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The [Economic Research Digest](#) monitors recently published research across a number of economic areas relevant to the work of the Department for the Economy such as competitiveness, innovation, enterprise, trade, FDI, tourism and infrastructure. The Skills Research Digest deals separately with recently published skills and labour market research.

In each case, we provide a short summary of the key points and web links to the full article or report*. A full list of sources can be found at the end of the publication.

Highlights this quarter include:

- **Various publications examining the UK's productivity growth problem and solutions to address it.**
- The Legatum Prosperity Index, which evaluates long-term changes in global prosperity.
- Examining barriers to start-up and scale-up for R&D Intensive firms across the UK.
- Growth metrics for start-ups and existing firms within Northern Ireland.
- Profiling of micro-businesses with 1-9 employees in Northern Ireland in comparison to UK regional, Irish and US benchmarks.

** Links are correct at the time of publication, however it is likely that some will break over time. The list of sources has more general links, which should help the reader to track down the original report.*

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The research summarised here presents the views of various researchers and organisations and does not represent the views or policy of the Northern Ireland Executive or those of the authors.

COMPETITIVENESS

[National Competitiveness Council Bulletin 2018 \(Ireland\)](#), published by The World Economic Forum, is an annual assessment of 98 factors driving productivity and prosperity in selected countries.

- Ireland is ranked 23rd out of 140 countries maintaining its global competitiveness position from last year. The US is the closest economy to the frontier (i.e. the nearer the frontier, the harder it is to achieve marginal improvements) and the UK is ranked 8th overall, a fall of two places.
- Ireland is the 8th most competitive economy in the Euro Area and the 11th most competitive economy in the EU28. Overall, Ireland scored 75.7 (out of 100) which represents 92.3% of the UK score and 88.4% of the top performing country, the US.
- Ireland performs well in relation to labour market (7th), business dynamism (10th), skills (15th) and institutions (17th).
- Ireland is ranked in the top 15 in relation to cost of starting a business (4th), services trade openness (9th), attitudes towards entrepreneurial risk (11th), female participation in the labour force (8th) and growth of innovative companies (14th).
- Areas for focus, however, are evident in relation to infrastructure (34th), financial system (37th) and ICT adoption (41st).

[Ireland's Competitiveness Challenge 2018](#), published by National Competitiveness Council, uses information from Competitiveness Scorecard (above) along with the latest research to outline the main challenges **to Ireland's competitiveness**.

- **To enhance the resilience of Ireland's economy, the Government must continue its efforts to reduce debt and deficit levels and avoid any narrowing of the tax base.** From a competitiveness perspective, it is essential that the taxation system is broad and balanced in a way that supports both indigenous and foreign enterprises;
 - The concentrated nature of the Irish economy, reflected in the reliance on a small number of companies delivering Ireland's productivity performance, a small number of export markets and a narrow range of exported products and services, necessitates achieving a more balanced growth based on increasing contributions from the indigenous sector of the economy.
 - Mobilising the potential of the unemployed and encouraging labour-market participation of those excluded from the labour force is, not only, beneficial for economic growth, but also, for inclusivity, more generally, contributing to a more sustainable economic model.
- Ireland remains a relatively expensive location in which to do business. Strong economic growth has resulted in a series of upward cost pressures to property, business services and energy prices which have the potential to undermine recent competitiveness gains. The cost of credit also continues to remain relatively high, particularly for SMEs.
 - The state of the housing market is a major impediment to attracting talent and investment **and improving Ireland's competitiveness performance and the quality of life** of its citizens. The urgency and scale of the housing challenge and the complexity of the market require not only providing sufficient funding but also deploying innovative solutions and interventions by the State.
- **Ireland's strong overall productivity performance is heavily influenced by a small cohort of enterprises which disguises, to a degree, underperforming sectors and boosts Ireland's productivity levels.**
- Increasing investment in knowledge-based capital (e.g. intellectual property, software, organisational changes, training and design) is vital in bridging the productivity gap that exists between the most productive firms and lagging firms and for achieving sustainable growth prospects in the indigenous sector.
 - The presence of a talent pipeline combining knowledge and skills is key in improving **Ireland's productivity performance. Increasingly companies prioritise the availability of skills** when establishing and further developing their base of operations. A skilled workforce is also fundamental to the internationalisation of the exporting indigenous enterprise.

PRODUCTIVITY AND GROWTH

[Unlocking SME productivity: Review of recent evidence and implications for the UK's Industrial Strategy](#), published by The London School of Economics and Political Science, reviews evidence on two obstacles to growth that SMEs face, namely access to finance and poor management practices.

- Substantial productivity gains can still be achieved by improving management practices across the entire population of SMEs.
 - The UK has a long-tail of poorly managed low productivity firms. They could achieve substantial productivity gains through the adoption of technologies and ideas that are already in existence and have been proven to work. Catching up with existing and new technologies requires managerial capital.
 - Since management practices are a relatively new policy area, work is needed to explore which interventions have the best potential to boost the productivity of UK firms.
- Businesses that have the ambition to grow need a funding environment able to support the risks associated with innovation and early-stage ventures.
 - This means diversifying financing sources away from bank lending. There is evidence of **sizeable output losses from increased risk perceptions that curtail firms' access to bank credit**, especially among SMEs (Besley et al., 2018).
 - The research suggests that heightened risk perceptions could account for 16.5% of the 2008-09 productivity fall and around 18% of the gap between actual and trend productivity by the end of 2012.
- Interventions that target firms with higher growth potential are likely to be more efficient than general business support policy for all SMEs.
 - Recent evidence suggests that young SMEs have been the most dynamic job creators over most of the past decade. However, the literature suggests that size and age alone are not good identifiers of HGFs. Many start-ups do not survive, and many small firms remain small for long periods of time.
- While it is clear that policy-makers should focus on quality, and not just quantity, identifying firms with growth potential is a substantial challenge. There is considerable debate around the definition of high-growth firms, and the overall picture of their significance for job creation and growth differs depending on the precise definitions and measurement methods used.
- Government should consider putting management policies fully under the umbrella of the British Business Bank. Valuable lessons can be learned from international experience, for example the **"Operational Efficiency Program" managed by the Business Development Bank of Canada**. Packaging managerial training and advisory with financial support could be a powerful cocktail for boosting productivity.

[What is Holding Back UK Productivity? Lessons from Decades of Measurement](#), published by National Institute of Economic and Social Research, reviews the evidence on UK productivity performance.

- Labour productivity levels, 1950-96, in the UK showed some catch-up with those in the US but there remained a gap at the end of this period and the gap with both France and Germany increased throughout most of the post-war period. The UK had a labour productivity advantage only relative to Japan, and even there significant narrowing occurred over time.
- **In the late 1990s and early 2000s the UK's relative fortunes improved** markedly, closing the labour productivity gaps with France and Germany to some extent though not with the US. This was the era when the productivity benefits from large-scale adoption of information and communications technology (ICT) started to emerge in aggregate statistics.
 - Analysis, based on datasets obtained by the authors, showed that the better UK productivity performance from 1995-2007 inclusive reflected skill improvements, more efficient use of resources within firms and relatively strong investment in intangible assets such as software and organisational structures.
- The main problems that stand out are inadequate investment in different forms of capital (tangible and intangible) and continuing skills issues, especially under-investment in vocational education and training and in management skills.

[Productivity on the Island of Ireland – A tale of three economies](#), published by the Nevin Economic Research Institute, seeks to examine the performance of both NI and ROI economies with regard to productivity.

- Data are suggestive of a three-tier economy on the island, with an apparently high productivity foreign controlled sector in ROI likely providing some spill over into its modestly performing domestic economy, while NI is a comparative laggard.
- NI began as the more prosperous region on the Island of Ireland and remained so for much of the 20th century. As ROI began to integrate its economy with the rest of the EU and open itself up to increased FDI the dynamic between both economies changed dramatically.
- While NI has had some success in attracting foreign investment, both the scale and depth of such investment has not matched that in ROI.
- Making comparisons between the foreign and domestic economies in ROI and the whole economy for NI is inexact but the report does show some interesting results.
- The NI economy comes behind both sectors of the ROI economy in all but one industry, Wholesale and Retail. High levels of productivity are clearly driven by the foreign sector in ROI with two exceptions, Transportation and Storage is more productive in the ROI domestic sector, but only marginally so. In Administration and Support Services, it has already been shown that the ROI **domestic sector's advantage here is due almost entirely to Rental and Leasing services.**
- It is the case then that higher levels of labour productivity in ROI are driven by foreign controlled firms but there has been some positive spill over into the domestic economy. The spill over has not been as large as could be expected particularly so in Information and Communication and less so in Manufacturing. For Northern Ireland, a higher level of FDI than the EU 15 has not resulted in a higher level of productivity overall.

[Choosing the right path to growth, published by McKinsey&Company](#), outlines how businesses sequence their diverse set of initiatives matters in terms of achieving organic growth.

- The research suggests growth-minded companies stand to benefit by disaggregating the two concepts of innovation and growth. There are multiple paths to growth, and the most common growth characteristics among above-**average growers often aren't related to innovation.** Companies aspiring to the highest levels of growth need to sequence their initiatives carefully i.e. you cannot do everything at once.
- Creative companies are more heavily represented among the fastest growers. And the ability to innovate consistently appears to separate the good growers in the second quartile from exceptional ones in the top quartile. Exceptional growers were 56 percent more likely to have mastered creative practices (that is, reached the 70 percent successful adoption level) than the second-quartile firms.
- Instead of pushing growth and product initiatives almost haphazardly in the hopes of jump-starting a strategy, companies need a more deliberate, stepwise approach to building growth initiatives and capabilities. While there is no iron law of sequencing, the data are clear that a steady pace of change is vital: the authors found a positive correlation between the number of growth best practices adopted **by a company and the company's growth-performance quartile.**

LIVING STANDARDS, WELLBEING AND PROSPERITY

[The Legatum Prosperity Index](#), published by the Legatum Institute, evaluates long-term changes in global prosperity, pinpointing drivers of progress and highlighting those nations that have made the greatest strides forward.

- World prosperity has grown globally during 2018 and is at its highest ever point in the history of the Index: the gap between the highest and lowest score is the largest it has ever been; the median score has moved up the equivalent of 15 places since 2007. It is now 2.6% higher than in 2017.
 - Small advanced economies make up the majority of the 10 most prosperous countries: Norway (1st), New Zealand (2nd), Finland (3rd), Switzerland (4th), Denmark (5th), Sweden (6th), Canada (8th), Netherlands (9th), Iceland (11th) and the UK (7th). Elsewhere, the Republic of Ireland ranks 10th.
 - The UK has the best business environment in Western Europe (4th out of all countries) and also performs strongly on social Capital (8th), education (8th) and natural environment (2nd). The greatest weaknesses for the UK relate to health (26th), personal freedom (18th) and economic quality (16th).

- The Republic of Ireland performs most strongly on personal freedom (5th) and Safety and Security (5th). Social Capital (7th) and Education (6th) were strong results for Ireland. However, its health (27th) and Business Environment (16th) rankings are poorer.
- In comparison to the 2017 Index, North America retook the top ranking in overall Prosperity from Western Europe, albeit marginally. Western European prosperity remained broadly constant, with North America prosperity increasing due to improvements to Personal Freedom and Economic Quality. There is a significant gap between North America and Western Europe and the rest of the world in Prosperity scores. These top two regions come either first or second in all pillars.

[Count the pennies: Explaining a decade of lost pay growth](#), published by Resolution Foundation, helps to explain why real wages are still 3 per cent below their level before the crisis.

- **The UK's pay squeeze was driven by a large depreciation of sterling (of around 27 per cent).** Depreciation fed through into higher domestic prices for imports, with consumer price inflation rising particularly sharply as a result. This meant that employers were able to adjust to lower output by allowing real wages to fall rather than cutting jobs.
- The result was that the UK experienced a far more pronounced pay squeeze than other countries but a far smaller rise in unemployment. Modelling suggests that had inflation not risen as it did during the crisis, unemployment increases would have been more in line with the experience in other European countries and the US.
- The slow recovery is primarily the result of three main factors:
 - Changes in the composition of the workforce have had less of a positive effect since the crisis. Comparing the rate at which compositional changes boosted wage growth before the crisis to their role since 2014, the authors estimate that this compositional slowdown has reduced the rate of real wage growth by 20 per cent.
 - Although on the surface the labour market appears tight – heightened slack since the crisis has weighed on pay. Since the crisis people have argued that the underemployed should be included in our conception of labour market slack, the researchers here go one further and include the underemployed and those in atypical forms of work who – like the unemployed – are actively searching for work. The analysis finds that greater levels of slack between 2014 and 2017 have reduced real wage growth from pre-crisis rates by approximately 20 per cent.
 - The most important factor, though, is slower productivity growth. The authors estimate that if productivity had grown at pre-crisis rates between 2014 and 2017, real wage growth would have been 0.6 percentage points higher. Quantified on the same terms as the effects of a lower compositional boost and heightened slack set out above, they find that slower productivity growth explains approximately 40 per cent of the slowdown in real wage growth in the pay recovery period, compared to pre-crisis levels.

[Sharing Prosperity the Future of UK Business Support](#), published jointly by the ERC and FSB, explores the differences between those businesses in more deprived areas of the UK (using the Index of Multiple Deprivation), who feel left behind, compared to other areas of the country.

- **Ownership:** Small businesses in LFAs (Less Favoured Areas) reported significantly lower turnover growth than firms in other parts of the UK in 2017 (0.7% compared to 3.2% in other areas). Small businesses in LFAs are more likely to be owned by members of ethnic minorities than those elsewhere (4.7% compared to 1.7% in other areas), but are less likely to be family-owned (64.4% compared to 69.8% in other areas).
- **Ambition:** Ambition is very similar between firms in LFAs and those in other parts of the UK. In both areas around 20 per cent **aim to 'grow a national or international business' compared to around 75 per cent who are more focussed on 'keeping the business similar to how it operates now'**. The aspiration for rapid growth and exit is significantly stronger in LFAs than elsewhere in the UK. **Owner-managers in LFAs are also significantly more likely to aim to 'become a successful business leader in their community'**.
- **Challenges:** In some areas the business challenges facing firms in the LFAs closely reflect those in other parts of the UK, such as competition issues, regulation, taxation and VAT. However, in other areas there are statistically significant differences. A range of cost-based items relating to the National Living Wage, workplace pensions and premises costs were more commonly cited as barriers by firms in the LFAs. This is more of an issue as they are more likely to employ people on lower pay

with tight margins. This was reflected in a lower proportion of profitable firms in the LFAs than in other parts of the UK.

- Support: Business support in a range of areas, from access to finance to business basics, is patchy across England, with some LEPs delivering better services than others. Although private sector providers attempt to fill this gap, and FSB has worked with the National Enterprise Network to address this, the lack of professional services in local LFAs can result in ad hoc private support.
- The report makes a number of recommendations: The UK Government should ensure the current overall level of funding for business support is at least maintained, if not increased, when UKSPF replaces European Structural and Investment Funds (ESIF).
 - The devolved nations should maintain overall control and discretion of how their share of the UKSPF is spent, honouring existing devolution agreements.
 - The UKSPF should keep a specific focus on small businesses, as is currently the case under ESIF. This would include a sub-priority for small businesses in LFAs, whether in urban, rural or coastal areas to cater for their specific needs.
- Northern Ireland has a small business economy, with the highest concentration of SMEs in the UK. These businesses make the greatest contribution to turnover, employment and GVA. FSB NI research indicates that 80 per cent intend to grow, so the potential of the sector to expand and flourish under the right conditions is considerable.
- When NI business owners were asked which barriers impacted most on the success of their business in the past twelve months, the lack of suitable business support ranked highly, with 27 per cent of small businesses identifying this as a main obstacle. In fact, only 21 per cent of businesses identified a government or quasi-government source, and 14 per cent had no main source of business support.

Innovation and Enterprise

INNOVATION

[*Innovation in UK higher education: A panel data analysis of undergraduate degree programmes*](#), published by the ERC, consider the drivers of programme innovation and identifies significant resource, internationalisation and business engagement effects.

- Analysis from the paper suggests three main empirical results:
 - First, financial stringency stimulates both programme introduction and withdrawal. That is, universities which are facing greater financial pressures are more likely to introduce new programmes and withdraw existing programmes. This effect is relatively short term, perhaps reflecting decision cycles, and is strongest in less research-intensive universities.
 - Second, while business engagement through contract research has little impact on programme introduction and withdrawal rates, revenue from facilities and equipment contracts tends to reduce programme introduction and withdrawal rates. This effect is persistent, and impacts on both research-intensive and less research-intensive institutions.
 - Third, higher levels of internationalisation stimulate programme innovation across both research intensive and less research-intensive institutions although internationalisation has a weaker influence on withdrawal rates.
- As public financial support for teaching in UK higher education continues to decline, and limits on student fees are relaxed, the drivers of programme innovation may change to become much more student-centred. The UK higher education market is extremely complex and to date demand has proved to be relatively inelastic to both price and quality changes.

[*Keeping up with Innovation: Designing a European Sandbox for Fintech*](#), published by Centre for Economic Policy Studies, shows how EU financial regulation may stifle the innovation of financial services.

- Robo advisors are digital investment advice tools that match consumers to certain financial investments on the basis of their personal preferences. After the investor has completed an online questionnaire, the algorithm recommends a personalised investment portfolio, typically and predominantly consisting of passive Exchange Traded Funds (ETFs) along with some mutual funds.
- Robo advice is a fast-growing phenomenon in the financial market that, among other rising financial technologies (FinTechs), has attracted the attention of several regulators, such as the US Securities

and Exchange Commission, the UK Financial Conduct Authority and the European Supervisory Authorities.

- At the EU level, regulatory standards relevant for robo advice are situated primarily within the Market in Financial Instruments Directive framework (MiFID II). However the authors highlight that this framework poorly fits the provision of automated investment advice:
 - First, as the MiFID framework was written with a different idea in mind, it leads to regulatory uncertainty. For example, many rules are applied and enforced differently among EU member states, partly as a result of diverging implementation, partly due to different interpretations of (identical) rules.
 - Second, besides those regulatory ambiguities, the sheer magnitude of regulations hinders entry to the market. A recent FCA review stresses this point, noting significant problems of robo advisors in complying with MiFID obligations. Consequently, to achieve regulatory authorisation, significant amounts of time and money have to be invested.
- While the latter constitutes a direct market barrier, the former brings a prevalent regulatory uncertainty. It reveals that despite applying the same service, robo advisors across the EU are frequently under different regulatory treatment – with even some not regulated at all. This uncertainty in a fragmented market creates an environment that impedes growth and deters investors from providing capital to firms operating in it. On a broader scale, regulatory uncertainty not only further discourages innovation, but also carries risks for consumers.

McKinsey published, [Notes From the AI Frontier: Modeling the impact of AI](#), on the world economy, considering both the possible benefits and the costs related to implementation and disruption.

- Based on early evidence, around 70% of companies will adopt at least one type of AI technology by 2030, while less than half of large companies may be using the full range of AI.
- AI could potentially deliver additional economic output of around \$13 trillion by 2030, boosting global GDP by about 1.2% a year.
- Adoption may follow an S-curve —a slow start given the investment associated with learning and deployment, and then acceleration driven by competition and improvements in complementary capabilities.
 - Its resulting contribution to growth may be three or more times higher by 2030 than it is over the next five years.
 - Initial investment, ongoing refinement of techniques and applications and significant transition costs might limit adoption by smaller firms.
- AI may widen performance gaps between countries, companies and workers. AI leader countries (mostly developed economies) could capture an additional 20 to 25% in economic benefits compared with today, while emerging economies may capture only half the benefits.
 - Frontrunner companies could potentially double their returns by 2030, while companies that delay adoption could fall behind.
 - Demand — and wages — may grow for workers with digital and cognitive skills and expertise in tasks that are hard to automate, but shrink for workers performing repetitive tasks.
- The pace of adoption and the extent to which companies choose to use AI for innovation rather than just efficiency are likely to have a large impact on economic outcomes.
 - Similarly, how countries choose to embrace these technologies (or not) will likely impact the extent to which their businesses, economies and societies can benefit.

McKinsey also published a briefing note: [The Promise and Challenge of the Age of Artificial Intelligence](#) – a useful summary of the impact of AI technologies and the issues that policymakers and business leaders need to address.

RESEARCH AND DEVELOPMENT

“[What are the barriers to start-up and scale-up in R&D intensive firms?](#)” published by the ERC, details the barriers involved in encouraging research and development, which has a negative implication on innovation.

- In the majority of western countries (e.g. USA and Germany) a 2:1 ratio exists between private and public R&D investment and governments would like to encourage more private sector involvement to enhance productivity and address regional inequalities.
- Removing barriers that inhibit start-up and growth is therefore essential to achieve government goals and while all firms, irrespective of age and size, face barriers, certain problems are more keenly felt by new and young R&D intensive firms. Although it is possible to itemise individual barriers this fails to address the complexity of the problem R&D intensive firms face in the start-up and scale-up of business ideas.
- To explain the problem R&D intensive firms face; firstly, it is important to acknowledge that certain barriers inhibit engagement; market structure and access to finance are clearly important.
- Secondly, once engaged in the process the barriers are found in the link of knowledge, networks and skills that underpin the evolution of dynamic capabilities and enhance absorptive capacity. Such capabilities become fine-tuned as they are reconfigured to adapt to change and this learning exercise **identifies weaknesses that, if resolved, further improve a firm's absorptive capacity. Accepting that** knowledge, network and skills are significantly influenced from the imprint established at start-up; it is the opportunity to learn during the reconfiguring process that underpins scale-up.
- Finally, internal and external barriers should not be seen in isolation, these impediments regularly overlap and combine requiring multifaceted solutions to the problem of start-up and scale-up in R&D intensive firms.

SECTORS AND TECHNOLOGIES

[*Measurement of regional supply of banking services against the background of digitisation*](#), published by Eurostat, evaluates the regional supply of banking services in different countries.

- Regional Branches of Banks across Europe have been declining in the past decade. One reason banks is the expansion of digital offerings, which could increasingly make the trip to the branch unnecessary. According to this reasoning, the supply situation will not necessarily deteriorate due to the dismantling of the branches. Only the access route will change. Physical access will be replaced by digital access, and the quality of supply would remain the same despite the reduction in the number of branches.
- The previous measurement approach to examining the problem of reductions in regional bank branches (branches per square kilometre or per inhabitant) is critically examined in the paper and an extended measurement approach is presented based on [Conrad et al. \(2018\)](#).
- The author generates box plots for travel time up and dispersion of branches to the nearest financial services provider. The findings suggest a similar supply situation for Germany, Spain, Austria and the United Kingdom. Austria has the lowest travel time overall, but at the same time has a relatively low dispersion (i.e. suggests that the number of financial service providers depends on the number of inhabitants). At the same time UK shows extreme outliers, related to the different regions in the UK, with very high travel times.
- The Netherlands and Switzerland have travel times that are distributed more evenly and at the same time altogether clearly lower than the countries above. The distribution of financial service providers by area is largely homogenous apart from Netherlands.
 - There are regional differences in these countries as well. However, these differences are less significant than in the comparison countries. Germany and the United Kingdom have medium to high travel times overall. The distribution also shows that relevant parts of the population are undersupplied: a high proportion of country-specific travel expenditure is accounted for by around 15% and 7% of the population respectively (Germany and UK).
- The separate analysis of rural and urban areas shows that the travel time in rural areas is higher, were particularly high results are observed for UK. Overall, it becomes clear that there is no clear correlation between travel time and the number of financial service providers per inhabitant or square kilometre. This result underlines the relevance of critically examining the previous measurement on supply situations for banking.

ENTREPRENEURSHIP

[GEM UK: Northern Ireland Report 2017](#), published by The Global Entrepreneurship Monitor (GEM) is an international project, involving 54 economies in 2017, which seeks to provide information on the entrepreneurial landscape.

- Northern Ireland has historically lagged behind the rest of the UK in terms of enterprise start-up activity.
- The rate of total early-stage entrepreneurship (TEA) in Northern Ireland in 2017 is 6.5%, relatively unchanged from 2016. The 2017 rate compares to 8.7% in the UK overall, 9.1% in England, 6.3% in Wales, and 6.7% in Scotland
- The TEA rate in Northern Ireland is significantly lower than the UK in 2017, likewise when the rates are combined over 2015-17 Northern Ireland has a significantly lower rate than both England and the UK.
- Entrepreneurial activity is driven by opportunity motives; necessity-driven TEA in Northern Ireland is 0.9% in 2017 while opportunity-driven TEA is 5.6%.
- TEA rates tend to vary by age with those aged over 30 generally more likely to be engaged in entrepreneurial activity. In 2017, those aged between 25 and 34 in Northern Ireland were most entrepreneurial, with their rate significantly higher than for 18-24 year olds and those aged 45 and over.
- Within Northern Ireland the highest TEA rates are typically found in the Mid-Ulster Council area while Derry City and Strabane have the lowest. The rate in Mid-Ulster is driven by male entrepreneurial activity; in Derry City and Strabane there are particularly low female rates of entrepreneurship.
- High job expectation rates amongst TEA entrepreneurs are similar in Northern Ireland and the UK at around 18% over 2015-17. High job expectation is typically lower for established businesses; in Northern Ireland the high job expectation rate continued to increase for established business owners during 2015-17, and at over 6%, exceeded the UK rate of 5%.

BUSINESS GROWTH

[*Exploring SME investment patterns in Ireland: New survey evidence*](#), published by The Economic and Social Research Institute, uses new survey data to address knowledge gaps around the investment activity of small Irish companies.

- In terms of the patterns of investment across Irish SMEs, it is clear there are considerable differences by the type of asset. Overall 80 per cent of SMEs invested in either staff or other assets. However, this is mainly driven by staff investment which was undertaken by nearly 70 per cent of small and medium companies. The share of companies investing in fixed assets (building, machinery, equipment) was 50 per cent. Only 7 per cent of SMEs invested in intangible assets (such as new production processes, procedures, patents, research and development, branding, etc.)
- **The median investment level was €22,000 which represented 20 per cent of the size of total assets of the firm on average.** Investment levels were higher for fixed assets (**€45,000 median**) than for staff or intangibles. Indeed, the median investment level was 4.5 times higher for fixed assets than intangible assets.
- A critical element in understanding the SME sector in Ireland is to capture the heterogeneous nature of enterprises. The paper explores the differences across firms by focusing on a number of characteristics including age, size, exporting status and sector. While older firms invest, the rate of investment (how much the firm invests relative to its total assets) is higher for young firms and micro enterprises. This reflects the fact that while larger firms tend to invest greater volumes in absolute terms, the investments do not represent as large a commitment relative to their existing asset base. Industrial firms invest more than in other sectors, in particular in transport assets.
- In terms of the trading status of firms, non-exporters displayed higher average investment rates in transport and machinery, but not for buildings. Exporting firms invested on average more in intangibles.
- For the first time using survey data, information was collected on liquid assets. Irish corporates had a high level of liquid asset holding **with a median of €225,000 representing 35 per cent of turnover on average.** Furthermore, taking the average level of investment by firms as a share of liquid assets, only one-in-ten investing firms did not have sufficient liquid assets to cover their investments.
- Just under 80 per cent of Irish firms indicate they are satisfied either with the level of investment they **undertook or the capacity they currently have if they didn't invest. This finding holds in general across different asset types and firm characteristics.** This suggests a capital gap exists for one-in-five enterprises. Medium-sized enterprises are the most satisfied with their own capacity.

- For those firms that did face a capital gap, the main reasons given were a lack of internal funds (40.6 per cent), uncertainty (26.7 per cent) and other reasons (21.5 per cent). Access to external finance was only suggested as a barrier by 11.2 per cent of the firms with a capital gap.

[Understanding micro-businesses in Northern Ireland](#), published by the ERC, provides a profile of micro-businesses with 1-9 employees in Northern Ireland in comparison to UK regional, Irish and US benchmarks.

- There are currently around 28,500 micro-businesses employing around 111,000 people (19.7 per cent of the workforce) in Northern Ireland. In 2017 these firms generated sales of £10.4bn, 17.2 per cent of that by all NI firms.
- Most micro-businesses are very small, having average employment of 3.3. The majority are well established having traded for an average of 29 years and over this period have provided the basic income for the founding family. This household business link is crucial to understanding these firms.
 - 78 per cent of micro-businesses in NI are family-owned and in the vast majority of cases the founder is still involved in the business. Around half of all microbusinesses in NI are home-based. Family-ownership is more important in Northern Ireland than elsewhere.
 - Four-fifths of NI micro-businesses said their key priority was to 'keep their business similar to how it operates now'. Only around a fifth of business leaders aim to build a 'national or international business'. For most of these firms stability dominates growth in terms of ambition.
- 27 per cent of NI micro-businesses reported introducing a new or significantly improved product or service over the three years prior to the survey compared to 32.5 per cent in the UK as a whole
 - This level of innovative activity in NI was the lowest of any UK region and significantly lower than that in micro-businesses in Ireland (40 per cent) and the US (36 per cent). In terms of organisational innovation, the gap between the proportion of innovating firms in NI and the UK was greater – 13 per cent in Northern Ireland compared to 23 per cent in the UK as a whole.
- The barrier to success most frequently cited by Northern Ireland micro-businesses was the extent of competition in the market (48 per cent). Between a third and a half of Northern Ireland micro-businesses stated that competition, the extent of regulations or red tape and late payment by customers were significant barriers.

[NI Local Growth Dashboard](#), published by the ERC, presents a set of growth metrics for start-ups and existing firms across a range of sub-national geographies in NI with a specific focus on each of the 11 Local Government District (District Council) areas.

- The number of start-ups in an economy is often seen as the headline metric of 'enterprise' and 'entrepreneurial ability'. Start-ups have been rising steadily in recent years but this trend does display some spatial variation across Northern Ireland.
 - Mid Ulster; Fermanagh & Omagh, and Newry, Mourne & Down have the highest rate of start-ups with generally smaller numbers of start-ups in the north and east. However, Belfast is an exception and also exhibits rates of start-up above the Northern Ireland average. Generally, start-up rates in Northern Ireland are much lower than in the UK at 27 per 10,000 population compared to a UK average of 50.
- It is a matter of record that the UK now has a larger number of start-ups than ever before, yet what is less well known is the proportion, if they survive, that go on and generate at least £1m in revenues after 3 years. This threshold, while arbitrary, reflects the ambitions of many entrepreneurs as they strive to sustain and grow their businesses – **getting to the 'first million' is an often heard metric**. The overall survival rate for this 2014 cohort of start-ups is 50.1% in NI and 54.7% in the UK so half of all startups do not make it to their third year – a fact that holds for all the cohorts of start-ups analysed since 1998.
- Across the UK, the authors observe that 7.2% of existing firms with turnover of £1-2m per annum in 2014 grow to at least £3m turnover in 2017 which is slightly higher than in 2014 and 2015 (i.e., 6%) and marginally higher than in 2016 (7%). This metric of businesses scaling varies greatly across the UK with the three Home Nations of Scotland (5.3%), Wales (5.9%) and Northern Ireland (5.8%), except the Outer Belfast region, having lower proportions of these businesses than most areas in England.
- The number of high-growth firms (HGFs) in the UK declined very slightly in the 2014- 17 period – the absolute number fell from 11,855 (2012/15) to 10,718 (2014/17) which means that the overall incidence rate is now 6.3% for the UK compared to 7.5% in the previous period. The incidence rate of

high-growth firms in Northern Ireland varies from 4.7% in Ards & North Down to 7.5% in Causeway Coast & Glens. The spatial pattern within this range shows that Derry City & Strabane and Antrim & Newtownabbey also record above average incidence rates, which was 6%.

[EIB Investment Report 2018/2019: Retooling Europe's economy, published by European Investment Bank](#), provides a comprehensive overview and analysis of investment and the financing of investment in the European Union.

- Investment growth is consolidating across the EU. Measured as gross fixed capital formation, investment grew by 4.8% in 2017 and the first quarter of 2018.
- Investment rates have **reached historical averages, apart from in the “periphery” group of countries** (Italy, Spain, Portugal, Greece, Cyprus and Ireland) where investment growth is healthy but investment by households and government remains low. While investment intensity in the **“cohesion”** group (countries that joined the EU since 2004 and rely substantially on EU cohesion and structural funds) might be expected to be high, reflecting the process of catching-up, it is paradoxically almost **as high in the more advanced “other EU”** group (Countries that joined EU before 2004 and non-periphery) where greater saturation of opportunities might be expected.
- Investment is becoming more balanced across asset classes and institutional sectors. While investment in machinery and equipment continues its robust growth, investment in dwellings and other buildings and structures has picked up in most EU countries. Investment by corporations remains strong, being slightly above historical averages in the periphery countries and below them in cohesion countries. Investment by households is supported by real income growth and the recovery of house prices.
- Public investment is gradually picking up but remains low, especially in the periphery. It is above its long-term average in only six countries. The composition of public spending is still skewed away from investment (relative to historical averages), particularly with regard to infrastructure, but the situation is slowly improving.
- EIBIS data show firms expecting to increase investment, on average, in nearly all countries. In general, the share of firms investing was higher in the other EU group, and lower among cohesion and periphery countries, but with exceptions. Firms expected to reduce investment only in Ireland, reflecting uncertainty linked to Brexit.
- **After years of underinvestment, “potential growth” remains depressed: the cyclical upswing belies the existence of structural weaknesses and investment needs, while downside risks mount.** In other words, the economy is already growing faster than the potential suggested by current levels of capital stock, labour supply and rates of innovation. Favourable monetary policy and global demand conditions have helped push output growth above this potential, but the need for a retooling of **Europe's economy** to sustain growth and meet future challenges remains.

GROWTH FINANCE

[Regional Differences Accessing Finance in UK SMEs: Do they matter?](#) published by The Enterprise Research Centre, analyses the growing body of evidence examining spatial variations in access to finance in UK SMEs.

- Historically, much of the evidence surrounding geographical variations in access to finance focused on equity finance such as venture capital (VC). This work strongly reveals VC and business angel funding to be heavily concentrated in certain parts of the country, especially London and the south-east of England ([Mason and Pierrakis, 2013](#)).
 - Much less evidence has considered whether debt finance, such as bank loans, vary geographically in the UK.
- The bulk of this evidence suggests SMEs located in peripheral and rural regions find it harder to access all forms of SME finance. This has been confirmed by different studies using different data sources covering differing time periods (see [Mason and Pierrakis, 2013](#); [Degryse et al, 2015](#); [Lee and Brown, 2017](#); [Zhao and Jones-Evans, 2017](#)).
- A study by [Lee and Brown](#) (2017) found that certain types of peripherally-located SMEs are particularly affected by these credit constraints. Innovative SMEs in particular are more likely to have their bank loan applications rejected than those located in core regions. They were also more likely to be discouraged from applying altogether for fear of rejection.

- A SME's geographic location seems to play a crucial role in shaping the ability of a firm to access finance, a problem accentuated for innovative firms. In sum, debt finance markets for SMEs appear just as spatially constructed as equity markets.

[Financing growth in innovative firms: one-year on](#), published by HM Treasury, is a paper on the initial progress on the Patient Capital Action Plan.

- Patient Capital Review aims to strengthen the UK as a place where high-growth, knowledge-intensive firms can obtain the long-term 'patient' finance that they need to scale up. **The Patient Capital Review formed part of the government's Industrial Strategy. Following the review, at Autumn Budget last year the government announced a 10-year action plan to unlock over £20 billion to finance growth in innovative firms.**
- The UK has a healthy equity finance market providing long-term investment to businesses. In the first half of this year, small businesses raised equity finance worth £3.2 billion. This builds on the success of 2017, in which UK SMEs raised £5.9 billion in equity, a 6% increase in the number of deals and 89% increase in investment value compared to 2016. The UK continues to be the top destination for venture capital (VC) investment in Europe, attracting around a third of total European VC investment so far this year. The UK government has made considerable progress on delivering its 10-year plan:
- Launching British Patient Capital, which has been given resources of £2.5 billion to invest in innovative firms, in June 2018.
- UK Government backed overseas investment in UK venture capital through the Department of International Trade, securing £240 million of investment this financial year.
- The extension of Enterprise Investment Schemes (EIS) and Venture Capital Trusts (VCTs) has benefited knowledge-intensive companies and re-directed investment from low-risk areas. The government has taken further action by consulting on Entrepreneurs Relief, and coming into effect from next year, the government will change the qualifying rules to prevent entrepreneurs from being discouraged from seeking external investment.
- Also, the Department of International Trade is on track to support more than £1 billion of investment into UK venture capital over 5 years, and the British Business Bank has undertaken further research on issues including female access to venture capital funding and the talent needed to grow the UK venture capital industry.

BUSINESS REGULATION

[No relevant material sourced for this quarter's release.]

Succeeding Globally

TRADE

[Irish Exporters Association Annual Report 2017 \(Published 2018\)](#), from the Irish Exporters Association, provides a review of 2017 exports and the subsequent outlook for 2018.

- The value of Irish exports grew strongly in 2017, and are now running at twice the 2006 levels recorded prior to the global recession. **Aggregate exports were €282bn, representing a rise of €28bn on 2016. Services industries continue to drive growth, increasing by €25bn year on year. 2016 was the first year that employment by foreign multinationals in Ireland's services industries out-stripped employment in manufacturing firms, though manufacturing still dominates among Irish-owned firms;**
 - **Exports of merchandise goods also had a good year, rising by €3bn to reach €122bn. An increase of 11% on the total of €254bn posted in 2016. 2017 was the eight successive year of overall export growth from Ireland following the fall in exports in 2008 and 2009 at the height of the global economic recession.**
- Employment figures confirm the underlying strength of the exporting sector in Ireland. Aggregate employment in agency-supported firms (IDA Ireland and Enterprise Ireland) reached 383,000 in 2017, a full 100,000 higher than in 2010 when it fell to its post-recession low.
- **Goods exports rose 3% (€3bn) in 2017. This was driven mostly by two sectors, namely agri-food (+€1.3bn) and chemicals (+€1.4bn). The surge in food exports was driven by dairy products, with stronger volumes boosted by a surge in global wholesale prices;**

- Global agricultural commodity prices as measured by the FAO Food Price Index were up 8% in 2017 compared to 2016, driven largely by the dairy sector which saw global prices rise by 32%, prices that have been sustained in 2018. The rise in chemical exports was accounted for by an increase in exports of medicinal and pharmaceutical products;
- **Services exports surged again in 2017, rising €25bn to almost €160bn, an increase of 18% over the strong 2016 outcome.** As in 2016, the rise in services exports was broadly based, with double-digit percentage rises in computer services (19%), financial services (15%) and business services (23%).
 - Computer services continue to represent the largest services exporter, having more than **doubled in value over the last five years. This sector alone accounts for €1 in every €4 of total Irish export revenue.** Services exporters now account for 57% of exports, one of the highest ratios in the EU.
- Economic growth worldwide remains steady, and this is forecasted to continue into 2019. This is particularly evident in non-EU markets, which are increasingly important to Irish exporters. The weakest outlook remains for the UK, with consumer spending and business investment remaining subdued. The uncertainty of Brexit continues to weigh on the economy, while interest rates have now started rising above their post-crisis lows in response to the normalisation of inflation.
- The European economy remains strong, however. Consumer and business confidence remains high, core inflation subdued, and the ECB have signalled that interest rates are likely to remain at their current historic lows until summer 2019 at least.

INWARD INVESTMENT

[No relevant material sourced for this quarter's release.]

TOURISM

[No relevant material sourced for this quarter's release.]

Economic Infrastructure

ENERGY

[The economic and environmental impacts of increasing the Irish carbon tax](#), published by The Economic and Social Research Institute, examines the impact of an increase in the current carbon tax in Ireland.

- **The current carbon tax in Ireland stands at €20 per tonne of carbon and is levied to incentivise households and producers to reduce their use of carbon-intensive goods.** The carbon tax is relatively low, however, and constitutes just 1.9 per cent of total taxes levied on commodities in Ireland. Carbon tax accounts for only 7.6 per cent of total excise duties levied on petrol and 14 per cent of all excise duties on diesel.
- The analysis reveals that increases in the carbon tax affect the prices of diesel the **most. A €5 increase will increase the prices of carbon commodities by on average 0.8 per cent, and a doubling of the carbon tax to €40 per tonne of CO₂ will increase the prices of carbon commodities by on average 3.4 per cent.** Diesel price is expected to increase the most due to an increase in the carbon tax, **a €25 tax would result in a 1.7 per cent increase in diesel prices. A €40 tax would result in a 7 per cent increase in diesel prices.**
 - Putting this into context, it can be noted that in 2018 alone consumers have faced much greater fluctuations in diesel prices. Consumers are accustomed to relatively large fluctuations in fuel prices and may not react to increases in prices, assuming prices will fall again.
- Overall, the impacts of increasing the carbon tax **by €5 on total production costs of sectors are extremely small.** Even for larger increases of the carbon tax, the impacts remain low; for example, a doubling of the carbon tax will increase production costs by at most 1.4 per cent. The results show that the natural gas supply sector and the transportation sectors are impacted the most. Impacts on other sectors are small. Notably, the production sectors that drive Irish exports are relatively insensitive to a carbon tax increase, suggesting that an increase in the current carbon tax will not have significant impacts on the international competitiveness of Irish exports.

- An important issue concerning the implementation of a carbon tax is its distributional impact across different household types. The report, therefore, examines the impacts of a carbon tax increase across income deciles. According to estimates, the impact on the Consumer Price Indexes (CPIs) of the different households is virtually uniform, whereby a €20 increase in the carbon tax leads to the CPI of all households increasing by approximately 0.5 per cent and a €5 increase leads to a 0.1 per cent increase of CPI.
- In monetary terms a €20 (€5) increase in carbon tax would cost the poorest households €1.87 (€0.45) a week and the richest €9.63 (€2.30) a week. When these costs are expressed in terms of income, they are found to be regressive, i.e. the poorest households will lose a higher share of their income (0.67%) compared to the richest (0.28%).
- Examining the potential impacts of an increase in carbon tax on emissions reduction in Ireland, the report estimates that a doubling of the carbon tax will result in less than a 5% decrease in greenhouse gas emissions. For a €5 increase, the results show that economy-wide emissions are reduced by 1.2%. This indicates a strong need for a more stringent carbon tax policy in combination with other policy levers to ensure a transition towards a low-carbon economy.
- Caveat: It is important to interpret these results with caution given the static methodology applied here. The impacts presented in this report should be seen as short-term impacts, as no dynamics are included in the agents' decision making. (I.e. decision changes over time either due to the previous actions of the decision maker or due to events that are outside of the control of the decision maker, which alter long term impacts, are not analysed.)

[Energy sector reputations: time to power up?](#) published by Ipsos MORI, outlines two key upcoming challenges facing the energy sector in the UK.

- There is an ever-increasing focus on the environment and climate change. Whilst many energy companies are making steps to reduce their emissions, stakeholders would like to see them 'stepping up', to recognise their role in the energy transition and to help lead the global agenda around climate change.
- In a nutshell, the sector needs to demonstrate how it will adapt to meet energy demands in a sustainable way, and then deliver. Although there is some acknowledgement that changes can't be made overnight, at the moment energy companies are too often "truly seen as part of the problem".
- Concerns for consumers, meanwhile, are particularly evident among Council Members in the UK. During 2018, all the UK's 'Big Six' energy companies have announced price hikes; and the backlash from a wide range of stakeholders (including government) impacts not only the reputation of each company, but also that of the sector as a whole.
- To counter the reputational damage, and indeed the resulting regulatory risk, stakeholders believe that energy companies should be more open and transparent, communicating clearly with their customers and explaining why prices have increased – whether this be due to investing in more low carbon energies, increasing overheads, or a change in government policy. At the same time, whilst energy regulator Ofgem has encouraged consumers to switch to avoid facing significant increases, more clarity around what's on offer is needed from each supplier. This presents energy suppliers with an opportunity to show current and potential customers what they can offer in a clear and consistent way.
- The current downward trend in the perceptions of the energy sector is, in part, a function of companies within it failing to respond adequately to the rapidly strengthening public interest in sustainability and social responsibility.
- Companies need to ensure that people believe their communications, and that they are able to differentiate themselves from others with same message. If successful, this will have a positive impact on a company's reputation across stakeholders, whether that be the general public, media, civil society influencers, or policy makers.

[Renewables 2018: Analysis and Forecasts to 2023](#), published by the OECD, reveals that bioenergy leads growth in the use of renewables in the global energy mix over the forecast period of 2018-23.

- Global renewable energy consumption increased more than 5% in 2017 – three times faster than total final energy consumption. In the power sector, renewables accounted for half of annual global electricity generation growth, led by wind, solar PV, and hydropower.
- The share of renewable technologies meeting global energy demand is expected to increase by a fifth, reaching 12.4% in 2023 – a faster rate of progress than in the 2012-17 period. Renewables cover

40% of global energy consumption growth over the forecast period. Their use continues to increase most rapidly in the electricity sector, reaching 30% of total world electricity generation in 2023. But because of weaker policy support and additional barriers to deployment, renewables use expands far more slowly in the transport and heat sectors.

- In terms of energy mix:
 - **Brazil has the greenest energy mix, but the People’s Republic of China leads absolute growth. Of the world’s largest energy consumers**, Brazil uses the highest share of renewables by far – almost 45% of total final energy consumption in 2023. Bioenergy consumption in transport and industry is significant, and hydropower dominates the electricity sector.
 - As a result of policies to decarbonise all sectors and reduce harmful local air pollution, China leads global growth in absolute terms during the forecast period, and surpasses the European Union to become the largest consumer of renewable energy.
 - In the European Union, a greater share of renewables is spurred by binding renewable energy targets for 2020 and 2030 as well as by country-level policies and improved energy efficiency.
 - Bioenergy drives renewable energy growth in India due its prominent role in industry followed by rapid solar PV and wind expansion.
- Renewable heat consumption is higher than that of renewable electricity in absolute terms, but still represents only 10% of global heat demand. Heat accounts for the largest portion of energy end-use (52% of final energy consumption), given its use for heating buildings and water, for cooking, and for industrial processes. Modern bioenergy, which dominates renewable heat consumption, accounted for over 70% of directly used renewable heat in 2017 as well as most of the renewable heat used for district heating.
- Renewable heat consumption is expected to increase 20%, capturing over one-third of global heat demand growth. China, the European Union, the United States and India together account for over 66% of renewable heat growth. **China’s renewable heat domestic consumption is forecast to grow by 54%**, making it the largest consumer by 2023. Renewable heat shares also continue to expand steadily in member states of the European Union, supported by policies and by the decline in overall heat demand as energy efficiency rises.
- Biofuels and electric mobility emerge as complementary options. In transport Biofuel production continues to increase, rising 15% to 165 billion litres (L) by the end of the forecast period. However, biofuels only represent less than 4% of total transport energy demand in 2023. Even though electric mobility expands rapidly, biofuels still hold an almost 90% share of total renewables in transport sector energy demand in 2023.
- To meet long-term climate and other sustainability goals, renewable energy development in the heat, electricity and transport sectors must accelerate:
 - Renewables expansion in the electricity sector could be 25% higher under the International Energy Agency accelerated case.
 - With the more favourable market and policy conditions assumed under the accelerated case, global transport biofuel output could be 25% higher than in the main case.
 - Untapped potential to increase bioenergy use in the cement subsector as well as the sugar and ethanol industry is significant.

TELECOMS

[Unlocking growth in the B2B telecom segment](#), published by PWC, identifies four basic building blocks to help transform the sector.

- Telecom operators know that to better serve existing customers, win over new ones, reverse declining revenues and stymie competitors, they will need a major shift in their capabilities and outward-facing identity. This requires transformation.
 1. Create a strategic identity: Articulate a single desirable future for the enterprise and focus all efforts on achieving it.
 2. Design for trust: Develop ways to attract and deserve the commitment of everyone related to the enterprise — particularly customers and employees.
 3. Master the pivot from sprint to scale: Test new practices in an intensive, experimental, start up-style manner. Pick the approaches that work, and rapidly implement them throughout the larger system.

4. Consider legacy as an asset: Save the best of your past, divest the rest for advantage and use the income to fund the future.
- Telecom companies need to design around the customer to create a better experience, embodying the trust that they seek to earn in the quality of that experience. Some of the ways in which telecom firms can achieve this include: moving beyond the one-size-fits-all approach to service delivery and customising the customer experience; presenting customers with proactive product **recommendations; offering 'freemium' models, or try-before-you-buy products and services;** and streamlining the contracting process.

AIR ACCESS

[Air Passenger Duty submission](#), published by the TaxPayers' Alliance, details macroeconomic impacts of APD and provides their view on why the tax should become abolished.

- Although indirect taxes such as APD can deliver a substantial source of tax revenue, its impact on demand is limited. Passenger numbers on scheduled international and domestic flights rose by 32.7 per cent between 2006 and 2016. At the same time, scheduled transport movements rose from 1.653 million to 1.767 million.
- Additionally, flights within the European Economic Area are already covered by the EU emissions trading scheme (ETS). Any reduction in emissions from discouraging air travel would simply be replaced by another emitter buying the freed-up permit. This indicates that there is no emission-based reason to maintain APD in its current form.
- APD is the highest European aviation tax for short and long-haul flights. Several near neighbours, including Ireland, the Netherlands and Belgium have eliminated their aviation tax.
- APD puts the UK at a competitive disadvantage for trade, tourism and investment. The UK is ranked 133rd out of 136 countries in the World Economic Forum's Travel and Tourism Competitiveness Report for air ticket taxes and airport charges.
- APD is forecast to raise £3.5 billion in 2018-19, and increase to £4.1 billion in 2022-23. A 50 per cent cut in the rate of would deliver a loss of revenue of approximately £1.75 billion in the short term. However, a portion of this reduced Exchequer revenue could be regained through airport expansion and lower state aid.
- The submission argues that the abolition of APD could provide a substantial boost to regional airports and increase the number of domestic routes. A reduction in APD could make existing routes more viable, and lower the viability threshold for new ones. This is especially true for domestic travel. Passenger seat occupancy for scheduled domestic routes has been lower than for international routes. Between 2005 and 2015, it averaged 67.8 per cent for UK airlines. For international routes it was 79.7 per cent.
- Overall the group recommends that in the 2019-20 financial year, APD should be cut in half on the reduced rate, standard rate and higher rate. Airport expansion, and the reduced requirement for state aid to sustain existing and new domestic routes, would, in their view help to circumvent the negative impact on the Exchequer.

Government

NORTHERN IRELAND

[No relevant material sourced for this quarter's release.]

ENGLAND

[No relevant material sourced for this quarter's release.]

SCOTLAND

[State of the Economy](#), published by the Scottish Government, provides an analysis of the performance of, and outlook for, the Scottish economy.

- The Scottish economy has grown consecutively for six quarters, with growth strengthening in 2018. Independent forecasts for the economy are reflecting this improved outlook with Brexit remaining the main risk.
- Annual growth in Scotland (1.7%) in Q2 2018 was broad based with the services (+0.4%), production (+0.6%) and construction (+1.8%) sectors all expanding.
 - The stronger growth in recent quarters has been driven by a number of factors. Firstly, exports have grown strongly on the back of the weaker value of Sterling and stronger global growth. Recent HMRC data shows that Scottish exports of goods grew 7% in cash terms over the past year. Whilst this is due in part to the rising value of oil exports, onshore goods exports also grew by 6% over the same period.
 - Secondly, the stronger outlook for the oil and gas sector alongside the notable rise in the oil price has provided a boost to confidence and activity through its supply chain and in the wider economy.
- The stronger output performance has also been reflected in **Scotland's labour market with the latest** data showing that unemployment remains close to record lows coupled with high levels of employment. Collectively, this demonstrates a continued tightness in the labour market which should drive up wage growth as firms compete to retain and recruit staff.
- Trend growth in productivity (output per hour worked) increased by 1.7% in Q1 2018, however fell by 0.4% on a rolling annual basis. The fall in productivity over the year reflects that growth in hours worked (1.7%) outpaced GVA growth (1.3%).

WALES

[*The Farming Sector in Wales: Research Briefing*](#), published by the Welsh Government, highlights key agricultural statistics and provides an overview of the structure of the farming industry in Wales.

- In 2017 85% of the land area of Wales was utilised as agricultural land. Welsh agriculture accounted for 3.62% of regional employment and a total gross value added of 0.59% in 2016. These values are both greater than the UK averages 1.48% and 0.48%.
- Land use is dominated by grassland pasture which accounts for 76% of land use, 80% of which is less favourable area land. This reflects the upland terrain and wet climate of the country. Cattle and sheep grazing accounts for 21% of active farm holdings, the majority of which are on less favoured area land. Only a small proportion of holdings are dedicated to crops.
- The average Welsh farm business income in 2016-17 was £24,500, greater than Northern Ireland (£22,000) but less than Scotland (£26,000), England (£38,000) and the UK average (£33,000).
- **Agriculture's share of GVA in the UK as a whole was 0.48% in 2016. In Wales, agriculture's share of GVA is above the UK average at 0.59%, which is behind both Scotland (0.88%) and Northern Ireland (1.08%) but greater than that in England (0.42%).**

[*The Poultry Sector Research Briefing*](#), published by the Welsh Government sets out the latest poultry meat and farm gate egg prices and describes recent developments in global trade, supply and producer numbers.

- In 2017, poultry meat and eggs accounted for 11.5% of agricultural production in the UK by value, and for 6.1% in Wales. Poultry meat and eggs hold roughly equal shares of total Welsh agricultural production value, with 2.8% for poultry meat and 3.3% for eggs in 2017.
 - This is significantly different from the UK as a whole, where the value of poultry meat is almost four times the value of eggs, where the average farmgate price for all egg types was 71.3 pence per dozen (2017). Prices for turkeys have been relatively constant between 2014 and 2017, hovering around 330 ppk prices for chicken breast fillets diverged from this trend. Between January 2016 and January 2017, they increased by 36%.
- Between 2016 and 2017, the value of poultry meat in Wales dropped by 4.3% from £47 million to £45 million. In the same period, the value of eggs rose by almost 27% from £41 million to £52 million.
- The UK imported over 867,400 tonnes of poultry meat in 2017. This is equivalent to almost £2.253 billion in value and accounts for 38.1% of total UK poultry meat consumption.
 - The main UK supplier of poultry meat is the Netherlands, which accounted for more than a quarter of UK poultry imports in 2017. While the Netherlands mainly supplies fresh and **frozen poultry meat to the UK, Thailand is the UK's biggest supplier of processed poultry**

meat. In 2017, Thai processed poultry meat comprised almost 16% of UK poultry meat imports.

- In 2017, the UK exported over 396,100 tonnes of poultry meat, which was 21.9% of the total UK production. Around 80% of this was exported to EU countries. In total, UK exports had a value of around £396.2 million. Exports consist mainly of dark meat (such as legs and thighs) and offal, which are less popular with UK consumers than breast meat. UK exports increased 17.1% in volume and 13.2% in value compared to the previous year
- Total UK poultry meat production in April 2018 was 182,800 tonnes, a 3.7% increase compared to the same month in 2017.
 - In 2017, Wales accounted for 2% of total UK poultry meat production by value. Although poultry meat production by value peaked in 2013 in both Wales (at £71 million) and the UK (at £2.465 billion), there have been marked differences in recent developments. While UK output levels, after suffering a small decline, had almost returned to their 2013 peak values by 2017, poultry meat outputs in Wales incurred a 37% drop over the same period.
- In June 2017, the total poultry stock in Wales was over 7.7 million birds, which was 4.2% of the total UK poultry stock. Over 97% of poultry in Wales were chickens, followed by 1% turkey and small numbers of other birds such as duck, geese, guinea fowl and ostriches. In Wales, over half of the total chicken stock was used for meat production, 27% for egg production, and the remainder for breeding.
- Overall poultry numbers in Wales marginally decreased (1.3%) from 2015 to 2017. However, there has been a notable shift in composition. While the broiler stock shrank by 11.7% between 2015 and 2017, the number of chickens used for egg production increased by over a quarter during the same period.

REPUBLIC OF IRELAND (ROI)

[No relevant material sourced for this quarter's release.]

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Imperial College London - Business School

<https://www.imperial.ac.uk>

Institute for Fiscal Studies (IFS)

<https://www.ifs.org.uk>

Institute for Government

<https://www.instituteforgovernment.org.uk>

International Institute for Management Development (IMD)

<https://www.imd.org>

InterTradeIreland

<http://www.intertradeireland.com>

Invest NI

<https://www.investni.com>

Ipsos MORI

<https://www.ipsos.com>

Irish Exporters Association (IEA)

<http://www.irishexporters.ie>

Joseph Rowntree Foundation

<https://www.jrf.org.uk>

Journal of Business Research

<https://www.journals.elsevier.com>

Key Cities

<https://www.keycities.co.uk>

Kiel Institute

<https://www.ifw-kiel.de>

Legatum Institute

<http://www.li.com>

LSE - Centre for Economic Performance (CEP)

<http://cep.lse.ac.uk>

LSE - Spatial Economics Research Centre (SERC)

<http://www.spatial-economics.ac.uk>

McKinsey UK

<https://www.mckinsey.com>

National Assembly for Wales

<http://www.assembly.wales>

National Competitiveness Council (NCC)

<http://www.competitiveness.ie>

National Economic and Social Research Council (NECS)

<http://www.nesc.ie>

National Institute of Economic and Social Research (NIESR)

<https://www.niesr.ac.uk>

Nesta

<http://www.nesta.org.uk>

Nevin Economic Research Institute (NERI)

<https://www.nerinstitute.net>

NI Assembly Research and Information Service (RaISe)

<http://www.niassembly.gov.uk>

NI Council for Voluntary Action (NICVA)

<http://www.nicva.org>

NI Science and Industry Panel – MATRI X

<http://matrixni.org>

NI SRA

<https://www.nisra.gov.uk>

OECD iLibrary

<http://www.oecd-ilibrary.org>

Open Europe

<https://openeurope.org.uk>

Organisation for Economic Development and Co-operation (OECD)

<http://www.oecd-ilibrary.org>

Oxera

<https://www.oxera.com>

Oxford Economics

<https://www.oxfordeconomics.com>

Oxford Review of Economic Policy

<https://academic.oup.com>

Parliament Briefings

<https://researchbriefings.parliament.uk>

Peterson Institute for International Economics (PIIE)

<https://piie.com>

PricewaterhouseCoopers (PWC NI)

<http://www.pwc.co.uk>

PricewaterhouseCoopers (PWC)

<http://www.pwc.com/>

Queens University Belfast – Economics

<http://www.qub.ac.uk>

Queens University Belfast - Research Centre in Sustainable Energy

<http://www.qub.ac.uk>

Resolution Foundation

<http://www.resolutionfoundation.org>

ResPublica

<http://www.respublica.org.uk>

Scottish Enterprise

<https://www.scottish-enterprise.com>

Scottish Government

<http://www.gov.scot>

Small Business Research Centre (Kingston University London)

<https://eprints.kingston.ac.uk>

Taxpayers Alliance

<http://www.taxpayersalliance.com>

Technical Research Centre of Finland (VTT)

<http://www.vttresearch.com>

Technopolis

<http://www.technopolis-group.com>

The Executive Office (TEO)

<https://www.executiveoffice-ni.gov.uk>

Tourism NI

<https://tourismni.com>

Trinity College Dublin

<http://www.tcd.ie>

Ulster University Economic Policy Centre

<https://www.ulster.ac.uk/business/epc>

University College Dublin (UCD)

<http://researchrepository.ucd.ie>

University of Ulster - Business Management Research Institute (BMRI)

http://uir.ulster.ac.uk/view/research_institutes/

Visit Britain

<https://www.visitbritain.org>

Visit Scotland
<http://www.visitscotland.org>

Wavteq
<http://www.wavteq.com>

Welsh Government
<http://gov.wales>

World Bank
<http://www.worldbank.org/>

World Economic Forum (WEF)
<https://www.weforum.org>