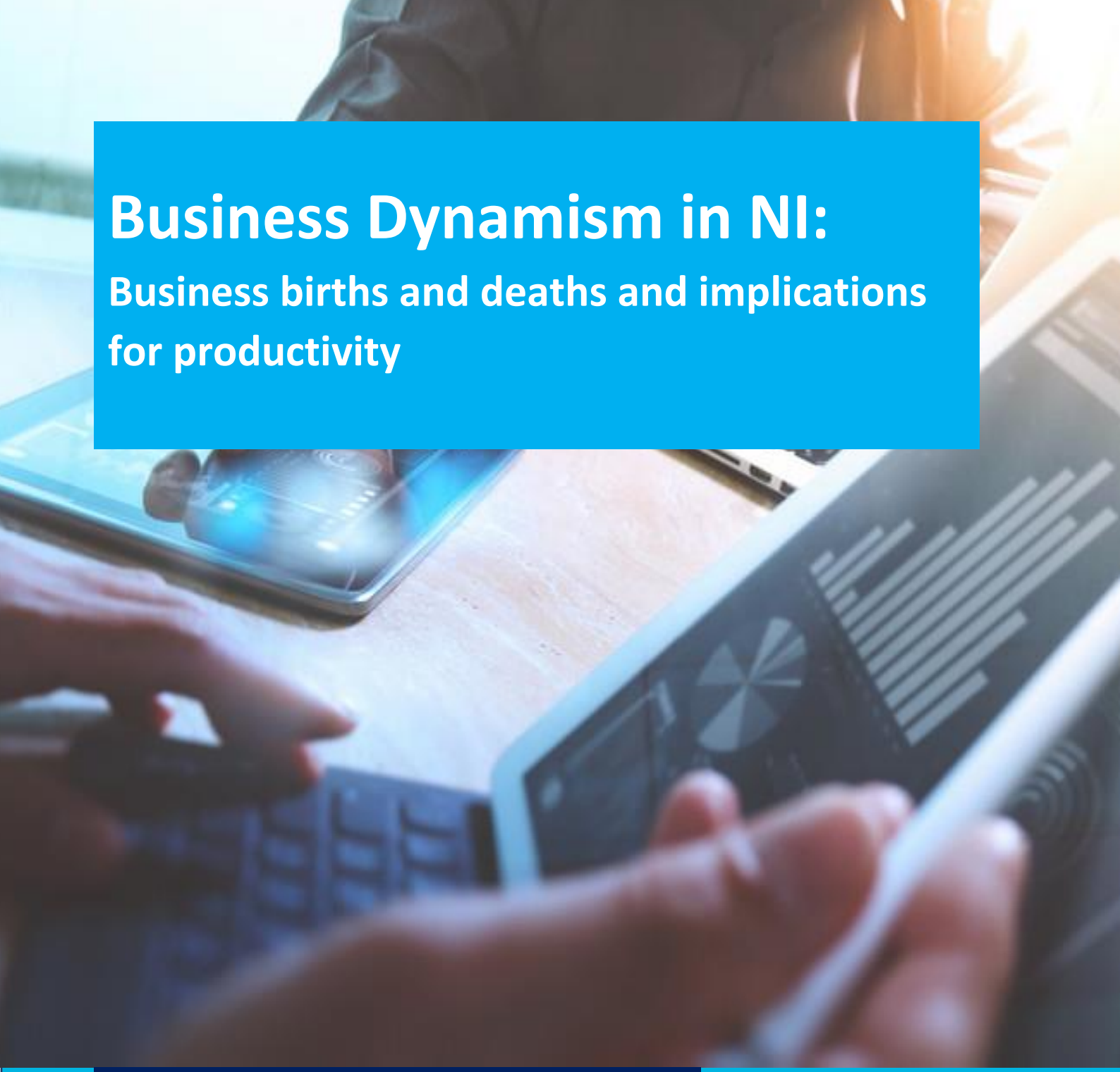

Business Dynamism in NI:

Business births and deaths and implications for productivity

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Executive Summary

Overview

- Business dynamism, in its narrowest sense, reflects the rate at which new firms enter the market and existing firms leave the market. Increasing rates of dynamism in the form of firm entry and exit are regarded as an indication of a healthy economy due to their positive impacts on innovation, competition, productivity and job creation. **A more dynamic economy is therefore viewed as a positive and one which is associated with economic growth through higher rates of innovation and productivity**.

- The analysis carried out by UUEPC, focusing on trends in business entry and exit suggests that **business churn** in Northern Ireland (NI)**, measured as the business birth rate plus the death rate, has risen from 16.6% in 2010 to 18.3% in 2021**. The UK has a higher churn rate at 23.5% in 2021, with a persistent gap between NI and the UK over the decade.

- **As a result, although churn has increased, the combination of a lower business birth rate and a lower business death rate indicates that NI's economy is less dynamic than other regions of the UK.**

- In contrast to theory which suggests that more productive firms enter the market replacing unproductive exiters, the analysis further shows that for NI as a whole, **there is often little difference in the productivity levels of entering and exiting firms**. **In fact, in a number of sectors the productivity levels of business deaths exceed that of births.**

- Although evidence is limited, the analysis also points to low levels of innovation amongst business births, whose average size in their birth year is just 3 employees. In fact, **where innovation is being undertaken it appears to be replicative new-to-the-NI market innovation, rather than the more radical new-to-the-world type**. Wider research suggests it is the latter which is typically associated with productivity growth.

- **At the sectoral level, the highest business birth rates annually are typically in lower productivity sectors.** In fact, Information and Communication which is one of the 10X priority sectors is the only sector which recorded all three of: higher than average business birth rates, higher than average sectoral productivity and births with higher productivity than deaths.

- **Of the individual components of business dynamism, the birth rate is found to have a stronger relationship with productivity, although overall the correlation is weak.** In fact, the death rate has a negative relationship with productivity, likely reflecting the fact that exiters are not

necessarily the most unproductive. As a result, **overall, the components of business dynamism, in the form of births and deaths, appear to have a negligible impact on improving NI's productivity levels.**

Business Births

- **Between 2010 and 2021 the number of business births in NI rose by 45%, reaching 6,655 in 2021, the highest over the decade**. The increase compares to a 55% rise in the UK. Reflective of the increase in numbers the birth rate, births as a share of active businesses, has risen from 7.8% to 10.3%. Despite the increase NI continues to have the lowest business birth rate of the UK constituent countries.

- **Construction accounts for the largest individual share of business births in NI over the 2010-2021 period, accounting for an average of 18% of births annually**, higher than the UK average share of 13%. However, Transport and Storage has experienced the largest growth in contribution over the period, rising from 4% of business births in 2010 to 15% in 2021.

- **Due to the rise in the number of births in the Transport and Storage sector, it now records the highest sectoral birth rate at 24.4% in 2021, more than double the NI average.** This increase began pre-Covid with the birth rate increasing to 19% and above from 2019 onwards, suggesting causal factors beyond Covid-related online shopping and delivery trends.

Business Deaths

- **There was little difference between 2010 and 2021 in the number of business deaths in NI, at approx. 5,200 in both years.** In fact, the death rate in NI actually fell. In the UK the number of business deaths increased by 10% over the same period, resulting in an increase in the death rate.

- Similarly, there has been little change in the composition of business deaths between 2010 and 2021. **Three sectors consistently account for the largest share of deaths, namely Retail, Construction, and the Professional, Scientific and Technical sector. Combined they account for more than two fifths of all business deaths.** Notably, the latter two of the three also have the highest share of business births.

- **Typically, business birth and death rates are highly correlated.** This is partly due to the fact that not all start-ups survive, for example only around half survive 5 years. Therefore, in sectors with a high number of business births we would also expect to see a high number of deaths.

- **The largest increase in business deaths has been in the Transport and Storage sector whose share of total deaths increased from 6% to 16% over the period.** In contrast, Construction, although still one of the largest contributors, saw its share of deaths fall from 27% to 15%.

Productivity

- We can assess the average labour productivity of entrants by sector using a proxy of average turnover per employee. **For NI as a whole, there is often little difference in the productivity levels of entering and exiting firms.**

- **In 2015, the average labour productivity of NI business births was £83,000, dropping to £73,000 in 2021.** The fall in nominal productivity levels of these new firms was driven by a drop in average turnover size (with average employment holding up), observed particularly over the pandemic.

- **Comparatively, the average productivity of business births in the UK was 27% higher than NI in 2021.** As with NI, the productivity level of business births has also fallen in the UK over 2015-21.

- **In nominal terms, the average productivity of business births declined in six sectors in NI between 2015-21.** The largest drop was in Transport and Storage with a contraction of 67% from £80,000 in 2015 to £27,000 in 2021- the lowest productivity across all sectors and around one third of the average for NI births. This is noteworthy as this sector now has the highest birth rate.

- Comparing the productivity levels of business births and deaths in 2021 shows that the productivity level of business deaths was higher than births in four of the individual sectors. In particular, **the productivity levels of those exiting the market in the Production, and Transport and Storage sectors was 71% and 53% higher respectively higher than that of new entrants to the sector.**

- **Of those sectors where the productivity of entrants is higher than exits – the preferable scenario - Arts, Entertainment and Recreation has the largest percentage difference.** Here the productivity of births is 43% higher than business deaths, although entrants have low productivity levels in relation to the NI average.

Policy Recommendations

- Of the components of business dynamism, births are found to be most strongly correlated with productivity suggesting that **policy interventions regarding business births provides a more effective mechanism** by which **to improve productivity** than interventions around preventing deaths**.**

- The NI birth rate continues to remain lowest of the UK regions. With a declining death rate, it becomes more important to **encourage business births to prevent a stagnating economy**.

- A focus on any and all business births will not necessarily provide an improved outcome. Rather, given that the trends depict a combination of low turnover, low productivity entrants in sectors with low value added, the focus should be on **supporting those with a capacity for innovation and growth**.

- If business births continue to be concentrated in low productivity sectors due to the low barriers to entry, then **targeted support** for entrants at the more **knowledge-intensive** end of the spectrum could help these sectors evolve into higher productivity ones.

- Alternatively, or in combination, efforts could be focused on **supporting new entrants in already highly productive sectors**. Here, **barriers to entry,** both at the sectoral and individual level, could be explored to ensure that obstacles to business start are reduced.

- More broadly, ensuring adequate **access to capital and a skilled pipeline of individuals in these sectors is crucial**. For productivity improvements from business starts to be sustained, **capacity for growth** by way of access to skilled employees and funding will be necessary to ensure that those that survive are the most productive.

1. Introduction

1.1. **Business dynamism, in its narrowest sense, reflects the rate at which new firms enter the market and existing firms leave the market**. While this has an impact on jobs, the churn, or turnover, of these businesses itself acts as an important economic indicator. It is related to the concept of creative destruction whereby it is theorised that those who enter the market are more innovative and productive and those that leave are least productive[1]. **A more dynamic economy is therefore viewed as a positive and one which is associated with economic growth through higher rates of innovation and productivity.**

1.2. Existing evidence shows that the **business birth rate in NI has increased over the last decade. The business death rate has simultaneously decreased** over the same period. **Business churn** (the birth rate plus the death rate) has increased which is important as it is regarded as a measure of **"the ability of economies to expand the boundaries of economic activity, to shift resources from declining to growing areas, and to adjust the structure of production to meet consumers' changing needs"** (OECD, 2005, pg.3)[2]. **In NI, however, little is known about the detail underlying this dynamic nor how this this corresponds to wider innovation or productivity impacts.** Indeed, survey evidence indicates that NI consistently has a low share of firms engaged in innovation activity while productivity levels are persistently among the lowest in the UK[3].

1.3. Assessing the individual productivity and innovation levels of entering and exiting businesses is difficult[4]. **This project therefore aims to try and better understand the elements of business entry and exit in NI by taking a sectoral approach and analysing how the trends might impact the economy.** Drawing on existing published data, it uncovers more detail on the sectoral trends in NI business births and deaths and what churn and net entry means for the economy. It seeks to fill an important information gap on the extent to which NI is creating and/or losing firms in more productive and innovative sectors. **The results are important as NI seeks**

[1] Bartelsman, E.J. and Doms, M. (200). "Understanding Productivity: Lessons from Longitudinal Microdata." *Journal of Economic Literature*, *38*(3): 569- 4

[2] OECD (2005). "Moving towards comparable business demography statistics", SBS Expert Meeting "Towards better Structural Business and SME Statistics" OECD, Statistics Directorate 3-4 November 2005

[3] https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/datasets/annualregionallabourproductivity

[4] There is limited data availability on business births and deaths. The Annual Business Inquiry (ABI) is the micro-data source for firm-level productivity but the sample for firms at the lower end of the size distribution (<20 employees) is random. Only those with either 50+ employees or 20+employees and more than one local unit are fully enumerated. Similarly, the UK Innovation Survey only samples firms with 10+ employees. As a result of both survey designs the coverage of entering firms in particular is likely to be relatively low. There is also no marker for exiting firms on the dataset.

to deliver its decade of innovation as per the 10X strategy[5], as it will help to show whether net business creation is in those sectors that most add value.

[5] https://www.economy-ni.gov.uk/sites/default/files/publications/economy/10x-economy-ni-decade-innovation.pdf

2. Literature Review: The importance of business dynamism

Introduction

2.1. **Business dynamism comprises two elements of economic activity, business births and deaths caused by firm entry and exit, and their corresponding labour flows of job creation and destruction[6].** For the purposes of this report, we focus only on the former, that of entry and exit, with the aim of better understanding the underlying sectoral trends and impacts of this business churn[7].

2.2. **Increasing rates of dynamism in the form of firm entry and exit are regarded as an indication of a healthy economy due to their positive impacts on innovation, competition, productivity and job creation. Firm entry and exit are strongly correlated[8]** with the OECD[9] highlighting how new and innovative firms drive outpaced firms out of the market.

2.3. These interdependencies can also be viewed through two opposing forces, which can concurrently impact entry and exit[10]. These are the **competition effect** which suggests that entry causes exit, and the **multiplier effect** which suggests entry causes other firms to enter. **Under the competition effect firm exits are caused when new firms enter resulting in multiple firms competing for the same resources.** The entering firm has new products for which they can charge a higher price, enabling them to pay higher wages and prices for input costs, causing incumbent, inefficient firms to exit.

2.4. **The multiplier effect leads to knowledge spill overs and clusters** as the creation of new firms highlights the potential, and best practice, within industries thus stimulating further entry. In an analysis of Swedish manufacturing industries with more than 5 employees the multiplier effect is seen to explain patterns of entry whilst the competition effect dominates in terms of exit patterns. In policy terms the results suggest that, as per the

[6] Aguilera-Bravo, A., Casares, M. and Khan, H. (2022) Did US business dynamism recover in the 2010s?, Economics Letters, 211

[7] A forthcoming report from UUEPC focuses on job creation and destruction from 2007 -21.

[8] Eriksson, G. (1984) Growth, entry and exit of firms, JSTOR. Available at: https://www.jstor.org/stable/3439403

[9] Brandt, N. (2005), "Business Dynamics and Policies", OECD Economic Studies, vol. 2004/1, https://doi.org/10.1787/eco_studies-v2004-art2-en.

[10] Johnson and Parker (1994) in Nyström, K. Interdependencies in the Dynamics of Firm Entry and Exit. Journal of Industry, Competition and Trade 7, 113–130 (2007).

multiplier effect, to encourage higher levels of firm entry, new firm formation should be supported rather than using resources to prevent incumbent firms from exiting.

Creative destruction for economic growth

2.5. Schumpeter's[11] **'creative destruction'** describes the process by which current resources, or businesses, are continually being superseded by improved alternatives. As **incumbent firms exit more efficient firms enter** with new, innovative practices and products.

2.6. Creative destruction highlights the importance of a consistent rate of **business churn,** which is measured as the business birth rate plus the death rate, **as an essential characteristic for a productive and innovative business environment.** This is because churn enables new, pioneering businesses such as those with new technology to replace outdated ones, preventing the emergence of **'zombie firms'** that are unproductive and unprofitable[12].

2.7. Schumpeter's theory, suggests creative destruction improves **total-factor productivity**[13] as resources are reallocated to more productive firms within the same size band, or sector. The OECD further suggest[14] that **slowing productivity growth in developed countries could be a result of slowed business dynamism, or churn.**

2.8. This relationship between productivity and business entry is demonstrated in a study of entrepreneurship and firm formation as a driver of cross-regional productivity across the island of Ireland[15]. Figure 2.1 highlights a **positive correlation between regions with a higher entry rate and increased productivity (GVA per employment)** with a stronger correlation in NI compared to Ireland.

[11] ONS (2020). Business dynamism in the UK economy: Quarter 1 (Jan to Mar) 1999 to Quarter 4 (Oct to Dec) 2019

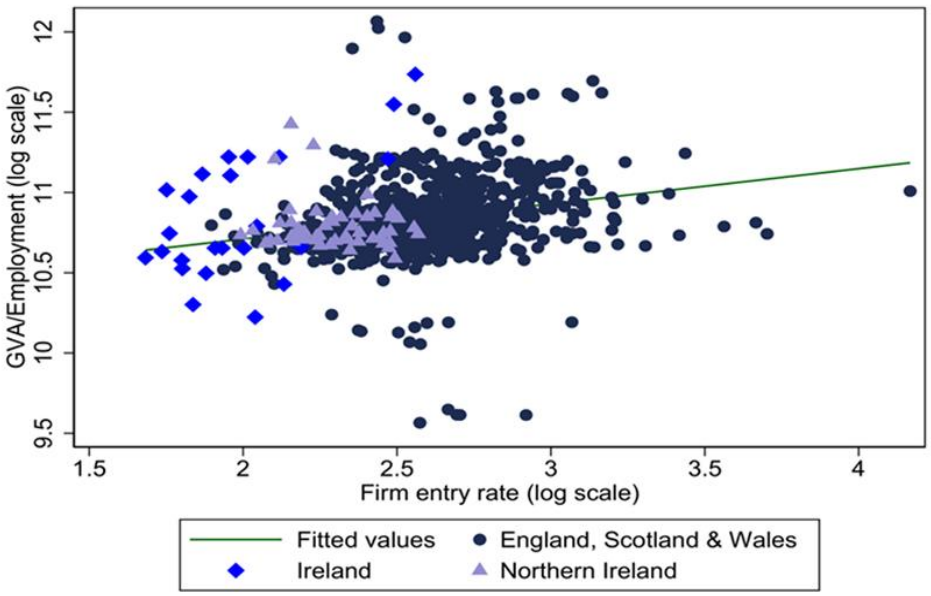
[12] Ibid.

[13] Total factor productivity measures the portion of an economy's output growth that cannot be attributed to the accumulation of capital and labour. It is interpreted as the contribution to economic growth made by managerial, technological, strategic, and financial innovations. For more see: What Is Productivity and How to Measure It Explained

[14] OECD (2017) in Lawless, M. (2022). Productivity and Business Dynamism Across Regions. InterTradeIreland. Available at: PRODUCTIVITY-AND-BUSINESS-DYNAMISM-ACROSS-REGIONS.pdf

[15] Lawless, M. (2022). Productivity and Business Dynamism Across Regions. InterTradeIreland. Available at: PRODUCTIVITY-AND-BUSINESS-DYNAMISM-ACROSS-REGIONS.pdf

Figure 2.1: Correlation between GVA per employment and entry rate of new firms



Source: Lawless, M. 2022 (InterTradeIreland)

2.9. Within the study, regression analysis suggests that a 1 percentage point increase in the entry rate is associated with a regional productivity performance increase of 0.31%. A hypothetical scenario, whereby the productivity impact is measured according to the highest entry rate (estimated at 13% in Newry, Mourne and Down), results in positive and significant impacts (Figure 2.2). But the productivity gains are marginal compared to the gains experienced when increased educational attainment and FDI are modelled against productivity. It is also noted that there is limited variation in entry rates amongst regions, thus with more variation between regions and a higher aspirational entry rate applied there may be more significant productivity gains.

Figure 2.2: Effect on regional productivity of increasing firm entry rates

Source: Lawless, M. 2022 (InterTradeIreland)

Sector differences

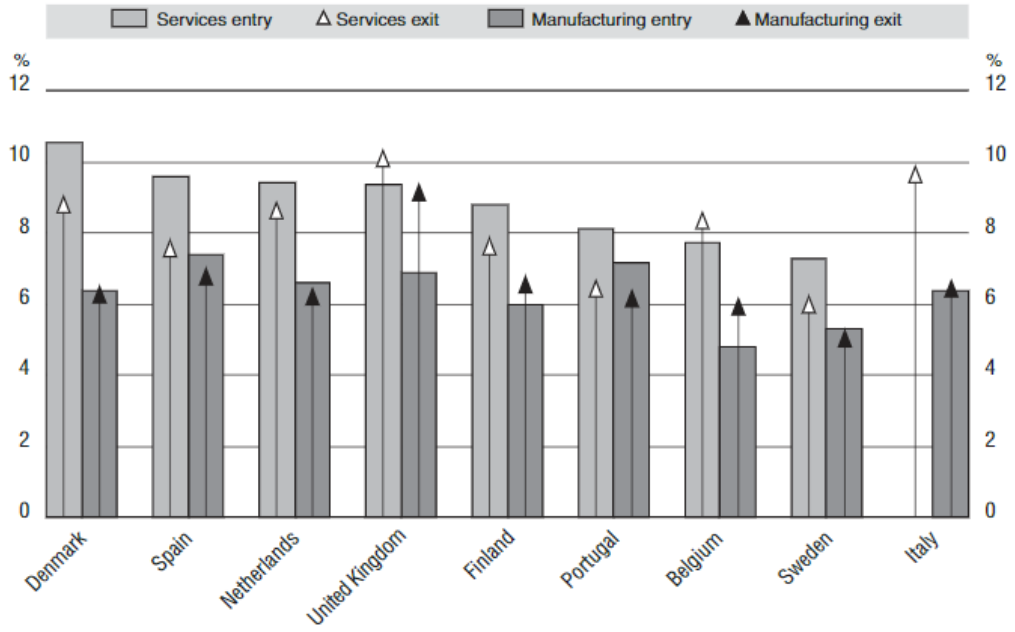
2.10. Research[16,17] suggests that **entry and exit rates, as well as the barriers to entry and exit, can vary substantially by sector and are influenced by firm size, age, firm growth rate and managerial turnover**. Typically, there is a **higher business churn within the service sector compared to manufacturing**[16,18]**.** Figure 2.3 highlights that while entry and exit rates vary across countries, the higher trend of business churn within the services sector is apparent. The OECD indicates that 5-7% of all manufacturing firms are new to the market every year compared to 7-11% of service firms.

[16] Brandt, N. (2005), "Business Dynamics and Policies", OECD Economic Studies, vol. 2004/1, https://doi.org/10.1787/eco_studies-v2004-art2-en.

[17] Nyström (2001) in Nyström, K.(2007) Interdependencies in the Dynamics of Firm Entry and Exit. Journal of Industry, Competition and Trade 7, 113–130.

[18] Brandt, N. (2005), "Business Dynamics and Policies", OECD Economic Studies, vol. 2004/1, https://doi.org/10.1787/eco_studies-v2004-art2-en.

Figure 2.3: Firm entry and exit rates across selected EU countries, 1998-2000 average



Source: Brandt, N. (2005), "Business Dynamics and Policies", OECD Economic Studies, vol. 2004/1, https://doi.org/10.1787/eco_studies-v2004-art2-en.

2.11. Sectoral differences are also outlined in research[19] on the impacts of product market reforms on firm entry and exit. They specify several industry specific factors for entry and exit, which may act as barriers, including:

- minimum efficient scale of production,
- capital intensity,
- resource intensity,
- degree of maturity of the industry,
- concentration,
- differentiation, and
- segmentation.

2.12. The degree of maturity of the industry is also highlighted by the OECD[20] who suggest that high churn within ICT industries is linked to innovative activity and technology developments with new firms replacing old ones, which in

[19] Cincera, M. and Galgua, O. (2005). Impact of Market Entry and Exit on EU Productivity and Growth Performance. Available at: https://ec.europa.eu/economy_finance/publications/pages/publication712_en.pdf

[20] Brandt, N., in OECD (2004) – Business Dynamics and Policies. Available at: https://read.oecd-ilibrary.org/economics/business-dynamics-and-policies_eco_studies-v2004-art2-en#page1

turn promotes **economic growth and competition**[21]. The churn rates within ICT can be attributed to **product lifecycles.** Here, business churn is anticipated to be higher in younger industries as new products stimulate an increase in firm entrants, with a contraction phase in later stages of the product lifecycle.

Place-based differences

2.13. The entry and exit of firms can also be affected by wider **location-based influences** including the institutional, educational and regulatory context; availability of resources; cultural and social norms and supporting infrastructure. These components have been separately identified by the World Economic Forum (WEF)[22]; Isenberg [23] and The Global Entrepreneurship Monitor (GEM) as **key elements of an entrepreneurial ecosystem and are understood to differ across regions and nations**. GEM, who refer to such components as Entrepreneurial Framework Conditions (EFCs), regard them to influence "the existence of entrepreneurial opportunities, entrepreneurial capacity and preferences, which in turn determines business dynamics"[24].

2.14. The WEF study identifies three components which entrepreneurs viewed as being of critical importance to growth, namely accessible markets, human capital and funding and finance[23]. An analysis of the individual GEM EFCs and the Global Innovation Index also found the sufficiency and ease of access to entrepreneurial finance to be most closely correlated to innovation, along with R&D transfers[25]. Meanwhile GEM research for NI has shown that among the thirteen pillars representing these wider conditions, just two – physical infrastructure and government entrepreneurship programmes - are in a sufficient state in NI to support entrepreneurial activity in 2021. **Those elements that were deemed to require significant improvement**

[21] Cincera, M. and Galgua, O. (2005). Impact of Market Entry and Exit on EU Productivity and Growth Performance. Available at: https://ec.europa.eu/economy_finance/publications/pages/publication712_en.pdf

[22] World Economic Forum (2013) Entrepreneurial Ecosystems Around the Globe and Company Growth Dynamics. Davos: World Economic Forum https://www3.weforum.org/docs/WEF_EntrepreneurialEcosystems_Report_2013.pdf

[23] Isenberg, D.J. (2010) How to Start an Entrepreneurial Revolution. Harvard Business Review 88(6):41-50. https://edisciplinas.usp.br/pluginfile.php/5419320/mod_resource/content/1/Harvard-Ecosystem.pdf

[24] https://www.gemconsortium.org/wiki/1142

[25] GEM (2023) Global Entrepreneurship Monitor 2022/23 Global Report Adapting to a "New Normal" https://www.gemconsortium.org/reports/latest-global-report

include sufficiency and access to finance; school age entrepreneurial education and cultural and social norms[26].

2.15. The OECD[27] find the latter two to be related in that culture is an important determinant of career choices and helps shape attitudes to risk-taking and reward. Entrepreneurship education and training are cited as the preferred instruments for encouraging entrepreneurial behaviour in societies but amongst the challenges with implementation they note the general lack of such education within the curricula and a lack of its integration into long-term economic strategies.

2.16. The OECD furthermore highlight that the wider framework or ecosystem components not only influence firm entry but also exit. Institutional factors, in particular, may create barriers to exit and this in itself may also discourage entry. They report that due to the risk associated with entry and an unknown survival probability, any institutional factor(s) that makes exit costly could also discourage entry. In the same manner, GEM[28] suggest that firm exits can be deterred by excessive costs while individuals may also be less likely to start a business if exiting is expensive or seen as culturally or socially undesirable.

[26] Luong, H.M., Hart, M., Bonner, K., Prashar, N. Ri, A., and Hewitt-Dundas, N., 2022, Global Entrepreneurship Monitor, Northern Ireland Report, 2021 https://www.ulster.ac.uk/__data/assets/pdf_file/0010/1317484/GEM-Report-NI-2022-1.pdf

[27] OCED (2004) Promoting Entrepreneurship and Innovative SMEs in a Global Economy https://www.oecd.org/cfe/smes/31919590.pdf

[28] GEM (2023) Global Entrepreneurship Monitor 2022/23 Global Report Adapting to a "New Normal" https://www.gemconsortium.org/reports/latest-global-report

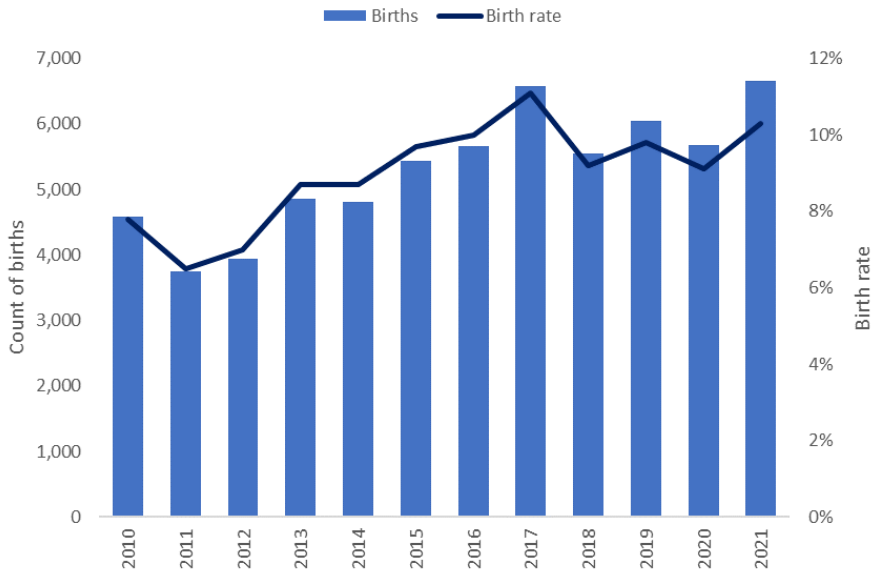
3. NI Firm Entry

Introduction

3.1. Firm entry is defined here as registered business births, that is new registrations (for VAT and/or PAYE) on the Inter-departmental Business Register (IDBR). **Between 2010 and 2021 the number of business births in NI rose by 45%, reaching 6,655 in 2021**[29] (Figure 3.1). In the UK over the same period, there was a 55% increase with births reaching nearly 364,000 in 2021. Business births peaked in NI in 2021, in the UK the peak figure was reached in 2016 at 397,540 births.

3.2. The business birth rate (births as a percentage of the active business population) in NI increased from 7.8% to 10.3% over the same 2010-21 period (Figure 3.2). In context, **the business birth rate in NI has been lowest of the UK constituent countries throughout this period**. The birth rate in NI over 2010-21 has, however, increased at a similar pace to that of England and the UK average, rising by 2 percentage points overall.

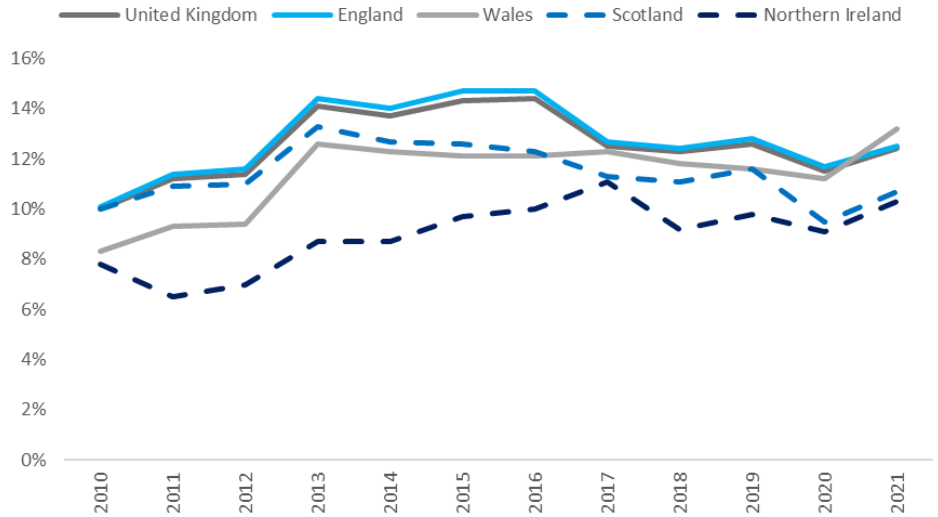
Figure 3.1: Business births (lhs) and the business birth rate (rhs) in NI 2010-21



Source: NISRA

[29] Note that there is a break in the Office of National Statistics (ONS) methodology for measuring business births and deaths. Businesses that have neither VAT nor PAYE but do have a live company number have been removed from the figures from 2016-21.

Figure 3.2: Business birth rate by UK region, 2010-2021



Source: ONS

3.3. Despite NI's lower birth rate in comparison to the UK regions, it performs relatively well in an international context. Compared to other Small Advanced Economies, as identified in the 10X Economy strategy[30], NI's business birth rate of 9.1% in 2020 is higher than that in Ireland (6.7%), Switzerland (7.0%) and Finland (8.8%). Economies with a birth rate exceeding NI in 2020 include the Netherlands (10.4%), Denmark (11.0%) and Estonia (12.1%)[31]. The results also hold for 2019.

Sectoral composition

3.4. Sector-wise, there has been little variation over time in terms of each sector's contribution to the total number of business births in NI (Figure 3.3). **Two sectors – Construction, and the Professional, Scientific and Technical sector, have consistently made the largest contributions, combined accounting for around 30% of business births in each year.** Retail, Production, Business Administration and Support Services, and Accommodation and Food Services further contribute just under 10% each, on average.

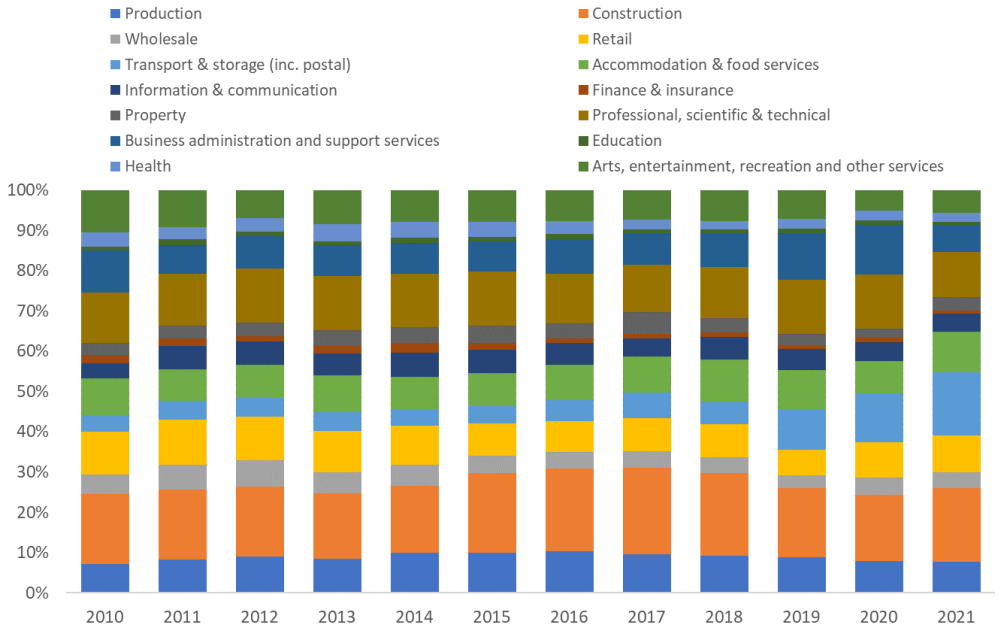
3.5. It is unsurprising that **births are more heavily concentrated in service sectors as these are typically associated with lower barriers to entry**.

[30] Department for the Economy (2021) A 10X Economy, Northern Ireland's Decade of Innovation https://www.economy-ni.gov.uk/sites/default/files/publications/economy/10x-economy-ni-decade-innovation.pdf

[31] Source: OECD SDBS Business Demography Indicators

Such findings are also common elsewhere[32]. Furthermore, persistence, or **stickiness, in the makeup of business births can be attributed to a type of path dependency.** The specific history, resource endowments, physical and cultural attributes, institutions, past investments and social composition of a region are thought to be either fixed or slow to evolve thereby constraining and impacting future development. **The industrial structure and knowledge capital that is required for entrepreneurship may also lock regions into specific technological trajectories**,[33] therefore influencing entrepreneurial opportunities.

Figure 3.3: Sectoral contribution to business births in NI 2010-21



Source: NISRA

3.6. **In NI the sector with the largest growth in contribution to business births over the decade is Transport and Storage, which accounted for 4% of business births in 2010, rising to 15% in 2021.** Notably, the largest increase began in 2019, thus pre-Covid, but the share has continued to rise since, undoubtedly linked to the increase in online shopping,[34]. Conversely, the largest fall was in the Arts, Entertainment and Recreation

[32] Nyström (2001) in Nyström, K.(2007) Interdependencies in the Dynamics of Firm Entry and Exit. Journal of Industry, Competition and Trade 7, 113–130.

[33] Bishop, P. & Shilcof, D. (2017) The spatial dynamics of new firm births during an economic crisis: the case of Great Britain, 2004–2012, *Entrepreneurship & Regional Development*, 29:3-4, 215-237, DOI:10.1080/08985626.2016.1257073

[34] Internet sales as a percentage of total retail sales in the UK rose to 27% in 2022 from 19% in 2019, there was a peak of 31% in 2021, meanwhile in 2010 this figure was 7% https://www.ons.gov.uk/businessindustryandtrade/retailindustry/timeseries/j4mc/drsi

sector which fell from contributing 10% of business births in 2010 to 5.4% by the end of the period.

3.7. **On average, Construction accounts for the largest individual share of business births in NI over the 2010-2021 period**[35] (Table 3.1) at 18% compared to 13% in the UK. **The largest contributor in the UK is the Professional, Scientific and Technical Services** sector at 20% of births on average from 2010-21. There are some other notable differences in the average contribution by sector between NI and the UK. Over 2010-21 Business Administration and Support Services contributed 13% of births in the UK, but just 8% in NI. The share of births in Information and Communication was almost double in the UK, at 9% compared to just 5% in NI. The reverse was true for Production, at 9% in NI and 5% in the UK.

Table 3.1: NI and UK average sectoral contribution to business births 2010-21

Sector	NI	UK
Construction	18%	13%
Professional, scientific & technical	12%	19%
Retail	9%	8%
Accommodation & food services	9%	7%
Production	9%	5%
Business administration and support services	8%	13%
Arts, entertainment, recreation and other services	7%	5%
Transport & storage (inc. postal)	7%	6%
Information & communication	5%	9%
Wholesale	5%	3%
Property	3%	3%
Health	3%	3%
Finance & insurance	1%	1%
Education	1%	1%

Source: UUEPC, NISRA

3.8. Analysing business birth rates, in addition to the absolute numbers, gives a sense of both the scale of entry and also enables more meaningful comparisons across sectors. Table 3.2 shows that of the individual sectors **the largest number of business births across all years in NI was in the Construction sector with an average of over 900 births annually between 2010-21.** However, this sector is one of the largest in terms of

[35] This was also the case in 2009 when Construction accounted for 18% of births in NI, compared to 12% in the UK.

overall numbers of firms. A more comparable measure across sectors is therefore the birth rate, which shows births as a share of active businesses in that sector, and thereby controls for the sector size. The birth rate in the immediate recovery years of the Great Recession was highest in the Information and Communication sector but in 2016 was overtaken by Business Administration and Support Services. Since 2020 the highest birth rates have been recorded in the Transport and Storage sector.

3.9. In comparison, in the UK, Professional, Scientific and Technical services had the largest number of business births with an average of 64,500 births annually between 2010-21. In terms of the birth rate Transport and Storage has had the highest birth rate since 2016.

3.10. Meanwhile, in both NI and the UK the Education, and Finance and Insurance sectors accounted for the lowest number of business births over the 2010-21 period.

Table 3.2: NI and UK maximum and minimum business births 2010-21

	NI Maximum	UK Maximum	NI Minimum	UK Minimum	NI Total Births	UK Total Births
2010	Construction (765)	Professional, scientific & technical (49,335)	Education (45)	Education (3,200)	4,590	235,145
2011	Construction (620)	Professional, scientific & technical (58,535)	Education (55)	Education (3,275)	3,745	261,370
2012	Construction (660)	Professional, scientific & technical (61,355)	Education (40)	Education (3,465)	3,935	269,565
2013	Construction (760)	Professional, scientific & technical (77,100)	Education (45)	Education (4,700)	4,855	346,485
2014	Construction (770)	Professional, scientific & technical (77,850)	Education (60)	Education (4,665)	4,805	350,590
2015	Construction (1,045)	Professional, scientific & technical (81,135)	Education (60)	Education (4,805)	5,440	383,075
2016	Construction (1,110)	Professional, scientific & technical (83,100)	Finance & insurance (60)	Finance & Insurance (4,635)	5,660	397,540
2017	Construction (1,365)	Professional, scientific & technical (63,165)	Education (55)	Finance & Insurance (4,490)	6,570	356,895
2018	Construction (1,095)	Professional, scientific & technical (60,695)	Education (50)	Finance & Insurance (4,495)	5,545	348,630
2019	Construction (1,000)	Professional, scientific & technical (62,305)	Finance & Insurance (55)	Finance & Insurance (3,925)	6,045	363,825
2020	Construction (905)	Professional, scientific & technical (51,275)	Finance & Insurance (60)	Finance & Insurance (3,295)	5,670	333,020
2021	Construction (1,150)	Construction (52,975)	Education (50)	Finance & Insurance (3,325)	6,655	363,995

Source: NISRA

Table 3.3: NI and UK maximum and minimum business birth rates 2010-21

	NI Maximum	UK Maximum	NI Minimum	UK Minimum	NI Birth Rate	UK Birth Rate
2010	Business admin' & support services (12.0%)	Information & communication (13.2%)	Health (5.7%)	Production (7.2%)	7.8%	10.0%
2011	Information & communication (13.8%)	Information & communication (14.8%)	Health (3.9%)	Production & Health (8.2%, equally)	6.5%	11.2%
2012	Information & communication (14.4%)	Business admin' & support services (15.0%)	Health (4.4%)	Arts & entertainment (8.3%)	7.0%	11.4%
2013	Information & communication (15.6%)	Business admin' & support services (20.7%)	Health (6.9%)	Arts & entertainment (10.0%)	8.7%	14.1%
2014	Information & communication (16.5%)	Finance & Insurance (17.6%)	Health (6.4%)	Wholesale (9.1%)	8.7%	13.7%
2015	Information & communication (16.3%)	Business admin' & support services (20.4%)	Health (6.5%)	Wholesale (8.9%)	9.7%	14.4%
2016	Business admin' & support services (17.0%)	Transport and storage (23.0%)	Health (6.1%)	Wholesale (8.3%)	10.0%	14.4%
2017	Business admin' & support services (17.3%)	Transport and storage (18.5%)	Health (5.4%)	Wholesale (8.2%)	11.1%	12.5%
2018	Business admin' & support services (15.0%)	Transport and storage (17.8%)	Health (3.7%)	Health (7.7%)	9.2%	12.3%
2019	Business admin' & support services (20.1%)	Transport and storage (22.7%)	Health (4.7%)	Health (8.2%)	9.8%	12.6%
2020	Transport & Storage (19.5%)	Transport and storage (23.5%)	Health (4.7%)	Arts & entertainment (7.6%)	9.1%	11.5%
2021	Transport & Storage (24.4%)	Transport and storage (25.9%)	Health (4.7%)	Finance & Insurance (8.1%)	10.3%	12.4%

Source: NISRA

3.11. Analysing the birth rate of individual sectors (Figure 3.4) highlights a number of important points:

- The number of business births increased between 2010-21 for all sectors except Finance and Insurance, Business Administration and Support Services, Health, and Arts, Entertainment and Recreation. The former saw the largest reduction, with numbers dropping by 39%.
- Over the decade the largest number of business births recorded was in 2021. This was also the peak year for births in Wholesale and Retail, Transport and Storage, and Accommodation and Food Services.
- The number of business births in Information and Communication, Professional, Scientific and Technical Services, and Business Administration and Support Services all peaked pre-Covid in 2019.
- The NI business birth rate increased between 2020-21 with most sectors following suit. The only sectors which saw a fall in their birth rate during the year to 2021 were Finance and Insurance, Professional, Scientific and Technical, Business Administration and Support Services, and Education.
- The largest increase in the birth rate between 2020-21 was in Transport and Storage which rose from 19.5% to 24.4%. Births in this sector have largely been on an upward trajectory throughout the decade and the increase in 2021 may reflect increased online opportunities for delivery as a result of the pandemic.

Figure 3.4: Sectoral Business Births, NI, 2010-2021

Source: NISRA

Productivity and Business Births

3.12. **Existing evidence suggests there is a wide productivity dispersion within industries allowing low and high productivity firms to co-exist within the same sector**. This dispersion reflects, amongst other factors, differing managerial capabilities and practices, the degree of competition and product differentiation[36]. As new entrants, business births can enter at the top of the productivity distribution if they are associated with new innovations. They may also subsequently induce incumbents to innovate to remain competitive. Alternatively they can enter at a lower point in the productivity distribution but may still contribute to productivity, in the form of replacement and replenishment, if they displace more poorly performing incumbent firms that contract and exit[37]. It is suggested that **in healthy economies the process of entry and exit can therefore help in the reallocation of resources away from low productivity to high productivity firms, yielding productivity growth[38]**.

3.13. **Business entrants are typically small.** It is suggested that this is due to firm entry being a form of experimentation, whereby firms confronted with uncertainty enter the market small, **expanding at a later point if they become profitable**[39]. **In NI business births had an average employment size of 2.6, in their birth year, over 2015-21**. **This was marginally higher than the UK average of 2.4.** Analysing size by turnover rather than employment indicates that the size of business births was lower in NI, with an average turnover of £206,000 compared to £241,000 in the UK. There is also considerable variation in size across sectors:

- In 2021 business births, by employment size, ranged from an average employment of 1.6 in the Property sector to 5.2 in Accommodation and Food.
- There was a larger variation in average turnover; Transport and Storage, which saw the largest rise in business births, had the lowest average turnover of just £72,000 in 2021. The Wholesale sector had the largest at £485,000.

[36] Syverson, C. (2011). "What Determines Productivity?" *Journal of Economic Literature* 49 (2): 326–65.

[37] Haltiwanger, J. (2015). "Job Creation, Job Destruction, and Productivity Growth: The Role of Young Businesses". Annual review of Economics 7: 341-58.

[38] Foster, L., Grim, C., Haltiwanger, J. and Wolf, Z. (2021). "Innovation, productivity Dispersion and Productivity Growth". *Measuring and Accounting for Innovation in the Twenty-First Century*. NBER studies in income and wealth. p. 103 – 136.

[39] Brandt, N. (2005), "Business Dynamics and Policies", OECD Economic Studies, vol. 2004/1, https://doi.org/10.1787/eco_studies-v2004-art2-en.

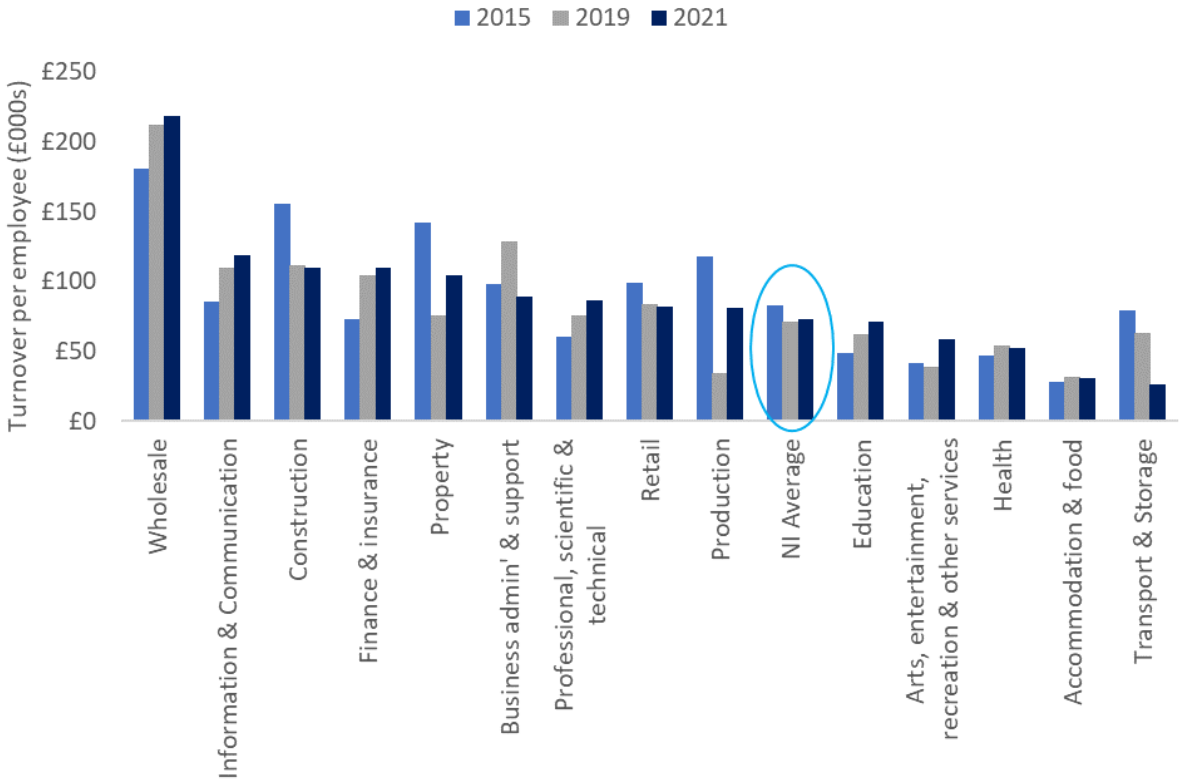
3.14. **Using a proxy of turnover per employee[40] by sector, we can assess the average labour productivity of entrants.** In 2015, the average labour productivity of NI business births was £83,000, dropping to £73,000 in 2021. The fall in productivity levels of these new firms was driven by a drop in average turnover size (with average employment holding up), observed particularly over the pandemic.

3.15. Key points concerning the change in productivity levels of business births over 2015-21 include:

- In nominal terms, productivity declined in six sectors between 2015-21. The largest drop was in Transport and Storage with a contraction of 67% from £80,000 in 2015 to £27,000 in 2021. This was due to in part to an increase in the average size of births but primarily to a large decrease in average turnover.
- Transport and Storage has the highest business birth rate in 2021 but, at £27,000, productivity in the sector is lowest of all sectors and around one third of the average for NI births.
- The Construction sector accounts for the largest number of business births in NI annually. Although productivity in the sector also declined between 2015-21, levels remain 52% higher than the NI average for business births in 2021.
- Wholesale had the highest productivity of business births in both 2015 and 2021 at £181,000 and £219,000 respectively, representing a 21% increase. Turnover in this sector is particularly high and increased over the period, with the average employment size of businesses remaining constant. Births in the sector, however, account for just 4% of all business births in 2021.

[40] GVA per employee is a more frequently used measure to represent labour productivity however the data is unavailable for business births and deaths.

Figure 3.5: NI business births productivity (turnover per employee), 2015-21



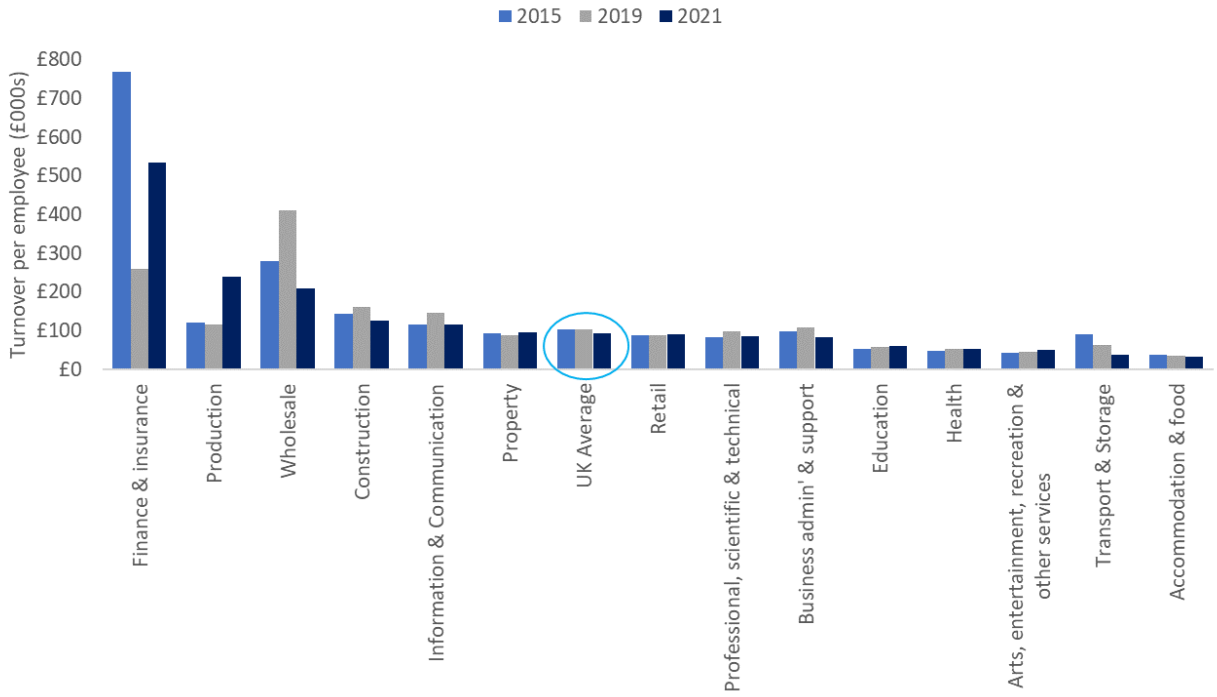
Source: ONS, UUEPC

3.16. **Comparatively, the average productivity of business births in the UK was 27% (or £20,000) higher than in NI in 2021.** As with NI, the nominal productivity level of business births has also fallen in the UK over 2015-21, from £104,000 in 2015 to £93,000 in 2021. This represented a decrease of 11%, compared to NI's 12% drop.

3.17. **In the UK the Construction sector accounted for the highest number of business births in 2021.** Its productivity level is over one third higher than the UK average although the level has declined by 13% since 2015.

3.18. As with NI, the Transport and Storage sector had the highest business birth rate in 2021, but productivity levels are amongst the lowest of all sectors. The average productivity of UK births in the sector in 2021 was £38,000, around two fifths of the UK average.

Figure 3.6: UK business births turnover per employee, 2015-21



Source: ONS, UUEPC

Current sectoral productivity

3.19. Using GVA per employee as a measure of the existing productivity level of sectors, we can further assess the extent to which business births are entering high or low productivity sectors.

3.20. Figure 3.7 plots the 2021 birth rate against productivity for that year[41]. The green lines constructing the quadrant are based on the NI totals for that year i.e. an NI birth rate of 10.3% and NI overall productivity of £48,000. The bubble size represents the size of the sector in employment terms for 2021.

3.21. **Ideally for the economy, there would be a higher share of entrants in high productivity sectors.** Therefore **the top right hand corner of the quadrant represents the ideal scenario** representing a high productivity sector and a high birth rate. In 2021, **only one sector lies within this quadrant, Information and Communication**, which has a birth rate of 11.9% and a sectoral productivity of £60,000.

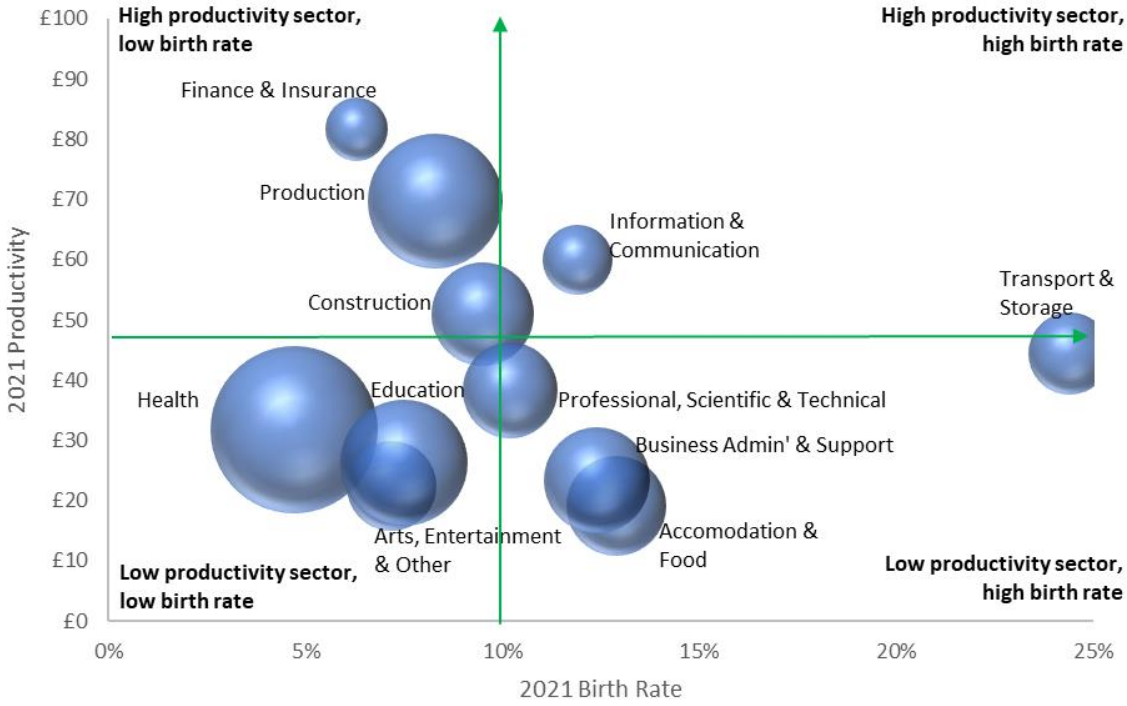
3.22. The sector with the highest birth rate in 2021, Transport and Storage, lies in the bottom right quadrant – a high birth rate but low productivity sector - with a sectoral productivity level just below the NI average at £44,000. The

[41] The 2021 productivity figures are based on UUEPC forecasts from the NI Model.

preceding analysis (from Figure 3.5) indicated that the average productivity of new entrants in Transport and Storage is lowest of all sectors, suggesting limited scope for business births to contribute to productivity growth within this sector, at least in their entry year.

3.23. **The two sectors with the highest productivity rates, Finance and Insurance, and Production both have birth rates below the NI average** – lying in the high productivity but low birth rate quadrant**.** Business births in these sectors have higher productivity than the NI average therefore **encouraging more entrants in these sectors would help to raise overall productivity levels.**

Figure 3.7: Birth rate versus productivity by sector NI, 2021



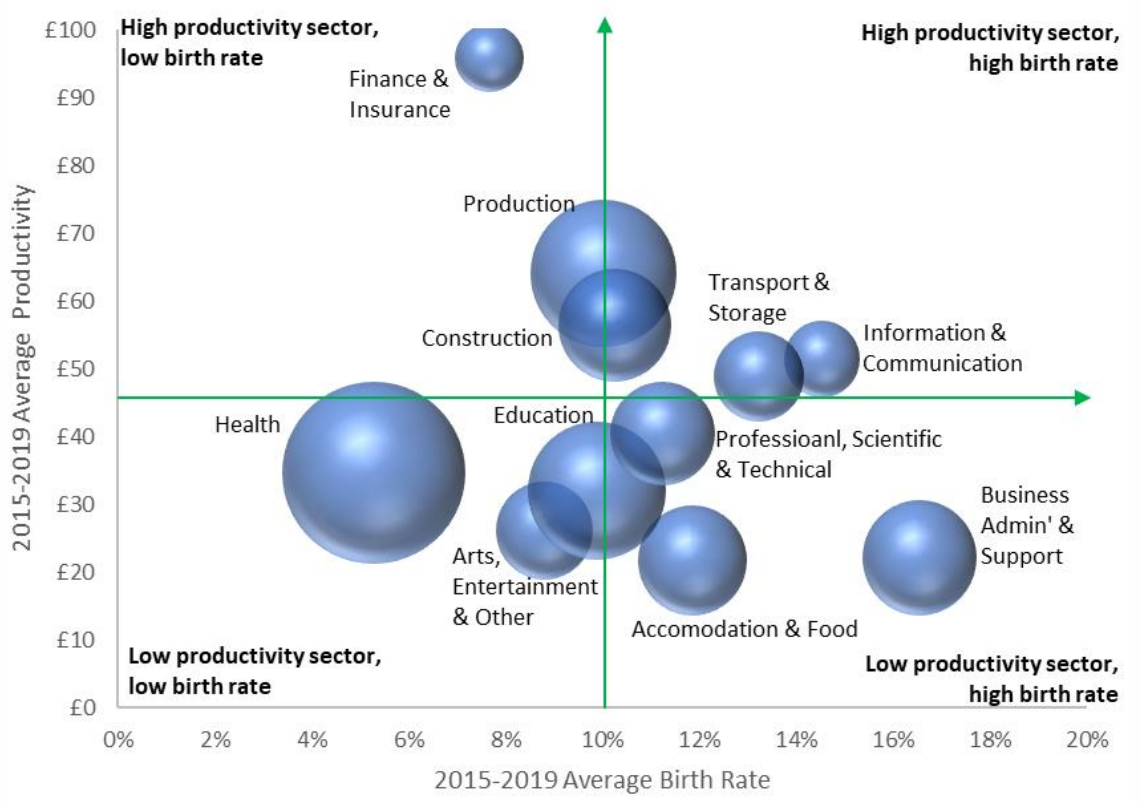
Source: NISRA, UUEPC NI Model

Note: 2021 is a forecast year for productivity due to a lag in GVA data, UUEPC forecast productivity in their in-house NI Economic Model

3.24. Given the impact of the pandemic and the likelihood of temporary distortion in business entry, the analysis is replicated for the pre-Covid, 2015-19 period (Figure 3.8). During 2015-19 two sectors, Information and Communication, and Transport and Storage, fell into the upper right-hand quadrant, although with productivity levels just above the NI average. The former had an average productivity of £51,000 and birth rate of 14.5%, Transport and Storage had an average productivity of £49,000, and a birth rate of 13.2%. Notably the birth rate in the latter increased substantially by 2021, although the sector's productivity level has fallen below the NI average.

3.25. As with 2021, Finance and Insurance, Production and Construction were all high productivity sectors but with birth rates equal to or lower than the NI average. Meanwhile, **the highest birth rate of 16.5% occurred in one of the lowest productivity sectors, Business Administration and Support**.

Figure 3.8: Birth rate versus productivity by sector NI, 2015-2019



Source: NISRA, UUEPC NI Model

Innovation and business births

3.26. Data on the innovation activity of NI businesses although available, only samples those with 10 or more employees[42]. Given the average employment size of business births is less than 3 for both NI and the UK it is therefore unlikely that the innovation survey data would adequately reflect activity amongst new businesses. To gauge the extent to which entrants are innovative, as per the creative destruction argument, we therefore draw on other sources to assess overall innovation activity amongst NI business starts and micro-businesses.

[42] NISRA (2021). Business Innovation Activity in Northern Ireland. Available at: https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/Innovation%20Report%202021.pdf

3.27. **Utilising data from the Global Entrepreneurship Monitor (GEM) we can assess the extent to which new businesses are engaged with innovative new products.** Over the period 2015-19 **on average 40% of early-stage businesses in NI report that their products/services are new to some or all customers**, which is similar to the UK share. The most recent data, from 2019, enables a further disaggregation by market which indicates that the novelty relates largely to local markets, rather than the innovations being new to national or world markets.

3.28. Data from the **ERC micro-business survey for 2018[43] further indicates that just 27% of microbusinesses in NI had introduced a new product or service in the three years prior to the survey.** This was the lowest share of the UK regions and below both the UK average of 33%, and that of Ireland at 40%. The share undertaking organisational innovation, at 13%, was also well below the respective UK (23%) and Ireland (25%) figures. The shares engaged in both types of innovation activity were lower for those with 1-4 employees compared to the 5-9 size band, while around twice the share of those in the service sector were undertaking innovation compared to production.

3.29. Overall, although not strictly focused on new entrants, the above results point to **a majority of business births not being involved in innovation**. Where they are innovating, they are engaging in more incremental or sustaining innovation which is new-to-the-NI-market, rather than the more radical or disruptive new-to-the-world markets. Previous literature suggests that it is the more radical type that is most associated with productivity growth[44].

[43] ERC (2018). Understanding micro-businesses in Northern Ireland, ERC Research Report November 2018

[44] See Hall (2011) for a review: https://www.nber.org/system/files/working_papers/w17178/w17178.pdf

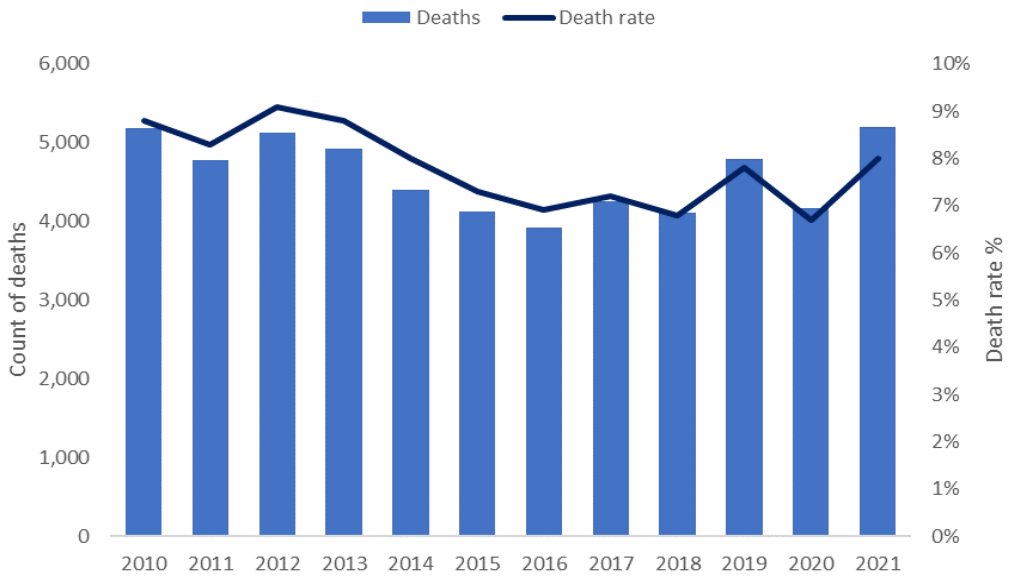
4. NI Firm Exit

Introduction

4.1. Firm exit, defined as a business death, occurs when a business that was previously active on the IDBR is no longer present[45]. Although there were annual fluctuations, **there was little difference between 2010 and 2021 in the number of business deaths in NI at 5,185 and 5,200, respectively** (Figure 4.1) a 0.3% increase. In contrast, in the UK business deaths increased from 297,400 to 327,390 over the same period, an increase of 10%.

4.2. In NI the business death rate (deaths as a percentage of the active business population) decreased, from 8.8% to 8%, over the same 2010-21 period. As is the case for the business birth rate, the business death rate in NI is consistently lowest of the UK constituent countries (Figure 4.2). **The combination of a low business birth rate and a low business death rate indicates that NI's economy is less dynamic in terms of business churn than other regions of the UK**.

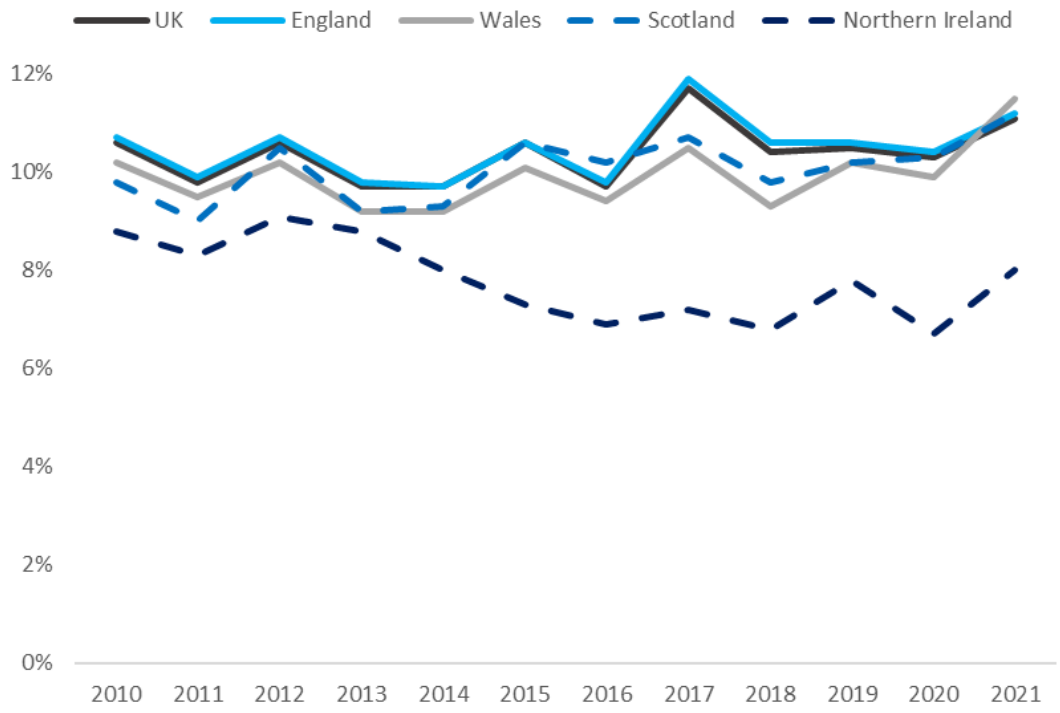
Figure 4.1: Business deaths (lhs) and the business death rate (rhs) in NI 2010-21



Source: NISRA

[45] ONS definition: A death is defined as a business that was on the IDBR active file in year t, but was no longer present in the active file in t+1 and t+2. Mergers and buy-outs do not necessarily lead to business deaths on the IDBR. In the case of a merger there may be a continuity of one of the enterprises therefore leading only to a single death to be recorded (rather than of both merging enterprises). A buy-out will also depend on the continuity of trading for the bought-over business and the details of its new ownership.

Figure 4.2: Business death rate by UK region, 2010-2021



Source: NISRA

4.3. In terms of international comparisons, the latest comprehensive comparable figures for business death rates are based on 2019 figures. NI's 2019 death rate of 7.8% is broadly on a par with the other Small Advanced Economies of Finland (7.3%) and Switzerland (7.4%) and exceeds both Ireland[46] (6.4%) and the Netherlands (5.7%). Comparable economies with a higher death rate than NI include Denmark (10.2%) and Estonia (10.3%)[47].

Sectoral composition

4.4. As was the case with business births, there has been little variation over time in terms of each sector's contribution to the total number of deaths in NI (Figure 4.3). **Three sectors consistently have the largest share of deaths, namely Retail, Construction, and the Professional, Scientific and Technical sector.** Combined they account for more than two fifths of all business deaths. Notably, the latter two of the three also have the highest share of business births.

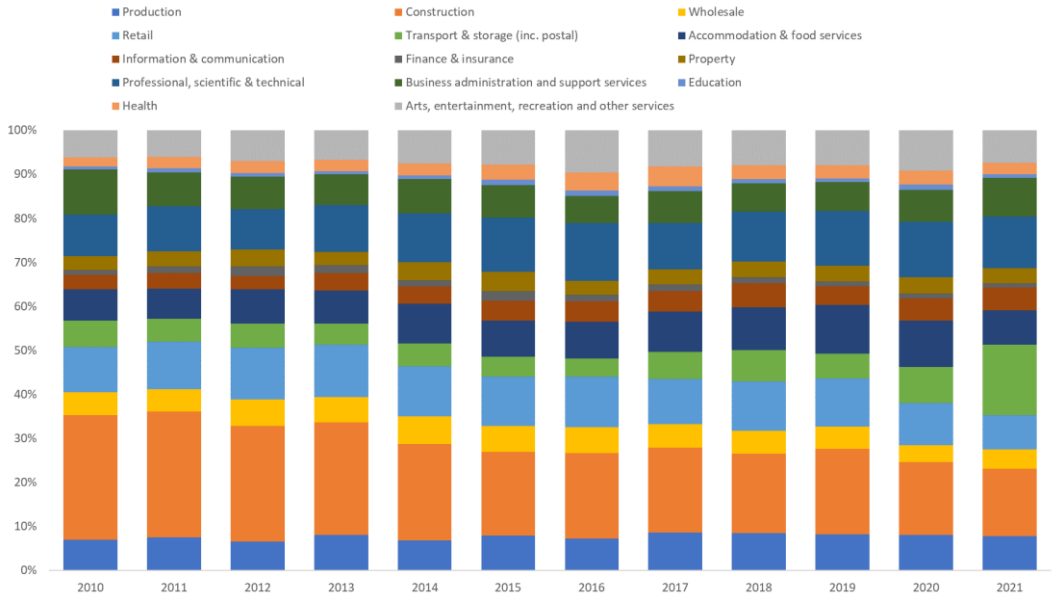
4.5. There has been little change in the composition of business deaths between 2010 and 2021. The largest increase has been in the Transport and Storage

[46] Due to data availability the figure for Ireland relates to 2018.

[47] Source: OECD SDBS Business Demography Indicators

sector whose share of total deaths increased from 6% to 16% over the period. In contrast, Construction, although still one of the largest contributors, saw its share fall from 27% to 15%.

Figure 4.3: Sectoral contribution to business deaths NI, 2010-2021



Source: NISRA

4.6. Compared to the UK over the 2010-2021 period **Construction represents a higher share of business deaths in NI at 21% compared to 13% in the UK**. The Professional, Scientific and Technical sector accounts for the largest share of business deaths in the UK. In both cases, these sectors also account for the largest number of business births, highlighting the relationship between entry and exit.

Table 4.1: Sectoral contribution to business deaths NI and UK, 2010-2021

Sector	NI Average	UK Average
Education	0.9%	1.4%
Finance & insurance	1.4%	1.5%
Health	2.9%	3.4%
Property	3.4%	2.7%
Information & communication	4.1%	8.6%
Wholesale	5.1%	3.7%
Transport & storage (inc. postal)	6.3%	5.6%
Business administration and support services	7.2%	12.0%
Arts, entertainment, recreation and other services	7.4%	5.9%
Production	7.4%	5.0%
Accommodation & food services	8.3%	8.0%
Retail	10.3%	8.5%
Professional, scientific & technical	10.8%	18.7%
Construction	20.7%	12.8%

Source: NISRA, ONS

4.7. Table 4.2 displays the annual figures in terms of both maximum and minimum absolute business death numbers and rates. **Construction has the highest number of business deaths annually in NI, although the number has nearly halved between 2010 and 2021.** Apart from 2020, in which Finance and Insurance recorded the lowest number of business deaths, the Education sector typically accounts for the lowest.

4.8. The business death rates by sector show a more varied pattern over time, particularly in terms of the highest rates, and is perhaps more reflective of economic conditions at the time. Health regularly has the lowest rate of closures but the highest rate alternates across sectors. Transport and Storage had the highest rate in four out of eleven years followed by Business Administration and Support Services which appeared three times. Information and Communication, Finance and Insurance, Construction and Accommodation also recorded the highest death rates throughout this period.

4.9. In the UK in comparison, Professional, Scientific and Technical services have the highest number of business deaths annually. The Education sector and Finance and Insurance sector typically record the lowest.

4.10. As with NI, the UK business death rates by sector continue to show a more varied trend over time. From 2018-21 Transport and Storage had the highest death rate on average while the lowest was recorded in the Health sector.

Table 4.2: Maximum and Minimum business deaths NI and UK, 2010-21

	NI Maximum	UK Maximum	NI Minimum	UK Minimum	NI Total Deaths	UK Total Deaths
2010	Construction (1,420)	Professional, scientific & technical (52,725)	Education (35)	Education (2,955)	5,185	297,395
2011	Construction (1,310)	Professional, scientific & technical (39,000)	Education (45)	Education (3,000)	4,775	231,000
2012	Construction (1,305)	Professional, scientific & technical (44,000)	Education (40)	Education & Finance & Insurance	5,125	257,000
2013	Construction (1,210)	Professional, scientific & technical (42,000)	Education (35)	Education (3,000)	4,925	237,000
2014	Construction (920)	Professional, scientific & technical (45,000)	Education (35)	Education & Finance & Insurance	4,400	244,000
2015	Construction (755)	Professional, scientific & technical (50,000)	Education (50)	Education (3,000)	4,120	251,000
2016	Construction (730)	Professional, scientific & technical (54,495)	Education (45)	Education (3,855)	3,920	269,015
2017	Construction (795)	Professional, scientific & technical (65,830)	Education (50)	Finance & Insurance (5,120)	4,255	331,450
2018	Construction (710)	Professional, scientific & technical (55,370)	Education (40)	Finance & Insurance (3,240)	4,105	296,575
2019	Construction (890)	Professional, scientific & technical (56,665)	Educaton (40)	Finance & Insurance (3,350)	4,790	303,495
2020	Construction (670)	Professional, scientific & technical (58,875)	Finance & insurance (45)	Education (3,700)	4,175	299,190
2021	Construction (775)	Professional, scientific & technical (64,080)	Education (45)	Finance & Insurance (3,560)	5,200	327,385

Source: NISRA

Table 4.3: Maximum and Minimum business death rates NI and UK, 2010-21

	NI Maximum	UK Maximum	NI Minimum	UK Minimum	NI Death Rate	UK Death Rate
2010	Business admin' & support services (13.7%)	Business admin' & support services (20.9%)	Health (3.6%)	Health (5.2%)	8.8%	12.6%
2011	Information & Communication (11.1%)	Business admin' & support services (12.1%)	Health (4.1%)	Health (6.3%)	8.3%	9.9%
2012	Finance & insurance (12.9%)	Accommodation & food services (13.5%)	Health (4.8%)	Production (8.4%)	9.1%	10.8%
2013	Construction & Information & Communcation (11.3% equally)	Finance & insurance (13.9%)	Health (4.3%)	Health (6.7%)	8.8%	9.7%
2014	Transport & storage (26.3%)	Accomodation & food services (13.1%)	Finance & insurance (3.2%)	Property (7.0%)	8.0%	9.6%
2015	Business admin' & support services (10.1%)	Finance & insurance (18.3%)	Health (4.5%)	Health (6.7%)	7.3%	9.4%
2016	Information & Communication (8.7%)	Accomodation & food services (13.2%)	Health, Production &	Property (6.8%)	6.9%	9.7%
2017	Business admin' & support services (10.2%)	Education (19.1%)	Property (5.7%)	Property (7.3%)	7.2%	11.7%
2018	Transport & storage (10.2%)	Transport & storage (inc. postal) (16.8%)	Health (4.2%)	Property (6.0%)	6.8%	10.4%
2019	Accommodation & food services (10.8%)	Transport & storage (inc. postal) (14.8%)	Health (4.7%)	Property (6.8%)	7.8%	10.5%
2020	Transport & storage (9.7%)	Transport & storage (inc. postal) (15.6%)	Health (4.4%)	Property (5.9%)	6.7%	10.3%
2021	Transport & storage (19.7%)	Transport & storage (inc. postal) (21.8%)	Health (4.3%)	Property (6.1%)	8.0%	11.1%

Source: ONS

4.11. As discussed above, the number of business deaths in NI increased by just 0.3% between 2010 and 2021. During this period, business deaths reached their lowest recorded number in 2016 at 3,920 deaths. Overall business deaths have been increasing since 2016 reaching 4,175 in 2020 before a notable increase to 5,200 in 2021, 25% higher than in the previous year. This may in part be due to delayed business closures from 2020. Analysing the death rate of individual sectors spanning the entire period (Figure 4.4) highlights a number of important points:

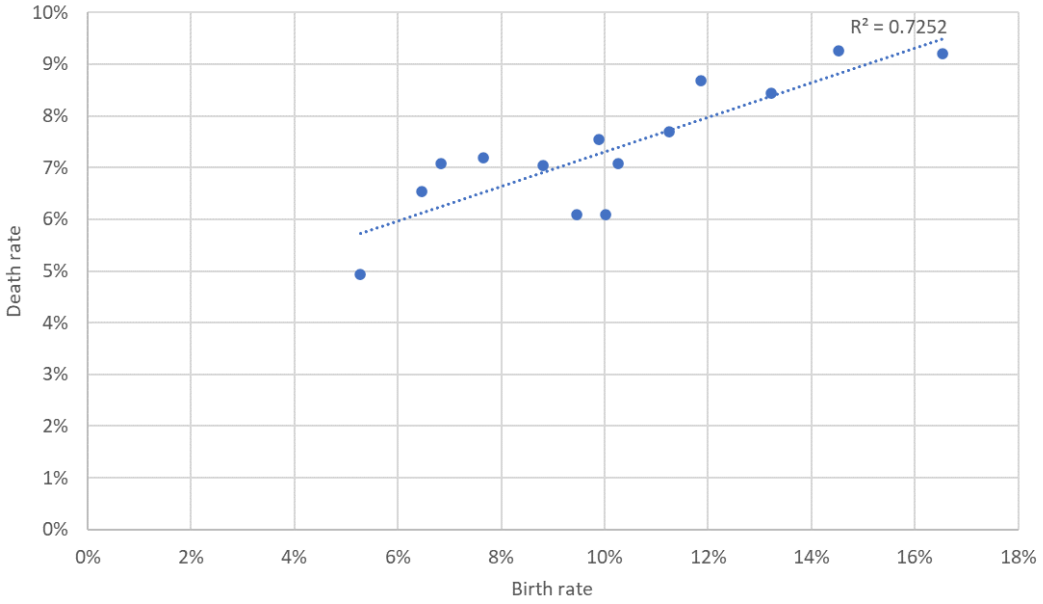
- The largest increase in the number of business deaths to 2021 was in the Transport and Storage, and Information and Communication sectors, rising by 168% and 55% respectively since 2010.
- The 2021 peak in the overall number of business deaths was due to increases across almost all sectors since 2020, the largest in percentage terms being in Transport & Storage (+144%), Business Administration and Support Services (+49%), Wholesale (+42%) and Information & Communication (+24%).
- Despite the overall increase in business deaths between 2020 and 2021, there was a reduction of deaths in two sectors - Education, and Accommodation and Food Services - where deaths decreased by 10% and 7% respectively.

Figure 4.4: Sectoral Business Deaths, NI, 2010-2021

Productivity and Business Deaths

4.12. Typically, **business birth and death rates are highly correlated. This is partly due to the fact less than half of start-ups survive five years therefore in sectors with a high number of business births we would also expect to see a high number of deaths**[48]. Figure 4.5 below plots the relationship between business births and deaths for each broad sector. The upward sloping line indicates a positive relationship between the two. An R-squared of 0.73 confirms the strong correlation between the two series suggesting that sectorally, a high birth rate is associated with a high death rate, a common finding of industry exit and entry trends[49].

Figure 4.5: Correlation between business births and deaths, NI, 2015-19



Source: UUEPC, NISRA

4.13. We can assess the productivity of business deaths by using the proxy of turnover per employee. As with business births, the average productivity of business deaths fell between 2015 and 2021, from £86,000 to £75,000 in nominal terms (Table 4.4). In three of the years the productivity of deaths is slightly higher than the average productivity levels of business births. It is not uncommon for new firms to enter with below-average productivity which

[48] See Appendix 1 for survival rates of business births by sector. On average around 1 in ten business births die in the first year. Transport and Storage which recorded the highest business birth rate in 2020 and 2021 have survival rates lower than the NI average.

[49] Cincera, M. and Galgau, O. (2005) Impact of Market Entry and Exit on EU Productivity and Growth Performance. European Commission. European Economy. Economic Papers 222. https://ec.europa.eu/economy_finance/publications/pages/publication_summary722_en.html

subsequently increases through the process of learning-by-doing[50] although research suggests that the ability of new firms to reach industry-average productivity varies substantially across sectors[51]. Furthermore, firms can experience a 'pick-up' in their productivity in their final years, becoming more effficient as they seek to avoid closure and/or receiving income from fire sales while running down labour inputs. As such, the higher productivity of firm deaths compared to births may not be unexpected.

Table 4.4: Productivity levels (turnover per employee) of business births and deaths, NI 2015-21

	Births £000s	Deaths £000s	Difference £000s
2015	83.0	85.5	-2.5
2016	89.2	73.1	16.1
2017	76.0	75.4	0.6
2018	85.4	70.7	14.7
2019	71.2	73.2	-2.0
2020	84.6	70.5	14.1
2021	72.6	75.0	-2.3

Source: UUEPC estimates of ONS data

4.14. Comparing the productivity levels of business births and deaths in 2021 shows that the **productivity level of business deaths was higher than births in four of the individual sectors** (Table 4.5).

4.15. In fact **the productivity levels of those exiting the market in the Production, and Transport and Storage sectors was 71% and 53% higher respectively higher than that of new entrants to the sector.** Of those sectors where the productivity of entrants is higher than exits, the preferable scenario, Arts, Entertainment and Recreation has the largest percentage difference. Here the productivity of births is 43% higher than business deaths, although entrants have low productivity levels in relation to the NI average.

[50] Jovanovic, B. (1982). Selection and the Evolution of Industry. Econometrica, 50(3),pp.649-70.

[51] Doan, T., Devine, H., Nunns, P. and Stevens P (2012). Firms Entry and Exit in New Zealand Industries. Ministry of Economic Development

Table 4.5: Productivity levels (turnover per employee) of business births and deaths by sector, NI 2021

	Births £000s	Deaths £000s	Difference £000s	Difference %
Production	80.9	138.4	-57.5	-71.0
Transport & Storage	26.6	40.6	-14.1	-52.9
Retail	82.0	89.3	-7.3	-8.9
Accommodation & food services	30.5	32.9	-2.5	-8.1
NI average	***72.6***	***75.0***	***-2.3***	***-3.2***
Construction	110.2	106.7	3.5	3.2
Finance & insurance	110.1	102.8	7.2	6.6
Information & Communication	119.0	109.8	9.2	7.7
Health	52.5	48.4	4.1	7.8
Professional scientific & technical	86.7	75.3	11.4	13.2
Business administration & support services	89.2	75.1	14.0	15.7
Wholesale	218.7	167.5	51.2	23.4
Property	104.2	77.5	26.7	25.6
Education	70.7	48.4	22.3	31.5
Arts entertainment recreation & other services	58.2	32.9	25.3	43.5

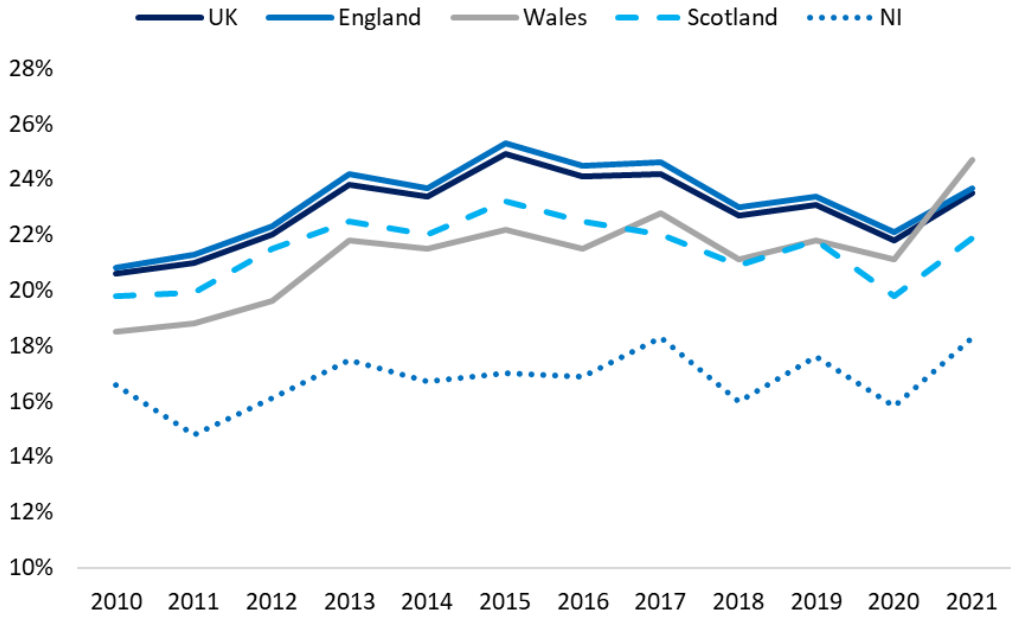
Source: UUEPC estimates of ONS data

5. Business Churn and Net Change

Introduction

5.1. **Business churn is measured as the business birth rate plus the death rate.** It provides an indication of how frequently businesses are created and closed down, thus reflecting the degree of creative destruction[52]. The overall **churn rate for NI in 2021 is 18.3%**, which represents a small increase since 2010 when it was 16.6%. **The UK has a higher churn rate at 23.5% in 2021**, with a persistent gap between NI and the UK over the decade. Of the UK constituent countries Wales had the highest churn rate at 24.7% in 2021, a notable increase from 18.5% in 2010, this is followed by England at 23.7%, which typically follows the overall UK trend, as shown in Figure 5.1, Scotland had a 21.9% churn rate.

Figure 5.1: UK constituent countries business churn rates, 2010-21



Source: NISRA, ONS & UUEPC

5.2. In relation to other comparable Small Advanced Economies NI's churn rate of 17.6% in 2019 exceeds that in Switzerland (14.6%), Finland (16.0%) and the Netherlands (16.5%) but falls below both Denmark (21.1%) and Estonia (21.4%). The latest consistent available data for Ireland, which relates to

[52] Del Sorbo, M., Vertesy, D. and Damioli, G. (2018). "An EU-US statistical overview: business demography and scaling up comparisons", European Commission

2018, shows a churn rate of just 11.7%. Unlike NI, Ireland's churn rate has declined since 2010 due primarily to a drop in the death rate.

Sectoral composition

5.3. Although the degree of churn overall in NI has only increased marginally since 2010 there is a wide variation across sectors both in terms of churn rate and the change over time (Table 5.1). **Transport and Storage saw the largest increase in the churn rate over 2010-21, rising from 18.2% to 44.1%.**

5.4. **Six sectors experienced a decreasing churn rate over the 2010-21 period, suggesting they have become less dynamic over time.** The Finance and Insurance sector had the largest drop in the churn rate and has one of the lowest churn rates in 2021 at 12.0%. This is below the NI average, whereas in 2010 its rate exceeded that of the average.

Table 5.1: Business churn by sector 2010, 2019 and 2021

	2010	2019	2021	Change 2010-2021
Transport & storage (inc. postal)	18.2%	28.0%	44.1%	25.9
Business administration and support services	25.7%	29.0%	24.9%	-0.8
Information & communication	22.5%	22.1%	22.5%	0
Accommodation & food services	18.7%	22.9%	21.0%	2.3
Professional, scientific & technical	17.9%	20.0%	18.7%	0.8
NI Average	**16.6%**	**17.6%**	**18.3%**	**1.7**
Construction	17.1%	16.3%	15.9%	-1.2
Retail	14.0%	13.9%	15.1%	1.1
Production	14.2%	15.7%	14.9%	0.7
Property	13.6%	13.0%	14.8%	1.2
Arts, entertainment, recreation and other services	17.4%	15.7%	14.7%	-2.7
Education	17.0%	16.6%	14.3%	-2.7
Wholesale	13.9%	12.6%	14.0%	0.1
Finance & insurance	17.4%	12.5%	12.0%	-5.4
Health	9.3%	9.4%	9.0%	-0.3

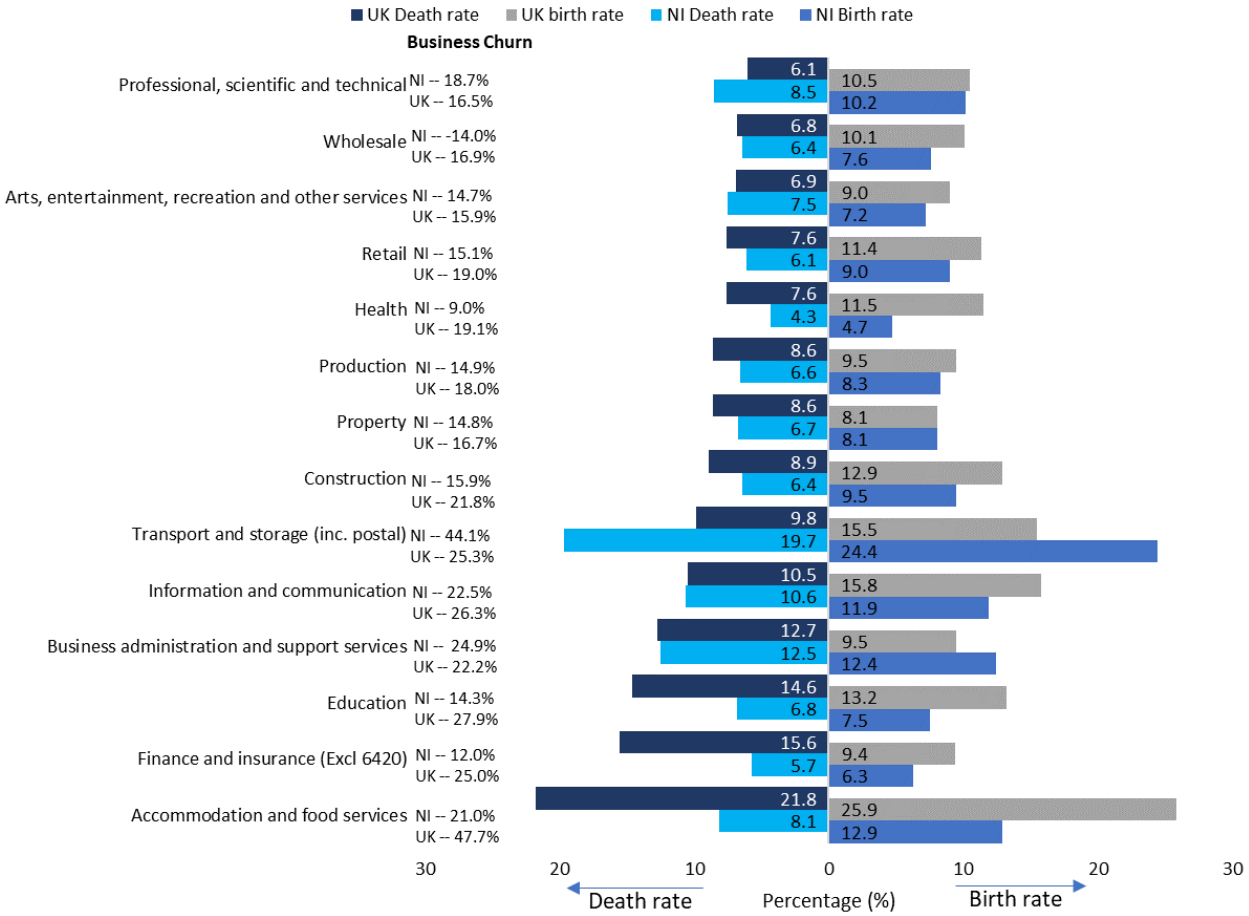
Source: NISRA, ONS & UUEPC

5.5. We can compare the churn rates and the components of business churn in 2021 with that of the UK to gain a sense of whether sectors in NI are replenishing at a faster or slower rate than their UK equivalents. Figure 5.2 demonstrates the variations between the UK and NI churn rates. NI has a higher churn rate in three sectors, Business Administration and Support, Transport and Storage and Professional, Scientific, and Technical. Transport and Storage records the largest difference, at 19 percentage points, which is driven by both a higher birth rate and death rate in NI.

5.6. The sectors that have a significantly higher churn rate in the UK include Accommodation and Food (47.7% churn rate in the UK compared to 21% in

NI), Education (14 percentage point higher in the UK) and Finance and Insurance (13 percentage points higher in the UK). Each of these sectors in the UK has a higher birth and death rate than NI, this is particularly so in Accommodation and Food.

Figure 5.2: Birth and death rate and business churn in NI and the UK, 2021

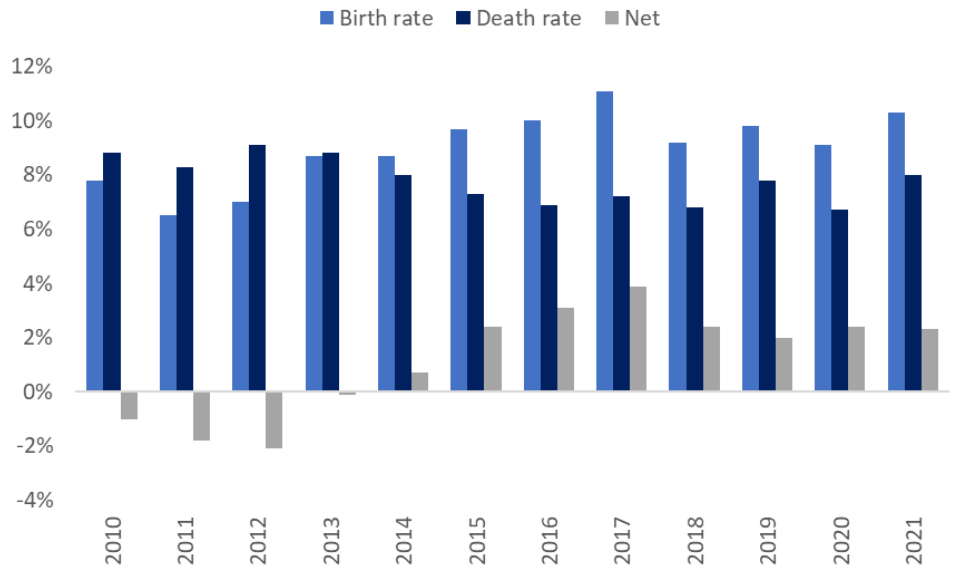


Source: NISRA, ONS & UUEPC

5.7. **The components of churn can also be analysed in terms of the net entry position i.e., the *difference* between the business birth rate and death rate.** This enables an assessment of the extent to which churn is being driven more by an excess of births over deaths or vice versa.

5.8. Figure 5.3 plots the annual birth, death and net entry rates for NI. It shows that from 2010 to 2013 NI was in a position of an excess of business deaths over births following the recession. From 2014 onwards there has been a net addition of businesses to the economy as business births were greater than deaths. Net entry peaked in 2017, equating to a net additional 2,300 businesses that year. Since 2014 there have been an average of just under 1,500 net businesses added to the economy each year due to the excess of business births over deaths.

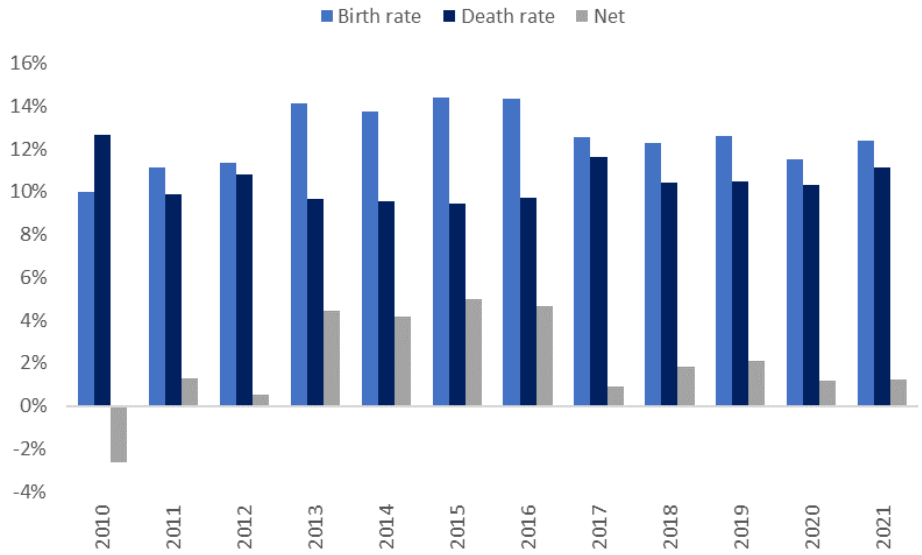
Figure 5.3: NI Annual Birth, Death and Net Entry, 2010-2021



Source: NISRA

5.9. In contrast over the 2010-21 period, the UK had an excess of business births over deaths annually with the exception of 2010 (Figure 5.4). Net entry peaked in the UK during 2015, with a 5-percentage point difference between birth and death rates in that year. This equated to a net 132,000 firms added to the economy. Since 2014 there has been an average of 72,000 firms added annually.

Figure 5.4: UK Annual Birth, Death and Net Entry, 2010-2021



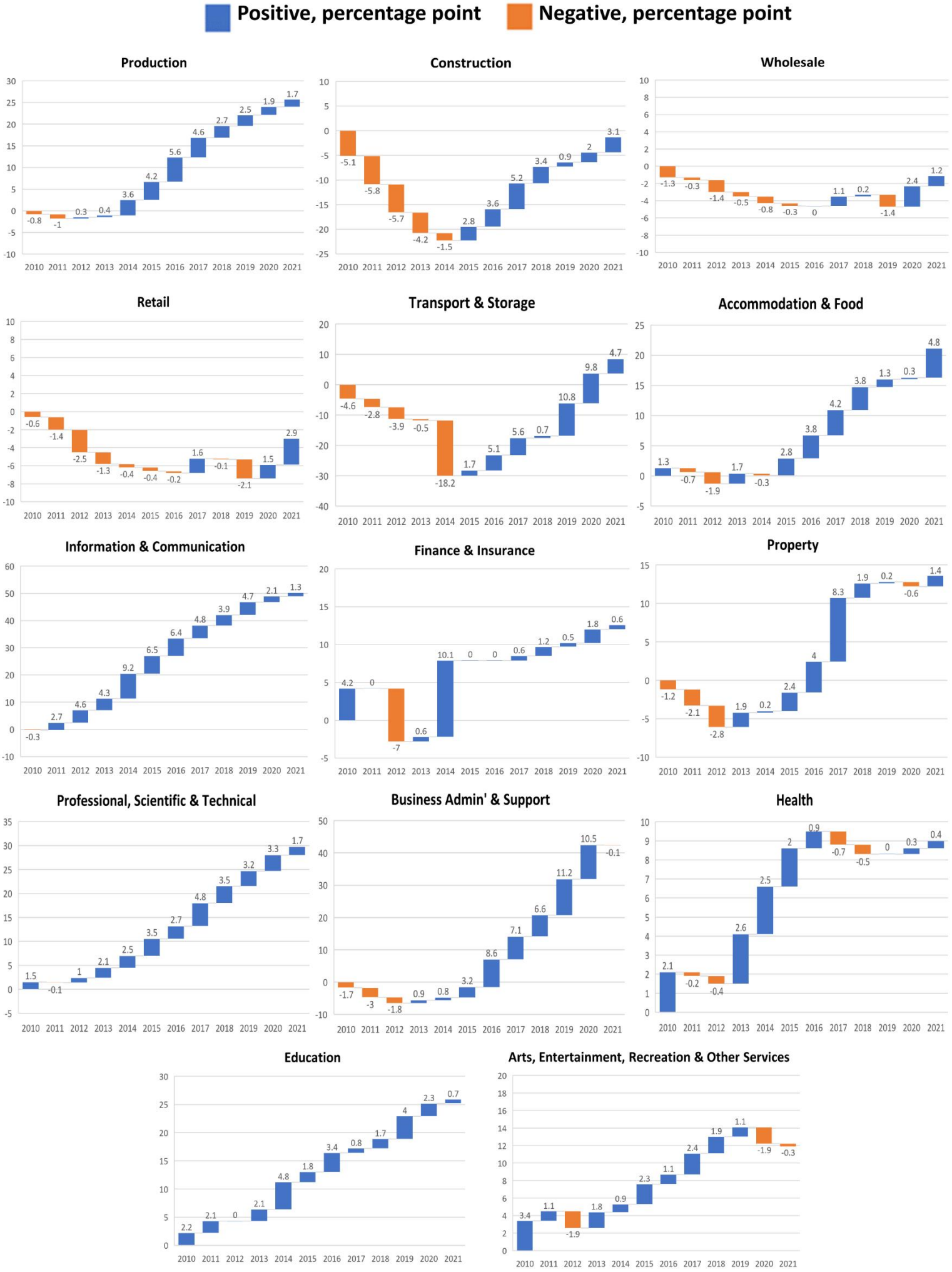
Source: ONS

5.10. Analysing the net entry rates of each sector in NI annually over 2010-21 (Figure 5.5) shows **significant disparity**. Columns in orange indicate

negative net entry i.e., there was a higher death rate than birth rate that year. Columns in blue indicate positive net entry i.e., a higher birth than death rate. The percentage point difference between the birth and death rates is shown. Notable points include:

- Sectors **most impacted by the recession** include **Wholesale and Retail, Construction** and **Transport and Storage.** The former two with an excess of deaths over births until 2016, and the latter two until 2014.
- **The Education sector was the only sector which did not have any periods where deaths exceeded births over the entire timeframe.** The Information and Communication, and Professional, Scientific and Technical sectors, had one period where deaths exceeded births, and for both this was early in the decade and the difference between birth and death rates was negligible (0.3 and 0.1 percentage points respectively).
- Just **two sectors experienced negative net entry in 2020, Property, and Arts, Entertainment and Recreation**. The latter, along with Business Administration and Support Services, also had an excess of deaths over births in 2021, although the difference was negligible.
- The **largest net entry rates over 2019 and 2020** were in the **Transport and Storage and Business Administration and Support Service sectors**. In both cases the birth rate exceeded the death rate by 10 percentage points or more.

Figure 5.5: Sectoral Net Entry, NI, 2010-2021



Source: NISRA

Business Churn and Productivity

5.11. As theorised, **the process of firm entry and exit, along with business expansion and contraction, should increase productivity** in the long run as resources are reallocated from declining or exiting unproductive businesses to the more productive and efficient. New business starts are particularly associated with this type of creative destruction as they are said to replace outdated incumbents with better products and services and/or reduced production costs, thereby adding to economic growth via enhanced productivity[53].

5.12. **The previous analysis has shown, however, little difference in the average productivity of business births in NI compared to deaths.** Moreover, the sector with the highest birth rate, Transport and Storage, has a below average productivity level and business deaths have higher productivity than births. Indeed, of those sectors where entrants are more productive than exiters, only one, Information and Communication, has a birth rate higher than the NI average.

Long-term productivity

5.13. Analysing long-term productivity shows that real productivity in NI increased only marginally, from £44,000 to £48,000, over the 2010-21 period, a 9% increase. Allowing for the downturn in 2020, the increase to 2021 reflected a return to 2019 levels. In fact, over the entire period real productivity peaked at £49,000 in 2018, which was 11% above the 2010 figure, representing an annual change of just 1.3% per annum to 2018.

5.14. Tabulating the correlation between annual real productivity from 2010-21 against the annual business birth, death and churn rates provides an indication of the strength of the relationship between the variables (Table 5.2). The birth and churn rate are individually positively related to productivity, but the death rate is negatively correlated. The only relationship which is statistically significant is the birth rate although it is only weakly significant (at the 10% level).

[53] Such as research from Schumpeter and the OECD discussed in the Literature Review.

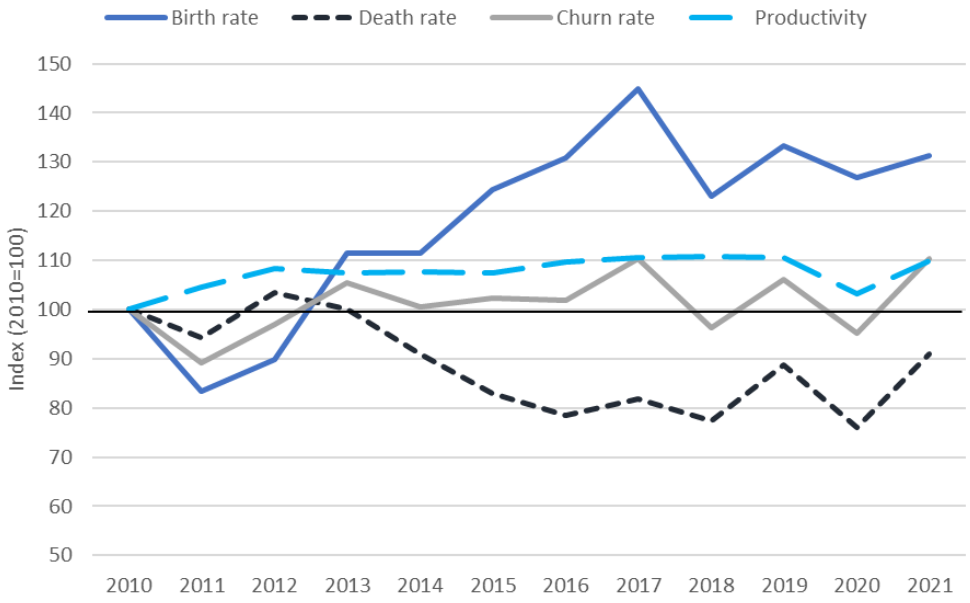
Table 5.2: Pairwise correlation between productivity and components of business dynamism

	Productivity
Birth Rate	0.573*
Death Rate	-0.318
Churn Rate	0.492

*Indicates significance at the 10% level

5.15. Plotting these components over the period reinforces this lack of relationship. **Productivity has remained relatively flat in real terms regardless of the dynamics of business entry and exit** (Figure 5.6). Prior to 2014 the business death rate exceeded the birth rate, when this reversed in 2014, with a subsequent significant increase in business births and decline in deaths, there was no notable impact on short or long-term productivity.

Figure 5.6: Index of change in the Birth Rate, Death Rate, Churn Rate and Productivity 2010-21 (2010=100)



Source: NISRA, UUEPC

Note: 2021 productivity is a forecast year of data

6. Conclusion

6.1. This report analysed the components of business dynamism in the NI economy from 2010-21 to understand the sectoral composition of entry and exit and the implications for productivity.

6.2. **The report found that the business birth rate in NI has increased over the decade to 2021 although there has been a slight drop in the death rate.** Business churn, which reflects the birth and death rates combined, has increased but NI remains the least dynamic part of the UK, with lower birth and death rates than the other nations. It also has a lower churn than the leading Small Advanced Economies of Estonia and Denmark.

6.3. As with previous research, which suggests a type of path dependency in the process of business entry, this study has found that the sectoral components of business entry and exit are broadly consistent over time. The **largest number of business births and deaths annually** was recorded in the **Construction** sector while the **lowest** has been largely in the **Education** sector.

6.4. **Birth and death rates are more variable** although just three sectors have accounted for the highest birth rates across the decade; Information and Communication from 2011-15; Business Administration and Support in 2010 and from 2016-19, and Transport and Storage from 2020-21. The number of births in the latter is over five times higher in 2021 than 2010, with a notable increase since 2020. This is likely a reflection of the move to online shopping and an increased demand for delivery services due to Covid but could also involve a Brexit effect with companies wishing to establish a NI presence for storage and/or distribution access.

6.5. The varying entry and exit rates found across sectors is also consistent with wider evidence on barriers to entry. **The higher business birth rates in NI service industries corresponds with the lower barriers to entry in these sectors** and is a common finding across countries.

Link to productivity

6.6. **Theoretically, the components of business dynamism are thought to contribute to productivity** via the concept of creative destruction whereby resources are reallocated from less productive exiting businesses to more productive entrant businesses. This evolution is thought to improve overall levels of productivity in the economy.

6.7. Previous evidence on the relationship between the components of entry and exit and productivity is mixed. In Ireland the firm entry (birth) rate was found

to be positively related to regional productivity although the relationship is weak, as is the impact. Consistent with those findings **the research here suggests that of the individual components of business dynamism the birth rate has a stronger relationship with productivity, although overall the correlation is weak.** In fact, the death rate has a negative relationship with productivity, likely reflecting the fact that exiters are not necessarily the most unproductive.

6.8. **For NI as a whole, there is often little difference in the productivity levels of entering and exiting firms.** Since 2015 the average productivity (measured as turnover per employee) of business births has been approximately £80,000 and £75,000 for business deaths. In 2021 (as well as 2015 and 2019) business deaths had higher productivity than births.

6.9. At the sectoral level, **the highest business birth rates are typically in low productivity sectors**. Only the **Information and Communication** sector recorded all three of: **higher than average business birth rates, higher than average sectoral productivity and births with higher productivity than deaths.** As one of the 10X priority sectors this is important.

6.10. Notably, the sector which has **recorded the highest growth in business births and deaths over the decade, Transport and Storage, has seen the productivity levels of its new entrants fall**. The productivity level of exiting firms has also dropped and since 2019 business births in the sector have recorded a lower average productivity than deaths.

6.11. The analysis points to **an economy with a slowly changing business dynamic**. The birth rate has increased since 2010 but the sector with the largest increase in births, Transport and Storage, has low productivity entrants. Meanwhile **sectors which are high productivity have seen birth rates fall** (see Table 6.1), including Finance and Insurance, again one of the 10X priority sectors.

6.12. Wider evidence suggests that **most new entrants are not highly innovative, and when they are the innovation is mostly new to the NI market rather than new to the world.** Given these features it is perhaps unsurprising that the components of business dynamism have little impact on productivity.

Table 6.1: Sectoral birth rates, death rates and productivity (turnover per employee), NI 2015-21

Sector	2021 Birth Rate	Change since 2015	2021 Death Rate	Change since 2015	2021 Turnover per Employee, £000s, Births	Change since 2015	2021 Turnover per Employee, £000s, Deaths	Change since 2015
NI Total	**10.3%**	↑	**8.0%**	↑	**£73**	↓	**£75**	↓
Production	8.3%	↓	6.6%	↑	£81	↓	£138	↑
Construction	9.5%	↓	6.4%	↓	£110	↓	£107	↓
Wholesale	7.6%	↑	6.4%	↓	£219	↑	£167	↑
Retail	9.0%	↑	6.1%	↓	£82	↓	£89	↑
Transport & storage	24.4%	↑	19.7%	↑	£27	↓	£41	↓
Accommodation & food services	12.9%	↑	8.1%	=	£30	↑	£33	↑
Information & communication	11.9%	↓	10.6%	↑	£119	↑	£110	↓
Finance & insurance	6.3%	↓	5.7%	↓	£110	↑	£103	↑
Property	8.1%	↓	6.7%	↓	£104	↓	£78	↑
Professional, scientific & technical	10.2%	↓	8.5%	↑	£87	↑	£75	↑
Business admin' & support services	12.4%	↓	12.5%	↑	£89	↓	£75	↑
Education	7.5%	↓	6.8%	↓	£71	↑	£48	↑
Health	4.7%	↓	4.3%	↓	£53	↑	£48	↑
Arts, entertainment, recreation & other services	7.2%	↓	7.5%	↑	£58	↑	£33	↓

Source: NISRA, UUEPC

Policy recommendations

6.13. The above analysis has highlighted a number of features that are acting as a drag on the NI economy, particularly with regards to its continuing productivity performance. If addressed, the changes could support the move to a more dynamic and higher value-added economy.

6.14. Of the components of business dynamism, births are found to be most strongly correlated with productivity. Although the relationship is relatively weak in both statistical significance and impact terms, it nevertheless suggests that **policy interventions regarding business births provides a more effective mechanism** by which **to improve productivity** performance in the economy than interventions around preventing deaths**.**

6.15. Indeed, **if higher productivity firms are closing it suggests a more complex reason for exit than simply due to inefficiencies.** Lack of capital, demand, poor management and personal reasons can all factor into business closure but without **further research** it is difficult to identify a remedial intervention that would also avoid sustaining zombie firms.

6.16. **Focusing on business births could therefore provide a more effective productivity outcome**. The NI birth rate continues to remain lowest of the UK regions. With a declining death rate, it becomes more important to **encourage business births to prevent a stagnating economy**. But this

is not to suggest that a focus on any and all business births will provide an improved outcome. Rather, given that the trends depict a combination of low turnover, low productivity entrants in sectors with low value added, the focus should be on **supporting those with a capacity for innovation and growth**. Research by McKinsey suggests that the strategic allocation of public funds can support this[54]. They highlight that research grants for strategically important sectors are a "proven way of supporting both the domestic start-up ecosystem and the national capacity for innovation". Using the example of the Israeli Innovation Authority which funds a number of research grants to strategic sectors, particularly those with high development risk, they report a higher likelihood of success for start-ups and an improvement in national competitiveness.

6.17. If business births continue to be concentrated in low productivity sectors due to the low barriers to entry, then **targeted support** for entrants at the more **knowledge-intensive** end of the spectrum could help these sectors evolve into higher productivity ones. A further study analysing firm micro-data at a more disaggregated level of sectoral classification would help to better identify the specific business activities in which start-ups are involved. This could be mapped to the level of knowledge-intensity associated with these activities and therefore help identify where interventions might best be focused.

6.18. Alternatively, or in combination, efforts could be focused on **supporting new entrants in already highly productive sectors**. Here, **barriers to entry** could be explored in more detail to ensure that obstacles to business start are reduced. Wider research, for example, points to local access to knowledge and human capital in the form of the number of universities in the area and the number of students and graduates as playing "a significant role in driving entry in knowledge-based sectors[55]", with those studying technology-based degrees found to significantly impact the creation of firms in Knowledge-intensive Manufacturing. In contrast, start-ups in Knowledge-intensive Business Services are found to be more frequent in areas where the sector is already large and established, however, the knowledge intensity of the local workforce and the size of the regional market are also important influences[56].

[54] https://www.mckinsey.com/featured-insights/europe/fueling-the-hungarian-start-up-ecosystem

[55] Baptista, R., & Mendonça, J. (2010). Proximity to knowledge sources and the location of knowledge-based start-ups. *Annals of Regional Science*, *45*(1), 5.

[56] Andersson, M., & Hellerstedt, K. (2009). Location attributes and start‐ups in knowledge‐intensive business services. *Industry and Innovation*, *16*(1), 103-121.

6.19. More broadly, ensuring adequate **access to both financial capital and human capital in terms of a skilled pipeline of individuals in these sectors is crucial**. For productivity improvements from business starts to be sustained, **capacity for growth** by way of access to skilled employees and funding will be necessary to ensure that those that survive are the most productive. Funding and finance have been cited by entrepreneurs as among the critical factors for growth[57] and although the role of private sector financing is central to this, the public sector can also play a role. McKinsey[58] suggest that a government-backed fund of funds that co-invests in reputable VC funds is the most efficient way of allocating public funding to start-ups, citing the Polish Growth Fund of Funds as a successful example[59].

6.20. With regards to human capital the same report highlights that for start-ups to be successful **access to top talent is crucial**, not least to help businesses scale. They suggest that one lever to do so is attracting international digital talent, who can also help expansion into international markets due to their language skills and market knowledge. In terms of the indigenous population, a report on the local factors influencing Irish start-ups[60] also highlights the importance of local human capital. The report shows that **shorter distance to the nearest third-level institute and the share of the local population with third level qualifications are of key importance**, the latter having the largest effect on business formation of all factors. In conjunction, they also report that the impact of broadband access on start-ups depends on the education level of an area's population. They find that those areas that have a sufficiently highly qualified population with third level qualifications see an increase in start-ups when they have broadband access. This is due to the ability of those individuals, and subsequently their areas, to absorb and utilise the technology productively.

[57] World Economic Forum (2013) Entrepreneurial Ecosystems Around the Globe and Company Growth Dynamics. Davos: World Economic Forum https://www3.weforum.org/docs/WEF_EntrepreneurialEcosystems_Report_2013.pdf

[58] ibid

[59] https://www.eif.org/what_we_do/equity/news/2013/pgff.htm

[60] https://www.esri.ie/system/files/media/file-uploads/2018-03/RB201805.pdf

6.21. It is worth noting that of the UK regions, at 25% NI has the lowest share of the population with third level qualifications, with the UK average standing at 32%[61]. Given the importance of human capital for start-up and subsequent growth, the suggested research into barriers to entry, alongside investigating the particular sectoral barriers, could **focus on the obstacles or reasoning preventing qualified individuals from starting a business.** Amongst wider reasons, this is likely to be linked to cultural factors including entrepreneurial education, but could provide a useful source of information as NI seeks to deliver on its vision for a 10X economy, particularly delivering on the aim of more business start-ups in the knowledge-led priority sector areas.

[61] Source: Labour Force Survey 2022

Appendix One

Survival rate of business births by sector, NI, 2015-20

	1 year survival						2 years survival					3 years survival				4 years survival			5 years survival	
Year of birth	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2015	2016	2017	2018	2015	2016	2017	2015	2016
All Industries	**88%**	**93%**	**91%**	**93%**	**88%**	**93%**	**70%**	**74%**	**75%**	**73%**	**73%**	**57%**	**61%**	**62%**	**62%**	**50%**	**53%**	**55%**	**44%**	**47%**
Production	87%	93%	90%	93%	86%	93%	68%	70%	73%	76%	68%	55%	59%	62%	66%	49%	52%	54%	43%	47%
Construction	90%	92%	94%	95%	88%	94%	67%	73%	78%	73%	74%	55%	62%	66%	63%	48%	54%	57%	43%	48%
Wholesale	93%	89%	89%	93%	76%	87%	73%	71%	69%	71%	63%	58%	55%	52%	62%	53%	46%	48%	47%	41%
Retail	91%	90%	91%	93%	87%	92%	71%	75%	75%	71%	70%	58%	59%	63%	60%	50%	52%	55%	45%	45%
Transport & storage (inc. postal)	93%	93%	84%	90%	87%	90%	75%	75%	56%	63%	68%	57%	61%	46%	49%	48%	54%	43%	41%	45%
Accommodation & food services	90%	93%	90%	92%	89%	96%	66%	72%	75%	71%	74%	52%	57%	56%	57%	43%	47%	46%	36%	43%
Information & communication	92%	93%	91%	95%	88%	92%	75%	80%	76%	80%	75%	62%	63%	62%	63%	50%	54%	52%	47%	46%
Finance & insurance	82%	92%	93%	100%	91%	92%	77%	83%	79%	83%	73%	65%	75%	71%	67%	65%	67%	71%	53%	58%
Property	72%	93%	93%	90%	85%	89%	63%	71%	80%	68%	65%	59%	61%	70%	61%	52%	56%	62%	50%	51%
Professional, scientific & technical	87%	92%	93%	93%	91%	94%	71%	77%	77%	73%	74%	58%	64%	65%	61%	51%	57%	57%	45%	50%
Business administration and support services	83%	89%	87%	88%	88%	94%	64%	69%	73%	66%	70%	49%	58%	61%	55%	42%	50%	52%	36%	46%
Education	92%	92%	91%	100%	92%	85%	75%	77%	82%	90%	85%	58%	62%	73%	80%	50%	54%	64%	42%	54%
Health	77%	97%	91%	100%	96%	96%	67%	72%	78%	86%	85%	59%	58%	66%	76%	51%	53%	59%	49%	50%
Arts, entertainment, recreation and other services	94%	95%	94%	95%	92%	93%	75%	81%	79%	81%	81%	61%	67%	67%	68%	52%	56%	59%	45%	49%

Source: NISRA

About UUEPC

UUEPC is an independent research centre focused on producing evidence based research to inform policy development and implementation. It engages with all organisations that have an interest in enhancing the Northern Ireland economy. The UUEPC's work is relevant to Government, business and the wider public with the aim of engaging those who may previously have been disengaged from economic debate.

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