setting higher education professionals’ pay in context with changes in the public and private sectors
• Deliver reform of the sector-owned USS pension scheme, and work with stakeholders and government to lobby for greater engagement and representation in public sector schemes
• Support universities in embracing innovative approaches to teaching, learning and enhancing the student experience, by identifying and reporting on trends and sharing good practice

Delivering value from the higher education estate
• Develop a balanced scorecard of metrics that will be used to demonstrate estates performance in efficiency and effectiveness, and report on these annually to improve accountability
• Further enhance improvements in space use and utilisation and delivering value from the higher education estate, and provide robust estimates of the efficiency savings being delivered from these changes
• Develop a package of tools and guidance material that will support senior leaders and estate professionals to make more informed strategic choices about the university infrastructure

A world class and sustainable research base
• Continue to make a robust case for greater investment in the research base, and for the need to maintain support for the dual support system of research funding
• Propose a proportionate mechanism for delivering efficiencies from research funding, with a focus on stimulating behavioural change and supporting long-term sustainability of the research base
• Develop a robust set of metrics to account for a wider set of efficiencies delivered from the research base that will inform a more holistic, sector-wide view of cost and efficiency savings
Harnessing the benefits of asset sharing

- Support and deliver significant progress on both the scale and scope of asset-sharing in the higher education sector
- Develop a robust set of metrics through which the scale of asset-sharing can be better understood and monitored, and from which an estimate of efficiencies can be calculated
- Work with research funders and other sector stakeholders to deliver policy incentives that will stimulate greater sharing of research assets in all parts of the research community

Creating value from higher education data

- Facilitate and stimulate greater use of open data by providing support and practical guidance on how to make use of opportunities
- Undertake an audit of collective data assets held by the sector and make recommendations for how these might benefit from being made open data
- Work collectively with the research community to stimulate cultural change around open research data

Evidence, oversight and sharing good practice

- Develop robust, proportionate approaches to accounting for efficiencies delivered within institutions, which can be reported annually to the relevant funding councils
- Establish a set of sector-level metrics across the areas outlined in this report to demonstrate progress on efficiency and value for money in the higher education sector
- Use these measures to inform a single report evidencing efficiency in higher education, which will be produced for government on an annual basis with a robust estimate of total efficiency and cost savings delivered
Annexe B
Acknowledgements

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Professor Sir Ian Diamond, Principal and Vice-Chancellor, University of Aberdeen (Chair)
Alison Allden, Chief Executive, Higher Education Statistics Agency
Dr Ghazwa Alwani-Starr, Director of Property & Facilities Management, University of Roehampton (as Chair-elect of the Association of University Directors of Estates)
Sir David Bell, Vice-Chancellor, University of Reading
Jeremy Clayton, Director, Research Base, Department for Business, Innovation and Skills
Steve Egan, Deputy Chief Executive, HEFCE
Helen Fairfoul, Chief Executive, UCEA
Sarah Jackson, Director of Research, Partnerships and Innovation, University of Liverpool (as Director of the N8 Research Partnership)
Alison Johns, Chief Executive, Leadership Foundation for Higher Education
Veryan Johnston, Director of HR, University of Newcastle (as Chair of University Human Resources)
Andrew Lewis, Chief Operating Officer, Engineering and Physical Sciences Research Council (representing Research Councils UK)
Dr Jonathan Nicholls, Registrar, University of Cambridge (as Chair of the Association of Heads of University Administration)
Professor Nick Petford, Vice-Chancellor, The University of Northampton
Robert Rabone, Chief Financial Officer, The University of Sheffield (as Chair of the British Universities Finance Directors Group)
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Woburn House 20 Tavistock Square London WC1H 9HQ

Tel: +44 (0)20 7419 4111

Email: info@universitiesuk.ac.uk
Website: www.universitiesuk.ac.uk
Twitter: @UniversitiesUK

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