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# A Low Skills Equilibrium in Northern Ireland?

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## ABSTRACT

Northern Ireland has suffered years of chronically weak skills attainment amongst its workforce. This weakness has been linked to the wider underperformance of the Northern Ireland economy relative to the rest of the United Kingdom on a range of other measures including wages and productivity. A Low Skills Equilibrium (LSE) posits the theory that some economies with deficient levels of skills and output suffer from a mutual causality between low skills acquisition by the workforce and low skill utilisation by firms. This paper examines the evidence of a Low Skills Equilibrium in Northern Ireland.

Despite enjoying comparatively low skills and low value-added output, Northern Ireland firms and employees appear to be well matched and this indicates that the skills problem is shared equally between supply and demand. Furthermore, employees and employers in Northern Ireland are shown to be less inclined toward increasing skill levels compared to other EU countries and regions and there is evidence that this may be self-reinforcing. In policy terms, a Low Skills Equilibrium must be tackled through both supply and demand measures. For economies that lack the ability to coordinate economic actors, this task is more difficult. Reform of the skills infrastructure should be favoured over boosting existing programmes. Building a culture of coordinated skills and productivity growth is a process cannot be achieved with top-down measures. Policymakers would therefore be advised to build on micro examples of firm-employee cooperation that already exist especially in firms with collective employer-employee agreements.

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# **A Low Skills Equilibrium in Northern Ireland?**

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## **1 . INTRODUCTION**

One of the most commonly cited problems for the NI economy is that the workforce is relatively low-skilled. A cursory glance at the main statistics shows where this concern emanates from. In 2016, 16% of 16 to 64 year olds did not have a level 1 National Vocational Qualification (NVQ) (ONS, 2017a). To have less than a level 1 NVQ means less than 5 GCSEs at A-C grade. The equivalent for the UK as a whole was 8%. NI's skills problem is quite well-known and has been the focus of attention of policymakers for some time. There have been schemes designed to boost skills attainment for those at the beginning of their working life and those already in employment, unemployment or economically inactive. *Skills to Succeed* is the overarching NI Executive programme to deliver Essential Skills, Apprenticeships and Work-based Learning. It is aimed at both employees and employers, but the majority of individual programmes are skewed toward the former (Department for the Economy, 2016).

NI's skills problem has been linked to many of the other weaknesses in the economy and in particular the performance of wages and the value of output. The average wage level in NI have underperformed the UK average every year since 2002 and NI is consistently ranked amongst the three lowest paid regions of the UK. The median weekly wage in NI was 92% of the UK average in 2016 up from 91% in 2006 (NISRA, 2016). NI also comes at the bottom of the league table when it comes to the value of output in the economy. Gross Value Added per head in NI has never reached the UK average and is currently falling further behind it. In 2005 GVA per head was 80.6% of the UK average, by 2015 that had fallen to 73.8%. Other measures of output show a gap of 20% to 25% between NI and the UK average and a persistent gap between NI and its regional comparators (ONS, 2016).

In the late 1980s researchers began to explore the connection between persistently low wages, low skills and low value-added output ultimately leading to the idea of a Low Skill Equilibrium (LSE) (Finegold and Soskice, 1988 and Mason, van Ark and Wagner, 1994). Research began by looking at the broader characteristics of economies suffering from chronically low skills and identifying common themes between economies with a similar tendency of underperformance. Later research then began to look at the relationship and

possible interactions between these trends (Snower, 1994 and Redding, 1996). They explored if and how low skills and low wages interact with low value-added output. The results posed some significant challenges for the policy response to each of these problems.

The aim of this paper is to assess whether a LSE exists within NI and if it does to suggest how policy should be altered to adapt to such a reality in order to change it. Section 2 will look at how the LSE has been defined in research and the methods that have been used to identify it. Section 3 will then look at the situation in NI and whether, from the data available, a LSE can be identified. Section 4 will look at what the impact of this could be for policy and section 5 will conclude.

## **2. WHAT IS A LOW SKILLS EQUILLIBRIUM**

There is no substantive, agreed definition for a LSE. This largely represents differences in how a LSE is identified. Initial research focused on identifying economy wide characteristics, whilst later research has tended to focus on the characteristics at sectoral level. The key elements, common to both approaches, is that at its core the LSE describes a situation where two economic trends have become entwined and created a sub-optimal economic dynamic.

### ***2.1 Defining a Low Skills Equilibrium***

The term LSE was first coined by Finegold and Soskice (1988) when examining the system of education and training in the United Kingdom. They defined it as a situation in which:

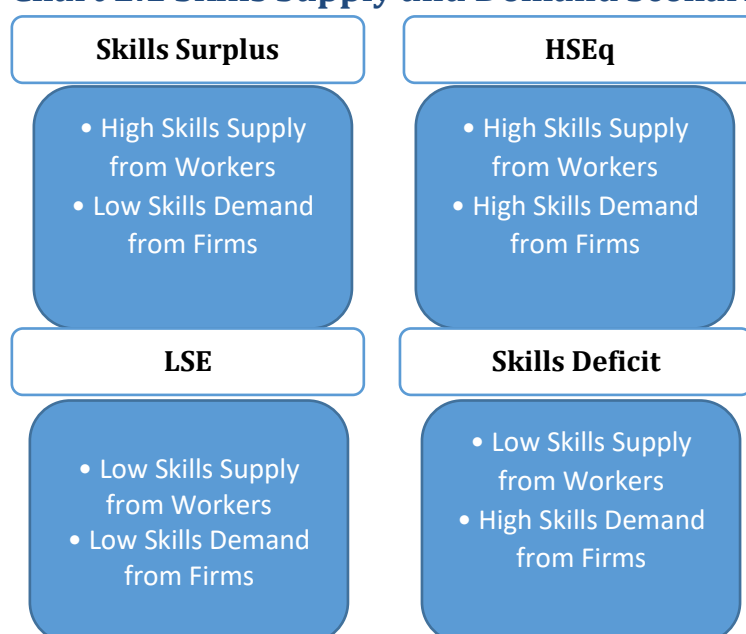
*“the majority of enterprises are staffed by poorly trained managers and workers produce low quality goods and services”*

Subsequent research has refined the term “low quality goods” to *low specification goods* in order to convey the idea that the products of firms in LSE are not inferior, just simply less advanced than counterparts in other economies (Wilson et al, 2003). Subsequent research also seeks to remove the emphasis on managerial skills alone in order to identify the broader issues of skills attainment amongst the entire workforce. This situation however only describes one component of the LSE. Finegold and Soskice also emphasis that the low skill profile of the workforce is matched by the low skill profile of firms. They see a LSE where the;

*“concentration of the country's firms in those product markets which have the lowest skill requirements”*

This means that in a LSE, not only are there low skilled workers producing low specification products, but that this situation best represents what is required in the labour market. In other words, there is both a low skill supply from workers and a low skills demand from firms. To show this more intuitively it is instructive to place the LSE in the context of the other permutations of supply and demand for skills which are possible. Green et al (2003) place the LSE in this context and Chart 2.1 shows a what other combination of skills profiles are possible.

**Chart 2.1 Skills Supply and Demand Scenarios**



The top left-hand box describes a Skills Surplus and the bottom right hand corner describes a Skills Deficit. Both of these situations have a mismatch between workers and firms. In the Skills Surplus situation, the issue is demand for skills from firms and policy should focused on incentivizing firms toward increasing their range of products or greater specification in their existing output. In the Skills Deficit scenario, the problem is a lack of supply available from the workforce and policies should be centred on boosting uptake of further education or incentivizing workers to upskill within firms. The situation in the top right-hand corner describes a High Skills Equilibrium and the bottom left describes the LSE. In both of these situation, there is no mismatch between what is demanded by firms and what is supplied by workers. Unlike the Deficit and Surplus scenarios, in both of the Skills equilibria, no action is necessarily required. This may seem counterintuitive for the low skills scenario, but it is only counterintuitive in the context of what is produced in both scenarios.

It is unlikely that policymakers would seek to take action in the High Skills Equilibrium because such a scenario produces high specification goods with high skilled jobs that theoretically offer high wages. The LSE produces the opposite low skilled jobs offering low wages, but unlike in the Skills Surplus and Skills Deficit scenarios, it may not be immediately obvious what the problem is. This is further complicated by the fact that in most cases a LSE is characterised by high rates of employment. Once again this is intuitively correct, when supply and demand in the labour market are equally matched, there would be little room for structural unemployment. Wilson and Hogarth (2003) also point out that many firms in a LSE may be profitable. The problem lies in the fact that a LSE produces low value-added output and this has implications for living standards particularly through wages.

Wilson and Hogarth (2003) note that low skills and low value-added production are a necessary but not sufficient condition for a LSE. An equilibrium represents a balanced state of affairs where opposing forces are equalised. In an LSE the economy is stalled at a particular level because there neither side is willing to move from their current position. Finegold and Soskice see this equilibrium as being sustained by:

*“a self-reinforcing network of societal and state institutions which interact to stifle the demand for improvements in skill levels”*

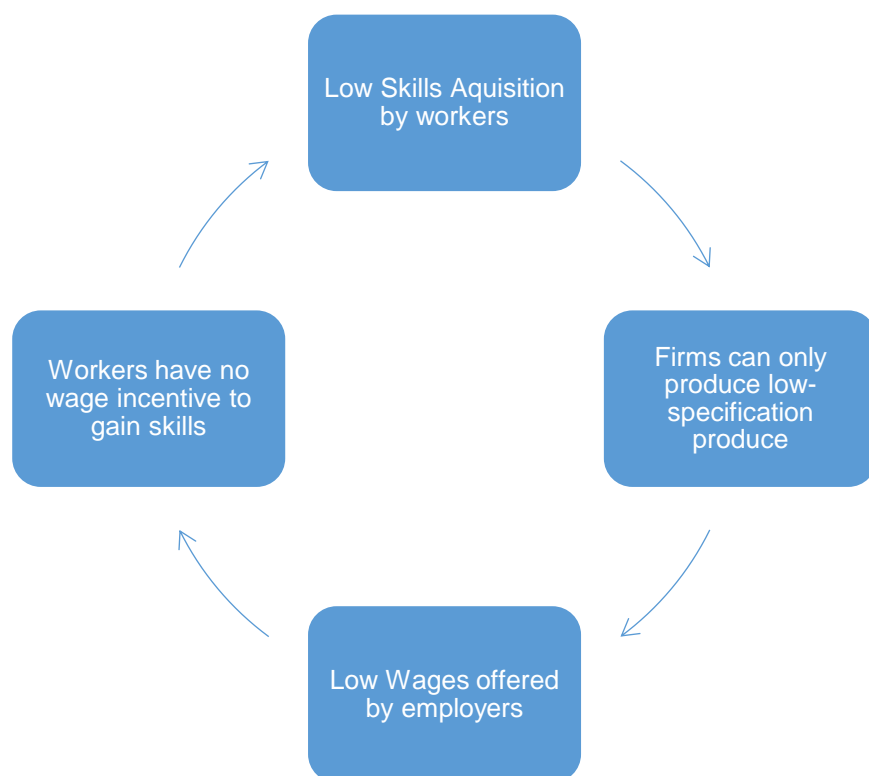
This attribute is key to the conception of a LSE. Something is present in the economy which has prevented it from moving toward a High Skills Equilibrium. While state institutions have been highlighted in previous LSE work, societal institutions such as peer groups are also issues for both workers and firms. Why is there no demand for skills from firms, why do workers not seek to gain skills? Wilson and Hogarth (2003) and Finegold and Soskice (1988) both emphasise that in a LSE all economic actors are behaving rationally. Workers have no incentive to acquire skills if firms have no demand for them. As Toynbee (2003) notes, qualifications are worth little to employees unless employers are willing to utilise them. Firms in a LSE have no incentive to boost product specification if they cannot get skilled workers to carry it out. In this scenario, the two central weaknesses of the economy *may* be mutually causal.

Looking at the two trends identified in NI, it is possible to conceive of a situation where causation could run both ways. NI has low skills accumulation which is likely a cause of the low value-added nature of production in the economy. Lower skilled workers are less likely to be able to produce higher specification products or interact with new technology,



therefore production is low value-added. One can therefore identify a causation between low skills and low value-added. However, it is also possible for the causation to run the other way. Firms in NI produce low value-added output and therefore workers have little or no incentive to invest in skills that will not be utilized or rewarded in the workplace. Consequently, overall skills accumulation is lowered. This need not be an either/or causation, it is possible that both explanations are valid and more worryingly from a policy point of view they may be mutually reinforcing making solutions more complex.

### Chart 2.2 A Low Skills Equilibrium



**Sources:** Adapted from Green et al (2003)

As Chart 2.2 shows mutual causality describes a situation of circular cause and effect and is a paradigm identified in many other areas of social science. This means that, in all cases, attempts to solve the problem by tackling only one of the causal elements will ultimately fail and produce one of the other two scenarios outlines in Chart 2.1. In a LSE, there could be a large differential in pay between higher and lower skilled jobs and market forces would suggest that this would boost demand for skills among the workforce. However, as Snower (1994) notes, a lack of skilled job opportunities could limit the responsiveness of workers to earnings differential. The lack of skilled job opportunities is in turn linked to the lack of a

skilled workforce. For policymakers, this means that attempts to boost the supply of skills could only produce a Skills Surplus and attempts to boost demand for skills from firms could only result in a Skills Deficit.

The policy solution that naturally beckons is, why not do both? In practice, such policies responses are extremely difficult to formulate and the policy discussion in section 4 will bear this out. In order to formulate an effective policy response, it is necessary to be sure that LSE dynamics exist within the economy and investigate how they manifest themselves.

## ***2.2 Identifying a Low Skills Equilibrium***

Identifying a LSE has taken many forms in research to date. The biggest difference in approach is among those who feel that a LSE can be investigated at the macro level and those who believe that a LSE can only be identified at sectoral and in some cases sub-sectoral level. The difference in practice between these two approaches is relatively minor. An LSE is unlikely to apply to the economy as a whole and is quite likely to be more concentrated in specific sectors, but that does not automatically require a sectoral level analysis.

Most economies are likely to be a mix of all four quadrants presented in Chart 2.1. Specific sectors are more liable to be more skewed toward one quadrant and it is likely that an economy can be more concentrated in sectors that are prone to LSE. If a LSE exists within an economy, it is likely to be a dynamic present to some degree in all sectors. Whether it is more prevalent in some sectors over others is important for designing specific policy responses but knowing the extent to which a LSE affects the economy is key to understanding its impact on overall economic performance.

In order to establish a LSE, one must first establish the profile of Skills and Value-Added output in the economy. It is then necessary to establish the supply and demand dynamic for skills in the economy. Additionally, it is necessary to be able to identify the motivation for the behaviour of both workers and firms. Establishing motivation is the only way that any level of mutual causality can be identified. For these reasons identifying an LSE at sectoral level is problematic using quantitative methods.

Quantitative techniques have been used in order to ascertain the presence of a LSE at the macro level. Most recently Morris and Morris (2016) used data from the National Employer Skills Survey to look at how firms respond to skills shortages in the workforce. They use multiyear data to investigate, at UK level, the attitudes of employers to skills gaps in the economy overall. However, most studies which have examined LSE at sectoral level have used qualitative methods in order to establish motives (see for example Edwards et al 2008

and Wilson and Hogarth 2003). Both studies emphasise the difficulty in gaining interviews with workers in specific sectors for case studies with initial response rates as low as below 10%. These studies do provide more detailed insights into the motivations of workers and firms and the sector specific reasons for how such a dynamic was formed. However, whilst a LSE is likely to be more prevalent in certain sectors, its consequences are unlikely to be confined to those sectors. Intensive studies of particular industries, if they can be performed, are important, and could supplement a preceding economy-wide analysis. The following section will use this data and employee level data to look at the attitudes to skills in the NI economy as a whole.

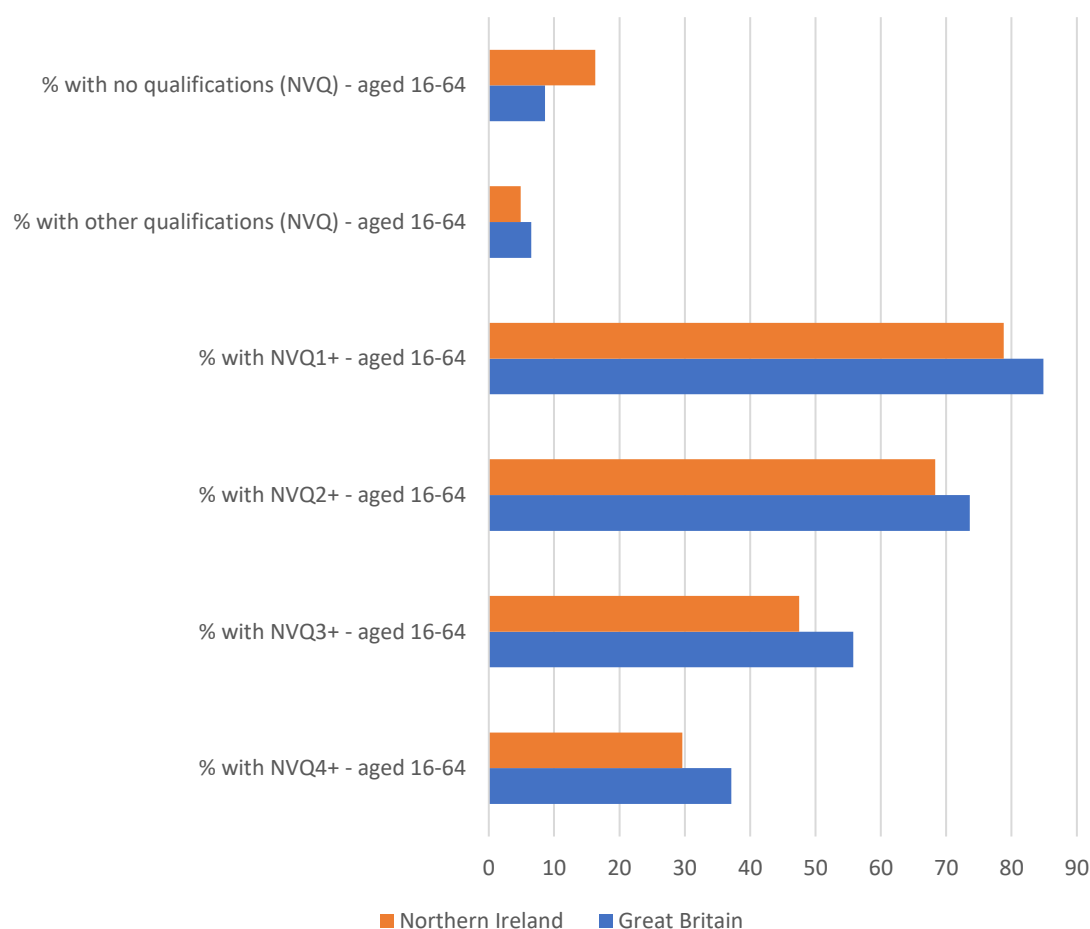
### **3. IS NORTHERN IRELAND IN A LOW SKILLS EQUILLIBRIUM?**

As set out in the previous section, it would be misleading to think of an entire economy being mired in a LSE. Identifying sectors or types of firms where the LSE is more prevalent will inform policy responses, but the “societal and state institutions” outlined Finegold and Soskice are unlikely to impact sectors in isolation and an economy wide analysis allows a more in-depth investigation of the behavioural responses which are key to diagnosing a LSE. The first stage in determining a LSE must be outlining a profile of low skills and low value-added production. The second stage will involve identifying an equilibrium, and subsequently identifying the drivers of that equilibrium.

#### ***3.1 Low Skills***

The profile of skills outlined in the introduction are set out in Table 3.1. The largest gap between NI and the rest of the United Kingdom is at the upper and lower end of the skills spectrum. The proportion of people with no NVQ level qualification is highest for the oldest and youngest age groups.

**Table 3.1 Skills Attainment of 16-64 Population NI and GB 2016**



**Sources:** ONS (2017a)

Statistics relating to skills in other European countries are hard to compare with those presented in Table 3.2. Eurostat figures use the International Standard Classification of Education (ISCED) which cannot be directly compared with the NVQ system used in the UK. Eurostat only measures the proportion of workers with ISCED levels 0-2 which groups together several NVQ levels. This prevents a direct comparison of the proportion of workers with less than level 1 NVQ. Nevertheless Table 3.2 shows the percentage of employees in each country with ISCED qualifications level 2 and under which broadly compares with lower secondary school and below. This corresponds to those with level 1 NVQ and below in Table 3.1<sup>1</sup>.

<sup>1</sup> Schneider (2008) argues that in order to make a direct comparison between the UK and other OECD countries, ISCED levels must be broken down into sub-levels 2A, 2B and 2C. This is because GCSEs are not directly comparable to upper secondary educational qualifications in other OECD countries. This likely overstates the level of qualification in England and Northern Ireland. However, table 3.1 represents the official classification of UK qualifications by internationally agreed standards.

**Table 3.2 Employees by Educational Attainment 2016**

Country	% ISCED (0-2)	Country	%ISCED (0-2)
Lithuania	3.6	Switzerland	15.1
Czech Republic	4.2	Norway	16.5
Slovakia	4.7	France	16.6
Poland	4.9	United Kingdom	16.8
Latvia	7.6	Belgium	17.1
Croatia	8.2	<b>European Union</b>	<b>17.2</b>
Slovenia	8.6	Greece	18.2
Romania	9.6	Northern Ireland	19.5
Bulgaria	10	Denmark	20.2
Finland	10.1	Netherlands	21.7
Estonia	10.3	Luxembourg	23
Ireland	12.3	Iceland	30
Hungary	12.4	Italy	30.7
Sweden	12.8	Spain	31.7
Germany	12.9	Malta	40.3
Macedonia	12.9	Portugal	45.5
Austria	13.2	Turkey	48.9
Cyprus	15		

**Sources:** Eurostat (2017a) and NISRA (2017)

**Note:** International Standard Classification of Education (ISCED) is the reference international classification for organising education programmes and related qualifications by levels and fields. ISCED 2011 is implemented in all EU data collections from 2014.

Countries such as Luxembourg, Denmark and the Netherlands all have a greater proportion of workers without upper secondary education and above, yet none of these countries would be considered low performing economies. However, workforce skills cannot be evaluated on educational qualifications alone. Quintini (2011) notes that qualifications only describe certified skills, mostly those gained in the initial years of education. Much of the skills that are required by firms are acquired by workers in employment. A prospective employee may leave school with no upper secondary education, but in Denmark it may be the case that the skills and training offered by employers may turn an unqualified worker into a skilled worker. That the same does not occur in the UK was the original contention of Finegold and Soskice (1988). To see this in context Table 3.3 shows NI's skills profile in comparison to other OECD countries and regions.

**Table 3.3 PIAAC Proficiency Scores by OECD country 2015**

Country	Literacy	Numeracy	Problem Solving
Australia	280.4	267.6	38.0
Austria	269.5	275.0	32.5
Canada	273.5	265.5	36.6
Chile	220.1	206.1	14.6
Czech Rep.	274.0	275.7	33.1
Denmark	270.8	278.3	38.7
England	272.6	261.8	35.0
Estonia	275.9	273.1	27.6
Finland	287.5	282.2	41.6
Flanders	275.5	280.4	34.5
France	262.1	254.2	-
Germany	269.8	271.7	36.0
Greece	253.9	251.9	14.0
Rep. of Ireland	266.5	255.6	25.3
Israel	255.2	251.0	26.6
Italy	250.5	247.1	-
Japan	296.2	288.2	34.6
Korea	272.6	263.4	30.4
Netherlands	284.0	280.3	41.5
New Zealand	280.7	271.1	44.2
Northern Ireland	268.7	259.2	28.7
Norway	278.4	278.3	41.0
Poland	266.9	259.8	19.2
Slovak Rep.	273.8	275.8	25.6
Slovenia	256.4	257.6	25.4
Spain	251.8	245.8	-
Sweden	279.2	279.1	44.0
Turkey	226.5	219.4	7.8
United States	269.8	252.8	31.1
<b>OECD</b>	<b>267.7</b>	<b>263.0</b>	<b>31.1</b>
Cyprus	268.8	264.6	-
Jakarta	199.6	210.4	-
Lithuania	266.8	267.2	17.6
Russia	275.2	269.9	25.9
Singapore	257.6	257.4	37.0

**Sources:** OECD (2017)

**Note:** PIAAC is the OECD Programme for the International Assessment of Adult Competencies

Looking at literacy, numeracy and problem-solving skills, NI and England perform worse than their European counterparts. While England outperforms Denmark in terms of literacy, England and NI are both outpaced significantly in both numeracy and even more so in problem-solving. Interestingly NI outperforms both the Republic of Ireland and Singapore on all three measures. Nevertheless, compared to all other western European economies NI is only underperformed by Greece on all three measures. The weakness in workforce

qualifications in NI is most well-known, but it is the skills base where NI is comparatively most weak. The deficit in qualifications is not made up for by higher skills such as it is for countries like Denmark and the Netherlands. On a range of measures therefore, NI can be considered to be a Low Skills economy.

### **3.2 Low Value Added**

The other initial condition necessary in identifying a LSE is to assess whether NI is a low value-added economy. One way of evaluating this is to look at the UK national accounts and the NI share of Gross Domestic Product. In order to make and international comparisons it is obviously necessary to make a basic size adjustment for countries or regions. Table 3.4 shows NI's regional GDP per capita compared to other EU countries adjusted for purchasing power parity. NI falls behind most western European economies with the exception of Greece and Portugal which have recently experienced severe and sustained periods of recession. Importantly NI is significantly outperformed by Scotland and the UK average. The Republic of Ireland's performance comes with the usual caveat that accompanies all reporting of its GDP (NERI, 2016).

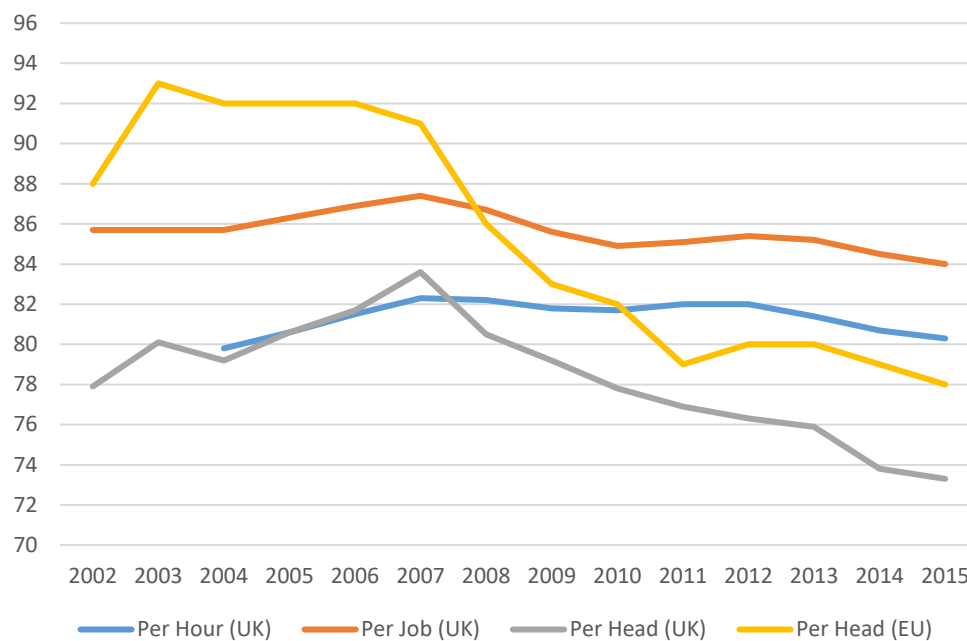
**Table 3.4 PPP-Adjusted Regional GDP per capita 2015 (€'000s)**

Country	Regional GDP	Country	Regional GDP
Albania	8.6	Spain	25.9
Bulgaria	13.6	Malta	26.8
Romania	16.5	Italy	27.8
Croatia	16.7	Scotland	28.9
Greece	19.6	France	30.6
Hungary	19.7	United Kingdom	31.2
Poland	19.8	Finland	31.6
Estonia	21.6	Belgium	34.2
Estonia	21.6	Sweden	35.7
Wales	21.9	Germany	35.8
Portugal	22.2	Denmark	36.6
Slovakia	22.3	Austria	36.9
<b>Northern Ireland</b>	<b>22.6</b>	Netherlands	37
Cyprus	23.5	Norway	46.3
Slovenia	23.9	Rep. of Ireland	51.1
Czech Republic	25.2		

**Sources:** Eurostat (2017b)

In all circumstances, comparing the output levels of economies requires an adjustment for either population, workforce or hours of work. These are productivity measures by any other name. NI's productivity levels over the last 10 years are shown in Chart 3.1.

**Chart 3.1 NI Productivity measures 2002-15 (% of average)**



**Sources:** ONS (2017b) and Eurostat (2017b)

There is an issue with using productivity as a measure for value added in identifying a LSE. It arises because of the way low value-added economies were described by Wilson and Hogarth (2003). They posited an economy where the goods or services produced are of a lower standard or specification, where goods produced have less functionality or less sophisticated technology. However low specification cannot be termed as synonymous with low productivity. A low productivity economy does not necessarily produce lower specification goods. A low productivity economy could produce goods with comparatively high specification and technology, it may just require more labour input to achieve it. It would not be possible from existing data to measure the extent of product specification at the macro level. It would seem then that it would not be possible to identify a LSE at macro level in the same way Wilson and Hogarth (2003) endeavour to do at micro level. However, using productivity levels as a measure of low value-added may in fact be a more accurate way of identifying low value-added production. It may not be necessary for a LSE to be a low-specification economy anymore and in fact, high specification-high labour input economies may be becoming a more pressing concern.

Since the 2008 financial crash, growth in productivity levels in most developed economies has been sluggish. The UK experienced one of the sharpest and most prolonged deteriorations in productivity. Initially after the crash employment fell sharply but not as much as might have been expected and it also began to recover quite quickly in subsequent



quarters. Wages remained depressed despite the recovery in output and employment. This led many to believe that employers were adding further labour inputs into production rather than investing in capital or the skills of existing workers (Mac Flynn, 2013). Using productivity levels as a measure of low-value-added therefore embraces both the Wilson and Hogarth (2003) definition of low skill, low specification production but also allows for the fact that low skilled workforces may now be producing high specification products at a much lower level of efficiency. In both of these situations employers might demand low skilled labour either because they are producing low specification products or because they are substituting it for investment in existing resources.

### ***3.3 An Equilibrium?***

Having established that there is both low skills and low value-added output in the NI economy, it is necessary to identify an equilibrium arrangement between the two. Workers can be either under-skilled/qualified, over-skilled/qualified or well-matched to their jobs. If NI had larger than average proportion of over-skilled/qualified workers, the economy could be classified as suffering from a Skills Surplus and similarly a larger than average proportion of under-skilled/qualified workers would point to a Skills Deficit. In order to establish a LSE, NI's firms and employees would need to seem comparatively well-matched. Data from the OECD PIAAC survey measures how workers perceive their skills profile in relation to their job.

**Table 3.5 Skills Mismatch by OECD country 2015**

Country	% Mismatched Skills	Country	% Mismatched Skills
<b>Northern Ireland</b>	<b>9.34</b>	Norway	13.49
Netherlands	9.59	New Zealand	13.92
Poland	9.83	<b>OECD</b>	<b>14.58</b>
Finland	10.08	Turkey	15.27
Canada	10.17	Slovak Republic	15.89
France	10.25	Germany	15.89
Sweden	10.79	Cyprus	17.03
Flanders	11.74	Italy	17.70
Estonia	11.77	Russia	17.87
Denmark	11.95	Czech Republic	18.02
Australia	11.98	Jakarta	19.18
Slovenia	12.27	Austria	19.50
Israel	12.32	Spain	19.53
Korea	12.52	Rep. of Ireland	19.58
Singapore	12.78	Lithuania	22.74
United States	12.84	Chile	25.78
Japan	12.85	Greece	34.37
England	13.42		

**Sources:** OECD (2017)

Table 3.5 shows, NI has the highest proportion of well-matched workers in terms of skills. Only 9% of workers in NI consider that they are either over or under equipped in terms of skills for their current job. Table 3.6 shows the same data when applied to qualifications. NI has an above average percentage of workers who feel either over or under qualified. All major economies record a higher level of over qualification than under qualification and NI is just above average in over qualification and more significantly above the average in terms of under-qualification. Measured by qualifications, the NI labour market would appear to be less well-matched than it is by skills, albeit only slightly more so than the OECD average.

**Table 3.6 Qualification Mismatch by OECD country 2015**

Country	% Mismatch Qual.	Country	% Mismatch Qual.
Slovak Rep.	22.1	<b>OECD</b>	<b>34.5</b>
Slovenia	22.4	Norway	35.0
Jakarta	23.1	Austria	35.1
Turkey	24.5	Italy	35.6
Poland	25.6	Lithuania	35.9
Denmark	28.4	<b>Northern Ireland</b>	<b>36.2</b>
Czech Rep.	28.5	Russia	36.4
Flanders	29.4	Estonia	38.7
Singapore	30.1	Japan	39.0
Finland	31.0	Sweden	39.9
Spain	31.3	Canada	41.5
Cyprus	31.7	Israel	41.6
Korea	31.9	Australia	41.6
United States	32.5	England	42.6
Netherlands	32.5	Rep. of Ireland	42.9
Chile	33.0	France	44.3
Greece	33.4	New Zealand	44.4
Germany	34.2		

**Sources:** OECD (2017)

Qualifications are more specific to particular jobs and occupations than basic skills, therefore a worker may feel that they are over-qualified for their job, but this does not necessarily mean that they are being under-utilised or over stretched by their employer. As Quintini (2011) notes, most of the qualifications mismatch can be explained by a *field of study* mismatch. As Table 3.7 shows NI has amongst the highest level of *field of study* mismatch for those who consider themselves either under or over-qualified in their current position. A person in a call centre may have a history degree which would make them technically over-qualified for their job. However, it does not mean that they can necessarily use that qualification to boost their productivity within the firm. It might imply that students in NI are less focused on job prospects when choosing their area of study. In NI, slightly over a third of workers consider themselves mismatched to their job by qualification and of that cohort almost a half are mismatched by sector. So, while there is a slightly higher level of qualification mismatch in NI, this is more likely due to a sectoral mismatch than it is to NI

having a problem of over supply or lack of demand for qualifications.

**Table 3.7 Field of Study Mismatch by OECD country 2015**

Country	FOS Mismatch	Country	FOS Mismatch
Finland	22.8	Greece	41.4
Germany	26.4	Australia	41.6
Austria	28.0	Russia	42.0
Slovenia	28.9	England	42.6
Norway	33.5	Ireland	42.9
Sweden	33.7	Turkey	43.8
Netherlands	33.9	Spain	44.1
Denmark	35.2	France	44.3
Estonia	35.3	New Zealand	44.4
Israel	36.5	Singapore	44.7
Canada	37.5	United States	45.0
Cyprus	38.1	Japan	45.3
Slovak Rep.	38.2	<b>Northern Ireland</b>	<b>47.0</b>
Czech Rep.	38.3	Italy	49.4
Flanders	38.7	Chile	49.9
<b>OECD</b>	<b>39.6</b>	Korea	50.1
Lithuania	40.8	Jakarta	54.6
Poland	22.8		

**Sources:** OECD (2017)

Furthermore, the OECD measure for qualifications mismatch is self-reported and therefore less robust and more subject to bias than the skills mismatch. The skills mismatch is calculated using the Pellizzari and Fichen (2013) method where each occupation is assigned minimum skills requirement and that is measured against the results of the competency tests in the PIAAC survey. The skills mismatch therefore gives the best indicator of how the competency and proficiency of workers matches their work. The data presented in Table 3.6 show that the problem of qualifications is not confined to low attainment levels and that a LSE is likely being compounded by a broader sectoral mismatch in the labour market. Although it should be remembered that the data also clearly show the lack of qualifications is a much larger problem than a slightly above average rate of qualifications mismatch.

### **3.4 Attitudes towards Skills**

While the preceding paragraphs show that the skills profile in NI is matched between employers and employees, establishing a LSE requires that the roots of this situation stem equally from both employees and employers. It is necessary to show that employees in NI display less enthusiasm to procure skills and that equally employers display less enthusiasm to seek out skills. The PIAAC data can provide some insights into the motivation of employees but this is a difficult hypothesis to prove. It is hard for survey data to ascertain the reasons why a person did not engage in an activity they were neither mandated nor expected to do.

The UK Commission for Employment and Skills (UKCES) Employer Skills Survey (ESS) reports data on the extent to which employers or firms seek new skills or to upskill existing staff and reasons why such action was taken or not taken. For both the employer and the employee, the data from NI do point to a comparatively lower appetite for skills on both fronts.

### ***3.5 Attitudes of the Workforce***

In examining the PIAAC data, England is used as a comparator region for NI because it is the region most institutionally similar to NI and therefore the difference in responses can be more easily attributed to attitudes rather than environmental factors. Denmark and the Netherlands are included because they are both countries with weaker levels of workforce qualification than NI, as shown in Table 3.2. Workers in NI are just as likely as those in comparator regions to have sought a qualification in the last year, but they are significantly less likely to have taken part in other forms of training. Yet, in order to identify an attitude toward skills, it is necessary to look beyond participation rates. The task is to assess the motivations of those who did or did not take part in any training rather than simply the proportion of those involved.

The first two questions are asked of those who have gained a qualification or engaged in other training in the last 12 months. For both formal qualifications and other training, NI workers were significantly less likely to be engaged in this activity for job related reasons. Workers in the Netherlands were less likely to gain a qualification for job related reasons, but far more likely to engage in other training for those reasons. The implication of this result is that workers in NI who engage in training are less likely to be reacting to a skills demand from their employer.

**Table 3.8 Reasons for Skills Acquisition 2015**

	NI	England	Denmark	Netherlands	ROI
The main reasons for this Qualification was job related	70.6	84.2	89.5	63.2	81.0
The main reasons for this Other training was job related	66.7	72.7	76.5	82.1	70.0
There were learning activities you wanted to take part in but did not?	18.3	24.5	33.3	23.2	30.5

**Sources:** OECD (2017)

The final question presented in Table 3.8 is the only question posed in the survey which gives some insight into what workers declined to do. As mentioned earlier, it is difficult to measure the attitudes of people toward tasks they have not engaged in. In essence this would require a question in the PIAAC survey which queries the motives of those who did not engage in

upskilling. Absent this, the final question in Table 3.8 does capture some of this behaviour. Fewer people in NI identified skills opportunities that they were not subsequently able to take up. Table 3.9 shows the results of the final question in table 3.8 for all other countries for which data is available. They show that NI's performance is comparatively weaker than all other western European countries with the exception of Italy and the Belgian region of Flanders.

**Table 3.9 Identified Skills – Not Acquired (%)**

Country	%	Country	%
Turkey	9.1	Israel	24.3
Russia	9.5	England	24.5
Slovakia	10.0	Norway	25.0
Poland	12.2	Germany	28.4
Lithuania	15.6	Germany	28.4
Italy	16.4	France	29.7
Czech Rep.	16.6	Rep of Ireland	30.5
Flanders	17.1	Canada	31.0
Northern Ireland	18.3	Estonia	31.5
Greece	18.7	Sweden	32.0
Japan	19.0	Finland	32.4
Slovenia	19.0	Korea	32.7
Austria	20.4	Denmark	33.3
Cyprus	21.4	Chile	33.6
Netherlands	23.2	Singapore	34.9

**Sources:** OECD (2017)

The reasons for not taking up this activity range from personal circumstances to time pressures in work and NI is no different to other regions/countries on these reasons. The important result is that workers in the comparator countries are more likely to identify an appetite for skills progression even if they are eventually unable to pursue it. That proportionately fewer people in NI have responded in the same way does point to a lack of ambition in this direction.

While the answers provided in Table 3.8 and 3.9 do not amount to conclusive proof that workers in NI have less ambition to attain skills, they do provide some evidence that there is somewhat less enthusiasm for such activity and that skills acquisition is less work related. It would not be possible at the macro level to identify a labour market wide apathy toward skills acquisition but what the data does show is that the attitude of workers in NI does play a part in the development of a low skills base.

### 3.6 Attitudes of Firms

On the other side of the equation, employers and firms must be shown to have proportionately less interest in upskilling than comparator regions in a LSE. For this the UKCES Employer Skills Survey (ESS) provides an insight into the attitudes of employers with regard to upskilling and in the particular reasons why they do not require further skills. The survey shows a striking difference between NI and the other constituent countries of the UK particularly with regard to skills shortages and circumstances where vacancies are hard to fill because of skills gaps. A skills shortage vacancy is a situation where a firm has a long-standing vacancy that cannot be filled because the skill level required for the position is not available in the labour market.

**Table 3.10 Firm demand for Skills by UK region 2015 (%)**

	Total	England	NI	Scotland	Wales
<b>All Employed</b>					
Skills Shortage Vacancies only	4	4	2	4	4
Skills gaps only	12	12	8	12	12
SSVs OR Skills gaps	18	18	12	17	17
<b>All establishments with difficulties retaining staff</b>					
Too much competition from other employers	38	39	30	39	35
Lack of career progression	30	29	36	29	34
Not enough people interested in doing this type of work	56	55	61	53	65
<b>Establishments with under-utilised staff</b>					
They are not interested in taking on a higher-level role with more responsibility	26	26	24	28	22
Lack of jobs in the desired higher-level role	11	10	21	13	14
We actively seek staff with qualifications and/or skills beyond those needed	4	4	2	4	5
<b>All establishments in the private sector</b>					
Processes in place to identify high potential or talented individuals	14	14	11	15	13
Goods are no different to competitors	10	10	15	9	13
Business Approach: wholly price dependent	14	14	21	15	18
<b>Sources:</b> UKCES (2017)					

Table 3.10 shows how NI firms compare on skills and also looks at how firms see their business operation in comparison with other firms. The first part of Table 3.9 deals with all employees and shows that overall NI has proportionately fewer skills gaps or vacancies that

arise because of a skills shortage. When the sample is reduced to firms that have trouble retaining staff, firms in NI are less likely to be facing this situation due to competition from other firms. Firms in NI are also much more likely to lose staff owing to an absence of career progression prospects. Not only are NI firms lacking in routes for employee advancement, they have little reason to change this because of a lack of market pressure to do so. Interestingly firms in NI are more likely to report a lack of interest from employees which would seem to reaffirm the findings of *field of study* mismatch in NI identified previously.

When the ESS sample is reduced to firms with under-utilised staff a number of important differences emerge. Under-utilised workers are almost twice as likely to be under-utilised because of the absence of any such roles. Firms in NI are also less likely to seek over-skilled or over-qualified workers. This does not contradict the PIAAC finding that NI has an average number of over-qualified workers. This question relates to the suitability of the skills and qualifications of the employee when they are hired rather than when they are in the job. The idea being that a firm might hire at a higher level with an intention to upgrade the role at a later date. The final part of Table 3.10 gives some insight into how NI firms view themselves in relation to competitors. One of the characteristics of firms in a LSE is a lack of product differentiation and a disproportionate focus on cost in competition. These results would seem to confirm that this is certainly a feature of a large proportion of firms in NI and significantly more so than in other regions. This also resonates with findings from the UK Innovation Survey in Northern Ireland discussed in Mac Flynn (2016). Once again Table 3.10 does not claim to show conclusive proof of a lack of skills investment by firms in NI. It does give an insight into the attitude of firms in NI in relation to skills and what role skills play in staffing shortages.

Bringing all this evidence together it can reasonably be argued that NI has a comparatively low skills base and consequent low value-added output. The skills profile of the workforce appears to be well-matched to the employment offered by firms at the present time. Worker and firms in NI also seem less inclined toward increasing skills acquisition or utilisation and this would indicate that the current skills situation is likely to persist. From the available evidence it would appear that NI is in a skills trap and that part of the economy is stuck in a LSE. If this is indeed the case, there are implications for policy on many fronts.

#### **4. HOW SHOULD POLICY REACT?**

In an LSE, the skills trap can be thought of as a Prisoner's Dilemma. Both workers and firms would benefit from coordinating their decisions and reaching the most advantageous outcome. Without coordination workers and firms are destined to make suboptimal

decisions and continue to lose out. As most of the literature has emphasised, in a LSE, all economic actors believe that they are behaving rationally. Both firms and workers believe that their chosen level of skills attainment or mode of production is optimal for their purposes. As in the Prisoners Dilemma, there is no incentive on the part of any actor to change their behaviour, the solution requires a third force to break the pattern of behaviour. Government is the obvious third force, but while state intervention is required, it must not be one-sided.

If NI is trapped in a LSE, policymakers are likely to find it disproportionately harder to achieve an increase in skills accumulation and even when they do it is likely that these new skills may never be used. Firms engaged in low value-added activity have no use for high skilled workers. On the firm side, policymakers will find it harder to entice firms to participate in innovation and increased specification and if they do it is unlikely such advances can find their potential due to a lack of skills. An innovative economy requires a high skilled workforce. A LSE requires government support to have a buy in from employees and firms or there is little point to taking any action at all. This is why coordination is most important.

The UK economy lacks the institutional capability to coordinate economic actors and is therefore relatively ill-equipped in a LSE scenario (Coffield, 2004). Edwards et al (2008) sees institutional weakness as the key policy imperative for tackling a LSE in the UK. Lauder (1999) looks at the issue of coordination in East Asian economies and how Korea and Singapore respectively tackled a Skills Surplus and a Skills Deficit through 'social contracts'. In Singapore, the social partners came to a common understanding about the need for upskilling and participated in various programmes to achieve it. In Korea, the state targeted investment funds to upscaling small enterprises in order to create demand for skills. While the social contract was more explicit in Korea, in both examples a consensus was established about the nature of the problem and this was key to finding a sustainable solution.

#### ***4.1 A New Skills Framework***

Finegold and Soskice (1988) and Wilson and Hogarth (2003) are both highly critical of the further education system that exists in the UK and argue that moving toward a vocational education system as in Germany and other Nordic countries is central to solving the gap in supply and demand. This ensures a supply of skills that is embedded in local industry and one which is responsive to the current and future demand of firms. Building a vocational education system need not involve the creation of new institutions. Rather it requires linking the existing educational structure to the workplace and coordinating education efforts with



industry and social partners.

In terms of upskilling, Finegold and Soskice (1988) argue that financial incentives should be offered to companies to induce on-the-job training. To this end they propose a ‘training levy’ on companies that do not carry out training. This is a demand side measure which would both incentivize low skills firms to engage in upskilling and provide funding for smaller firms to do the same. This policy has in fact recently been adopted by the UK government in the form of the Apprenticeship Levy. The problem with the current Apprenticeship Levy, and particularly so in NI, is that it is not linked to a supply side measure. It is obviously beneficial to seek to boost the number of apprenticeships in firms, but without a policy to incentivise take up amongst potential trainees, it is likely to fail. As Finegold and Soskice (1988) noted, a training levy does not work in isolation. Without coordination between firms and employees, such a measure is likely to just be treated as a new tax and provide little additional training. There needs to be an institutional framework whereby companies are encouraged toward greater investment and government intervention to boost supply is matched to that ambition.

Wilson and Hogarth (2003) and Coffield (2004) raise the issue of standardisation of qualifications and how work based training in particular needs to become more homogenous across the board. They note that qualifications do not have an inherent value in themselves, they are valuable to an employee so long as they are sought out by an employer. Standardisation allows qualifications to perform their primary function of signalling competencies in the labour market. This is a key coordination measure. It incentivizes employees to seek training that is more likely to provide advancement and it allows employers to give more accurate rewards to skilled employees. Furthermore, it allows for qualifications in further education to be linked to qualifications achieved in the workplace. This not only incentivises prospective workers to gain skills in advance but also incentivizes workers to build on those qualifications throughout their career.

#### ***4.2 A Size Problem?***

As mentioned in Section 2, firms in a LSE are more likely to offer little that differentiates their products from those of competitor and are more likely to compete on cost and price alone. There is evidence of this behavior in NI firms as outlined in Table 3.9. Boosting the ambition of these firms is a key demand side measure for combating a LSE. The weakness of NI’s private sector is often attributed to the size of the economy and its geographical peripherality and consequently the size of firms. As Mac Flynn (2016) points out, NI’s productivity gap is not uniform across the economy and the size of firms does not explain as

much of NI's weakness as is commonly thought. Nevertheless, NI is an SME economy and Vadenberg and Trinh (2016) show that not only are SMEs far less likely to carry out training of staff, they are also less likely to want to do it.

Echoing some of the ESS findings for NI in the previous section, Vadenberg and Trinh (2016) found that SMEs do not see staff training as necessary and are found to be more comfortable in a low skills low value-added mode of production. The authors however stress that this is not inevitable. It is a market failure, because SMEs do not see the value of such investment or they see the cost of training as too high. Tackling such a misconception is a key demand measure for SME economies such as NI's. The evidence of a market failure for training amongst SMEs shows that they should be a focus for government intervention. However, not all SMEs will be capable of moving up the value chain and Wilson and Hogarth (2003) emphasise the need to channel state support in the short term to those firms with the greatest propensity for change. Boosting performance amongst all firms is a bigger task and one that should be targeted in the medium term.

Whilst many of the policy prescriptions in the current literature focus on existing firms, new firms may provide easier routes out of the LSE. New firms created under a new coordinated skills structure may provide the competitive forces necessary to motivate existing firms to alter their current strategies. This should be acknowledged in the NI Executive's Industrial Strategy *Economy 2030* (Department for the Economy, 2017) to ensure that new firms with government backing do not succumb to the prevailing skills paradigm.

### **4.3 Where to start?**

For NI the policy challenge therefore is to build a new skills framework that provides for standardised training both in work and for those entering the labour market. This new framework requires coordination amongst employees and employers. It also involves aligning development and investment plans of sectors and industries with government skills strategies. This would require government to survey firms and industries and construct a development plan whereby state support is tied to involvement and commitment to skills investment and product innovation.

Whilst much literature focuses on institution building, NI does not lack government programmes or an infrastructure for training and qualifications. It lacks coordination between such structures and the economy. Creating a dynamic of coordination between firms and workers is the most important policy ingredient to solving a LSE. Finegold and Soskice (1988) and Heyes and Stuart (1994) both pick up on the decline of Trade Union

membership as a key missing piece in coordinating policy responses to a LSE. Collective agreements are examples of instances where firms and employees coordinate activities in order to boost productivity and output for the wider benefit of all involved. Situations where employees collectively bargain for pay allow employers to plan investment and skills strategies that can be coordinated with training amongst the workforce. Declining trade union density means that examples of these structures are harder to find. However, those that remain may allow the state to build momentum for coordination in key sectors and industries.

The wider skills and business support system should be reformed to reflect successes achieved at individual firm level. Building on examples of where coordination already takes place is key to prevent this new structure from being top-down policy framework. Building from within industries allows for the particularities of each sector to be built into the proposed structure. Lauder (1999) notes the example of the Skills Redevelopment Project in Singapore which was a joint initiative between the state and the National Trade Union Congress to provide nationally certified skills training. 27 companies volunteered 5,000 workers for subsidised training in the first wave.

To this end, a future Northern Ireland Executive should form a cross-departmental group composed of representatives of further education, industry and trade unions in order to build an agreed framework for a coordinated programme of upskilling. Building on examples of existing cooperation, the framework would be widened to include sectors and industries where low skills are most acute and where there is agreement for a way forward.

## **5. CONCLUSIONS**

A skills deficit has long been considered a key structural weakness of the NI economy. This has been linked to NI's chronically weak output and consequent low wages. What this paper has attempted to show is that a comparatively low supply of skills is contributing to weak output but that the low supply of skills is linked to a low demand for skills. The lack of demand is also linked to the lack of supply and this has trapped the NI economy in a mutually causal skills trap. Whether NI's problem began a supply or a demand problem is not important, it is a chicken and egg scenario. What matters is that the skills problem can only be met by tackling both supply and demand.

An entire economy can never be described as a LSE, rather it is more likely that an economy will have a tendency toward a set of LSE characteristics. Investigating attitudes is not an exact science, but it is necessary in a situation where seemingly rational behaviour leads to

suboptimal economic outcomes. Understanding that the attitudes of employees may be linked to the attitudes of employers is key to formulating a policy response to the skills problem. This is an issue of coordination and economies which lack the institutional capacity for industrial coordination will find it more difficult to address these problems. Identifying cooperation and coordination at the firm level may be the best way to build a national framework and inform broader policy interventions.

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