



THE SKILLS SYSTEM IN NORTHERN IRELAND

Challenges and opportunities

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Published August 2018

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Registered charity no: 800065 (England and Wales),
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This paper was first published in July 2018. © IPPR 2018

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To cite this paper:

Gunson R, Murray C and Williamson I (2018) *The skills system in Northern Ireland: Challenges and opportunities*, IPPR. <http://www.ippr.org/research/publications/the-skills-system-in-northern-ireland>

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SUMMARY

The skills system will be crucial to meeting the challenges and changes facing Northern Ireland in the coming years. The skills system, through its learners and the employers it works with, can be at the centre of driving the inclusive growth we need to see in Northern Ireland to deliver economic and social justice. For learners, the skills system could be critical in helping them to secure the best possible life chances, pay increases and career progression, readying them to adapt to changes in the kinds of jobs we do and need. Equally, for employers, the skills system can be at the centre of helping firms to adapt to and exploit opportunities, bring greater efficiencies and productivity, and drive a stronger economic performance in Northern Ireland. For the skills system to do this, it must meet the challenges it faces both now and in the future.

The current economic context in Northern Ireland is central to the challenges facing the skills system, particularly at post-school, sub-degree level. Northern Ireland has higher economic inactivity and levels of people with no qualifications than the rest of the UK. Productivity is one of the UK's biggest underlying structural economic problems: it is worse in Northern Ireland than in any other part of the UK. Career progression rates are by far the lowest in the UK, and the median income is lower than the UK average. Northern Ireland has an economy populated with small and medium enterprises, with high numbers of microbusinesses. These factors define the scope of action in which the skills system must operate. At the same time, the skills system can be central to addressing some of Northern Ireland's social inequalities: low pay, high levels of poverty and low levels of career progression. These factors set the challenging terms in which the skills system in Northern Ireland operates.

Equally, the skills system has been through a period of change in recent years. There has been a consistent pace of reform, with a range of new strategies designed to meet the demand from employers for skills and to boost levels of skills in Northern Ireland. This can be seen through reforms such as the mergers of colleges, the introduction of the apprenticeship

levy, the introduction of programmes like Higher Level Apprenticeships and the innovative Assured Skills scheme, and inclusion of colleges within innovation strategies.

Yet the skills system does not operate in isolation, and a number of external factors will determine how effective skills policy is over the coming years. Automation and technological change, Brexit, the changing nature of globalisation and future funding challenges across the UK will have direct and indirect influence over Northern Ireland's future. These will affect the future economic and social context in which the skills system will be operating.

To understand the challenges facing the skills system in Northern Ireland, IPPR has developed the following insights.

The skills system: key insights

Delivering for Northern Ireland

1. Solving low pay and low progression rates should be a key measure of success for the skills system.
2. The skills system in Northern Ireland needs to focus on mid-career learning.
3. Northern Ireland needs to move on from targeting only youth unemployment to improving life chances for young people.
4. Schools and colleges should work to focus on those most at risk of leavingschool with no qualifications.

Working together

5. There have been some positive reforms to the skills system in recent years that represent a foundation to be built on.
6. An outcomes-focused approach could help to bring greater coherence across the skills system.
7. A two-pronged approach is needed to boost skills demand and supply.

8. Learner and employer engagement within the skills system needs to be improved to meet the challenges facing the skills system and benefit from the opportunities.
9. The opportunity for greater business engagement through the introduction of the apprenticeship levy should not be missed.
10. Employers, particularly small and medium employers, could play a greater role in training Northern Ireland's workforce.

Preparing Northern Ireland for the future

11. Technological change and automation are likely to mean that employees face multiple jobs, multiple employers and multiple careers.
12. Funding for the skills system is unlikely to improve over the short or medium term.
13. Automation, Brexit and the changing nature of globalisation will mean huge changes for Northern Ireland.
14. Northern Ireland needs to be more strategic about migration within existing powers.
15. Political instability is hindering the skills system's ability to adapt and anticipate change, but there is a role for the leadership of employers, learners, third sector and trade unions through social partnership to drive a new skills agenda.

INTRODUCTION

The skills system is critical to Northern Ireland's future economic prosperity. Skills matter to individual learners and employees, ensuring they can maximise their potential, delivering job opportunities and the chance to progress their career and their lives. Equally, skills matter to the economy overall, as skills levels and the good use of those skills can contribute to economic growth and delivering the highest possible living standards for people.

The skills system includes the full range of post -16 education, learning and training, including schools, colleges, apprenticeships, in-work training and university. For the purposes of this report, our focus has been on post-school, sub-degree learning. This can often be delivered in colleges, by private training providers (both for and not for profit) and by employers themselves.

This research sets out the context in which the skills system in Northern Ireland operates, and attempts to outline the challenges this system faces. In chapter 2, we set out the economic factors which determine the context for the skills system, looking at issues like economic performance, labour market trends and the skills in the workforce. In chapter 3, we look at the policy context that has shaped the skills system in Northern Ireland, turning to cross-cutting, government-wide policies and those particular to the skills system. In chapter 4, we look at the structure of the skills system, and how learning is organised and institutionalised in Northern Ireland. In chapter 5, we set out some of the looming challenges facing the skills system, and indeed Northern Ireland more generally, including automation, the changing nature of globalisation, demographic change across the UK and Brexit.

Finally, in chapter 6, we set out 15 insights that outline our emerging findings and conclusions. These insights speak to the issues that the skills system exists to address, and those that define its capacity to do so, and we outline these not as recommendations or firm conclusions,

but to capture the view of the opportunities and challenges facing the skills system. How Northern Ireland’s policymakers, the skills system, and wider stakeholders grasp and respond to these issues will be critical in defining the future success of the skills system in the future, and the economy which depends upon it.

Methods

This project took place between January and April 2018. The research for the project involved a literature review and data analysis of the existing research on the skills system in Northern Ireland. We held a series of 12 semi-structured interviews with stakeholders in the skills system, government, politics, employers’ organisations, academia and think tanks. We also held, in March 2018, a roundtable for stakeholders who interact with the skills system in Northern Ireland, in order to explore key perspectives on the challenges facing the skills system.

The project was informed by the helpful and insightful comments of our steering group of leading representatives from Northern Ireland.

This report is the first part of a programme of IPPR Scotland work looking at the future of the skills system in Northern Ireland and Scotland. Further research will look at the potential trajectories of the skills system in Northern Ireland and Scotland, and will offer policy solutions and ideas for change for policymakers and the skills system to achieve a successful skills system for the future.

2. ECONOMIC CONTEXT

The skills system is an integral part of the future economy of Northern Ireland. Developing the skills that Northern Ireland needs now and in the future, and enabling learners, employees and employers to best use these skills, will help to shape the performance of the economy in Northern Ireland. In this section, we outline the key economic factors that set the context in which the skills system operates. The objectives for the skills system, and how well it meets those objectives, will depend in part on the economic context it faces.

In this chapter, we set out the key economic issues that both reveal the scale of the task facing Northern Ireland’s skills system, and show the opportunities and challenges it has in meeting that task. We start by considering the key labour market trends and statistics, including productivity, employment and pay rates, before considering the wider shape and scale of the Northern Ireland economy.

2.1 Key facts

Table 2.1
Key economic facts comparing Northern Ireland and the UK average

	Northern Ireland	United Kingdom
Population (2016)	1.81 million	64.64 million
Working age population (2016)	1.176 million (64% of total)	41.35 million (63% of total)
Population projection (2039)	1,996,756	74 million
Working-age population projection (2039)	1.147 million (57% of total)	42.18 million (57% of total)
GVA growth per head (2016)*	2.8%	2.9%
GVA per capita (2015)	£19,997	£26,339

Median income (2015–16)	£22,800	£27,300
Population in relative poverty (before housing costs) (2016–17)	318,000 (17% of total)	10.4 million (16% of total)
Inactivity levels (2017)	28.4%	21.3%
Unemployment rate (Oct–Dec 2017)	3.9%	4.4%
Size of manufacturing sector as % of total employment (2016)	11%	8%
Size of public sector as % of total employment (2016)	27.3%	16.6%
Percentage of workforce with no qualifications (2016)	15.8%	8.3%
Percentage of workforce with NVQ3+	49%	56%
Percentage of jobs with a high potential for automation	48.5%	45.4%

Sources: ONS (2018), NISRA (2017), ONS (2017e), Department for Communities (2017), Department for Communities (2016), McGuinness (2018), ONS (2018b), ONS (2018c), NISRA (2018), Rhodes (2017), ONS (2018d), IPPR analysis using Quarterly Labour Force Survey (ONS 2018b), 2016–17 data), and Frey and Osborne's probabilities of computerisation (2013).

Note: *See: <https://www.ons.gov.uk/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedbalanceduk/1998to2016>

The structure of Northern Ireland's economy

2.2 Economic sectors

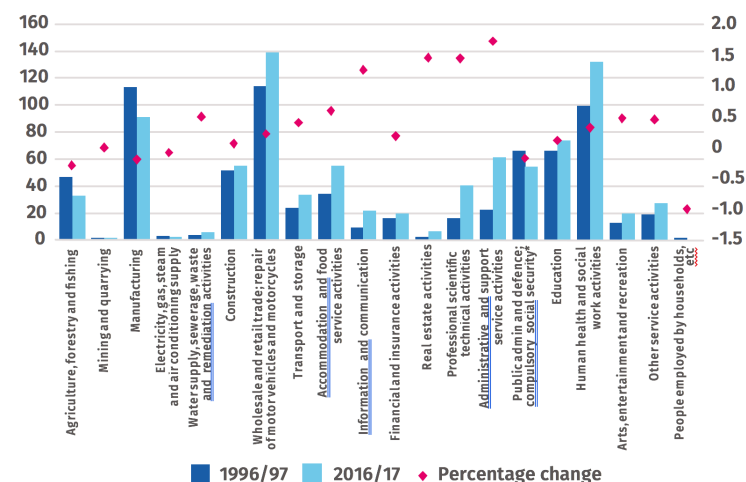
Historically, Northern Ireland's economy was dependent on manufacturing and heavy industry, and has shifted in recent years to see growth derive from the services sector.

Traditional industries in Northern Ireland over the course of the 20th century were the manufacturing and agricultural sectors. While both

remained steady in overall size over the past two decades, they are larger than in the UK as a whole. The manufacturing sector is responsible for 11 per cent of employment in Northern Ireland, compared to 8 per cent across the UK overall (Rhodes 2017). The agricultural sector was responsible for 2.5 per cent of total employment in Northern Ireland in 2017 – more than double the UK rate of 1.1 per cent (but still below the Republic of Ireland's 5 per cent) (DAERA 2017). Sectors that are Northern Ireland's specialisms relative to the UK average include: agriculture, forestry and fishing; public administration and defence and compulsory social security; manufacturing; mining and quarrying, and human health and social work activities. The graph below shows the change in size of Northern Ireland's economic sectors over the past two decades.

Figure 2.1

Size of economic sectors in Northern Ireland by employment (left axis, £000s), and percentage change over 20 years (right axis)



Source: ONS (2018b)

2.3 The private and public sectors

Northern Ireland’s economy has a high number of small and medium enterprises (SMEs) – businesses that have 249 employees or fewer – and indeed microbusinesses (employers with fewer than 10 employees and turnovers of less than £2 million) make up a large proportion of the business sector. There are 118,000 SMEs in Northern Ireland. Most of these are sole operator businesses; only 30,000 have employees (FSB 2016).

SMEs are the backbone of the private sector in Northern Ireland: approximately 75 per cent of turnover in the private sector is due to SME activity. Over 75 per cent of private sector jobs are in SMEs. Over 19,500 (89 per cent) of the 22,000 new private sector jobs were projected to be created between 2014 and 2018 in the SME sector (ibid).

Northern Ireland’s private sector is small as a proportion of the overall economy compared to the rest of the UK. In 2017, workers in the public sector represented 27.3 per cent of all those in employment in Northern Ireland (NISRA 2018). Across the UK as a whole this figure was significantly smaller, at 16.6 per cent (ONS 2017e).

Economic performance

2.4 Economic growth

Northern Ireland’s economy is smaller per head of population than in the UK as a whole. Measured in gross value added (GVA¹), Northern Ireland’s economy is 75.9 per cent of the UK as a whole. With GVA per head at £19,997, Northern Ireland’s level is higher than Wales and the North East of England. Growth in GVA per head was strong between 1999 and 2007 in Northern Ireland. But following the financial crash of 2007/08, Northern Ireland’s economy was hit harder than the UK as a whole, recovering in recent years, albeit at a slower rate than the UK as a whole. For 2016, the latest year for which data is available, GVA growth per head was 2.8 per cent in Northern Ireland and 2.9 per cent in the UK (ONS 2017d).

¹ Since 2016, the Office of National Statistics has used a ‘balanced measure GVA’, replacing the income approach and the production approach. The statistics we have used are the balanced measure, or GVA(B).

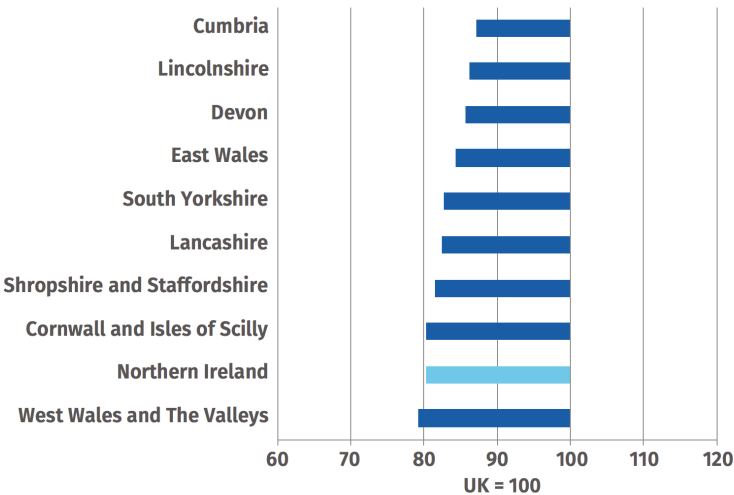
2.5 Productivity

Northern Ireland has a considerable productivity challenge. Poor productivity is one of the deep-rooted structural weaknesses in the UK’s economy as a whole; however, the productivity problem is particularly pronounced in Northern Ireland. Northern Ireland ranks among the worst-performing areas of the UK, with productivity levels almost one-fifth below the UK average in 2015. This is particularly concerning, given that UK average productivity rates are far behind those of comparable – and competitor – economies. Measured by output per hour, productivity in the UK is fully 13 per cent below the G7 average (IPPR Commission on Economic Justice 2017).

Figure 2.2 shows the bottom 10 areas of the UK by productivity, measured in GVA per hours worked. It shows that Northern Ireland is second worst in the UK, with only West Wales and The Valleys seeing lower levels of productivity.

Figure 2.2: Northern Ireland is one of the least productive areas of the UK

GVA per hours worked: Lowest performing subregions (NUTS2), relative to UK average

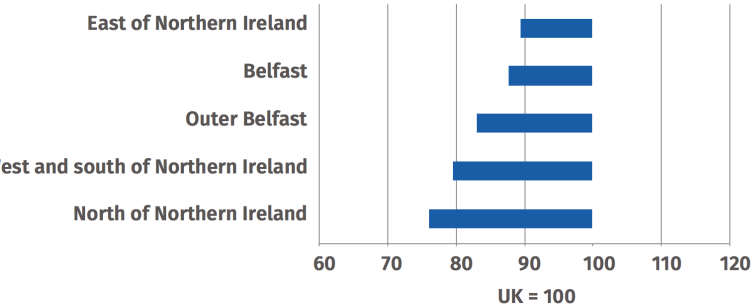


Source: ONS (2017g)

All areas of Northern Ireland lag behind the UK average to a significant extent. The East of Northern Ireland is the most productive region in Northern Ireland. However, this is still half as productive, for example, as some of London’s most productive boroughs. The weakest performing region, the North of Northern Ireland, is 24 per cent lower than the UK average.

Figure 2.3 shows levels of productivity, as measured by GVA per hour worked, by region of Northern Ireland, compared to the UK average.

Figure 2.3 All parts of Northern Ireland are significantly less productive than the UK average
GVA per hour filled, subregions (NUTS3) of Northern Ireland, 2015



Source: ONS (2017g)

Productivity matters because it is the driving force behind increasing national living standards. It is a central driver of long-term economic growth and prosperity, and individuals, firms and government all stand potentially to benefit if it can be improved. Poor productivity levels can be driven by a number of factors. These can include poor management practice, poor workforce planning, a local focus rather than export focus, poor capital investment, a short-term focus by firms on profits rather than investment in the long-term skills of the workforce, and poor deployment or utilisation of workers’ skills in the economy. The skills system, including both public and employer-funded learning, could therefore have a crucial role to play in driving productivity.

Labour market trends

2.6 Inactivity

A high proportion of Northern Ireland’s population is economically inactive compared to the UK as a whole. Economic inactivity is defined as people aged 16 to 64 who are not in employment and have not been seeking work for the past four weeks, and who are not available to start work within the next two weeks.

Northern Ireland has the highest economic inactivity rate in the UK, standing at 28.4 per cent in 2017 (ONS Statistical Bulletin 2018). This is 7.1 percentage points higher than the UK rate. Over the year to 2017, Northern Ireland was one of the parts of the UK, alongside Scotland and the East Midlands, to see an increase in its inactivity rate, which grew by 0.7 per cent (ONS 2017c).

The main economically inactive groups are students, people looking after family and home, long-term sick and disabled, temporarily sick and disabled, retired people and discouraged workers. Table 2.2 below shows the spread of the inactive population across its different components in Northern Ireland, and how that compares to the UK overall. Most notable is that the percentage of the working- age population that is economically inactive is bigger in Northern Ireland than across the UK. Furthermore, this appears to be due to higher percentages of inactive people being long-term sick.

Table 2.2: Northern Ireland has a higher proportion of the working-age population that is economically inactive than the UK as a whole, driven by high levels of people who are long-term sick
Differences between the working-age labour markets in Northern Ireland and the UK overall

	Northern Ireland figure	Percentage of NI	Percentage of UK
Employed 16–64 (Oct–Dec 2017, seasonally adjusted)	834,000	68.7%	75.2%
Unemployed 16 and over (Oct–Dec 2017, seasonally adjusted)	34,000	3.9%	4.4%
Total	325,000	28.4%, of which:	21.3%, of which:
Inactive 16–64 (Jan–Dec 2017, not seasonally adjusted)	Students	89,000	27.4%
	Long-term sick	96,000	29.5%
	Short-term sick	8,000	2.6%
	Looking after family/home	79,000	24.3%
	Retired (under 65)	34,000	10.3%
	Other	16,000	5.0%
			27.1%
			22.3%
			2.1%
			24.4%
			13.1%
			10.6%

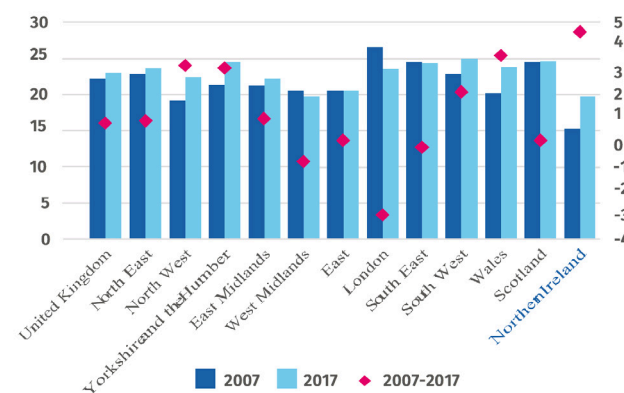
Source: ONS Statistical Bulletin (2018); (ONS 2018b); ONS (2018c); ONS (2018d).

Some types of inactivity are not a problem in themselves. Students in full-time education, for example, are gaining important skills that may allow them to participate as productive members of the labour force after their studies. Many retired people have contributed to the economy for many years (and still do through part-time employment or voluntary work and care). Equally, while some people who are economically inactive may not show as being employed, they may be performing hugely important roles, both socially and economically. For example, the contribution of unpaid carers to the real economy should not be overlooked.

However, the higher levels of inactivity in Northern Ireland suggest that some people are excluded from the labour market who do not need to be, particularly because Northern Ireland has a higher percentage of people who have long-term sickness. This has a number of social and economic implications. For example, Northern Ireland's economically inactive population is also often the poorest. Over 50 per cent of Northern Ireland's inactive adults are in the lowest income quintile (Magill and McPeake 2016). Tackling inactivity may be a key route to reducing poverty levels and increasing economic growth in Northern Ireland.

Of the economically inactive people in Northern Ireland's labour market, a low proportion want a job – only 19 per cent – in comparison to the equivalent population in other parts of the UK (see figure 2.4).

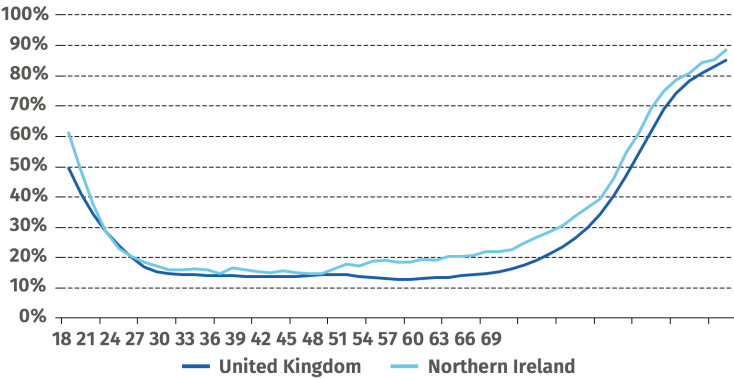
Figure 2.4: Low levels of economically inactive people in Northern Ireland are looking for a job, but this is improving
Percentage of economically inactive people who want to work (left axis), and percentage change over the decade by area (right axis)



Source: ONS (2018b)

The age profile of Northern Ireland's economically inactive population is different to the UK average. Compared to the rest of the UK, the percentage of the population that is economically inactive is roughly the same in Northern Ireland as in the rest of the UK until the age of around 40 to 43, when a gap of between five and seven percentage points begins to open up.

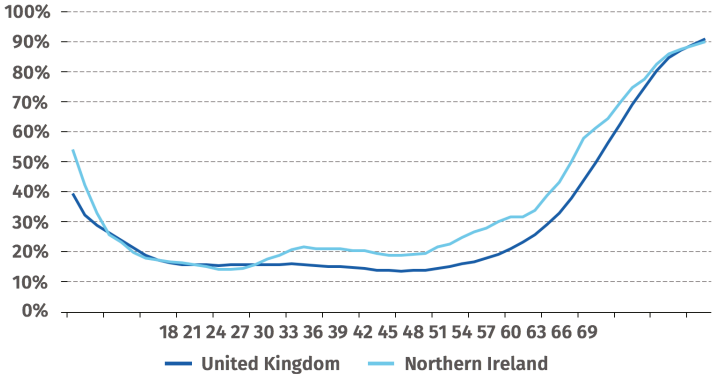
Figure 2.5: Inactivity rates in Northern Ireland mirror the UK's for those in younger years, then start to diverge among older people
Inactivity by age group in the UK and Northern Ireland (2016 Q2)



Source: ONS (2016)

The causes of this gap in inactivity between the population in Northern Ireland compared to those across the UK are potentially attributable to a range of factors. For example, the legacy of the Troubles has been posited as exerting an ongoing impact on the mental health of some people, which could affect their ability to find work (Magill and McPeake 2016). Additionally, changes in the structure of the Northern Ireland economy with the decline of manufacturing could also have played a role, as the job opportunities for those already working shifted as manufacturing and heavy industry declined. The Labour Force Survey appears to suggest that there is something of a cohort effect, as the gap started opening 10 years previously, between the ages of 31 and 34.

Figure 2.6: The inactivity gap between the UK and Northern Ireland started opening at a younger age a decade ago
Inactivity by age group in the UK and Northern Ireland (2006 Q2)



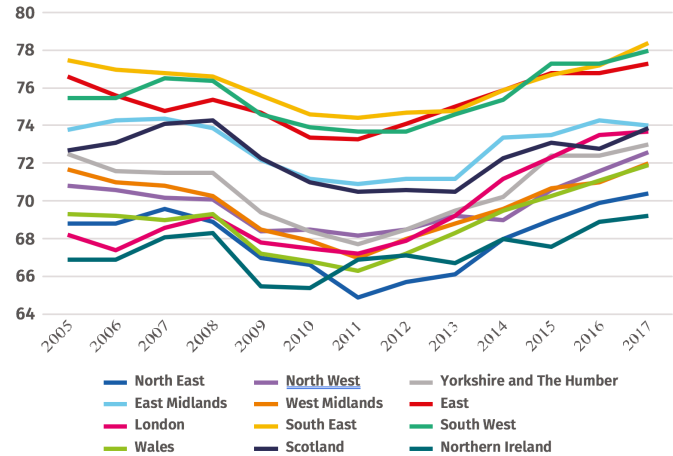
Source: ONS (2016)

This suggests that the key to tackling Northern Ireland's inactivity problem lies in targeting the adult population. In particular, adults between the age of 40 and retirement age are economically inactive at a higher rate in Northern Ireland than the rest of the UK.

2.7 Employment, unemployment and youth unemployment

Northern Ireland has one of the lowest employment rates for the UK. This has been a trend since before the recession. Figure 2.7 shows that Northern Ireland has consistently had a lower employment rate than other parts of the UK.

Figure 2.7: Northern Ireland has a low employment rate
Employment rate of UK areas 2005–17 (%)



Source: ONS (2018b)

Equally, given the levels of inactivity outlined above, unemployment has traditionally been lower in Northern Ireland than in most parts of the UK since 2005, although it has been decreasing more slowly in recent years.

Youth unemployment in Northern Ireland is higher than the UK average, but it has been falling, and is significantly better than in countries such as Spain, Italy and Greece that weathered tougher recessions. In 2017, the youth unemployment rate (percentage of economically active 18–24 year olds who are unemployed) was 14.4 per cent. This figure was down 4.1 percentage points over the year. It is higher than the UK average rate (10.4 per cent) (NISRA 2017).

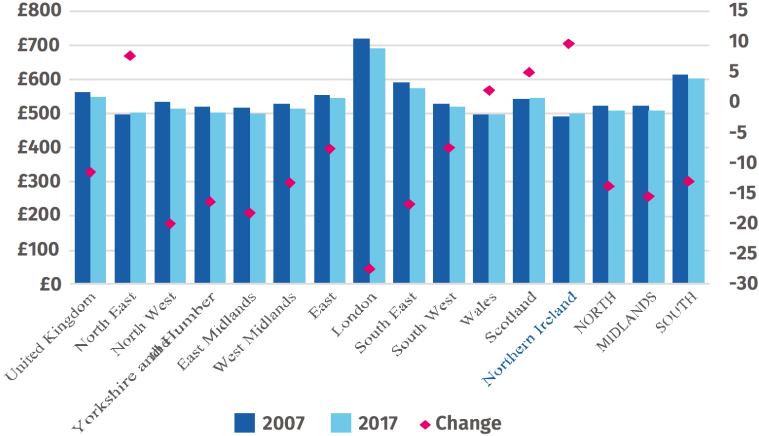
Employment rates by community

Employment rates between the Protestant and Catholic communities in Northern Ireland have now drawn level – a marked improvement on 30 years ago. Today 68 per cent of Protestants and 67 per cent of Catholics are in employment, and unemployment has converged 6 per cent in both communities. In 1992, employment rates were 70 per cent in the Protestant community and 54 per cent in the Catholic community. Nevertheless, differences in the employment outcomes of the communities remain at the youth level: youth unemployment is 24 per cent among Protestants compared to 18 per cent among Catholics (Canning 2017).

2.8 Income, pay and poverty

Incomes are lower and poverty is higher in Northern Ireland than in the rest of the UK. Northern Ireland remains the area of the UK with the lowest weekly pay. Over the past decade, real weekly pay, adjusted for inflation, has increased by 2 per cent, the highest in the UK (see figure 2.8).

Figure 2.8: Pay is low in Northern Ireland, despite big improvements
Weekly pay in UK (NUTS2 areas) (left axis) and percentage change over the decade (right axis)



Source: IPPR analysis of ONS (2017e)

Average median household income in Northern Ireland before housing costs was £436 per week or £22,800 per year in 2015/16, representing a 4 per cent increase in real terms from the previous year. Since 2011/12, incomes have begun to rise in real terms but still remain similar to those seen in 2008/09 (Department for Communities 2017).

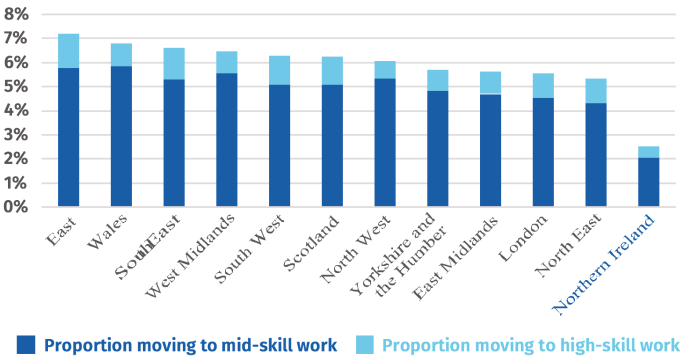
Poverty rates in Northern Ireland

Across Northern Ireland, relative poverty rates have remained stable over the last 10 years, and at levels lower than the UK average (after housing costs – AHC – defined as 60 per cent of the UK median). On average, between 2013/14 and 2015/16, 370,000 people in Northern Ireland overall lived in relative poverty, with 110,000 children, 220,000 working-age adults and 40,000 pensioners living in relative poverty (AHC, 60 per cent median). Between 2003/06 and 2013/16, pensioner poverty in Northern Ireland reduced from 19 per cent to 14 per cent, working-age poverty increased from 18 per cent to 20 per cent (with a particular increase for working-age households without children), and child poverty reduced from 27 per cent to 25 per cent (JRF 2018).

2.9 Career progression

Career progression rates, the number of people moving from low-skilled jobs to middle-skilled jobs, and from low-skilled jobs to high-skilled jobs, are particularly low in Northern Ireland. Northern Ireland has a career progression rate of 2.5 per cent (on average, per quarter, between 2013 and 2018) compared to a UK- wide career progression rate of 6 per cent. Compared to all other parts of the UK, Northern Ireland performs significantly worse in moving workers in low-skilled work onto higher skilled work (see figure 2.9). Workers are less than half as likely to progress into higher skilled roles in Northern Ireland than in the next poorest performing area of the UK.

Figure 2.9: Workers in low-skilled occupations are less than half as likely to progress to higher skilled roles in Northern Ireland than in the next poorest-performing area



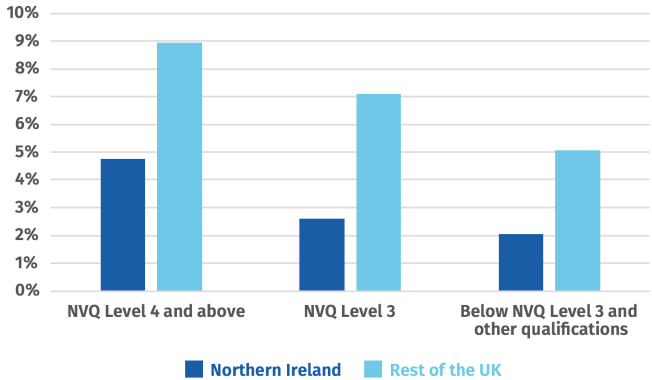
Source: IPPR Scotland calculations using ONS Labour Force Survey Two-quarter Longitudinal Dataset, various quarters (ONS 2018a)
Note: Denominator is all workers in low-skilled occupations in first quarter of each wave. January–June 2013 to July–December 2017.

Progression rates between quarters by area and by skill level progressed to, 2013–2017

Northern Ireland’s problem with career progression is not solely that overall rates of progression are low. In particular, those with low qualification levels are especially unlikely to progress (see figure 2.10). Career progression rates for those at NVQ Level 3 are 2.6 per cent (on average, per quarter, between 2013 to 2017) compared to 7.1 per cent across the rest of the UK. Career progression rates for those with a skill level below NQF Level 3 are 2 per cent (on average, per quarter,

between 2013 to 2017) compared to 5.1 per cent in the rest of the UK. This means workers with low skills in Northern Ireland are less than half as likely to progress to a higher skilled job than in the UK as a whole.

Figure 2.10: The progression gap between Northern Ireland and the rest of the UK is present across low-, middle- and high-skilled workers
Quarterly progression rate from low- to middle- and high-skilled occupations by highest qualification level (Northern Ireland versus rest of the UK, 2013–2017)



Source: IPPR Scotland calculations using ONS Labour Force Survey Two-quarter Longitudinal Dataset, various quarters (ONS 2018b)
Note: Denominator is all workers in low-skilled occupations in first quarter of each wave. January–June 2013 to July–December 2017.

2.10 Zero hours, temporary work and self-employment

The most up-to-date estimates show that around 8,000 workers in Northern Ireland are on zero-hours contracts, or 1 per cent of the population (ONS 2017a). This suggests that there is a lower prevalence of zero-hours contract workers in Northern Ireland than in the UK as a whole, where the figure is 2.8 per cent (ibid). However, given the small sample size for Northern Ireland’s figure, the margin for error is high, and we must be careful not to draw any firm conclusions.

It appears that temporary and insecure work is a widespread phenomenon in Northern Ireland. Even in the public sector, it appears that levels of temporary work are high, which is surprising given that the public sector is traditionally seen as a more stable and secure employer

than the private sector. One in five workers in the education sector is in temporary employment in Northern Ireland, and one in 10 workers in the health and social care sector is self-employed (Wilson 2018a).

There is strong evidence that gender has a big impact through education on insecure employment, with women more likely to be in part-time work. There is also evidence that the workplace patterns which have been traditionally associated with women at work, relating to the nature and security of employment, are spreading in some sectors, rather than being rolled back (Wilson 2018b).

Does Northern Ireland have a low-skills equilibrium?

The economic factors in Northern Ireland that set the context for the workforce’s skills have become self-fulfilling. As argued by the Nevin Economic Research Institute (NERI), Northern Ireland exhibits the characteristics of a low-skills, low-pay equilibrium (Mac Flynn 2017a). Low levels of skills in the population appear to be matched by, and linked to, low demand for skills from firms in Northern Ireland (and vice versa, as low levels of jobs requiring skills means employees see few opportunities for themselves through pay and progression through upskilling). Poor utilisation of skills, or few jobs requiring skills in the job market, means that workers see little benefit in increasing their skill set. Low levels of workers with the skills needed by the economy – or with demonstrable opportunity to upskill – may mean that greater numbers of the firms that generate high value-added jobs are reluctant to set up or expand in Northern Ireland.

The problem therefore becomes a self-reinforcing cycle. Demand for, and supply of, skills in the economy reduces. This is likely to lead to a disproportionate level of low-skill, low-pay jobs, which could feed into low productivity levels, low progression, higher in-work poverty and lower economic performance.

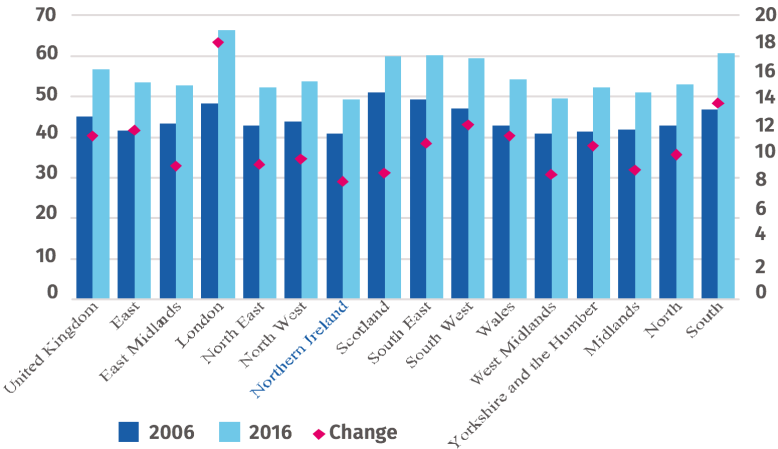
Skills levels in Northern Ireland

2.11 Low and no qualifications

Northern Ireland has the lowest proportion of the population with qualifications equivalent to NVQ Level 3 (A-level equivalent)

compared to the rest of the UK. Figure 2.11 shows that less than 50 per cent of the population has achieved this qualification level. Furthermore, the percentage change improvement in Northern Ireland has been the lowest in the UK.

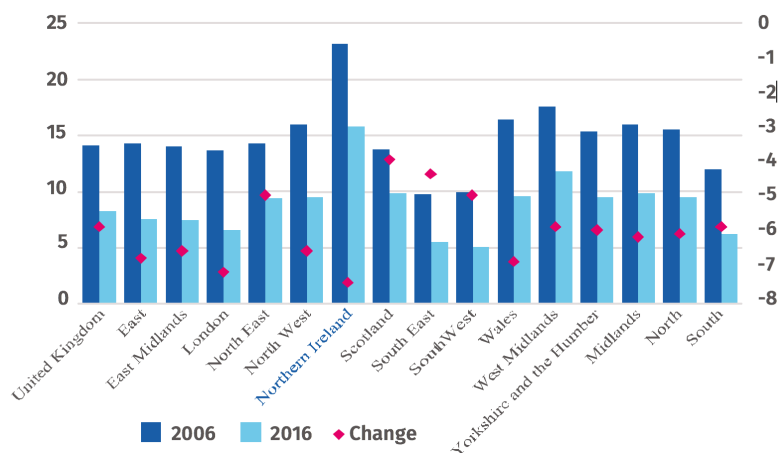
Figure 2.11: Northern Ireland has consistently low levels of workers with NVQ level 3 or above
Percentage of workers with NVQ Level 3+ and percentage change over the decade to 2016



Source: ONS (2018b)

As well as having the lowest level of NVQ3+ qualified workers, Northern Ireland has the largest proportion of people with no qualifications in the UK: 15.8 per cent of the workforce have no qualifications at all (see figure 2.12). Again, this is by a significant margin, and the Northern Ireland figure considerably outstrips the UK average of 7.6 per cent. No other area is comparable, with the next highest, the West Midlands, at an average of 11.8 per cent.

Figure 2.12: Northern Ireland has a high level of workers with no qualifications. While this has been improving, it still remains very high
Levels of workers with no qualifications and percentage change over the decade to 2016



Source: ONS (2018b)

In our interviews with stakeholders who work to tackle the numbers of workers with no qualifications in Northern Ireland, we heard consistently that a lack of employability skills was combining with no qualifications, either to lock people out of work all together, or to make it difficult to retain work or move out of low-paid jobs. Employability skills are those that can be defined as 'transferable' skills; these combine with technical or specialist knowledge to make someone employable (STEMnet). They include teamworking, problem-solving, communication skills, organisational skills, and valuing difference and diversity.

The importance of employability skills is by no means confined to those without qualifications. Indeed, we heard throughout our research that employability skills remain an issue even among highly educated graduates. However, the low rates of employment, pay and progression in Northern Ireland suggest that employability skills combine with low levels of 'hard' qualifications, as shown in figure 2.12, to make it difficult for this cohort to secure work, retain work and advance to higher levels of pay.

The incidence of skills under-utilisation in Northern Ireland is slightly lower than for the UK as a whole. Compared to 30 per cent across the UK as a whole, 28 per cent of NI workers have under-utilised skills (UKCES 2016). The two most common reasons given by staff working in roles for which they have excess skills or qualifications are, first, not interested in taking on a higher level role (24 per cent) and, second, a lack of jobs available at a higher level role (21 per cent).

The skills barometer

As part of the focus on skills in the 2012 strategy, the devolved government commissioned Ulster University to undertake the Skills Barometer: a flagship piece of research that maps the gaps between supply and demand in Northern Ireland's skills ecosystem. This was motivated by a growing recognition across industry, the skills sector and government that the skills system has not been supplying firms with workers who have the right suite of skills, and that this has acted as a hindrance to boosting growth, productivity and value added, as well as in attracting investment.

Broadly speaking, the mismatch between supply and demand in the labour force in Northern Ireland is defined by the following characteristics:

- large numbers of low-skilled workers, either without any qualifications or with a very low level of qualifications and skills
- a reasonable supply of graduates, but with issues linked to the mix of skills being supplied
- an oversupply of graduates in some fields, most notably teaching
- a significant undersupply of graduates in key fields, most notably science, technology, engineering and maths (STEM) and ICT.

The Skills Barometer was published in November 2015, with updates following in 2017 and forthcoming in 2018. Along with the reforms set out at the beginning of this chapter, the Skills Barometer represents a step forward in policy thinking that recognises the centrality of the skills system to long-term economic success.

The Skills Barometer was designed to provide key stakeholders with the information they needed to plan their actions with more efficiency. Employers would be able to see what skills were lacking in the workforce pipeline, government would know which courses were producing too many and too few workers, learners would know whether their qualifications were likely to lead to a job, and institutions would know which courses to provide and to which learners they could be directed.

2.12 Migration

Migration has an important impact on the labour market and the supply of, and demand for, skills. If employers need skills from the workforce, there are two ways they can obtain them: either the existing population can be trained in the skills that are required, or they can be secured from overseas through the recruitment of migrants.

The size of the foreign-born population in the UK increased from about 3.8 million in 1993 to over 8.7 million in 2015 (Migration Observatory 2017). These migrants, however, have not settled evenly across the country: far more migrants have settled in London and the South East in numerical and proportional terms. Only 1.4 per cent of migrants who have come to the UK have settled in Northern Ireland, compared to 36.8 per cent who have gone to London. Northern Ireland ranks lowest of the UK's regions as the destination for migrants (ibid).

While Northern Ireland has not seen the same increase in migration as some parts of the UK, migration has played a reasonably important role to the changes in the local workforce. Recent analysis of the 2011 Northern Ireland Census by the Department for the Economy has shown that, of Northern Ireland's 1.8 million population, 89 per cent were born in Northern Ireland. Of those born outside Northern Ireland but who were living there at the time of the census in 2011:

- 41 per cent were from the rest of the United Kingdom
- 19 per cent were from the Republic of Ireland
- 22 per cent were from the EU26 (the rest of the EU outside the Republic of Ireland and the UK)
- 18 per cent were from the rest of the world (DfE 2018a).

Almost half (45 per cent) of EU26 workers were employed in low-skilled occupations, according to the Office of National Statistics occupation and skills level definitions. In contrast, only 13 per cent of EU26 workers were employed in high-skilled occupations compared to 26 per cent of Northern Ireland workers, 29 per cent of workers from the rest of the UK, 38 per cent of workers from the Republic of Ireland, and 39 per cent from the rest of the world (ibid).

However, while EU migrants are more likely to be working in low-skilled jobs, they are also less likely to be economically inactive. Overseas migrants from the EU and the rest of the world had the highest economic activity rates, with 83 per cent of EU26 migrants and 74 per cent of migrants from the rest of the world economically active. In contrast, 67 per cent of migrants from the rest of the UK and 61 per cent from the Republic of Ireland reported that they were economically active in 2011 (ibid).

Alongside skills development in the existing workforce, migration is an important way to build skills. The low levels of migration in Northern Ireland, in particular in comparison to other parts of the UK, suggest that migration may not be being deployed strategically to boost skills in Northern Ireland.

2.13 Conclusion

In this chapter, we have set out the economic context in which the skills system operates in Northern Ireland, and the issues in the labour force that the skills system can be used to tackle. From low productivity, to low pay and low progression, to a high level of economic inactivity and levels of no qualifications, these problems are significant. In the next chapter, we look at the policy interventions of the past decade designed to meet these challenges.

3. POLICY CONTEXT

From the re-establishment of a power-sharing executive in Northern Ireland following the St Andrews Agreement in 2006 through to its collapse in 2017, a range of reforms and strategies have been developed in relation to skills policy in Northern Ireland.

In this chapter, we lay out some of the key policy changes and strategic plans instituted by the devolved government that set the context in which the skills system operates. We look first at the national-level cross-governmental strategies. Next we consider policies directed specifically at the skills system. These come in two categories: the 'success' strategies (part of a suite of skills policies enacted by the Northern Ireland Executive), and the wider set of policies that have a bearing on the skills system.

Table 3.1

Key skills-related strategies in Northern Ireland

Strategy	Key characteristics	Published
Cross-cutting policy		
Programme for government	Outcome 6 focused on 'more people in better jobs'	2016
Economic strategy for Northern Ireland	Sets the devolved government's overall economic strategy	2012
Draft industrial strategy	Plots the Northern Ireland component of the UK's industrial strategy	Consultation published 2017
City deal for Belfast	Urban regeneration deals between the UK government and city regions	2017 onwards

Economic development powers at council level	Economic development responsibilities handed to new, larger councils following local authority restructuring	2015
'Success' strategies		
Success Through Skills	Overall skills strategy for Northern Ireland, adding detail to the top-line aspirations in the economic strategy	2012
FE Means Success	Published following college mergers to bring strategic vision to the college sector specifically	2016
Securing Our Success	Apprenticeships strategy, which also introduced 'higher level' apprenticeships	2014
Generating Our Success	Youth training programme to address key skills gaps in labour force	2015
Enabling Success	Framework of interventions to tackle economic inactivity	2015
Pathways To Success	Strategy to tackle young people's barriers to the labour market – e.g. mental health, understanding career paths	2012
Wider skills policy		
Assured skills	Programme to provide investors with guaranteed pipeline of skills	2012

Apprenticeship levy	Levy introduced by UK government to fund apprenticeships on firms with pay bills above £3 million	2016
Innovation incentives	Vouchers to boost innovation in SMEs	
Reducing barriers to STEM	Actions to encourage take-up of STEM subjects (both hard and soft), especially among women	Ongoing programme
Connected NI	Programme to facilitate knowledge exchange and connections between the HE and FE sectors, and with business	2007
Structural changes		
College mergers	Merging and rationalising number of colleges across Northern Ireland to ensure efficiency, excellence, professionalisation and value for money	Reduced from 14 to 6 – 2007 (previously reduced from 26)
Non-department public body status for colleges	Operate independently but accountable to ministers	2010
Sector working groups and sector training councils	Groups to identify skills needs of particular sectors	2012

Source: IPPR analysis of skills strategies as set out in this chapter

3.1 Cross-cutting policy

3.1.1 The Programme for Government: an ambition for more people in better jobs

The Northern Ireland Executive's Programme for Government (PFG) was published in 2016, with the public consultation closing in December of that year. The PFG set out a framework of 14 outcomes that the Northern Ireland Executive wished to see in Northern Ireland, of which the sixth was to 'have more people working in better jobs' (NI Executive 2016).

The 'better jobs' outcome was based on the recognition that employment levels are low in Northern Ireland, and that changes in the labour market – both in terms of changing the supply of jobs available for local people, and the demand for better paying and skilled jobs in the labour market – is the best way to improve competitiveness, increase productivity and tackle inequalities. The PFG recognises the importance of ensuring that the workforce has the right skills to attract and take up employment. It also recognises the role of the skills pipeline, through early years to further study – even if the explicit focus for post-school learning is centred mainly on higher education.

The PFG sets a series of indicators against which progress towards the goal of more people in better jobs will be measured:

- reduced economic inactivity
- improved skills profile of the population
- increased proportion of people in work
- increased proportion of people working in better jobs
- reduced underemployment
- improved regional balance of economic prosperity through increased employment
- accelerated economic growth across the region.

In defining a 'better job', the PFG notes that there is not currently a baseline from which this term can be defined and monitored, and notes that this is part of the PFG's data development agenda.

Nonetheless, the PFG lays out a set of potential indicators that could be included in a definition of a 'better job':

- decent income, ie enough to participate actively in society and pursue a fulfilling life
- job security, ie some certainty of that income over a defined period
- opportunities for progression
- work in the right quantities; too little work damages wellbeing, but so does too much
- satisfying work, ie work that utilises skills and provides opportunities to develop
- an employee voice that provides some level of autonomy and participation
- decent conditions, including sick pay, holiday pay and other non-pay entitlements.

It also identifies some priority sectors identified for growth, based on existing clusters of specialism: telecommunications and ICT; life and health sciences; agri-food; financial and professional services, and advanced materials and manufacturing.

To reach this goal, the PFG identifies five priority areas for action, which have a direct relation to the future of skills policy in Northern Ireland. The PFG pledges to:

1. support and actively assist people to get into work
2. help people develop their skill set and employability
3. ensure people have financial support to live, study and work
4. support people to overcome health-related barriers to work
5. create new jobs based on the skills of the workforce through growing business and attracting new business.

3.1.2 Economic strategy for Northern Ireland

The Northern Ireland Economic Strategy was launched in 2012 and it runs until 2030. The strategy states that: 'The aim is to rebuild and rebalance the economy based on the skills and strengths of our people' (Northern Ireland Executive 2012). This represented an

explicit focus by the government on human capital and skills as one of the drivers of economic growth. The Executive regularly revises the strategy, most recently in 2016, to look at the impact and success the strategy has, whether it is meeting its objectives, and how it fits with broader trends in the global economy.

The economic strategy sets out the Northern Ireland Executive's priorities for sustainable growth and prosperity. It sets out the challenges facing the economy, the lessons from global best practice, and a framework for growth. The strategy also identifies priority areas for economic policy to both rebalance and build the economy in Northern Ireland (ibid).

On skills, the strategy discusses increased collaboration between government and Invest Northern Ireland to ensure the skills system meets the needs of companies. However, many of the challenges now facing the economy and skills system have changed in the five years since the strategy was published as a result of global events like Brexit and the impact on budgets of austerity.

3.1.3 Draft industrial strategy for Northern Ireland

A document entitled *Economy 2030: A consultation on an industrial strategy for Northern Ireland* was published for consultation in January 2017, following the breakdown of the power-sharing executive. This followed Prime Minister Theresa May's call for a UK-wide industrial strategy to chart a course for the national economy through Brexit, tackle the key injustices and exploit any opportunities created by leaving the EU.

The industrial strategy sets out a vision for how Northern Ireland's economy can become a transformed economic powerhouse that creates the high growth potential of the area's businesses. It focuses on boosting entrepreneurship, innovation and state support for growth in an environment where world-class academic research and education, knowledge and skills development drive economic growth (DfE 2016a).

This consultation document contained several key milestones, including one in relation to helping 18,000 currently economically inactive people into work by 2021. The draft strategy also stated that the Northern Ireland Executive would: 'increase the number of

economically inactive claimants taking up formal programmes of support to develop and improve their skill levels and help them into work' (ibid).

The draft strategy outlined eight countries that it believed Northern Ireland should benchmark itself against in relation to economic competitiveness: the Republic of Ireland, Scotland, Denmark, Estonia, Finland, Israel, New Zealand and Singapore. The document later showed that Northern Ireland did not currently rank in the top four on any key economic competitiveness indicators set out within it (ibid).

3.1.4 Councils gain economic development powers

The review of public administration in Northern Ireland, which examined local government, led in 2015 to the 26 councils being restructured to create 11 councils. It also devolved new powers including new powers in relation to economic development (NIDirect government services).

This opens up opportunities for local collaborative partnerships and planning, which could help Northern Ireland attract new investment and create new jobs. Belfast City Council created a draft 'employability and skills framework', which runs from 2015–25, and the council's work seeks to develop collaboration and realise the potential of skills provision work (Belfast City Council 2018).

3.1.5 Belfast city deal

Belfast launched its plans for a 'city growth deal' in 2016, with the UK government announcing, in 2017, that negotiations would begin. The city deal aims to assist economic growth across all areas of the city and to deliver jobs. There are four elements that the plan identifies as areas to progress through the city deal.

1. Regeneration and place-making powers, including a possible special action zone
2. Targeted support, including for people facing barriers to the labour market
3. Transport infrastructure, including a hub and improved networks.
4. New finance options, like more borrowing schemes for the council (Belfast City Council 2018).

Skills policy

3.2 'Success' skills policies

The Northern Ireland Executive has enacted a suite of policies aimed at the skills system. These are packaged under the branding of 'success' skills strategies. We look here at this suite of strategies, before moving on to look at other policies aimed at the skills system.

3.2.1 Success Through Skills strategy in Northern Ireland

In 2011 the Northern Ireland Executive launched Success Through Skills, a skills strategy for Northern Ireland. This builds on the focus in the economic strategy on the workforce being the key plank in the region's future economic prosperity, and aims to bring co-ordination and overdue reform to the skills system. This strategy was designed to operate for 10 years, and its timeframe is soon coming to an end (DEL 2011).

Key actions outlined in the strategy include the following five areas:

1. understanding the demand for skills
2. improving the quality and relevance of education and training
3. improving productivity by increasing the skill levels of the workforce
4. tackling the skills barriers to employment and employability
5. engaging stakeholders.

This overarching skills strategy has led to a range of more targeted strategies, focusing on specific parts of the skills ecosystem.

3.2.2 Further Education Means Success: a new further education strategy in Northern Ireland

A new further education (FE) strategy for Northern Ireland, Further Education Means Success, was launched in January 2016. The strategy noted that, in the period since college mergers, co-operation with enterprise policy and activities has changed significantly.

“Business engagement activity has been transformed following the colleges’ rationalisation in 2007. The further education sector has a proven track record in delivering a range of programmes to Northern Ireland businesses in areas such as product design, research and development, business incubation, and innovation and knowledge transfer.”

DfE (2016a)

The strategy sets the direction for the further education sector in Northern Ireland, underpinned with a series of policy objectives to achieve those. It discusses how the FE sector can use employer support programmes to assist SMEs regarding innovation and to develop knowledge transfer projects (ibid).

3.2.3 Skills To Succeed

Following on from the publication of Further Education Means Success, the Department for the Economy published Skills To Succeed in February 2017. This focuses on two programmes that help employers get the skills they need: InnovateUs and Skills Focus. InnovateUs is a government programme that provides skills development funding to small businesses with fewer than 50 employees. Firms gain access to between 10 and 50 hours of fully funded training from the business development teams of local colleges to support innovation practice. Skills Focus is a similar programme but for companies of fewer than 250 employees; government funding is provided to FE colleges to provide skills training to upskill the existing workforce in SMEs. Both programmes can take place in the workplace or at college.

The document outlines the range of advantages that these projects offer:

- a tailored training solution designed to meet businesses’ needs
- flexible training delivery, either workplace or college based
- the opportunity to acquire accredited qualifications

- a more productive, skilled workforce
- increased innovation and growth (DfE 2017).

3.2.4 Securing Our Success: the apprenticeship strategy in Northern Ireland

Northern Ireland’s current apprenticeship strategy, Securing Our Success, was launched in mid 2014. The strategy sought to increase participation in apprenticeships and improve partnerships between key stakeholders. A key reform was the creation of degree-level apprenticeships in Northern Ireland (DfE 2014). These higher level apprenticeships take learners who have been through the Level 2 (equivalent to five good GCSEs) and Level 3 (equivalent to two A-Levels) apprenticeships and give them opportunities for higher level learning and specialisation up to degree level. These were first conceived as a way to develop skills in members of the population who were blocked, either by ability or motivation, from going to higher education (HE). Secondly, higher level apprenticeships are designed to fill skills gaps identified by employers. These programmes were developed based on practice seen in other countries, notably Switzerland and Germany. Since their introduction in 2015, over 1,000 learners have completed them, building up capacity in the middle-skilled cohort of the workforce.

However, there is a lack of apprenticeship opportunities for people aged 25 and over, and only a few subject areas are open to people who are 25 and older seeking an apprenticeship. This points to a significant gap in work-based training provision for people who are mid-career and who may have been made redundant or whose skill requirements have transformed due to the impact of automation.

3.2.5 Generating Our Success: a strategy to bridge skills gaps in young people

Generating Our Success: The Northern Ireland strategy for youth training was published by the then Department for Employment and Learning in June 2015, and it delivered the future vision for training as well as outlining implementation planning and policy commitments

within this sector. It examined the potential gaps in skills provision and training, outlining actions to address gaps between supply and demand for skills, reform of Level 2 youth training and broadening the scope of this skills provision.

The strategy stemmed from the Review of Youth Training's interim report, which was published in November 2014 and included four key themes for action: core components of the youth training system, supporting young people, delivery and employer engagement structures, and ensuring quality (DEL 2015). The report highlighted that some Level 2 (equivalent to five A* to C GCSEs) skills programmes in Northern Ireland faced challenges in delivering training that could both respond to industry needs and deliver the breadth of skills needed. In particular, the report noted that current provision in many cases did not provide appropriate qualifications in numeracy and literacy to enable progression, while in other routes there was insufficient emphasis on the key role of work-based learning.

3.2.6 Pathways To Success and Enabling Success: strategies to tackle economic inactivity in Northern Ireland

In May 2012, another strategy, called Pathways To Success – which was designed to deal with economic inactivity among young people – was launched to ensure that as many young people as possible could access education, training or employment opportunities. The strategy brought together Northern Ireland Executive programmes already in place, while also recommending additional initiatives. The strategy aimed to improve coordination, leadership and information. It also promised to deliver actions around early years, as well as raise standards in all schools, health and social care programmes, and early careers advice. Its actions aimed to engage young people not in training, education or employment (Northern Ireland Executive 2012). The strategy emphasised the importance of early years education and addressing barriers to learning, such as finances, and mental health and wellbeing problems. The strategy considered implementing new measures such as mentoring through community-based access programmes, creating a career path through the promotion of individual action plans and an innovation fund.

In April 2015, an economic inactivity strategy for Northern Ireland, Enabling Success, was published. The strategy targets two specific groups in order to reduce the obstacles to work: people who are sick over the long term or who are disabled; and lone parents or carers. The strategy outlines a 'framework for action' to target these groups, including policies such as targeted incentives, labour market transitions, changing societal attitudes, and also the use of data and preventative wellbeing interventions to address economic inactivity (DEL and DET 2015).

3.3 Wider skills policies

Beyond the 'success' skills strategies, there are a range of wider policies aimed at the skills system.

3.3.1 Assured Skills

The Assured Skills programme is a joint initiative established by the Department for the Economy and Invest Northern Ireland. The purpose of the initiative is to de-risk the potential of skills gaps for foreign investors, and provide them with the assurance that the skills they need for their firm will be available in the Northern Irish workforce. As part of the deal when they sign up to invest and open in Northern Ireland, foreign investors specify the skills they need from the local workforce. The key goals of the Assured Skills programme in Northern Ireland are to meet the skills needs of companies that invest and operate there, and to increase employment opportunities for participants (DfE 2012).

The aim of Assured Skills is to deliver training that leads directly to employment opportunities through providing additional vocational training, usually involving an eight- to 10-week pre-employment training programme. It endeavours to address both unemployment and under-employment in Northern Ireland. Initially, Assured Skills was available to foreign potential investors in Northern Ireland. It has now grown to be available to existing employers who are considering expansion.

The only requirements of the investors in the Assured Skills programme are to codesign the course, take the learners for a placement and

give them an interview at the end of the process. They are under no obligation to employ the learner at the end of the process. Any new investor, or existing employer considering expansion, is eligible to apply for the Assured Skills programme. It is open to anyone who is unemployed, in education, in work, and with or without a graduate level qualification. The purpose is to give them the skills they need to start work in firms that are opening in Northern Ireland.

The Assured Skills programme is widely seen as an innovative and effective policy development that is helping Northern Ireland both boost the impact of foreign direct investment by generating skilled jobs in the labour market, and boost productivity by increasing skills in the workforce. Since the initiative began in 2011, over 1,000 people have gone through the scheme and into work. The programmes delivered through Assured Skills (known as the 'academies') have an 80 per cent success rate of participants progressing into full-time employment, and four cohorts have taken part in the Software Testers' Academy since 2011, with almost 40 companies using this particular academy to find staff. The funding allocation for Assured Skills projects from the Department for the Economy over the July 2014 to December 2020 period has been estimated to be £15 million.

3.3.2 Innovation incentives, research and development, and skills

The latest UK Innovation Survey, published in July 2016, shows that the percentage of firms undertaking innovation in Northern Ireland was 45 per cent. This is lower than in England (54 per cent), Wales (51 per cent) and Scotland (50 per cent).

Invest Northern Ireland has a programme of work designed to boost innovation; it seeks to embed innovation throughout the business environment in Northern Ireland, beyond the narrow conception of innovation as research and development, in order to drive long-term commercial benefits, efficiency, productivity and sales. In order to foster this culture of innovation, Invest Northern Ireland created the Innovation Voucher Scheme to encourage local companies to work with 'knowledge providers' in universities and FE colleges to grow business and access external markets.

Innovation vouchers of up to £5,000 are available from Invest Northern Ireland (Invest NI 2018). The Innovation Voucher Scheme provides financial resource for SMEs to collaborate with colleges, universities or public sector research organisations to help expand and deliver innovation within such a business. For example, the vouchers can be used to finance collaboration to test new products or business plans with local experts or academics, with a view to increasing competitiveness or efficiency. It is thought that by fostering relationships between the business community and local 'knowledge providers', business can access the skills in the community in an effective and cheap way, spreading innovation in one sector to the other.

The scheme was developed in recognition of the results of the UK Innovation Survey for 2015 (based on data from 2012–14), showing Northern Ireland ranking as number 11 out of the 12 areas in the UK in terms of the rate of innovation activity, despite the percentage of Northern Ireland firms innovating rising from 40 per cent to 45 per cent.

In addition, Invest Northern Ireland provides funding to businesses for research and development (R&D) in collaboration with colleges or universities. This 'follow-on R&D' funding is open to businesses that have some experience of R&D for a range of activities to boost business investment in research and development in Northern Ireland. Unlike in other parts of the UK, colleges are included in this funding, ensuring that innovation in business practices and processes includes the experience of colleges as well as universities.

3.3.3 Knowledge transfer initiatives between colleges, universities and business

The Connected programme was created in Northern Ireland in 2007 to help facilitate knowledge transfer and co-operation between the college and university sector and business. It is funded by the Department for the Economy and involves collaboration to meet the needs of enterprises and develop innovation. The Connected programme operates on a cross-border basis and Brexit could have ramifications with regards to how it operates in the future.

The evaluation report from the Connected programme in December 2013 examined the effectiveness of the programme and provided an evidence base to examine the performance of the programme. Regarding the total number of projects, it showed that: 'The full four-year target has already been exceeded by more than a factor of 2 (541 vs 267).'

The evaluation did, however, highlight potential barriers facing SMEs around taking part in knowledge-transfer activities, suggesting that there are still barriers (either real or perceived) within the SME sector. This was attributed to a lack of awareness of the opportunities available, a lack of time and resources to pursue collaborations, and limited awareness among SMEs that universities can offer problem-solving expertise and industry support (DEL 2013).

The latest phase of the Connected programme, Connect 3, has expanded to include the opportunity to collaborate with CAFRE, the College of Agriculture, Food & Rural Enterprise, which offered both FE and HE courses, the Open University and the Agri-Food and Biosciences Institute in Northern Ireland.

3.3.4 Proactive interventions to address STEM participation barriers

As highlighted by the Skills Barometer, there is a clear lack of supply of people with STEM skills in the Northern Irish economy (see previous chapter). The ratio of men to women working in STEM-related roles is 3:1. This is a significant problem in relation to equality as well as to the economy; unaddressed, it prevents Northern Ireland reaching its economic potential (Equality NI 2013). There is a gender imbalance in STEM course and career uptake due to barriers to participation faced by women, and the Department for the Economy is working with the STEM business group and the Equality Commission for Northern Ireland to address this issue.

In 2013, a report called *Addressing Gender Balance: Reaping the gender dividend in science, technology, engineering and mathematics (STEM)* was produced by the STEM Business Group and funded by the Department for Employment and Learning. The report outlines the

business case for removing barriers to participation, and also provides guidelines for best practice and case studies from STEM companies, a Northern Ireland charter for CEOs of STEM companies, and sources of further information and support.

A STEM Charter has been created for companies to sign up to in order to demonstrate that they are committed to the removal of barriers to participation in STEM for women, and 41 companies in Northern Ireland have so far signed up (ibid). A STEM Employers Equality Network has been established so that companies can share best practice in addressing and removing barriers to participation.

3.3.5 The apprenticeship levy

The apprenticeship levy which is raised in Northern Ireland goes to the HM Treasury rather than to the devolved administration. The apprenticeship levy was introduced in 2016 by the UK government on firms with total payroll costs of over £3 million per year to raise funds for apprenticeship training. However, the funding collected from the levy from Northern Ireland firms is not ring-fenced for investment in apprenticeships in Northern Ireland, with funding collected by the Treasury and distributed to Northern Ireland (and Scotland and Wales) on the equivalent of the Barnett formula used for general block grant calculation.

A Department for the Economy employer engagement consultation on the apprentice levy opened in November 2016, but the findings as yet remain unpublished. The consultation was focused on Northern Ireland's implementation of the levy and how revenue could be used (DfE 2016b).

This implementation of the levy in Northern Ireland has meant that some of the opportunities for greater employer engagement in the skills system have potentially been lost, with a disconnect between the employers that pay the levy in Northern Ireland and the potential learning provision they could access for their employees in return.

3.4 Conclusion

Over the past decade, and in recognition of the long-standing structural issues facing the Northern Irish economy outlined in chapter 2, Northern Ireland has embarked on a wide range of strategies and plans connected to the skills system. The failure of power-sharing has inevitably led to political stasis but, nonetheless, an evaluation and update of the strategies, as well as political decisions on their future direction, will be needed soon.

4. THE SKILLS LANDSCAPE IN NORTHERN IRELAND

The skills system includes a range of different learner groups, aims and objectives. In this chapter, we set out the shape of the skills system in Northern Ireland, trends in funding, and participation in the system from learners and employers.

4.1 Colleges and universities in Northern Ireland

Northern Ireland has two universities: Queen's University Belfast and Ulster University, which has four campuses, in Coleraine, Derry/Londonderry, Jordanstown and Belfast. The Open University also operates in Northern Ireland, and there are two university colleges in Belfast, which mainly deliver initial teacher education courses: St Mary's University College and Stranmillis University College.

In 2007, the then 14 colleges across Northern Ireland merged on a regional basis to create six larger colleges: Belfast Metropolitan College, Northern Regional College, North West Regional College, South East Regional College, Southern Regional College and South West Regional College. They had previously been reduced from 26. Significant time has elapsed since this set of mergers, and this has provided an opportunity for the new colleges to adapt to this changed landscape.

Northern Ireland does not have government agencies that work between the executive and colleges or universities, akin to Skills Development Scotland or the Scottish Funding Council in Scotland to distribute public money for skills, FE and HE provision. Instead, the Department for the Economy itself allocates funding to colleges and universities in Northern Ireland.

Colleges in Northern Ireland provide learning in further education, higher education and essential skills training. Further education makes

up 74 per cent of college provision, and 17 per cent is essential skills training. Nine per cent of learning provided by Northern Ireland's colleges is now at the higher education level (Colleges NI 2017).

In 2010, the Office for National Statistics made the decision to reclassify all six of Northern Ireland's colleges to be non-departmental public bodies (NDPBs). Being an NDPB entails operating independently but still having accountability to government ministers. NDPBs' staff are not, however, considered to be civil servants, although NDPBs carry out their work within the framework of government policies.

Having NDPB status means that colleges in Northern Ireland cannot lobby government or campaign for policy or for additional funding, because their budget can only be spent on service delivery. Northern Ireland public procurement policy applies to any organisations with NDPB status, and this therefore means that colleges and other NDPB classified organisations comply with rigorous procurement procedures. Equally, it means that colleges in Northern Ireland can no longer build reserves to enable multi-year investment, long-term investment or to cushion fluctuations in income.

4.2 Public funding in the skills system

Funding for the skills sector has declined significantly in the 10 years since the financial crisis and public sector austerity. Until the Department for the Economy was created in mid 2016, the Department for Employment and Learning oversaw further and higher education, skills funding and careers guidance. It saw its budget allocation fall between 2014/15 and 2015/16 by 6.4 per cent (Northern Ireland Executive 2016).

The most recent budget for 2018/19 year had no change in the funding for the Department for the Economy, with its budget allocation remaining at £763.3 million (Department of Finance 2018). This equates to a real terms decrease in the department's budget of 2.3 per cent.

Universities in Northern Ireland are able to charge tuition fees; in 2018/19 these will be up to £4,160 per year for Northern Ireland

students and those from the EU, and up to £9,250 per year for students from the rest of the UK.

Funding for schools and for health has been mainly protected in Northern Ireland, meaning greater pressures on other parts of spending, including in the rest of the skills system. Equally, funding for schools and colleges is calculated differently. The funding that schools receive from the government is calculated on a per-pupil basis, with older pupils commanding more resources from central government. As long as a pupil has opted to remain in school for the penultimate (fifth year/Year 12) or final year (sixth year/Year 13) of sixth form, and is still registered by October, the school receives £6,000 in funding. The school retains this funding even if the pupil drops out after October. This is higher than funding provided to colleges for many further education courses; also, funding is provided in stages for colleges, leading to a financial risk from students dropping out.

4.3 Employer engagement in the skills system

Overall, Northern Ireland fares slightly worse than the UK average in terms of delivering training to workers. Table 4.1 shows that the proportion of employers providing training, whether off or on the job, was lower in Northern Ireland than the UK average.

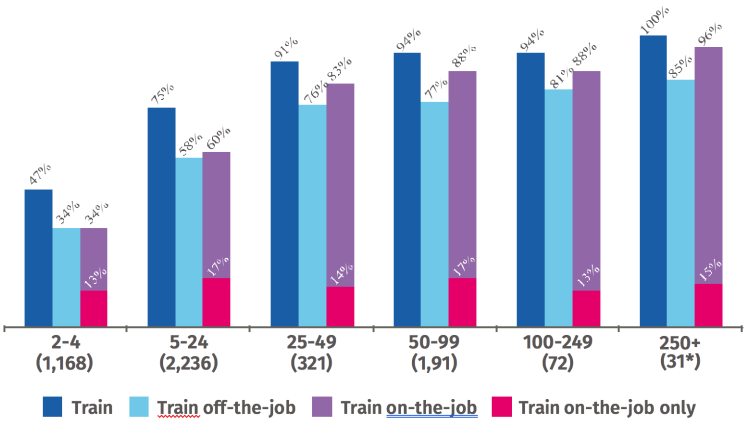
Table 4.1 Proportion of employers providing training in the 12 months to March 2016 inclusive

	UK	Northern Ireland
Provide training	66%	62%
Train off the job	49%	47%
Train on the job (of which train on the job only)	53% (17%)	49% (15%)

Source: UK Commission for Employment and Skills 2016

Equally, the smaller an employer, the less likely they are to provide training to employees. Figure 4.1 shows that far fewer employers who employ fewer than 25 employees offer training compared to employers with over 25 employees.

Figure 4.1
Proportion of employers providing training in the last 12 months by size



Source: UK Commission for Employment and Skills 2016

There are clearly barriers for smaller employers accessing the skills system and offering training. Finding ways to reduce these barriers to entry for SMEs in engaging with the skills system will be important for Northern Ireland, as will encouraging SMEs to invest in training and learning.

4.4 Participation in the skills system

The impact of government budget cuts for further education colleges in Northern Ireland can clearly be seen through the significant decrease in total enrolment numbers.

4.4.1 Further and higher education enrolments

Between 2013/14 and 2015/16, the total number of enrolments in FE colleges in Northern Ireland fell from 180,825 to 153,817, and during this time the number of enrolments of people over the age of 25 fell by a far larger proportion than the decrease in total number of enrolments

for those aged 24 and under. Higher education enrolments at colleges have decreased by 3.5 per cent, from 11,576 in 2013/14 to 11,175 in 2016/17 (DfE 2018d).

The total number of enrolments in higher education institutions in Northern Ireland, including the Open University, increased from the 2007/08 figure of 52,155 to a high point of 56,860 in 2010/11. This figure fluctuated until 2014/15, when the number was 56,445, and has fallen steadily since then to 54,570 in 2016/17. For the year 2016/17, Queen's University had 23,850 student enrolments and Ulster University had 24,640 (a total of just 48,490).

In colleges, enrolments are heavily weighted to part-time provision. In 2016/17, 83.1 per cent of enrolments in colleges were on a part-time basis (a decrease of 2.6 per cent on 2013/14) (DfE 2017b). In the university sector, on the other hand, enrolments are weighted towards full-time participation: 62.1 per cent of first-year undergraduates are full time, while 37.8 per cent are part time (DfE 2018b).

There has typically been a fairly even split in terms of the gender profile in college enrolments in Northern Ireland. Whereas women made up a slight majority of enrolments in 2013/14 (50.8 per cent) and 2014/15 (50.4 per cent), most enrolments in 2015/16 (51.8 per cent) and 2016/17 (53.2 per cent) were by men (DfE 2017b).

4.4.2 Apprenticeship starts and other in-work training

The total number of apprenticeship starts has increased each year, from 5,202 in 2012/13 to 6,504 in 2016/17. There has been a general decline in Training For Success starts over recent years, from a peak of 5,233 in 2012/13 to 3,273 in 2016/17 (DfE 2018c). A Department for the Economy briefing states that these changes may have been caused by more students staying on at school to study vocational subjects there, and it points to figures from the Department of Education showing the percentage of students who continued to stay at school post-GCSEs increased from 59.5 per cent in 2008/09 to 69.8 per cent in 2014/15 (DfE 2018d).

5. LOOMING CHALLENGES

Previous chapters have outlined the existing policy and economic context, together with the current make-up of and engagement with the skills system in Northern Ireland, in order to highlight some of the existing challenges and opportunities facing it. However, there are also larger challenges looming on the horizon.

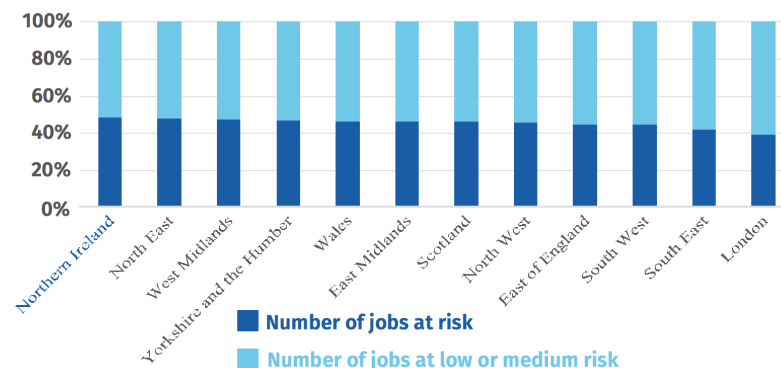
In this chapter, we outline the potential for technological change, Brexit, the changing nature of globalisation and future funding challenges across the UK to affect the skills system in Northern Ireland. These factors could have potentially transformative effects on the skills system in Northern Ireland and the demands placed on it, in both positive as well as negative terms. Many of these are difficult to predict, but it is crucial that policymakers think now about what the potential impacts could be, and ready the skills system to meet them. In this chapter, we sketch out the key elements that require consideration.

5.1 Colleges and universities in Northern Ireland

Technological change will continue to have an impact on the labour market in Northern Ireland, and this will create both opportunities and challenges. Automation and the impact of new digital technology in particular are likely to have profound impacts on the shape of the job market.

It is highly likely that there will be local variation in how automation and technological change are felt across the UK. Looking at potential for automation by area, we can see that London and the South East have the lowest and Northern Ireland has the highest proportion of jobs most susceptible to automation. In Northern Ireland, 48.5 per cent of jobs have a high potential for automation, compared to 45.4 per cent on average across the UK.

Figure 5.1 Almost half of jobs in Northern Ireland have a high potential for automation, compared to two in five in London
Jobs with potential for technical automation, UK regions



Source: IPPR analysis using Quarterly Labour Force Survey (ONS 2018a; 2016–17 data) and Frey and Osborne's probabilities of computerisation (2013). See appendix for methodology.

IPPR has previously argued that automation is unlikely to lead to mass unemployment: we are not yet on the cusp of the 'post-human' economy (Lawrence, Roberts and King 2017). It is more likely that, if policymakers respond well, automation will lead to increased productivity gains, which could present a significant opportunity for Northern Ireland. The aim must be to ensure productivity gains are recirculated around the economy, with jobs in aggregate terms increased, reallocated and restructured rather than eliminated.

However, the consequences of this change are not pre-determined, and are very much based on the decisions we make now to shape the pace, type and impact of technological change in Northern Ireland. In the 'first wave' of automation, which has happened over the last few decades, the jobs most affected were those involving largely routine tasks, including machine operatives in manufacturing and clerical administrators in services. However, the latest developments in technology – including advanced robots with senses, intelligence and dexterity; artificial intelligence; autonomous vehicles; 3D printing and big data – are likely to affect a far wider range of jobs, including those that involve complex interactions and require knowledge, experience and judgement. As a result, the impact of technological change is likely to spread to jobs further up the skills ladder, beyond low-skilled roles, to include middle-skilled work and potentially a number of the professions (Susskind and Susskind 2015).

Over the coming years, we are likely to see an acceleration of change, and disruption to roles, sectors and the economy that have not experienced the effects of new technology to date. Almost half of jobs in Northern Ireland have a high potential for automation, making it the most exposed part of the UK when it comes to technological change. It is those jobs that still require human interaction that are likely to have lower potential for automation, such as care, health and sales. If policymakers, and the skills system itself, are not able to anticipate the changes brought by technological change and automation in the economy, there are real risks of entrenching existing inequalities and creating new ones. There is also a risk that many who are less digitally literate, including within the older population, could find themselves excluded from the labour market. Inequality in terms of social background could also worsen: access to digital skills is likely to remain skewed in favour of those from higher income backgrounds with higher levels of education and skills.

5.2 Brexit

The UK vote to exit the EU has created a great deal of uncertainty in Northern Ireland and has raised fundamental questions around the border with the Republic of Ireland. There are a number of potentially significant impacts from Brexit for Northern Ireland's economy. Equally, future migration flows will depend on the final deal between the UK and the EU in relation to the free movement of people from the EU to the UK, which has driven migration levels to the UK and, to a lesser extent, to Northern Ireland (although free movement within the British Isles for UK and Irish citizens is assured through the Common Travel Area). Employers' ability to recruit workers of all skill levels from across the EU may be reduced, resulting in a greater reliance on the skills system in Northern Ireland and the UK to meet skills needs.

As things stand, the UK is due to leave the EU customs union and the single market. However, both the EU and the UK have been clear that they wish to avoid a hard border on the island of Ireland, between the UK and the EU. The economic challenges that the loss of customs union and single market membership could have on businesses in Northern Ireland has been clearly demonstrated in a recent survey carried out

by the Northern Ireland Chamber of Commerce and Industry: around 40 per cent of businesses surveyed stated that they are considering changing their target market due to Brexit (Belfast Telegraph 2017).

For the skills system in particular, Brexit poses more direct challenges. Leaving the EU could impact on the ability of college and university students living in border areas to attend their nearest provider, as it may be across the border. It has been estimated that some 15,000 people cross the border with Donegal daily to work or study in Derry-Strabane. There are 400,000 people in the education system in these two counties at any one time, large numbers of whom cross the border for educational opportunities. There is a risk that the international dimension of Northern Ireland's skills system could be impacted by Brexit, so it is important that any future migration policy allows for ease of movement of students and those on skills development programmes. Furthermore, the UK leaving the EU could also mean that any student from one jurisdiction wishing to study in the other will be charged the same high tuition fee level that a non-EU student currently pays, which may be twice or three times the current fee level. This issue will require attention to ensure learners are not negatively impacted.

Furthermore, the European Social Fund is an important source of funding for training programmes in Northern Ireland, and leaving the EU could put in jeopardy training programmes which depend upon this source of funding, potentially impacting significantly on skills provision.

Equally, Brexit may threaten research funding for both colleges and universities in Northern Ireland. Recently, it was announced that Belfast Metropolitan College was the first college in Northern Ireland ever to gain research funding from the EU North West Europe Interreg fund. It gained an £8 million research grant for hydrogen-based renewable energy technology and will be partnered with companies and education institutions in Ireland, Germany, Belgium and France as part of the Gencomm project (BBC 2017). The possibility that important funding projects of this nature could be lost if the UK leaves the EU further illustrates the significant problems which the skills system could face in a post-Brexit landscape.

5.3 The changing nature of globalisation

Regardless of the UK's relationship with the EU, the future for world trade has been made less certain by a number of global factors in recent years. Clearly the shape of any future trade deal between the UK and the EU will have large consequences for the parts of Northern Ireland's economy focused on – or dependent on – international trade. However, the wider global context for trade is looking less certain than it has for some time. Throughout the second half of the 20th century, global trade has increased at a steady rate, with geopolitical changes (most notably the end of the Cold War and the opening up of China's economy to world trade) and technological progress, particularly in the cost of travel and communication, boosting trade levels (WTO 2013).

Technological change, and in particular reductions in transport and communication costs, may well bring fewer cost reductions, in relative terms, over the coming years than they have in the past. Without new technological advances in the future of a similar scale to those seen in the past, the ability for world trade to match growth over the last 50 years may be lessened.

However, most importantly, the geopolitical climate looks less friendly to world trade than it has at many points over the last 50 years. The prospect of the return to a protectionist approach to world trade – not just in the US, with President Trump's America First rhetoric and policy platform, but also across parts of Europe and beyond – means additional barriers to trade may be imposed in the coming years. With a burgeoning trade dispute between America and China, and signals of potentially similar disputes between America and Europe, the nature and scope of globalisation may be changing.

In Northern Ireland, we have seen the initial decision by America to impose tariffs on Bombardier airplanes reversed. But future barriers to trade may have direct negative impacts on Northern Ireland's economy, and have indirect impacts fed through the UK as a whole. In turn, the skills system in Northern Ireland may well be operating in a different context, in this regard, in the future to the recent past. It remains to be seen if these changes in global trade policies are short-term responses

to weaker economic growth in recent years, or temporary blips related to individual leaders, or whether they mark the start of stagnation or retrenchment in global trade.

5.4 Future funding challenges across the UK

The UK as a whole is ageing, and this will have implications for the public finances in Northern Ireland. By 2030, the UK will see an increase of 33 per cent in the over-65 population, with the over-85 population expected to nearly double. While the working-age population will increase, it will become a smaller proportion of the population as a whole (Lawrence 2016).

Demographic change is clearly a huge success, and represents many generations of successful social policy. It will also bring new opportunities, with the age structure of the population likely to lead to changes to the economy and society. However, in terms of public finances, it represents a significant financial challenge, with tax revenues likely to face pressure from increased demand for public spending and services from older people, particularly around health, social care and older people's entitlements. These increased pressures will likely come at a time of slower economic growth in the UK following the 2007 recession and, looking ahead, the UK's exit from the European Union.

IPPR has estimated that by 2040, the UK's finances could be up £340 billion in deficit per year without reductions in spending or increases in taxation, unless productivity and economic growth can provide the increases in tax revenues required (Colebrook et al 2016).

While these demographic and economic pressures will have a direct effect in Northern Ireland, the indirect effect is likely to be even stronger, given the current range of powers devolved to Northern Ireland. With the prospects for the UK's public finances looking pressured over the short, medium and long term, the public funding available to Northern Ireland is also likely to face significant pressures, and in turn the public funding available to the skills system in Northern Ireland is unlikely to avoid pressures too.

6. KEY INSIGHTS INTO THE SKILLS SYSTEM IN NORTHERN IRELAND

In previous chapters, we have set out the context in which the skills system has operated in Northern Ireland in recent years both in policy and economic terms. We have also identified some of the key strengths and weaknesses of the skills system and wider economy in Northern Ireland, together with the huge disruption facing Northern Ireland over the coming years stemming from Brexit, automation and technological change, and from the potentially changing nature of globalisation. By doing so, we have outlined the context the skills system in Northern Ireland is facing now, as well as the potential future world of work and the economy that the skills system will be facing in the future.

We will now conclude by outlining our key insights in relation to the skills system, highlighting the key opportunities and challenges facing the skills system in Northern Ireland and to which it needs to respond.

These insights have been designed to spark debate among those involved in the skills system, and to gather feedback. IPPR will use these insights as the basis for further research into what a successful skills system would look like, and therefore what needs to change and what needs to stay the same. We hope that these will serve as a provocation for policymakers to consider the overall aims of the sector, its strategic capacity, the harmony (or lack thereof) between the objectives of its different component parts, and whether it is currently likely to succeed or fail in preparing Northern Ireland's workforce to profit from the jobs of tomorrow.

6.1 The skills system: delivering for Northern Ireland

1. Solving low pay and low progression rates should be a key measure of success for the skills system

Northern Ireland has lower rates of pay than elsewhere in the UK. Just as crucially, career progression rates are poor. By no means are pay and progression rates the only measure of life chances or indeed the only reason for learners to enter the skills system. However, we know there are links between low pay, low career progression, and rates of in-work poverty and productivity. By boosting pay and progression, we can grow the economy while also tackling social inequalities.

Clearly, rates of pay and progression are as much in the hands of employers and a factor of the wider economy as they are in the direct control of the skills system. This has already received high-level recognition through the Programme for Government's outcome objective for more people in better jobs. Translating this to reality will require working with learners, employees and employers to ensure that learning delivers for all, and so that the skills system can be at the centre of efforts across the system to improve pay and progression rates.

A key measure of success for the skills system should be in relation to how investment in skills is driving pay and progression. This should be collected, monitored and acted upon at the system-wide level, through to the individual learner level, ensuring that we gain the greatest impact against key economic priorities for the public investment in the skills system provided.

2. The skills system in Northern Ireland needs to focus on mid-career learning

In the aftermath of the recession, there was a widespread concern that large-scale unemployment would lead to deep and lasting problems for the economy in Northern Ireland. In particular, there were fears that young people leaving school and the wider skills system would struggle to find work, creating a generation damaged by unemployment; however, youth unemployment levels are low, especially compared to other European countries.

The large challenges on the horizon – the changing nature of work and the impact of other external factors such as automation, technological change and Brexit – mean that there is a risk of workers of *all* ages falling out of the labour market and struggling to get new jobs. Furthermore, if Northern Ireland is to resolve its deep structural problems with productivity, sustained efforts will be required to ensure that workers throughout their working lives have the opportunity to upskill, retrain and redeploy into new parts of the labour market. We know that the rate of economic inactivity, which is one of Northern Ireland's significant structural issues, begins to diverge from the UK average around the age of 40. While the Programme for Government recognises the need to develop skills in priority areas identified for growth and the importance of the skills pipeline, mid-career learning could still risk being overlooked or crowded out.

The skills system in Northern Ireland should have a greater focus on the whole of the age spectrum, including mid-career provision, with the full range of flexibility of learning (from very part-time to intensive learning) to deliver improved life chances and to improve economic performance, to tackle low pay and low rates of career progression, and to boost productivity.

3. Northern Ireland needs to move on from targeting only youth unemployment to improving life chances for young people

Given the very low rates of career progression in Northern Ireland, we know that many young people who enter low-skilled work will remain in low-skilled work throughout their careers. Equally, while it is difficult to establish precise figures on zero-hours contracts and insecure work, we can see that zero-hours contracts are an increasing feature of Northern Ireland's labour market. Given the high rate of employment and low levels of employers offering training, outlined in this report, it is likely that too high a proportion of those young people who are moving from unemployment and economic inactivity into work, are not moving into jobs that offer them opportunities to increase their skills or offer wrap-around learning and development. In the context of automation and the changing nature of globalisation, these jobs may be most at risk of disappearing in the future.

When it comes to measuring outcomes for learners who qualify from the skills system, including schools, we should be ambitious, ensuring that we build in measures of job quality as much as job quantity. The existing strategies Pathways To Success and Generating Success should focus on making sure that young people are able to take up jobs with prospects rather than jobs which may risk further entrenching the low-skill equilibrium evident in Northern Ireland. It is no longer ambitious enough to see any job as a successful destination for a learner, when we need to see young people enter the labour market in jobs which continue to offer training, learning and development.

4. Schools and colleges should work to focus on those most at risk of leaving school with no qualifications

Northern Ireland has some of the highest rates of the population without qualifications in the UK. This is clearly having a negative effect on the economy now. However, looking ahead, this could become even more damaging as Brexit and automation combine to lock people out of the labour market, and make it costlier for the economy in Northern Ireland to do so.

The school structure in Northern Ireland, together with clear historical and community factors, combined with a college sector stretched across many strategic priorities, has meant that large numbers of young people leave the education system without even minimum levels of qualifications. At the same time, previous career routes that demanded fewer formal qualifications have disappeared.

A clear priority must be for the skills system to work together in a more coherent way to tackle levels of no qualifications in Northern Ireland. This must be a pressing priority in advance of Brexit, but also in advance of automation and technological change taking the labour market further out of reach for this part of the population.

6.2 The skills system: working together

5. There have been some positive reforms to the skills system in recent years that represent a foundation to be built on

Over the past decade or so, there has been a series of reforms within the skills system in Northern Ireland. These reforms have been instrumental in moving the skills system to a position where it is better placed to tackle some of the underlying issues in the economy, including low pay, low progression rates and high inactivity levels in Northern Ireland.

A number of reforms from Northern Ireland stand out as particularly interesting, both for audiences outside Northern Ireland, and as foundations to be built on. The Assured Skills programme represents an interesting way of bringing tests of demand into the heart of skills provision. By getting investing firms to design the skills pipeline, through identifying need and co-designing courses to ensure the workforce is job-ready, the programme leverages the needs and knowledge of investor firms to boost skills in the local population. Protections need to be put in place to ensure the learning offered through Assured Skills is as useful for the learner as it is for the potential employer, and that learning is future-proofed, so that learning is not simply useful for the specific role(s) on offer, but also useful to the learner's future career.

Other areas of reform also point to potential areas to build on for skills policy. Northern Ireland was among the first parts of the UK to recognise the key role that colleges could have in relation to driving knowledge exchange, innovation, and research and development in the economy.

InnovateUs is an interesting example of using colleges to boost innovation in SMEs. This could have important impacts in the wider economy if successful and replicated at scale. For example, much of the reason for the poor productivity levels in Northern Ireland and the rest of the UK is driven by a 'long tail' of companies that are poor at innovation or that are in sectors of the economy not traditionally associated with innovation policy, such as retail and hospitality. By driving innovation and productivity improvements in these sectors, we can begin to drive increased pay, progression and growth that benefits the economy as a whole.

Equally, the Connected programme, which aims to link SMEs with colleges and universities in relation to improving business practices,

and R&D funding available from Invest Northern Ireland, include colleges as potential partners for employers in a way that is not always common in the rest of the UK.

The skills system – in particular apprenticeships, as well as FE and HE in college – can be at the centre of driving these innovative business practices and productivity improvements through the thousands of individual qualifiers who leave the skills system each year, and through the day-to-day business interaction more prevalent within this part of the skills system. Including the full range of the skills system in innovation policy, as Northern Ireland has done, makes sense. Northern Ireland needs to build on these existing strategies in the future to fully take advantage of the ability of the skills system to diffuse innovation and improve business practices across the economy in Northern Ireland, boosting productivity, pay and progression.

6. An outcomes-focused approach could help to bring greater coherence across the skills system

The skills system in Northern Ireland has a number of input targets and measures that can distort the options available to learners in Northern Ireland. Universities remain funded in relation to a centrally set number of places, schools are funded on the basis of the number of pupils they retain at the start of the school year, and colleges have different (staged) funding arrangements for further and higher education provision.

This runs the risk of introducing perverse incentives within the system which can potentially close down options for learners and employers. For example, funding for schools is higher than for most equivalent provision within colleges. Equally, it is protected for the full year for schools regardless of drop-out, whereas colleges lose money if students are not retained. This could introduce incentives within the system for schools to retain students to sixth form who would be better served by colleges or other parts of the skills system.

The combination of input targets and measures, as well as differing funding arrangements across the skills system, could lead to a lack of coherence in terms of the aims of each part of the skills system. This

could lead to competition rather than collaboration, to the detriment of learners, employers, the public purse and the wider economy.

Adopting more of an outcomes-focused approach across post-16 education, with pooled funding arrangements and shared measures of success, could allow the skills system as a whole to be led by the needs of the learner, to deliver for the needs of employers and the wider economy, and to deliver greater efficiencies for the public funding available to the skills system in Northern Ireland.

7. A two-pronged approach is needed to boost skills demand and supply

It is clear that we need to better match skills demand and supply in Northern Ireland. The Skills Barometer, a strong initiative which other parts of the UK can learn from, shows that we face clear skills shortages at the middle-skill level in the near future. Clearly, as outlined in other insights in this chapter, mid-career provision focusing on career progression could be a crucial element of meeting this middle-skill gap between demand and supply.

However, it should be understood that, across the UK, demand for skills changes quickly and the supply of skills often does not change quickly enough. To improve the speed of change in terms of the supply of skills, incorporating greater tests of employer demand into allocating places for learning could be successful for parts of the skills system. This would allow parts of public funding in the skills system to be contingent on employers offering progression or increased pay on successful completion of learning.

In addition, and alongside a better matching of demand and supply, we need to make sure that all qualifiers have competencies and attributes that allow them to shift with demand (which is only likely to move more quickly in the future), better future-proofing learning. By embedding a set of competencies across the skills system, and by bringing tests of demand into the skills system, we may be better able to both predict the future, and prepare learners for any future they face.

8. Learner and employer engagement within the skills system needs to be improved to meet the challenges facing the skills system and benefit from the opportunities

It will take time to ensure that the reforms to skills policy over the last 10 years make a difference for learners and employers.

One key challenge facing the skills sector is ensuring that the reforms that have already been undertaken feed through to employers. Many of the reforms to the skills system in Northern Ireland are predicated on engagement with employers, in order to make sure that learners enter the labour market with skills employers need. Larger regional colleges offer the opportunity to engage with whole sectors and to improve engagement with employers at the regional level. Likewise, the introduction of the apprenticeship levy in Northern Ireland offers the opportunity to drive employer engagement in designing provision and in the system as a whole.

Given the challenges facing Northern Ireland's economy – including around low pay, progression and productivity – it will be crucial to ensure that learners can fully engage with and design their learning, and that successful engagement in the skills system is rewarded by employers through increased pay and job prospects. This is particularly important as technological change is likely to mean learners will work in multiple jobs for many different employers and sectors over their careers. Learning needs to be useful for the employer now, and for the learner now and into the future.

Some recent reforms to the skills system have begun to address this, but there are opportunities to go further. Partly, this will require much greater levels of engagement from learners and employers, at the level of the classroom, co-designing provision and bringing tests of demand right into the heart of skills provision.

9. The opportunity for greater business engagement through the introduction of the apprenticeship levy should not be missed

The introduction of the UK-wide apprenticeship levy has not so far been successful in every part of the UK. For the devolved governments,

there was little engagement prior to its introduction, and Northern Ireland, Scotland and Wales have taken different approaches to the voucher scheme than England. As the apprenticeship levy's introduction coincided with similar, if not larger, cuts to adult learning budgets, the devolved governments saw new funding from the levy matched, if not outweighed, by cuts to their block grants. This has meant that levy resources have often been used to fund existing provision.

However, while the implementation of the levy has been less than ideal – and it is fair to argue that this does not represent a substantial net increase in funds for apprenticeships and skills – the introduction of the apprenticeship levy does offer an opportunity to better engage employers in the skills system in Northern Ireland.

Northern Ireland should review the implementation of the apprenticeships levy and consider how reforms could be put in place that can maximise employer engagement in the skills system.

10. Employers, particularly small and medium employers, could play a greater role in training Northern Ireland's workforce

The levels of employers offering training in Northern Ireland is slightly lower than for the UK as a whole, with 62 per cent of firms providing training compared to 66 per cent on average in the UK. At the same time, larger employers are much more likely to offer training than the smallest. As such a large proportion of the Northern Irish economy works in small and micro businesses, this represents a key area for boosting skills provision. By encouraging greater investment and involvement in skills provision from the SME sector, we could unlock productivity improvements, boost economic growth, and contribute to tackling low pay and progression.

Consideration should be given to how existing devolved powers could be used to incentivise skills investment from employers, particularly in the SME sector. At the same time, colleges and the skills system more generally, alongside other government agencies and bodies, should work to enable the spread of innovation across the economy of Northern Ireland and new business practices that increase demand for skills.

6.3 The skills system: preparing Northern Ireland for the future

11. Technological change and automation are likely to mean that employees face multiple jobs, multiple employers and multiple careers

Automation and technological change is bringing, and will continue to bring, a high level of disruption to the economy of Northern Ireland. Almost half the jobs in Northern Ireland have a high potential for automation. This will not mean that these jobs will necessarily disappear, but it is likely to mean that new skills and new ways of working are required. There are clear opportunities that stem from this disruption, and the better we can anticipate these changes and build them into skills provision, the more successful Northern Ireland could be at taking up these opportunities. However, clearly there are risks for Northern Ireland as a whole, and for inequalities to be exacerbated as people are left behind, whether due to age, geography or skills/income level.

One of the key elements of a successful skills system is likely to be one that can cater for learners who will be more likely to have multiple jobs, employers and careers. A skills system – which includes employers' own in-work provision – that equips learners for future roles as well as existing roles, that can track and record learning throughout a career of potentially over 50 years, and that can be responsive to employer and learner needs (for example, offering intensive bursts of learning all the way through to very part-time studies) is likely to be a skills system that prepares learners for the future they face in the best possible way.

12. Funding for the skills system is unlikely to improve over the short or medium term

Funding levels for the skills system have been dropping in recent years in Northern Ireland, with the parts of the system outside schools and universities facing the biggest funding pressures. As outlined above, this has led to reducing enrolments in FE and pressures on other parts of the skills system.

This is unlikely to change over the short or medium term given UK-

wide finances. The UK economy is performing poorly against historical and international standards, and the effects of Brexit are likely to cause further headwinds. Furthermore, demographic pressures in the rest of the UK are expected to put increased pressure on UK budgets, and therefore on public funding in Northern Ireland too. It is therefore unlikely that significant new investment will be available to underpin change and reform in the skills system.

13. Automation, Brexit and the changing nature of globalisation will mean huge changes for Northern Ireland

Northern Ireland has pre-existing economic weaknesses and social inequalities that need to be addressed. In addition, we are entering a period that is likely to see huge change and disruption. Whether the effects of Brexit, technological developments or the potential for the nature of globalisation to alter, change will be significant and likely to happen at an increasing pace. These changes will create both opportunities and challenges for Northern Ireland as a whole, and for the skills system in particular.

Each of these big – and sometimes global – trends has a clear skills dimension. In our view, the skills system in Northern Ireland can be, and should be, at the centre of responding to these trends in a way that addresses the challenges and takes the opportunities afforded by significant change. In many ways, the key to delivering an economic model in Northern Ireland that successfully generates growth and equality will be the ability of the skills system to work to respond to the needs of both the economy and learners, and to shape those needs. In our view, the skills system can be at the centre of driving inclusive growth in a way that other parts of the education system will not be able to.

14. Northern Ireland needs to be more strategic about migration within existing powers

Migration should play an important role in any skills strategy. Migration serves as a method for firms to fill skills gaps, as an alternative to training the existing workforce. The evidence suggests that Northern Ireland is not currently attracting higher skilled migrants, particularly

from within the EU. Given the make-up of the Northern Ireland economy, there may well be crucial low-skilled roles that would be left unfilled without EU migrants. However, given the skills gap at middle-skill level, Northern Ireland should pursue a migration strategy, using existing powers, that complements a skills strategy designed to meet Northern Ireland's current and future opportunities and challenges. This is all the more important as rules about how migrants come to the area are likely to change as the UK ends the EU's free movement policy post-Brexit. Policymakers in Northern Ireland should give greater consideration to how a migration strategy can be developed using existing powers (once power-sharing has returned).

15. Political instability is hindering the skills system's ability to adapt and anticipate change, but there is a role for the leadership of employers, learners, third sector and trade unions through social partnership to drive a new skills agenda

Throughout our research, it was clear that political instability in Northern Ireland is hindering the skills system's ability to address existing challenges and anticipate future change. While the Northern Ireland Executive continues to implement those strategies that exist at departmental level, some are nearing the end of their timeline, and there are obvious gaps developing in policy direction. Furthermore, without political decision-makers and a political mandate, it is difficult to move beyond incremental change where required.

There are ongoing discussions to bring power-sharing back to Northern Ireland and to reinstate the assembly and ministerial positions. This may enable a reinvigorated focus on the skills system in Northern Ireland.

At the same time, it is important that the skills system, and those working in and around the system, find new forums to come together to prepare the thinking needed to support future decision-makers in relation to the future of the skills system in Northern Ireland. For example, there is a role for the leadership of employers, learners, third sector and trade unions through social partnership to drive a new skills agenda. These need not wait for power-sharing to return, and could indeed be crucial in meeting the challenges and opportunities that do not require political decisions, and in preparing the thinking for those that do.

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APPENDIX

Progression analysis

Throughout our progression analysis, we make use of the following definitions of low-, middle- and high-skilled occupations:

- Low-skilled jobs: jobs for which UK median gross hourly pay is less than the Living Wage Foundation's living wage, as measured by the 2017 Annual Survey of Hours and Earnings, and which do not require a first degree or equivalent higher education qualification.
- Middle-skilled jobs: jobs for which UK median gross hourly pay is higher than the Living Wage Foundation's living wage, but which do not require a first degree or equivalent higher education qualification.
- High-skilled jobs: jobs for which UK median gross hourly pay is greater than the Living Wage Foundation's living wage, and which require a first degree or higher qualification.

In order to ascertain whether a particular occupation requires a first degree, we use the Labour Force Survey (Q1 2017–Q4 2017) to measure what proportion of workers currently in that occupation across the UK possesses a qualification of at least first degree level (ONS 2017b). If at least 30 per cent of those currently employed hold a degree, we record that occupation as high skilled. We carry out this analysis at the level of three-digit standard occupational classification (SOC) (ONS 2017f), which provides sufficient granularity while ensuring we have pay data for all occupations.

In analysing flows from low-skill work, we compare labour market status and occupation in the first and second quarters of the two-quarter Labour Force Survey, using data from January–March 2013 to October–December 2017. We restrict our analysis to individuals aged 18 and over.

Our analysis follows a similar methodology to Thompson et al (2016) and Gunson et al (2016).



Published August 2018

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