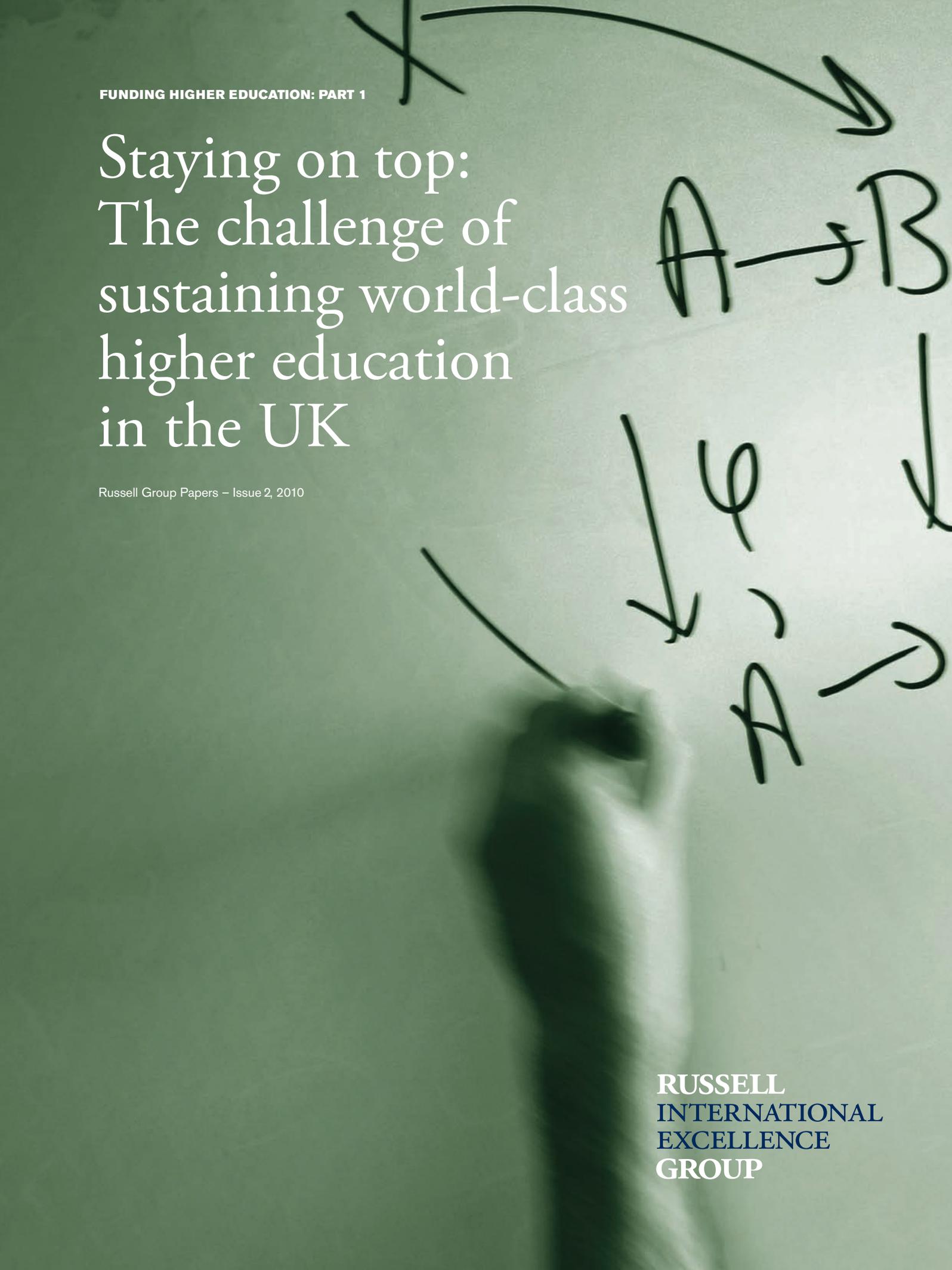


FUNDING HIGHER EDUCATION: PART 1

Staying on top: The challenge of sustaining world-class higher education in the UK

Russell Group Papers – Issue 2, 2010

A hand-drawn diagram on a whiteboard. At the top, a large 'X' is drawn. A curved arrow points from the 'X' down to the right. Below this, the letters 'A' and 'B' are written, with an arrow pointing from 'A' to 'B'. Further down, there are several vertical arrows pointing downwards. At the bottom, the letter 'A' is written, with an arrow pointing to the right. A hand holding a marker is visible at the bottom left, pointing towards the diagram.

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We can be proud of our higher education sector in the UK. At a time when leading nations around the world are waking up to the importance of investing in the skills, research and groundbreaking new ideas which are incubated within higher education institutions, the UK's universities still achieve a gold standard in an increasingly competitive global market.

Their success is vital to our future economic growth and prosperity. It has been founded upon sustained investment in UK universities over the past decade, but challenging times lie ahead.

This report shows that despite universities' crucial role in supporting the UK's economic growth, their future sustainability and international competitiveness is delicately balanced. A more supportive funding environment for universities in recent years, including the introduction of variable fees in 2006, has helped to put them on a more sustainable footing after long years of under-investment. Russell Group institutions have invested in the facilities, staff and support services which are essential components of providing an outstanding student experience. They are constantly exploring innovative ways to improve their productivity and efficiency to secure the best value for money on the public and private investment they receive.

However, universities face increasing cost pressures across all facets of their activity and further investment will be needed if they are to continue delivering the very best education led by cutting-edge research. At the same time, the UK's competitors have recognised that their economic future lies in highly-skilled individuals and high-tech businesses. They are pouring investment into their universities and research in order to develop the world-leading institutions which they recognise will be key to success in a global knowledge economy.

Against this testing background of rising cost pressures and growing international competition, this report sets out the scale of the challenge facing Russell Group universities as they seek to manage recent funding reductions, whilst planning for an uncertain future. It shows that the UK is not investing what it needs in order to sustain a cadre of leading research-intensive universities.

The UK now stands at a crossroads. Without adequate investment in our leading universities, we risk jeopardising the competitive advantage which has made our higher education sector the envy of the rest of the world. But if the UK can rise to the challenge of funding international excellence in higher education then it will continue to reap the enormous economic and social rewards of a genuinely world-class university system.

In the balance lies not only the preservation of an outstanding sector of which we can be proud; also at stake is the UK's future as a successful, dynamic and prosperous nation.

Professor Michael Arthur
Chair of the Russell Group

Dr Wendy Piatt
Director General of the Russell Group



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The UK enjoys one of the most outstanding higher education systems in the world. A key strength of this highly-performing sector is the quality of its leading research-intensive universities which play a vital role in the country's economic competitiveness.

Students, employers and the national economy currently benefit enormously from research universities. They provide an outstanding quality of learning and student experience, resulting in highly employable graduates in demand from leading employers. They train the researchers and innovators who are indispensable to the future success of UK business and industry. Whilst making an important contribution to their local economy and civic life, they also attract to this country some of the brightest minds from around the world, along with significant export income and inward investment. The pioneering research conducted by world-class universities underpins innovation by industry, supports improvements in public policy, and contributes to breakthroughs in health and quality of life.

As the UK's economic competitiveness becomes increasingly dependent on leadership within high-tech and knowledge-intensive industries, world-class research universities have a critically important role to play in driving future growth and prosperity. They also represent a significant part of the economy in their own right. Between them, Russell Group universities have a combined economic output of £22.3bn, support 243,000 jobs and have export earnings of over £2bn.

The existing system of higher education funding is failing to provide sufficient resources to sustain a cadre of world-leading research-intensive universities. These universities provide excellence in research and teaching and in knowledge exchange with industry and the wider society. All these activities are closely linked and heavily inter-dependent and rely on investment from a wide range of sources including from public, private and charitable sectors. However, there is a demonstrable need for further investment to maintain the future success of these institutions. Other countries invest far more in their universities. At a time of economic recession many, such as the US and France, have greatly increased their investment, recognising universities as essential engines to drive future economic growth. This disparity threatens the long-term ability of the UK's leading universities to compete with the best institutions elsewhere. For this

reason it is widely recognised, both within the sector and beyond, that securing Britain's economic competitiveness for the future will rest on investing more in its research-intensive universities.

An improved funding environment for higher education in recent years, including the introduction of variable fees since 2006, has helped universities to put their research, learning and teaching provision on a more sustainable footing, following a long period of under-investment. It has enabled Russell Group universities to support leading research while investing more in a world-class student experience. The all-round experience of Russell Group students has benefited from investment in high-quality staff, improvements to staff-student ratios, enhanced infrastructure for learning and teaching, changes in curriculum and assessment, and new systems to support a changing student population. But further investment in all these areas will continue to be necessary in the future.

Indeed, there is evidence of severe and ongoing cost pressures across the teaching and research activities of Russell Group institutions. While recent investment has helped preserve a world-leading higher education sector in the UK, its long-term sustainability is far from secure. Much of the additional income which universities have received from fees and public funding in recent years was needed to rectify severe underinvestment in higher education in the 1980s and 1990s. Ongoing investment is required to maintain a world-class learning experience, with research-intensive universities facing particular cost pressures on teaching, particularly in relation to certain science subjects. Moreover, increasing costs and global competition mean that current performance in research cannot be maintained without increased investment. In the present financial climate, with no clear means of increasing income, universities will have to consider significant cost reductions which are likely to involve reducing staff numbers and cutting back on investment in vital infrastructure. In the absence of additional funding, these measures could result in a serious impairment of the student experience and to universities' ability to make scientific breakthroughs and drive innovation.

EXECUTIVE SUMMARY

Such a retrenchment could jeopardise investment necessary to assure the long-term quality and competitiveness of the UK's leading universities, with serious consequences for students, employers and wider society.

Universities have a strong track record in increasing cost-effectiveness and Russell Group universities are actively pursuing innovative ways in which to deliver greater efficiency and higher levels of productivity. Yet these measures alone cannot compensate for under-investment. Moreover, while Russell Group institutions have been both proactive and successful in diversifying their sources of income and in attracting investment through philanthropy and from the private sector, there is little evidence that these will provide a 'magic bullet' to the financial pressures which they face.

This report focuses in particular on the funding of teaching within Russell Group universities. There are equally pressing issues concerning the future funding of university research, and they are addressed in more detail in other Russell Group documents.¹ We have not sought to identify where the investment should come from that would enable the UK's research-intensive universities to continue to perform amongst the best in the world. We will publish a subsequent report which will provide some of the solutions to the problem set out in this report. The challenges identified here require universities, Government and others who benefit from research-intensive universities to work together to find a long-term solution to the urgent problem of the under-funding of world-class universities in this country.

The importance of investing in world-class universities

“[The UK has] strong comparative advantages. One is our university system, with far more world-class institutions than any country outside the US. Another is the strength of our science base.”

RICHARD LAMBERT, *REASONS TO BE CHEERFUL?* BUSINESS VOICE, (DECEMBER/JANUARY 2008)

The case for increased investment in higher education rests on the need to sustain a globally-competitive university system. This in turn depends on an understanding and recognition of the particular importance to the UK economy and society of research-intensive universities, offering excellent teaching and learning alongside world-class research.

Investment in these universities is provided through a unique combination of public, private and charitable sector income streams and this diverse funding mix is a key strength of the UK's higher education sector. Therefore, the future financial sustainability of our leading research universities depends on adequate levels of overall investment for research, teaching and innovation activities being available from across these different sources.

This section highlights the important contribution which research-intensive universities make to the UK's economic growth and competitiveness and the sources of investment on which their success depends.

1.0 World-class universities bring important and unique benefits to the national economy

A key strength of the UK's higher education sector is the outstanding quality of its leading research universities. No country other than the US can count more of its higher education institutions among the world's top 100 universities.² Providing postgraduate and undergraduate teaching within a world-class research institution, these universities are a major asset to the UK. The role of these institutions in contributing to the UK's knowledge base and skills and to the international reputation of its higher education sector is the subject of a Russell Group briefing paper, *The importance of world-class universities*.²

The scope and strength of the research and teaching activity of Russell Group universities has a major impact upon the economy.³ Representing 12% of UK higher education institutions by number:

- they have a total economic output of £22.3bn per annum, equivalent to 40% of the total output for the sector;
- they are responsible for supporting 243,000 jobs UK-wide, equivalent to 36% of jobs supported by the sector;
- they are a major UK export industry, with overseas earnings of over £2bn per annum, 38% of total earnings for the sector.

“It has now become clear that the context in which economic policies have been developed changed fundamentally over the past thirty years... What is needed now is less vertically-integrated firms, greater mobility within and across firms, more retraining, greater flexibility of labour markets... and higher investment in both R&D and higher education.”

ANDRÉ SAPIR AN AGENDA FOR GROWING EUROPE: MAKING THE EU ECONOMIC SYSTEM DELIVER. REPORT OF AN INDEPENDENT HIGH-LEVEL STUDY GROUP ESTABLISHED ON THE INITIATIVE OF THE PRESIDENT OF THE EUROPEAN COMMISSION (JULY 2003)

A recent report by the World Bank found that world-class universities are characterised by:⁴

- a high concentration of talent, both in faculty staff and students;
- sufficient resources to offer an extensive, comprehensive learning environment;
- favourable governance to encourage strategic vision, efficient resource management and flexibility.

Economists recognise that leading universities of this type are essential for growth within developed, knowledge-intensive economies. For example, strengthening investment in universities and R&D is a fundamental pillar of the blueprint for economic growth within the EU outlined by André Sapir.⁵ Countries around the globe are investing heavily in higher education because they “want the best universities in the world”.⁶

1.1 Educating the next generation of innovators

Universities have a vital role in endowing graduates with high-level skills. Our economy relies increasingly upon newer, more knowledge-based industries. There is therefore a growing need for higher-level skills to capitalise effectively upon the new technologies which underpin modern industry.

Graduates of UK universities, and particularly those from Russell Group institutions, are among the most highly sought-after in the world,⁷ and this is reflected in the premium salaries they receive from employers. There is a substantial body of evidence which shows that graduates of research-intensive universities secure a significant and sustained wage premium over peers graduating from other institutions.^{8,9} Perhaps equally importantly, graduates demonstrate higher levels of satisfaction with their careers than those who did not attend university. A recent report showed that almost 90% of graduates from research-intensive institutions were very or fairly satisfied with their careers 3½ years after study.¹⁰

Research by the Work Foundation has noted that universities, along with other educational institutions, are “critical to the creation of intellectual and knowledge assets in the national and local economies.”¹¹ Leading research universities have a particular role to play in educating the country’s most influential scientists and innovators. The Russell Group paper *The importance of world-class universities* provides a detailed discussion of the unique role played by leading universities in enriching the UK’s knowledge and skills base.¹² As Professor Alison Wolf has noted, “to support research and innovation, countries need a sizeable, but not vast, number of top-class, superbly-trained researchers and developers, not a very large number of imperfectly trained ones.”¹³ Teaching within research-intensive universities is fundamentally linked to research activity and studies have shown that the training of highly-skilled graduates is the primary mechanism through which investment in university research creates economic benefit.¹⁴ It is graduates, primarily, who conduct research both within industry and academia and who bring to businesses the expertise to draw on new knowledge and innovations from external organisations in the UK and overseas.

1.2 Attracting international students in a globally competitive market

Our leading universities attract large numbers of the most talented international students to this country. Not only are these students a source of significant export earnings, they are also an important supply of internationally mobile graduates for UK-based employers.

A recent report by the Council for Industry and Higher Education (CIHE) found that there are clear benefits to business in this country from employing international graduates because they:

- bring specific skills and knowledge about different countries, languages and cultures that businesses need in order to develop new markets;
- help businesses understand and deal more effectively with overseas customers/suppliers;
- broaden the outlook of a company’s workforce and can make the business more receptive to new ideas.¹⁵

International students can also help businesses to exploit global commercial networks. As one graduate recruitment manager from an investment bank reported, “We need international students and graduates to help us exploit overseas market opportunities, we need an international mindset.”¹⁶ Moreover, it is not only whilst they are resident here that international students benefit UK business. Those who return home after their studies often maintain a keen interest in the UK and become influential in facilitating international trade and investments between the UK and other countries.

For universities, the very best students from home and overseas are vital to the stimulating intellectual environment that characterises leading institutions. International research students are also particularly important to the UK’s global standing in research and to its international research partnerships.

International students make decisions on which country to study in based predominantly on their perception of the overall quality of a country’s higher education institutions. There is growing global competition for the best international students; they have many options open to them when choosing where to study, including leading institutions in their own country and other countries around the world.

Attracting high-quality international students is a hallmark of a world-class university. An analysis of the views of these students therefore provides valuable information about the competitive position of Russell Group institutions in a global context and what will be required to maintain their position in the future.

Figure 1: Student satisfaction vs importance of learning indicators at Russell Group universities compared to an index of leading international institutions



The figure shows a ratio, for each indicator, of the ratings for importance and satisfaction given by students within Russell Group universities as against those within the global leaders' index. A ratio of greater than 1 for importance indicates that students at Russell Group institutions consider the indicator more important than do students at the leading international institutions. A ratio of greater than 1 for satisfaction indicates that students at Russell Group universities are on average more satisfied with the indicator, than are students within the international institutions. Indicators falling into the top-right segment therefore indicate areas of the student experience in which levels of importance and satisfaction amongst international students at Russell Group universities are higher than those at the group of leading international institutions.

Data from a survey of international students demonstrates how Russell Group institutions perform compared to some of their major global competitors.¹⁷ Figure 1 shows the relative importance placed by international students on key aspects of the student experience, and their level of satisfaction with each aspect. This shows that Russell Group universities are currently performing well against their international competitors on almost all the aspects of student experience most valued by international students, such as good teaching, course content, and expert lecturers.

While this indicates a broadly positive picture for Russell Group universities, it will be a challenge for them to sustain such high levels of student satisfaction in the future. Moreover, the data also show a number of areas for further improvement, where increased investment will be required if the Russell Group is to compete with the best institutions elsewhere. These are explored in more detail later in this report. In order to continue attracting international students to this country, it is essential that leading universities are able to invest in maintaining the highest possible quality of student experience on a par with the best in the world.

1.3 Leading research and supporting innovation and entrepreneurship

Research-intensive universities are major contributors to the UK's position as one of the world's leading research nations. This research power underpins the innovation which is so important to economic growth and to the UK's future international competitiveness. For example, a single year's worth of investment in cardiovascular research within Russell Group institutions may add as much as £35m to the UK's GDP every year in perpetuity.¹⁸

Russell Group research is also frequently the basis for new, high-tech businesses such as Renovo, a University of Manchester spin out which has licensed the products of its research for hundreds of millions of pounds. This and many more examples of successful exploitation of research excellence are explored in the Russell Group publication *The economic impact of research conducted in Russell Group universities*.¹⁹

As well as the traditional concept of 'technology transfer', the recent NESTA publication, *The Connected University*, notes that, "for the majority of firms, universities are most important not as sources of intellectual property but for other types of knowledge that are harder to package up and codify".²⁰ Examples of this are also included in the Russell Group report on the economic impact of research. The NESTA report also points to the increasing significance of university-business links within the 'open innovation' model, where businesses rely on ideas flowing into them to improve innovation and business performance, rather than on in-house R&D.

The UK's leading research universities engage with existing businesses on multiple levels to support the development of new products and services, and to improve business performance. They are at the forefront of academic engagement with business.²¹ The report *The economic impact of research conducted in Russell Group universities* also describes how institutions are engaged in long-term strategic partnerships, providing businesses with access to cutting edge ideas, skills and equipment. Through research-based consultancy they help businesses to address specific problems, develop near-market innovations and technology, and improve their business

processes and management. Universities also contribute to businesses' human capital, not only through the skills of their graduates but also through the provision of continuing professional development and training.²²

Engagement by universities with local businesses and the wider community also benefits their local economies. Recently, many Russell Group universities have taken specific action to help the local community during the recession.

1.4 Attracting international investment

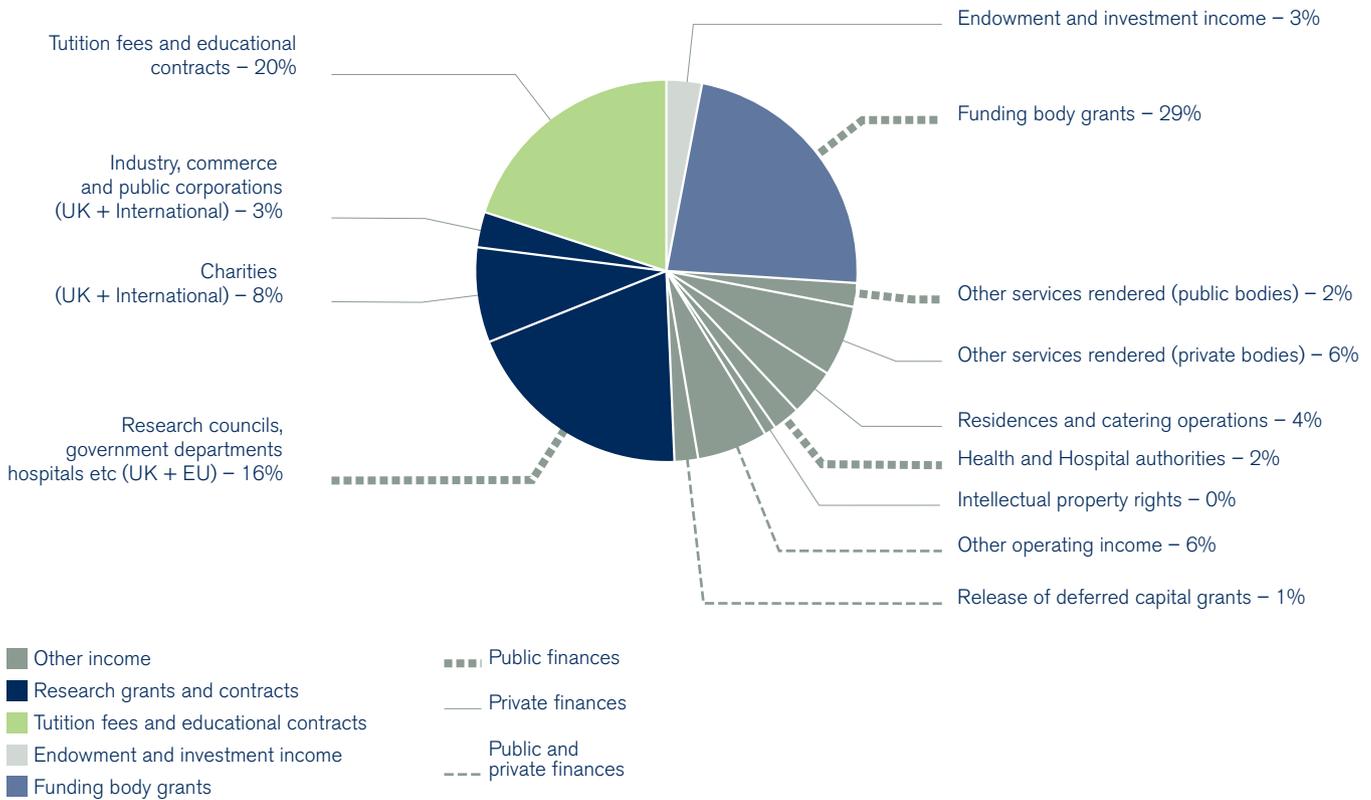
As global leaders in research and innovation, universities attract investment from the world's leading international industries. Businesses invest both through direct collaborations and in the research-intensive industry clusters which develop around leading universities, such as 'Silicon Fen' in Cambridge, which attract investment from international R&D-intensive companies.²³

Research shows that a destination country's research infrastructure, including its universities, is very important to investment decisions. The status of our leading universities amongst the world's best research institutions has contributed to the UK becoming the second most popular destination in the world for international R&D investment. The UKTI has noted that the UK's success as an international base for R&D (second only to the US) is largely due to companies having "immediate access to leading research institutions", and that these universities offer "the means to tap into global networks on the back of their research excellence".²⁴

Universities also make a key contribution to the cultural and intellectual life of their local communities, helping to make them attractive locations for international businesses and their staff. They have been described as having a 'halo' effect through the community engagement and activities of academics and students. Geoffrey Boulton notes that, "such activities stimulate cultural vitality. They attract clever people to come to a region and retain them there, and attract the companies they work for."²⁵ So the presence of world-class universities has a two-fold impact on attracting international business and skilled workers to boost local and national economies.

Figure 2: Sources of income for Russell Group universities²⁸

Russell Group universities: detailed income by source (2007–08)



2.0 These benefits derive from institutions excellent in both teaching and research

The economic and social benefits from leading universities derive from their capacity to provide both world-leading teaching and research. Indeed, though often viewed separately, these two activities are closely linked and interdependent within research-intensive universities.

This interdependence results from the research-led learning experience, which is at the heart of education within research-intensive universities. It is a learning experience which draws on the expertise of leading academics, outstanding libraries, laboratories and other teaching facilities, and an intelligent and motivated peer group. In recent years, the quality of the learning experience within Russell Group universities has been further augmented by investment in technology-enabled learning and innovative teaching methods. This combination of factors helps to develop amongst graduates the independent and critical thinking, entrepreneurial mindset and creative approach so much valued by employers.²⁶

As shown in a Russell Group paper on the research-led learning experience, this educational environment contributes to the quality of teaching, enhances the student experience and builds the high level skills needed by society:²⁷

- Research-led learning encourages students actively to pursue new knowledge through enquiry-based learning rather than passive teaching. Students’ experience of research encourages critical thinking and problem solving, entrepreneurialism and independent learning, skills which are valued as core competencies by leading employers.
- Students are afforded the opportunity to participate directly in research. This confers on them distinct advantages, such as increased understanding of research, improved research skills, higher expectations of obtaining a PhD and better all-round career prospects

- Learning is led by research-active academics. Students are taught by academics who are at the cutting edge of their field and therefore have most authority to teach it. They base teaching on the most up-to-date and relevant research, teach from immediate research experience and convey to students their enthusiasm for their subject. Russell Group universities have a strong record of supporting knowledge transfer activities, so many students will also have contact with staff who are closely engaged with business or who have first-hand experience of entrepreneurial activities such as setting up a spin-out company.
- A research-led culture supports high academic expectations. A large number of Russell Group undergraduates go on to pursue further study.

The interdependence of teaching and research means that resource constraints in one area of activity will have a potential impact on the other. Hence, the research strength of a university relies not only on adequate numbers of high-quality, dedicated research staff, but also on adequate resources for teaching. Any reduction in resources for teaching inevitably has an impact on research because the time available for staff to carry out world-class research will be limited by heavier teaching loads. Similarly, significant reductions in resources for research will have a negative impact on the ability of universities to deliver a world-class research-led learning experience for students.

3.0 World-class universities require adequate investment for teaching and research from a wide range of sources

In considering the case for increased investment in universities, it is important to understand the overall funding context within which that case is made. Research-intensive universities draw on a complex mix of public and private income sources to support a wide variety of teaching, research and innovation activities which are inextricably linked and mutually supportive of one another.

Figure 2 illustrates the different sources of income of Russell Group universities, and demonstrates the wide range of public, private and charitable sources of investment on which they depend. Individual sources of income support specific areas of university activity, and as a whole they provide the financial resources which enable research-intensive universities to provide excellence in higher education.

The unique benefits which world-leading universities offer to their students, to employers, and to the UK economy and society, therefore depend on long-term sustainable investment across the full range of research and teaching activity, from a range of different sources. This report does not address research funding or the future of research funding in detail. This is a critically important and complex subject and is dealt with in other Russell Group papers.²⁹ In exploring the levels of investment needed by the UK's research-intensive universities, this report will in some cases discuss specifically the need for further investment in teaching and learning facilities, and in other cases focus on universities' overall financial sustainability. Both questions are equally relevant to the ability of leading universities to protect and to enhance the outstanding quality of education which they currently offer to students.



Insufficient investment threatens the financial sustainability and competitiveness of research-intensive universities



The preceding section highlighted the ongoing strength of the UK higher education sector and of its leading research-intensive universities. Yet it is increasingly clear that UK higher education is punching above its weight in the international arena and that, while the status of our leading universities is testament to their quality and efficiency, this success is unsustainable in the long term.

Other countries invest far more than the UK in their higher education systems. Moreover, they are enhancing their support at a time when the UK is contracting funding, against widespread acknowledgement that further investment in our universities will be essential to their continued success and to the growth and competitiveness of the UK economy.

“There is no denying that the high peaks cannot make up a significant proportion of the whole... and Europe needs these peaks.”

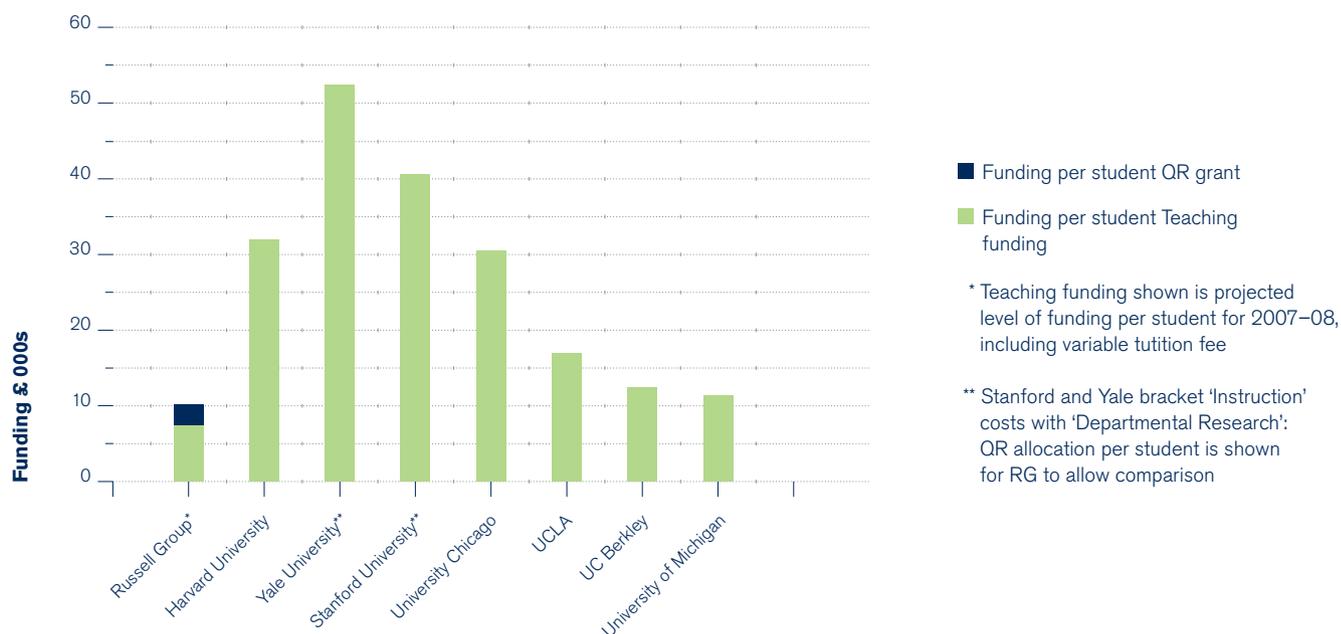
P. AGHION, ET AL. HIGHER ASPIRATIONS: AN AGENDA FOR REFORMING EUROPEAN UNIVERSITIES

1.0 The UK's research-intensive universities are under-resourced in comparison with international competitors and in the eyes of key stakeholders

According to recent OECD data, the UK's annual expenditure on higher education is lower than most other OECD countries, in terms of a proportion of GDP per capita, expenditure per student, and as a proportion of total education funding. The UK spends approximately \$15,447 (USD) per student, while the US spends \$25,109.³⁰ Relative to GDP per capita, Australia spends roughly 25% more per student, and the US spends 50% more per student. The UK spends just 1.3% of its GDP on higher education and is outpaced not only by the US and Australia, but also by Canada, Korea, Japan and even China.³¹ At 2.9% of GDP, the US spends more than twice what the UK does.

Figure 3: Comparison of funding per student within English Russell Group institutions and selected US universities³²

Funding per student (2007–08): Russell Group vs public and private US institutions



The disparities in levels of investment are even more dramatic when one compares the level of resource available to Russell Group universities with some of the best research universities in the US against which they compete (Figure 3).

As Figure 3 shows, funding per student is significantly higher within the elite private US universities. Even the public US institutions featured in the figure also appear to spend significantly more per student than the resource nominally available to Russell Group universities (see footnotes to Figure 3 for information on data used).

With much higher funding levels overall, the US universities are able to invest more in key aspects of the student experience. Between them the private US universities in the sample spent nearly £6000 per student on student services in 2007–08, almost as much as the overall resource per student available in Russell Group institutions. They spent on average £90m on library services, or £5700 per student. Moreover, even with these levels of investment, leading US institutions have recently identified a need to further enhance the quality of the student experience they are offering. These figures indicate how difficult it is for Russell Group universities to compete on a level playing field with leading institutions in the US.

Within higher education, the need to ensure adequate investment in leading research-intensive universities has been widely recognised. According to a recent paper on reforming Europe's universities, "there is no denying that the high peaks cannot make up a significant proportion of the whole...and Europe needs these peaks".³³ There is little doubt that the UK's major European competitors, such as France and Germany, have taken this message on board. They and many other countries including Australia, China, India and the US, are increasingly concentrating investment in order to develop or sustain a limited number of high-quality research universities (see Figure 4).

"Our aim is quite simple: we want the best universities in the world."

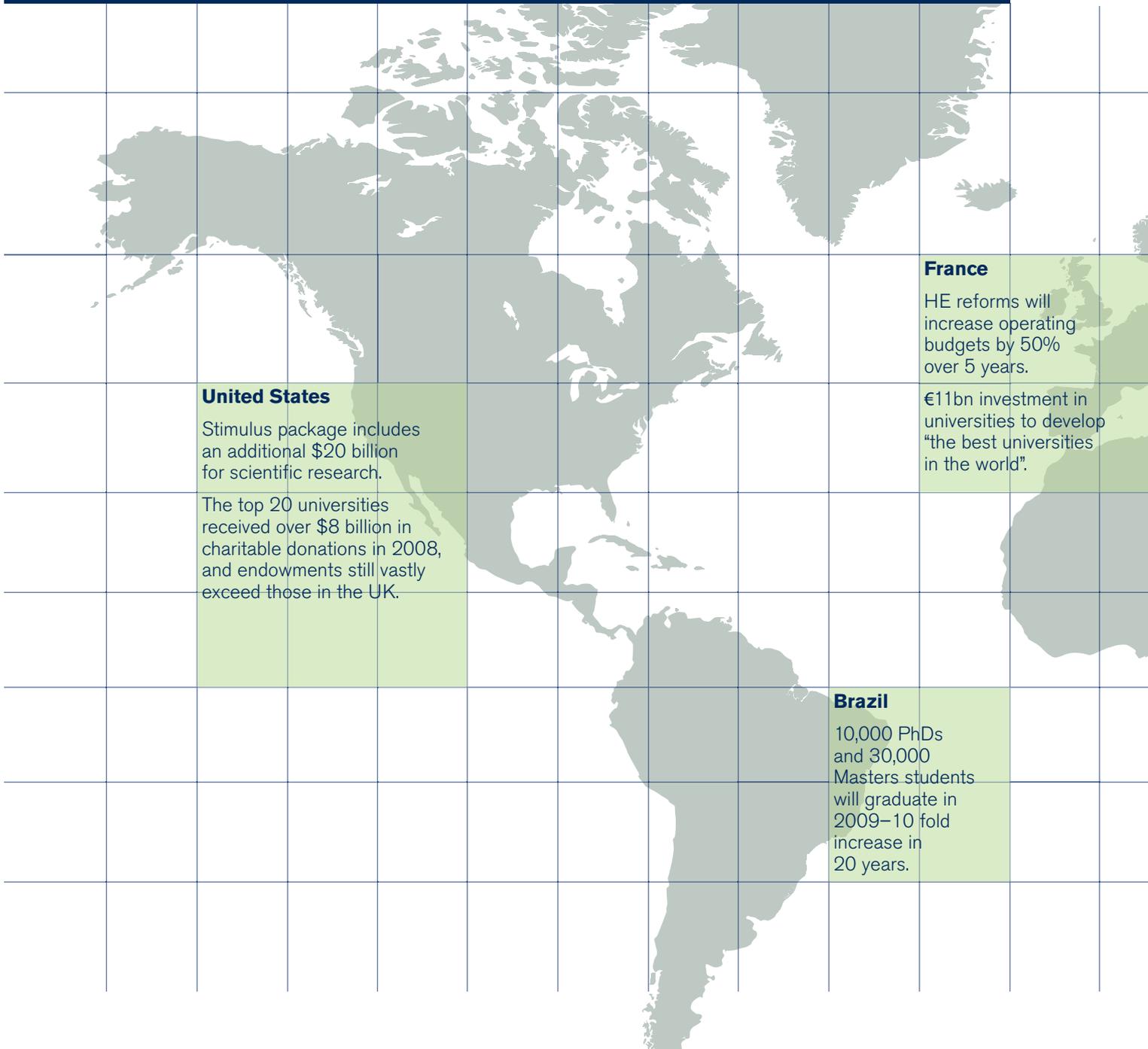
PRESIDENT NICHOLAS SARKOZY

SECTION 2 – INSUFFICIENT INVESTMENT THREATENS THE FINANCIAL SUSTAINABILITY AND COMPETITIVENESS OF RESEARCH-INTENSIVE UNIVERSITIES

– The **French** Government, as well as recently granting more autonomy to 20 universities, has established Operation Campus. This will direct funding to alliances of leading universities forming ‘super-campuses’, in an effort to make France’s universities more internationally competitive. More recently, the French president, Nicholas Sarkozy, has pledged an €11bn investment in the country’s universities as the centrepiece of a €35bn spending plan to prepare France for the “challenges” of the future, and to develop “the best universities in the world”.

– **Germany’s** Excellence Initiative concentrates funding on clusters of excellence to support leading research and strengthen the country’s universities. The German Government has just agreed a further €2.7bn (on top of the original €1.9bn) in funding for the Excellence Initiative.

Figure 4: Overview of international investment in higher education



- **Denmark** underwent an extensive process of mergers in 2007, during which it rationalised the number of universities and independent research institutes. From 12 universities and 13 national research institutes, the new ‘map’ of research and higher education in Denmark resulted in just 8 universities and 3 national research institutes. One of the key rationales for the process was the need to achieve greater international exposure for the new institutions which resulted.
- In 1998, **China** announced its goal of building world-class universities. Its strategy is to concentrate resources on a small number of institutions to enable them to become internationally excellent. ‘Project 985’ focussed on just ten universities, committing €1.27bn in its first phase, between 1995 and 2003. A second phase, which ran from 2003-07, included 39 higher education institutions (HEIs), and a significantly higher budget.³⁴ Following these high levels of central government investment, China’s ten historic universities have been climbing up international university league tables.
- **South Korea’s** World-Class University Project provides 830bn won (around £4bn) in funding for 18 universities to support their international competitiveness.



SECTION 2 – INSUFFICIENT INVESTMENT THREATENS THE FINANCIAL SUSTAINABILITY AND COMPETITIVENESS OF RESEARCH-INTENSIVE UNIVERSITIES

Some countries, like Germany and France, have previously been able to enjoy relative economic success despite lacking many universities which could be described as world-leading. However, they recognise that they can no longer rely on their former economic strengths and need now to improve the quality of their universities. They know that times have changed and that, increasingly, a knowledge-intensive, high-tech economy relies on the presence of leading universities to remain competitive and productive. As many of the world's economies aim to become more knowledge-based, the need for excellent universities therefore becomes more pressing. André Sapir has noted that the stagnation of economic growth in the EU has resulted from "its failure to transform itself into an innovation-based knowledge economy." His report on European growth notes that Europe's future competitiveness will depend on investment in R&D and higher education.³⁵

In those countries where investment in research-intensive universities is being increased, it will help universities attract more and more talented international staff and students.

Evidence shows the importance of maintaining "concentrations of talent"³⁶ in world-leading institutions to preserve a strong international reputation for excellence in higher education. Due to existing strengths in research and higher education, the UK already finds itself in a strong position as a leading knowledge economy. If the UK is to maintain this lead, and to continue to benefit from world-class universities, it is critically important that our institutions are adequately resourced to compete for talent with those in other countries. It would be a great shame, and profoundly to the detriment of the UK's future prosperity, if the current success of the country's universities were to be eroded in the future through insufficient levels of investment.

"There is a need for aggressive investment in R&D [and] in Russell Group universities."

WILL HUTTON, *THE INNOVATION REVOLUTION*, PRESENTATION TO THE STRATEGY UNIT, 23 SEPTEMBER 2009 (WWW.CABINETOFFICE.GOV.UK/MEDIA/306759/INNOVATION-REVOLUTION.PDF)

The UK punches above its weight in the international sphere – a fact which international league tables, for all their faults, make very apparent. However, as these tables also show, other countries are catching up and many stakeholders and commentators have emphasised that current funding levels will not be sufficient to sustain the pre-eminent position of the best UK universities in the long-term.

The CBI's higher education taskforce in its report *Stronger Together: Businesses and Universities in Turbulent Times* notes the importance of a world-class university system to a competitive economy and to the success of business. It states that, "a vibrant university sector is critically important to the wellbeing of the UK." The Director General of the CBI has emphasised that

the UK's world-class university system is one of its key competitive advantages. These sentiments have also been echoed by Sam Laidlaw, Chief Executive of Centrica and Chair of the CBI's taskforce, who has stated that higher education will be "critical to our economic recovery and sustaining our international competitiveness".

"Higher education matters. It matters for the UK: it will be critical to our economic recovery and to sustaining our international competitiveness."

SAM LAIDLAW, TASK FORCE CHAIRMAN AND CHIEF EXECUTIVE, CENTRICA (SPEECH TO LAUNCH THE CBI HIGHER EDUCATION TASK FORCE REPORT, 20 OCTOBER 2009)

However, the CBI report also notes that public funding will come under "severe pressure" over the next few years at the same time as universities face growing competition from around the world. The report notes that, in such an environment, heavy cuts in the public funding of teaching and research would damage the long-term competitiveness of the UK. It recommends increasing support for universities through making savings in the student support system and increasing private investment, both from businesses and students.

The Council for Industry and Higher Education (CIHE), which also represents a cross-section of business and university members, has likewise made the case for raising investment in UK universities. The Council's 2008 report *US and UK competitiveness and the role of universities* points out that "all who benefit from higher education will have to invest more to sustain our internationally competitive university sector." More recently, Richard Brown, former Chief Executive of the CIHE, has published a report which sets out the contribution which higher education makes to our economy and the need to increase investment in universities. It concludes that universities are vital to our economy and society, but that their funding is under pressure, and new measures need to be explored to address this funding challenge.³⁷

Leading economic thinkers such as André Sapir, of the Brussels European and Global Economic Laboratory and Will Hutton, Executive Vice Chair of the Work Foundation, have stressed the need to invest in leading universities to promote economic growth. Sapir, in his report to the European commission, highlighted under-investment in universities as one of the key reasons behind Europe's lack of growth in comparison to the US,³⁸ and has subsequently emphasised the need for European nations to invest more in science and higher education.³⁹ Will Hutton has emphasised the critical role that investment in universities will play in the UK's economic future and the need to invest in world-class infrastructure, including universities,⁴⁶ calling for "aggressive public investment in R and D [and] Russell Group Universities".⁴⁰

Cost pressures on teaching and research: risks to the long-term future of world-class higher education



**SECTION 3 – COST PRESSURES ON TEACHING AND RESEARCH:
RISKS TO THE LONG-TERM FUTURE OF WORLD-CLASS HIGHER EDUCATION**

1.0 Evidence indicates that the financial sustainability of the higher education sector is at risk

Evidence in the previous sections of this report has demonstrated that research-intensive universities in the UK will need continued and increasing investment if they are to maintain their currently high levels of excellence, and compete with leading institutions elsewhere. Increasing student demand means that universities are already facing a difficult choice between restricting levels of participation or compromising on the quality of the student experience.⁴¹ For Russell Group institutions further expansion in student numbers without adequate funding to research-led teaching poses an unacceptable threat to the quality of teaching.

Data from a recent JNCHES review of higher education finance and pay data show that the average institutional operating surplus is just 1–2%. Further analysis based on the TRAC-adjusted costs⁴² even suggests a significant deficit. The JNCHES report concludes that the higher education sector is largely sustainable in the short term, but that “the levels of surplus and investment of HEIs are too low confidently to assure a sustainable future.”⁴³

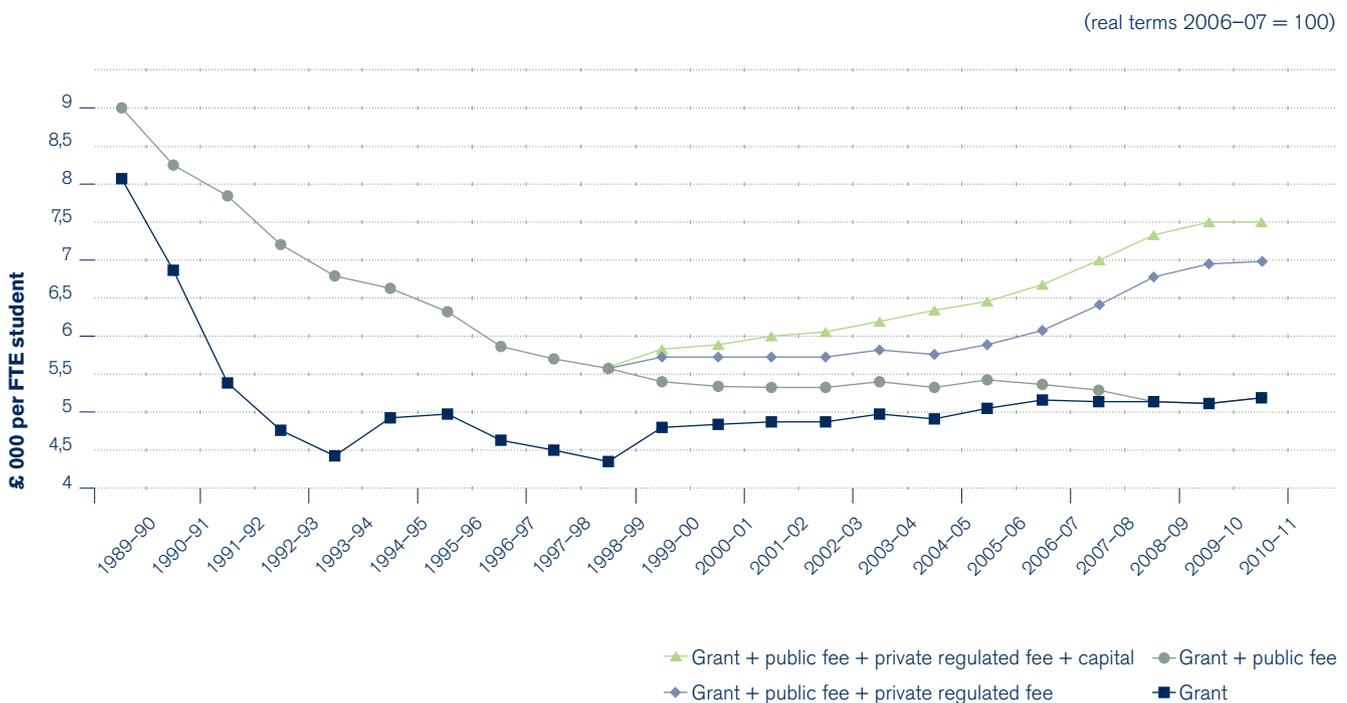
2.0 Investment through variable fees and other income sources has helped to address a backlog of under-investment in teaching

During the 1990s and early 2000s, the combination of a rapid expansion in student numbers together with static levels of public funding led to a serious decline in the funding per student, which threatened the long-term sustainability of much of the higher education sector. Between 1989 and 2005, the percentage of the relevant age cohort enrolling at university expanded from 16% to 43%. In the absence of a concomitant increase in funding, this led to a real-terms decline in funding per student of 40%, jeopardising the quality of education which universities were able to offer (see Figure 4).

Over the last decade a number of important reforms and enhanced public funding have improved the financial position of English universities in a number of respects:

- The introduction of tuition fees, firstly the flat fee of £1100 followed by the introduction of top-up fees to a maximum of £3000⁴⁵ per annum, has significantly increased income to universities. HEFCE data shows that variable tuition fees had increased the sector’s income by just under £1bn after the first two years.⁴⁶ It is important to note, however, that the income from this source currently represents just 6%, on average, of the total income received by Russell Group institutions.⁴⁷

Figure 5: Longitudinal view of planned unit of funding for teaching⁴⁴



- The unit of resource (the average level of public grant plus public fee per student) has been relatively stable from 2000–01 onwards. The Labour Government committed to maintaining the unit of resource in England until 2010–11, but recent announcements of cuts to the higher education budget may undermine this commitment.
- Additional capital funding has been made available through the Capital Investment Fund and similar programmes. This has underpinned vital investment in new and improved buildings and facilities.

However, prior to the introduction of fees, years of under-investment had created a significant resource backlog for institutions to address.⁴⁸ Therefore, whilst recent investments have greatly improved the financial basis for higher education, ongoing investments are required to maintain the progress that has been made in recent years.

A report on the sustainability of learning and teaching in higher education produced by the Higher Education Financial Sustainability and Strategy Group (FSSG) concludes that the financial sustainability of the UK's higher education system could be assured by an "uplift in public funding to provide a level of resource to institutions...closer to the full economic cost of future sustainable teaching", and that "this would imply moving closer to the levels of resourcing that were available before the unsustainable expansion in the 1990s, or are seen in some competitor OECD nations".⁴⁹

2.1 Tuition fees have enabled institutions to make necessary investments to support a world-class student experience, but sustained investment is required

If the UK is to continue to benefit from world-leading universities, it is important that its leading institutions are able to offer an outstanding learning experience. Accordingly, Russell Group universities have sought to invest in all aspects of the student experience to ensure that they are able to continue to deliver the very best research-led education. Additional income through variable fees has helped Russell Group universities to make these investments and to deliver much needed improvements in the quality of education and the all-round learning experience. This has been achieved through:

- investing to support a research-led teaching model: improving student–staff ratios and attracting and retaining world-class staff;
- investing in improved infrastructure for learning and teaching;
- supporting changes in curriculum and assessment;

- adapting to a changing student population;
- providing improved student support services.

Increased income from variable fees has certainly helped universities to address a backlog of investment in infrastructure and equipment which built up following years of under-funding. However, there is also convincing evidence of ongoing cost pressures in each of the key areas listed above, meaning that more investment will be required in the future. In the absence of additional and ongoing investment, these continuing cost pressures threaten to erode the advances in student experience and teaching quality which have been made.

The following paragraphs set out how Russell Group universities have been targeting investment in the student experience in the areas listed above and demonstrate that increased investment in each of these areas will continue to be necessary in the future. It is important to note that income from variable fees is just one in a broad range of income sources on which universities depend (see Figure 2) and investments in the student experience have often depended on multiple other income streams as well as fees. In particular, government funding to support capital and infrastructure investment has been vital in allowing universities to improve existing facilities and invest in new buildings and equipment to ensure the best possible education for students. Therefore, it is not always possible to link programmes of investment directly to income from fees alone. However, it is clear that amongst other factors, increased fee income has played a key role in enabling universities to make investments of this kind. It is in this context that many of the specific programmes of investment highlighted in the following section should be seen.

2.2 Investing to support a research-led teaching model

An education model in which teaching is integrally linked to research is resource-intensive, and depends in particular upon sufficient numbers of high-quality, research-active academics. The characteristics of this learning experience are discussed in more details in our paper *Research-led learning: the heart of a Russell Group university experience*.⁵⁰ Investment in the recruitment and retention of such staff, and in bolstering academic staff numbers to improve the ratio of staff to students, is therefore one of the key ways in which income from variable fees has been invested to enhance the learning experience of students within Russell Group universities.

"We have used income from variable fees to help to fund the core teaching objectives identified in the University Strategic Plan, in particular to sustain the teaching of students by senior research-active academics."⁵¹

SECTION 3 – COST PRESSURES ON TEACHING AND RESEARCH: RISKS TO THE LONG-TERM FUTURE OF WORLD-CLASS HIGHER EDUCATION

Improving student–staff ratios

Research-intensive universities continue to lead the UK sector in maintaining low student–staff ratios (SSRs), and this is integral to a high quality research-led education.⁵² For some Russell Group universities, maintaining low SSRs has been a specific focus for investment of the additional income obtained through variable fees. For example, the University of Leeds has targeted fee income towards staff recruitment aimed at reducing SSRs, achieving a reduction of almost 20% since 2001. Other Russell Group universities have also invested income from variable fees in creating new academic staff posts, making significant reductions in their SSRs. The University of Southampton achieved a 21% reduction last year and the University of Bristol achieved an 11% reduction.⁵³ Case studies 1 and 2 illustrate how students at University of Liverpool and Newcastle University have benefited from the universities' investments in university staff and in reductions in SSRs.

The report on the sustainability of learning and teaching in higher education produced by the FSSG found that SSRs within universities have, overall, grown significantly over the past 15 years.⁵⁴ The impact of these ratios on the quality of teaching is complex. Most importantly, it is the *quality* of the interaction which students have with staff, including the kind of academics teaching them, their seniority, and their active participation (or not) in research, which has the biggest impact on teaching quality. Nevertheless, a reduction in the amount of contact they have with academics has generally been regarded negatively by students, and some strategies introduced by universities to cope with increasing SSRs, including increasing the size of teaching groups, have negatively impacted upon the student experience. It is for these reasons that Russell Group universities have focussed so much investment on tackling this issue.

An ongoing commitment and additional investment in this area remain necessary. The FSSG working group concluded that “the current level of SSRs is not sustainable in the medium-term...without some other compensating investment by institutions. If this is not achieved, and the elevated level of SSRs continues, the quality and reputation of UK teaching will be at risk”.

CASE STUDY 1

Investing to reduce student–staff ratios (SSRs) University of Liverpool

The University of Liverpool has undertaken a sustained programme of investment to create new staff posts, reducing the SSR and improving the student experience.

Since the introduction of variable fees, the university has invested 35% of the additional income from fees in new academic posts. The result has been a significant improvement in the SSR (HESA stats show a 12% improvement in the two years between 2005–06 and 2007–08), and the university now boasts one of the lowest SSRs in the country.

Such a significant improvement has important benefits for the learning experience of Liverpool's students. The benefit is not limited to more contact time and greater availability of academic staff. The investment in new posts has also brought new expertise to its teaching, allowing new programmes to be offered, a greater choice of modules, and a more enriching and rewarding education for students.

CASE STUDY 2

Investing in research-led learning Newcastle University

Newcastle University has invested in the recruitment and retention of leading academics to help maintain a high-quality, research-informed learning environment for its students.

It notes a number of ways in which the additional income which variable fees have provided has helped support this strategy:

- Fees have assisted institutional efforts to improve student–staff ratios (SSRs). Over the period from 2005–06, against a growing student population, Newcastle has reduced its overall SSR from 15.2 to 14.9.
- Recruitment of key researchers has led both to an improved research profile and the enhancement of research informed teaching.
- Fee income has supported the university's contribution to pay increases agreed across the sector.
- This investment has helped maintain the university's competitive position in the international higher education market.

Helping to meet the growing costs of attracting and retaining world-class university staff

As noted above, the quality of education which a student experiences depends not merely on the SSR in their department, or the *amount* of contact they have with academics, but the *quality* of that contact. Universities' ability to attract and retain high quality, research-active academics is therefore fundamental to delivering a high quality research-led education.

Russell Group universities are committed to ensuring that their students are taught by the most talented and highly qualified academic staff. To maintain this commitment, it is essential that universities are able to offer internationally competitive pay and reward packages, the cost of which has grown significantly in recent years.⁵⁵

Russell Group universities operate in an increasingly global recruitment market. Around 30% of academic staff within Russell Group universities are from overseas compared with 21% for the sector as a whole.⁵⁶ In the past, the recruitment of leading academics from overseas has helped Russell Group universities to enhance and, in some cases, to pioneer UK research within key academic fields. However, the disparity in resources between institutions in the UK and those in some other OECD countries may restrict our universities' ability to do this in the future.⁵⁷

An international comparison of academic staff salaries has shown that salaries for senior academic staff in the UK are outmatched by those paid by many international competitors. The UK ranks only 7th in a table of 15 developed and developing countries, with higher salaries being paid to senior academic staff in Canada, the US, Australia, New Zealand and Saudi Arabia.⁵⁸ World-leading academics are particularly mobile. Such individuals will come to or remain in the UK only as long as they regard the career opportunities and remuneration to be competitive with what might be available overseas.

Being taught by leading academics enhances the student experience and is considered by students themselves to be a core aspect of world-class teaching.⁵⁹ Without the additional resources provided by variable fees, Russell Group universities would have been increasingly constrained in their ability to recruit the best international talent and thereby to maintain the quality of their research and teaching.

However, there continue to be cost pressures here as well. Recent data for 13 Russell Group institutions show that staff costs rose by around 4% between 2007–08 and 2008–09.⁶⁰ This represented more than three times the corresponding increase in home and EU undergraduate fees for the same year. This illustrates the difficulty that the UK's leading universities face in sustaining adequate investment in their staff. Such investment is essential if they are to continue to perform on a par with other leading universities around the world.

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2.3 Investing in improved infrastructure for learning and teaching

High-quality buildings and facilities are essential to supporting world-class teaching and an outstanding student experience. Data from the International Graduate Insight Group (IGRAD) highlight just how important learning facilities are to international students. For example, good internet access was rated consistently as being of the highest priority, along with high-quality library facilities, sports facilities and good accommodation. In all of these areas, international students at Russell Group universities report a level of satisfaction equal to, or greater than, those at leading international competitors.⁶¹

This success has been built on the back of substantial investment in recent years aimed at providing the highest quality facilities for students. The University of Nottingham has recently invested in 'learning hubs' in a number of its libraries. The hubs have helped create a more attractive and flexible learning environment for students, supported by state of the art equipment and technology. The University of Sheffield has invested in an 'Information Commons' to deliver an integrated print/digital learning environment for students. Similar investments have been made across the Russell Group, not only in libraries but in accommodation, sports facilities, new technology and other facilities. Investing in such infrastructure is one of the key ways in which Russell Group universities have improved the quality of the student experience.

These investment programmes have undoubtedly contributed to the success of Russell Group universities, measured against their international competitors, which was highlighted in section Section 1 of this report by the data from the international student barometer survey (see Figure 1). Yet these data also indicate key areas for improvement. International students at Russell Group universities regard learning spaces as a key priority (more so than students within the index of global leaders), yet they appear to be somewhat less satisfied with provision in this area than their peers at other leading institutions.

Recent investments in infrastructure will therefore need to be sustained if Russell Group universities are to offer a teaching and learning experience in the future which remains world-class.⁶² In addition to fee income, dedicated capital funding from the funding councils has been very important in helping universities to address many of their outstanding investment needs. However, the UK higher education sector is still facing a backlog on infrastructure investment in learning and teaching. The FSSG report found that UK universities "are not investing near the sustainable level...and significant additional investment is required".⁶³

2.4 Supporting changes in curriculum and assessment

Research-intensive universities have striven to offer a quality of teaching and assessment which has kept pace with the changing requirements of modern higher education. Many courses now offer more modular learning and assessment and have become increasingly flexible, often adapting to meet the changing demands of students and employers. New courses have been developed in close co-operation with employers, such as the *Flying Start* accountancy degree developed by Newcastle University in collaboration with PriceWaterhouseCoopers, and the professional development Masters programme which the University of Bristol has developed for Rolls Royce engineers.

In other cases, Russell Group universities have developed more flexible provision for students from diverse backgrounds, such as the '2+2' degrees offered by the Universities of Warwick and Liverpool, where students study for two years at a local college, before taking their final two years at the university itself.

Russell Group institutions have also taken steps to embed broad employability and entrepreneurial skills within curricula and to support extra-curricular programmes and initiatives which enhance students' wider skill-development and experience. Many of these programmes, and the way in which they have enhanced the employability of Russell Group students, are explored in a Russell Group paper: *The employability of Russell Group graduates – employer perspectives and the activities of Russell Group universities*.⁶⁴

Technology-enabled learning and innovative teaching methods are a key aspect of Russell Group universities' efforts to modernise their curriculum and assessment. Case Study 3 illustrates this.

CASE STUDY 3

Investing in E-learning University of Nottingham

The University of Nottingham has recognised the importance of incorporating e-learning within its teaching activities and has invested significant resource to develop a more coordinated e-learning strategy across the University.

Building on £750,000 of its own funds, together with £480,000 from the funding council, the university has invested in skilled staff, such as graphic designers, software developers and educational technologists, to support the development of innovative teaching programmes across the university's curriculum.

One of the most successful ventures has been the creation of a new software tool, Xerte, which enables academics to develop learning objectives simply. The tool's success has been recognised by numerous awards, including a short-listing in the World Innovation Summit for Education Awards 2009, and is now used in over 100 institutions worldwide.

E-learning has been widely used within the university to support novel curricula and new learning methods. 'Flagship' projects include the development of an MSc in Brewing Science and a 'One Stop Language Stop' to provide learning support for students studying one of the 15 modern language courses taught at Nottingham.

These changes have undoubtedly enhanced the learning experience of many students, but they have also been costly. The FSSG report found that more frequent renewal of courses, the introduction of increasingly modular learning and assessment, and the increasing requirement for courses to become more flexible and responsive to the changing demands of students and employers, have all imposed significant additional costs on university teaching. This point is re-iterated in the Joint Negotiating Committee for Higher Education Staff (JNCHES) *Review of Higher Education Finance and Pay Data*.⁶⁵ It notes that, "the higher education sector is adapting to the more marketised environment that the Government wishes to see, but institutions are incurring extra operating costs in doing so and these will continue for the foreseeable future."

This is another area in which feedback from the international student community indicates that improvements could be made. The international student barometer survey (see Figure 1) shows that, whilst Russell Group universities perform strongly against the index of global indicators on elements of the learning experience such as employability and careers advice, overall levels of satisfaction in these areas are still significantly lower than in other aspects of teaching. Levels of student satisfaction with performance feedback are also relatively low both within Russell Group universities and the global-leaders' index.

The introduction of variable fees has contributed to recent increases in the overall level of resource per student, which has helped Russell Group universities to support investment in more expensive, flexible modes of teaching. Movement towards more costly teaching models which better meet student demand is only likely to continue. Ongoing investment will therefore be essential if universities are to be able to continue to develop new curricula and teaching methods and to ensure their sustainability.

2.5 Investing to support a changing student population

Russell Group universities have also devoted significant resources to widening participation and to ensuring fair access from students from increasingly diverse backgrounds. This investment has drawn to a large degree on the additional resources which universities have received from variable tuition fees. In 2007–08, Russell Group universities spent £40m between them on bursaries and scholarships and more than £5m on additional outreach activities. On average, they devoted 26% of their additional fee income towards bursaries, scholarships and widening participation initiatives.⁶⁶

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Many of these widening participation initiatives, such as the foundation years for aspiring medics at King's College London and the interdisciplinary science foundation programme at the University of Leeds, have had marked success, but they are also costly. For example, the King's College Extended Medical Degree programme costs approximately £190,000 a year for academic staff alone, for an intake of fifty students.

Through expanding these and similar programmes Russell Group universities could do more to increase access, but this will rely on further investment. It is also essential that Government and others focus on addressing the disparity in attainment in school education, which remains the principal barrier to participation in higher education, particularly at world-class universities.

2.6 Providing improved student support services

The FSSG report found that there has been a necessary increase in the range, quality and expertise of student services across the sector, and that the cost of these services has “grown very significantly” in the last 15 years.

Variable tuition fees, alongside improved levels of public investment, particularly in capital grants, have helped Russell Group institutions to invest more in providing comprehensive assistance and support to their students. Student support services have been developed extensively within Russell Group universities in recent years and are an important part of improving retention and attainment among a more diverse student population, as well as responding to the additional demands and expectations of students paying variable top-up fees.

These kinds of investments have added to the cost of teaching and learning but are a major factor in maintaining universities' international competitiveness. For example, a study for the charity Mobility International USA recently

commended King's College London and University College London for their comprehensive services for international students with disabilities.⁶⁸ The need to continue to enhance student support services will require ongoing investment and attention by universities.

3.0 Improvements in the student experience have been reflected in high levels of student satisfaction, but further investment will be required to sustain this

The preceding paragraphs have highlighted the impact of additional investment, in many cases supported by income from variable fees, across almost every facet of the student experience at Russell Group institutions. Annex A contains further case studies demonstrating how universities have been investing in projects and activities to enhance the student experience. Whilst tuition fee income has made an important contribution to the success of many of these examples, other income streams, including capital funding, have also played an important part.

The commitment made by Russell Group universities to enhancing the learning experience of their students is reflected in very high levels of student satisfaction. Section 1 highlighted the very high levels of satisfaction with Russell Group teaching amongst international students (see Figure 1). Results from the National Student Survey also show that Russell Group students report high levels of overall satisfaction with the quality of their teaching, above the average for the sector as a whole (see Table 1). Moreover, satisfaction levels have shown a small but steady increase since 2005, with only a very slight decline reported for 2009 (the first year in which students paying variable fees were surveyed).

Table 1: National Student Survey results: 2006–09

Provisional sector results for Question 22, answered by full- and part-time students

SURVEY YEAR	2005	2006	2007	2008	2009
OVERALL STUDENT SATISFACTION LEVEL (RUSSELL GROUP AVERAGE)	83.8	84.3	84.9	85.7	85.1
OVERALL STUDENT SATISFACTION LEVEL (SECTOR AVERAGE)	81.2	80.3	81.5	82.5	81.9

Percentages are for respondents who “definitely” or “mostly” agreed with question 22, “Overall, I am satisfied with the quality of my course”. NB Comparisons between years should be made with caution because the profile of the respondents will differ and this has not been adjusted for.

The delivery of high-quality teaching and learning requires a long-term, sustained commitment. Without the increases in fees and other income streams they have experienced in recent years, Russell Group universities may have been able to continue delivering high-quality teaching for a time. However, chronic under-investment in the facilities and personnel needed to sustain a world-class higher education institution would eventually have led to a serious decline in the quality of teaching and the learning experience of students.

“Without the overall level of funding received, difficult decisions would have to have been made so that the University lived within its means. Expansion and improvements would have been scaled down or abandoned and the widening participation initiatives diminished and probably less effective.”

UNIVERSITY OF NOTTINGHAM

4.0 Research-intensive universities face particular cost-pressures on teaching

Sector-wide figures on the costs of teaching show a small TRAC-adjusted⁶⁹ deficit on publicly-funded teaching. Figures reported to HEFCE for the financial year 2008 show that there was a deficit of close to 3% of teaching income on publicly-funded teaching. However, research-intensive universities face particular cost pressures which result from a model of education involving low SSRs, top quality equipment and resources, and teaching by leading academics.

Many of our institutions point to TRAC data which shows significant deficits on the funding of their undergraduate teaching. University College London reports an overall deficit on publicly-funded, regulated teaching of over £2m. The Universities of Cambridge and Oxford report deficits on publicly-funded teaching (including bursaries) of around £8000 and £7000, respectively, per full time equivalent student.⁷⁰

Such deficits are often particularly apparent in certain laboratory-based subjects such as chemistry. As an example of the funding gap which many research-intensive universities may be faced with in teaching these subjects, the case study below provides a real example of the resource gap involved in teaching a chemistry student at one institution.

CASE STUDY 4

The costs of teaching ‘Chemistry Student X’ at one Russell Group university

The following figures provide details of the income and expenditure involved in teaching a chemistry student at one Russell Group university in 2007–08. The SSR for chemistry at the institution in question is just over 13.

- Cost of teaching (per undergraduate FTE): £14,190
- Income received per student:
 - Funding Council grant: £7500*
 - Tuition fee: £3070
 - Total Income: £10,570
- Loss = £3620 per undergraduate FTE

* Based on HEFCE standard resource for Chemistry in 2008–09 plus various additional targeted allocations/weightings

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These estimates are supported by a forthcoming study from the Institute of Physics and Royal Society of Chemistry, which analyses the cost of teaching chemistry and physics in a sample of universities.⁷¹ The study finds that, partly due to increased income from variable fees, average deficits on teaching within physics and chemistry departments have shrunk significantly since two previous surveys which were conducted in 2002–03 and 2003–04. Nevertheless, the updated study has found that chemistry departments in particular continue to report deficits of 10%, on average, on teaching home and EU undergraduates. Physics departments reported a very small surplus (1.7% on average), but there was wide variation across the sample, and many departments reported considerable deficits of up to 31%.

It is important to point out, however, that the resource deficits faced by many Russell Group institutions are not limited to provision in what are acknowledged to be high-cost science subjects. Research-led learning in arts, humanities and social science disciplines is also underfunded in many institutions. For example, the LSE reports an average shortfall of £1700 per student.⁷²

Currently, many universities manage these shortfalls by subsidising from other income streams. However, such an imbalance in resources clearly poses a threat to the long-term sustainability of high quality teaching in many areas.

5.0 Increasing investment has fuelled the UK's research success, but much research remains under-funded

Sustained public and private investment in the UK's research base has produced impressive results in recent years, with the country's research output now rated second only to the US in its share of global citations and scientific publications. Increased investment (particularly between 2000 and 2008) has also begun to put the research base on a more sustainable footing.

Nevertheless, much research continues to be underfunded, and rising costs in a number of areas exacerbate the impact of funding shortfalls. Indeed, evidence across the sector as a whole indicates that it is within research activity that universities experience the most significant cost deficits.⁷³ This existing funding shortfall, coupled with continuing and rising cost pressures, represents a major threat to the long-term financial sustainability of university of research, and of research-intensive universities in particular. Along with the pressures facing university teaching, and in the absence of further investment, these pressures on research activity threaten the future competitiveness of the UK's leading universities and the overall quality of the education they are able to deliver.

5.1 The costs of employing academic staff are increasing in a global market for talent

Probably the most significant upward pressure on research costs has been the recent increases in academic staff salaries and pension costs. As discussed in detail earlier in this report (in the section entitled "Helping to meet the growing costs of attracting and retaining world-class university staff"), high-quality academic staff are the single most important attribute of leading research universities, underpinning both their world-class research and the quality of the research-led learning experience they offer students. Russell Group universities operate in a competitive global market for the most talented and most successful researchers. Investment in competitive pay and reward packages has therefore been vital to sustaining world leading research within the sector, but it has introduced major pressures on the long-term funding of research-intensive universities.

5.2 The nature of the research endeavour is changing and introducing significant new costs

As research continues to push towards new boundaries of knowledge and understanding, the very nature of research and the environment and facilities within which it is conducted must change in order to keep pace with the latest developments.

These changes can inevitably lead to rising costs. A good example of this is research within the life sciences, where many disciplines are increasingly shifting from small-scale to 'big-science' activity, such as high-throughput screening of potential drug candidates, or the use of large-scale facilities such as synchrotron radiation sources to probe the nature of complex biological molecules.

Many scientific disciplines, from the study of climate change to astrophysics, are increasingly reliant on the storage and handling of enormous quantities of data. Investment in high-performance computing to cope with these demands can be extremely expensive, but is essential if universities are to continue to remain at the cutting edge of research.

5.3 Many PhD positions are underfunded

The importance of PhD students to the university research and teaching environment is emphasised in the Russell Group response to the Government's review of postgraduate education.⁷⁴ Universities depend on PhD students to underpin their research activities, particularly in laboratory-based subjects. Doctoral students are essential to the research endeavour, carrying out important work to deliver a department's research programme whilst at the same time studying and developing their own skills. With proper training and support, doctoral students also play an important role in helping to teach undergraduates, including demonstrating practical skills and techniques.

Yet evidence suggests that most PhD positions continue to be underfunded. Russell Group universities have estimated that this shortfall amounts to £15,000–£20,000 per student per year, equivalent to between £10m and £15m per year for a typical Russell Group university.⁷⁵ A shortfall of this magnitude is clearly unsustainable in the long-run, and represents an additional threat to the long-term competitiveness of research-intensive institutions.

5.4 There are growing costs associated with regulation and energy

Research within the UK, particularly in the life sciences, must comply with a growing raft of regulation. This includes regulation on the use of animals in research, the use and storage of tissue, the performance of clinical trials, and the use of personal data, to name just a few areas. This regulation is of course necessary to protect patients and research participants, to ensure research is of the highest quality and to maintain compliance with international standards. However, it also represents a significant and growing cost in many areas of research.

Research activity, particularly within the sciences, often consumes very large amounts of electricity. Fluctuations in energy costs can therefore place significant financial strain on universities, particularly severe because the terms of a three or five year research grant will not allow for additional funding to cover such fluctuations. The recent steep rises in energy prices have driven up the cost of research considerably.

5.6 Rising costs impact on the sustainability of research funding

Many of the cost pressures described above are not new, yet the growing pace of change at the cutting edge of many fields of research means that in recent years they have begun to make an increasingly significant impact on the cost base of universities. Nor are these pressures unique to UK universities. The Executive Director of the Group of Eight Australian research universities has pointed to similar cost pressures on research.

“Exponential growth in knowledge, increasing cross-disciplinary research, internationally co-authored articles, and expanding use of digitisation and computational capacity are not recent developments, but the pace and scale of their expansion raises the participation cost threshold in many fields.”⁷⁶

EXECUTIVE DIRECTOR OF THE GROUP OF EIGHT AUSTRALIAN RESEARCH UNIVERSITIES

The Australian Government has responded to these pressures with a \$5.4bn funding package for higher education, which included a \$3bn investment in higher education infrastructure and a \$0.5bn investment in ‘Sustainable Research Excellence in Universities’, among other measures.⁷⁷

These rising costs mean that increased investment is essential if research is to be funded in a sustainable manner in the future. There are significant difficulties in obtaining accurate estimates of the extent to which research in universities is currently under-funded. Most importantly, the fact that the TRAC accounting framework only allows for a 37 hour week means that accurate allocation of staff time is difficult, and precise assignment of funding deficits is therefore problematic.⁷⁸ Nevertheless, it seems clear that much research activity within universities remains under-funded. When research council funding and capital funding are combined, universities recover around 90% of the full economic costs of research. They can often recover less than this level from other funders, such as the EU, and charities. In this context, continued upward pressure on research costs will add to the increasingly severe challenge of ensuring the long-term sustainability of university research.

**SECTION 3 – COST PRESSURES ON TEACHING AND RESEARCH:
RISKS TO THE LONG-TERM FUTURE OF WORLD-CLASS HIGHER EDUCATION**

Figure 6: Operating surplus/deficits forecast for Russell Group universities – Version 2

Russell Group financial forecasting operating surplus



5.7 Evidence shows that there is a large funding deficit across the sector on research activity

The published ‘Single Conversation’ annual accountability returns from HEFCE provide a more detailed picture of the areas where the reported shortfall arises.⁷⁹ They show a significant TRAC-adjusted deficit on research activity across the sector, and a smaller overall deficit on publicly-funded teaching.

Across the sector as a whole, the TRAC-adjusted deficit on research is reported as being equivalent to almost a third of total income (or £2bn). This figure should be treated with some caution and may in part relate to measurement issues and aspects of the implementation of the TRAC methodology, particularly the allocation of staff time.⁸⁰ Nevertheless, this significant deficit reflects the fact that, despite an improvement in recovery of the full economic costs of research from the research councils and other funding agencies, universities continue to make a loss on their research activity. They remain insufficiently resourced to make the investments necessary to maintain a world-leading research environment.

6.0 Financial forecasts show the scale of the savings which Russell Group universities will need to make in the face of these cost pressures and reductions in income

In order to show the level of savings which Russell Group institutions are likely to have to make to deal with the cost pressures they are facing, two analyses of cost balances across the group were carried out in August 2009.⁸¹ The resulting projections show what the collective financial position across the Russell Group would look like if a variety of assumptions about changes in income and expenditure are applied.

Two versions of the analysis were undertaken:

- Version 1 provides a relatively optimistic set of projections, based on changes to income and expenditure that were already known⁸² (apart from an assumption on pay).
- Version 2 incorporates some more stringent assumptions about future income and expenditure streams, including cuts in funding from the research councils and funding councils.

6.1 The data show a significant deficit emerging across the Russell Group, if no action is taken

The forecasts indicate that, in the absence of any remedial action, there would be a severe decline in the funding level of Russell Group universities over the four years of the analysis. Both analyses show a significant deficit emerging across the Russell Group, and an even greater deficit when measured against the full economic cost of ensuring long-term sustainability (see Figure 6, detailed methodology and results are available on request).⁸³

Since the analysis was undertaken, announcements of cuts in public funding have suggested that the assumptions for Version 2 are likely to be more realistic than those in Version 1. Figure 6 shows the operating surplus/deficits for Russell Group universities for Version 2 of the analysis.

6.2 These financial projects demonstrate the sheer scale of cost reductions which will be required, but Russell Group universities have made plans to prevent them becoming a reality

Russell Group universities manage their finances responsibly and, faced with reduced resources, will take action to ensure that, as far as possible, their finances remain balanced. This data is presented, therefore, as a possible worst-case scenario of the future financial outlook for Russell Group universities.

The projections take no account of the actions that universities have been considering over the last year in order to secure financially-sustainable futures. Many Russell Group universities have already identified the need to make significant cost reductions in preparation for difficult times ahead, and they are well on the road to achieving initial targets through implementing voluntary leaver packages and other cost-saving programmes.

The forecasts indicate that to avoid going into significant deficit, still less maintaining the level of operating surplus recommended by HEFCE, Russell Group institutions may well have to continue to make further significant cost savings, which may in turn have serious implications for their future ability to compete at the highest level of international quality. Alternatively, eliminating the deficit through an increase in home/EU fees would require a very significant increase in the fee above the current level.

The assumptions used in the models were made prior to the most recent cuts in the higher education budget. However, in light of the £449m cut in funding for English universities already announced by HEFCE for 2010–11, and £600m of additional cuts for 2011 and 2012 announced in the pre-budget report across the higher education, science and student support budgets, concerns about future significant financial deficits are valid.

It is possible that some of these savings could be made within the student support system, rather than funding for institutions. It is encouraging to note the additional funding announced for higher education in Budget 2010, the relative protection of research budgets, and the government announcement that the needs of world-class universities must be prioritised. Nevertheless, the forecasts help to demonstrate a very considerable challenge facing Russell Group institutions in dealing with the likely reductions in public funding over the short- to medium-term.

The models do not include any significant uplift in income from overseas fees, due to the difficulty of making accurate predictions. In recent years, fees paid by international students have become an increasingly important income source for UK universities and it has been suggested that increasing income from this source might enable universities to offset the emerging shortfall in public funding. However, the scale of deficit predicted by the Russell Group analysis is such that to eliminate it through overseas fees alone would require an annual increase of more than 200% in income from international students. Even the most optimistic projections on the growth of international student numbers would fall far short of this level. Raising fees from international students could also be risky, endangering the reputation of UK universities overseas and, ultimately, placing in jeopardy the stability of the UK international student market.⁸⁴ Given this context, it is clear that, although income from international students will continue to be an important revenue source for Russell Group universities, it cannot be relied upon as a solution to the financial difficulties they will face over the next few years.

It is beyond question that Russell Group universities will take the necessary action to secure their future financial sustainability. However, in light of the severity of the funding pressures they face, it is difficult to see how they can do this while continuing to make the necessary investments to maintain their international competitiveness.

**SECTION 3 – COST PRESSURES ON TEACHING AND RESEARCH:
RISKS TO THE LONG-TERM FUTURE OF WORLD-CLASS HIGHER EDUCATION**



Will efficiency gains and diversification of funding sources solve the funding problem?

SECTION 4 – WILL EFFICIENCY GAINS AND DIVERSIFICATION OF FUNDING SOURCES SOLVE THE FUNDING PROBLEM?

1.0 Universities are becoming increasingly efficient, but this alone cannot save sufficient resources

As demonstrated earlier in this report, Russell Group universities have continued to perform extremely well in the international sphere despite a disparity in resources between them and many of their global competitors. This success is to a great extent explained by the fact that Russell Group institutions are extremely efficient in international terms. With 3% of global R&D investment, the UK publishes 14.4% of the world's highly-cited publications, and it is the most efficient country in the G8 in terms of the ratio of citations to public funding for research.⁸⁵ Russell Group universities graduate students in much shorter time than the OECD average, whilst maintaining some of the highest graduate earnings premiums.⁸⁶ They also demonstrate high levels of student satisfaction.

UK universities have a strong track record in increasing cost-effectiveness. During the 1990s, when funding was constrained, some of the financial pressure was absorbed by institutions becoming more efficient. Cost savings worth millions of pounds were delivered through increased sharing of resources and equipment, better use of staff and space, and new economies of scale achieved through university growth and mergers.

It is clear that further progress in making efficiency savings will be an important part of strategies to cope with a less benign financial climate in coming years. Russell Group universities continue to pursue innovative ways in which to deliver greater cost-effectiveness and higher levels of productivity. For example, Russell Group universities in England are currently involved in a quarter of HEFCE's feasibility studies to investigate innovative uses of shared services and resources. Projects include an investigation by the Russell Group universities' IT Directors into a shared high-end data-centre, which would not only reduce costs associated with universities' high-performance computing requirements, but also offer significant environmental benefits.

Through these and other measures, Russell Group universities are committed to identifying opportunities to make further improvements in efficiency to ensure maximum return on the public and private investment they receive. Some specific examples are set out in Annex C. It is also important that Government and funding agencies continue to work together to address the barriers to greater efficiency which have been identified by universities, for example, the issue of VAT on shared services.

A number of Russell Group institutions have recently been able to improve efficiency through reductions in staff expenditure. However, it is important to bear in mind that many academic staff are net income generators, bringing in income from research grants and contracts and other sources within both public and private sectors.

Thus a continued drive for even greater efficiency gains has the potential to be counter-productive, if pursued to the point at which universities struggle to recruit and hold onto high-quality academics.

Russell Group universities will continue to identify areas where cost savings and efficiency gains can be made. However, there is a limit to how far genuine gains in efficiency can be made before staff reductions or reduced investment in infrastructure (such as libraries, accommodation and other facilities) begin to have a severe impact on the student experience, the research achievements, and eventually on the international reputation and success of a university.

2.0 Income from many private sources remains limited

It is sometimes argued that universities should seek to diversify and increase their income streams through pursuing greater levels of voluntary contributions and by working more closely with the private sector. Universities are seeking to diversify their income streams through these mechanisms where appropriate but, alone, they will be insufficient to meet the additional resources required by universities now or in the future.

2.1 Endowments and charitable income are increasingly important, but will not be adequate to meet short-term investment needs

Endowment funds, and the annual investment returns which they generate, can be an important source of additional income to universities. The large endowments of many of the largest, private US institutions have been created relatively recently, pointing toward the potential for UK universities to grow this funding source significantly.

Russell Group universities have been growing their income from this source, and a recent report showed that they are attaching increasing importance to engaging with their alumni in an effort to raise the level of charitable donations and increase their endowments.⁸⁷ However, the report also highlighted that income from all philanthropic sources still represents an extremely small proportion of income (less than 2% of total income, on average) for Russell Group universities. In consequence, though endowments may become more significant in the future, they are far from being a solution to the immediate and substantial funding difficulties which universities now face.

2.2 Businesses are important partners, but their investment is limited and is associated with specific activities and benefits

Figures from the higher education business community interaction survey demonstrate the success which Russell Group universities have enjoyed in expanding their engagement with and income from business in recent years (Figure 7). As the CBI recently recognised,⁸⁸ increasing engagement with the business community will undoubtedly be part of the solution to securing fully-funded and sustainable higher education, and Russell Group universities will continue to build on and improve their already impressive track record in this area.⁸⁹

However, it is important to note that in the aftermath of a recession, funding from this source is likely to be constrained, in parallel with that from the public purse. Despite recent success, funding from the private sector in many areas remains a relatively small proportion of university income.⁹⁰ Moreover, commercially-funded research in many cases continues to be funded at less than the full economic costs,⁹¹ contributing to an overall shortfall and backlog of investment in research.

Income from the sale or licensing of intellectual property does represent a source of genuine additional and non-hypothecated income for universities. Yet it currently constitutes only a very small proportion of total income (on average just a quarter of 1%).⁹² Successful commercialisation of research can take many years, is unpredictable, and cannot be relied upon to provide regular income to universities.⁹³ More importantly there is a danger that undue focus on income from this source

could jeopardise the sector's wider mission to generate and disseminate new knowledge.

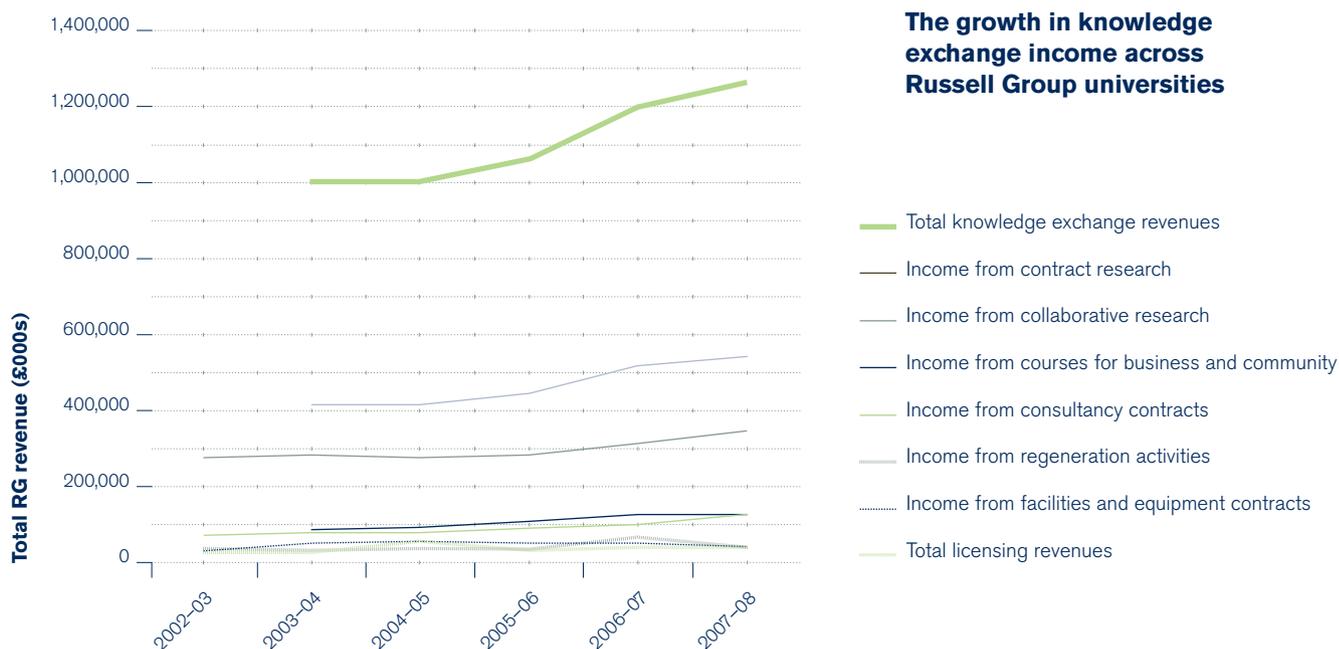
Engagement with business will clearly become more and more important to universities as they seek to secure a more sustainable balance of public and private income sources in the future, but it is by no means a panacea to their current funding shortfall.

2.3 Expansion of international activities offers some opportunities, but will not be a significant source of additional income

Income from fees paid by overseas students has become an increasingly important revenue source in recent years, making up, on average, 8% of total income to Russell Group institutions. Universities have also sought to internationalise their educational activities by expanding international provision and engaging in trans-national education, with some establishing international campuses.

Although the recruitment of international students has provided an important income stream for Russell Group institutions, it by no means represents an inexhaustible source of future revenue. While income from this source may grow in the short term, overall growth in international students is unlikely to be sustained in the longer term, as other countries such as India and China invest in developing their own higher education sectors rather than in educating their students abroad. Growth in overseas student numbers therefore cannot be relied upon as a sustainable solution to the funding gap which universities currently face.

Figure 7: Trends in income from businesses at Russell Group universities 2002–08



The UK's outstanding universities, in particular its world-leading research-intensive institutions, are critically important to this country's future competitiveness, economic growth and prosperity.

Other countries are investing more than the UK in universities and concentrating resources on a limited number of institutions in an effort to gain the important benefits generated by world-class research universities. The UK has a cadre of globally-leading institutions which offer a unique source of creativity, innovation and highly-skilled graduates. They have a high international standing, and attract investment and talent to the UK. As such, they are a major national asset and an important aspect of the country's competitive advantage.

Yet this enviable position is not guaranteed. In the long-term, in the face of growing international competition, the UK's lead will depend on ensuring adequate resources for its research-intensive universities. This report has demonstrated that Russell Group universities are striving to maintain their outstanding quality of teaching and research against a backdrop of under-investment in comparison to many of their international competitors. It is difficult to see how such a situation can be maintained indefinitely. Eventually, if our leading universities are prevented from accessing additional sources of income, the quality of teaching, research and student experience will suffer and their international reputation will be damaged.

Moreover, it seems clear that severe pressures on public finances are likely to undermine the funding levels of Russell Group universities still further. Financial forecasts for Russell Group universities paint a stark picture of the potential decline in their funding position over the next few years. Universities are already taking significant steps to reduce costs in anticipation of these cost pressures, but there is a limit to how far universities can cut costs without having a negative impact on their core activities.

Russell Group universities have demonstrated their commitment to delivering outstanding research in tandem with the highest quality of teaching and learning for their students. Where additional income has been made available through the introduction of variable fees, this has been used to make important and much needed improvements to all aspects of the student experience. Increasing investment now will allow Russell Group universities to build on and enhance the improvements which have been made. But in the absence of additional funds, it is clear that recent progress will be undermined by the need for

cost reductions. The UK's leading universities will then be forced to retrench whilst their competitors elsewhere in the world continue to advance, and the long-term future of world-class higher education in this country will be in the balance.

This report has not explored solutions to the funding difficulties highlighted. This is the subject of a separate report which looks at some of the potential options for securing a sustainable and competitive future for the UK's higher education sector. Above all, this paper does not advocate, at a time of declining public investment, a simple transition of financial burden from the public purse onto private investors and consumers. Yet it is clear that, now more than ever, we should be investing to ensure the long-term sustainability of world-class universities in this country. Failure to do so will result in a poorer quality of education for students, a loss of skilled graduates to the economy, erosion of the UK's world-leading research base, and deterioration in the knowledge base of our society. Investing now will enable individuals, organisations and wider society to continue to benefit from world-class universities in the future.

How Russell Group universities are investing to improve the quality of the student experience – a selection of case studies

The following case studies illustrate some of the ways in which Russell Group universities have invested in high-quality teaching, infrastructure and facilities to improve the learning experience of their students.

CASE STUDY 1

Investing in a high-tech, enhanced learning experience University of Sheffield

The University of Sheffield earmarked over £2.3m of investment to develop enhanced student facilities ahead of the introduction of variable fees. The 'University of Choice' project invested in important new infrastructure and services in response to opinions from student surveys: areas of expenditure included library book purchases, disability services, club sport, volunteering activities, improvements in lecture theatres, the replacement of audio-visual equipment, and investment in student-facing IT provision.

One of Sheffield's most impressive investments in enhanced, technology-based learning is the 'Information Commons' (IC) which opened in 2007. The IC is a joint venture between the university's IT services and the Library, which brings together a wide range of different study spaces and facilities within a single building. Its primary aim is to deliver IT-enhanced study areas. As well as offering a flexible space for independent learning, the IC also offers resources for innovative teaching, with high-tech classrooms for staff who wish to develop their individual teaching style. While the business case for the IC was approved before significant income from variable fees was available, the case reflected the importance of creating and maintaining a world-class student learning environment in an era of higher fees.

CASE STUDY 2

Using tuition fee income to invest in sustainable infrastructure University of Leeds

The University of Leeds has used income from variable fees to fund much-needed investment in repairing and upgrading its infrastructure and facilities.

A large proportion of the university's estate was constructed in the 1960s and 70s, and in consequence, many of the buildings required major maintenance. Prior to the university's investment programme, much of the university's estate had not had a major upgrade for over 30 years.

Income from variable fees, combined with HEFCE infrastructure funding, gave the university the confidence to embark upon a major programme of capital investment. One of the key principles was to provide first class facilities and ensure long term sustainability of the estate.

The result of the investment in infrastructure has been a much improved estate and a better student experience. Three quarters of the estate is now rated 'excellent' or 'good', compared to just two thirds in 2007–08, with an accompanying reduction of £28m in backlog costs.

The university notes: "Whilst the university has made a significant step change in the quality of its estate, there are concerns that without continuing funding for backlog maintenance and fitness-for-purpose, we will again find ourselves with a growing sustainability problem."

CASE STUDY 3

Supporting students through a comprehensive and widely-advertised bursary scheme University of Nottingham

As well as simply devoting some of their additional fee income to bursaries, Russell Group universities invest in a wide range of widening access and outreach activities to ensure students are fully informed and can take advantage of the financial support on offer.

The University of Nottingham was one of the universities recently highlighted in a report for the Office for Fair Access, which highlighted examples of best practice among universities in increasing awareness and uptake of bursaries and scholarships.

The university offers students a generous bursary of up to £1080 per annum. It has devoted considerable resource to advertising bursaries to its students and improving uptake, which has helped improve recruitment and retention among widening participation groups.

Among the initiatives which the university has adopted are:

- Conducting several student surveys to assess the effectiveness of its bursaries: results have informed the level, mechanism of administration, and advertising strategy for its bursaries.
- Developing a dedicated bursary portal on its website which, among other services, allows students to calculate the amount of bursary they are entitled to.
- Together with Nottingham Trent University, providing 'family suppers' for students in years 10 and 11 and their parents, during which they are given information about attending university, including the bursaries and other financial support available
- Providing bursaries and additional support specifically for students leaving care and Foyer residents. For these students, the university provides a dedicated contact within student support services, who contacts each student every term to ensure they are getting the support to which they are entitled.

CASE STUDY 4

Supporting outreach activities Newcastle University

Newcastle University has used income from fees to support its generous bursary scheme, offering financial support to students of up to £2250 per annum at an estimated cost of £14m over five years.

But income from fees has also allowed the university to invest heavily in outreach and widening participation initiatives, in which it has invested £5m over five years. One of the initiatives which this investment has supported is the establishment of a network of over 100 student ambassadors to support undergraduate and graduate outreach, widening participation and recruitment activities both on and off campus. In 2007–08 graduate student ambassadors undertook 114 visits to 102 different schools and colleges, involving around 14,000 students.

The university has also been able to extend its university partners programme to involve over 100 schools. The programme promotes awareness of the university among school students and helps the university increase recruitment among pupils in local schools.

CASE STUDY 5

Investing in support for students with disabilities UCL

University College London has invested heavily in creating a comprehensive package of support services for students with disabilities. Among the services which it offers, the Student Enabling IT Suite provides a wide range of software and hardware to assist students with disabilities with their studies.

The facilities available include:

- ‘Dragon Naturally Speaking’: a speech recognition programme which allows voice-activated typing;
- ‘Inspiration’: a programme which allows students to create a visual representation of their thoughts on screen and translates them into an essay format;
- A Braille translator: software which translates print from a word document into Braille format;
- A Braille embosser, which allows Braille text to be printed.

The Student Enabling Suite is one of a number of services which UCL offers to improve the teaching and learning experience of its students with disabilities. For example, the university also runs a dyslexia centre which provides free disability assessments for both home and international students.

These and other services involve substantial investment in student services which may not have been sustainable in the absence of additional income from fees.

CASE STUDY 6

Improving learning facilities and spaces for students University of Bristol

The University of Bristol has used income from variable fees to invest in a number of key facilities and infrastructure developments to support a high quality student experience.

- The ‘JobShop’ is an initiative run by the university’s careers service. It is a dedicated portal which advertises term-time and vacation job opportunities to current students, based on the university campus itself and with local employers. Employers can also engage with the service to advertise opportunities and improve their profile and visibility with the student population. Students benefit from developing important work experience, the opportunity to earn extra cash, and can access from the JobShop information on finding the right position, and on their entitlements as part-time employees.
- The university has funded a major refurbishment of the Arts and Social Sciences library, and the Medical Sciences library. Improved services include new social learning and group learning areas, a quality refreshments area, and new learning technology equipment. In the near future, refurbishment in the Arts and Social Sciences library will be augmented by the opening of a newly equipped assistive technology room for learners with disabilities or specific learning difficulties. Student feedback has been positive, with the majority of respondents on the university’s feedback survey supportive of the changes.
- Since 2005, the university has engaged in an innovative e-learning scheme. Income from variable fees has made an important contribution to the scheme, helping the university invest in new and engaging learning programmes such as the ‘Wimba Collaboration Suite’ a suite of programmes which have added voice and chat tools to the university’s existing e-learning programme, ‘Blackboard’, helping to engage student learners.

CASE STUDY 7

**Creating an integrated student services hub
King's College London**

'The Compass' at King's College London opened in October 2008, following a £1m investment in improving the student experience.

The Compass provides a core team of 10 advisors who can provide help and assistance to students from all of the university's campuses on areas such as student loans, Council Tax exemption letters, and issuing replacement ID cards. The Compass also hosts fly-in seminars from members of the university's other student support teams, including student advice and international student support, student funding, equality and diversity and the graduate school. The relocation of the university's careers service to the same floor has also placed careers at the heart of student services.

Since opening, the university has handled over 96,000 enquiries from students, and from February 2009 this process has been made even easier with the launch of a new online service which allows students to make remote enquiries and to track progress online. According to the university, "Fee income is a vital element of our business planning," which underpins investment to improve the student experience.

Pursuing efficiency and improving productivity – examples from Russell Group universities

Improving the storage and management of research materials – Imperial College London

Imperial College is leading a study to investigate the scope for developing a coordinated approach to storing low-use printed research journals within the UK Research Reserve. The goals of the project are to safeguard the long-term future of printed research journals, ensuring that unique copies are not inadvertently deleted, to enable quick and easy access to research material, and to create cost savings through the efficient use of storage space. The pilot study has so far identified the need for a new system of coordinated holdings management between higher education institutions (HEIs), which could enhance the capability for collaborative management of physical stock. This system will subsequently be rolled out across participating universities.

A coordinated approach to research data management – London School of Economics and Political Science

The LSE is leading a project on behalf of Research Libraries UK (RLUK) and the Russell Group of Universities' IT directors to investigate the feasibility of a coordinated approach to research data storage and management. The pilot project found that a coordinated approach to research data storage, managed by UK RDS, would help institutions store valuable research data beyond the life of a particular project in a manner that would be easily accessible to researchers. It could also create significant cost savings – almost £6m in the first five years.

Inter-university collaboration for leaner and more competitive higher education – Cardiff University

The merger of Cardiff University and the University of Wales College of Medicine is a major example of university collaboration to create a leaner and more competitive higher education sector. The merger, which took place in 2004, is the biggest project to have been supported by HEFCW's Reconfiguration and Collaboration Fund. It was recently subject to an independent evaluation which found that the merger had been highly successful. Cardiff University has since engaged in a number of other projects to collaborate with HEIs in Wales, bringing

together different areas of expertise to create more efficient and productive teaching and research. Examples include the coordination of Chemistry teaching with Swansea University, and the creation of a low carbon research institute uniting centres of research excellence within Cardiff University and other HEIs in South Wales.

The 'e-shop' – University of Birmingham

The University of Birmingham has developed an innovative, web-based payment mechanism to facilitate faster and easier finance management and save costs and resources for the university.

The system began with an online mechanism for payment of tuition and accommodation fees, which was highly valued by both students and parents. The improved system allowed students to be registered online, saving hours of queuing for registration, achieving improved cash flow, and reducing the numbers of temporary staff needing to be hired by the university each year.

Working with software company WPM Education, the university then developed an online 'e-shop' system to allow payment for short courses, field trips and other university services online.

The online payment system has processed over £36m worth of payments since going live in 2001. The e-shop itself generated £1m worth of small value payments during 2007–08. It offers the chance to improve process efficiency and increase cash-flow, while its flexibility and 24 hour availability is set to significantly improve sales uptake and income to the university. The system has received support and buy-in from academic staff, and versions of the software developed by WPM education have been implemented within more than 60 institutions across the sector.

The University is now developing an internal 'e-shop', which encourages the marketing of internal services within the institution. The principal aim of the programme is to maximise use of specialist equipment and services, thereby reducing duplication expensive equipment and facilities. The internal 'e-shop' has the potential to create significant savings in space and energy use: savings which could be extended to the rest of the sector if the software is adopted more widely.

Efficiency savings task force – University of Nottingham

As part of its drive to increase efficiency and make most effective use of limited resources, the University of Nottingham has established a new savings and efficiency task force.

The remit of the task force will be to work with deans, heads of schools and other senior managers in order to develop recommendations on revising key processes within the university, such as recruitment, procurement, and course structures. As an early example of the task force's activity, a recruitment control committee has now been established which assesses all recruitment proposals, withholding approval if an appointment is not thought to meet clear strategic objectives. The reviews will aim to create savings for the university, as well as working closely with university staff to identify opportunities for growing income.

The task force has clearly-defined objectives and efficiency goals, with savings targets of £10m, £17m and £25m, respectively, over each of the next three years.

Green initiatives to save energy and costs – Newcastle University

As in all universities, energy bills constitute a significant cost for Newcastle, amounting to around £10m per annum. The university has therefore implemented a number of new initiatives which, together, have the potential to reduce the annual energy budget by £3m, in addition to lowering the university's carbon footprint. The initiatives include:

- revising the energy procurement process to ensure the university secures the best possible long-term deals when prices are favourable;
- replacing much of the University's ageing and inefficient equipment, including gas boilers, refrigerators and freezers, with newer and more energy efficient models;
- installing motion-sensitive lighting across the campus;
- installing sub-meters within individual buildings in order to give more accurate and detailed information on energy usage;
- introducing a greener procurement policy on computers, ensuring that consideration is given to 'whole-life' costs, including energy consumption;
- carrying out cultural awareness campaigns among staff and students.

The combination of these and other simple measures stand to create significant cost savings, contributing to a greener and more sustainable future for the university.

Newcastle University has also sought to save costs while improving services in many other areas. Examples include: a new student services centre, which will provide a better experience for students while creating efficiency savings; major changes to procurement policy, incorporating new IT tools and centralised processes, with the potential to save up to £2.6m per annum; a comprehensive review of the research application and grant administration process to streamline processes and eliminate duplication of administrative effort.

Glossary of Terms

- CBI** Confederation of Business and Industry
- CIHE** Council for Industry and Higher Education
- DELNI** Department for Education and Learning
Northern Ireland
- FEC** Full Economic Costs
- FSSG** Financial Sustainability Strategy Group
- GDP** Gross Domestic Product
- HE** Higher Education
- HEBCIS** Higher Education Business Community
Interaction Survey
- HEFCE** Higher Education Funding Council for England
- HEFCW** Higher Education Funding Council for Wales
- HEI** Higher Education Institution
- HESA** Higher Education Statistics Agency
- IGRAD** International Graduate Insight Group (I-Graduate)
- JNCHES** Joint Negotiating Committee for Higher
Education Staff
- KCL** King's College London
- LSE** London School of Economics and Political Science
- NESTA** National Endowment for Science, Technology and
the Arts
- OECD** Organisation for Economic Cooperation and
Development
- QR** Quality Related (funding council research grant)
- R&D** Research and Development
- RCUK** Research Councils UK
- RGUs** Russell Group universities
- RLUK** Research Libraries UK
- SFC** Scottish Funding Council
- SME** Small or Medium Sized Enterprise
- SPRU** Social Policy Research Unit
- SSR** Staff-Student Ratio
- TRAC** Transparent Approach to Costing
- UCL** University College London
- UK RDS** UK Research Data Service
- UKTI** UK Trade and Investment
- UUK** Universities UK

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