

LESSONS FROM IRELAND FOR SCOTLAND'S ECONOMY

A PAPER FOR THE HUNTER FOUNDATION

AUGUST 2023

CONTENTS

FOREWORD.....	2
Executive summary	4
1. Ireland’s economic success.....	6
1.1 Ireland’s GDP trajectory has differed markedly from Scotland’s	6
1.2 Looking beneath GDP at household incomes and employment	7
1.3 The recent impact of the pandemic and of the global cost of living crisis	8
2. Explanations for Irish Success.....	9
2.1 Low business taxes to attract inward investors.....	9
2.2 Membership of the European Union and its predecessors.....	10
2.3 A growing and highly skilled workforce.....	11
2.4 A clear focus on a small number of growth sectors.....	14
3. Sectors for Scotland to target	17
3.1 The current structure of Scotland’s economy.....	17
3.2 Renewable energy and low carbon manufacturing and services	18
3.3 Life sciences & medical technology	20
3.4 Software, big data, and artificial intelligence.....	23
3.5 The importance of a unified approach to any sector strategy.....	24
ABOUT OXFORD ECONOMICS.....	26

FOREWORD

It may seem an odd place to start on an analysis of what we can learn from the Irish experience, but let's start with America.

On August 2022 President Biden passed the Inflation Reduction Act – an oddly named \$370 billion bill to boost clean energy, reduce health care costs and increase tax revenues. It contains some £500 billion in new spending and tax breaks...The estimates on impact run into several hundreds of thousands of new jobs.

Meantime Ireland drives Foreign Direct Investment ("FDI") with multiple incentives, not least a 12.5% corporation tax rate moving to 15% in 2025. In 2021 this drove 249 such investments compared to Scotland's 122. The other key component – aligning education to economic development; per 1000 of population 39.9 were STEM graduates compared to Scotland's 20.9.

From 2012 – 2022 Ireland's GDP grew on average 8.9% PA compared to Scotland's rather anaemic 0.9%. They are home to nine out of the top ten Pharmaceutical companies in the world and fourteen of the fifteen top Medtech companies...

And recently the Irish Government forecast a staggering Euro 65 Billion surplus over the next three years...

So how does Scotland compete on global investment opportunities when faced with that challenge?

If Scotland were a business it would be a small business and that's to our advantage; we can focus, be agile and compete.

Sure we can point to a beautiful place to live and work, wonderful Universities and one of the highest tax regimes in Europe with the added burden of Brexit to contend with, or, we can do something about it.

The answer is not progressive taxation as we learn from the Irish experience – it's a focussed, low (and at one point no) tax system that targets sticky jobs in growth sectors in a highly focussed manner. By sticky I mean high value, permanent jobs that do not – as in Silicon Glen – drop off as lower cost nations compete.

So here's my suggestion to Holyrood and Westminster – make all of Scotland a 15% corporate tax zone for three key global growth sectors: renewables and low carbon manufacture and services; life sciences and medical technologies and software, big data and AI.

The Irish experience tells us we will net more tax, more jobs and more value from this highly focussed approach with one agency delivering that approach than we will with our current strategy.

And as the Ireland Strategic Investment Fund starts to deploy their sovereign wealth fund to support economic growth we need to compete and, in time, grow our own fund.

The Innovation Fund of circa £100m over ten years launched a couple of months back is frankly not enough – R & D funding in Scotland is circa £4.5 billion per annum; £100m will transform very little indeed.

The announcements on two new Investment Zones for Scotland is welcome but let's face it we are talking £16m per annum for five years; not to be sniffed at but hardly jaw dropping either. Moreover all of Scotland should be a competitive location not just the Glasgow City Region and the North East of Scotland.

We need big ideas that can be delivered and we need a one door approach to attracting FDI that rivals IDA Ireland (their investment arm for inward and domestic growth)...We need to understand, over and above what's noted here, why their 162 employees in 23 offices globally delivers so well against Scotland Development International and their 348 employees across 30 offices. Is Ireland's trick pathological focus on key sectors?

It's time for a grown-up debate and action over how we make Scotland an economic powerhouse. We need to stop doing those things that don't add any value and focus on what delivers otherwise, with a ticking demographic time bomb, we will leave an unbelievably appalling legacy for the next generation of Scots to contend with.

We at Hunter Foundation do not claim to have all the answers but we do believe through constructive debate we will get better answers and outcomes for Scotland. Our Foundation offers this paper, produced independently of us by Oxford Economics, to start a debate, not finish one, after which, as in the Enlightenment, we need to come together as one and unite to drive prosperity for future generations to enjoy.

Sir Tom Hunter, serial entrepreneur and philanthropist

EXECUTIVE SUMMARY

IRELAND'S ECONOMIC SUCCESS

Over the last four decades Ireland and Scotland have experienced very different economic growth trajectories. Ireland has experienced three distinct growth phases over that period. The first covers the two decades before the global financial crisis, when Ireland transitioned from an economy dominated by agriculture and the food industry to an open and export-orientated one fuelled by foreign direct investment (FDI) into manufacturing. The economy prospered and between 1995 and 2007—gross domestic product grew by an average of 7% a year, whilst Scotland's grew by 2.5%.

The second began in 2008 when the global financial crisis hit Ireland's economy. During 2008-2012 Irish GDP fell by an average 1.4% a year. Scotland in contrast was more resilient to the global crisis, and the country's economy grew modestly over the 2008-2012 period.

Ireland has now entered a third phase and a return to strong growth. It took six years for the Irish economy to return to its 2008 level, but Ireland recorded a remarkable 8.9% average annual growth rate in GDP between 2012 and 2021. Meanwhile, Scotland's recovery remained weak, at 0.9% a year.

EXPLANATIONS FOR IRISH SUCCESS

A key factor of Ireland's economic transformation was FDI with a regime of low corporation tax playing a large role to attract investment. Just as important as the rate of corporation tax has been the base on which it has been levied with the possibility that multinational companies have been able to report profits in Ireland that in reality have been made elsewhere. Emulating Ireland's experience is hard since almost all OECD governments agreed to new tax rules providing a minimum corporation tax rate of 15% and a commitment to ensure large companies pay most of their taxes in countries where most of their customers are located.

Ireland's EU membership in 1973 also brought significant benefits, allowing it to diversify its trading partners and receive EU financial support. Whilst Ireland's growth is now less reliant on the EU, it still provides a large advantage as it is the only English-speaking nation with access to the single market.

Demographic changes have driven Ireland's rising economic prosperity, with its workforce expanding substantially, fuelled by high birth rates and net immigration. While immigration was clearly the result of growing employment opportunities, it also helped to attract companies to invest in the expectation of finding a young, experienced, and cosmopolitan workforce. Demography has been associated with rising education and skills. The focus has largely been on the development of science, technology, engineering, and mathematics (STEM) subjects to support the growth of these industries.

A key factor in Ireland's inward investment strategy from the 1980s onwards has been a deliberate focus on a small number of high value economic sectors, which have received encouragement from government. The result is that Ireland has strong manufacturing and information, communication, and technology (ICT) sectors and is home to some of the world's largest multinational companies in these sectors. Ireland has been helped by the fact that, unlike Scotland, it has never really had significant legacy industries.

SECTORS FOR SCOTLAND TO TARGET

The structure of Scotland's economy is similar to that of other advanced economies, with economic activity and employment mostly concentrated in service sector activities, and the public sector accounting for a larger proportion of output than the UK average. If Scotland can achieve rapid growth in a small number of sectors it may replicate some of Ireland's transformative growth.

The **renewable energy and low carbon economy** is one strong candidate, given global climate change commitments and the economic opportunity available. Scotland already has strength in renewable energy reflecting its geography, thanks to wind, tidal, and hydropower. Both the UK and Scottish governments have committed to achieve net zero, by 2050 and 2045 respectively, and both administrations have identified various strategies to achieve this ambition, with renewable energy seen as central. Furthermore, as oil and gas diminish, there is scope for reusing North Sea skills and assets in new and emerging energy technologies such as carbon capture, usage, and storage (CCUS) and the hydrogen economy. The Climate Change Committee suggested the UK low carbon energy sector could create up to 100,000 jobs by 2030, with Scotland accounting for a large share.

There are also opportunities to improve the efficiency of home and buildings in Scotland with up to 240,000 UK jobs by 2030, distributed across the construction and manufacturing sectors. The low carbon service sector offers opportunities in monitoring and advisory services and green finance. The shift towards zero carbon applies across all sectors of the economy and is also likely to stimulate an overall switch in customer demand away from physical products and towards services. But some market segments are probably already taken, decisions must be taken about what to pursue.

Another to consider is the **life sciences & medical technology sector**, where growth will be fuelled by demographics, especially in the developed world with growing demand for treatment for chronic conditions, and rising middle income markets in emerging economies. Moreover it is being driven by scientific and technological progress, especially involving genetics, artificial intelligence, and big-data methods, but also using new mechanisms for digitally monitoring health and delivering treatment. The sector is already very big business with global exports for pharmaceutical and medical equipment products to the top 20 countries of over \$600 billion in 2020.

The life sciences sector in Scotland is underpinned by the nation's strong university research base and Scotland's 19 universities and higher educational institutions, allied to existing UK and Scottish government support extending to local initiatives such as the Growing the Tay Cities Biomedical Cluster. There are also potential opportunities to link to Scotland's existing strengths in food and drink production and to link to active leisure to develop a Scottish health brand.

The final candidate is a sector encompassing the digital economy, including **software, big data, and artificial intelligence**. The sector is already large and developments, particularly in AI are widely expected to be huge drivers of future economic growth both globally and in the UK. The ICT sector in Scotland has been the fastest growing sector in Scotland over the last 10 years and while small has a number of emerging and fast-growing clusters Scotland should further support and build on. But Scotland will be competing on a global scale and to give it a distinctive identity and comparative advantage, we envisage Scotland developing a digital sector that is closely integrated into the two sectors previously mentioned, and that both drives and is driven by their growth; plus one legacy sector—financial services and the opportunities in fintech.

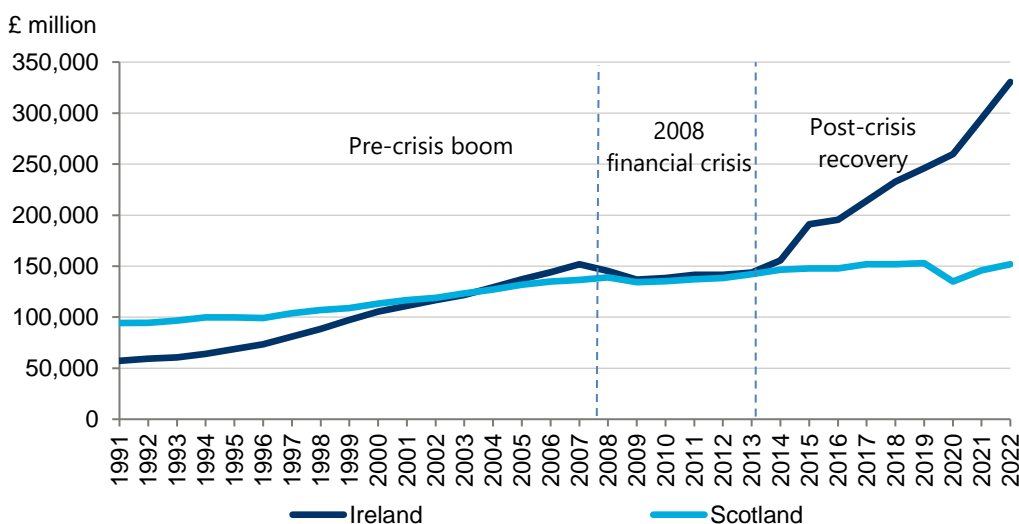
1. IRELAND'S ECONOMIC SUCCESS

1.1 IRELAND'S GDP TRAJECTORY HAS DIFFERED MARKEDLY FROM SCOTLAND'S

In recent decades Ireland and Scotland have experienced very different economic growth trajectories. From independence a century ago until the early 1960s, Ireland's economy was based largely on farming and food production. It traded its farm output internationally, but only really with its immediate neighbour, the UK. But following the publication in 1958 of a seminal report, a clear decision was taken by government to change that pattern, by attracting substantial foreign direct investment into manufacturing, with the aim of exporting much more widely across mainland Europe and beyond.¹ The Irish economy prospered, and its increased prosperity fed into a booming property market, and construction sector. Between 1995 and 2007, Ireland's gross domestic product (GDP) grew by an average 6.9% a year. Meanwhile, Scotland's growth remained modest, with an average annual rate of 2.5%, tracking very closely the UK total.

However, the global financial crisis in 2008 severely impacted Ireland's economy, partly because of reliance on exports and inward investments at a time of international difficulties, but mainly because of a property market bubble, and an unsustainably large construction sector. Financial problems fed through to banking, and hence to the economy more widely. During the period 2008-2012 Irish GDP fell by an average 1.4% a year, and over 300,000 net jobs were lost. Scotland in contrast was more resilient to the global crisis, and despite a decline in GDP in 2009, the country's economy grew modestly over the 2008-2012 period, at 0.3% per year.

Fig. 1. Real GDP in Ireland and Scotland, 1991-2022, common (UK) currency



Source: Oxford Economics

¹ <http://opac.oireachtas.ie/AWDData/Library3/Library2/DL006590.pdf>

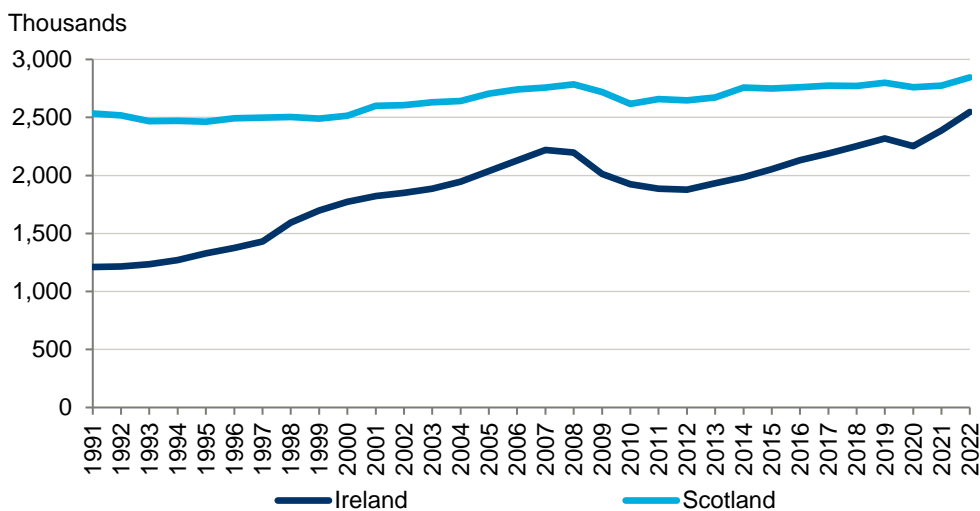
But Ireland has now entered a third phase, and a return to strong growth in GDP. It took six years for the Irish economy to return to its 2008 level, but Ireland recorded a remarkable 8.9% average annual growth rate in GDP between 2012 and 2022. Meanwhile, Scotland’s recovery remained weak, at 0.9%² a year.

1.2 LOOKING BENEATH GDP AT HOUSEHOLD INCOMES AND EMPLOYMENT

Irish GDP data are, however, difficult to interpret, and can be misleading. they are distorted by the large capital assets owned by multinational companies based in Ireland.³ These include the intellectual property of multinationals companies, especially in the high-tech and pharmaceutical sectors. Many corporations have shifted their European or even global headquarters to Ireland and report their profits there. These profits are counted as Irish national product. Ireland is also a world leader in aviation leasing and finance, with over 60% of worldwide leased aircraft managed by an Irish-based company, and the multi-billion dollar value of these large aircraft fleets also impacts on national GDP.⁴

An alternative measure of economic performance is to look at household incomes. We estimate that in Ireland these increased in real terms (and after adjusting for income taxes) by only 1.4% a year between 2012 and 2022, so much less than GDP. In Scotland, the increase was 0.2%, so less than in Ireland, but with a much smaller gap between the two. Another metric is employment. This rose in Ireland by 3.1% a year between 2012 and 2022, and in Scotland by 0.7% a year. Again, Ireland outperformed Scotland, but by less than the GDP numbers imply.

Fig. 2. Employment, Ireland and Scotland, 1991-2022



Source: Oxford Economics

² 2022 data for Scotland GDP are forecasts from Oxford Economics

³ https://www.centralbank.ie/docs/default-source/publications/economic-letters/vol-2021-no-1-is-ireland-really-the-most-prosperous-country-in-europe.pdf?sfvrsn=a291891d_25

⁴ <https://www.pwc.ie/industries/aviation-finance.html>

1.3 THE RECENT IMPACT OF THE PANDEMIC AND OF THE GLOBAL COST OF LIVING CRISIS

Clearly, since 2019, all of these indicators have been heavily affected by the Covid-19 pandemic. That had a very unusual impact in 2020 and 2021 on Irish GDP, because the crisis boosted the sales and the capital assets of many Irish high-tech and pharmaceutical companies, while its negative impact on the capital value of aircraft leases was less marked. In 2020 Irish GDP rose by 5.6% while in 2021 it rose by 13.4%, and we estimate that in 2022 it increased by a further 12.2%. Once again, household incomes and employment were much more muted, but even in those terms, Ireland had an easier experience in this recent period than Scotland.

2. EXPLANATIONS FOR IRISH SUCCESS

2.1 LOW BUSINESS TAXES TO ATTRACT INWARD INVESTORS

As we noted in Chapter 1, Ireland's economic success has clearly been associated with a decision, taken many decades ago, to radically reshape the national economy into one that was driven by exports of manufactured products. Over time, the focus has shifted from low to high value-added activity, and from manufactured products to associated services, such as software development. But a constant thread has been reliance on foreign direct investment (FDI) to make that happen, with a large (and controversial) role being played by the maintenance of a regime of low corporation tax.

The low tax regime in Ireland initially involved profits derived from exports being exempt from paying corporation tax. This led to the first significant wave of FDI, much of which came in the form of low skilled assembly and packaging work. However, after joining the EU in 1973, Ireland was forced to change this tax policy to comply with the EU's requirement of non-discrimination. Initially a preferential and very low 10% tax rate was placed on profits from all manufacturing and internationally traded services. This did not fully satisfy the European Commission, which pressured Ireland to adopt by 2003 a single corporation tax rate on all trading incomes across the economy, of 12.5%. That rate was, however, still low by international standards.

Just as important as the rate of corporation tax has been the base on which it has been levied. There are two issues here. One is the possibility that multinational companies have been able to report profits in Ireland that in reality have been made in other parts of the world, while reducing their overall tax liabilities: a practice sometimes known as "base erosion and profit shifting" (BEPS). The other is that the Irish tax authorities have been willing to provide widespread tax relief on intangible assets such as patents, copyrights, and trademarks, which would not qualify in other countries, including the UK.⁵ This has encouraged companies to locate the relevant high value-added aspects of their businesses in Ireland.

However, there is currently a high degree of international agreement among governments that they should not engage in predatory tax practices against one another, and there have been criticisms that Ireland in particular has in the past been too lenient. A by-product of that leniency has been the exaggerated growth in Irish GDP, mentioned in the previous section. This was most evident in 2015, when Apple's Irish subsidiary purchased huge amounts of intellectual property rights from an Apple subsidiary in the United States, which led to real GDP in Ireland growing by 26.3% compared to 2014.⁶

In October 2021 almost all OECD governments, including those of Ireland, the UK, and the US, agreed to an outline for new tax rules, providing for a minimum corporation tax rate of 15%, and a commitment to ensure that large companies pay most of their taxes in countries where most of their customers are located, and not in countries where they have few customers but where their headquarters or research facilities are located.⁷ To the extent that this pledge is honoured, it will reduce, but not completely remove, the scope for other nations to emulate Ireland's experience.

⁵ <https://www.revenue.ie/en/companies-and-charities/reliefs-and-exemptions/capital-allowances-for-intangible-assets/index.aspx>

⁶ <https://www.oecd.org/sdd/na/Irish-GDP-up-in-2015-OECD.pdf>

⁷ <https://www.oecd.org/tax/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm>

However, at present the corporation tax rate across the UK is 25%, which means there is clearly scope within international agreements for that to be cut significantly. There is also perhaps scope for greater generosity in the interpretation of what intangible assets can be deducted from tax liabilities.

However, the UK rate has only just been increased to 25%, largely because of the need to bring in more tax revenue at a time of severe pressure on public finances, but also because of scepticism about the extent to which previous cuts in the rate boosted UK economic performance.⁸ The Treasury would also be very concerned that more generosity on giving deductions for intangible assets would lead to tax avoidance by companies. And a reduced rate would have to apply across the UK: it would be very difficult to operate different tax regimes in different nations and regions within the UK, given the ease with which activities can be relocated in an economy as integrated as the UK's. The most obvious exception is Northern Ireland, because it is across the Irish Sea, and its neighbour the Irish Republic. But suggestions for a reduced rate for the province have been considered and rejected.⁹

Critically important, when Ireland opted for very low corporation taxes, it quite literally had nothing (or very little) to lose. Ireland had very few existing large companies, so there was only a small existing tax base to erode, unlike the situation in Scotland and the UK today.

2.2 MEMBERSHIP OF THE EUROPEAN UNION AND ITS PREDECESSORS

The trend for multinational companies to locate in Ireland received a significant boost in 1973, when Ireland joined what is now the European Union (EU). Indeed, some have argued that Ireland's economic and political success was closely associated with that.¹⁰

EU membership has had two main benefits. First, it allowed Ireland to diversify its trading partners. In 1970, over 50% of Irish exports were to the UK, whereas they accounted for less than 10% in 2021.¹¹ Trade with European partners particularly intensified after 1993, when the European Single Market was created. Second, Ireland has received significant financial support from the EU. Between 1973 and 2018, Ireland was the net recipient of over €40 billion in EU funds.¹² This has included capital investment such as roads and other infrastructure, investment in education and research, and support to the agricultural sector through the Common Agricultural Policy.

In recent years, Ireland's growth has been less reliant on the EU, because its companies are integrated into global value chains, and not just European ones. And although the EU remains a significant export market, its economy now grows more slowly than either Asia Pacific or the US. In the 10 years to 2019, the EU economy grew at an average 1.6% per year, compared to 2.3% in the US and 5.3% across Asia Pacific. Ireland is also no longer reliant on EU financial support: indeed it is now a net contributor to the EU budget.

But Ireland does still have a potentially large advantage arising from its membership of the EU. Since Brexit, Ireland is the only significant English-speaking nation with full access to the single market.¹³ The country is also recognised as one of the most competitive locations for ease of doing business,

⁸ <https://www.ippr.org/blog/cutting-corporation-tax-not-magic-bullet-for-increasing-investment>

⁹ Sir David Varney, Review of Tax Policy in Northern Ireland, 2007

¹⁰ <https://journals.sagepub.com/doi/full/10.1177/0332489317735410>

¹¹ <https://www.economicobservatory.com/irelands-economy-since-independence-what-lessons-from-the-past-100-years>

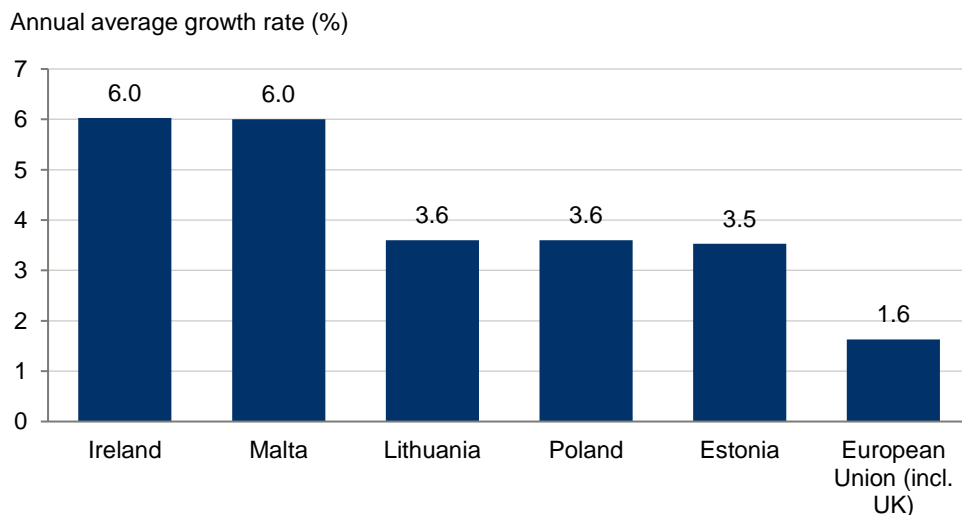
¹² https://ireland.representation.ec.europa.eu/about-us/benefits-eu-membership-ireland_en#economy-and-jobs

¹³ <https://www.business.hsbc.ie/en-gb/insights/managing-cash-flow/hsbc-ireland-and-ida-launch-ireland-asia-report>

ranking 11th in the IMD World Competition Index and 24th in the World Bank’s Ease of Doing Business index. As a result, Ireland may well be attracting investments from North America and Asia that might otherwise have gone to the UK.

For Scotland as for the rest of the UK, trading with the EU is clearly not as straight forward today as it was before Brexit. That may have an adverse impact on inward investment decisions. Against that, the UK Government has negotiated over 70 trade agreements, including with partners such as Australia, New Zealand and Japan. But in many cases sheer distance, and consequent transport costs and weak resilience, may reduce the likely scale of opportunities. Furthermore, many of these deals are simply incorporating pre-existing EU agreements. The Department for International Trade estimate that the Free Trade Agreement with Australia would raise GDP by between 0.06% and 0.1% over 15 years.¹⁴ It is, however, possible that improved trading relations with the EU will be negotiated at some point in the near future, and if so, a strategy that targets for exports those EU economies that tend to grow rapidly might be helpful to the Scottish economy.

Fig. 3. Fastest growing EU economies and EU average, 2010-19



Source: Oxford Economics

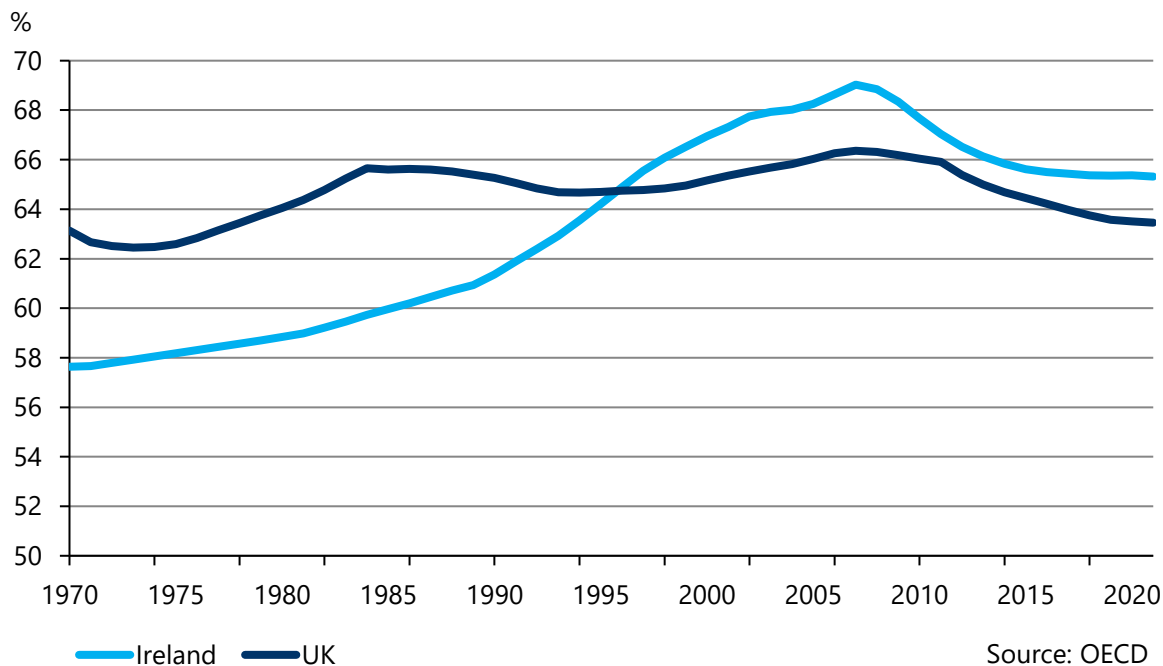
2.3 A GROWING AND HIGHLY SKILLED WORKFORCE

Demographic changes have also played a significant role in driving Ireland’s rising economic prosperity, particularly since the 1990s. In 1981 the fertility rate in Ireland stood at 3.1, compared to 1.8 in the UK.¹⁵ This translated into Ireland growing its workforce substantially. In 1971, 58% of Ireland’s population were of working age. By 1996, this had grown to 65% before peaking at 69% in 2007. It has since fallen away but remains higher than the EU average. The trends are illustrated in Figure 4.

¹⁴ <https://www.gov.uk/government/publications/uk-australia-fta-impact-assessment/impact-assessment-of-the-fta-between-the-uk-and-australia-executive-summary-web-version>

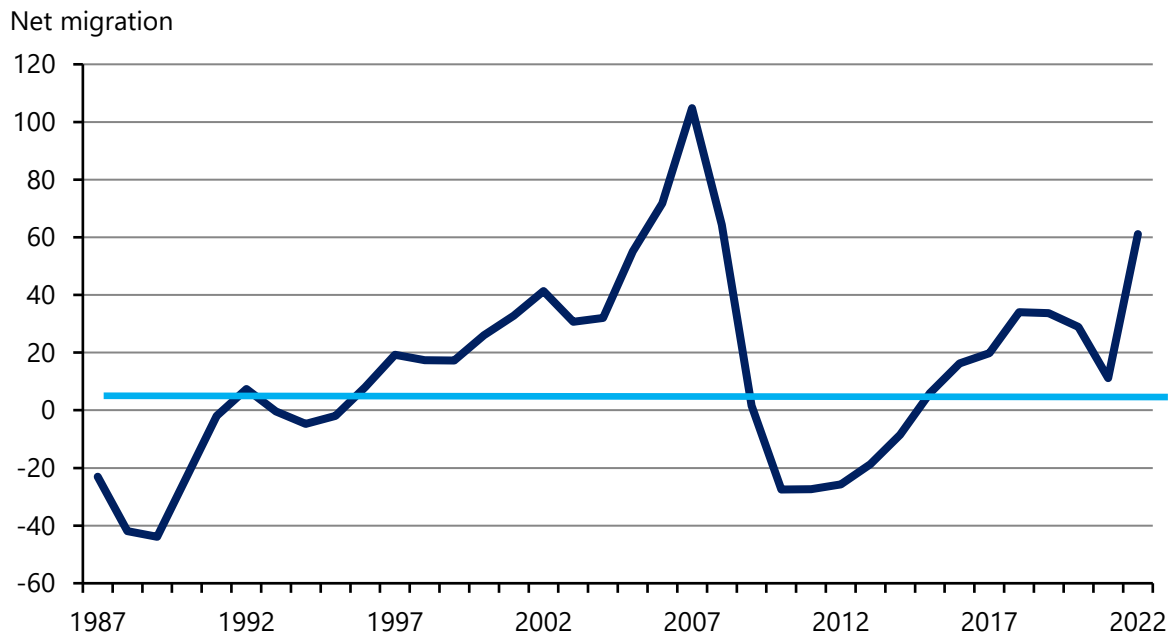
¹⁵ <https://data.oecd.org/pop/fertility-rates.htm#indicator-chart>

Fig. 4. Working age population as a share of total population



This growth in Ireland's population of working age has also been driven by net inward migration, reversing a pattern apparent since the famine of the 1840s. From the mid-1990s Ireland has seen net inflows of people, largely due to the return of many workers who had previously emigrated to the UK and the US. While the inward migration was clearly the result of the growth of employment opportunities in Ireland, it also helped to attract companies to invest in Ireland, in the expectation of finding a young, experienced and cosmopolitan workforce there. This is illustrated in Figure 5, which shows that the economic crisis of 2008 caused the net inflow to be reversed, but only temporarily, with a speedy return to net inflows, once the economy recovered.

Fig. 5. Net migration in Ireland, 1987-2022



Source: Central Statistics Office

Improved demographics and migration have been associated with rising education and skills levels. According to the OECD, in 2000 only 30% of the Irish population aged 25-34 had a tertiary education degree, compared to 63% in 2021—or growth of 33 percentage points.¹⁶ This is significantly faster than the OECD average (21 percentage points) and slightly higher than the UK (28 percentage points).

To achieve these results, Ireland has invested significantly in its education system. In 2019, public spending on education (including primary, secondary, and tertiary) accounted for 12.9% of total government expenditure, above the OECD (10.6%) and the UK (11.9%) averages.^{17,18} Furthermore, Ireland's industrial strategy, and especially its focus on inward investment in science and technology (see below), has created a strong demand for science-related degrees, and government has responded to that by prioritising these subjects. The Industrial Development Authority (IDA), which is responsible for attracting foreign investments to the country, has been proactive in targeting specific skill shortages among the workforce to support foreign investment going ahead. As early as 1979 the IDA convinced the Higher Education Authority to create conversion courses into electronics engineering to secure investment from large electronic companies.¹⁹ More generally, the Irish education strategy has been focusing largely on the development of science, technology, engineering and mathematics (STEM) subjects to support the growth of these industries. In 2020, Ireland had the

¹⁶ <https://www.oecd-ilibrary.org/sites/fa8dfbd4-en/index.html?itemId=/content/component/fa8dfbd4-en#section-d1e197-0260b15b4f>

¹⁷ <https://www.oecd-ilibrary.org/sites/fa8dfbd4-en/index.html?itemId=/content/component/fa8dfbd4-en#section-d1e197-0260b15b4f>

¹⁸ Note that education spending as a share of GDP is lower than the OECD average due to Irish GDP data being overestimated. However after correcting for the issue by using Ireland gross national income (GNI), the Irish [Central Statistics Office](#) estimates that education expenditure is higher than the EU average.

¹⁹ Sir David Varney, Review of Tax Policy in Northern Ireland, 2007

highest rate of STEM graduates among the EU27 (39.9 per 1,000 people aged 20-29). This compares to 26.2 in the UK and 20.9 across the EU27.²⁰ The Irish Government's STEM education strategy for 2017 to 2026 sets out a roadmap for developing digital skills and soft skills at each level of education. Ireland has several universities including one, Trinity College Dublin, which scores highly in world university rankings. The country is also implementing a strategy to further develop technological universities that provide education that is purpose-driven and support regional businesses and local innovation. Training is flexible and includes apprenticeship and work-based learning.²¹

The education profile of the Irish workforce is also in part the result of the net inflows of people mentioned above. In 2017, 27% of tertiary educated adults in Ireland were foreign-born, well above the OECD (18%) and UK (22%) averages.²²

If Scotland is to achieve strong economic growth going forward, then it is reasonable to think that it too will need both a growing working age population and growth in the skills and educational levels of the workforce. Scottish net migration However, this may prove difficult, as Scotland's working age population as a share of total population has been in decline ever since the financial crisis. In 2008, 69% of the population of Scotland were of working age but since then it has fallen every year to approximately 65% in 2020. This decline is evident, even though the contribution from net migration from the rest of the UK and the rest of the world was positive in the decade prior to the pandemic. To satisfy future labour demand, it is reasonable to suggest that Scotland will need to further boost its labour pool and attract more workers from the rest of the UK and overseas. The profile of overseas migration is typically younger and well qualified. In the year to mid-2019, 80.2% of overseas migrants to Scotland were under 35 and approximately two thirds were educated to degree level. However, there is uncertainty around future migration flows due to the implications of Brexit on labour mobility.

Scotland already has a well-educated workforce. Indeed, according to the OECD, in 2021 55.2% of the Scottish population aged 25 to 64 had tertiary education level, slightly above Ireland (52.7%) and the UK (50.1%).²³ Scotland also has strong education assets, including top-rated universities such as St Andrews, the University of Edinburgh, and the University of Glasgow. Education policies are also increasingly focusing on STEM subjects. However, there are very strong flows of graduates into and out of the rest of the UK, and the extent to which educational provision is explicitly geared towards promoting economic growth is probably less in Scotland today than it has tended to be in Ireland, during that nation's long period of economic growth.

2.4 A CLEAR FOCUS ON A SMALL NUMBER OF GROWTH SECTORS

A key factor in Ireland's inward investment strategy from the 1980s onwards, which has been associated with its strong penetration of EU markets, and more recently of global markets, and also strongly associated with the national educational and skills strategy, has been a deliberate focus on

²⁰ <https://www.cso.ie/en/releasesandpublications/ep/p-mip/measuringirelandsprogress2021/education/>

²¹ <https://www.oecd-ilibrary.org/docserver/2b7ee217-en.pdf?expires=1686909964&id=id&accname=guest&checksum=7D756725FBCCD091700F411D0063A504>

²² <https://www.oecd-ilibrary.org/sites/7d62f281-en/index.html?itemId=/content/component/7d62f281-en#section-d12020e9993>

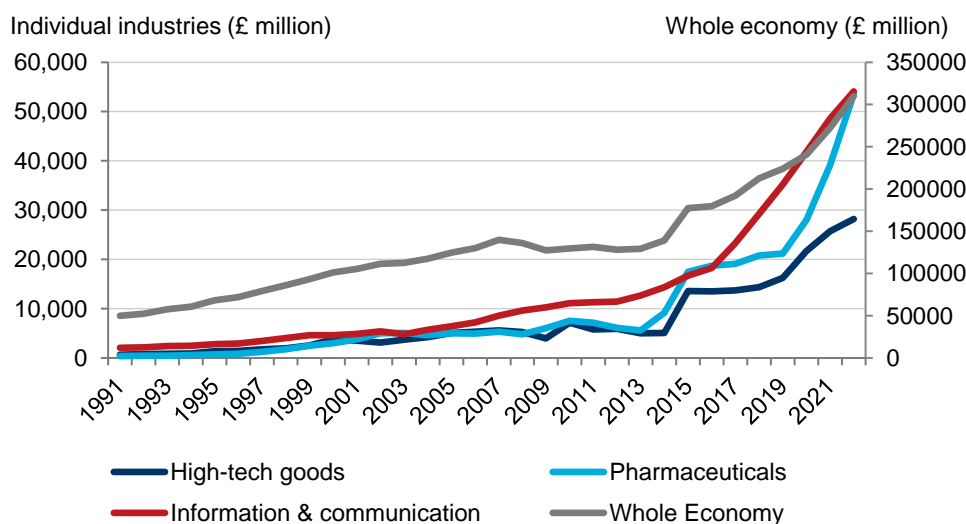
²³ https://www.oecd-ilibrary.org/urban-rural-and-regional-development/data/oecd-regional-statistics/regional-education_213e806c-en

only a small number of high value economic sectors, which have received significant encouragement from government.

Overseeing that has been the Industrial Development Authority (IDA). Prior to the 1980s, the IDA took a “scatter-gun” approach to FDI, which prioritised job creation, by emphasising labour intensive industries across a wide range of sectors.²⁴ However, the IDA increasingly adopted a more targeted approach during the 1980s, identifying particular sectors that offered high growth potential, particularly in ICT and high value manufacturing, including pharmaceuticals and electronics. Within those sectors, IDA also targeted specific leading multinational enterprises, such as Motorola and Intel.²⁵

The result of this strategy is that today Ireland has a strong manufacturing and information, communications and technology (ICT) sector employing some 288,000 people in 2022, or over 11% of those in work. The comparable figure for Scotland and the UK is 7% in both cases. Output from Ireland’s manufacturing sector has grown by an average of 15% a year over the last decade between 2012 and 2022, compared to just 2% in Scotland. The largest contributions to Ireland’s manufacturing growth has occurred in high-tech goods, which includes electrical components, and separately the pharmaceutical sector. Together these contributed to almost two-thirds of manufacturing output growth over the period. According to IDA, Ireland is home to nine out of 10 of the top pharma companies in the world and 14 of the top 15 medtech companies.²⁶ Similarly, the ICT sector is a significant part of Ireland’s economy and is home to Apple Ireland, Microsoft, Adobe, AirBNB, Alphabet, Amazon, Cisco, and IBM among a long list of notable household names. We estimate 165,000 jobs are supported by the ICT sector in 2022.

Fig. 6. Key manufacturing and information & communication sector output growth, 1991-2022



Source: Oxford Economics

²⁴ <https://webarchive.nationalarchives.gov.uk/ukgwa/+http://www.hm-treasury.gov.uk/d/varney171207.pdf>

²⁵ <https://webarchive.nationalarchives.gov.uk/ukgwa/+http://www.hm-treasury.gov.uk/d/varney171207.pdf>

²⁶ <https://ida.ft.com/article/the-secrets-of-attraction-how-ireland-lures-multinationals>

In having such a clear focus, both on inward investment in general, and on specific high-value growth sectors in particular, IDA has been helped by the fact that, unlike Scotland, Ireland has never really had significant legacy industries. Such industries generally create understandable expectations that there will at very least be a "level playing field", making it difficult for governments and development agencies to fully focus on either inward investment, or on high growth sectors, let alone on the two combined. And international experience suggests that the continuing economic importance of legacy sectors can often result in significant support being provided by government into sectors that will struggle in the face of global competition. The need to protect existing communities has possibly held Scotland back, during a period of several decades when Ireland was largely unshackled. Scotland, therefore, faced challenges which Ireland did not.

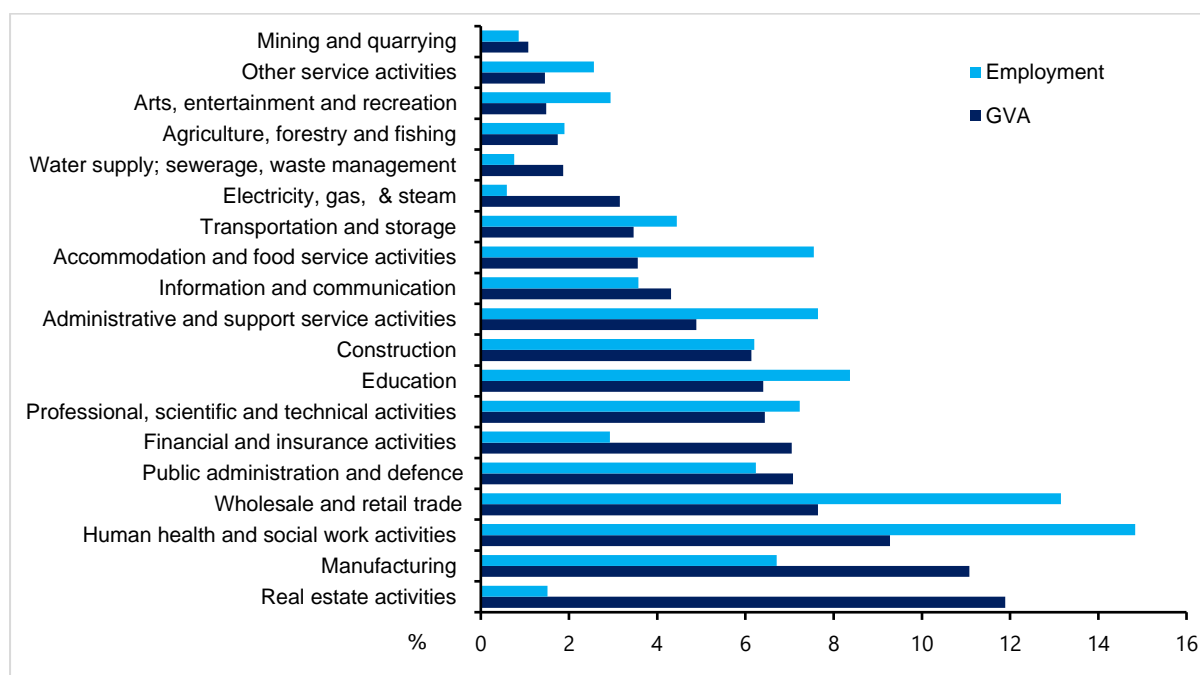
Looking forward, however, Scotland is potentially less constrained than it once was. So, while some of the lessons of Irish experience may be difficult for Scotland to put into practice going forward, the priority given by the Irish to encouraging inward investment in a small number of high value growth sectors may be something that could readily be transferred over. In the following section we therefore highlight three candidate sectors that it might be appropriate for Scotland to consider.

3. SECTORS FOR SCOTLAND TO TARGET

3.1 THE CURRENT STRUCTURE OF SCOTLAND'S ECONOMY

The overall structure of Scotland's economy is similar to that of other advanced economies, with both economic activity and employment mostly concentrated in service sector activities. Human health & social work activities, and wholesale & retail trade, are the largest sectors in employment terms and together account for close to 30% of the Scottish workforce. Manufacturing is the second-largest sector of Scotland's economy in output terms, as measured by gross value added (GVA), making up almost 12% of total output in 2022—a share that is broadly in line with the rest of the UK but lower than the EU average (17%). Within that there is a clear specialisation in food and beverage manufacturing, which account for over a quarter of the sector's employment and output (much of it, whisky). In 2022, only real estate activities made up a greater share of the Scotland economy, although output associated with this sector is exaggerated in official data since it includes the imputed rents of home-owners, rather than genuinely productive economic activity. (That distortion does not affect employment in the sector, however, which as Fig. 7 shows is very low.)

Fig. 7. Scotland's GVA and employment by industry, 2022



Scotland also has a large financial services sector, especially clustered in the two major cities of Edinburgh and Glasgow. In 2022, financial & insurance activities made up 8% of GVA, exceeding the equivalent for the rest of the UK minus London (6%) and the EU average (5%). The public sector is another important part of the Scottish economy. Between them, education, public administration & defence, and human health & social work activities, accounted for over 22% of GVA in 2022, above the equivalent for the UK. (17%).

While Scotland has strength in the sectors mentioned above, it cannot be assumed or indeed expected that they will be the drivers of growth over the next few decades. The world economy is undergoing enormous structural change, and Scotland will only prosper if it fully participates in that change. Put much more positively: if Scotland can achieve rapid growth in a small number of sectors, it may be able to replicate at least some of the transformative growth that Ireland has achieved in the past.

We cannot say definitively what will be the best sectors for Scotland to focus on. But in this section, we offer three candidates that are worthy of consideration:

- Renewable energy and low carbon manufacturing and services
- Life sciences & medical technology
- Software, big data, and artificial intelligence

We have identified these, partly on the basis that our Oxford Economics forecasting systems identify them as strong prospects (we forecast the global macro-economy, global industries, and national economies including Scotland's, through an integrated suite of models) and partly on the basis that they already have some presence in the Scottish economy, and hence a basis on which to build. We have also taken into consideration any particular assets that Scotland has available to it. We offer the three as a starting point for debate that we believe would be helpful for partners across Scotland and beyond to engage in.

3.2 RENEWABLE ENERGY AND LOW CARBON MANUFACTURING AND SERVICES

Climate change will be the dominant economic story for the global economy over many decades to come. Averting climate catastrophe is not just a social and political imperative: it is the biggest economic opportunity available, globally. And Scotland is well-placed to play a large role, with significant economic benefits for all.

Overall, the ONS estimates that in 2021 the renewable energy and low carbon manufacturing and services sectors accounted for 28,000 jobs. Oxford Economics estimates that this represents around 1.0% of total employment in Scotland. The table on Fig. 8 shows turnover by sub-sectors, and Scotland's strength in renewable energy is clear. This of course reflects its geography, which is well suited to many renewable technologies: wind, tidal, and hydropower. In 2019, 97% of electricity generation in Scotland was from renewable energy sources and Scotland supported 30% of UK jobs in offshore wind and almost a quarter of UK jobs in onshore wind.²⁷ Both the UK and Scottish governments have commitments in place to achieve net zero, by 2050 and 2045 respectively. Both administrations have identified various strategies to achieve this ambition, with renewable energy seen as central.

The economic reward of further investment should be significant. A recent assessment of the net zero workforce by the Climate Change Committee suggested that the UK low carbon energy sector could

²⁷ <https://ukparliament.shorthandstories.com/renewable-energy-scotland-SAC-report/index.html>

create up to 100,000 net new jobs by 2030.²⁸ Scotland could aim to account for a large proportion of those jobs.

Furthermore, as oil and gas diminish, there is scope for reusing North Sea skills and assets in new and emerging energy technologies such as carbon capture, usage and storage (CCUS) and the hydrogen economy.²⁹ The UK government’s Energy Security Plan states that 50,000 jobs could be enabled by CCUS by 2030. The CCC assessment of the opportunity looks at a broader definition of the sector and includes the production of hydrogen alongside CCUS. It shows 100,000 jobs for the CCUS and hydrogen sector combined by 2030.³⁰ The hydrogen and CCUS industry is in its infancy, the ONS estimates that it employs under 1,000 jobs in the UK in 2021.³¹

Fig. 8. Low carbon and renewable energy economy structure

Low Carbon and Renewable Energy Economy Structure		
Share of turnover, 2021		
	Scotland	UK
Offshore wind	30%	15%
Onshore wind	23%	6%
Solar	1%	5%
Hydropower	8%	1%
Other renewable electricity	0%	0%
Nuclear power	7%	5%
Renewable heat	5%	3%
Renewable combined heat and power	1%	2%
Bioenergy	3%	7%
Alternative fuels	0%	0%
Energy efficient lighting	1%	8%
Energy efficient products	17%	26%
Energy monitoring, saving or control systems	2%	3%
Low carbon consultancy, advisory and offsetting services	1%	2%
Low emission vehicles and infrastructure*	1%	17%
Fuel cells and energy storage systems	0%	1%

*2020 share as 2021 data was not available for Scotland for confidentiality reasons
Source: Oxford Economics

The downside is that sustainable energy generation will not in itself be a major export sector, so the risk is that jobs rise rapidly and then plateau or even diminish. Realistically, while some green energy will doubtless be exported, there is unlikely to be rapid exporting growth year after year, let alone

²⁸ <https://www.theccc.org.uk/publication/a-net-zero-workforce/>

²⁹ <https://www.gov.uk/government/publications/north-sea-transition-deal/north-sea-transition-deal-accessible-webpage>

³⁰ <https://www.theccc.org.uk/publication/a-net-zero-workforce/>

³¹ <https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/finalestimates/2021>

decade after decade. And the home market will similarly grow slowly, once a high level of market penetration has been achieved.

However, the know-how that is involved in designing, building, and operating renewable energy equipment and facilities, can be exported, and with significant value-added involved, to an ever-larger share of the global economy. Scotland's established base in renewables therefore provides opportunities in designing, manufacturing and servicing the appropriate technologies. What is needed is the appropriate entrepreneurial and business models, whether home-grown, or through inward investment. Either way, the intellectual capital needs to be both generated and retained within Scotland, and the ambitions need to be large: aiming to either grow or attract top-tier global companies, and not just small start-ups (although there is a role for those, too).

There are also significant opportunities to improve the efficiency of homes and buildings in Scotland and the rest of the UK. The CCC estimates that the energy efficiency and low carbon heating sector could create between 120,000 and 240,000 net new UK jobs by 2030, with jobs distributed across the construction sector in retrofit and new-build activity and in the manufacture of energy efficient products.³² Opportunities also extend into the low carbon service sector, from monitoring and advisory services to green finance.

But again, it is important to be realistic about the potential for exporting growth, and also about the rate of growth of the domestic market once a high level of penetration has been achieved.

Other markets are not so constrained, and the shift towards zero carbon (and other greenhouse gases such as methane) applies across all sectors of the economy, and is also likely to stimulate an overall switch in customer demand away from physical products and towards services. But some market segments are probably already taken, and the need to focus—and be selective—implies making decisions about what opportunities to pursue and what to prioritise. This is particularly true in manufacturing sub-sectors.

For example, the ONS estimates that electric vehicles (EV) and battery production already employs around 37,000 people in the UK and the UK government believes that the production of zero emission road transport vehicles has the potential to support up to 72,000 jobs by 2050.³³ However as Fig. 8 shows, just 1% of current EV jobs are currently located in Scotland. The sector is expected to be fiercely competitive, with the UK competing against European, US, and Asian manufacturers. The presence of gigafactories is central to growth in the sector, and if Scotland is able to attract investment, then this offers some upside to the outlook for the sector. But if Scotland has nothing to offer that other locations do not also have, and if those competitors are already making strong headway, then the case for focusing on another part of the broader sector is strong.

3.3 LIFE SCIENCES & MEDICAL TECHNOLOGY

Life sciences & medical technology is a rapidly growing sector, globally. Future growth will be fuelled by demographics, especially in the developed world with growing demand for treatment aimed at

³² <https://www.theccc.org.uk/publication/a-net-zero-workforce/>

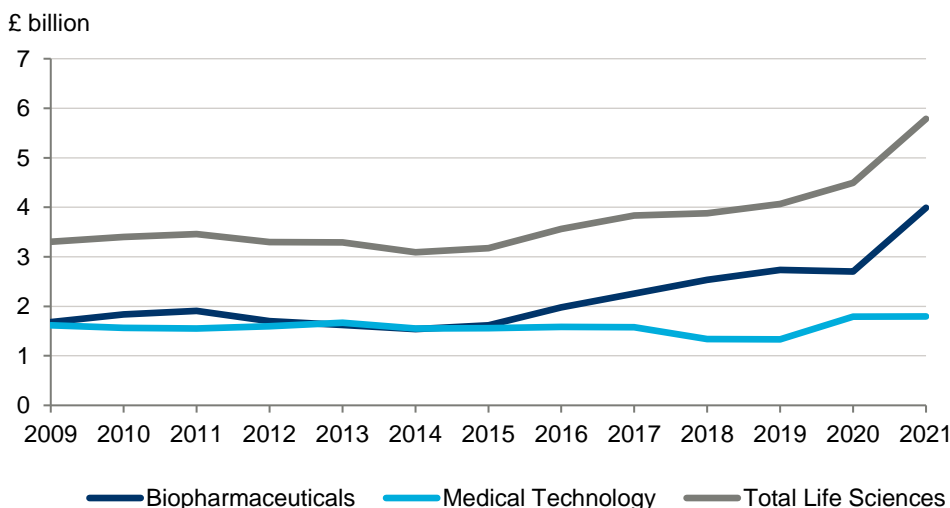
³³ <https://www.gov.uk/government/publications/transport-decarbonisation-plan>

chronic conditions, and by rising middle income markets in emerging economies. Perhaps above all it is being driven by scientific and technological progress, especially involving genetics, artificial intelligence, and big-data methods, but also using new mechanisms for digitally monitoring health and delivering treatment, via phone apps, wearable technologies, and (soon) insertable technologies. The sector ranges from hands-on patient care provided by care assistants to extremely advanced academic scientific research and the manufacture of medical equipment, which itself ranges from very sophisticated scanners and medical robots to bedpans and face masks. But even in these areas, technological convergence is likely: bedpans with diagnostic capabilities are very likely. And convergence provides significant opportunities for new businesses, and for synergies between sectors previously unrelated.

The global life sciences market is already very big business. The value of global exports for pharmaceutical and medical equipment products from the top 20 exporting countries stood at over \$600 billion in 2020, with worldwide R&D spending estimated at \$238 billion in 2021 and projected to rise to \$285 billion by 2028.³⁴

Scotland is already part of the story, but so far only on a small scale by global standards, but a growing one. According to the Office for Life Sciences, Scottish life sciences' turnover rose by almost 11% a year between 2015 and 2021 and employment by an average of 2.4% per year, with biopharmaceuticals the primary driver of growth, and medical technology also expanding, but more slowly. Over the period 2015-2021, the biopharmaceuticals component of the life sciences sector contributed on average 9.4 percentage points to Scottish sectoral turnover growth, accounting for just under 90% of its expansion.

Fig. 9. Scotland Life Sciences sector turnover



Source: Office for Life Sciences

³⁴ <https://www.gov.uk/government/publications/life-science-sector-data-2022>
<https://info.evaluate.com/rs/607-YGS-364/images/2022%20World%20Preview%20Report.pdf>

The sector in Scotland is underpinned by the nation's strong university research base. Scotland has 19 universities and higher educational institutions, of which Edinburgh, Glasgow, and St Andrews are all ranked among the top universities globally. Academic research is also connected to public research, through the NHS and through industry-led research and innovation centres. Combining day-to-day clinical care with very advanced research is a distinctive feature of this sector, and Scotland has the necessary assets.

There is also support for life sciences already in place from the UK and Scottish governments. The UK government recently unveiled a support package for the life sciences sector to support economic growth.³⁵ This includes committed investment and funding for manufacturing, skills, and infrastructure within the industry. Approximately £121 million will be invested to enhance commercial clinical trials to speed up new medicines being available to patients. A further, £48 million will be invested in scientific innovation in preparation for future health emergencies and £154 million will be used to expand the UK's biological data bank in order to encourage more scientific discoveries.

The Scottish government has identified life science as a growth sector, as part of Scotland's National Strategy for Economic Transformation. The Life Sciences Strategy for Scotland 2025 (published in 2017) sets out the ambition for Scotland to become a key destination for life sciences investment and to increase the sector's contribution to the Scottish economy to £8 billion by 2025.³⁶ An important part of the Scottish strategy focuses on internationalising the sector, both by promoting Scotland's life sciences community globally, and by increasing Scottish exports. In particular, the Scottish Government along with the Life Sciences Scotland Industry Leadership Group have identified opportunities for export in pharma services, digital health, medical devices, and animal health & agritech.³⁷

At a more local level, and to take just one example, the Tay Cities Region Deal has paved the way for significant investment in Dundee, to take advantage of the region's expertise in biomedical sciences.³⁸ The "Growing the Tay Cities Biomedical Cluster" project has led to initial funding from the Scottish government of £25 million to expand life sciences research and development. This includes a Tay Cities Regional Innovation Hub to enhance innovation and the development of new treatments and technologies. These are small figures by global standards, but if they were part of a pan-Scottish focus on life sciences and medical technology, then they could help to move Scotland towards significant critical mass.

Less obvious is that Scotland also has some potentially important manufacturing operations in place, due to its strength in food and drink production. That sector shares some commonalities with life

³⁵ <https://www.gov.uk/government/news/chancellor-reveals-life-sciences-growth-package-to-fire-up-economy#:~:text=Business%20and%20industry-Chancellor%20reveals%20life%20sciences%20growth%20package%20to%20fire%20up%20economy.Hunt%20today%2025%20May%202023.>

³⁶ <https://www.lifesciencesscotland.com/wp-content/uploads/2017/08/Life-Sciences-Strategy-for-Scotland-2025-VisionFINALlow-res.pdf>

³⁷ <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/11/export-plan-scotlands-life-sciences-sector/documents/trading-nation-export-plan-scotlands-life-sciences-sector/trading-nation-export-plan-scotlands-life-sciences-sector/govscot%3Adocument/trading-nation-export-plan-scotlands-life-sciences-sector.pdf>

³⁸ <https://www.dundee.ac.uk/stories/green-light-psmulti-million-tay-cities-biomedical-cluster-project>

sciences in manufacturing techniques, in research interests, and in marketing positioning and strategy. Indeed, repositioning Scotland's food and drinks companies in the direction of products that enhance health could be important to that sector's future survival and growth. Similarly, active leisure is clearly a strength of Scotland's visitor economy: it presents an opportunity for building a Scottish health brand that is not available to many global rivals. Creating a unified strategy across hitherto unconnected activities is an opportunity to be addressed.

3.4 SOFTWARE, BIG DATA, AND ARTIFICIAL INTELLIGENCE

The digital economy contributed nearly £151 billion to the UK economy in 2019, so about 8% of total GDP.³⁹ Developments in software, electronic publishing, big data and artificial intelligence are widely expected to be huge drivers of future economic growth both globally and in the UK. PWC estimate that AI could contribute up to \$15.7 trillion to the global economy by 2030, with \$1.8 trillion realised in northern Europe.⁴⁰ Those figures are 110 and 12 times the current size of Scotland's economy.

Information & communication has been the fastest-growing sector in Scotland over the last 10 years. Between 2011 and 2021, the sector grew at an average 9.5%, compared to an all-sector average of 0.8%. And while the sector is currently small, there are a number of emerging and fast-growing clusters that Scotland should support and further build on, particularly in Glasgow, Edinburgh, and Dundee. Edinburgh, for example, hosts global companies such as Skyscanner, which was founded in the city, and is host to anchor tech institutions such as CodeBase, the UK's largest tech scaleup incubator, the Data Lab (Scotland's innovation centre for data and artificial intelligence), and Edinburgh Parallel Computing Centre (a supercomputing a data facility for science and business). The latter could receive a £900 million new supercomputer, as announced by the Chancellor, Jeremy Hunt.⁴¹ And Dundee reportedly has the largest share of gaming jobs of any city in Britain in 2020.⁴² While Glasgow boasts software and information technology companies such as Siemens, HP, and Dell.

However, many cities and nations around the world can and do make similar boasts, and several can claim much greater critical mass. To give it a distinctive identity and comparative advantage, we envisage Scotland developing a digital sector that is closely integrated into the two sectors previously mentioned, and that both drives and is driven by their growth—plus one legacy sector.

Renewable energy is a sector that, because it is highly dependent on factors such as tides and winds, requires far more sophisticated demand and supply modelling than traditional energy systems have needed. And economising on energy demand by sectors such as transport is computationally very demanding. The manufacture of low-carbon products involves completely new additive production methods, that are similarly IT-intensive. Genetic medical research is maths-intensive. And the provision of smart health wearables to patients (and others) requires very advanced IT and communications networks. Medical diagnosis, going forward, will increasingly be undertaken by artificial intelligence.

³⁹ <https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy#:~:text=The%20UK%20Digital%20Strategy%20is,the%20world%20depends%20upon%20it>.

⁴⁰ <https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf>

⁴¹ <https://www.economist.com/britain/2023/06/14/how-to-make-britains-ai-dreams-reality>

⁴² <https://www.centreforcities.org/blog/does-dundee-really-have-a-gaming-cluster/#:~:text=Dundee%20is%20famous%20for%20its,Grand%20Theft%20Auto%2C%20and%20Minecraft>.

So if Scotland is to succeed in renewable energy or in medical technology, it must probably also succeed in the digital sector. Equally, success in those other two sectors is likely to deliver a strongly growing digital sector, with feedbacks then reinforcing the gains.

The legacy sector is financial services, and the cross-over here is fintech, which is forecast by BCG to grow from \$245 billion in 2021 to \$1.5 trillion in 2030, representing a sixfold growth.⁴³ Asia Pacific is expected to be the largest fintech market, and especially emerging countries where a large share of the population is underbanked. However, BCG estimates that the UK and EU market combined will see major growth through to 2030, supported by relatively open regulations. By 2030, fintech revenues in Europe are expected to increase 5.5 times compared to 2021, higher than North America (four times), although the North American market is larger and more mature.

Within that we need to be realistic: there are some components of fintech, such as for example, the calculation of derivatives pricing, or the conduct of market trading, where it is very unlikely that Scotland has or will ever have a comparative advantage, compared with London, New York, and other global centres. But in areas such as portfolio management, and client relationship management, Scotland's historical strength in asset management and pension fund management suggests a potential comparative advantage.

In that context, the provision of financial services to consumers has, in recent decades, seen significant downward pressure because of much tighter regulation and a decline in consumer confidence following mis-selling. That has impacted on growth. But demographic factors and the potential for integration between (for example) health management and financial management point to opportunities for significant growth, even in mature markets such as the UK—let alone globally. And although the fintech sub-sector is unlikely to be a major direct employment creator, it could be particularly important to the future of Scotland's major cities and their wider business networks, as well as a component of the broader digital economy sector.

For example, activities such as portfolio management and relationship management are and will be highly regulated, implying significant opportunities for the legal sector to ensure that AI-based fintech systems meet the necessary standards. And winning client confidence implies work for advertising agencies, especially if there is cross-over between fintech and medtech. Edinburgh in particular is very well placed to build credibility and branding for fintech, via collaboration across a wide range of sectors. Technology will therefore be the core, but much of the growth may come from allied activities.

3.5 THE IMPORTANCE OF A UNIFIED APPROACH TO ANY SECTOR STRATEGY

As we indicated, these three are candidate sectors, rather than a definitive list. Furthermore, if Scotland does opt for a strategy that focuses on sectors, then it is important, not just that the sectors are carefully chosen, but that the government commitment that is given to them links attracting inward investment to other potential drivers of success such as encouraging start-ups, investment in education and skills, investment in infrastructure, and, if at all possible, policies on migrants, and on

⁴³ <https://web-assets.bcg.com/66/7e/a36d7eab41e2b4b65c3e687a17f5/bcg-qed-global-fintech-report-2023-reimagining-the-future-of-finance-may-2023.pdf>

corporate taxes. Different sectors will for example have different needs for recruits and will benefit to different degrees from alternative rules on capital allowances. Clearly there are issues to do with the relationship between the Scottish and UK governments that may need to be addressed here. And it is likely that a strong development agency, such as Ireland's IDA, will need to sit at the core of any strategy. Without consideration of such governance arrangements, selecting sectors is likely to be a purely academic exercise.⁴⁴ But if the different components can be linked together, there is the possibility of a significant uplift to Scotland's growth rate.

⁴⁴ https://www.instituteforgovernment.org.uk/sites/default/files/publications/design-successful-industrial-strategy_0.pdf

ABOUT OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 100 industries, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Belfast, Boston, Cape Town, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Mexico City, Milan, Paris, Philadelphia, Stockholm, Sydney, Tokyo, and Toronto. We employ 450 staff, including more than 300 professional economists, industry experts, and business editors—one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 2,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

August 2023

All data shown in tables and charts are Oxford Economics' own data, except where otherwise stated and cited in footnotes, and are copyright © Oxford Economics Ltd.

This report is confidential to Hunter Foundation and may not be published or distributed without their prior written permission.

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further please contact:

Richard Holt: rholt@oxfordeconomics.com

Oxford Economics

4 Millbank, London SW1P 3JA, UK

Tel: +44 203 910 8061



OXFORD
ECONOMICS

Global headquarters

Oxford Economics Ltd
Abbey House
121 St Aldates
Oxford, OX1 1HB
UK

Tel: +44 (0)1865 268900

London

4 Millbank
London, SW1P 3JA
UK

Tel: +44 (0)203 910 8000

Frankfurt

Marienstr. 15
60329 Frankfurt am Main
Germany

Tel: +49 69 96 758 658

New York

5 Hanover Square, 8th Floor
New York, NY 10004
USA

Tel: +1 (646) 786 1879

Singapore

6 Battery Road
#38-05
Singapore 049909

Tel: +65 6850 0110

**Europe, Middle East
and Africa**

Oxford
London
Belfast
Dublin
Frankfurt
Paris
Milan
Stockholm
Cape Town
Dubai

Americas

New York
Philadelphia
Boston
Chicago
Los Angeles
Toronto
Mexico City

Asia Pacific

Singapore
Hong Kong
Tokyo
Sydney

Email:

mailbox@oxfordeconomics.com

Website:

www.oxfordeconomics.com

Further contact details:

[www.oxfordeconomics.com/
about-us/worldwide-offices](http://www.oxfordeconomics.com/about-us/worldwide-offices)