

Universities and Scotland: Time to Choose

The need to invest strategically in Scotland's universities



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Universities are one of Scotland's greatest assets. They are anchor institutions for economic growth and transformation. They produce and promote both entrepreneurship and creativity. They have a proven record in widening access and winning recognition for pedagogical quality and the student experience. However, without sustained, prioritised and strategic investment, much of this is seriously at risk.

Universities are unique across education in Scotland in having seen real-terms cuts in funding per learner since 2014/15. Sustained inflation will deepen these cuts. On current projections, core university funding for teaching and research will have been cut by 37-41% in real terms over ten years, compounding a cut in funding per student of £2,325 that has already happened since 2014/15.

Universities are ambitious for our nation's future. Our key ask is that the Scottish Government backs that ambition, which is closely aligned with its own aspirations, for our nation's success and provides universities with sufficient funding to contribute effectively to the nation it wants to build. The Scottish Government can choose to make investments that boost the National Strategy for Economic Transformation's vision of an inclusive, innovative and prosperous nation. It can widen opportunity for people to realise their full potential throughout their lives, and build a virtuous cycle of economic growth as well as growth in the public finances. It can invest in higher education as a driver of wellbeing, prosperity and inward investment. It can choose to take a strategic approach to the success of the university sector and the hundreds of thousands of students and staff who directly depend on it.

Our ask for public investment is balanced by our unconditional commitment to the common good, and our commitments to collaboration, reform and renewal.

Our ask: investment in the Wellbeing Economy.

We ask for Scottish Government investment so that universities can contribute to Scotland's success. These investments will have a profound effect in growing the Wellbeing Economy. Our ask is across three key areas:

- [Research and innovation](#)
- [Teaching and supporting students](#)
- [Green and modern facilities](#)

Research and innovation: boosting Scotland's competitiveness

We seek investment in **research and innovation**, to reverse the decline in Scotland's competitive position and to increase the economic impact of research.

Research competitiveness

We are seeking **£45 million** to boost **research competitiveness**. This will help Scottish universities to invest in the staff and facilities required to compete successfully for UK and international research and innovation funding. It is necessary investment to reverse Scotland's decline in research competitiveness, and to increase the economic benefits of research. We will work with the Scottish Funding Council to co-design how this can best be invested to boost Scotland's research competitiveness. **The Scottish Government has the opportunity to support this through the Barnett consequentials of ambitious investment in the research competitiveness of English universities, which is increasing by 35% over 3 years and is a major threat to Scotland's competitive position.**

London Economics estimate that every £1 of public investment in Scottish university research generates £8 of additional output in the economy¹, in ways that include:

- Supporting the 52,000 high-quality jobs at Scottish universities and their spending power in the economy.
- Creating clusters of growth around new and emerging industries, catalysing external investment and creating jobs.
- Growing the value of foreign direct investment into Scotland where R&D is amongst Scotland's top three activities generating FDI and is rated by investors the as most attractive criteria about the UK.²
- Growing the c£270m per year levered into the Scottish economy from the UK Research Councils.
- The impact of research on business productivity and growth.

A £45m investment can therefore translate into **c£360m of economic activity**.

Innovation

We also seek resource to enable institutions to make a step change in their **innovation partnerships** with business and play a full part in the Innovation Strategy including enhanced leverage of resources from sources such as Innovate UK. This will help to pay for business incubation services (of which universities are the largest provider in Scotland), staff to work with businesses to help them benefit from co-creation of ideas and products with universities, and support for universities to provide consultancy for SMEs to help them grow as innovative businesses, at a price they can afford. We are seeking at least **£7.7m** to increase business-facing innovation, which is a direct investment in delivering the innovation ambitions of the National Strategy for Economic Transformation.

The outcome from this investment, alongside universities' engagement with tech scalers and a greater co-ordination of action with the enterprise bodies, will be a step-change in universities' ability to catalyse business growth, potentially a further 10,000 businesses a year getting help to innovate ideas, products and ways of working. This investment, if sustained, will also lead to a step-change in universities' capacity as Scotland's principal incubator space for innovative new businesses. Through these means we will be a key part of promoting economic growth, with a particular focus on growing

¹ See Annex D for notes about London Economics methodology: the impact of UKRI Research Councils expenditure is reckoned to be even higher, with £12.7 of additional economic output for every £1 spent.

² Ernst & Young (2021) [Scotland Attractiveness Survey](#). R&D is equal highest at 68% with access to the European market, quality of life and transport/logistics.

a base of innovative Scottish small and medium-sized enterprises, with ambitions to scale-up their impact.

Teaching and supporting students: meeting increased post-pandemic needs

Students' needs are increasing at a time when resources are being cut:

- **Lost learning in school, college and university** risks a scarring effect on individuals. We must act to prevent that, recognising that additional support will be needed to avoid lower rates of retention and completion. 80% of students felt that the pandemic had had a negative impact on their learning, and 74% had found it more difficult to stay focussed and engage.
- **A concerning mental health situation which threatens students' education.** The data is extensive, consistent and cannot be ignored. 36% of students in Scotland's universities reported moderately severe or severe symptoms of depression³ and over half of the students surveyed indicated that their mental health was worse than it was pre-Covid-19.⁴
- **Widening access.** Universities are on track to meet ambitious social mobility targets. However, the Commissioner for Fair Access has noted that the "hardest mile" lies ahead, and will require sustained focus and investment to meet the needs of an increased cohort of students who have experienced severe disadvantage.⁵

We seek investment to help universities meet these increased needs:

- An additional £400 in **teaching and supporting each student**, particularly to address students' increased post-pandemic learning and welfare needs. This will help to pay for the increased teaching that students now require as a result of lost learning throughout the pandemic, as well as supporting the wider range of study support, study facilities and welfare services that are facing sharply increased post-pandemic demand from students. This would require an estimated additional **£55.2m**.
- Specific support for the costs of the **mental health counsellors** funded on a year-by-year basis by Scottish Government (**£3.8m**). This is necessary to sustain a specific element on increased support introduced as an SG Programme for Government commitment, but currently unfunded beyond 2022/23.

Green and modern facilities

Universities are ambitious to make investments in the green transformation of their estates as part of their drive towards net zero, and are ambitious to use the most modern digital techniques to enhance students' learning. However, most institutions have little or no ability to borrow for further capital investments.

We therefore seek a **capital transformation fund** of **£60m** that institutions could use flexibly to help attain net zero and to invest in high-quality digital innovation. This will enable institutions which currently have very restricted capacity to raise capital to make progress towards the environmental sustainability of their estates, and to invest in the high-quality blended digital and in-person learning experience that students expect and deserve.

³ Mental Health Foundation (2021) [Thriving Learners: Realising Student Potential and Wellbeing in Scotland](#)

⁴ National Union of Students UK (2020) [Coronavirus and Students Phase 3 Study Mental Health with Demographics](#)

⁵ Sir Peter Scott (2019) writing in a [blog on widening access to higher education](#) on the Scottish Government website.

We recognise that this is a major ask for investment of **£171.7m** in a time of public funding constraint. However it is in our view essential in order to sustain universities' contribution through a continuing period of emergency in the economy and society.

It is well below the level of investment that the sector needs to manage the pressures it faces, but will be a significant and welcome investment by Scottish Government at a tough time for the public finances.

In addition to our overall ask, universities urgently need the Scottish Government and the Scottish Funding Council to develop a multi-year plan for sustainable funding for the sector's contribution. The scale of the financial challenge facing the sector means we cannot continue to engage with it on an annual basis.

Our commitment to the common good, collaboration and reform

The Scottish Government's investments will support a sector that is committed to the common good, to deepening our collaborations to achieve that, and to policy reforms that support our mission.

We will work with government, colleges, schools and other partners to achieve that.

- Universities will drive deeper **collaborations** with each other, with colleges and with wider partners. These are driven first and foremost by our commitment to learners' interests and the common good, but can also release some efficiency gains e.g. through shared facilities, shared procurement, and further sharing of teaching expertise and facilities.
- We will drive collaborations that have wider **community benefit** such as shared cultural and sporting facilities. We will work with partners in government, local authorities and beyond to widen the community impact of universities' investments in green energy initiatives such as solar farms and neighbourhood combined heat and power schemes.
- We will deepen our **relationships with schools** to help young people to realise their full potential and to help address the poverty-related attainment gap. As part of that, we look forward to working with government to examine sustainable ways to build on successful university partnerships with schools such as Advanced Higher Hubs, the [SCHOLAR](#) programme, and the [Young Applicants in Schools Scheme](#).
- We will continue work to smooth **learners' journeys** through different forms of education, and have a Joint Articulation Group with Colleges Scotland to help drive this forward. As part of this commitment to the learner journey, we ask Scottish Government to ensure that work on the next generation of Higher National qualifications gives due priority to their use in enabling students to progress from college to the upper years of university.
- We will work with government, other education sectors and industry to co-create sustainable ways of enabling **lifelong work-related learning**, building from the success so far of Graduate Apprenticeships and short upskilling/ reskilling courses, and addressing the needs of part-time learners.
- We will support work by government and partners in the student movement to make the **student maintenance** regime fit for purpose as students (both full-time and part-time) face increased cost-of-living pressures.
- We will continue to develop as **good employers**, committed to Fair Work and to building equality.
- As part of follow-up to the [SFC Review](#), we will co-create a more efficient **accountability** regime for universities, with reduced administration and greater freedom for institutions to prioritise resources for the common good.

- We will be relentless in our pursuit of **efficiency**, building on the university sector's extraordinary achievements already through joint procurement and institutional initiative.

Conclusion

We ask Scottish Government to choose to invest in Scotland's universities as drivers of the Wellbeing Economy.

These investments we propose will have a profound effect on the contribution of Scotland's universities to Scotland's economy.

Fundamentally, they are investments in the shared values that drive the university sector and the Scottish Government.

They need to be a first step in building a shared understanding of the financial challenges facing the sector over the next five years, and a multi-year plan to address these challenges.

**Universities Scotland
September 2022**

Annexes:

- [Principles](#)
- [Pressures and Opportunities](#)
- [Partnerships and reform](#)
- [Methodological notes](#)

Annex A: Principles: Universities and the Common Good

Universities are driven by strong values and principles. At a time of renewed debate about the purposes of further and higher education, Scotland's university leaders have come together to summarise the principles that inspire us.

Universities are crucibles for solving 21st century problems

Universities' research, teaching and innovation are at the heart of building a greener, fairer and more prosperous future.

Universities are core to addressing challenges and opportunities including building a just transition to net zero, developing people with the skills for the future green economy; developing the technologies that will enable us to thrive in a sustainable way; addressing the food challenges facing the world; and developing socially and culturally vibrant communities around universities as 'anchor institutions'.

Universities are forces for economic transformation

Universities are forces for economic transformation, generating an estimated £11 of economic impact for every £1 of public investment.

Universities are central to meeting the current and future needs of business for instance through the development of entrepreneurial graduates with a wide range of attributes for success; the translation of research into innovative products and processes; the incubation of new businesses in university facilities; and through developing collaborations with business to develop and implement new ideas.

Universities develop and attract people with the skills and attributes for success

All university courses develop students' aptitudes and skills for professional success throughout their careers. For many students that is on courses that lead to specific professional accreditation; all students are on courses that develop a wide range of attributes for employability and success throughout their careers.

Students have a high quality university learning experience, informed by up to date research.

Learning is for life: higher education must be accessible to people at diverse stages of their lives and careers including school leavers, people progressing from college, and people looking to upskill or re-skill at different stages of their career.

Universities draw in the talents of over 100,000 students from the rest of the UK, the EU and the wider world.

Universities are forces for social justice

Universities are forces for good as anchor institutions for their city and regional communities, as well national and international actors. They provide high quality opportunities for a wide range of learners. They provide high-quality employment and support local services. They attract talent and inward investment and develop graduates with skills and enterprise to contribute to the common good.

Learning is for all: societal inequalities and individual disadvantage must not be a barrier to higher education. Learners have diverse needs and aspirations, and higher education choices must be available to meet this diversity.

Universities' research helps us to understand the world better, and to make the world a better place

University research is valuable in itself for advancing the frontiers of human knowledge; is key to addressing the challenges of how we live well and sustainably on our planet; is the foundation of university teaching; and is a resource to drive business growth and public service improvement.

Universities support Scotland's place in the world

Scotland's identity as a caring, inclusive, and prosperous nation is supported by universities with a broad range of international relationships. Our attraction of international staff and student talent is a force for cultural and economic growth. Universities' international engagement is a force for the common good, including the exchange of talent and ideas between nations, and collective action to achieve the UN sustainability goals.

Annex B: Pressures and opportunities

There are huge economic opportunities from investment in Scotland's universities.

- For every 1,000 graduates that universities are able to support through to successful outcomes, the Scottish Government gains £22.4 million in net present value through the additional income tax contributions.⁶
- Investment in university research and development crowds-in private investment generating a bigger economic return on a multiplier of 8:1. An investment of an additional £45 million into core research staff and infrastructure has the potential to generate an additional £360 million of economic impact for Scotland.⁷
- The economic multiplier effect of research income won specifically from UKRI, and levered into Scotland from the rest of the UK, is estimated to be amongst the highest order of return at 12.7. With a 12.7 multiplier, for every £10 million of UKRI funding that Scotland's universities miss out on, because public investment in Scottish research doesn't keep track with English counterparts, Scotland is missing out on £127 million of economic benefit.⁸
- Beyond research, Scotland's universities are a major source of entrepreneurialism and innovation. Universities currently support over 20,000 Scottish organisations each year with innovative consultancy, professional development and research projects. Universities are a major part of Scotland's start-up infrastructure, with around 1,240 active university spin-out companies in Scotland generating around £613 million. This is 19% of the UK total. Universities are Scotland's principal incubator space for innovative new businesses.⁹
- The economic impact of international students in Scotland is valued at £1.94 billion.¹⁰ This is broadly equivalent to Scotland's wholesale and retail sector exports, to give it context.¹¹ This includes the impact of fees, in-country expenditure (outwith universities) and a costed impact of study-related tourism. International students choose Scotland's HE sector based on the quality of teaching, student experience and reputation for research. It is vital, for universities but also the economic contribution universities make to Scotland, that these core elements of Scottish HE remain world-class.

Conversely, there is a series of pressures on universities that is reaching a critical level that risks severely undermining our future contribution

1. **By 2024/25, universities' teaching grant will have been cut by 37% in real terms over ten years and the research budget will have been cut by 41% . This cannot continue.** Detail on the scale of cuts to teaching:
 - Between 2014/15 and 2022/23, the teaching grant has been cut by 27% in real terms. This is projected to grow to a 37% cut in real terms by 2024/25.¹²
 - £2,325 is how much the Scottish Government's funding per Scottish student has fallen in real terms since 2014/15.¹³

⁶ Biggar Economics (2020) Universities in Advanced Economies. Recovery and Transformation, Productivity Growth & Fiscal Returns.

⁷ London Economics for Universities Scotland (2022).

⁸ London Economics for Universities Scotland (2022)

⁹ Universities Scotland (2021) Prosperity & Inclusion

¹⁰ Scottish Government (2019) Trading Nation

¹¹ [Scottish Government \(2019\) Export Statistics](#)

¹² See footnote #2

¹³ This sum represents the average real terms decline in funding, calculated per student place, for a non-controlled subject. The figure was reached using the GDP deflator to 2020/21 and RPIx thereafter.

- £4,000 - £7,000 is the funding gap per student (the range is due to subject studied) in 2022/23 between what it actually costs a university to teach a Scottish-domiciled student and the level of funding universities receive from Scottish Government.¹⁴
- The risks posed by this funding situation are not new. Audit Scotland's 2019 report warned: *"Universities face future cost pressures, and there is significant uncertainty around some important areas of activity"*¹⁵. The erosion of funding has continued since 2019 and the scale of cost pressures now facing institutions is much more severe than Audit Scotland could have anticipated.
- Cross-subsidy from international student fees is the only reason that under-funding hasn't yet reached a critical point. But, without action, Scotland is approaching that. Scotland's funding model now bakes-in a structural reliance on international fees to such an extent that this source of revenue is forecast to overtake Scottish Government funding as a percentage of the sector's total income in 2023/24, reaching 27% of the sector's average income compared to 25% for SFC grants.¹⁶ See [figure 2](#). Some institutions are better placed than others to grow international income. Even without the perpetual risk of a geopolitical shock, the extent of cross-subsidy now jeopardises the quality of education, experience and support that universities are able to offer all students. When that happens, international students will exercise their choice to go elsewhere

2. Detail on the scale of cuts to research:

- Between 2014/15 and 2022/23, the research excellence grant has been cut by 31% in real terms. This is projected to grow to a 41% cut in real terms by 2024/25.¹⁷
- Despite a sector-best performance in the Research Excellence Framework (REF), with 84.8% of Scotland's research judged as "world-leading" or "internationally excellent", eight universities face cuts to their Research Excellence Grant in 2022/23. Four high-performing research universities will see cash cuts of more than £1 million from August. All of Scotland's universities risk losing competitive edge relative to their comparator institutions in England.
- Looking ahead, and without action, this pressure is likely to intensify. Research cuts are capped at a maximum of -10% per institution in 2022/23 as part of a "transition" year.¹⁸ Some HEIs might see cuts to their core SFC research funding of more than 30% in 2023/24.
- Despite a sector-best performance in the REF in Scotland, Scotland is losing its edge relative to institutions in England and Wales. That comes down to relativities in public investment between assessment periods. The next REF is six years away in 2028. We need to use the next couple of years to invest more (in real terms) in core research staff and infrastructure in institutions to protect this economic asset for Scotland's future and for delivery of the National Strategy for Economic Transformation.

3. Universities enter a period of spiralling inflation in a highly exposed position; they are the only part of Scotland's education sector to experience a pattern of sustained real-terms decline up to 2022.

- We believe that education is a priority and every level of the education sector should be sustainably supported.

¹⁴ These figures have been calculated replicating the data and approach of the Office for students in England, which publishes data on costs in higher education, drawing on TRAC data. The gap is shown as a range of between £4-7,000 because the cost to teach varies between subject, a factor that is partially recognised by having different teaching price groups (in both Scottish and English HE sectors).

¹⁵ [Finances of Scottish universities \(audit-scotland.gov.uk\) the 2019 report used funding data from 2017/18 which indicates that the underfunding of universities has been highlighted as a problem for many years.](#)

¹⁶ Scottish Funding Council data using HESA. The remaining 48% of income is derived from rest of UK fees, from UK and privately-won research grants and contracts (including UKRI), from conferences/events and other income generating activities and endowments.

¹⁷ See footnote #2.

¹⁸ SFC (2022) [Announcement of Final Funding Allocations](#). SFC/AN/15/2022. Page 16, para 70.

- Data produced by the Scottish Government which models the average expenditure per pupil/student place between 2014/15 and 2020/21 shows that public expenditure per university student had fallen by £2,325 in real terms, even before the current period of high inflation.¹⁹ See [figure 1](#).
- In contrast to universities, expenditure per pupil/student has increased in real terms at all other levels of education in Scotland over the same period, from early years to other post-16.
- Scottish Government investment decisions to this point mean that universities are poorly placed to endure what is about to come in terms of increased costs, increased inflation and further real terms cuts in public funding.
- Universities are subject to commercial energy supply contracts with no price cap. The immediate impact of rising energy costs in HE will be felt across a wide range of teaching, research and facilities. For instance, the cost of energy consumption in university-owned student residences will rise significantly over 2022/23 but annual contracts, and costs, with students were agreed well in advance of the academic year. Whilst this affords students welcome protection against rising costs this year, the steep rise in costs will need to be met by institutions.

4. In addition to spiraling costs, universities are supporting students with increasingly complex needs and meeting Scottish Government agendas, with significantly less resource to spend per student.

Universities have a duty of care to their students and want to provide a rounded and supportive student experience. Yet they must try to meet these needs with £2,325 less per student in real terms.²⁰ Increasingly complex student needs include:

- **A COVID legacy of lost learning and confidence** amongst school-leavers has a “pipe-line” legacy effect which must be addressed by universities. It’s estimated that 1 in 6 school days were missed in Scotland over 2021/22.²¹ Amongst undergraduate students learning during the pandemic, 80% of students felt that the pandemic had had a negative impact on their learning, and 74% had found it more difficult to stay focussed and engaged. Universities need to invest more to support students with their retention and toward successful outcomes.
- **A mental health crisis amongst students** and growing demand for mental health services as provided for by universities in lieu of the NHS. Demand for counselling is rising very swiftly, where institutions have calibrated this, they note a rise of >25% in the last year alone. Research published in late 2021 found 36% of respondents had moderately severe or severe symptoms of depression and 45% of respondents reported that they had experienced a serious psychological issue.²² Universities are not the NHS and cannot support clinically complex cases but are increasingly compensating for over-loaded services elsewhere as well as trying to deliver preventative, personal resilience techniques and support to students. A recent FOI suggested that 1,874 students were on university waiting lists for counselling in March 2022.²³ Universities have received a stand-alone

¹⁹ The figure of real terms cuts of 10% differs to figures elsewhere in this document as other sums project forwards from 2020/21 using RPIX rather than GDP deflator.

²⁰ Compared to the baseline of 2014/15.

²¹ [The Times Newspaper, Scottish edition](#).

²² Mental Health Foundation (2021) *Thriving Learners*

²³ [Returns to Freedom of Information request as reported by STV, August 2022](#).

grant for the employment of additional counsellors since 2019²⁴ but the vast majority of funding for these services has to be met from within the Teaching Grant.

- **A continuing commitment to reach widening access goals.** Universities have achieved the 2021 interim milestone on the hugely ambitious social mobility target as set by the First Minister; to ensure that 20% of entrants to university are from the 20% most disadvantaged areas of Scotland by 2030. Universities remain committed to further progress from the current figure of 16.7%²⁵ to 20% in 2030 but we acknowledge (and agree) with Sir Peter Scott, former Fair Access Commissioner's observation that the "hardest mile" remains ahead of us.
- There has been no additional funding for universities for the realisation of this long-term policy goal since it was defined in 2016. This is despite the established principle that it requires additional resource to attract and adequately support access students.²⁶
- A sample of institutions, which have some distance still to travel to reach the 2030 access target, estimate that over the next eight years to 2030, they will need to increase their investment by an average of 75%, relative to the last five years, to hit the goal of 20%.
- Access is a shared goal, but it is not a reasonable or sustainable position to ask institutions to continuously do more with less. As well as the increased cost (already absorbed) mentioned above, there is an intersectionality between widening access and mental health pressures amongst pupils/student community. A much greater proportion of secondary school pupils eligible for free school meals had a probable mental health disorder compared with those who were not eligible (28.3% compared with 12.4%).

5. Scotland's universities are falling behind England on research competitiveness due to consistently lower levels of public investment in research

- In contrast to projections of real-terms cuts to research in Scotland over the next three years, Research England's Quality Research grant²⁷ for HEIs has risen by 10.4% in cash terms between 2021/22 and 2022/23²⁸ and is forecast to increase by 34.8% (cash terms) for the three-year period from 2022.²⁹
- We estimate that this rising in investment will generate an additional £45 million of Barnett consequential for Scottish Government.³⁰ We want to see this sum ring-fenced and passed on to Scottish HEIs. Doing so, will give Scottish HE a chance to leverage more resource into Scotland, creating economic impact, high-skill jobs and supporting the ambition in NSET. The economic multiplier that results from UKRI fund is one of the highest returns that HE can deliver at a ratio of 12:1.³¹
- The relative underfunding of university research in Scotland is already a problem and is negatively impacting on the success of Scotland's institutions in winning competitive research grants from UKRI. Scotland used to out-perform the rest of the UK and win 15.4% of the UK share, based on excellence, in 2014/15. That has fallen to a 12.9% share (2019/20). Universities' success in bringing this resource into Scotland – worth £1.8 billion in 2019/20 - creates highly-skilled jobs and wider economic impact.

²⁴ Scottish Funding Council (2021) [Funding announcement for student mental health](#). £1.74 million for universities in 2021/22. However, this funding was time-limited for 4 years and the final year of funding allocations for the full AY2022/23 has not yet been confirmed (only the FY22/23).

²⁵ [Universities Scotland media release, 2022](#).

²⁶ [See Scottish Funding Council Widening Access Retention Fund](#).

²⁷ The Quality research Grant is England's equivalent to Scotland's Research Excellence Grant.

²⁸ [UKRI \(2022\) Funding Budgets 2022-25](#) Table 1

²⁹ BEIS (2022) [research and development allocation 2022 - 2025](#) Table 1.

³⁰ Universities Scotland's estimate based on the Barnett formula.

³¹ London Economics (2022)

6. Universities have a decade-long track record of self-propelled efficiencies and collaboration. There's a willingness to continue "reform" as per the Scottish Government's resource spending review, but there are no easy wins in HE that haven't already been realized. Universities have also borrowed heavily over recent years to maintain services. Overall sector borrowing increased by to around £1.7 billion in 2019/20. Loan interest payments for the sector increased from £40.5m in 2018/19 to £43.8m in 2019/20.³² There needs to be realism about the extent of further Government "efficiencies" without major impact on students and staff.

Figure 1: Average expenditure per place for each education level in Scotland in real terms (2020-21=100).³³

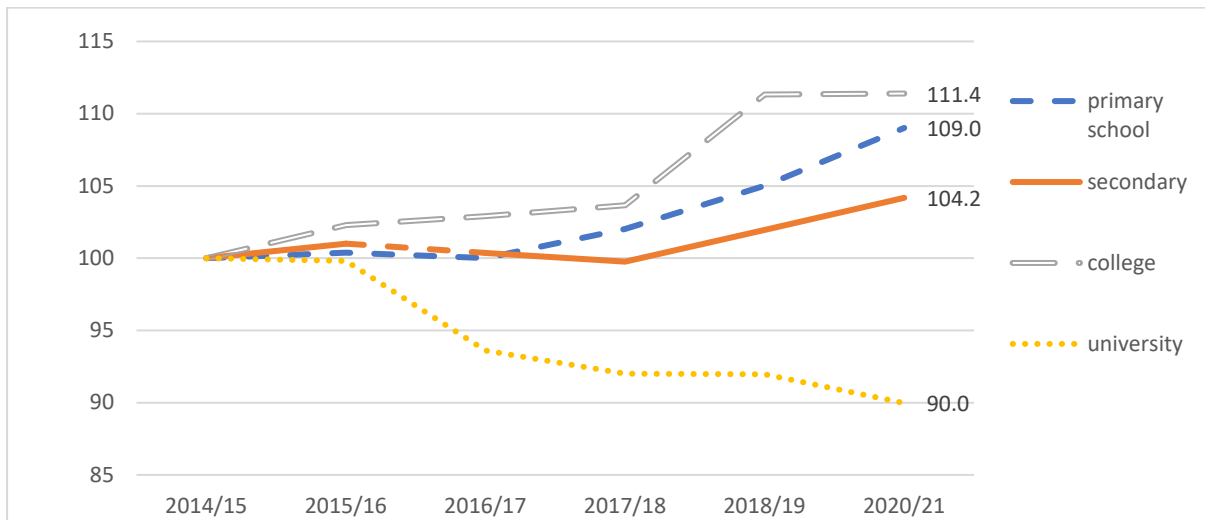
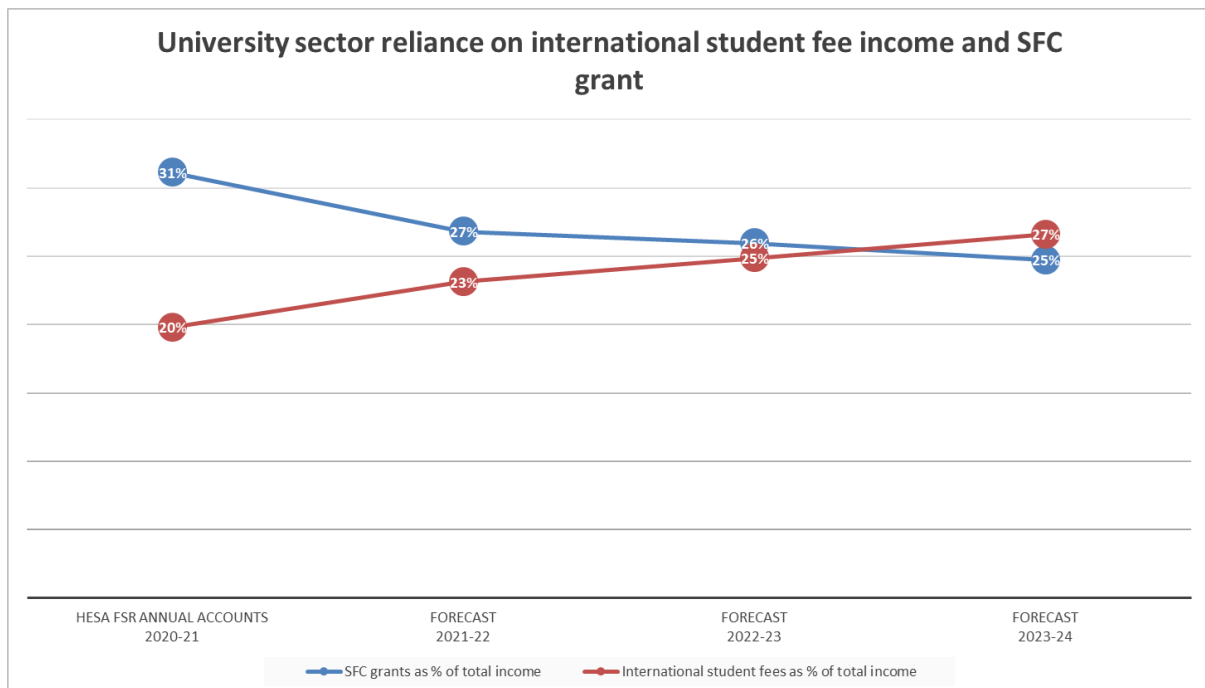


Figure 2: University sector reliance on international student fee income and SFC grant.



³² SFC (2021) [Review of Coherent Provision and Sustainability](#). Pg 125.

³³ Data from Scottish Parliament Question S6W 01165

Annex C: Partnerships and Reform

The Scottish Government's Resource Spending Review (RSR) set out an intention to reform the public sector, to make it more efficient and help the Government realise its ambition for better outcomes.

We welcome the opportunity to engage with the Scottish Government on this agenda. Scotland's universities have led their own programme of efficiency and continuous improvement over the last ten years. As a sector in receipt of public funding, universities will always be committed to delivering best value for public investment. There is a lot of good practice in our universities and a decade of experience that higher education can share. Yet, universities' existing success in this agenda means only narrow margins of efficiency remain. It will be important that the Scottish Government's renewed reform agenda recognises universities' starting position and the scale of efficiency and reform already delivered.

We have shared regular reports on this activity with Government, with annual *Working Smarter* updates between 2011 to 2015 ([2011](#), [2012](#), [2013](#), [2014](#), [2015](#)) and then again in [2018](#) and [2021](#).

The Scottish Government's 2022 resource spending review (RSR) set out five areas of public sector reform, as below. Universities' existing achievements against four of the five areas (with the exception of reform of the public body landscape) are set out below.

1. Digitalisation

- Jisc supports Scottish HE's efficiency through leveraging its digital, data and technology services to connect education and skills providers to people, places, and productivity. Jisc continues to improve cyber security within the Janet network and offers unrivalled support for to sector in dealing with cyber security threats and attacks. The savings and costs avoided by Scotland's higher education institutions collaboration through Jisc is estimated to be approximately £13.8 million per annum, based on 20-21 figures.
- Scotland's universities have a professional, UK-wide body to support collaboration in digital transformation and shared services in education called [ucisa](#). This is a partnership with colleges. UCISA organises best-practice sharing events, year-round, to support the sectors.
- A collaborative body like Ucisa wields more bargaining power with major software providers, securing better outcomes for universities.
- Scotland's universities are well-advanced on their digital journey and [ucisa's 2020 report](#) with Microsoft set the digital direction for universities as they emerge from the pandemic, which looks to move on from digitalisation (which is using digital technologies to transform operations) to digital transformation, which is about cultural change.
- Universities also have a shared services organisation for Technology and Information Services called HEFESTIS. HEFESTIS offers universities and colleges a number of shared services including Data Protection (via DPO-Share), shared service for Information Security (via CISO-Share) and services for project management and change management (via Change-Share).

2. Maximising revenue through public sector innovation

- Already, only 35.6% of universities' total revenue comes from public funding via the Scottish Government.
- The balance of public-private income Scotland's universities rely on has continuously evolved, shifting to far greater reliance on private revenue as public investment in university teaching and research has declined in real terms since 2014/15. Back in 2016, Audit Scotland warned: *"Universities are increasingly relying on income from non-EU students as part of their financial planning, but growing competition from the rest of the UK and other countries will make this increasingly challenging."*ⁱ

- **International fee income.** Universities generate £1.94 billion of economic impact from international activity including international student recruitment (primarily), transnational education and international research, knowledge exchange and contracts. This is the economic impact that Scotland receives as a whole. It is not the income that universities generate for themselves. This is positive but the coronavirus pandemic showed just how vulnerable universities' international revenue can be to global (and geopolitical) circumstances.
- In England, international fees subsidise the cost of doing research (which is not funded at full economic cost). In Scotland, international fees subsidise the cost of doing research *and* subsidises the cost of teaching Scottish-domiciled students, both of which are substantially under-funded by the Scottish Government. In Scotland, international fees have to fill public funding short-falls of £157m in Teaching Grants and £340 million in research, as estimated by the Scottish Funding Council.
- **Competitively-won research income from the UK.** Scotland's universities brought in £1.8 billion of research grant revenue into Scotland from UKRI in 2019/20. This is 12.6% of the total resource available. A few years ago, Scotland was winning a much bigger percentage share, at over 15% of the UK total. Our declining success reflects our declining competitiveness relative to universities in England. Our loss has been their gain and that all stems from the relative investment levels in public funding for university research in Scotland and England. Every £100 million of university research crowds in £800 million of private investment, generating an economic return of 8:1.ⁱⁱ
- **Maximising revenue is based on excellence.** The core principle underpinning universities' ability to maximise their revenue is the ability to compete based on excellence. Without sustainable and competitive levels of core public funding, our ability to maximise revenue streams will decrease, not increase.

3. Reform of the public sector estate:

- **Maintenance.** Universities have estates maintenance bills running into the multi-millions. In 2019 Audit Scotland estimated the value of the backlog at £937 million, with £139 million of maintenance labelled as "urgent".
- **Rationalisation and collaboration.** Institutions have taken a number of actions to rationalise their estate or identify opportunities for collaboration. Examples include:
 - Dundee University's co-location of the School of Humanities in 2018, generating a space saving of 40% and repurposing 37 teaching rooms for elsewhere.
 - Glasgow Caledonian estimates it saves £1m a year from a space-saving exercise as part of a wider estates review (which cost a total of £32million) to do. This makes an important point that very often it is necessary to spend to save.
 - Space optimisation at the design stage of Heriot-Watt's Discovery and Innovation Centre (opened in 2019) saved over 2,000m² of building without any loss of functionality.
 - Universities and colleges have shared a data centre since 2012. It is based at King's College at Aberdeen University but is shared between four institutions with the City Council increasingly making use of the Centre too. The capital funding came entirely from partners. As well as financial efficiencies, it's estimated that the shared centre has reduced the carbon footprint by >1400 tonnes per annum.
 - The [Arrol Gibb Innovation Campus](#) launched in 2022 is a collaboration between the universities of Edinburgh and Strathclyde, Fife College, Fife Council, Scottish Enterprise, SDS and industry. The Innovation Campus shares physical space and focuses on transforming large-scale manufacturing which supports Scotland's economic priorities in sectors such as big-data, artificial intelligence, robotics and energy.

- **Sharing facilities with SMEs.** Since 2013 SMEs have had a single point of access to university facilities, lab equipment and other resources that would support the SME with innovation. Run by Interface Online, over 1,200 university facilities are itemised and available for SMEs to use. Over the last two years there was a 33% increase in the number of SMEs using the shared facilities service as part of their collaboration with Interface/universities.
- **Climate responsibilities.** Between 2019/20 and 2020/21 total reported emissions for the Scottish HE sector reduced by 52,099 tonnes of CO₂e, or 15%.
- **Lean practices.** Universities have driven forward more efficient business practices on a collaborative basis, using LEAN processes. Higher education has a Scottish HE Improvement Network (SHEIN), which brings together practitioners of 'Lean' business improvement techniques and helps spread expertise. Such measures are focused on productivity and effectiveness as well as efficiency.

4. Improving public procurement

- The Advanced Procurement for Universities and Colleges (APUC) It is a national leader in collaborative procurement. It is jointly owned by all Universities and Colleges in Scotland.
- APUC secures for over £25.5 million of savings every year, relative to market prices or, £13.1 million relative to prices previously paid.
- APUC agreements cover over 40% of the procurement spend of Scottish HE and FE. This gives member institutions and wider collaborative partners considerable leverage in their dealings with suppliers, on matters such as modern slavery and fair work, thereby giving institutions assurance in relation to ethical supply.
- Scotland's universities were one of the first in the UK to establish a cost-sharing group to remove VAT as a barrier to greater collaboration.
- APUC has made 175 collaborative framework agreements available to the sector.

Annex D: Methodological notes

The notes in this Annex are from London Economics, explaining the basis of calculations of economic input referred to in this paper.

Calculation of the research impact

We estimate both the direct effects of this research (captured by the research income accrued by Scottish universities, net of any public funding), as well as the productivity spillover effects from universities' research activities to the rest of the UK economy.

To estimate the **direct impact** generated by a university's research activities, we used information on the total research-related income accrued in the 2019-20 academic year, including:

- Income from **research grants and contracts** provided by:
 - **UK sources**, including the UK Research Councils; UK-based charities; central government bodies, Local Authorities, and health and hospital authorities; industry and commerce; and other UK sources;
 - **EU sources**, including government bodies, charities, industry and commerce, and other sources; and
 - **Non-EU sources**, including charities, industry and commerce, and other sources; and
- **Recurrent research funding** allocated to universities by the Scottish Funding Council (SFC)³⁴.

To arrive at the **net direct impact** on the UK economy, we deducted the costs to the public purse of funding universities' research activities in 2019-20 from the above total research income. These public costs include the funding provided by the UK Research Councils, recurrent research grants provided by the Scottish Funding Council and other research income from UK central government bodies, Local Authorities, and health and hospital authorities.

In addition to the direct impact of research, the wider academic literature indicates that investments in research and development (R&D) and other intangible assets may induce **positive externalities**. The term 'externality' describes situations in which the activities of one 'agent' in the market induces (positive or negative) external effects on other agents in that market (which are not reflected in the price mechanism). In the context of the economic impact of research activities, existing academic literature assesses the existence and size of positive **productivity and knowledge spillovers**, where knowledge generated through the research activities of one agent enhances the productivity of other organisations.

To estimate the productivity spillovers associated with Scottish universities' research activities, we apply productivity spillover multipliers from the existing literature to the different types of research-related income received by universities in 2019-20. Specifically, we assign the multiplier of **12.7** to the research funding that the University received from **UK Research Councils and UK charities**³⁵ in 2019-20, and the multiplier of **0.2** to **all other research funding** received by the University in that academic year.

To estimate that the **total economic impact** associated with Scottish universities' research activities in 2019-20, we take the **sum of the direct economic impact** and the **estimated productivity spillovers** associated with this research. We can thus infer a weighted average spillover multiplier associated with Scottish universities' research activities – i.e. for **every £1 million invested in the University's**

³⁴ This includes funding from the Scottish Funding Council through its main quality research grant, research postgraduate grant, and knowledge transfer grant.

³⁵ Where the vast majority of funding provided by UK charities relates to projects commissioned through an open competitive process.

research activities what is the additional annual economic output generated across the UK economy.

Further information on the productivity multipliers

There are many ways in which research generated at universities can induce such positive spillover effects to the private sector³⁶. For example, spillovers are enabled through direct R&D collaborations between universities and firms (such as Knowledge Transfer Partnerships), the publication and dissemination of research, or through university graduates entering the labour market and passing on their knowledge to their employers.

Of particular interest in the context of research conducted by universities, a study by Haskel and Wallis (2010)^{37, 38} investigates **spillovers from publicly funded R&D activities**. The authors analyse productivity spillovers to the private sector from public spending on R&D by the UK Research Councils and public spending on civil and defence-related R&D^{39, 40}, and the relative effectiveness of these channels of public spending in terms of their impact on the 'market sector'. They find strong evidence of the existence of market sector productivity spillovers from public R&D expenditure originating from the UK Research Councils⁴¹. Their findings imply that, while there is no spillover effect associated with publicly funded civil and defence R&D, the marginal spillover effect of public spending on research through the Research Councils stands at **12.7 (i.e. every £1 spent on research through the Research Councils results in an additional annual output of £12.70 within the UK private sector)**.

Another study by Haskel et al. (2014)⁴² provides additional insights into the size of potential productivity spillovers from university research. Rather than estimating effects on the UK economy as a whole, the authors analyse the size of spillover effects from public research across different UK industries⁴³. The authors investigate the correlation between the combined research conducted by the Research Councils, the higher education sector, and central government itself (e.g. through public research laboratories)⁴⁴, interacted with measures of industry research activity, and total factor productivity within the different market sectors⁴⁵. Their findings imply a total rate of return on public

³⁶ Note that there are clearly also significant economic and social spillovers to the public sector associated with university research. However, despite their obvious importance, these have been much more difficult to estimate robustly, and are not included in this analysis.

³⁷ Haskel, J., & Wallis, G. (2010). 'Public support for innovation, intangible investment and productivity growth in the UK market sector'. <http://ftp.iza.org/dp4772.pdf>

³⁸ Also see Imperial College London (2010) 'University research contributes £45 billion a year to the UK economy, according to new impact study'. for a summary of Haskel and Wallis's findings. Available at: http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newsummary/news_16-3-2010-13-6-57

³⁹ The authors use data on government expenditure published by the Department for Business, Innovation and Skills for the financial years between 1986-87 and 2005-06.

⁴⁰ This is undertaken by regressing total factor productivity growth in the UK on various measures of public sector R&D spending.

⁴¹ Note that the authors' regressions only test for correlation, so that their results could be subject to reverse causation (i.e. it might be that increased market sector productivity induced the government to raise public sector spending on R&D). To address this issue, the authors not only test for 1-year lags, but for lags of 2 and 3 years respectively, and produce similar estimates. These time lags imply that if there was a reverse causation issue, it would have to be the government's *anticipation* of increased total factor productivity growth in 2 or 3 years which would induce the government to raise its spending on research; as this seems an unlikely relationship, Haskel and Wallis argue that their results appear robust in relation to reverse causation.

⁴² Haskel, J., Hughes, A., and Bascavusoglu-Moreau, E. (2014). 'The economic significance of the UK science base: a report for the Campaign for Science and Engineering'. <http://sciencecampaign.org.uk/UKScienceBase.pdf>

⁴³ Haskel et al. (2014) use data on 7 industries in the United Kingdom for the years 1995 to 2007.

⁴⁴ A key difference to the multiplier for Research Council spending provided by Haskel and Wallis (2010) lies in the distinction between *performed* and *funded* research, as outlined by Haskel et al. (2014). In particular, whereas Haskel and Wallis estimated the impact of research *funding* by the Research Councils on private sector productivity, Haskel et al. instead focus on the *performance* of R&D. Hence, they use measures of the research undertaken by the Research Councils and the government, rather than the research funding which they provide for external research, e.g. by higher education institutions. The distinction is less relevant in the higher education sector. To measure the research performed in higher education, the authors use Higher Education Funding Council funding, where research is both funded by and performed in higher education.

⁴⁵ In particular, the authors regress the three-year natural log difference of total factor productivity on the three-year and six-year lagged ratio of total research performed by the Research Councils, government, and the Higher Education Funding Councils over real gross output per industry. To arrive at the relevant multiplier, this ratio is then interacted with a measure of co-operation of private sector firms with

sector research of **0.2 (i.e. every £1 spent on public R&D results in an additional annual output of £0.20 within the UK private sector).**

In terms of the large difference in magnitude between these multipliers, explaining the size of the 12.7 multiplier in particular, Haskel and Wallis (2010) argue that they would expect the productivity spillovers from Research Council funding to be large, 'given that the support provided by Research Councils is freely available and likely to be basic science'. To the best knowledge of the authors, there exists no further and recent empirical evidence to support this. As a result, we apply the separate multipliers to the different income strands.

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ⁱ [Audit Scotland \(2016\) p 50](#)

ⁱⁱ London Economics for Universities Scotland (2022)

universities and public research institutes, capturing the fraction of firms in each industry co-operating with government or universities. The lagged independent variables are adjusted to ensure that the resulting coefficients can be interpreted as annual elasticities and rates of return.