

After Brexit: The role of higher education

A think-piece on the challenges and opportunities

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Foreword

The UK's withdrawal from the European Union presents many immediate risks to Wales, in particular to the future prosperity of the Welsh economy. At Universities Wales, much of our time has been dedicated to working to mitigate these risks whether they be the potential impact that Brexit could have on student and staff mobility, the loss of EU funding, or the uncertainty over the UK's participation in a future EU research programme. But we are also aware that the changes that Brexit will bring to Wales will be long-lasting, and that the potential impact of Brexit will be part of a wider period of change which will include demographic changes, technological advancement, and a changing world economy.

With this in mind, we were pleased to commission the Bevan Foundation to deliver this piece of work to gain an insight into the big changes that Wales faces in the long-term and to listen to how people and organisations from across Wales perceive universities and their future role in Wales. Taking part in this exercise has shown us both what organisations value about the work Welsh universities do in Wales, and also what work people want to see universities build upon and develop further.

We talk often about the economic impact of universities – the £5 billion in output Welsh universities generate and the nearly 50,000 jobs generated by Welsh universities – but the benefits of universities are much wider and, often, more intangible. It's reassuring to see these benefits both recognised and celebrated by stakeholders, including the role of universities as equalisers, as beacons of expertise, as economic anchors and as centres of flexible learning.

In Wales we have a strong university sector, one that has the highest overall student satisfaction in the UK and which, in the recent Research Excellence Framework exercise, was found to have the highest percentage of 'world leading' research in the UK in terms of impact. We strive as a sector to provide a progressive offer, one that can have a transformational impact on people, places and employers in Wales.

It is good to see so much of what we do reflected in this piece of work and the contributions from the diverse group of stakeholders that were involved in it. And just as stakeholders have highlighted the positive impact of universities on Wales, they also articulated challenges for our higher education sector.

With the uncertain future that Wales, and the UK as a whole, faces, this is the right time to explore these challenges. There are further opportunities for us to work with partners across Wales to ensure that people and employers are able to engage with new and innovative ways of delivering skills, such as degree apprenticeships, and can participate in or benefit from the world-leading research carried out by our universities. Through empowering our universities to explore the challenges outlined in this report, and enabling them to continue to deliver and build upon the four roles for universities identified here, we can in turn empower the next generation to take Wales forward.

Professor Julie Lydon OBE,
Chair of Universities Wales.

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1. INTRODUCTION

The vote to leave the European Union has deep and far-reaching consequences for many people and organisations in Wales. For higher education, there is the obvious and immediate impact of Brexit, for example the potential loss of funding,¹ barriers to recruitment of staff and students,² and possible damage to international academic relationships.³ Universities are arguing hard for the Welsh and UK governments to take action to mitigate any adverse consequences from leaving the EU.

But the implications of Brexit go beyond any effects on higher education institutions. There are, in addition, implications for the role of higher education in Wales after Brexit, as society and the economy adapt to unprecedented circumstances. The Cabinet Secretary for Education has recognised this and asked universities to ‘re-capture and re-invent [a] civic mission’ in the light of Brexit,⁴ urging them to be stewards of their place and to play an active role in the local economy and society.⁵

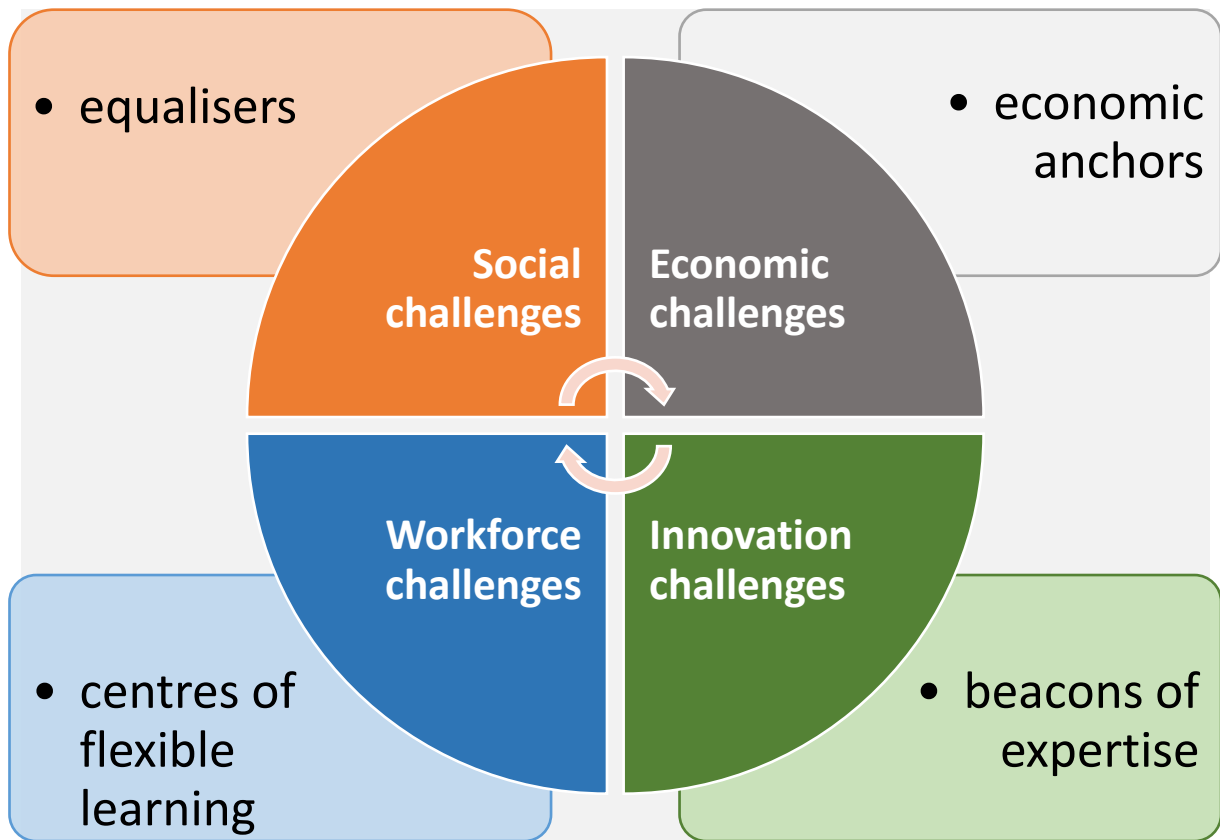
It was in this context that Universities Wales commissioned the Bevan Foundation to explore how universities in Wales might respond to Brexit. They organised a roundtable discussion in November 2017 and held follow-up interviews with stakeholders from a wide range of backgrounds, as well as drawing on literature across a range of disciplines. This short ‘think-piece’ is not intended as a definitive statement on the issue nor does it make firm recommendations. Rather, it aims to stimulate further discussion about the future role of higher education post-Brexit.⁶

Our analysis of the literature and discussion with stakeholders has identified four major areas of challenge and opportunity in the economy and society to which universities in Wales could contribute. They are: changes in the economy, changes in the workforce, changes in wider society, and increasing inequality. These challenges suggest that there are four possible roles that universities could play, building on Welsh universities’ very considerable strengths as well as suggesting possible new, or enhanced, areas of activity (see Fig. 1). These are:

- as ‘anchor’ institutions to strengthen local and regional economies;
- as beacons of expertise to support innovation of all kinds;
- as centres of flexible learning and
- as equalisers.

The rest of this think-piece outlines the challenges and sets out how higher education institutions could help to meet them.

Figure 1: Possible Roles for Universities in Wales

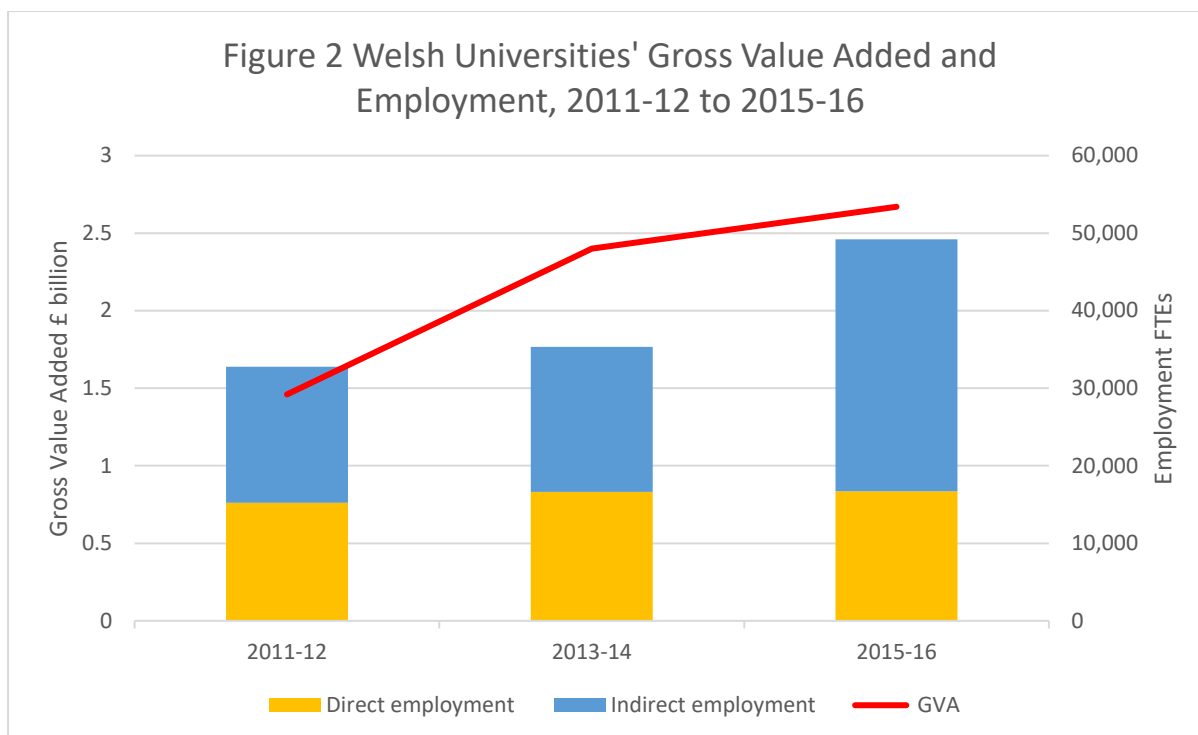


2. THE ECONOMIC CHALLENGE: UNIVERSITIES AS ECONOMIC ANCHORS

Universities make a large and growing contribution to the Welsh economy. They are often major employers and significant purchasers of goods and services, the impacts of which are then multiplied through the economy. They attract domestic and international students, whose spending also contributes to the local economy, while graduates who remain close to where they studied boost the supply of skilled labour. Detailed analysis by Viewforth Consulting⁷ shows that in the year 2015/16, Wales' higher education institutions generated £5 billion in output in Wales, including their direct expenditure on salaries, goods and services, and the knock-on impacts of staff and student spending.

In terms of employment, Wales' universities employ 16,700 people in a wide range of roles from professors to porters, from counsellors to accountants. They contribute to the employment of a further 32,500 people indirectly, in total supporting 49,216 jobs or 3.5 per cent of all employee jobs in Wales. The impact can be even greater locally than these headline figures suggest: for example, higher education employment in Ceredigion accounts for 10.6 per cent of all employee jobs, while that in Cardiff and Swansea accounts for 7.9 per cent and 6.8 per cent respectively.

Universities' economic impact has grown considerably in recent years, from £3.04 billion in 2011/12 to £5 billion in 2015/16 while total employment has risen by 50 per cent in three years, mainly through indirect effects. As a result, Wales' universities now contribute 4.8 per cent of Wales' GVA and 3.5 per cent of all workplace jobs. This is a larger contribution to the economy than elsewhere in the UK: university expenditure alone (i.e. excluding off-campus spending by students) accounted for 3.2 per cent of all 2015 Welsh GVA compared with 2.4 per cent of UK GVA.



Source: Kelly, U. and McNicoll, I. (2018) The economic impact of Higher Education in Wales. Available at: http://www.uniswales.ac.uk/wp/media/UNI010-Economic-Impact-Report_FINAL.pdf
 Kelly, U., McNicoll, I. and White, J. (2015) The Economic Impact of Higher Education in Wales. Available at: <http://www.uniswales.ac.uk/wp/media/The-Economic-Impact-of-Higher-Education-in-Wales.pdf>
 Kelly, U. and McNicoll, I. (2013) The economic impact of Higher Education in Wales. Available at: <http://www.uniswales.ac.uk/wp/media/2013-June-The-Economic-Impact-of-Higher-Education-in-Wales1.pdf>

Universities have a differential impact on different areas within Wales. Places with a university in or very nearby enjoy considerable benefits. For example, Cardiff and the Vale of Glamorgan benefit from 33 per cent of Welsh universities' output despite accounting for 20 per cent of Wales' total GVA. Similarly, 15.3 per cent of Wales' higher education output is in Swansea, twice its share of Wales' GVA at 7.8 per cent of the Welsh total. In terms of employment, Cardiff has 32.5 per cent of university direct employment but only 16.8 per cent of total employment in Wales, while Swansea has 14.7 per cent of university direct employment compared with 8.8 per cent of all employment in Wales. This may overstate the effect as a proportion of university staff live outside the local authority area in which the institution is located. Areas without a higher education institution also benefit from universities: 22 per cent of all jobs created by universities (some 11,024 jobs) were generated in 'non-university' areas.⁸

That Wales' universities make a substantial contribution to the Welsh economy is therefore without doubt. However, there are challenges emerging that could affect the nature and extent of that contribution.

2.1. Economic changes ahead

Almost all economists anticipate that the UK economy will experience slow growth over the next five years, continuing the trend since the end of the last recession. The Office for Budget Responsibility forecasts increases in output of 1.3 per cent in 2019 and 2020, rising to 1.4 per cent in 2021 and 1.5

per cent in 2022.⁹ For Wales, PwC anticipates that growth will broadly follow the UK trajectory at around 1.3 per cent growth in 2018 and 2019, neither bucking the trend nor lagging behind.¹⁰

A great deal depends on the terms of the UK's exit from the EU and how businesses respond. The Department for Exiting the EU's own forecasts are very downbeat, estimating that the Welsh economy could be 1.5 percentage points smaller in 15 years' time if the UK remains in the single market compared with full EU membership, rising to 9.5 percentage points smaller than if there is no deal.¹¹ Other economists have generated similarly pessimistic forecasts in which UK economic growth is at best slower than it would have been and at worst includes mild recession.

The effects of Brexit on the Welsh economy are expected to be worse than on the UK economy as a whole because of Wales' exposure to exports to the EU either directly or indirectly, and because of the relatively high levels of foreign direct investment. Within Wales, the estimated immediate drop in GVA is greatest in cities such as Cardiff, Swansea and Newport and least in Anglesey, Merthyr Tydfil and Neath Port Talbot (see table 1).

| Table 1: Impact of Brexit for Local Authorities in Wales (per cent change Gross Value Added p.a.) | | | | | |
|---|--------------------|--------------------|-------------------|--------------------|--------------------|
| | Soft Brexit | Hard Brexit | | Soft Brexit | Hard Brexit |
| Cardiff | -1.3 | -2.5 | Wrexham | -1.1 | -1.7 |
| Vale of Glamorgan | -1.3 | -2.3 | Conwy | -1.0 | -1.9 |
| Denbighshire | -1.3 | -2.1 | Monmouthshire | -1.0 | -1.8 |
| Swansea | -1.2 | -2.3 | Pembrokeshire | -1.0 | -1.8 |
| Bridgend | -1.2 | -2.1 | Carmarthenshire | -1.0 | -1.7 |
| Newport | -1.2 | -2.1 | Flintshire | -1.0 | -1.7 |
| Rhondda Cynon Taff | -1.2 | -2.1 | Powys | -1.0 | -1.6 |
| Torfaen | -1.2 | -2.0 | Neath Port Talbot | -1.0 | -1.4 |
| Blaenau Gwent | -1.2 | -1.9 | Ceredigion | -0.9 | -1.8 |
| Caerphilly | -1.2 | -1.9 | Merthyr Tydfil | -0.8 | -1.5 |
| Gwynedd | -1.1 | -2.0 | Anglesey | -0.6 | -1.2 |

Source: Swati Dhingra, Stephen Machin and Henry G. Overman (2017) The Local Economic Effects of Brexit, London School of Economics Centre for Economic Performance, Annex 1

While there remains huge uncertainty about the terms of any trade deal as well as how businesses respond to them, what is clear is that forecasters expect that there will be at best very sluggish growth in the short term. In addition, there could be significant local 'shocks' associated with changes in specific sectors e.g. if major manufacturing plants relocate production elsewhere and there is likely to be a long period of economic adjustment ahead as patterns of trade and competition change.

With future economic prospects uncertain, what role should Wales' universities play in the future?

2.2. Universities as economic anchors

The idea that universities have a key role to play in their locality emerged in the US but has since gained considerable support in the UK. The role is often expressed as being an ‘anchor institution’ – along with other major bodies such as local authorities and hospitals.

The UK Commission on Employment and Skills defined an anchor institution as:

one that, alongside its main function, plays a significant and recognised role in a locality by making a strategic contribution to the local economy.

The key characteristics of an anchor institution are:

- **Geographical immobility:** unlike private businesses, anchor institutions are unlikely to relocate. While universities may expand beyond their original base, they remain in their primary location because of their investment in a significant estate and in addition they often bear the name of their home city or town.
- **Size:** anchor institutions tend to be large employers and have significant purchasing power – clearly the case for Wales’ universities.
- **Non-profit:** anchor institutions are typically not for profit, meaning that they can have social as well as economic objectives and their fortunes are less volatile.

Acting as an anchor institution involves more than the local multiplier effect of university and student spending. It also involves more than conventional approaches to ‘engagement’. Being an anchor institution requires higher education establishments to have deep and reciprocal relationships with the full range of non-university bodies, in which there are shared priorities and mutual respect.

There are many different ways in which universities can act as anchor bodies, with a diversity of approach to reflect specific local circumstances being the essence of the local relationship. But all should involve:¹²

- A strong sense of place, of purpose and a willingness to invest in the wider community;
- A strong commitment to engagement, which is undertaken in a holistic way across roles and disciplines;
- Transparency and accountability to stakeholders and the wider public.

Many stakeholders envisaged universities having precisely these kinds of stronger relationships in future:

‘the more rooted universities are in communities the better for everybody’

‘it’s about ... anchor institutions and building economic resilience’

‘the key to ... excellence is close working with communities and industry’.

Wales’ higher education institutions are well-placed to fulfil the role of economic anchors, not least as many have been in their home towns for well over 100 years¹³ and are proud of their local connections, and because they already make a valuable contribution to the Welsh economy, as we have seen.

The wider literature on anchor institutions suggests there are three key ways that organisations can enhance their contribution to the economy:

- **Through procurement:** by earmarking a modest proportion of expenditure for procurement from local suppliers, anchor institutions can stimulate the growth and development of local firms;
- **Through recruitment:** as good employers, by creating entry and progression routes for local employees, providing workforce training at all levels including apprenticeships, work placements etc. and by ensuring their workforce is diverse;
- **Through community relationships:** by sharing assets with the community, from physical assets such as sports fields and education facilities to expertise, such as by participating in community organisations.

The emergence of four new ‘economic regions’ as set out in the Welsh Government’s economic action plan gives added impetus to universities’ potential new role. Each new region has at least two universities which can make a significant contribution to economic development. Already Cardiff City Region and Swansea Bay City Region have ‘city deals’ underway with bold ambitions to grow GVA and create employment. Similar ‘deal’ arrangements are anticipated for North and Mid Wales in due course.

The contributions of Wales’ universities as anchor institutions relates primarily to their practices as large organisations. For example, their procurement policies could support local suppliers of goods and services by purchasing a proportion of items – whether food for cafes or bedding for student residences – from local suppliers. Although only a proportion of university expenditure, the trend in procurement managed by the Higher Education Purchasing Consortium is upwards, with £89m of expenditure placed with Welsh suppliers in 2016.¹⁴ As with other public bodies, there may be scope to increase higher education establishments’ local procurement of goods and services, although the specialist equipment and services that universities procure are often not available in Wales or, indeed, in the UK. The procurement relationship can go further than expenditure, with universities’ procurement teams working with local suppliers to develop local supply chains, build supplier capacity and support their resilience.

Similarly, Welsh universities’ employment practices could stimulate and develop the local economy. Most obviously universities can support good practice in pay and conditions, for example by becoming accredited Living Wage employers. All universities in Wales have committed to paying the Living Wage Foundation’s living wage to all directly employed HE staff by 2018/19 and to starting the process of implementing the living wage across their outsourced HE activity from 2018/19. In addition for 2018-19, HEFCW has made funding available to universities for living wage accreditation. There are other ways that higher education can implement good practice, such as signing up to the Working Forward campaign to support employees who are pregnant or new mothers.

Universities also have a role sharing their physical assets with the wider community, such as sports facilities, classrooms or meeting space. This role is relatively well-established with some universities offering sought-after venues for conferences, lectures, exhibitions and receptions and others hiring their sports facilities to the community. The reach and impact of universities’ contribution in this field is perhaps not widely recognised. As organisations with major purchasing power, large workforces and extensive estates, universities in Wales are in a pivotal position to support Wales’ regional economies.

3. THE INNOVATION CHALLENGE: UNIVERSITIES AS BEACONS OF EXPERTISE

There is a wealth of knowledge and expertise in Wales' universities. The 2014 'research excellence framework' showed that Welsh universities have the highest percentage of 'world leading' research in the UK when measured by impact, with almost half of research being assessed as having a transformational effect on the economy and society. This expertise can be found across subject areas, from ground-breaking medical and health research to reforming public procurement and understanding the governance of Wales. In terms of the economy, nearly half of all of Wales' R&D expenditure can be attributed to its universities, and, given the link between R&D and productivity growth, university R&D underpins many of Wales' economic gains.

Universities' knowledge is wider than their dedicated research teams, however. Even when staff or institutions are focused on teaching, staff have an in-depth understanding of their subject area. Altogether, the 10,000 academic staff employed by Wales' higher education bodies are provide an extraordinary concentration of knowledge and expertise.

There are a number of schemes to encourage universities to 'exchange knowledge' such as Knowledge Transfer Partnerships (KTPs), Knowledge Economy Skills Partnerships and SMART Expertise. In the UK as a whole, KTPs have been found to boost GVA, improve employment prospects of participants and generate numerous intangible benefits in addition. A recent evaluation concluded that they offered an excellent return on investment.¹⁵

There are numerous examples of higher education institutions sharing their expertise with wider society – for example those listed in a recent report by the Higher Education Funding Council for Wales.¹⁶ Examples include Cardiff University's 'engagement' programme with Cardiff City Region, which has involved the production of briefing papers, research on community economic resilience, supporting pilot projects and organising public events.

Stakeholders also provided a number of examples of how they already saw universities contributing to 'the greater good' of their area. One example was Swansea University's Rural and Remote Health in Medical Education (RRHIME) Track which was praised for seeking to encourage more students and doctors into rural Wales and to help raise awareness of the advantages of training, working and living in more remote areas. Another stakeholder mentioned work by Cardiff Metropolitan University on tenants' experiences of claiming universal credit, which was described as:

'One of the best examples I've seen of how a university can make themselves relevant to groups they hadn't previously worked with.'

Stakeholders from a wide range of organisations talked about their desire to see universities engaged in a wide range of themes: such as reaching out to school pupils in disadvantaged areas to raise aspirations, helping the public sector and housing providers to find solutions to long-standing challenges, greater engagement between universities and the local business community and clearer routes into higher education for local learners and more carefully mapped routes out of higher education into the labour market.

The relationship that we have with our local universities is particularly important as education and research is tailored and responsive to our local context

The development of health and research innovation hubs / centres in Wales is providing an excellent opportunity for collaborative working between universities and other organisations ... This is helping to develop market-leading and innovative developments, practices and products

Nevertheless, a number of stakeholders suggested that there was scope for universities to share their knowledge and expertise more widely, working in a collaborative way on social and economic issues as well as on scientific research. For example, one stakeholder pointed out that despite nearly 50 years of devolution of education, of which nearly 20 years has been to the National Assembly for Wales, only now is a school of education with policy capacity (as opposed to teacher training) emerging.

3.1. Innovation changes ahead

It is impossible to forecast the precise changes in knowledge that Wales' economy and society will need in the future. Even so, it is clear the three big drivers – demographic change, climate change and technological change – are bringing unprecedented challenges to people, businesses and communities.

Demographic Change

Wales' population is expected to increase by 4.6 per cent to 3.26 million by 2041, with the number of people aged 65 and over projected to increase by 232,000 (36.6 per cent) over that period.¹⁷ In 20 years' time, more than a third of the population is expected to be over the age of 65 in Powys (38.5 per cent), Monmouthshire (36.8 per cent), Conwy (35.6 per cent) and Pembrokeshire (33.5 per cent).

These changes are expected to bring significant challenges for public policy in respect of health, social care and other support services; the demand for housing; consumption of leisure and recreational services; personal incomes and public spending to name but a few.

Climate Change

Climate change is forecast to result in higher daily summer maximum temperatures - up by as much as 6.4 degrees Celsius, higher winter rainfall of up to 10 mm per 5 day average, and more extreme weather.¹⁸ The effects are likely to be occasional periods of abnormal heat and cold, river-water and sea-water flooding, as well as impacts on the biosphere and human health.

Public policy will need to continue to seek to reduce carbon emissions as well as address mitigation of the effects of climate change. This could well include developing new, low carbon technologies for building, vehicles and manufacturing processes; reducing carbon emissions in agriculture; managing extreme weather and flood risks effectively; developing treatments for new diseases and adapting agriculture to changes in climate. As the UK Committee on Climate Change noted in their report on Wales:

Research is needed in the next five years to fill significant evidence gaps or reduce the uncertainty in the current level of understanding in order to assess the need for additional action

Technological Change

Technological change is occurring apace, with successive waves of automation forecast.¹⁹ These will affect, first, data-driven sectors such as financial services, then interaction with technology for clerical support and robotic tasks in environments such as warehouses, and finally the automation of physical labour and manual dexterity, plus real-life problem-solving, for example in transport and construction.

PricewaterhouseCoopers estimate that up to 30 per cent of UK jobs could be at high risk of automation by the early 2030s. The risks for people with lower-level qualifications are even higher, with up to 46 per cent of jobs at risk from automation. The geographical impact is likely to be uneven, for example it is estimated that 20-25 per cent of jobs in Swansea, Cardiff and Newport are in the sectors most likely to be affected such as retail and admin services.

Public policy and services will need not only to ensure that businesses are able to adopt new technologies effectively but also to ensure that new and existing workers are able to adapt to new technologies and working practices.

The creation of the Wales Centre for Public Policy is one way of harnessing higher education expertise for public policy, and there are some other centres of specialist expertise which have a similar public policy focus in specific areas, such as the Centre for Innovative Ageing at Swansea University. At the same time, some stakeholders suggested there may be gaps in academic expertise in some subject areas and some stakeholders wanted universities' outputs to be more relevant to 'the questions we want answered'.

One stakeholder suggested that the need for universities to contribute to public policy had increased as their own sector's policy capacity had been affected by a long period of austerity:

'one of the consequences of austerity is that public bodies look for different ways of working ...partnership with a university would come in in this way'

Some stakeholders called for universities to make a greater contribution specifically through 'thought-leadership' and policy innovation. One mentioned how a university in Wales had led organisations and industry to 'think in a different way' about house-building methods, in contrast to England where the private sector had been in the lead. They suggested that more could be done in this vein in Wales. This sentiment was summed up as follows:

'More [of] that thought-leadership role, stepping into that policy vacuum'

'You would hope that a lot of the research that takes place in academic institutions is practically-oriented and rooted in the needs of societies and communities in which they are based, and would have a positive and dynamic impact on the local community and economy.'

'best practice, new ideas, futurology and horizon-scanning'

In addition, universities can add considerable value to Wales' knowledge by bringing academics from around the world to Wales, helping to expand horizons and build international links and partnerships.

3.2. Universities as beacons of expertise

There is, then, vast pool of knowledge in Wales' universities and beyond, and a real appetite across a range of public and third sector bodies for help to address some of Wales' 'wicked issues'. How can they be brought together?

Perhaps the biggest change needed to enable collaboration is a cultural one, involving shifts in understanding by both higher education and the wider community. Although many universities already value achieving an impact, it needs to be at the centre of their missions, if it is not already.

A key step is to strengthen relationships between universities, business and civil society so that people working in universities understand the priorities and ways of working of other organisations, and vice versa. Universities could try to become easier for non-academics to navigate, for example with clearly-named, high profile (perhaps even pan-institution) centres of expertise in specific areas. There are a number of these already – for example Cardiff University Brain Research Imaging Centre, the National Cyber Security Academy and National Software Academy to name but three. Equally, civil society organisations could ensure that university expertise is sought in the myriad of partnerships and working groups across Wales.

Potentially significant gaps in policy areas could be addressed through implementation of the recommendations in Professor Graeme Reid's review of Government-funded research and innovation.²⁰ The review noted the great strengths and national assets in Welsh universities in research and innovation, but that changes were required to exploit their potential fully.

In addition, partnerships with non-academic bodies and policy- and practice-oriented research need to be valued and rewarded. There is scope for new ways of working, such as secondments of academic staff into the public, third sector and business community and, similarly, potential for professionals to undertake placements in universities. The combination of academia and practice found in medical schools could be adopted in other subject areas, for example with housing professionals who were also university fellows, or headteachers who were also professors of education. Universities may wish to develop new roles and titles for these 'professors of practice'.

Not all sharing of knowledge and expertise needs to be conducted through research projects or consultancy. A great deal of expertise can be shared informally, for example by academics having roles on external boards or committees whether a government appointment or as a trustee of a small charity. Similarly, non-academics can very usefully contribute to the work of university schools or departments through, for example, advisory groups as well as participating in the university's governance structures. Some stakeholders said they would welcome an increase in conventional 'engagement' activity, such as lectures and seminars open to non-academics, with scope for these to be organised into coherent programmes of professional development as well as on-off events.

Some of these approaches are already in place and working well in some parts of the university sector. But they could – and should – become much more widespread if universities' role as leading experts is to be recognised and valued by wider society.

4. THE WORKFORCE CHALLENGE: UNIVERSITIES AS CENTRES OF FLEXIBLE LEARNING

Universities have played a key role in raising the level of qualification held by people in Wales. In the twelve years from 2004 to 2016, the number of people aged 16-64 with a degree-level qualification or higher increased by 239,000.²¹ Today, more than a third of the working age population (35.1 per cent) holds a qualification at NVQ level 4 or above compared with 23.8 per cent twelve years previously.

Although not the sole purpose of university learning, workforce development is an important feature of the learning provided by universities in Wales. Many employers across Wales rely – either explicitly or implicitly – on universities to help to meet their skills needs. More than four out of five 2012/13 graduates from Welsh institutions (80.8 per cent) went on to enter employment, with just 2 per cent being unemployed.²² In the UK, the vast majority of graduates (84.1 per cent) enter employment in managerial, professional or associate professional and technical occupations.²³

Some economic sectors in Wales have close working relationships with higher education institutions. In the Welsh NHS, for example, employers said that higher education was ‘critical’, ‘key to the delivery of [our] strategy’ and ‘integral to the ... pathway for healthcare workers’. A number of employers reported excellent working relationships with their local higher education establishment, referring to ‘collaboration and partnership’, ‘shared priorities’ and ‘regular strategic meetings’ between local universities and employers. Other business sectors such as accountancy also reported that they relied on recruiting graduates from Welsh and other universities.

Others had different views, suggesting that it can be difficult for small businesses in particular to know how to engage with universities, that relationships between some organisations and their local university were ‘patchy’ and that the curriculum followed by graduates was not necessarily suitable for their local employers’ needs.

Some variation in relationships between universities and local employers is inevitable, reflecting the mix of business sectors within the local economy and their willingness to engage with higher education as well as the experiences and interests of academic staff.

4.1. Workforce changes ahead

Demand for a graduate-level workforce in Wales is forecast to increase to the mid-2020s. It is projected that managerial, professional and associate professional roles – most of which require a degree – will increase by 67,000 over the period 2014 – 2024, accounting for all the next increase in jobs over this period (Table 2).

| Table 2 Projected changes in occupations, 2014 – 2024, Wales | | | | |
|--|----------------------------|--------------|-----------|-----------|
| | 2014 | 2024 | Change | |
| | Number of employees (000s) | | 000s | % |
| 1. Managers, directors and senior officials | 106 | 123 | 16 | 15 |
| 2. Professional occupations | 261 | 295 | 34 | 13 |
| 3. Associate professional and technical | 159 | 176 | 17 | 10 |
| Sub-total graduate-level occupations | 527 | 594 | 67 | 13 |
| 4. Administrative and secretarial | 154 | 141 | -13 | -8 |
| 5. Skilled trades occupations | 192 | 183 | -9 | -5 |
| 6. Caring, leisure and other service | 153 | 167 | 15 | 10 |
| 7. Sales and customer service | 115 | 115 | 0 | 0 |
| 8. Process, plant and machine operatives | 121 | 114 | -7 | -6 |
| 9. Elementary occupations | 152 | 153 | 1 | 1 |
| Total | 1,412 | 1,466 | 54 | 4 |

Source: UKCES labour market projections for Wales: 2014 to 2024 Data for All Industries, Table 4.1 <https://www.gov.uk/government/publications/ukces-labour-market-projections-for-wales-2014-to-2024>

There is inevitably a great deal of uncertainty about labour market projections. As well as the usual uncertainty about the economic cycle, there are the added factors of Brexit and greater automation of jobs.

Brexit is likely to have an impact on labour supply, with much depending on the agreement reached between the UK Government and EU on the terms of any post-Brexit migration scheme and how EU and other migrant workers respond to post-Brexit Wales. An estimated 80,000 EU citizens live in Wales (2.6 per cent of the Welsh population), of whom about 30,000 arrived less than 5 years ago. Of those of working age, EU-born workers are found in almost all types of employment, from the most senior managers to elementary occupations. nearly a third (32.3 per cent) of EU nationals in Wales work in higher level roles (managerial, professional and associate professional and technical occupations) for which a degree is often required.²⁴ Some sectors have a relatively high proportion of skilled professional staff who are EU nationals - more than 1 in 10 in higher education and one in twenty of health professionals.²⁵

The impact on the workforce depends on the arrangements agreed for EU citizens after Brexit, as well as the wishes of workers and their families. It is widely anticipated that there could be effects on:

- the willingness and ability of EU citizens already in employment to remain in Wales;
- the ability to recruit EU citizens to vacancies in future – with a UK net immigration target of 100,000 the scope to recruit is said to be close to zero;
- the impact of vacancies generated elsewhere in the UK on the Welsh workforce, which may for example relocate to London or the south-east of England.

As a result, many organisations in Wales are anticipating significant challenges filling vacancies after Brexit. Vacancies are expected to occur across the skill spectrum, from vets, GPs and nurses to agricultural workers and distribution operatives. If recruitment to skilled occupations is to take place

from the existing Welsh workforce then it is likely to need clear progression routes to be established so that employees can ‘move up a rung’ and a major programme of upskilling of workers of all ages.

As identified earlier, automation is likely to have a significant impact on jobs and skills. Although most analysts suggest that significant numbers of lower-skilled jobs are likely to be affected, as a recent report for the Welsh Government²⁶ pointed out, there are a range of possible scenarios. The authors concluded that the evidence points to a need for education and skills development to focus on:

‘transferable skills that are difficult to automate, such as creativity and critical thinking competencies, alongside skills for the digital economy, technical skills, and in STEM subjects.’

Crucially, the report said that there must be provision for lifelong learning and in-work training, re-training and progression.

So, although Brexit, automation and other drivers will undoubtedly *change* the skills, content and possibly terms and conditions of graduate-level roles in the workforce, there is a strong likelihood that the overall demand for people with higher-level qualifications that has occurred in recent years will continue if not increase further.

4.2. Universities as centres of flexible learning

In recognition of the changes ahead, some suggested that the focus of universities on the traditional three-year undergraduate degree needs to change. While a period of concentrated learning for people aged 18-24 is likely to continue to be important, other forms of learning – particularly for people who are already in employment and may be seeking to enhance their existing knowledge and skills – could also be developed further.

Universities are uniquely well placed to address some of the skills challenges that others grapple with. Their depth of knowledge and understanding of broad trends should mean that they can anticipate changes in learning needs and opportunities, and take a leadership role. As one stakeholder said:

We haven’t got a clue what skills people are going to need in the future ... if you’re going to improve [competitiveness] and resilience then we need to be ahead of the curve. That’s where universities need to be and perhaps pulling other sectors with them.

Several stakeholders suggested that universities could engage with partners more routinely in designing the curriculum and that this was particularly important for vocational degrees. For example, one stakeholder called for:

‘partnership working with employers to ensure that education and training offered has been developed to meet the needs of employers and employees’

‘[We’d]’ expect universities to embrace a structure for academic learning that is flexible and agile to meet the changing needs of employers and employees.

Another called for:

‘collaboration ... in the development of existing and future programmes’.

As a positive example, some stakeholders in the health sector pointed to the benefits of adapting work placements for medical staff to encourage students to experience working in areas with shortages of healthcare staff, such as rural Wales, and to programmes to enable medical students to undertake longer placements in General Practice to learn the relevant competencies. It was suggested that there is scope to develop and extend these kinds of local initiatives across Wales and also to develop similar approaches in other professions. The need for more inter-professional and multi-disciplinary schemes was also emphasised, whether delivered as joint degree programmes or through allowing students greater choice of modules.

There were also calls for changes in the delivery methods and teaching styles of university provision. The anticipated changes to work brought by automation are likely to require increased learning and training over a graduate’s working life. A student graduating in 2012/13 will still be in the workforce in 2058. By then, China is expected to be the largest economy with the UK in 10th place,²⁷ while wearable or implanted devices and virtual assistants at home and work are likely to be commonplace.²⁸ As one stakeholder said:

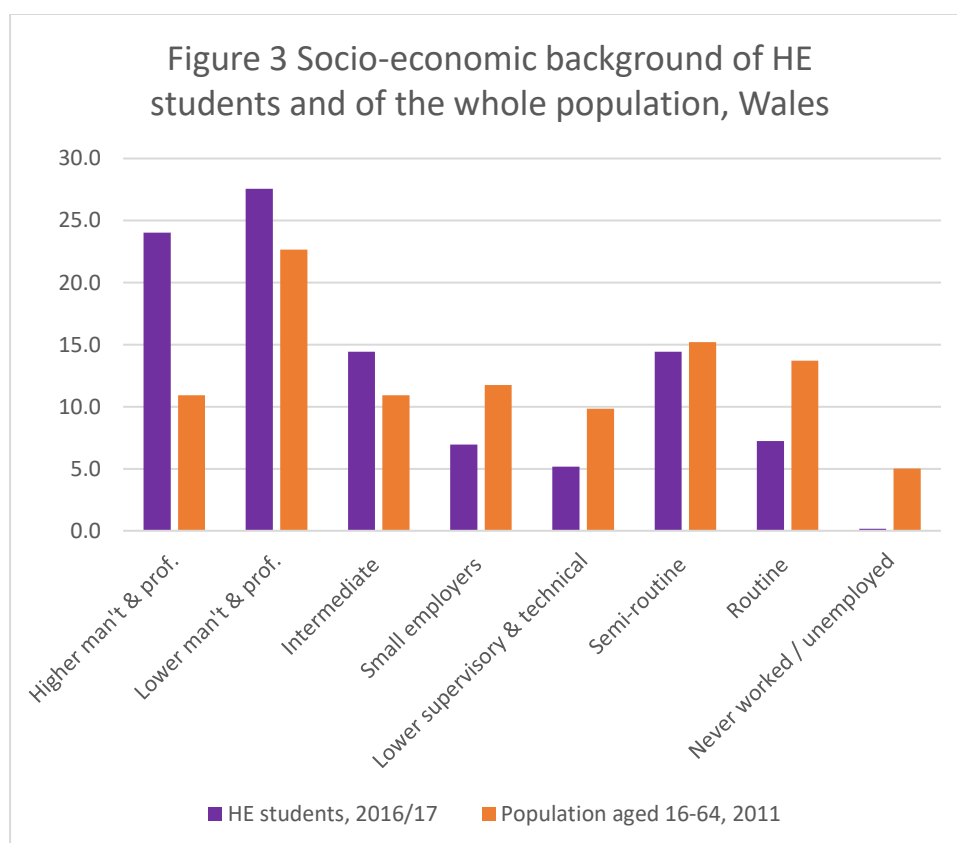
‘Universities should not be wedded to the traditional models of academic learning, and must provide the workforce with varied pathways to access learning’

There was a broad consensus that universities need to offer a wider range of opportunities for learning that fit more closely with learners’ needs, especially for those already in employment. It is outside the scope of this paper to suggest what format they might take, but they are likely to involve new methods of delivery, such as e-learning, coupled with flexible modes such as short courses, part-time learning and interdisciplinary provision, as well as degree apprenticeships, were also mentioned as being of increased importance to meet needs in the future.

5. THE SOCIAL CHALLENGE: UNIVERSITIES AS EQUALISERS

Universities in Wales are already making a significant contribution to increasing equality in Welsh society.²⁹ They have a higher proportion of students from the most under-represented groups compared to the UK as a whole, with 13 per cent of young full-time undergraduate entrants being from communities where participation in higher education is low, above the UK figure. In terms of age, more than one in five full-time undergraduates are mature students, with an above average proportion being from low-participation communities. Participation in Welsh higher education by disabled students was also above the UK average.

Nevertheless, people from higher socio-economic groups account for a much larger proportion of undergraduates than in the population aged 16-64 as a whole (Figure 3). In 2016/17, 24 per cent of students were from higher managerial and professional backgrounds compared with 10.9 per cent of the working age population in 2011. And while 18.7 per cent of the population had routine occupations or were long-term unemployed or had never worked, only 7.9 per cent of higher education students came from this background.



The EU referendum exposed many deep social divisions in the UK. Explanations have burgeoned, ranging from an expression of dissatisfaction with politics by the 'left behind', to ordinary people trumping the 'metropolitan elite', to supposed misuse of EU funds in Wales, to name but a few.

Throughout these different views, educational attainment and, in particular, participation in higher education has emerged as a key division. A recent survey³⁰ found that just 22 per cent of graduates voted to leave the EU, compared with 72 per cent of those without any educational qualifications. Moreover, it was education, rather than social class, income or age, which provided by far the strongest indicator of voting behaviour. As the authors note:

"The pattern of voting in the EU referendum reflected ... above all, an educational divide."

The period since the referendum has shown that there are markedly different expectations of the impact of Brexit on people's lives and prospects between people who voted to remain and people who voted to leave.³¹ Leavers are strikingly more optimistic than those who voted to remain, with that optimism extending to almost all aspects of life. That said it is not clear *why* participation in higher education should expose this polarisation of views.

5.1. Changes ahead

The outlook for social inequality is complex. Incomes from wages are forecast to rise slightly, but at below-inflation rates meaning that most people in work face real-terms cuts in earnings. Incomes for people in receipt of working-age state benefits are mainly frozen at 2015 levels. The combination of freezing benefit rates and numerous reforms to benefits is forecast to result in a significant reduction in household incomes for some groups of people compared to pre-reform projections.

These changes are likely to result in an increase in poverty. Wales already has the highest rate of people who live in households with incomes below the poverty threshold, at 24 per cent of the population. Poverty, and in particular child poverty, is anticipated to increase in the next few years so that by 2021 nearly 40 per cent of Wales' children could be living in low income families.

The significant differences in life expectancy between people who live in the least and most deprived parts of Wales – currently around 9 years for males and 7 years for females – show no signs of reducing. Nor do the even larger gaps in healthy life expectancy – 19 and 18 years for males and females respectively – appear to be narrowing.

There are forecast increases in other socio-economic problems, including rising ill-health from diseases such as cancer,³² dementia³³ and diabetes³⁴ as well as increased mental ill-health. Homelessness is also forecast to rise in the next five years,³⁵ and while there are few predictions for many other social evils most show no signs of decreasing.

With such a challenging few years ahead, what can universities do to narrow social inequalities and reduce social tensions?

5.2. Universities as equalisers

The potential of education, especially higher education, to transform lives and support social mobility is well known. Through their research, universities in Wales have a positive impact on social cohesion, crime rates, health and life expectancy to name but a few examples.³⁶ But universities also have potential to reduce social inequalities through their engagement with the wider community – with the widening access agenda being crucial.

Universities have taken huge steps to increase the diversity of students participating in their programmes – yet there is even more that they can do. Some stakeholders suggested that the distinctions between different educational institutions providing post-16 learning could be confusing and that what was required were more routes into higher education, which were wider than the traditional A-level route. As one stakeholder said:

‘We’ve never really known how to position ourselves in that skill context, in terms of attracting talent and making sure there’s the right provision at degree level and below to get people into [the sector] earlier.’

A number of stakeholders suggested that universities should have a role at an even earlier stage, in terms of raising pupil aspirations at school:

Universities could increase the knowledge, aspiration and motivation of the local population by raising [awareness] of potential opportunities at schools and colleges.

Universities should continue to develop widening access programmes to raise aspirations of students in Wales and break down any perceived barriers, particularly in relation to areas such as medicine, dentistry and the associated dental care professions

In terms of the destinations of students on graduation, while Welsh universities have a good track record on student employability, some stakeholders thought that more could be done to support students’ transition into work. There are some interesting developments in medical training to encourage students to experience work in rural and deprived areas in anticipation that it will provide a route into employment.

There were some suggestions that access would be widened if universities adopted new methods of delivery, either part-time learning or short courses, and made greater use of new technology:

‘[universities could] utilise technology to reach out to learners from diverse backgrounds and wide geographical locations ... by delivering education in a number of ways such as face to face, e-learning and a blended approach the learner will be able to access learning regardless of geography or time constraints’

Other suggestions included universities making their research more accessible to the wider community, both in terms of the presentation of their findings as well as in allowing physical access e.g. for papers published in academic journals.

6. CONCLUSION

Higher education in Wales faces many significant challenges. Brexit is bringing changes to its funding, recruitment and workforce, and is also generating questions about the wider role of higher education in the future.

This think-piece has suggested that Wales' universities have a unique contribution to make in leading and supporting a path through the profound changes that face Wales and its people. These changes are complex, and include changes in the population, climate change, economic and technological change and continued social shifts.

Universities already make an invaluable contribution to Wales' prosperity and well-being. Their input is being accelerated by the recent emphasis on enhancing their civil mission. Important though this is, what has emerged from this think-piece is that there is even more that they can do, building on their experience, to contribute to meeting the challenges that Wales faces.

Universities' role after Brexit can be identified in terms of four potential future roles for Wales' universities:

- As economic anchors, playing a leading role in revitalising the local economies in the four regions of Wales as well as more widely
- As beacons of expertise, developing effective solutions to the technological, economic, social and environmental challenges Wales faces
- As centres for flexible learning, providing traditional degrees and other forms of learning to a workforce undergoing rapid change
- As equalisers, helping to eradicate the many inequalities in society through providing learning to disadvantaged students.

All these suggested roles require Wales' higher educational establishments to be global in their perspective and reach, as well as local in their relationships with the communities in which they are based. It will also require a change in how local communities and organisations view and respond to their local universities, seeking and developing relationships, as well as changes in higher education.

What is clear is that Brexit, together with other major forces, is driving unprecedented and unpredictable changes to the current order. Universities' economic clout, expertise and resilience are a strength that must be harnessed for the benefit of everyone. While much is being done, there is always potential to do more.

END NOTES

¹ Universities are major recipients of EU structural funds (the third largest in the current programme) and of EU research and development funding (£46 million in 2014/15).

² Changes in migration policy could result in barriers to recruiting staff and students from the EU, affecting talent in the workforce and revenue from students (currently £150m p.a).

³ Brexit could affect international collaboration and opportunities for staff and students to work or study elsewhere in the EU

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<https://gov.wales/newsroom/educationandskills/2016/58574578/?lang=en>

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⁶ The views in this piece are not necessarily shared by Universities Wales or its members.

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http://www.uniswales.ac.uk/wp/media/UNI010-Economic-Impact-Report_FINAL.pdf

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http://www.hefcw.ac.uk/documents/publications/hefcw_reports_and_statistics/INNOVATION%20ATION%20-%20ON%20COMMON%20GROUND%20-%20FINAL%20ENGLISH.pdf

¹⁷ Welsh Government (2017) National Population Projections, 2016 base. <http://gov.wales/statistics-and-research/national-population-projections/?lang=en>

¹⁸ ASC (2016) UK Climate Change Risk Assessment 2017 Evidence Report – Summary for Wales. Adaptation Sub-Committee of the Committee on Climate Change. <https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Wales-National-Summary.pdf>

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- ²¹ Annual Population Survey, via NOMIS.
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