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# **‘Bad’ Jobs and Productivity: The Flexibility Paradox**

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# **'BAD' JOBS AND PRODUCTIVITY: THE FLEXIBILITY PARADOX**

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## **ABSTRACT**

This paper aims to establish whether the increased use of flexible employment has contributed to the slowdown in the growth of productivity in the case of Northern Ireland. The theoretical case for a negative relationship between use of flexible forms of employment and productivity is proposed and explored in detail using Northern Ireland as the case study. We compare changes in the nature of employment with productivity performance. In doing so, we find correlations between the growth of flexible forms of employment and the retardation of productivity growth across sectors.

Our findings call in to question the dominant belief that employment protection legislation and regulation of the labour market is harmful to the economy, and suggest that a lack of labour market protections, regulations and institutions may have a negative impact on productive performance. This paper is concerned with one of these outcomes in particular, namely productivity.

In taking together the findings and reflecting on the policy implications we argue that the current incarnation of flexibility pursued throughout the UK (including Northern Ireland) synonymises flexible employment with labour market deregulation. It imbues a 'low-road' approach to job quality which requires workers to trade off employment conditions for flexible forms of employment and needs to be challenged. The need for a new framework for extending the rights and protections of the traditional 'standard' employment relationship (SER) to those in more flexible or 'non-standard forms of employment' is outlined as a means to make decent flexible employment.

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# **'BAD' JOBS AND PRODUCTIVITY: THE FLEXIBILITY PARADOX**

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## **1. LABOUR MARKET FLEXIBILITY: A PANACEA FOR GROWTH? INTRODUCTION AND CONTEXT**

The post-war period was one that can largely be characterised as an era that focused on developing economic and social policies with the aim of building a social consensus in order to ensure economic stability, growth and full employment. Key among these policies was the development and extension of labour protections, rights and entitlements that brought promises for each of the social partners involved. It promised workers security, a 'family wage' and improved living standards; employers a committed workforce with firm specific-skills and demand for their products; and the State a greater degree of social cohesion and political stability to underpin economic growth (Lewchuk *et al*, 2011; Rodgers and Rodgers, 1989; Standing, 1997).

In the late 1970s and early 1980s however rising unemployment, inflationary pressures and problems sustaining the growing welfare state led to the viewpoint that these labour market protections, entitlements and regulations were creating 'rigidities' that were stifling employment creation and economic growth (OECD, 1994; Siebert, 1997). This gave way to an increasingly accepted belief that increased labour market flexibility was needed, marked by the removal of labour market protections, institutions and regulations (Howell *et al*, 2007). The argument was that this would at once reduce unemployment, reduce market inefficiencies, and in turn increase economic growth and societal welfare.

An important part of the argument that labour market rigidities were responsible for high levels of unemployment came from the growing gap in employment performance between the United States and European countries (including the UK). European countries tended to have more stringent labour regulations, more powerful unions, more collective bargaining, and more generous unemployment insurance systems. At the same time, they had substantially higher levels of unemployment, compared to the United States. This combination provided the initial support for the labour market rigidity hypothesis (Siebert, 1997).

Furthermore, accelerating globalisation and technological change (Dolphin, 2015; Ware-Barrientos, 2013), as well as deindustrialisation and the shift from manufacturing to services (ILO, 2015; Kalleberg *et al*, 2003) exposed countries at all stages of development to more intense price competition between supplier firms, as well as increased the requirement to respond quickly to

demand. Together these changes amplified the argument from business, policy makers and Government that flexible labour markets were required to aid competitiveness and to maximise efficiencies (Betcherman, 2014; Hayter, 2011).

The pursuit of flexibility, marked by the stripping away of these labour market rigidities, was heralded by advocates as a panacea to, primarily employment creation, but also to economic efficiencies and economic growth. There was a sharp policy shift towards labour market deregulation, a process led by international organisations (Heyes *et al*, 2012; OECD, 1994). As will be discussed in the later sections, these policies were implemented at national level, unreservedly in many cases (Gray, 2005). Remarking on this turn in policy to what had come before, Standing (1997: 14) commented ‘An irony is that in the 1980s and 1990s the securities that had been regarded as the primary objectives of economic and social policy in the previous era became regarded as obstacles and rigidities to be overcome, in the name of economic growth’.

In the early years of the 21st century, the apparent consensus linking labour market flexibility to labour market and economic performance began to wane, amongst academics and a number of international organisations (Nolan, 1994; OECD, 2006; Storm and Naastepad, 2009). This waning accompanied a growing body of empirical evidence which did not appear to support the view that deregulated, flexible labour markets led to employment creation, increased efficiencies and productivity and improved economic performance (Chowdhury, 2009). Whilst the evidence will be reviewed in detail in Section 2, it has become increasingly clear that while a variety of bivariate relationships were found between labour market protections and institutions and labour market and economic performance in early studies, more recent studies, which have used improved data, measures and methodological approaches have found that the relationship between these phenomena is relatively weak (Howell *et al*, 2007). The weakness of the relationships is more evident when researchers have applied sophisticated econometric techniques (Howell *et al*, 2007). Furthermore, issues of causal interpretation present formidable difficulties, with the data often calling to question the direction of effect argued for by those who support the labour market flexibility thesis.

Nonetheless, in the years following the great recession there has been a distinct return to the notion that what the economy needs is *more* flexibility in the labour market. The aftermath of the 2008 global financial crisis led to a fundamental rethink and questioning of the notion that economic deregulation and unbridled flexibility of markets is the most effective means with which to maximise economic growth and societal well-being in the long-term (Coats, 2011; Laeven and Valencia, 2012; OECD, 2011). However, also notable has been the return of support for the idea that

unbridled flexibility is optimal for the labour market (European Commission, 2012; World Bank, 2018). Thus, the idea that flexible labour markets are a necessary requirement to maintain low levels of unemployment, as well as economic efficiencies and economic growth has been restated, particularly by international and national policymakers.

The Official support for unbridled flexibility is hard to explain in the context of the weak evidence base linking labour market flexibility to improved labour market and economic performance. This development is particularly disappointing given the increase in job insecurity, in-work poverty, low pay, and overall worsening conditions of employment (Maitre *et al*, 2012; Wilson, 2017). There is a growing body of evidence detailing the negative impact of poor quality employment not just for individual workers and their families, but also for businesses, and overall labour market and economic performance (ICTU, 2017; Wilson, 2017). Moreover, it again sets the narrative in a context which dismisses the fact that labour market institutions and developments were developed to meet the demands of both workers and business, and ensure that there exists a sense of social cohesion and stability - which would itself foster economic growth and improve overall quality of life (Nolan and Whelan, 2014).

Much of the research to date has sought to propose that flexible labour markets are a prerequisite for strong employment creation and superior economic outcomes. This paper is concerned with one of these outcomes in particular, namely productivity. Productivity is one of the most prominent measures of economic performance, and it has underperformed relative to previous decades in many western economies since at least the global financial crash, and most noticeably in the United Kingdom. It is the contention of this paper that not only is the apparent link between flexible labour markets and productivity growth quite spurious, but that flexible forms of employment (and the increase in their use) may actually reduce productivity. The theoretical case for a negative relationship between use of flexible forms of employment and productivity is proposed and explored in detail using Northern Ireland as the case study.

The next section reviews the historical, political and policy context leading the shift towards flexible labour markets, and evidence of the advantages and disadvantages of flexible forms of employment. In doing so it will set out the theoretical contention of this paper. Section 3 examines trends in employment and productivity in Northern Ireland. Section 4 assesses the extent of flexible forms of employment in Northern Ireland and analyses these results alongside Northern Ireland's productivity performance. Section 5 examines the policy implications of these findings. Section 6 concludes.

## **2. THE POLICY AND POLITICAL SHIFT TOWARDS LABOUR MARKET FLEXIBILITY**

### **2.1 THE ROLE OF INTERNATIONAL ORGANISATIONS IN ADVOCATING FOR FLEXIBLE LABOUR MARKETS**

Numerous international organisations including the European Commission, the OECD, the IMF and the World Bank played a fundamental role in establishing the viewpoint that excessive regulations and protections by labour market institutions were having a negative effect on labour market performance, and in particular were the dominant explanation for the high rates on unemployment experienced across European Countries. Moreover, they have played a prominent role in setting forth the policy changes and structural reforms required to achieve increased labour market flexibility.

For example, the OECD articulated one of the clearest positions in favour of flexible employment in its Jobs Study published in 1994. This study attributed Europe's rising unemployment and poorly functioning labour markets to 'Policies and systems... have made economies rigid and stalled the ability and even willingness to adapt.' (OECD, 1994: 4). It recommended 10 key policy priorities with the overarching objective to make labour markets more flexible in order to increase the numbers of people in employment, increase economic efficiencies and productivity, and improve economic performance. The policy proposals included:

1. the need for macro-economic policies aimed at ensuring price stability and sustainable public finances so as to keep interest rates low and encourage investment and labour productivity;
2. the need to make wage and labour costs more flexible;
3. the need to move towards social security benefits based on conditionality, active labour market policies and a shift towards workfarism, whereby the unemployed are obliged to actively seek a job and to be willing to take any job available;
4. the need to 'make work pay' through tax-benefit reform and the provision of targeted in-work benefits;
5. the need to modify employment protection legislation to ensure 'labour market dynamism' by reducing constraints on hiring and firing, and a relaxing of regulations for those employed on temporary contracts (p.22);
6. lowering of taxes for low-paid employment and the creation of closer ties between social security systems and work to encourage employment creation;
7. the need to facilitate family-friendly arrangements, and ensure that tax and social security provisions do not discriminate against part-time or other flexible arrangements of employment;
8. the need to recognise the key role of human capital accumulation;

9. the need for the diffusion of technological know-how for the achievement of economic growth and social objectives and to establish co-ordinated systems to ensure necessary training and skills provision;
10. enhance product market competition so as to reduce monopolistic tendencies and weaken insider-outsider mechanism while also contributing to a more innovative and dynamic economy.

Numerous other international organisations worked together and supported the recommendations towards structural reforms to reduce labour market rigidities. This became part of the 'Washington Consensus' (Bakvis, 2009). Indeed, in the 1980s and 1990s international financial institutions, including the World Bank and the IMF began to demand the application of structural adjustment policies as conditions for their loans. This included a general drive towards market fundamentalism and a reducing of the role of government in the labour market, by dismantling labour regulations and protections. Again, these institutions justified this drive towards deregulation on the basis that labour market rigidities were at the root of unemployment and were holding back productivity growth and overall improved economic performance. (IMF, 2003)

Confidence weakened in the international organisations that labour market flexibility was the panacea claimed in the years preceding the global economic crisis. For example, the OECD conceded that there is no blueprint of labour market institutions or regulatory regimes that can be implemented to engender the outcomes which were promised. Furthermore, they explain that there is much to be learnt from the failures of this drive toward flexibilisation, particularly regarding the design and implementation of individual policies and how different policies interact (OECD, 2006). Nonetheless, in the years following the global economic crisis the institutions appear to have put their caution by the way side. In fact, it is not difficult to find return to calls to enhance labour market flexibility at any cost. For example, the World Bank has been particularly negative stating that countries continue to err on the side of what it calls 'excessive rigidity' (World Bank, 2009). Most recently, the World Bank (2018) has commented that labour market issues can be solved if regulations on business operations, such as minimum wage are substantially weakened.

The European Commission (2010: 7) argued that 'In some Member States employment protection legislation creates labour market rigidity and prevents increased participation in the labour market. Such employment protection legislation should be reformed to reduce over-protection of workers with permanent contracts and provide protection to those left outside or at the margins of the job market.'. The OECD (2009: 6) have stated that 'more flexible labour markets will be a key adjustment mechanism during the recession as well as in the medium term'. They have argued that

the need for increased flexibility is in the interest of economic performance, which will suffer if labour market protections and regulations are given importance - 'For governments, there are trade-offs and discipline involved in steering societies through the adjustment to new technologies and new forms of global trade. Their challenge will be to embrace change rather than succumb to pressure to resist it through protectionism or other measures to restrict competition.' (OECD, 1994: 43). Henceforth, the OECD have warned that whilst there may be strong resistance to introducing some of the recommended policies recommended in the 1994 'Jobs Study' and the updated recommendations from 2006 countries should continue to press on, as the cost of not implementing such policies is continued weak labour market performance (OECD, 1994; 2006).

## **2.2 THE POLITICAL AND POLICY SHIFT TOWARDS FLEXIBLE LABOUR MARKETS IN THE UNITED KINGDOM**

The United Kingdom has been particularly fervent in its determination to eradicate labour market rigidities and flexibilise the labour market. This political and policy shift towards labour market flexibility began in earnest in the late 1970s and early 1980s and has remained on this trajectory with each successive Government. Indeed, by the 1990s the UK, alongside the USA, were frequently commented on as having 'nearly ideal examples of the OECD's version of labour market flexibility' having had addressed most of the areas recommended for reform (Schmitt and Wadsworth, 2002: 4).

In the 1980s the Thatcher government undertook a major program of labour market deregulation., The main policy thrust in this flexibilisation of the UK labour market involved deregulation and the broad synonymising of flexibility with the removal of labour market protections, institutions and regulations (McLaughlin, 1994). This included an attack on established systems protecting wages and working conditions. For example, Wages Councils (joint bodies determining minimum wages in unorganised industries) lost responsibility for under 25-year olds in 1986 and were abolished completely in 1993. Trade Union powers and activities were undermined and redefined under the Governments direction (Whiteside, 2000). Statutory constraints were placed on industrial action, the imposition of a closed shop, as well as on union recognition. Nationally negotiated wage settlements were actively discouraged in both public and private sectors; and 'performance related pay' was promoted as the proper alternative. Paralleling these labour law reforms were a series of other actions, which included a change in the welfare state towards welfare conditionality and an increase in work incentives, a reduction in Government employment, the privatisation of pensions, and the abolition of statutory wage fixing machinery and arrangements for extending collective agreements (McLaughlin, 1994).

The retention of a flexible, deregulated labour market continued as a core element during the administration under New Labour. In fact, it alone, Blair argued, could guarantee continued improvements in productivity, innovation and overall competitiveness (Blair, 2001; Shaw, 2003). Similar to those who argued before him, persistent high levels of unemployment in other EU countries were attributed to rigidities in their labour markets such as restraints on the right to fire, generous unemployment benefits. This he argued raised reservation wages and brought to the fore the excessive social costs of labour and collective agreements (Shaw, 2003).

The continued unabated drive towards and commendation of labour market flexibility as the cure of all labour market and economic woes has continued under the Government led by Theresa May. This is most clear from an analysis of the recently published Taylor Review of modern working practices commissioned by Prime Minister Theresa May (Taylor *et al*, 2017). Specifically, the Taylor Review states that low levels of unemployment are the result of flexibility in the UK labour market. It goes on to say that concerns that the UK's light touch approach to labour market regulation has a negative impact on the labour market are overstated, and that labour market policy should continue on this trajectory - 'The Review believes that maintaining the flexible and adaptable approach to labour market regulation that has benefitted the UK so far.... will take us in the right direction.' (p. 31).

Indeed, the Taylor Review goes on to explain that in return for flexibility workers should expect to trade-off on different aspects of job quality including security, pay, and opportunities for further development through training (Taylor *et al*, 2017). What is clear from the above is that in the continued commendation of labour market flexibility the Taylor Review gives primacy to the *quantity* of jobs, over the *quality* of jobs. Indeed, not only this, but workers are expected to sacrifice working conditions and job quality in return for employment. This brings to mind and demonstrates that the old maxim that 'any job is better than no job' is alive and well. However, as will be discussed in further detail in the next section the evidence on which the contention that labour market flexibility is necessary for employment creation is much weaker than policymakers often assume.

### **2.3 A CRITICAL ANALYSIS OF THE BENEFITS OF LABOUR MARKET FLEXIBILITY**

Labour market regulations can affect a wide range of economic and social outcomes, and, as has been discussed in the previous section, calls for labour market flexibility have been made on the basis that labour market rigidity and strict employment protection regulations are having a detrimental impact on labour market performance. In particular, it has been argued that labour market rigidities were preventing flexibility and thus responsible for persistently high rates of

unemployment across Europe (OECD, 1994); were holding back productivity performance (OECD, 2006), and in the end were negatively affecting broader economic and social outcomes.

The OECD argued that elements of rigidity included centralised collective bargaining, high unionisation rates, job and hours of work protection legislation, the tax wedge of employment taxes and social security contributions, and earnings-related unemployment benefit (OECD, 1994; 2006).

The need for labour markets to become more flexible was referring to *inter alia*:

1. the need to make it easier to adapt and change the numbers of workers;
2. the need for a relaxation of the employment protections for the temporarily employed contracts;
3. the ability to adapt wage costs quickly;
4. the need for more (downward) flexibility for wages and labour costs; the ability to alter working time through increases in variations to normal hours;
5. the need for more flexibility in the range and extensity of social protections, especially in terms of unemployment benefit and those required to be paid by businesses, particularly for low-wage earners; and
6. the need for a reduction in trade union power (Eamets and Paas, 2007; OECD, 2006; Pissarides, 1997).

Making the changes would supposedly have two key benefits. Firstly, it would weaken insider-outsider mechanisms, as relaxing labour market regulations would increase the labour market participation of those on the margins (Bentolila *et al*, 2011). Secondly, such flexibilities would allow businesses to be able to manage more efficiently fluctuations in supply and demand and thus increase output gains and improve overall economic performance (Ko, 2003).

However, in analysing the broad evidence base there does not appear to be compelling statistical evidence to support the claim that protective labour market institutions are at the root of persistent high unemployment in OECD member countries (Howell *et al*, 2007). Indeed, in combing through the evidence base Howell *et al* (2007) draws attention to the fact that in many cases the conclusions drawn are either inaccurate, imprecise or overstated in terms of the negative impacts of labour market institutions.

Indeed, initially when this viewpoint came into vogue simple bivariate scatterplots were often used as evidence to support the case that employment performance is harmed by the rigidities which labour market institutions produce. In this sense, so long as the scatterplot provided some evidence of a relationship between protective labour market institutions and labour market performance a

conclusion was drawn that increased flexibility and an unwinding of protective labour market institutions would have a positive impact on labour market performance. That said, in analysing the bivariate correlation evidence that has been used for this purpose, it becomes clear that even this presents weak support for the contention that protective labour market institutions negatively affect employment performance.

For example, the OECD 1994 Jobs Study made frequent use of scatterplots and simple bivariate correlation evidence to make the argument that levels of unemployment were linked to increases in unemployment benefit generosity, albeit with lagged effects (OECD, 1994). Specifically, the 1994 Jobs Study presented scatterplots of 'cycle-to-cycle' changes in unemployment rates, the average benefits level over the cycle, as well as the change in benefits over the previous cycle across a set of 21 countries and a reduced set of 14 countries. For the 21 countries they find none of correlations are statistically significant at the 5 percent level. For the 14-country data, they find that two of the six tests produce the expected correlation. In bringing this evidence together, one might be expected to conclude that this provides little or weak correlation evidence to support what the OECD did conclude – that an increase in unemployment tends to follow with a long lag increases in unemployment compensation/benefit.

Furthermore, using five-year averages for the 1980s and the 1990s for 20 OECD countries Baker *et al* (2005) found no statistical association between unemployment and standard OECD measures of employment protection laws, unemployment benefit replacement rates, the duration of unemployment benefits, union density or union coverage. Similarly, looking at the bivariate relationship between rates of unemployment and a number of different indicators that capture unemployment benefit generosity across OECD countries Howell *et al* (2007) find no discernible evidence to support the contention that the unemployment benefit system is strongly associated with increased unemployment. For example, Howell *et al* (2007) graphically illustrate the bivariate relationship between the net replacement rate of unemployment benefits and unemployment levels and find, contrary to what was expected, more generous after-tax benefits are associated with lower unemployment rate across OECD countries. Further to this Howell *et al* (2007) seeks to explore the extent to which changes in labour market institutions can account in a substantial way for changes in the pattern of unemployment across countries. Using net replacement rates at different points of time over the period 1991-2001, the authors found no correlation. For example, Ireland had the largest decline in unemployment but it had the largest increase in benefit duration, whilst Canada had the largest decline in duration of benefits, whilst its share of long-term unemployment showed little change.

Howell *et al* (2007) look at unemployment rates across OECD countries divided into three groupings: the first group comprises six English-speaking countries with generally low unemployment (Canada remains at higher levels); six high unemployment continental European countries; and six continental European countries with low unemployment. The data presented showed remarkable similarity between unemployment rates for the liberal English-speaking countries and countries characterised by low-unemployment in Continental Europe. Furthermore, the authors demonstrate that, on both unemployment and employment rates, the countries characterised by low-unemployment in Continental Europe have, on average, superior labour market performance to the English-speaking countries. In addition, they achieve this with much lower wage inequality. The authors conclude that this calls into question the flexibility thesis, as the latter countries remain characterised by strong welfare states and highly protective labour market institutions (Howell *et al*, 2007).

More recently, research in this area has turned to more sophisticated cross-country econometric studies to assess whether labour market regulations lead to high levels of unemployment. As will be shown in the following sections, when we take the research evidence on balance the proposition that protective labour market institutions have a detrimental effect on employment performance is rather modest. For example, the findings of a number of OECD studies which sought to assess the impact of labour market reforms in the years directly following the 1994 Jobs Study conclude that there is broad agreement that labour market institutions have a significant effect on rates of employment/unemployment (Elmeskov *et al*, 1998; Scarpetta, 1996). Importantly, however, there is no consensus on the specific reasons why labour market institutions are significant. Both studies report the significance of employment protection legislation and unemployment benefit replacement rates. However, their results differ across other indicators, including for example, their results in terms of union density, tax rates, and bargaining coordination among others (Howell *et al*, 2007). Disappointingly, however, in the latter paper by Elmeskov *et al* (1998) no effort is made to explain the potential reasons for the substantial differences in the results, which is notable as the Scarpetta (1996) paper has been used as a key source to understand poor employment performance, and to identify 'success' and 'failure' countries. It is worrisome that the same author does not comment on or seek to explain the inconsistent results which were found only a short number of years later.

Recent studies, including that by Baccaro and Rei (2005), Bassanini and Duval (2006), and Howell *et al* (2007) have sought to take advantage of the availability of improved institutional measures such as for example unemployment benefit duration, labour market policies and employment protections and the methodological innovations of earlier studies to address such questions. They

have found substantially less support for the negative effect of protective labour market institutions for labour market performance. For example, in contrast to the findings of the studies mentioned in the previous paragraph Baccaro and Rei (2005) and Bassanini and Duval (2006) each only find one measure of protective labour market institutions to be significant (union density and gross employment benefit replacement rate respectively). On analysis of the findings from Baccaro and Rei (2006), and other studies that similarly find a negative effect of union density Howell *et al* (2007) conclude that there is reason to be sceptical of a union density effect. They reason that in replication tests the effect of union density has tended to disappear or at least weaken. Furthermore, they explain that the effect of union density is complicated by vast differences between density and coverage in some countries, and by the role of centralisation and coordination of bargaining. Similarly, the OECD (1999: 55) have concluded that 'there is little evidence of an effect of union density.... on unemployment once other features of the collective bargaining system are taken into account'.

In terms of the effect which unemployment benefit generosity has on labour market performance, and in particular rates of employment/unemployment, there appears to be reasonable consistency. Indeed, an evaluation of eleven studies suggests a broad consensus finding that a ten-percentage point change in the OECD's measure of benefit generosity will generate a change in the unemployment rate of about one percentage point. Howell *et al* (2007) however argue that there are a number of reasons why the policy implications of these findings need teased out further. One key reason concerns the fact that a substantial number of the unemployed do not actually receive benefits in the first place. This therefore would imply that the measured effect of unemployment benefit generosity is much greater for those who do receive benefits. It would also imply however that a policy reform that substantially reduced the benefit generosity rate would have little effect on the unemployment rate of those who do not receive benefit.

Furthermore, there is substantive reasons as to why policy endogeneity ought to be considered, given evidence suggesting that the direction of effect for the relationship between the rate of unemployment and benefit generosity actually runs the other way. In this sense, Granger causality tests across a number of studies indicate that it is the unemployment rate that drives benefit levels (see for example Blanchard, 2006; Broersma *et al*, 2000; Elmeskov *et al*, 1998; van Ours, 2003). Commenting on the evidence base the OECD (2006) came to the conclusion that 'there is evidence that unusually high increases in unemployment rates are associated with increased employment protection...and relatively more generous unemployment benefits for the long-term unemployed'. DiTella and MacCulloch (2002: 413) conclude 'the evidence tends to favour the hypothesis that long run unemployment bolsters demand for more generous long-duration benefits'. Reflecting on the

evidence base as a whole Howell *et al* (2007) concede that there is evidence that unemployment benefit generosity has a positive effect on unemployment duration, but nonetheless conclude that there continue to be reasons to be sceptical of the claim that unemployment benefits could alter wage pressure and employment search behaviour in a way which is sufficient enough to have an effect on the aggregate unemployment rate.

It is increasingly recognised that labour market institutions and policies are interdependent and successful employment performance is likely to reflect coordinated reforms. In this sense, in analysing the impact of recommendations from the 1994 'Jobs Study' the OECD found a significant positive relationship between the extent to which unemployment fell in the 1990s and the share of recommendations adapted, wholly or partially (OECD, 1999). More recently, the OECD (2006) found a strong effect of changes in institutions and policies for unemployment over the 1982-2003 period. That said, it is also recognised that countries have focused on different combinations of the policy recommendations in the 'Jobs Study' and have achieved equally improved outcomes, although the OECD (2006) paper does not investigate the relative importance of implementation of different policy recommendations. However, in decomposing the overall effect to determine the role played by protective labour market institutions, changes in the tax wedge and changes in product market regulation the OECD found that reforms in protective labour market institutions played virtually no role in the success of countries who improved their employment performance. On the other hand, they found that the tax wedge and product market regulation have large effects on the rate of employment (Howell *et al*, 2007). Commenting on these findings Howell *et al* (2007) concluded that again the actual statistical evidence weakens the mainstream assumption of a strong negative impact of protective labour market institutions on unemployment.

Taking together the body of literature discussed a striking feature in the narrative around the advantages of labour market flexibility for labour market performance is the inconsistency between what the empirical evidence shows and what is concluded on. In this sense, there exists a worrying confidence in the scant evidence supporting the narrative that labour market rigidities are at the root of poor employment performance. This needs to be highlighted and challenged by policy makers, trade unionists and academics.

## **2.4 THE DISADVANTAGES OF LABOUR MARKET FLEXIBILITY**

The mantra of labour market flexibility has often been invoked as a remedy to improve labour market and economic performance. However, less discussed is the growing body of evidence which counters this view and demonstrates the disadvantages of labour market flexibility, and in particular, the manner in which flexibility has been pursued in international and national policy -

that is - flexibility, at any cost. Indeed, numerous scholars have argued that the turn towards deregulation and flexibilisation of the labour market has served only the interests of the employer, who have increasingly sought to use employees to their own advantage in an 'as needed' basis (Ashiagbor, 2005; Atkinson, 1984; Hutton, 1996). This they have argued has led to a reduction in the quality and conditions of employment, notably through reductions in wages, social insurance, fringe benefits, and redundancy payments among other things (Ashiagbor, 2005; Atkinson, 1984; Beck, 1992; Gorz, 1999; Hutton, 1996).

#### **2.4.1 Effects on workers**

Research assessing the effects of more flexible forms of employment than that provided for by the traditional standard of full-time, permanent employment for individual worker outcomes has found that such forms of employment have some merit in terms of providing alternative ways in which workers can gain entry and participate in the labour force (McGinnity *et al*, 2005). Overall, however, a large body of empirical evidence demonstrates that flexible forms of employment i.e. those that differ from the traditional 'standard' form of employment tend to be of sub-standard quality when compared across a range of different dimensions (ILO, 2016).

Beginning with the merits, we can make the point that flexible (non-standard) employment arrangements may be preferred by some workers and therefore contribute to improved employment outcomes and better work-life balance (Fagan *et al*, 2012). For example, flexible forms of employment such as part-time and temporary work may be preferable for some workers, as they allow workers to combine work with care responsibilities, education or other obligations, that prevent them from being able to participate in traditional 'standard' employment arrangements (ILO, 2016).

That said, while participation in more flexible forms of employment arrangements can make it easier for those at the margins to enter the labour force Rubery *et al* (2018) criticises this 'normalising' of insecure, insufficient, low paid, poor quality, limited social protection employment. These conditions are significantly more likely to be found in more flexible forms of employment, including part-time, temporary and zero-hours contracts, and dependent self-employment (ILO, 2016). Indeed, an extensive body of evidence covered in detail in a report from the ILO (2016) demonstrates that flexible forms of employment tend to take a 'low-road' approach to job quality and thus be of poorer quality when compared with standard employment arrangements. They tend to be less secure, have lower earnings, fewer hours of work on average, possess higher occupational safety and health risks, less satisfaction, and less training when compared to traditional 'standard' employment arrangements. Even for permanent part-time work, arguably the most secure form of

non-standard employment, there exists a body of evidence that demonstrates that there is wage penalty, low social security coverage, less on-the-job training, less worker representation and lower likelihood of promotion when compared to full-time, permanent work.

Furthermore, there are arguments that more flexible forms of employment provide opportunities for skills development; allow for acclimatisation to the labour market; provide opportunities for workers to expand their social and professional networks; and provide a 'stepping-stone' to a future career in a high-quality job. However, the research evidence base on this is unclear (Bailey, 2016; Booth *et al*, 2000; ILO, 2016). Indeed, looking at whether temporary jobs provide a stepping-stone to permanent work in Britain, Booth *et al* (2000) found some supporting evidence. Using data from the British Household Panel Survey the authors found that the median time in temporary work before a transition to permanent work is between eighteen months and three and a half years, depending on whether the temporary contract type is fixed-term or seasonal. Nonetheless, the authors found that there is a significant wage growth penalty of having held at least one seasonal/casual job. Even with ten years of full-time experience men experience a 12.3%, and woman an 8.8% wage penalty. In this sense, employees are expected to trade-off the benefits of having a job with a wage penalty.

This is concerning when we take into consideration the findings of research which show that poor quality jobs have a negative influence on the health and well-being outcomes of workers (Wilson, 2016). Indeed, a stark finding in Wilson (2016) study which examined the relationship between job quality and a number of health and well-being outcomes was that the working poor have poorer health and lower life satisfaction than the unemployed or economically inactive. Moreover, Sverke *et al* (2002) presents evidence demonstrating the fundamental importance of security in employment for employee health, with both physical and psychological health appearing to be negatively affected by a lack of security in work. Research by Kompier *et al* (2009) suggests that temporary agency workers are more likely to suffer from mental illness. Furthermore, the strong negative health effects of low pay and in-work poverty are well-documented in a large body of literature (See for example Prior and Manley, 2017).

#### **2.4.2 Effects on businesses**

There is an argument that deregulation and the removal of protections is beneficial for business as it helps employers manage more efficiently fluctuations in supply and demand. However, a considerable body of research suggests that widespread use of flexible forms of employment for the sake of cutting costs can have important and underappreciated consequences for businesses. In particular, the evidence base would indicate that widespread use of flexible forms of

employment for this reason could actually translate into lower productivity growth. There are four major channels of transmission in the literature to suggest why the removal of labour market protections and regulations can translate into lower productivity growth. These are: (1) via effects on innovative activity; (2) via effects on training; (3) via effects on trust; and (4) via effects on the impact of aggregate demand on productivity growth.

Kleinknecht (2015) found that increased use of non-standard employment slows down innovation and dampens the 'creative accumulation' model, not least because temporary workers by their very nature have a higher likelihood of moving from firm-to-firm for short periods of time raising the likelihood that they will carry firm-specific knowledge and know-how to competitors. Similarly, Sias *et al* (1997) found that the use of temporary workers has an effect on firm performance because the accumulation of firm-specific knowledge is reduced.

A recent study from Nielen and Schiersch (2014) focused on German firms in the manufacturing sector found that there was an inverted U-shaped relationship between the extent to which a firm used temporary workers and the firm's competitiveness measured as the ratio of labour cost to labour productivity. Specifically, the authors found that the use of temporary workers initially improved firm productivity. They also found, however, that if the use of temporary workers increases too much it results in a loss of productivity. In interpreting their findings, the authors argue that the initial increase in productivity arises because it provides an opportunity to screen and retain the more productive employees, however when the share increases too much there is a loss of firm-specific human capital, which has spill-over effects in terms of a loss of productivity. The authors conclude there is a rather low threshold to the competitiveness that firms can gain from using temporary workers, and so businesses that aim to substitute permanent staff with temporary workers will not be more competitive.

This finding is supported by evidence from a study of EU countries exploring the impact of temporary employment on labour productivity, using industry-level panel data (Lisi, 2013) where it was found that temporary employment has a negative, albeit small, effect on labour productivity. Specifically, they found that an increase of 10 percentage points of the share of temporary workers would lead to a decrease of about 2–3 % in labour productivity. In talking through the policy challenges of the findings Lisi (2013) explains that the main challenge now is to find a way to ensure that policy does not embark upon so-called 'growthless job creation'.

Furthermore, a study by Allan (2000) found that extensive use of non-standard forms of employment undermines competitiveness as there are significant 'hidden managerial costs' (Uzzi

and Barsness, 1998), employee commitment tends to be lower, and team working and co-operation between staff lower all of which can be costly in the long-term. Furthermore, Allan (2000) found that because non-standard employees tend not to be subject to the standard recruitment and selection process and receive less training there tends to be poorer matching of skills and abilities of employees, with the requirements of the firm. Allan (2000) points out the more tenuous or precarious is the nature of employment, the greater the problems encountered. The author cautions that firms utilising non-standard forms of employment as a cost minimisation measure need be careful to first take into consideration the many hidden costs. The risk here however as Allan (2000) points out is that employers may only take into consideration the short-term gains and not take into consideration the long-term implications and utilise non-standard employment arrangements, with haste as a quick means of lowering direct labour costs.

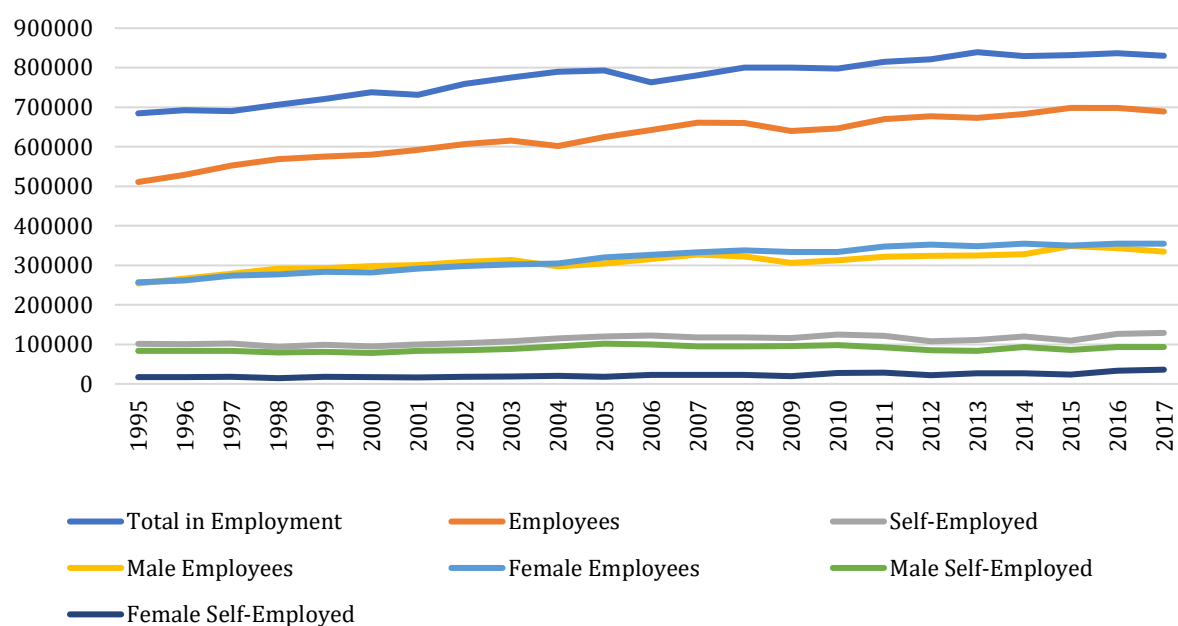
### 3. EMPLOYMENT AND PRODUCTIVITY

This section will examine the relevant data relating to employment and productivity in Northern Ireland over the last decade. The trend and trajectory, as well as the composition of growth in each of these indicators, seeks to inform how and why gains for productivity have not matched the growth in employment.

#### 3.1 EMPLOYMENT

Chart 3.1 looks at the total number of people in any kind of employment from the beginning of the current consistent series of the Labour Force Survey. Total employment has risen from 685,000 in 1995 to 830,000 in 2017. Chart 3.1 shows that while employees make up the majority of this increase, the growth in self-employment has been of a similar magnitude. The number of employees has grown by 34% from 511,000 in 1995 to 689,000 in 2017, whilst the number of self-employed has climbed by 27% from 101,000 to 129,000 over the same period.

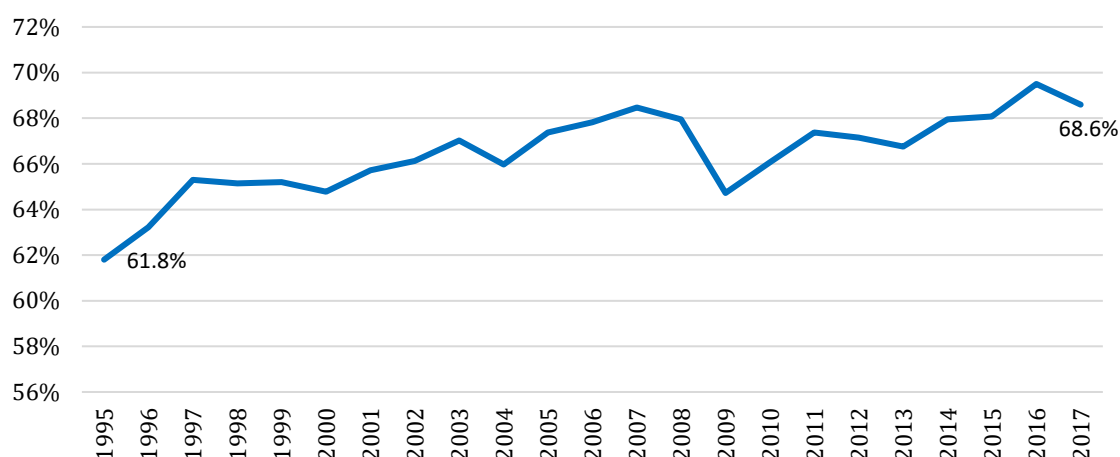
**Chart 3.1: Employment totals Northern Ireland 1995-2017**



**Source:** Labour Force Survey (NISRA, 2018)

In terms of gender, the experience for males and females has been quite different. Total employment for males grew by 27% between 1995 and 2017, compared to 42% for females over the same period. The number of male employees grew by 32%, compared to 48% for females, but the self-employment grew by only 11% for males, compared to 105% for females. Females accounted for just under two-thirds (66%) of the increase in total self-employment between 1995 and 2017.

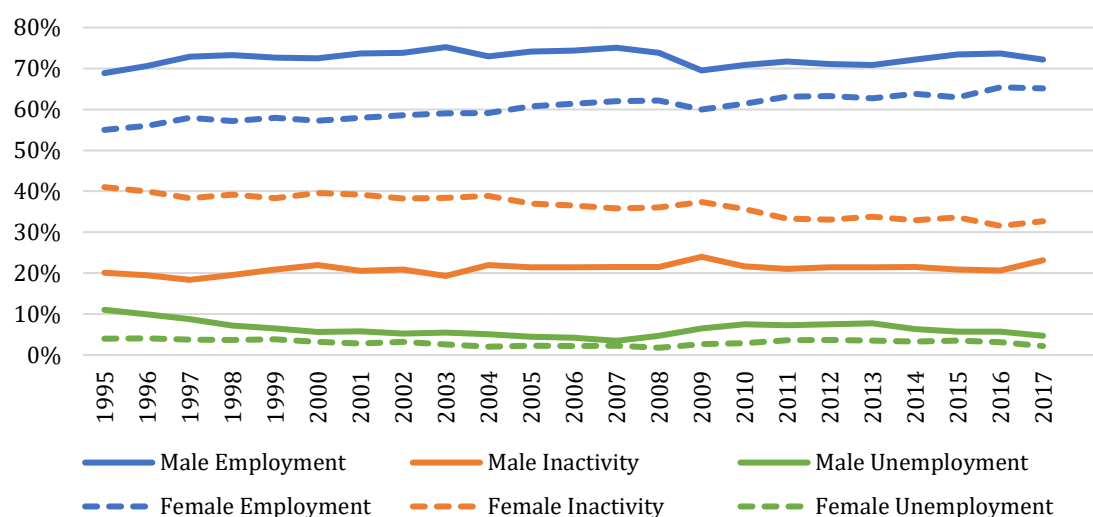
**Chart 3.2: Employment Rate Northern Ireland 1995-2018**



**Source:** Labour Force Survey (NISRA, 2018)

While the number of people in employment has seen steady growth over these years, so too has the general population. As such, the numbers employed need to be adjusted for that. Chart 3.2 shows the employment rate for the working age population (16-64) in Northern Ireland<sup>1</sup>. While there have been some significant drops in the employment rate over the time-period the employment rate has increased from 61.8% in 1995 to 68.6% in 2018.

**Chart 3.3: Employment, Unemployment and Inactivity Rates by Gender Northern Ireland 1995-2018**



**Source:** Labour Force Survey (NISRA, 2018)

<sup>1</sup> The employment rate is calculated as a percentage of the working age population aged 16-64 whereas total employment encompasses all adults aged 16 and over.

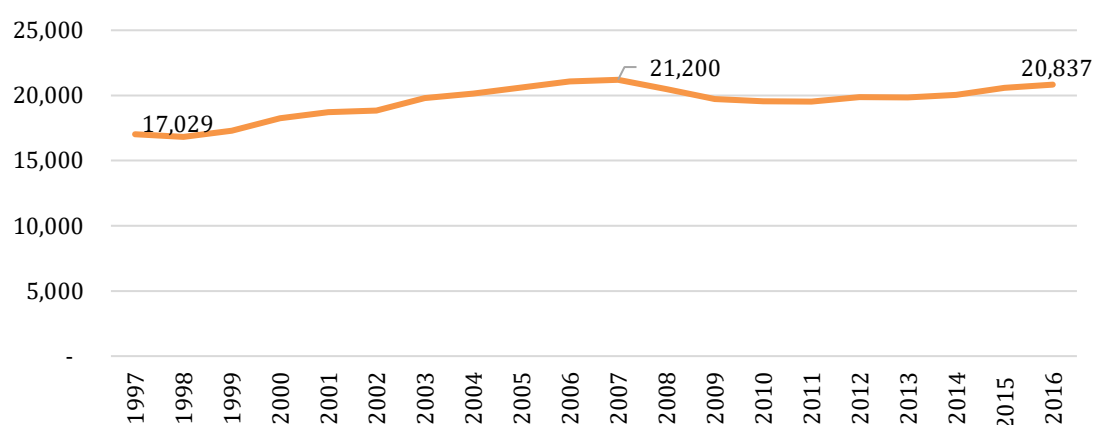
Chart 3.3 shows employment performance by gender. There are two quite different stories between male and female outcomes across all three measures. While the male employment rate has increased from 69% to 72%, the female increase was nearly three times that, increasing from 55% to 65% over the same period. In 1995, the working age male unemployment rate at 11% was almost three times that of females (4%). While the female rate has halved to 2%, the male rate has more than halved to 4% over the same time. Consequently, the male inactivity rate has increased from 20% in 1995 to 23% in 2018, while female inactivity has fallen from 41% to 33%.

Overall, the trends in employment have been positive for Northern Ireland. While economic inactivity remains a persistent problem for males, there are more people at work in the Northern Ireland economy than ever before. However, employment growth has not been matched by output growth, implying a crisis in productivity.

### 3.2 PRODUCTIVITY

Productivity has become a key economic concern of many Western economies, particularly in the years following the financial crisis of 2008. The slow pace of recovery in some larger countries has led to many questions about how economic activity has changed over these years and why we are not seeing the same returns to employment as previously. Gross Value added per head of population is a loose proxy for productivity and is used in this study as a measure of productive performance. For Northern Ireland, productivity fell after the financial crisis and has yet to regain its pre-crisis peak. As Chart 3.4 shows, the trend of growth from 1997 ended in 2008, and recovery only really began in 2014.

**Chart 3.4: Real Gross Value Added per head of population Northern Ireland 1997-2016**

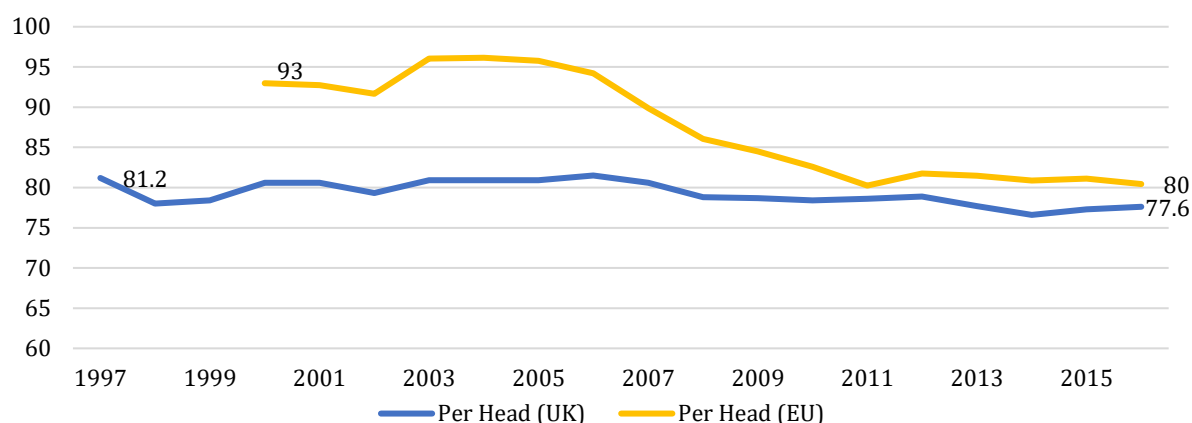


**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017)

To put the performance of Northern Ireland in some context, Chart 3.5 shows Gross Value Added (GVA) per head of population in Northern Ireland as a percentage of the UK average. This shows

that UK GVA per head has increased at a stronger rate than it has in Northern Ireland. This is particularly worrying given that the UK rate of productivity is itself comparatively weak in international terms. In the same sense, Chart 3.5 shows that Northern Ireland has also seen its productivity performance weaken when compared to the EU average.

**Chart 3.5: Gross Value Added per head of population NI as a Percentage of UK and EU Average (PPS) 2016**

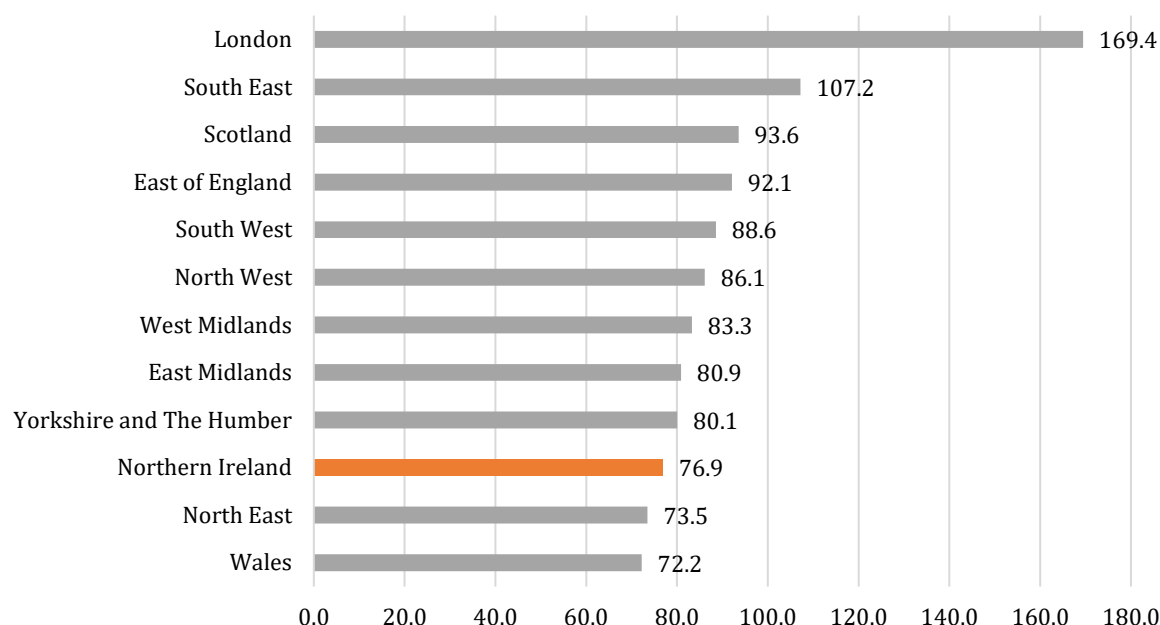


**Note:** The conversion to purchasing power standards (PPS) is based on national purchasing power parities (PPP) which are also regularly calculated and released by Eurostat. Regional PPP are not available.

**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017) & Regional Economic Accounts (Eurostat, 2018)

The UK is a large economy and results for small regions like Northern Ireland can sometimes be lost in UK wide averages distorted by the London region's influence. Chart 3.6 shows how each of the 12 regions of the UK relate to the UK average in terms of GVA per head. As of 2016 Northern Ireland is the third weakest region of the UK in terms of this productivity measure, standing at just under 70% of the UK average. Northern Ireland's relative position among the regions has not changed since 1997. Even in 2007, before the financial crisis had hit, Northern Ireland had fallen from 81.2% to 80.6% of the UK average. By 2016 that had dropped considerably to 77.6%.

**Chart 3.6: Gross Value Added per head of population as a Percentage of UK by UK region 2016**

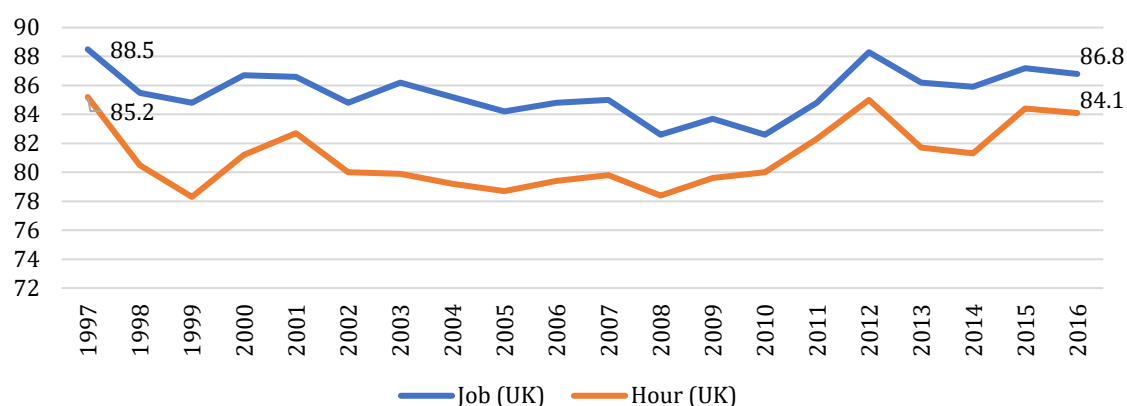


**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017)

As seen in Chart 3.3, Northern Ireland has a rate of economic inactivity, above that of the UK average. As such, a low level of GVA per head of population could be capturing the fact that Northern Ireland has fewer people participating in the labour market and contributing to output in the economy. Adjusting GVA for the number of jobs in the economy rather than simply the number of people can give a more accurate picture of performance. In addition to a smaller workforce, Northern Ireland may have fewer total hours worked. Adjusting for this allows us make a more meaningful comparison. Indeed, output adjusted for hours worked is the preferred measure of labour productivity and is the most accurate measure of performance (ONS, 2017).

However, per job measures of productivity can still be quite useful particularly when we come to examine how employment practices have shifted. Identifying significant difference between per hour and per job measures of productivity may help identify how changes in employment practices have influenced productivity. If, for example, there were an extension of retail opening hours, one would expect an increase in output from the retail sector. Either the retail sector could create new jobs to staff this new activity or it could simply extend the hours of existing staff. In the first scenario, output per job and output per hour would change by the same amount. However, in the second scenario, output per job could increase, but output per hour could remain the same. For this reason, we will examine both output per hour and output per job from here on.

**Chart 3.7: Gross Value Added per job and per hour Northern Ireland as % of UK Average 1997-2016**



**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017)

As Chart 3.7 shows, compared to the per population measure of GVA, Northern Ireland performs better against the UK average on both output per job and output per hour. However, on both GVA per hour and GVA per job, Northern Ireland has experienced a relative decline in the years up to 2016 and it would appear that much of this decline occurred in the years up to 2008.

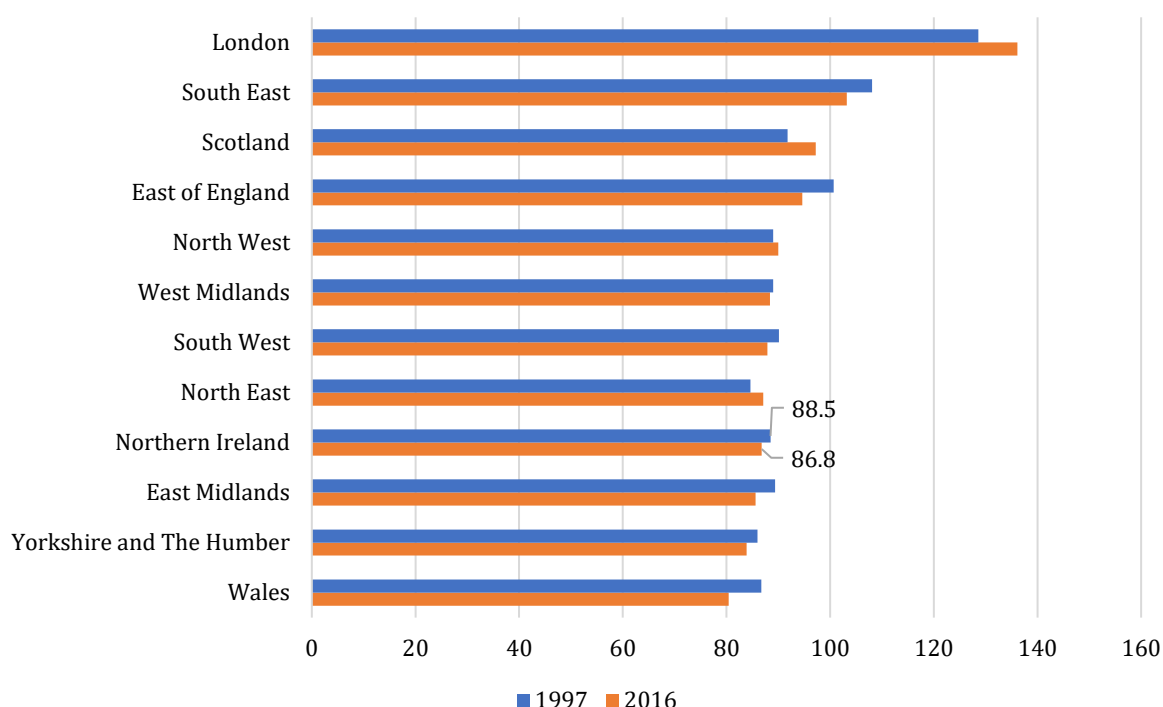
**Chart 3.8: Gross Value Added per hour UK Regions as % of UK Average 1997 and 2016**



**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017)

As Chart 3.8 shows, Northern Ireland performs comparatively better on an output per job basis. However, the drop from 1997 to 2016 was larger in the per job index than it was in the per hour index. As Chart 3.9 shows, Northern Ireland has not improved its regional position on a per job basis within the UK. Other regions such as the North East of England have climbed up the table from last place in 1997 to fifth last in 2016, while Wales has now slipped to the bottom of the table.

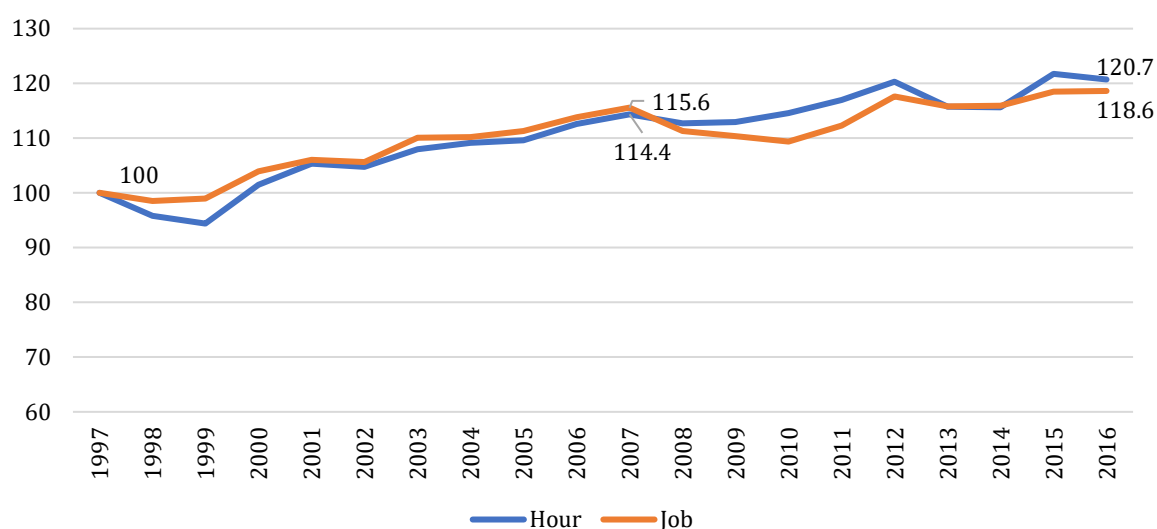
**Chart 3.9: Gross Value Added per job, UK Regions as % of UK Average, 1997 and 2016**



**Source:** Regional Gross Value Added (Income Approach) (NISRA, 2017)

It appears that the last number of years has been relatively good for productivity in Northern Ireland. However, the comparative performance of Northern Ireland is flattered in this chart by a particularly poor performance for productivity in Great Britain in the latter half of the series. Chart 3.10 shows both GVA per hour and per job in the real value. On both measures, productivity grew significantly in the years leading up to 2007, but since then there has been a significant slowdown. On a per job basis, productivity in Northern Ireland increased by 17.3% in the years 1997-2007, and by 19.4% on a per hour basis over the same period. Since 2007, per job productivity growth has dropped to 5.6% while per job productivity growth has dropped to 2.7%. The economic crisis of 2007 therefore marks a turning point in all measures of productivity and requires further examination.

**Chart 3.10: Real Gross Value Added per job and per hour Northern Ireland 1997-2016**



**Source:** Labour Productivity: Region by Industry (ONS, 2018)

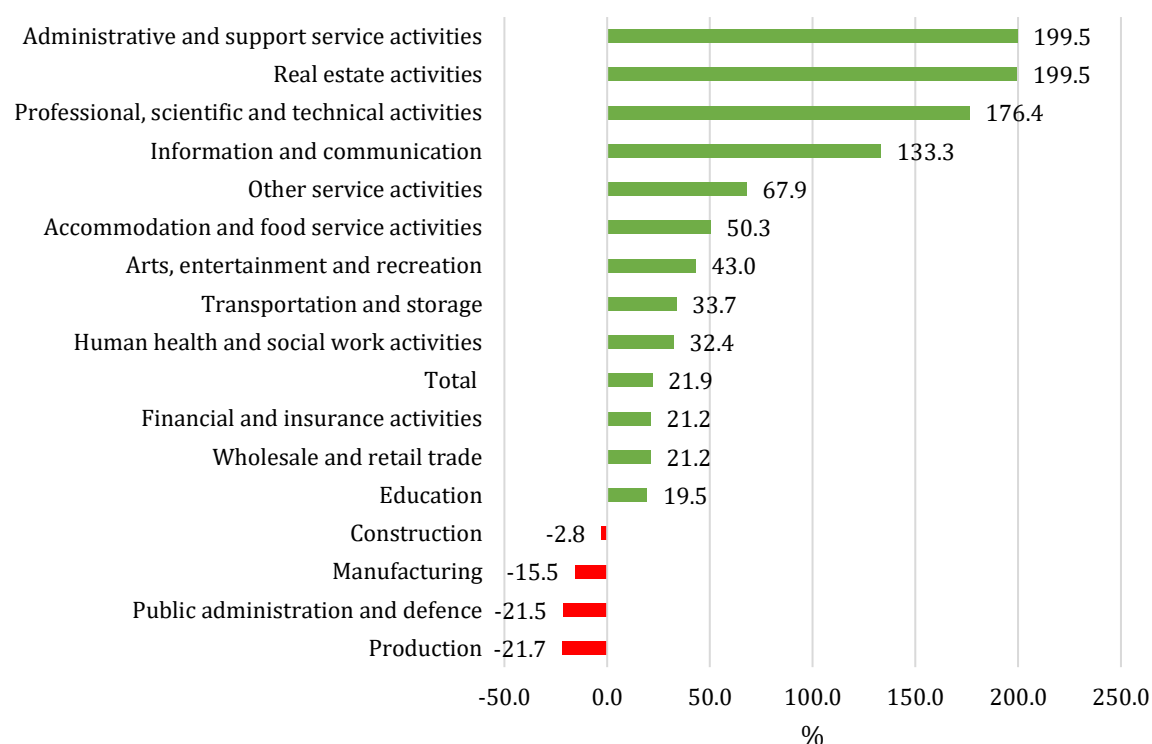
Northern Ireland therefore has experienced a significant improvement in employment, without a proportionate increase in output, meaning there has been a decline in productivity. The decoupling of employment growth and productivity growth could be due to a number of reasons, and one is the structure and the nature of employment created. Where employment creation happens matters a great deal, and the next section seeks to understand how the changing structure of the economy influenced this.

### 3.3 SECTORS

The total number and the proportion of the workforce employed matters for measures of productivity such as output per head of population. However, how and where people work matters more when it comes to per hour and per job measures of productivity. For that reason, to further understand the decoupling of employment growth and productivity it is intuitive to look at where jobs have been lost and created over time.

While there has been a general trend in most Western economies away from manufacturing and production toward services, this trend has not been as pronounced in Northern Ireland (Mac Flynn, 2016). Nevertheless, there have been some significant shifts among sectors of employment and Chart 3.11 shows percentage job growth across industrial sectors. Overall, the number of jobs in the Northern Ireland economy grew by 22% between 1996 and 2017. *Administrative and Support services* saw the largest percentage increase, more than tripling its number of jobs, this was followed by *Real Estate* and *Professional, Scientific and Technical services*.

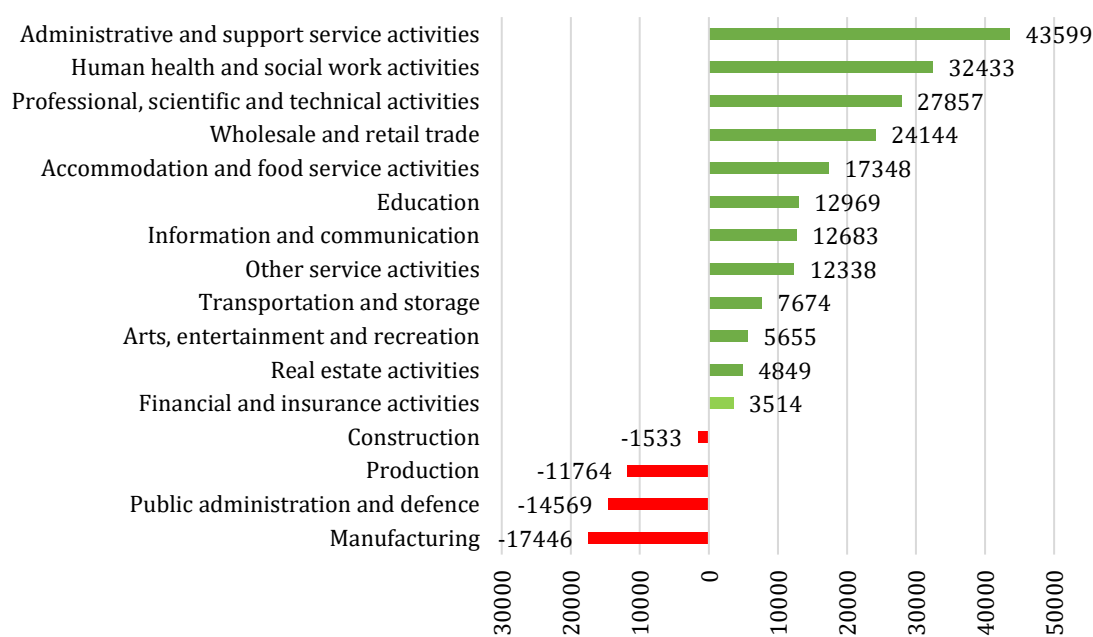
**Chart 3.11: Percentage Change in Jobs by Sector Northern Ireland 1996-2017**



**Source:** Labour Force Survey (NISRA, 2018)

However *Real Estate* is, in employment terms, a very small sector and so while the number of jobs in the sector has also tripled, this is dwarfed by smaller proportionate increases in much larger sectors of employment. As Chart 3.12 shows, *Administrative and Support services* had both the largest proportionate increase in jobs over the period 1996-2017 and the largest increase in total jobs over the same period. *Health* saw the second largest increase (32,433) while *Professional, Scientific and Technical* services saw the third highest increase in both percentage (176%) and actual number of jobs created (27,857). *Wholesale and Retail* had the second smallest percentage increase in jobs created, but as this is the largest sector of employment in Northern Ireland, the sector created the fourth highest number of jobs as shown in Chart 3.12.

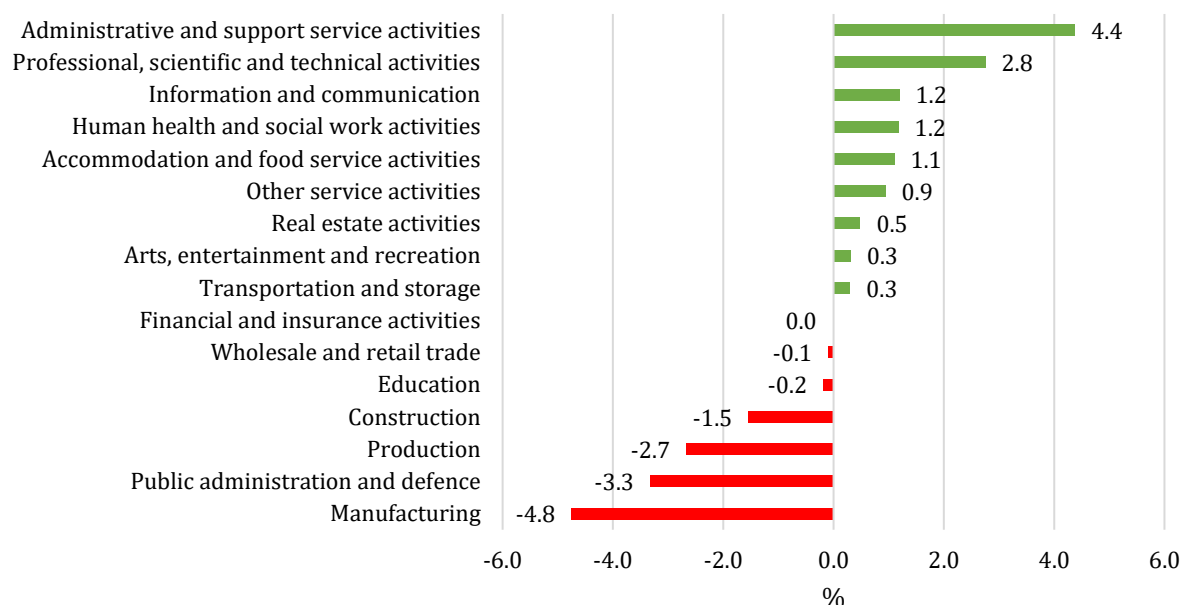
**Chart 3.12: Change in the Number of Jobs by Sector Northern Ireland 1996-2017**



**Source:** Labour Force Survey (NISRA, 2018)

In terms of each sectors contribution to total jobs in the Northern Ireland economy, Chart 3.13 shows a slightly different picture. While *Health* had the second highest increase in number of jobs, its increase in percentage terms was more muted and subsequently the impact of this increase on the *Health* sector's share of total jobs is more subdued. Several trends emerge from Charts 3.10-3.13 that describe the evolution of employment in Northern Ireland. Firstly, similar to what has been experienced across many Western economies there has been a movement away from manufacturing towards the service sector, evidenced by sectoral changes in *Administrative and Support services*, *Wholesale and Retail* and *Accommodation and Food*. Globally, these service sectors are lower output and thus we would expect this to have implications for productivity. Secondly within the industries dominated by the public sector there has been a large movement toward *Health* away from *Education* and *Public Administration* in particular. This reflects many of the public spending decisions made in Northern Ireland particularly over the last 7 years (Mac Flynn, 2017), but its implications for productivity are not clear cut. Interestingly, in the global economy the growth in *Professional, Scientific and Technical* services and *Information and Communication* is generally a positive step for productivity, but as the next section will show, the impact of these sectoral shifts can be very different in individual economies.

**Chart 3.13: Percentage Point Change in Share of Total Jobs by Sector Northern Ireland 1996-2017**



**Source:** Labour Force Survey (NISRA, 2018)

As with employment, both the productivity level and the growth of productivity can vary substantially overtime between sectors. Examining the role of these sectors in contributing to overall growth is necessary to gain a greater understanding of productivity in the economy as a whole. For this productivity analysis smaller sectors of the economy are compressed into a *Production*<sup>2</sup> sector in order to have reliable estimates of hours worked. Table 3.1 shows how productivity in each sector of the economy compares with productivity in the overall economy. Looking at per jobs and per hour measures, *Real Estate* is the most remarkable result. However, there are significant issues with how output in that sector is measured and therefore it is advisable not to draw any firm conclusions for this sector from such an analysis (Mac Flynn, 2016). The *Financial and Insurance*, *Manufacturing*, *Public Administration* and *Information and Communication* sectors all have productivity levels far above the average for the economy overall. Sectors such as *Accommodation and food*, *Administrative and Support services* and *Arts* all have productivity levels significantly below the whole economy average.

<sup>2</sup> Production combines: Agriculture, forestry and fishing, Mining & quarrying, Electricity, gas, air cond. Supply and Water supply, sewerage, waste.

**Table 3.1: Gross Value Added per job and per hour by sector as % of Northern Ireland average 2016**

| Sector                                 | Job  | Hour |
|----------------------------------------|------|------|
| Financial and insurance                | 145  | 152  |
| Public administration                  | 135  | 148  |
| Manufacturing                          | 122  | 147  |
| Information and communication          | 111  | 127  |
| Transportation and storage             | 98   | 105  |
| Construction                           | 82   | 101  |
| Other                                  | 113  | 96   |
| Professional, scientific and technical | 78   | 93   |
| Production                             | 67   | 90   |
| Wholesale and retail                   | 89   | 79   |
| Education                              | 100  | 76   |
| Health                                 | 77   | 68   |
| Arts                                   | 59   | 51   |
| Administrative and support service     | 48   | 48   |
| Accommodation and food                 | 53   | 42   |
| Real estate                            | 1108 | 1308 |
| Total                                  | 100  | 100  |

**Source:** Labour Productivity: Region by Industry (ONS, 2018)

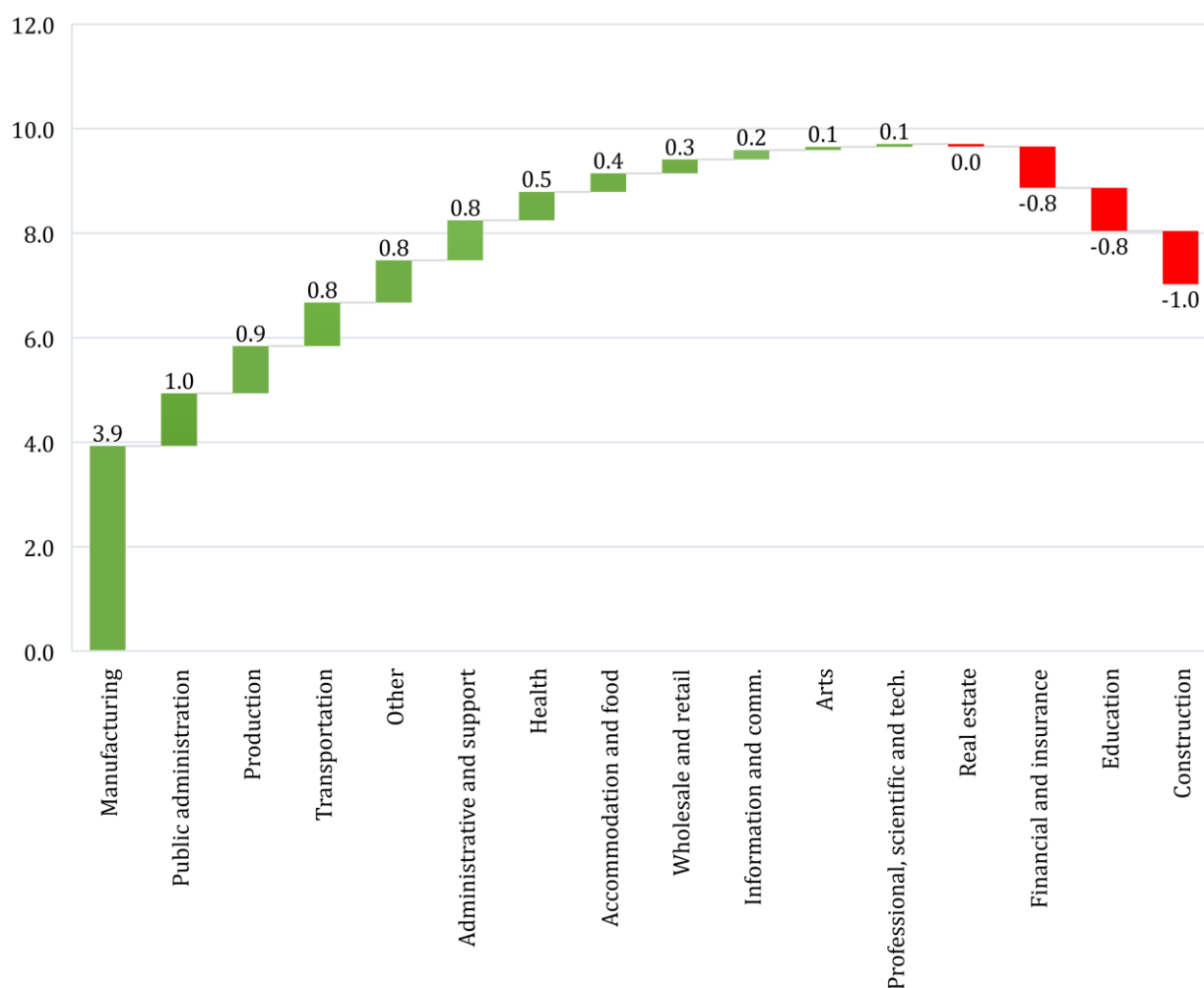
As employment moves from one sector to another, overall productivity will necessarily move based on the level of productivity within that sector. In this sense, given that sectors such as *Manufacturing* and *Finance and Insurance* have levels of productivity well in excess of the Northern Ireland average an increase in the share of employment in these sectors would be expected to increase overall productivity. However, for sectors such as *Accommodation and Food* and *Administrative and Support services*, the opposite is true.

Thus, to understand how employment shifts have affected overall productivity in the last number of years we need to take a closer look at what has been driving overall productivity. Sectoral productivity can be quite volatile on a year-to-year basis so in order to gain a more fulsome picture of trends and changes since 2007 it is helpful to take an average figure for a number of years at either end of the timescale. In order to best match up with the available labour market data the years 2007-2009 and 2015-16 are averaged to provide a gauge for productivity trends and change since the economic crisis in 2007. Charts 3.14 and 3.15 show how much of overall productivity growth was accounted for by each sector of the economy, on a per hour, and per job measurement respectively.

Of the 7% growth in economy-wide output per hour over the period, *Manufacturing* accounted for 3.9% or over half, followed by *Public Administration* and the *Production* sector. *Construction*,

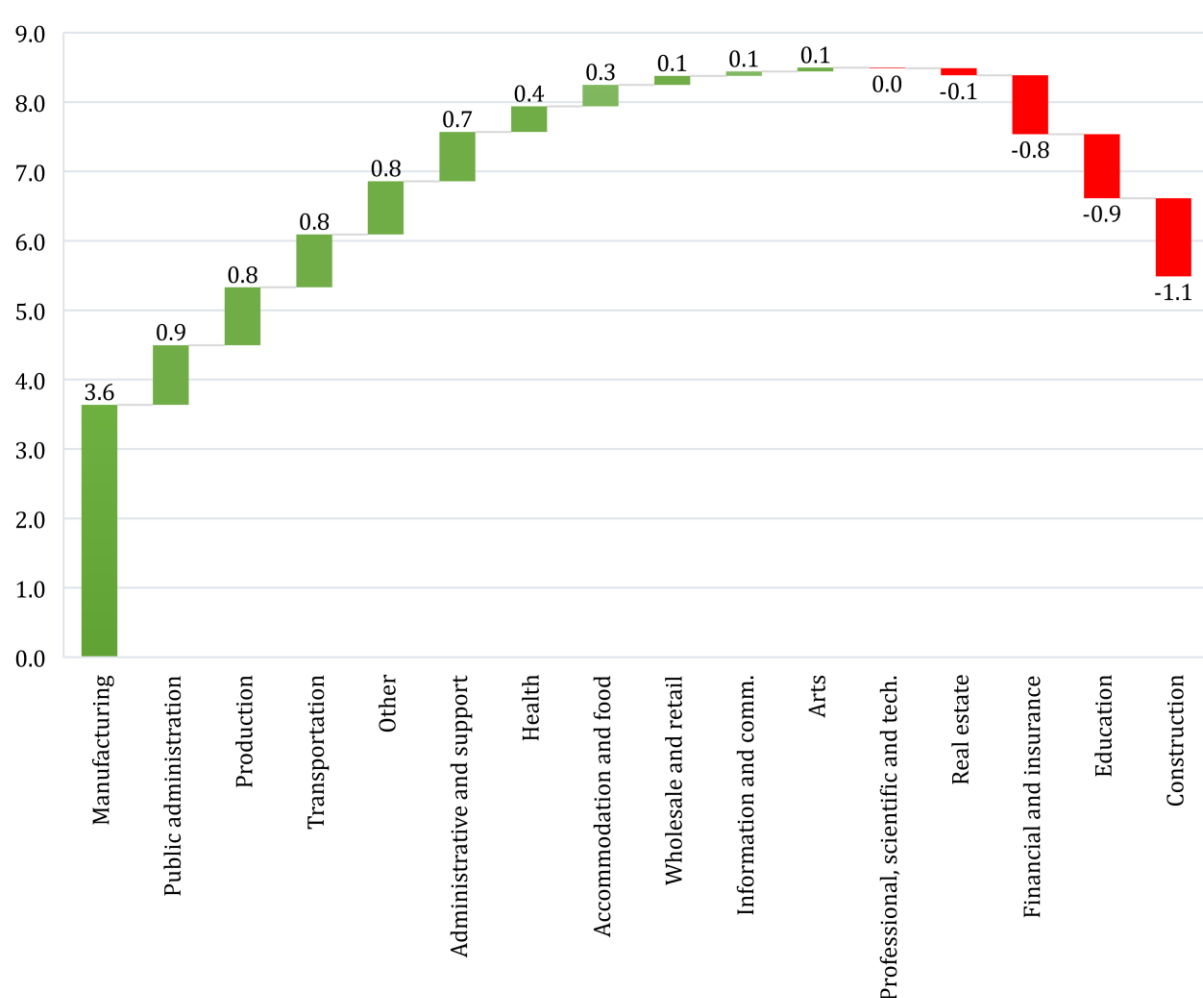
*Financial and Insurance* and *Education* contributed toward lowering overall productivity in these years. Similarly, as Chart 3.16 shows on a per job measurement, total productivity growth was smaller at 5.5% but the contributions of each sector to growth are similar.

**Chart 3.14: Growth in Total Gross Value Added per hour by sector contribution Northern Ireland 2007/09-2015/16**



**Source:** Labour Productivity: Region by Industry (ONS, 2018)

**Chart 3.15: Growth in Total Gross Value Added per job by sector contribution Northern Ireland 2007/09-2015/16**



**Source:** Labour Productivity: Region by Industry (ONS, 2018)

Looking at Charts, 3.12 and 3.13 along with Charts 3.14 and 3.15 we can see that the sectors where employment has increased are not the sectors contributing most to productivity growth. *Manufacturing* which made the largest contribution to productivity saw the largest drop in employment. Therefore, the changing sectoral structure of employment is part of the explanation for the mismatch between employment and productivity, although a more subtle analysis is required of this conclusion.

Some of the growth in overall productivity is due to total employment shifting between sectors with different levels of productivity. However, when looking overtime, it becomes necessary to account for how changes in the level of productivity can also affect overall productivity growth. It may be that employment increases in a low productivity sector like *Wholesale and Retail* and decreases in a high value-added sector such as *Manufacturing*. This means that *Wholesale and Retail* will account

for a larger share of total employment. All else being equal, this also means that overall productivity falls. However, the level of productivity in *Wholesale and Retail* may grow faster than that of *Manufacturing* over the period of interest and so the fall in overall productivity may not be as severe.

All of these dynamics will have had some impact on productivity changes in Northern Ireland since 2007. Consequently, decomposing growth by employment helps to understand whether the composition of employment growth is helping or hindering productivity growth. Timmer and Szirmai (2000) propose a simple shift-share model for decomposing productivity into three component parts as follows:

1. Within-sector productivity gains/losses.
2. Gains/losses from movements of employment between sectors with different levels of productivity.
3. Gains/losses from movements of employment between sectors with different growth rates of productivity.

A full explanation of the decomposition methodology is contained in Appendix 1 of this paper however simply put, Part 1 shows the contribution to total productivity growth of each sector irrespective of how employment levels have changed. Therefore, if productivity in this sector has increased we should expect this term to be positive and vice versa.

Part 2 shows how employment shifting from sectors with different productivity levels affects overall productivity. If a sector has a productivity level below the average, an increase in the share of employment in this sector will result in a proportionately smaller increase in productivity. Similarly, an increase in employment in a sector with higher than average productivity will lead to a proportionately larger increase in total productivity. An economy experiences a net loss therefore if the share of total employment falls in a higher than average productivity sector and increases in a lower than average productivity sector.

Part 3 shows how much the change in sectoral productivity levels affects overall productivity. If the share of employment increases in a sector where productivity has also increased, then this term is positive. It is negative if the share of employment increases in a sector that has seen negative productivity growth. The opposite obviously applies for sectors where there is a reduction in the share of employment. Tables 3.2 and 3.3 below sets out how we decompose GVA per hour and GVA per job in to each of these parts.

The tables show firstly how much of the increase in total productivity is explained by each sector, followed by the component parts (1-3) of that growth. The second part of the table contains the

information necessary to interpret the results; the level of productivity in each sector as a percentage of the Northern Ireland average; the change in the share of total employment, either in hours or jobs; and in the rate of growth of productivity in each sector. All of these metrics are necessary to understand how Part 1, 2 and 3 are calculated for each sector.

Table 3.2 shows GVA per hour. We can see that growth in sectoral productivity has a net positive effect on overall productivity. Sectoral productivity boosted overall productivity by 7.4% (part 1). There were considerable shifts in hours worked away from lower level productivity sectors and so the sectoral composition of employment contributed a further 0.6% to overall productivity growth (part 2). However, employment changes also shifted total hours worked more towards sectors where productivity was decreasing and less to where it was increasing. Therefore, the combination of sectoral productivity growth and sectoral employment growth resulted in a decrease in overall productivity of 1.0% (part 3).

**Table 3.2: Decomposition of Gross Value Added per hour by sector Northern Ireland average 2007/09-2015/16**

| Sector                          | Total | Part 1 | Part 2 | Part 3 | Prod. level | Share of Hours | Prod. Growth |
|---------------------------------|-------|--------|--------|--------|-------------|----------------|--------------|
| <i>Production</i>               | 0.9   | 1.4    | -0.4   | -0.1   | 53.5        | -0.7           | 36.5         |
| <i>Manufacturing</i>            | 3.9   | 3.7    | 0.2    | 0.0    | 103.3       | 0.2            | 29.6         |
| <i>Construction</i>             | -1.0  | 0.8    | -1.6   | -0.2   | 76.1        | -2.1           | 10.2         |
| <i>Wholesale &amp; retail</i>   | 0.3   | 1.6    | -1.2   | -0.1   | 82.0        | -1.4           | 11.8         |
| <i>Transport &amp; storage</i>  | 0.8   | 0.7    | 0.1    | 0.0    | 87.8        | 0.1            | 21.5         |
| <i>Accommodation &amp; food</i> | 0.4   | 0.2    | 0.1    | 0.0    | 55.2        | 0.2            | 9.5          |
| <i>Information &amp; comm.</i>  | 0.2   | -0.3   | 0.6    | -0.1   | 136.2       | 0.4            | -10.2        |
| <i>Finance &amp; insurance</i>  | -0.8  | -0.5   | -0.3   | 0.0    | 181.0       | -0.2           | -10.4        |
| <i>Real estate</i>              | 0.0   | -0.5   | 0.5    | 0.0    | 1205.8      | 0.0            | -4.6         |
| <i>Prof services</i>            | 0.1   | -0.8   | 1.1    | -0.2   | 106.2       | 1.0            | -20.4        |
| <i>Admin. &amp; support</i>     | 0.8   | 0.0    | 0.8    | 0.0    | 54.4        | 1.5            | -1.3         |
| <i>Public admin.</i>            | 1.0   | 2.4    | -1.1   | -0.3   | 112.3       | -1.0           | 26.3         |
| <i>Education</i>                | -0.8  | -1.3   | 0.5    | -0.1   | 129.0       | 0.4            | -15.9        |
| <i>Health</i>                   | 0.5   | -0.2   | 0.7    | 0.0    | 81.0        | 0.9            | -1.5         |
| <i>Arts</i>                     | 0.1   | -0.1   | 0.2    | 0.0    | 67.3        | 0.3            | -10.3        |
| <i>Other</i>                    | 0.8   | 0.3    | 0.5    | 0.1    | 104.2       | 0.4            | 14.4         |
| <i>Total</i>                    | 7.0   | 7.4    | 0.6    | -1.0   |             |                |              |

**Note:** For interpretation; Part 1 requires Productivity growth; Part 2 requires Productivity levels and share of hours; Part 3 requires Productivity growth and share of hours.

For the per job measure of productivity, Table 3.2 tells a slightly different story. Here overall productivity grew by only 5.6%. However, as Table 3.3 shows, the boost from sectoral productivity was larger at 8.1% (part 1). The change in the share of overall employment across sectors resulted in a net negative contribution to overall productivity of 1.8% (part 2). Once again, the combination of the two was negative at -0.7% (part 3).

**Table 3.3: Decomposition of Gross Value Added per job by sector Northern Ireland average 2007/09-2015/16**

| Sector                          | Total | Part 1 | Part 2 | Part 3 | Prod. level | Share of Jobs | Prod. Growth |
|---------------------------------|-------|--------|--------|--------|-------------|---------------|--------------|
| <i>Production</i>               | 0.8   | 1.0    | -0.1   | 0.0    | 77.8        | -0.2          | 26.0         |
| <i>Manufacturing</i>            | 3.7   | 4.0    | -0.3   | -0.1   | 118.8       | -0.2          | 32.1         |
| <i>Construction</i>             | -1.1  | 0.8    | -1.7   | -0.2   | 94.0        | -1.8          | 10.0         |
| <i>Wholesale &amp; retail</i>   | 0.1   | 0.6    | -0.6   | 0.0    | 76.8        | -0.7          | 4.8          |
| <i>Transport &amp; storage</i>  | 0.8   | 0.5    | 0.2    | 0.0    | 99.5        | 0.3           | 14.1         |
| <i>Accommodation &amp; food</i> | 0.3   | 0.0    | 0.3    | 0.0    | 45.5        | 0.6           | 1.5          |
| <i>Information &amp; comm.</i>  | 0.1   | -0.1   | 0.2    | 0.0    | 143.9       | 0.2           | -3.2         |
| <i>Finance &amp; insurance</i>  | -0.9  | -0.6   | -0.2   | 0.0    | 189.0       | -0.1          | -13.3        |
| <i>Real estate</i>              | -0.1  | 0.6    | -0.6   | 0.0    | 1216.1      | -0.1          | 5.0          |
| <i>Prof services</i>            | 0.0   | -0.4   | 0.4    | 0.0    | 108.6       | 0.4           | -10.1        |
| <i>Admin. &amp; support</i>     | 0.7   | -0.1   | 0.8    | 0.0    | 54.0        | 1.5           | -2.7         |
| <i>Public admin.</i>            | 0.9   | 2.6    | -1.3   | -0.4   | 118.3       | -1.1          | 28.4         |
| <i>Education</i>                | -0.9  | -0.9   | -0.1   | 0.0    | 90.9        | -0.1          | -10.8        |
| <i>Health</i>                   | 0.4   | -0.2   | 0.6    | 0.0    | 71.0        | 0.8           | -1.7         |
| <i>Arts</i>                     | 0.1   | 0.0    | 0.0    | 0.0    | 53.2        | 0.1           | 0.6          |
| <i>Other</i>                    | 0.8   | 0.2    | 0.5    | 0.1    | 93.2        | 0.5           | 11.0         |
| <i>Total</i>                    | 5.6   | 8.1    | -1.8   | -0.7   |             |               |              |

**Note:** For interpretation; Part 1 requires Productivity growth; Part 2 requires Productivity levels and share of jobs; Part 3 requires Productivity growth and share of jobs.

Interpreting these results overall, Tables 3.2 and 3.3 show that while more jobs were being created in sectors with below average productivity, less hours were being worked in those same sectors. Conversely, there were fewer jobs in sectors with higher than average productivity, but more hours worked. Therefore, in low productivity sectors there were more jobs, but fewer hours and in high productivity sectors there were fewer jobs but more hours worked. This means that the number of jobs in the economy has shifted toward lower than average productivity sectors, but the number of hours worked in the economy has shifted toward higher than average productivity sectors. This could also indicate that jobs in lower than average productivity sectors have fewer hours, while jobs in higher productivity sectors require more hours worked than previously.

We next move from the level of productivity in each sector, to the growth of productivity in each sector. We can see fewer jobs and fewer hours worked in sectors where productivity increased. More jobs were created and more hours were worked in sectors where productivity fell. This indicates that while the total number of hours worked shifted toward higher than average productivity sectors, the growth of productivity then declined in those sectors. Additionally, the sectors which saw the largest falls in productivity, saw the largest gains in jobs.

Two findings emerge from these results. One is that hours worked in the economy are moving to sectors with higher than average but decreasing productivity. However, that the share of jobs has remained more concentrated in lower than average productivity sectors indicates that the type

of employment within sectors must also matter. All of this motivates a greater examination of how work has changed within sectors and whether the nature of employment and working arrangements may matter more than just simply the sector within which people work.

## **4. FLEXIBLE EMPLOYMENT AND PRODUCTIVITY**

### **4.1 AN OVERVIEW OF FLEXIBLE EMPLOYMENT i.e. NON-STANDARD FORMS OF EMPLOYMENT IN NORTHERN IRELAND**

In order to get a better idea of how jobs and work may be changing this section provides an overview of the most common forms of flexible employment i.e. non-standard forms of employment in Northern Ireland and how they have changed over the period 2007-2009 to 2015-2017. From here, the analysis will turn to examine the extent of different forms of flexible employment across different sectors of the economy.

Looking first broadly to the different employment arrangements and the changes over time in Table 4.1 it is clear that over the period there has only been a small change in the proportion of workers employed in different arrangements, with the vast majority of workers employed on permanent contracts. There has however been a 1% increase in the share of the labour force employed on a temporary contract over the period 2007/09 – 2015/17. The incidence of part-time employment has increased sharply, increasing by 5% as a share of the labour force over the period 2007/09 to 2015/17. What is more, there has been an increase over the period 2007/09 to 2015/17 in the percentage of workers who are involuntary temporary employed, and involuntary part-time employed. Indeed, there has been a 15% increase in the share of temporary workers who would rather a permanent job, and a 10% increase in the share of part-time workers who would prefer a full-time job. Whilst the incidence of varying working hours has on the whole declined over the period close to 1 in 10 workers have hours which vary on a week to week, or a month to month basis. Furthermore, the incidence of low paid employment has increased by 2 percentage points over the period from 2007/09 to 2015/17, with 22% of workers earning below the real living wage in 2015/17.

**Table 4.1: The extent of flexible forms of employment in Northern Ireland**

|                                                          | 2007-<br>2009 | 2015-<br>2017 | % change<br>2007/09 -<br>2015/17 |
|----------------------------------------------------------|---------------|---------------|----------------------------------|
| <b>Employment arrangement</b>                            |               |               |                                  |
| Self-employed                                            | 14.7          | 14.5          | -2.0                             |
| Permanent                                                | 80.5          | 79.7          | -0.8                             |
| Temporary                                                | 4.8           | 5.8           | 1.0                              |
| <b>Full-time/Part-time</b>                               |               |               |                                  |
| Full-time                                                | 77.7          | 72.6          | -5.1                             |
| Part-time                                                | 22.3          | 27.4          | 5.1                              |
| <b>Employment arrangement by full-time/part-time</b>     |               |               |                                  |
| Permanent Part-time                                      | 17.3          | 18.2          | 0.8                              |
| Self-employed Full-time without employees                | 8.6           | 8.4           | -0.2                             |
| Self-employed Full-time with employees                   | 4.3           | 3.3           | -1.0                             |
| Temporary Part-time                                      | 2.6           | 3.1           | 0.5                              |
| Temporary Full-time                                      | 2.2           | 2.7           | 0.5                              |
| Self-employed Part-time without employees                | 1.5           | 2.4           | 0.9                              |
| Self-employed Part-time with employees                   | 0.3           | 0.4           | 0.1                              |
| <b>Involuntary employment</b>                            |               |               |                                  |
| Involuntary temporary employed (% of temporary)          | 35.4          | 50.0          | 14.6                             |
| Involuntary part-time employment (% of part-time)        | 14.1          | 24.0          | 9.9                              |
| <b>Working hours</b>                                     |               |               |                                  |
| Variable working hours                                   | 9.9           | 9.1           | -0.8                             |
| <b>Low Pay - Earning Below Real Living (Hourly) Wage</b> | 20.0          | 22            | 2.0                              |
| <b>Source:</b> Labour Force Survey (NISRA, 2018)         |               |               |                                  |

In summarising these findings, what becomes clear is that there is increasing proportions of people working in flexible i.e. non-standard forms of employment with close to two in five workers in Northern Ireland working in a more flexible form of employment than the traditional 'standard' employment relationship.

This is not in and of itself worrying, and we should not assume flexible employment is necessarily a negative. However, as we discussed in Section 2.4 it is the case that these forms of employment are much more likely to be 'bad' jobs, in that they are of sub-standard quality. They tend to be less secure, have lower earnings, fewer hours of work on average, possess higher occupational safety and health risks, less satisfaction, and less training when compared to standard employment arrangements (ILO, 2016; Wilson, 2016; Wilson, 2017).

## **4.2 A SECTORAL ANALYSIS OF FLEXIBLE EMPLOYMENT i.e. NON-STANDARD FORMS OF EMPLOYMENT IN NORTHERN IRELAND**

Looking next at the extent to which different sectors utilise different forms of flexible employment we turn first to examine the extent of temporary employment across sectors. As presented in the

first column of the heat-chart in Table 4.2, it is clear that there is considerable diversity in the extent to which different sectors utilise temporary workers. The *Education* sector has the highest proportion of workers employed on a temporary contract, with close to 1 in 5 workers employed in this way. The *Accommodation and Food services* sector also has a relatively high prevalence of temporary workers at 12%. Other sectors with above average use of temporary workers include *Health and Social work* (7%), *Information and Communication* (6%), and the administration and support services sector (6%). Those working in the *Transport and Storage* (1%) and *Manufacturing* (2%) sectors are among those least likely to be temporarily employed, however all of those who are temporary employed in the *Transport and Storage* sector and the majority of those in the *Manufacturing* sector (61%) are involuntary temporary employed. Nonetheless, as is clear from Table 4.2 below the *Education* sector (69%) faces a much bigger problem in that not only have they large proportions of workers employed on temporary contracts, but over two-thirds of such workers are employed in such a way because they cannot find a permanent job.

Part-time employment is particularly prevalent in the *Accommodation and Food* sector (47%), the *Wholesale and Retail* sector (34%), and the *Education* sector (34%), and similarly to that of temporary employment is relatively less common in the *Manufacturing* sector (9%), the *Information and Communications* sector (12%), the *Transport and Storage* sector (17%) and the *Financial and Insurance* activities sector (17%). Involuntary part-time employment is also more likely in some sectors than in others. Involuntary part-time employment is highest in the *Wholesale and Retail* sector, with almost 1 in 4 involuntary part-time employed. This is worrying given not only the size of this sector in terms of the overall percentage share of total employment (15.4%), but also given the large share of workers in this sector whom are part-time employed (34%). The same applies to the *Education* sector and the accommodation and food sectors facing the same issues. Close to 1 in 5 of the part-time employed in the *Education* sector work and over 1 in 10 in the *Accommodation and Food* sector are employed in such a way involuntarily, because they cannot find a full-time job.

Next, we look at the sectors most likely to have workers whose hours vary on a week to week, or a month-to-month basis. The results in Table 4.2 show that those in the *Information and Communication* (16%), the *Administration and Support Services* sector (12%), the *Accommodation and Food* sector (11%), the *Transport and Storage* sector (11%), the *Education* sector (10%) and the *Wholesale and Retail* (9%) sector face the highest likelihood of variable working hours. In contrast, those in the *Financial and Insurance service* sector (6%), *Professional, Scientific and Technical* sector (7%) and the *Construction* sector (8%) are among the least likely to have variable working hours.

Similar to the other indicators, some sectors are relatively much more likely to pay workers below the real living wage, than others. Indeed, low pay is particularly prevalent in the *Accommodation and Food* sector (72%), where close to 3 in 4 of these workers earn below the real living wage. Moreover, large proportions of workers in the *Wholesale and Retail* sector (52%), the *Administration and Support services* sector (49%), and the *Arts, entertainment and recreation* sector (42%) are low paid. Low pay is less of a problem in the *Public Administration and Defence* (6%), the *Information and Communications* sector (8%), and the *Financial and Insurance activities* sector (7%) where relatively lower numbers of workers are low paid.

Taking together the findings discussed above and looking to Table 4.2 what becomes clear is that some sectors rely much more heavily on flexible forms of employment than others. This is particularly the case for the *Education, Wholesale and Retail* and *Accommodation and Food* sectors. These sectors have among the highest proportions of workers employed in different forms of flexible employment. In contrast, looking across all of the aspects of flexible employment those working in the *Professional, Scientific and Technical activities* sector have among the lowest likelihood of being in one of these non-standard forms of employment. This demonstrates that use of flexible forms of employment is partly determined by the sector, in that both the extent of flexible employment, as well as changes in the use of flexible forms of employment varying by sector.

Thus, linking back to the proposition made in the previous section about the importance of the nature of employment for productive performance and the evidence presented in this section which demonstrates that use of flexible forms of employment is partly determined by sector it is intuitive to undertake a sectoral analysis of the relationship between flexible forms of employment. In doing so, as will be shown in section 4.4 the sectors which have the highest use of flexible forms of employment and those which have seen the most rapid increase in flexible forms of employment tend to correlate with those who have had weaker productivity performance.

**Table 4.2: Sectoral analysis of flexible employment i.e. non-standard forms of employment, 2015-17**

|                                           | % Temporary | % Part-time | % Involuntary temporary (Temp) | % Involuntary part-time (Part-time) | % varying hours | % earning below real living wage | % Low skill |
|-------------------------------------------|-------------|-------------|--------------------------------|-------------------------------------|-----------------|----------------------------------|-------------|
| A. Agriculture, forestry & fishing        | 3%          | 12%         | -                              | -                                   | 0%              | 54%                              | 16.4%       |
| B. Mining & quarrying *                   | 9%          | -           | -                              | -                                   | 0%              | -                                | 5.8%        |
| C. Manufacturing                          | 2%          | 9%          | 61%                            | 4%                                  | 10%             | 25%                              | 15.6%       |
| D. Electricity, gas, air cond. supply *   | 4%          | 3%          | -                              | -                                   | 6%              | -                                | 11.0%       |
| E. Water supply, sewerage, waste *        | -           | 5%          | -                              | -                                   | 19%             | 0%                               | 32.6%       |
| F. Construction                           | 3%          | 9%          | 44%                            | 3%                                  | 8%              | 20%                              | 8.6%        |
| G. Wholesale, retail, repair of vehicles  | 5%          | 34%         | 41%                            | 24%                                 | 9%              | 52%                              | 51.7%       |
| H. Transport & storage                    | 1%          | 17%         | 100%                           | 3%                                  | 11%             | 19%                              | 15.3%       |
| I. Accommodation & food services          | 12%         | 47%         | 18%                            | 12%                                 | 11%             | 72%                              | 50.7%       |
| J. Information & communication            | 6%          | 12%         | 61%                            | 1%                                  | 16%             | 8%                               | 17.4%       |
| K. Financial & insurance activities       | 3%          | 17%         | 40%                            | 2%                                  | 6%              | 7%                               | 6.9%        |
| L. Real estate activities *               | 5%          | 5%          | 100%                           | -                                   | 16%             | 9%                               | 5.7%        |
| M. Prof, scientific, technical activities | 4%          | 20%         | 51%                            | 4%                                  | 7%              | 15%                              | 14.0%       |
| N. Admin & support services               | 6%          | 25%         | 26%                            | 4%                                  | 12%             | 49%                              | 44.4%       |
| O. Public admin & defence                 | 4%          | 18%         | 48%                            | 5%                                  | 9%              | 6%                               | 8.9%        |
| P. Education                              | 17%         | 34%         | 69%                            | 17%                                 | 10%             | 12%                              | 7.8%        |
| Q. Health & social work                   | 7%          | 29%         | 38%                            | 12%                                 | 9%              | 20%                              | 5.6%        |
| R. Arts, entertainment & recreation       | 5%          | 36%         | 56%                            | 4%                                  | 11%             | 42%                              | 12.3%       |
| S. Other service activities               | 3%          | 40%         | 42%                            | 6%                                  | 5%              | 38%                              | 6.2%        |

**Note:** Blue indicates a moderate or low level of non-standard forms of employment, while red denotes a higher than average level of non-standard employment.

#### **4.3 CHANGES IN THE NATURE AND EXTENT OF FLEXIBLE EMPLOYMENT OVERTIME i.e. NON-STANDARD FORMS OF EMPLOYMENT IN NORTHERN IRELAND**

In terms of changes in the extent of flexible forms of employment across sectors over time, what is clear is that there have been substantive changes both in terms of the extent that flexible forms of employment are utilised, but also in terms of the different types of flexible employment, which different sectors employ.

Taking first changes in the extent of temporary employment and involuntary temporary employment across the sectors, the increase in temporary employment in the *Education* sector stands out as particularly stark, with a 12-percentage point increase over the period 2007/09 to 2015/17. Thus, not only is the *Education* sector now the sector with the highest proportion of temporary workers, but it has seen the highest proportionate increase over the period. Similarly, the *Accommodation and Food* sector has also experienced a substantial increase in temporary workers, with a 9-percentage point increase and is now the sector with the second highest proportion of temporary workers, compared to being the fifth lowest across nineteen sectors in 2007/09. In contrast, the *Wholesale and Retail*, the *Professional, Scientific and Technical activities*, and the *Transport and Storage* sectors have experienced the largest decline in the proportion of temporary workers, decreasing by 12, 13 and 7 percentage points respectively. That said, however the *Transport and Storage* (+84%) and *Wholesale and Retail* (+24%) sectors have experienced significant increases in the proportion of temporary workers who are involuntary temporary employed. Thus, whilst the proportion of temporary workers have declined in these sectors, worrying is the increase in the proportion employed in this way, but would rather be employed on a permanent contract.

In terms of changes in the extent of part-time employment and involuntary part-time employment across all sectors most stark has been the increase in part-time employment in the *Accommodation and Food* sector, which has seen a 25-percentage point increase over the period 2007/09 to 2015/17 to make it the sector with the highest proportion of part-time workers. Interestingly however the *Accommodation and Food* sector has seen a decline in the proportion of involuntary part-time workers over this period, with a 17% decrease in the proportion of involuntary part-time workers. Nevertheless, it is important to comment that in 2007/09 this sector had the third highest proportion of part-time workers who were involuntary part-time and continued to rank third in the 2015/17 period.

Other sectors have experienced a decline in the percentage of part-time workers including the *Transport and Storage* (-15%), the *Real Estate* (-12%), the *Professional, Scientific, and Technical*

*Activities* (-11%) and the *Wholesale and Retail* (-2%) sectors. Also important is the absolute extent of part-time employment. When this is taken into consideration an important point in the data to draw attention to is that while the *Wholesale and Retail* sector has experienced a decline in the percentage of part-time workers, in the 2015/17 period it ranked as the sector with the third highest percentage of part-time workers, compared to second in the 2007/09 period. In contrast, the *Transport and Storage* sector has changed from having the second highest percentage of part-time workers in 2007/09 to having the eighth highest proportion of the nineteen sectors considered.

Those working in the *Arts and Entertainment* (11%), *Education* (7%) and the *Information and Communication* (6%) sectors have seen among the highest increases in the percentage of workers who have varying hours. In contrast, those in the *Financial and Insurance* activities (-5%) and the *Accommodation and Food* sectors (-3%) have experienced declines in the proportion who have hours which vary. Nevertheless, as already mentioned, the absolute value also is important and as seen in Table 4.3 above the *Accommodation and Food* (11%) sector remains the sector with the joint fourth highest proportion of workers whose hours vary.

Looking next to changes in the extent of workers who earn below the real living wage the results presented in Table 4.3 below show that some sectors have performed poorly and have experienced an increase in the proportion of workers earning below the real living wage, whilst other sectors have seen a decline. Specifically, the *Arts and Entertainment* (24%), *Accommodation and Food* (7%), and *Wholesale and Retail* (7%) sectors have seen substantive percentage point increases in low pay amongst workers. These results are particularly noteworthy in the context of the absolute values for each of these sectors in both 2007/09 and in 2015/17. In this sense, not only had these sectors among the highest proportion of low paid workers when compared across the other sectors in 2007/09 but continue to do so. Importantly, however by 2015/17 the relative gap in the proportion of workers earning below the real living wage in these sectors compared to the other sectors has increased markedly. Put simpler, in 2007/09 workers in these sectors were always more likely to be low paid than those in other sectors, but by 2015/17 their chances of being low paid compared to those in other sectors has widened significantly.

We can summarise the changes in how different sectors utilise flexible forms of employment. What is clear from Table 4.3 below is that on the whole there has been an increase in their use across all sectors, albeit this is notwithstanding the declines which have occurred for some forms of flexible employment in some sectors and some sectors which have seen limited or no change. For example, the *Health and Social Work* sector has experienced a decrease in flexible forms of employment. In

contrast, the *Education* sector has experienced an increase in almost all of the indicators of flexible employment, experiencing an increase in temporary, part-time, varying hours, low paid, and low skilled employment. The *Wholesale and Retail* sector has also experienced an increase in multiple different forms of flexible employment including involuntary temporary employment, involuntary part-time employment, work with varying hours, low paid and low skilled employment. The *Accommodation and Food* services sector also stands out for having substantive increase across various forms of flexible employment, including temporary, part-time, low paid and low skilled employment.

**Table 4.3: Changes in different forms of flexible employment i.e. non-standard forms of employment overtime, 2007/09 – 2015/17**

|                                           | % Temporary | % Part-time | % Involuntary temporary (Temp) | % Involuntary part-time (Part-time) | % varying hours | % earning below real living wage | % Low skill |
|-------------------------------------------|-------------|-------------|--------------------------------|-------------------------------------|-----------------|----------------------------------|-------------|
| A. Agriculture, forestry & fishing        | 2%          | -3%         | -                              | -                                   | -6%             | 15%                              | 4%          |
| B. Mining & quarrying *                   | -           | -           | -                              | -                                   | -               | -                                | -           |
| C. Manufacturing                          | -2%         | 2%          | -16%                           | -2%                                 | 1%              | 7%                               | 6%          |
| D. Electricity, gas, air cond. supply *   | 0%          | -2%         | -                              | -                                   | -6%             | -                                | 2%          |
| E. Water supply, sewerage, waste *        | -1%         | 0%          | -                              | -                                   | 3%              | -                                | 26%         |
| F. Construction                           | -1%         | 4%          | 16%                            | -28%                                | -3%             | -1%                              | -2%         |
| G. Wholesale, retail, repair of vehicles  | -12%        | -2%         | 24%                            | 11%                                 | 1%              | 7%                               | 4%          |
| H. Transport & storage                    | -7%         | -15%        | 84%                            | -18%                                | 0%              | 1%                               | -31%        |
| I. Accommodation & food services          | 9%          | 25%         | -14%                           | -17%                                | -3%             | 7%                               | 16%         |
| J. Information & communication            | 6%          | -7%         | -                              | -2%                                 | 6%              | -6%                              | 7%          |
| K. Financial & insurance activities       | 1%          | -3%         | 23%                            | -9%                                 | -5%             | -12%                             | -11%        |
| L. Real estate activities *               | -4%         | -12%        | 46%                            | -                                   | 5%              | -9%                              | -3%         |
| M. Prof, scientific, technical activities | -13%        | -11%        | 19%                            | -17%                                | -2%             | -3%                              | 5%          |
| N. Admin & support services               | -6%         | -4%         | -2%                            | -4%                                 | 0%              | 3%                               | 33%         |
| O. Public admin & defence                 | -3%         | -4%         | 8%                             | -6%                                 | -1%             | -6%                              | -1%         |
| P. Education                              | 12%         | 7%          | -3%                            | -3%                                 | 7%              | 1%                               | 1%          |
| Q. Health & social work                   | -1%         | -1%         | -8%                            | -1%                                 | 0%              | 0%                               | -1%         |
| R. Arts, entertainment & recreation       | 5%          | -3%         | -44%                           | -34%                                | 11%             | 24%                              | 8%          |
| S. Other service activities               | -           | 13%         | -                              | -20%                                | -11%            | 0%                               | 3%          |

**Note:** Blue indicates a moderate or low level of non-standard forms of employment, while red denotes a higher than average level of non-standard employment.

#### 4.4 THE RELATIONSHIP BETWEEN FLEXIBLE EMPLOYMENT AND PRODUCTIVITY

In order to examine any link between productivity and flexible forms of employment we take the measures of productivity from Section 3, namely Gross Value Added per hour and per jobs and we present them alongside the indicators of flexible employment presented above. Table 4.3 shows what the level of GVA per job and per hour is in each sector as a percentage of the Northern Ireland average. Using the Northern Ireland average enables sectors to be presented in terms of the scale of their contribution to overall productivity, but importantly it also contextualises increases and decreases in sectoral productivity in terms of their impact on the economy overall. Therefore, Table 4.4 shows changes in productivity as the percentage point increase or decrease in each sector's level of productivity as a percentage of the overall level of productivity.

As with the productivity figures, measures of flexible employment are shown at their 2015/17 level in Table 4.4 and their percentage point change between 2007/09 and 2015/17 in Table 4.5. We cannot adequately interpret the changes in flexible employment in a given sector without knowing the absolute extent of flexible employment within the sector. Sectors with elevated levels of flexible employment tend to be sectors with lower than average productivity. We should see increases or decreases in flexible forms of employment in a sector in the context of the extent of flexible employment in that sector. For example, in the *Wholesale and Retail* sector, low skilled jobs increased by a relatively modest 4pp, however *Wholesale and Retail* now has the highest percentage of low skilled jobs of any sector. Similarly, the *Construction* sector had a fall of 28 percentage points (pp) in the proportion of part-time workers who were involuntary part-timers. However only 3% of part-time workers in *Construction* were part-time temporarily and so the overall effect may not be as significant as it first seems.

Table 4.4 and 4.5 show both measures of productivity, per job and per hour, because there are differences in outcome for the two measures as outlined in the previous section. In certain sectors, we can account for the difference in outcomes for the two productivity measures by what has happened to the nature of employment over the same period. For instance, in the *Accommodation and Food* sector there has been a small increase in GVA per hour, while there has been a decrease in GVA per job. This sector saw a 25pp increase in part-time employment and now has the highest proportion of part-time workers in any sector. In this sense, some of the decrease in GVA per job is most likely capturing a reduction in hours per job in the move toward part-time employment. Similarly, in *Public Administration*, GVA per job has increased by a larger amount than GVA per hour and the number of part-time workers has decreased. However, while increased part-time employment explains some of the reduction in GVA per job in *Accommodation and Food*, it also explains some of the positive, but very subdued growth in GVA per hour. In this sense, increased

part-time employment may have weighed more heavily on the per job measure of productivity, but it is also likely that, along with increased temporary employment, it also explains why GVA per hour in the sector grew by only 1.3% in 8 years.

*Manufacturing* has been the key driver of productivity growth in Northern Ireland and Table 4.5 shows that flexible forms of employment are relatively good for the sector. Whilst involuntary temporary employment is somewhat elevated, this has fallen substantially over the period. One area of concern would be the rise in the number of low skilled jobs that has increased the overall level in the sector to 16%. Conversely, *Administration* is one of the lowest productivity sectors of the economy and one that has become even less so over the period. It has seen the number of low-skilled jobs increase by a third over the period bringing the total proportion of low skilled jobs to 44%.

*Financial and Insurance Services* and *Professional, Scientific and Technical Activities* are among the higher productivity sectors in the Northern Ireland economy, but both saw large decreases over the period. Both sectors saw large increases in involuntary temporary employment and both now have amongst the highest rates of involuntary temporary workers of any sector. The *Education* sector has also seen a significant fall in productivity over the period accompanied by the largest percentage point increase in temporary employment of any sector. The *Education* sector now has the highest rate and largest increase in temporary employment (17%), almost three times the economy wide average.

What Table 4.5 shows is that where productivity has fallen in a sector, some form of flexible employment has tended to increase. It would appear that the sectors that are driving positive productivity growth have experienced either positive change or no turn to these more flexible forms of employment, which are associated with poorer job quality. We do not claim that this represents a conclusive link between flexible forms of employment and the decline in productivity, but that there is evidence of a correlation offering support for the 'disadvantages of flexible labour markets' hypothesis outlined in Section 2.

**Table 4.3: Productivity levels as a percentage of NI average and Measure of Job Quality in Northern Ireland 2015/17\***

|                                 | GVA/Hour | GVA/Job | % Temporary | % Involuntary temporary | % Part-time | % Involuntary part-time | % varying hours | % earning below LW |
|---------------------------------|----------|---------|-------------|-------------------------|-------------|-------------------------|-----------------|--------------------|
| Production                      | 68%      | 93%     | 3%          | 67%                     | 10%         | 1%                      | 6%              | 54%                |
| Manufacturing                   | 125%     | 149%    | 2%          | 61%                     | 9%          | 4%                      | 10%             | 25%                |
| Construction                    | 78%      | 98%     | 3%          | 44%                     | 9%          | 3%                      | 8%              | 20%                |
| Wholesale & Retail              | 86%      | 76%     | 5%          | 41%                     | 34%         | 24%                     | 9%              | 52%                |
| Transportation & storage        | 100%     | 108%    | 1%          | 100%                    | 17%         | 3%                      | 11%             | 19%                |
| Accommodation & food            | 56%      | 44%     | 12%         | 18%                     | 47%         | 12%                     | 11%             | 72%                |
| Information and comm.           | 114%     | 132%    | 6%          | 61%                     | 12%         | 1%                      | 16%             | 8%                 |
| Financial and insurance         | 152%     | 155%    | 3%          | 40%                     | 17%         | 2%                      | 6%              | 7%                 |
| Real estate                     | 1074%    | 1210%   | 5%          | 100%                    | 5%          | -                       | 16%             | 9%                 |
| Professional, Scientific, Tech. | 79%      | 93%     | 4%          | 51%                     | 20%         | 4%                      | 7%              | 15%                |
| Administrative and support      | 50%      | 50%     | 6%          | 26%                     | 25%         | 4%                      | 12%             | 49%                |
| Public administration           | 132%     | 144%    | 4%          | 48%                     | 18%         | 5%                      | 9%              | 6%                 |
| Education                       | 101%     | 77%     | 17%         | 69%                     | 34%         | 17%                     | 10%             | 12%                |
| Health and Social Work          | 75%      | 66%     | 7%          | 38%                     | 29%         | 12%                     | 9%              | 20%                |
| Arts and Entertainment          | 56%      | 51%     | 5%          | 56%                     | 36%         | 4%                      | 11%             | 42%                |
| Other                           | 111%     | 98%     | 3%          | 42%                     | 40%         | 6%                      | 5%              | 38%                |

**Note:** Blue indicates a moderate or low level of non-standard forms of employment, while red denotes a higher than average level of non-standard employment.

**Table 4.4: Changes in Productivity levels as a percentage of NI average and Measure of Job Quality in Northern Ireland 2007/09 - 2015/17\***

|                                 | GVA/Hour | GVA/Job | % Temporary | % Involuntary temporary | % Part-time | % Involuntary part-time | % varying hours | % earning below LW |
|---------------------------------|----------|---------|-------------|-------------------------|-------------|-------------------------|-----------------|--------------------|
| Production                      | 27%      | 19%     | 1%          | -7%                     | 2%          | 0%                      | -4%             | 15%                |
| Manufacturing                   | 21%      | 25%     | -2%         | -16%                    | 2%          | -2%                     | 1%              | 7%                 |
| Construction                    | 3%       | 4%      | -1%         | 16%                     | 4%          | -28%                    | -3%             | -1%                |
| Wholesale & Retail              | 4%       | -1%     | -12%        | 24%                     | -2%         | 11%                     | 1%              | 7%                 |
| Transportation & storage        | 13%      | 8%      | -7%         | 84%                     | -15%        | -18%                    | 0%              | 1%                 |
| Accommodation & food            | 2%       | -4%     | 9%          | -14%                    | 25%         | -17%                    | -3%             | 7%                 |
| Information and comm.           | -16%     | -8%     | 6%          | -                       | -7%         | -2%                     | 6%              | -6%                |
| Financial and insurance         | -16%     | -18%    | 1%          | 23%                     | -3%         | -9%                     | -5%             | -12%               |
| Real estate                     | -11%     | 0%      | -4%         | 46%                     | -12%        | -                       | 5%              | -9%                |
| Professional, Scientific, Tech. | -26%     | -15%    | -13%        | 19%                     | -11%        | -17%                    | -2%             | -3%                |
| Administrative & support        | -8%      | -8%     | -6%         | -2%                     | -4%         | -4%                     | 0%              | 3%                 |
| Public administration           | 18%      | 22%     | -3%         | 8%                      | -4%         | -6%                     | -1%             | -6%                |
| Education                       | -21%     | -15%    | 12%         | -3%                     | 7%          | -3%                     | 7%              | 1%                 |
| Health and Social Work          | -8%      | -7%     | -1%         | -8%                     | -1%         | -1%                     | 0%              | 0%                 |
| Arts                            | -16%     | -5%     | 5%          | -44%                    | -3%         | -34%                    | 11%             | 24%                |
| Other                           | 7%       | 5%      | -           | -                       | 13%         | -20%                    | -11%            | 0%                 |

**Note:** Blue indicates a moderate or low level of non-standard forms of employment, while red denotes a higher than average level of non-standard employment.

## 5. POLICY OPTIONS

The movement of jobs from high to low productivity sectors explains some of the decline in GVA per job. However, the share of total hours worked moved in the opposite direction. This divergence between jobs and hours shows that while the sectoral structure of employment is important in interpreting overall productivity, a policy that focuses on the quantity of jobs created or maintained is incomplete. As shown in Section 3, the fact that both jobs and hours worked are moving toward declining productivity sectors indicates that changes in the nature of employment within sectors may be just as important. Indeed, as shown in Section 4 sectors with higher (or increased) levels of flexible forms of employment tend to have experienced weak(er) productivity growth than what might have otherwise been the case.

The recent review of modern employment by Taylor (2017) argued that the UK's light touch regulatory model is largely beneficial and that the low levels of unemployment are the result of the flexibility in the UK labour market. However, as was discussed in much detail in Section 2 the weight of academic work does not support this position. Nevertheless, despite the lack of evidence, there remains a dominant belief that employment protection legislation and regulation of the labour market is harmful to the labour market. This is a logical fallacy and one which needs to be questioned and addressed much more thoroughly and rigorously than has been to-date. This is particularly important in the context of this study showing that the increased reliance on flexible forms of employment, which do not possess the same rights, entitlements, benefits and conditions than that of the traditional 'standard' employment relationship is negatively affecting the productive performance of the Northern Ireland economy.

To be clear, we do not argue that flexible employment is itself inherently bad. However, we argue that there is a need for us to challenge the notion that a flexible labour market must be a deregulated labour market and that 'bad jobs' must be the norm for those in flexible forms of employment. In particular, we raise objections to the Taylor Review, which maintains that in return for flexibility workers should expect to trade-off on different aspects of job quality including security, pay, opportunities for further development through training (Taylor *et al*, 2017). In this respect, a flexible, agile and adjustable workforce need not be an insecure, intermittent, (relatively) poorly paid, low skilled workforce with little opportunity for career development as suggested in the Taylor Review.

In this sense, if as is claimed both employers and workers increasingly want flexible employment practices, must it come at the cost of job quality? Why has the UK in its drive for more flexibility embarked on a low-road trajectory that the evidence suggests brings negative consequences for workers, businesses, economies and societies? Indeed, firms do need flexibility. It does help them manage more efficiently fluctuations in supply and demand and makes it easier for them (or at least incentivises them) to be able to expand their workforce in order to embark on new investment and innovation. Employment regulations that prevent firm growth, or in extreme circumstances force some firms out of business, are not in the interest of either employers or workers. Moreover, workers also like flexibility and many of them value the ability to have a better work/life balance, more autonomy over when, where and how much time they spend at work. Many of the most skilled and most in demand workers seek flexibility as a key condition for their employment.

In rejecting the dichotomy of the Taylor review that there must be a trade-off in conditions, rights, entitlements and benefits for flexible forms of employment, we should focus policy instead on aiming to give security to a workforce, while maintaining sufficient flexibility for firms. The goal of achieving more labour market flexibility and reducing rigidities in the labour market as pursued by the OECD, IMF and others is not in and of itself bad. However, the current incarnation of flexibility pursued throughout the UK which synonymises it with labour market deregulation and a 'low-road' approach to job quality, born out of the reforms of 1980s and 1990s, gives flexibility a bad name.

Clearly, the task of improving the quality of these more flexible forms of employment is no simple task. As was shown in Section 3 flexible, non-standard forms of employment take many forms, and different sectors of the economy utilise flexibility in different ways. Indeed, this diversity captures the very essence of flexibility. It is for this reason that it is argued that the policy response will need to be multi-faceted. Rubery *et al* (2018) describe a situation that has arisen in many economies with the workforce divided into those who still enjoy conditions, rights and entitlements of employment largely as they were before the programme of deregulation began and those who have come to employment under labour market deregulation in these more flexible forms of employment. They outline a new framework for extending the rights and protections of the traditional 'standard' employment relationship (SER) to those in more flexible or 'non-standard forms of employment' such as part-time, temporary, or self-employment and it is one which we argue should be adapted to policy here. They identify the key components of the SER which need to be realised within flexible forms of employment in order to achieve a more valued and valuable workforce, and thus a more

productive one. The key components are summarised as Security, Opportunity, Fair treatment and Life beyond work. Security is self-explanatory in the context of this paper, i.e. certainty of work, predictable hours, duration of contract, wages. Opportunity describes the platform by which workers are able to invest in themselves through upskilling and training. Fair treatment describes the range of rights at work that those in SER are entitled, beyond merely minimum wages and other basic protections. Life beyond work describes the benefits that accrue to SER workers from enjoying all of the above. It describes that ability to plan life in terms of leisure time and holidays, but also the ability to purchase, house and raise a family, things that have become increasingly difficult for those in flexible forms of employment.

Importantly, however, Rubery *et al* (2018) do not simply propose the replacement of flexible, non-standard forms of employment with a SER. They recognise that for many workers a SER job simply does not fit with their lifestyle and other commitments. Such circumstances should not prevent them however from enjoying the protections and privileges of the SER. They propose two strands of reforms whereby the first stage involves the requirement for SER jobs to become more flexible in order to encourage NSFE workers who feel excluded by the formalised nature of SER. The second strand envisages the extension of key components of SER to flexible, non-standard forms of employment. Reforms to employment rights and standards in order to both improve the security of those in flexible forms of employment and open up the SER to greater flexibility would give employers the room for manoeuvre that they require from a modern workforce. At the same time, this would unleash the potential of an entire section of the workforce that would come to feel valued and protected in their jobs.

How we manage such reforms is crucial. Employers need to feel that bringing security to flexible forms of employment will not threaten their ability to affect change and grow their business. Employees need to feel that opening up the SER to more flexible arrangements will not simply be a slippery slope toward an expansion of the quality and conditions of employment that has come to be associated with flexible, non-standard forms of employment. In this regard, a process of social dialogues bringing employer groups and trade unions together with the relevant government authority would be pivotal in order to establish the reforms necessary to achieve flexibility and security for the greatest number of workers.

Regulations, laws and statutory obligations are necessary but not sufficient to achieve the change that the current workforce requires. As Section 3 showed, there are many different forms of

employment differing from the traditional SER and indeed different sectors utilise different forms of flexible employment to varying degrees. However, whilst flexible, non-standard form of employment tend to be inferior in quality to that of the SER, they are each inferior in different ways. Consequently, we argue for a greater reach for collective bargaining in being able to negotiate the nuances of different sectors. This would allow employees to attain greater security whilst also allowing firms to preserve the necessary flexibility they will need to remain innovative and creative.

## **6. CONCLUSION**

The aim of this paper was to establish whether the increased use of flexible employment has contributed to the slowdown in the growth of productivity in the case of Northern Ireland. It was shown that while employment growth in Northern Ireland over the last number of years has been strong, the same cannot be said for productivity. Of course, increased rates of employment have not been uniform across all sectors of the economy - some have grown more than others. This would naturally impact on the growth of productivity. However, differences between the shifts in jobs and shifts in hours worked indicated that the change in the structure of employment may be more than sectoral. Indeed, the nature of sectoral growth in productivity that emerged as a result of these changes in employment, whether jobs or hours, indicated that changes in the nature of employment may be as important to productivity growth as changes in the sector of employment. Indeed, when changes in the nature of employment were compared with productivity performance, it was not difficult to see correlations in the growth of flexible forms of employment and the retardation of productivity growth across sectors.

The policy proposals made in this paper are based on the literature and research evidence base outlined in Section 2 which explains how more flexible forms of employment could be damaging productivity. Notwithstanding these policy recommendations it is important to reemphasise two important points. This paper does not contend that more flexible forms of employment have had exclusively negative outcomes. Indeed, more accurately the evidence would suggest a more complex reality in which a variety of labour market models can be consistent with good employment and economic performance. It is however argued that, whatever the impacts on total employment or economic growth may have been, the impact of more flexible forms of employment for productivity appears to have been negative. Secondly, this paper does not argue that all forms of flexible employment have negative impacts on productivity, but that the form of flexibility adopted in Northern Ireland to date – that is, flexibility at all costs - has had negative consequences for productivity.

## REFERENCES

- Allan, C. (2000) 'The hidden organisational costs of using non-standard employment', *Personnel Review*, 29(2): 188-206
- Annet, A. (2007) *Lessons from Successful Labour Market Reformers in Europe*, IMF Policy Discussion Paper, PDP/07/1, International Monetary Fund. Available online at: <https://www.imf.org/external/pubs/ft/pdp/2007/pdp01.pdf>. [Last accessed: 26.6.18].
- Ashiagbor, D. (2005) *The European Employment Strategy: Labour Market Regulation and New Governance*, New York: Oxford University Press.
- Atkinson, J. (1984) 'Manpower Strategies for Flexible Organisations', *Personnel Management*, 28- 31.
- Baccaro, L. and Rei, D. (2005) *Institutional determinants of unemployment in OECD countries: A time series cross-section analysis*, International Institute for Labour Studies Discussion Paper, DP/160/2005, Geneva: International Institute for Labour Studies.
- Bailey, N. (2016) 'Exclusionary employment in Britain's broken labour market', *Critical Social Policy*, 36(1): 1-22.
- Baker, D., Glyn, A., Howell, D.R., Schmitt, J. (2005) 'Labour market institutions and unemployment: A critical assessment of cross-country experience' in Howell, D. R. *Fighting unemployment: The limits of Free Market Orthodoxy*, Oxford: Oxford University Press.
- Bakvis, P. (2009) 'The World Bank's Doing Business Report: A last fling for the Washington Consensus', *Transfer*, 15(3-4): 419-438.
- Bassanini, A. and Duval, R. (2006) *Employment Patterns in OECD Countries: reassessing the role of policies and institutions*, OECD Social, Employment and Migration Working Paper No. 35, Paris: OECD.
- Beck, U. (1992) *Risk society: Towards a new modernity*, London: Sage.
- Bentolila S., Dolado J. J. and Jimeno J. F. (2011) *Reforming an insider-outsider labour market: the Spanish Experience*, Discussion Paper 6186, Bonn, Institute for the Study of Labor.
- Betcherman, G. (2014) *Labour market regulations: What do we know about their impacts in developing countries?*, Policy Research Working Paper No. 6810. Washington: World Bank.
- Blair, T. (2001) *Prime Minister's speech to the CBI Conference*, November 2001.
- Blanchard, O. (2003) 'Comments on Ljungvist and Sargent', in Aghion, P., Stiglitz, J., and Woodford, M. (eds) *Knowledge, Information and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*, Princeton: Princeton University Press, p. 351-356.
- Booth, A.L., Francesconi, M., and Frank, J. (2002) 'Temporary Jobs: Stepping Stones of Dead Ends?', *The Economic Journal*, 112(480): 189-213.
- Broersma, L., Koeman, J. and Teulings, C. (2000) 'Labour supply, the natural rate, and the welfare state in The Netherlands: the wrong institutions at the wrong point in time', *Oxford Economic Papers*, 52: 96-118.
- Chowdhury, A. (2009) *The Great Recession of 2008-2009 and Labour Market Flexibility – Which way now?*, VOE CEPR Policy Portal. Available online at: <https://voxeu.org/debates/commentaries/great-recession-2008-2009-and-labour-market-flexibility-which-way-now> [Accessed on: 3.7.18].
- Coats, D. (2011) *Exiting from the crisis: towards a model of more equitable and sustainable growth: Report of a trade union task force*, Brussels: European Trade Union Institute.
- DiTella, R. and MacCulloch, R.J. (2002) 'The determination of unemployment benefits', *Journal of Labour Economics*, 20(2): 404-434.
- Dolphin, T. (2015) *Technology, Globalisation and The Future of Work in Europe: Essays on Employment in a Digitised Economy*, London: IPPR. Available online at: [https://www.oxfordmartin.ox.ac.uk/downloads/academic/technology-globalisation-future-of-work\\_Mar2015.pdf](https://www.oxfordmartin.ox.ac.uk/downloads/academic/technology-globalisation-future-of-work_Mar2015.pdf) [Accessed on: 16.7.18]

- Eamets, R. and Paas, T. (2007) 'Labour market flexibility and flexicurity', in Paas, T. and Eamets, R. (eds.), *Labour market flexibility, flexicurity and employment: Lessons of the Baltic states*, Nova Science, p. 41-59.
- Elmeskov, J., Martin, J., and Scarpetta, S. (1998) 'Key Lessons for Labour Market Reforms: Evidence from OECD Countries Experience', *Swedish Economic Policy Review*, 5(2): 205-252.
- European Commission (2010) *Annual growth survey: advancing the EU's comprehensive response to the crisis*, COM (2011) 11 final, 12 January 2010.
- Fagan, C., Lyonette, C., Smith, M., Saldana-Tejeda, A. (2012) *The influence of working time arrangements on work-life integration or 'balance': A review of the international evidence*, Conditions of Work and Employment Series No. 32, Research synthesis paper prepared as an input to the report for discussion by the Tripartite Meeting of Experts on Working Time Arrangements, Geneva: International Labour Organisation.
- Gorz, A. (1999) *Reclaiming work*, Cambridge: Polity.
- Gray, A. (2014) *Unsocial Europe: Social Protection of Flexploitation*, London: Pluto Press.
- Hayter, S. (2011), *The Role of Collective Bargaining in the Global Economy: Negotiating for Social Justice*, Geneva, Switzerland: International Labour Office.
- Heyes, J., Lewis, P. and Clark, I. (2012) 'Varieties of capitalism, neo-liberalism and the economic crisis of 2008-?', *Industrial Relations Journal*, 43(3): 222-241.
- Howell, D.R., Baker, D., Glyn, A., Schmitt, J. (2007) 'Are protective labour market institutions at the root of unemployment? A Critical Review of the Evidence', *Capitalism and Society*, 2(1): 1-73.
- Hutton, W. (1996) *The state we're in*, London: Vintage.
- International Labour Organisation (2016) *Non-standard employment around the world: Understanding challenges, shaping prospects*, Geneva, Switzerland: ILO.
- International Monetary Fund (2003) *Unemployment and Labour Market Institutions: Why Reforms Pay Off*, IMF World Economic Outlook, Washington: International Monetary Fund.
- Irish Congress of Trade Unions (2017) *Insecure and Uncertain': Precarious Work in the Republic of Ireland and Northern Ireland*, Congress Briefing, Dublin: ICTU.
- Johnston, R. and Buchanan, J. (2016) *Understanding productivity in Northern Ireland*, Ulster University Economic Policy Centre.
- Kalleberg, A.L., Reynolds, J., and Marsden, P.V. (2003) 'Externalising employment: Flexible staffing arrangements in US organisations', *Social Science Research*, 32(4): 525-552.
- Kleinknecht, A. (1998) 'Is labour market flexibility harmful to innovation?', *Cambridge Journal of Economics*, 22: 387-396.
- Kleinknecht, A. (2015) 'Rigidities through flexibility: flexible labour and the rise of management bureaucracies', *Cambridge Journal of Economics*, 40(1) 1137-1147.
- Kompier, M., Ybema, J. F., Janssen, J., and Taris, T. (2009) 'Employment contracts: cross-sectional and longitudinal relations with quality of working life, health and well-being', *Journal of Occupational Health*, 51(3), 193-203.
- Laeven, L. and Valencia, F. (2012) *Resolution of Banking Crises: The Good, the bad and the Ugly*, International Monetary Fund. Available online at: <https://www.imf.org/external/np/seminars/eng/2012/fincrisis/pdf/ch13.pdf> [Last accessed on: 15.8.18].
- Lewchuk, W., Clarke, M. and De Wolff, A. (2011) *Working without commitments: The Health Effects of Precarious Employment*, London: McGill-Queens University Press.
- Lisi, D. (2013) 'The impact of temporary employment and employment protection on labour productivity: Evidence from an industry-level panel of EU countries', *Journal for Labour Market Research*, 46(2): 119-144.
- Maitre, B., Nolan, B. and Whelan, C.T. (2011) 'Low Pay, In-work poverty and economic vulnerability: A comparative analysis using EU-SILC', *The Manchester School*, 80(1): 99-116.

- Mac Flynn, P. (2016) *Productivity and the Northern Ireland Economy*, NERI WP 2016/No 39, Belfast: NERI.
- Mac Flynn, P. (2017) *Public Expenditure and Investment in Northern Ireland*, NERI Research inBrief 2017/No 49, Belfast: NERI.
- McGinnity, F., Mertens, A. and Gundert, S. (2005) 'A Bad start? Fixed term contracts and the transition from Education to Work in West Germany', *European Sociological Review*, 21(4): 359-374.
- McLaughlin, E. (1994) 'Flexibility or Polarisation?', in White, M. (eds) *Unemployment, Public Policy and the Changing Labour Market*, London: Policy Studies Institute, p. 7-28.
- Murphy, M. P. (2017) 'Irish Flex-insecurity: The Post-crisis Reality for Vulnerable Workers in Ireland', *Social Policy and Administration*, 51(2): 308-327.
- Nielen, S. and Schiersch, A. (2011) *Temporary Agency Work and Firm Competitiveness: Evidence from German manufacturing firms*, Discussion paper 1135, Berlin: DIW.
- Nolan, P. (1994) 'Labour market institutions, industrial restructuring and unemployment in Europe', In Grieve-Smith, J. and Michie, J. (eds) *Unemployment in Europe: Policies for Growth*, London: Academic Press, pp. 61-71.
- Nolan, B. and Whelan, C.T. (2014) 'The Social Impact of Income Inequality: Poverty, Deprivation and Social Cohesion', in Salverda, W., Nolan, B., Checchi, D., Marx, I., McKnight, A., Gyorgy Toth, I., and van de Werfhorst, H. (eds) *Changing Inequalities in Rich Countries: Analytical and Comparative Perspectives*, Oxford: Oxford University Press, p. 146-168.
- OECD (1994) *The OECD Jobs Study: Facts, Analysis, Strategies*, Paris: OECD. Available online at: <https://www.oecd.org/els/emp/1941679.pdf> [Accessed on: 16.7.18].
- OECD (1999) *Implementing the OECD Jobs Strategy: Assessing Performance and Policy*, Paris: OECD.
- OECD (2006) *OECD Employment outlook: Boosting Jobs and Incomes*, Paris: OECD. Available online at: [https://www.oecd-ilibrary.org/employment/oecd-employment-outlook-2006\\_empl\\_outlook-2006-en](https://www.oecd-ilibrary.org/employment/oecd-employment-outlook-2006_empl_outlook-2006-en) [Accessed on: 3.7.18].
- OECD (2011) *The G20: Emerging Countries, Global Governance and Development*, Speech made by Angel Gurría, OECD Secretary General at the SEBIG Seminar 'The Shift of Power, Global Governance and New Multilateralism, 3 October 2011, Madrid, Spain, OECD.
- Office for National Statistics (2017) *Labour productivity, UK: January to March 2018*, London: Office for National Statistics. Available online at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/bulletins/labourproductivity/januarytomarch2018> [Accessed on: 17.7.18].
- Roed, K. and Zhang, T. (2003) 'Does unemployment compensation affect unemployment experience?', *Journal of Economic Perspectives*, 18(4): 49-68.
- Rodgers, G., and Rodgers, J. (1989) *Precarious jobs in labour market regulation: The growth of atypical employment in Western Europe*, Geneva: International Labour Organisation.
- Rubery, J., Grimshaw, D., Keizer, A., and Johnson, M. (2018) 'Challenges and Contradictions in the 'Normalising' of Precarious Work', *Work, Employment and Society*, 32(3): 509-527.
- Paque, K. H. (1996) *Structural unemployment in Europe: A Bird's Eye-view*, Kiel Working Paper No. 756.
- Pissarides, C.A. (1997) 'The need for labour market flexibility in a European economic and monetary union', *Swedish Economic Policy Review*, 4: 513-546.
- Prior, L. and Manley, D. (2017) 'Poverty and Health: thirty years of progress?', in Bramley, G. and Bailey, N. (eds) *Poverty and Social Exclusion in the UK: The dimensions of disadvantage, Volume 2*, p. 203-224.
- Scarpetta, S. (1996) 'Assessing the role of labour market policies and institutional settings on unemployment: a cross country study', *OECD Economic Studies*, 26: 43-98.
- Shaw, E. (2003) *The Blair Government, Labour Market Flexibility, and the Social Democratic Project in Britain*, Paper Prepared for Conference on Social Governance in a Global Era – Beyond 20th Century Social Democracy, Japan: Hokkaido University.

- Sias, P.M., Kramer, M.W., and Jenkins, E. (1997) 'A comparison of the Communication Behaviours of Temporary Employees and New Hires', *Communication Research*, 24(6): 731-754.
- Siebert, H. (1997) 'Labour market rigidities: At the root of unemployment in Europe', *The Journal of Economic Perspectives*, 11(3): 37-54.
- Standing, G. (1997) 'Globalisation, Labour Flexibility and Insecurity: The era of market regulation', *European Journal of Industrial Relations*, 3(1): 7-37.
- Storm, S. and Naastepad, C.W.M. (2009) 'Labour market regulation and productivity growth: Evidence for twenty OECD countries (1984-2004)', *Industrial Relations*, 48(4): 629-654.
- Sverke, M., Hellgren, J. and Naswall, K. (2002) 'No security: A meta-analysis and review of job insecurity and its consequences', *Journal of Occupational Health Psychology*, 9(4): 296-305.
- Szirmai, A. & Timmer, M. (2000). 'Productivity Growth in Asian Manufacturing: The Structural Bonus Hypothesis Examined', *Structural Change and Economic Dynamics*, 11. 371-392.
- Taylor, M., Marsh, G., Nocol, D., and Broadbent, P. (2017) *Good Work: The Taylor Review of Modern Working Practices*, Department for Business, Energy and Industrial Strategy. Available online at; <https://www.gov.uk/government/publications/good-work-the-taylor-review-of-modern-working-practices> [Accessed on: 16.7.18].
- Uzzi, B. and Barsness, Z.I. (1998) 'Contingent employment in British Establishments: Organisational determinants of the use of fixed-term hires and part-time workers', *Social Forces*, 76(3): 967-1005.
- van Ours, J.C. (2003) *Has the Dutch Miracle Come to an End?*, CentER Discussion Paper No. 2003-32, Tilberg: Tilberg University.
- Ware-Barrientos, S. (2013) 'Labour chains': Analysing the role of labour contractors in global production networks', *The Journal of Development Studies*, 49(8): 158-1071.
- White, N. (2000) 'From Full employment to flexibility: Britain and France 1960-2000', *Working Paper Series in European Studies*, 3(3): 1-28.
- Wilson, L. (2016) *Divisions in Job Quality in Northern Ireland*, NERI WP 2016/No 38, Belfast: NERI.
- Wilson, L. (2017) *Patterns and Trends in Employment Arrangements and working hours in Northern Ireland*, NERI WP 2017/No. 45, Belfast: NERI.
- World Bank (2009) *How Should Labor Market Policy Respond to the Financial Crisis?*, HD and PREM Labor Market Teams. Available online at: [http://siteresources.worldbank.org/INTLM/Resources/Note-Crisis\\_Response\\_26April.pdf](http://siteresources.worldbank.org/INTLM/Resources/Note-Crisis_Response_26April.pdf). [Accessed on: 20.6.18].
- World Bank (2018) *World Development Report 2019: The Changing Nature of Work Draft Report*, World Bank.

## APPENDIX 1. SHIFT-SHARE ANALYSIS OF PRODUCTIVITY

The shift share analysis allows us to decompose productivity growth into impacts arising from changes in the structure of employment and changes in productivity growth within sectors.

The shift share analysis is as follows;

$$P_m = \frac{Y_m}{L_m} = \sum_{j=1}^n \frac{Y_j}{L_j} * \frac{L_j}{L_m} = \sum_{j=1}^n P_j * S_j$$

Where Y is Output, measured here as GVA, and L is employment measured by jobs or hours worked, by sector (j=1...n) and P is labour productivity (Y/L), and S is the sectoral employment, measured by share of jobs or hours worked. In a discrete time perspective for a current year t, and a base year 0.

$$\frac{P_m^t - P_m^0}{P_m^0} = \frac{\sum_{j=1}^n (P_j^t - P_j^0) * S_j^0}{\sum_{j=1}^n P_j^0} + \frac{\sum_{j=1}^n (S_j^t - S_j^0) * P_j^0}{\sum_{j=1}^n P_j^0} + \frac{\sum_{j=1}^n (P_j^t - P_j^0) * (S_j^t - S_j^0)}{\sum_{j=1}^n P_j^0}$$

Part 1: Within-sector productivity gains/losses

$$\frac{\sum_{j=1}^n (P_j^t - P_j^0) * S_j^0}{\sum_{j=1}^n P_j^0}$$

Part 2: Shifts of employment from sectors with low productivity levels to those with high productivity levels.

$$\frac{\sum_{j=1}^n (S_j^t - S_j^0) * P_j^0}{\sum_{j=1}^n P_j^0}$$

Part 3: Shifts of employment from sectors with low productivity growth to sectors with high productivity growth.

$$\frac{\sum_{j=1}^n (P_j^t - P_j^0) * (S_j^t - S_j^0)}{\sum_{j=1}^n P_j^0}$$

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