University of Edinburgh: initial response to the call for comments on the SFC review of coherent and sustainable provision in Higher and Further Education in Scotland

Introduction

The University of Edinburgh welcomes the proposed SFC review. This is timely and important work given the challenges the sector had already been facing which have been thrown into sharp relief by the significant shifts in the external environment, as the sector wrestles with the implications of Covid-19 and Brexit. It will be important that the review looks beyond the immediate pandemic to review and address the pre-existing drivers for change.

The review's proposed guiding principles cover important aspects including the importance of thinking medium and long term while supporting the sector in responding appropriately to the short-term shocks; taking a systems-wide approach with learners' interests at its heart; and recognising the importance of place-based and economic contribution.

The internationally collaborative and competitive nature of higher education is fundamental in considering the sustainability of the sector – in particular for the research-intensive institutions who contribute so much to Scotland's economy and reputation.

In addition, the intersection of devolved and reserved responsibilities is important context for the review. This reflects the potential for decisions outwith Scotland to impact on the sustainability of provision, recognising the cross-flow of Scottish Government, UK Government and other income sources – particularly those associated with international student demand and industry/business funding of research. This is particularly complex given the medium-term cycles which are an integral part of the Higher Education system.

Our key points, which we discuss in more detail below, are that the review should:
- Explore how to sustain and enhance the particular contribution that research-intensive higher education institutions can make to Scotland's international reputation and economy;
- Learn from effective existing models of networked post-16 education (we mention one example in Belgium) to explore the scope to develop place-based networks offering economies of scale, greater research-intensivity and more seamless and flexible learner journeys;
- Re-examine the contribution that Universities could make for learners in the transition phase between school and higher education, through closer working with secondary schools, whilst reviewing and reshaping the undergraduate curriculum and offering a potential foundation year.

Response to Specific Questions

a) *What do you think works well in the current further and higher education arrangements that we should keep in order to secure Scotland's inclusive social and economic recovery from the current pandemic? How can we best preserve and strengthen those features of education, research and innovation in Scotland that we most prize, in a very challenging funding environment?*

The strength of research and quality of teaching in Scotland's universities is exceptional and an outstanding national asset.   Scotland has retained four universities (Edinburgh, Glasgow, Aberdeen & St Andrews) in the Top 200 of Times Higher Education World Rankings in 2020. This is an extraordinary achievement for a country of our size and a testament to the value we, as a country, have placed on the highest quality research and learning. The quality (depth and breadth) of our research-intensive Universities adds huge value to Scotland's international reputation and contributes significant economic value, including the attraction of inward investment. Independently commissioned analysis of the University of Edinburgh's economic impact shows a contribution to Scotland's Gross Value Added of £2.3bn in 2018 (supporting 31,000 jobs) which is expected to increase to £2.6bn by 2021. The ability to make significant economic contributions is also evidenced in the latest results from a UK wide analysis of the economic value of the range of university activities with external organisations and communities – where Edinburgh has risen to fourth place out of 160 higher education institutions[1]. Government, funding council and research council funding have all contributed to the ability of the highest ranked higher education institutions to collaborate to deliver such significant economic contribution.

However, the ability of Scotland's internationally recognised research-intensive institutions to continue to contribute at this level should not be taken for granted. It will need to be explicitly recognised and supported as a strategic priority if we are to continue to make such a huge impact for our relative size as a country. Our relative positioning is being increasingly challenged with the main driver of international competitiveness being level of funding – as borne out by the impact of high investment in Universities in Singapore.

A key strength of the sector in Scotland has been its diversity and the ability to support specialist missions.   REF 2014 results confirmed the extent to which universities in Scotland outperformed with University of Edinburgh and Glasgow University placed 4th and 13th in the UK when judged on Research Power (quality x

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[1] Higher Education Business and Community Interaction (HE-BCI) Survey 2020

volume – the most robust underlying measure) and with Aberdeen, Strathclyde, St Andrews, Dundee and Heriot-Watt placed between 29th and 43rd in the UK.   In addition there are real strengths in our smaller specialist institutions. An important area for the review to consider should be how, within a systems-wide approach, to ensure sustainability through recognising and enhancing the diverse contributions within the sector, supported through continued academic autonomy. This should enable institutions to play to their respective (actual and potential) strengths rather than seeking a one-size fits all approach that would reduce the sector's ability to maximise benefit and contribution to Scotland and globally. However, we should recognise that hard choices will need to be made given the pressure on overall resource – those choices should be informed by a clear-eyed and strategic assessment of the relative contribution that can be made from different parts of the sector.

The University of Edinburgh is fully committed to collaboration and was unique in the UK in our inclusion of 6 joint submissions into the REF2014 assessment. Almost 80% of our research outputs are collaborative, with 60% of outputs being international collaborations.   However, our policy context has not always supported collaboration for maximum impact. For example, the collaborative intent of the SFC policy on research pooling was undermined by the traditional competitive distribution process for the fixed pot of Research Excellence Grant funding.   It will be important moving forward that funding and policy frameworks promoting collaboration have reinforcing objectives; particularly as we try to co-ordinate effective Scottish bids for national infrastructure facilities and reduce duplicative effort.

Exemplars of collaboration in Europe should inform the review.   As partners and members of the League of European Research Universities, we recognise the success of the [KU Leuven Association](#) network of Universities and University Colleges in Flanders, leading place-based transparency and cohesion in the delivery of Higher Education post the Bologna Declaration. Strategic, collaborative structures like this present an exciting opportunity to allow institutions to focus on key specialisms with economies of scale achieved in areas of collaborative delivery. We would suggest that the review examines this model in some detail and explores options for how it might apply within Scotland. It would be well worth exploring seriously the idea of local networks of higher and further education institutions, each with a lead anchor institution with international reach and potential multiplier effect, playing to a combined scale of research and innovation strength while facilitating learner journeys through their distinct offerings.

This would build on the successful examples of collaborative working that we have already seen through the city deals. Collaboration with and beyond the

Higher Education sector is emerging as a key opportunity to contribute both to social cohesion and economic growth.   This is evident in closer working with Colleges, business and Local Authorities. The review guidance highlights the triple A impact of age, automation and artificial intelligence. The Edinburgh and South East Scotland City Region Deal, including work to establish Newbattle Academy as a Digital Centre of Excellence and the recent establishment of the £22.5m Global Open Finance Centre of Excellence, demonstrates the potential impact of universities as drivers and collaborative partners with the City, schools, industry and the third sector. Linked to the wider ambition of the city region partners, the University of Edinburgh's Advanced Care Research Centre (ACRC) has recently been launched, funded by £20m of support from Legal and General – to support a re-imagining of care based on innovative high-quality data-driven, personalised and affordable approaches. Edinburgh College is key partner in the skills strand of Data Driven Innovation and in the work of the Scottish Wider Access Programme (SWAP) East.   These relationships see the alignment of work on data visualisation into their outreach work with schools and over 40% of SWAP graduates progressing to the University of Edinburgh.

Further examples of sector and industry-wide collaboration include the partnership between Fife College and the University of Edinburgh who are working with Babcock at Rosyth on engineering, material science and robotics training facilities intended to support everything from apprentices through to postgraduates, with the potential to provide micro-credentials that build to broader qualifications over time, perhaps over an entire portfolio career.

The recent Muscatelli[2] report highlights the potential for much greater collaboration to drive forward innovation: including recommending that Scottish Enterprise should help Scotland's major City Regions and their component local authorities to develop city-based place-making strategies with the universities and colleges in each City/City Region. There is huge potential to build on the track record of successful collaboration through the Edinburgh and South East Scotland City Region Deal to build a networked innovation district. Drawing from the hugely successful example of the combined impact of Harvard and MIT in creating a world-leading innovation hub, we are uniquely placed to anchor a clustering of companies and support start-ups, business incubators and accelerators across the city to support re-positioning the city as a sustainable innovation capital of choice. A well-supported, clear, ambitious and shared vision could leverage significant external funding from the private as well as public sectors.

The four year degree model continues to offer breadth and flexibility for students. We are, however, conscious that while advanced entry is available for

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[2] The Muscatelli Report, Driving Innovation in Scotland – A National Mission, 2019

well-qualified students, this option is not popular – reflecting a desire to be part of a cohort of entrants.   We are also conscious that the proportion of school-leavers applying for entry to University from S5 is significantly lower than it was a decade ago.   Many students are limited by uneven access and support to undertake Advanced Highers and so will use S6 to extend their portfolio of Higher qualifications. A bridge or foundation year delivered by Universities in collaboration with Schools, as an alternative to additional Highers in S6, might provide an opportunity to smooth the transition between School and advanced entry. The University of Edinburgh is currently considering significant curriculum reform which could offer a real opportunity to improve the way in which the first few years of a University could explicitly offer our students a broader and deeper foundation of general education.

b) *What do you think colleges, universities and specialist institutions should stop doing, or do differently, in order to contribute effectively to an inclusive social and economic recovery? (You may wish to comment on teaching and skills development, sectoral and employer needs and employability, research, innovation and knowledge exchange, widening access and equalities issues.)*

The commitment of all parts of the Higher Education and Further Education sectors to enhance the coherence of the Learner Journey and to Widen Access is evident.   However, it is clear that there are opportunities to improve collaboration, and remove duplication.   This is particularly evident at the boundaries between the sectors with innovations intended to improve the opportunities for disadvantaged individuals sometimes resulting in competition between "schemes" trying to secure the best candidates rather than providing an individual-centric view of the range of options available to them.

It is also clear that the focus on access for those from SIMD20 backgrounds was necessary but is insufficient.   The sectors must improve their ability to attract, retain and support educational outcome for a wider range of disadvantage; addressing barriers facing those from our Black and Minority Ethnic communities, sustained gender-imbalances and the under-representation of those who are care-experienced, disabled, or estranged from their families.   These disadvantages are likely to be amplified by the economic and social disruption caused by the pandemic and its aftermath.

Progression or articulation from College into Higher Education based on Higher National (HN) qualification is supported by both sectors and is most successful in those areas which have a strong curricular alignment – but even in those cases, requires negotiation and recognition on a course by course basis.   HNs are vocational qualifications and consequently routes into Arts, Humanities and Social

Sciences are very limited – this provides at least a potential limitation on options available to those not ready to immediately progress into Higher Education from secondary school.   The establishment of Regional Colleges/Regional College Boards provides an opportunity to consider whether the KU Leuven Association model might have applicability in Scotland.   The role of SQA in a coherent education ecosystem is important as part of this consideration.

The focus of both Further Education and Higher Education has been on the provision of opportunity to school leavers. Increasing numbers of school leavers as we move beyond the "demographic dip" is of course, an additional challenge for the sectors and should be included in the scope of the review.   The pace of technological change including automation, artificial intelligence and machine-learning, and the anticipation that individuals will need to reskill multiple times during their working-lives, provides an additional challenge – though one which has significant resonance with the short-term need to support individuals negatively impacted by Covid-19 impacts on jobs and businesses.   This challenge of life-long learning raises the anticipation of deepening employer engagement with colleges and Universities but also the need to improve the availability of flexible and accessible learning at all levels and stages in life.

The comments in the answer to (a) above on the potential attractiveness of the KU-Leuven networked model to build on our research intensive strength, international impact and innovation are also very relevant here.

c) *How can colleges, universities and specialist institutions best support Scotland's international connectedness and competiveness in the post-pandemic, post-EU membership environment?*

International collaborations offer strong ways of building international reputation.   This has largely been progressed historically through academic to academic relationships.   But there are new forms of collaborations being fostered that will drive reputation and economic and social impact. For example, the University of Edinburgh is a founding member of a new international initiative – TenU - which will increase the social and economic value of our research by bringing together ten leading research intensive universities in the UK, US and Europe to enable improved collaboration on the commercialisation of research. Such international links can be further facilitated by targeted challenge-led funding calls to deliver specific research and knowledge exchange outcomes with partners in specific target jurisdictions. This could build Scotland's reach to a cluster of target nations to build research, knowledge exchange and research-based business links for mutual enrichment, employment gains and wealth.

There is room for more co-ordinated and focused international collaboration activity around teaching and research. The development of Transnational Educational provision located on partner campuses, exemplified in the [ZJE-Institute](#) created between the Universities of Edinburgh and Zhejiang, offer interesting examples of innovative international co-operation.

Last year the University of Edinburgh reinforced its commitment to European engagement by joining UNA Europa. This is a group of 8 leading European Universities focused on co-operating to deliver innovative collaborative research and teaching (including multi-institution degree programmes) and boosting international opportunities for students and staff.

Support from Scottish Government in relation to engagement as a third/associate partner in European research projects has the potential to be differentiating after the UK's exit from the EU – if, as is increasingly likely, the UK does not engage directly with the new Horizon Europe programme.

The demonstration of a determinedly European and international message is critical to our continued intent to recruit the brightest and best staff and students. The transparency of equality, diversity and inclusion commitments will be critical to success – as the sector and society address the concerns raised by the Black Lives Matter and #MeToo campaigns.

d) *What opportunities and threats does the post-pandemic environment hold for colleges, universities and specialist institutions? For institutional leaders, how are you planning to address these challenges and opportunities?*

The pandemic and its aftermath pose an existential threat to the normal modus operandi of a campus-based university.

A major threat is the challenge of achieving a balance between health and safety, both of members of the university community but also of the wider public, with our desire to offer as active, engaged and international a university experience as is possible to our students, staff, alumni and guests. We have pioneered a "hybrid" model with the balance of face-to-face and online activities being adjusted according to prevailing public health conditions.

A sustained reduction in international student mobility, as well as seriously damaging the cosmopolitan nature of our campus (which benefits local students as well as local economies) would fundamentally undermine the funding paradigm for research-intensive universities in the UK. This further highlights the fragility of current funding models which rely on the cross-subsidy from teaching to research and cross-subsidy within teaching between non-publicly funded and

publicly funded teaching.   International student tuition fees represent 20% of total income to the University of Edinburgh with our underlying operating surplus usually in the range of 2-5%.

As an institution, our focus is three-fold.   First, acting immediately to mitigate the impacts on recruitment through the development of hybrid teaching to sustain engagement and presence.   Second, implementing an Adaptation and Renewal programme which is considering the more radical changes in our size and shape required to ensure a sustainable model to deliver maximum impact and societal benefit.   Third, we are engaging actively with sector groups and government to ensure there is a clear understanding of the vulnerability of the current UK public research funding system which relies on contributions from other income sources.

There are of course opportunities associated with any major environmental shift. The rapid move to digital delivery required changes to work practices and processes at a speed and scale which would have been unthinkable without an external catalyst. The creativity and responsiveness of university teams in refocusing research to address the challenge of Covid-19 also presents opportunities to reassess our priorities and approach to research project specification.

The pandemic has offered huge opportunities for the e-commerce, technology and data-driven innovation sectors and companies. Through the strong partnerships and track record already achieved through the current Edinburgh and South East Scotland City Region Deal, we are well positioned to leverage and support growth in these areas. This is enabling us to support, stimulate, encourage and create a funnel of data talent from our primary schools through to Universities that will equip our students, graduates and citizens to excel in the e-commerce, technology and data-driven innovation growth economy.

e) *What forms of collaboration within the tertiary education eco-system would best enable a coherent and effective response to these challenges and opportunities?*

The benefits of education, at all levels, to productivity are clear.   The combination of challenges associated with a post-Covid-19 and post EU membership environment require that the costs of providing those education opportunities are reduced while maintaining the benefits of autonomous institutions, each playing a mission-focused but aligned role in the eco-system. The UNA Europa and KU Leuven Association models both offer potential comparators as we anticipate the structures/eco-system best suited to amplify the effectiveness of the innovation hubs created as part of the Edinburgh and South East Scotland City Region Deal.

f) How can SFC, alongside government and other enterprise, skills and education-focused agencies, best support colleges, universities and specialist institutions to make their full contribution to Scotland's inclusive, green and education-led recovery? In particular, you may wish to draw out:

- *How scarce public resources should be prioritised to drive recovery*
- *Particular areas of collaboration between agencies that would best support the sectors' contributions*
- *Adaptations to SFC's funding and accountability frameworks to promote agile and collaborative action by the sectors to build Scotland's recovery*
- *How SFC's funding and accountability frameworks should ensure that equality and wide access to educational opportunity are promoted as key elements of the recovery for younger people and adults*
- *What support SFC and government could give institutions to adapt to a changed environment*

This is a rare opportunity for a substantive review of Government support and intent for Higher and Further Education. It is important that, while short-term actions will be needed, these are contextualised with a clear articulation of future state eco-system. It is clear that current provision is neither financially sustainable nor entirely coherent; with demand from within Scotland likely to increase in both volume and diversity both in the short-term post Covid-19 but also as automation increases the need and opportunity to upskill.

It is equally important that funding mechanisms are aligned with policy intent. In a period of significant change, mechanistic funding algorithms associated with individual initiatives are unlikely to support agile and flexible responses. This is particularly important when aiming to align activity across an eco-system with already significantly different governance requirements. The attraction of additional "programmes" or "initiatives" should be tested for duplication.

As indicated previously, equality and wide access to educational opportunity should be extended to a consideration of access to educational outcomes. An increased focus on retention and attainment is important. Our understanding of disadvantage must however be reset to also consider intersectionality with ethnicity, gender and disability.

The University of Edinburgh would be very willing to contribute – for example through hosting roundtable discussions, bringing together international expertise, or in any other way that would be the most helpful - as this very important review progresses.