Research Bulletin 20/5 | Exploring Labour Productivity in Northern Ireland

Eoin Canning, Analytical Services, Department for the Economy

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Summary

Productivity is a significant and vital measure of a country's economic performance. It is a key driver of improving wages, economic growth and hence living standards. Productivity is defined by OECD as "a ratio between the output volume and the volume of inputs. In other words, it measures how efficiently production inputs, such as labour and capital, are being used in an economy to produce a given level of output."[i] This research bulletin will focus on labour productivity in Northern Ireland and how this has been a consistent problem for the economy. It will also analyse the UK's productivity slowdown in comparison to other major economies in Europe.

The general consensus of the analysis shows that the Northern Ireland economy has experienced very slow productivity growth that is in line with productivity growth of the UK average.

Introduction

Most economists believe that productivity is one of the most important factors influencing living standards in a country. For example, in the words of Nobel prize-winning economist Paul Krugman (1994):

> *"Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."* [ii]

In theory, increased productivity in an economy will lead to a greater overall level of output which should keep prices competitive. Satisfactory rates of productivity growth is regarded as benefiting all three economic agents. It benefits consumers in the form of lower prices and hence higher real wages which should contribute to a higher standard of living and increased real disposable income. Businesses should benefit from increased productivity in the form of increased profits resulting from a better input to output ratio. In addition, increased real wages for consumers and higher profits for firms should translate into greater tax revenue for the government in the form of VAT and corporation tax among others.

There is no doubt that productivity has been a very weak component of the Northern Ireland economy for some time now. There are several factors that may have contributed to this such as the legacy of the Troubles, continued high rates of economic inactivity and low rates of pay. This research bulletin will examine Northern Ireland's productivity performance in recent years. The measures used in this analysis on a general basis will be GVA per hour worked and

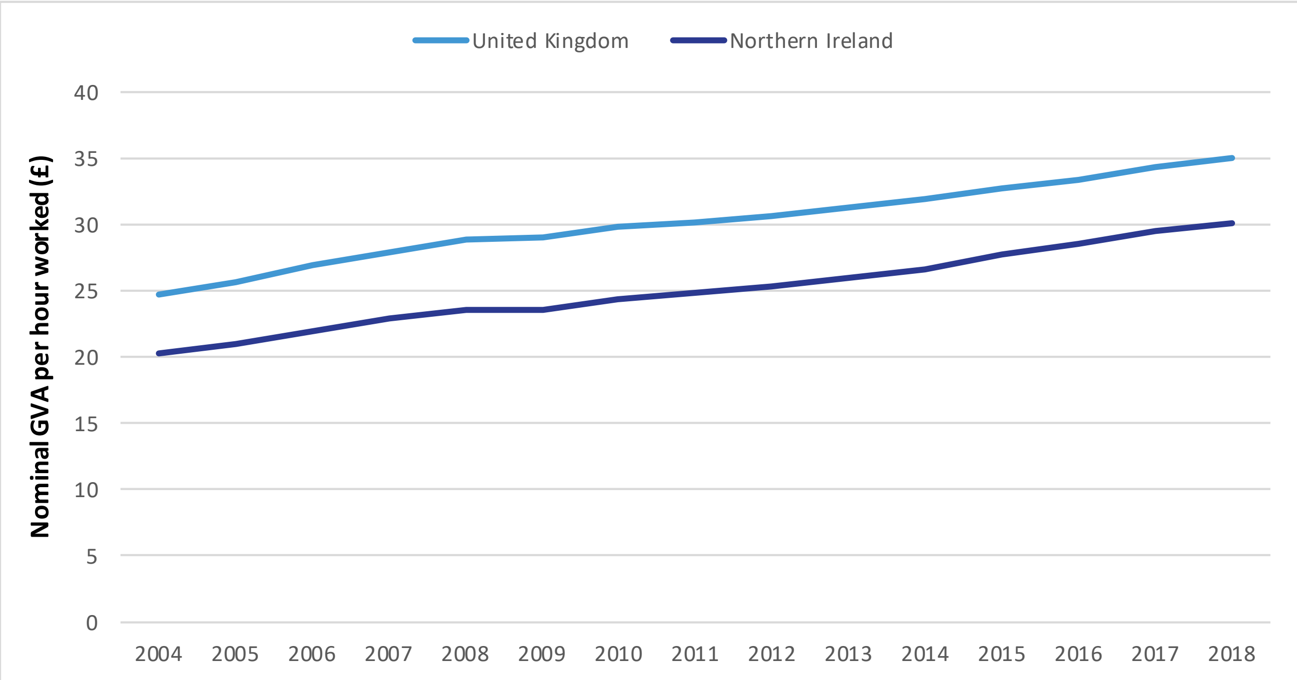
GVA per filled job. Further, the UK's productivity slowdown in comparison to other major economies in Europe is examined.

Labour Productivity Over Time

Northern Ireland Output per hour worked

Output per hour worked in Northern Ireland has increased year on year between 2004 and 2018, as is the case with the UK average. Both the UK and Northern Ireland have experienced average annual growth rates in GVA per hour worked of 3% between 2004 and 2018.[iii] This trend is illustrated in Figure 1.

Figure 1: GVA per hour worked 2004-2018

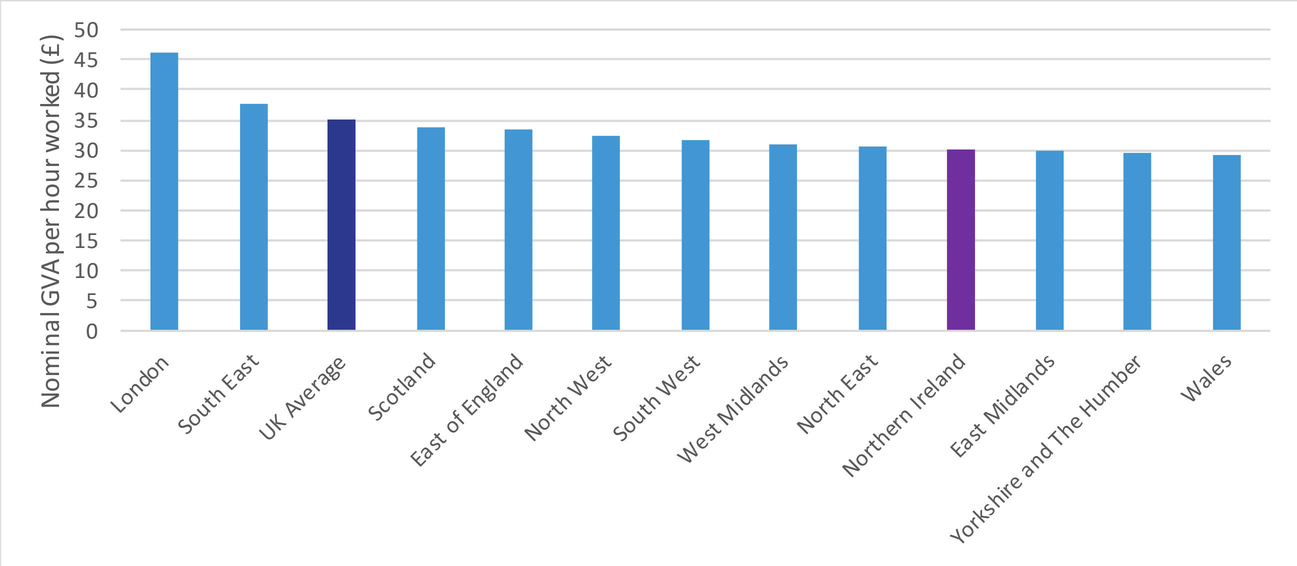


Source: ONS Regional Productivity Data

As shown by Figure 1, the UK and Northern Ireland have experienced similar growth rates in output per hour worked between 2004 and 2018. For the period of 2004-2018 output per hour growth for Northern Ireland and the UK peaked in 2006, experiencing growth rates of 4.9% and 5.0% respectively. During this time, the UK was experiencing steady economic growth and gains in productivity were credited to the business services and distribution sectors. This was driven by heavy investment by the UK government into supply side policies, especially the increased importance placed on skills and new technologies.[iv] However, since the financial crisis between 2008 and 2009, productivity in Northern Ireland has failed to recover to the same rate of growth.

As of 2018, productivity in Northern Ireland is weak in comparison to the other eleven UK regions. As shown by Figure 2, in 2018 Northern Ireland was ninth of all UK regions in terms of GVA per hour worked and remains well below the UK average.

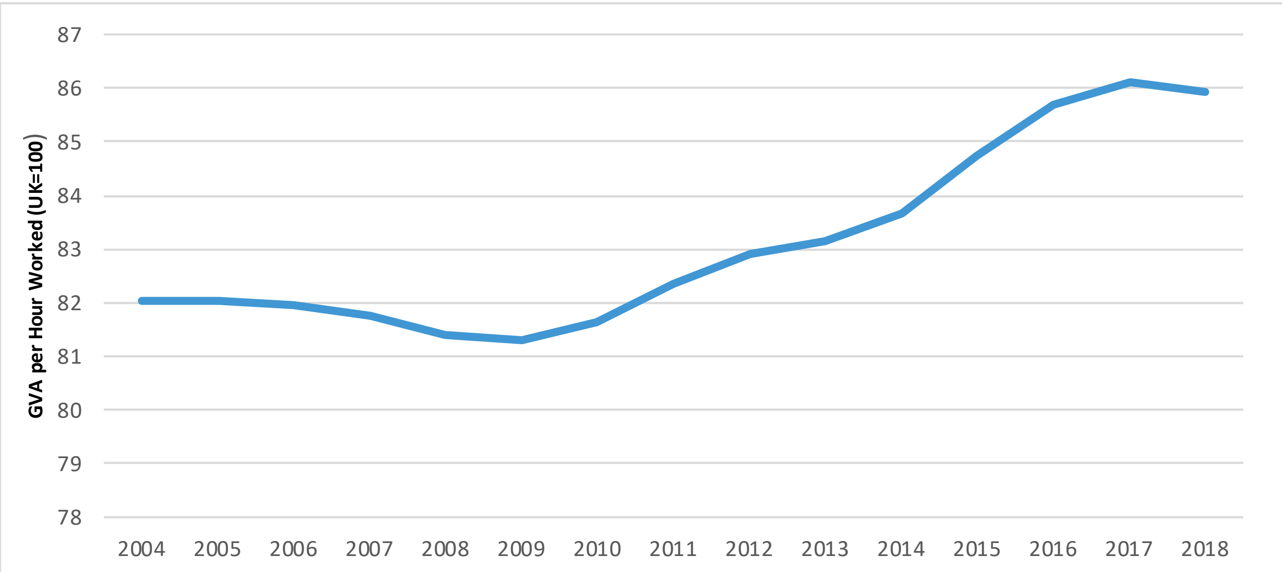
Figure 2: GVA per hour worked 2018



Source: ONS Regional Productivity Data

Although productivity has been consistently weak in Northern Ireland, it has slowly improved over the last decade and converged towards the UK average. This is illustrated in Figure 3 by the upward trend. In 2009, GVA per hour worked in Northern Ireland was 81% of the UK average. This has risen to 86% in 2018, which is encouraging. A potential reason for this is increased Foreign Direct Investment (FDI) for Northern Ireland in recent years. For 2018/19, Northern Ireland benefited from 35 new FDI projects, a rise of 25% from the year before, whereas the UK as a whole experienced a 14% fall in FDI projects during the same period[v]. This increased investment from multinationals that have set up in Belfast such as Allstate and Baker McKenzie often exploit economies of scale and, in turn reduce average costs which contribute to increased productivity.

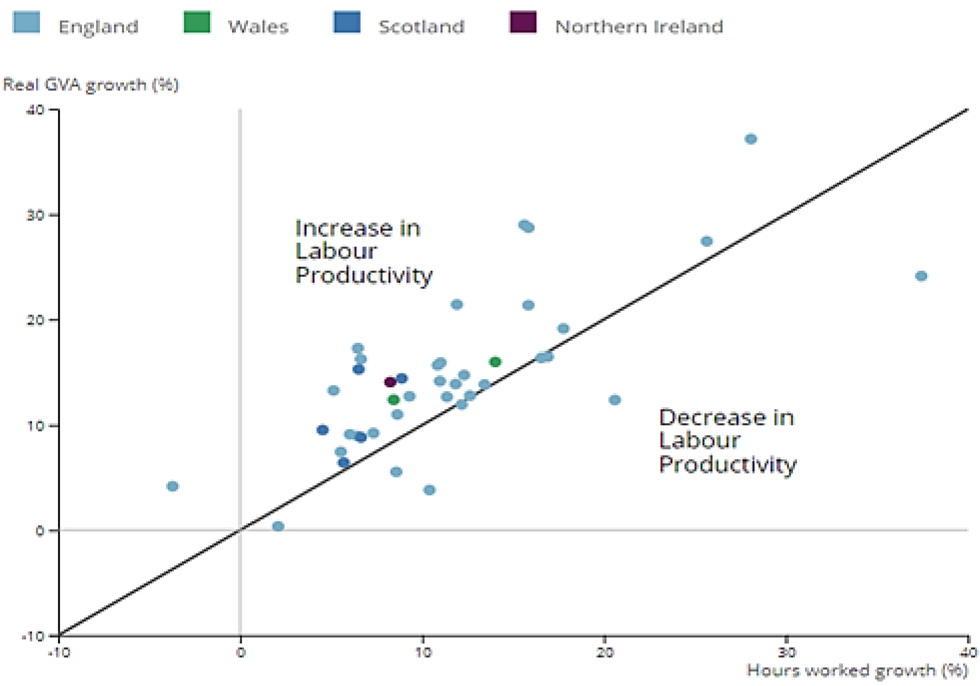
Figure 3: Northern Ireland GVA per hour worked (UK Index = 100)



Source: ONS Regional Productivity Data

Despite Northern Ireland experiencing growth in labour productivity, more must be done to close the gap further as the majority of UK regions are experiencing similar rates of labour productivity growth. Figure 4 is a useful illustration as it shows both growth in real GVA and growth in hours worked for the period 2010-2018. The graph shows that Northern Ireland's growth rate of real GVA (14.1%) was higher than the growth rate of hours worked (8.2%), which tells us labour productivity is growing steadily. This is also the case for subregions in Scotland and Wales, with the subregions experiencing decreases in labour productivity based in England.

Figure 4: Real GVA growth versus hours worked growth for NUTS2 subregions, 2010 to 2018

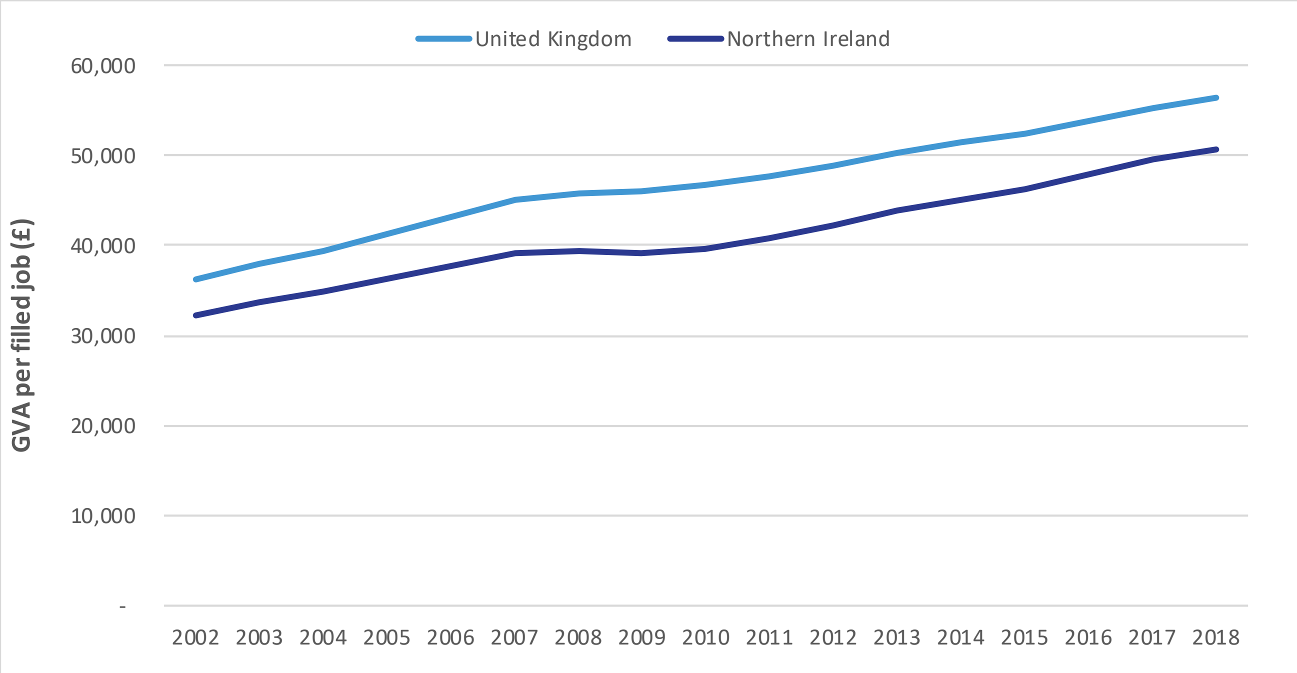


Source: ONS Subregional Productivity Data

Northern Ireland Output per filled job

An alternative measure of labour productivity is GVA per filled job. Northern Ireland performs slightly better using this metric. In 2018, Northern Ireland's GVA per filled job was 90% of the UK average and was the sixth best performing region using this metric. In contrast, Northern Ireland was ranked ninth of the 12 UK regions in GVA per hour worked and in 2018 was 86% of the UK average, as seen in the previous section of this bulletin. As shown by Figure 5, the trend in labour productivity has been very similar to that of the UK. However, this metric is regarded as a less reliable measure of labour productivity as GVA per filled job fails to account for differences in labour market structures across UK regions. For example, differences in working patterns such as the mix of part-time and full-time workers, industry structure and job shares[vi] .

Figure 5: GVA per filled job 2002-2018



Source: ONS- gross value added, productivity jobs and productivity hours

Reasons for Low Productivity

There are a number of factors which influence a region's productivity. The latest evaluation of the Skills Strategy also suggests that there must be closer alignment in Northern Ireland between the skills of the workforce and the needs of the economy.[vii] A recurring problem for the Northern Ireland economy is that there is often a mismatch between the skills of the workforce and the occupations they are in. For example, the retail and wholesale, the agriculture and the health sectors make up a large proportion of the workforce in Northern Ireland and are generally considered to be low value adding sectors. A report from UUEPC analysing productivity in Northern Ireland found that even if sectors in Northern Ireland were as productive as UK sectors the productivity gap would still be 8% due to the concentration of employment in Northern Ireland in low value adding sectors[viii]. This suggests that it is vital that Northern Ireland continues to attract investment from high-value sectors such as IT and finance in order to become more productive.

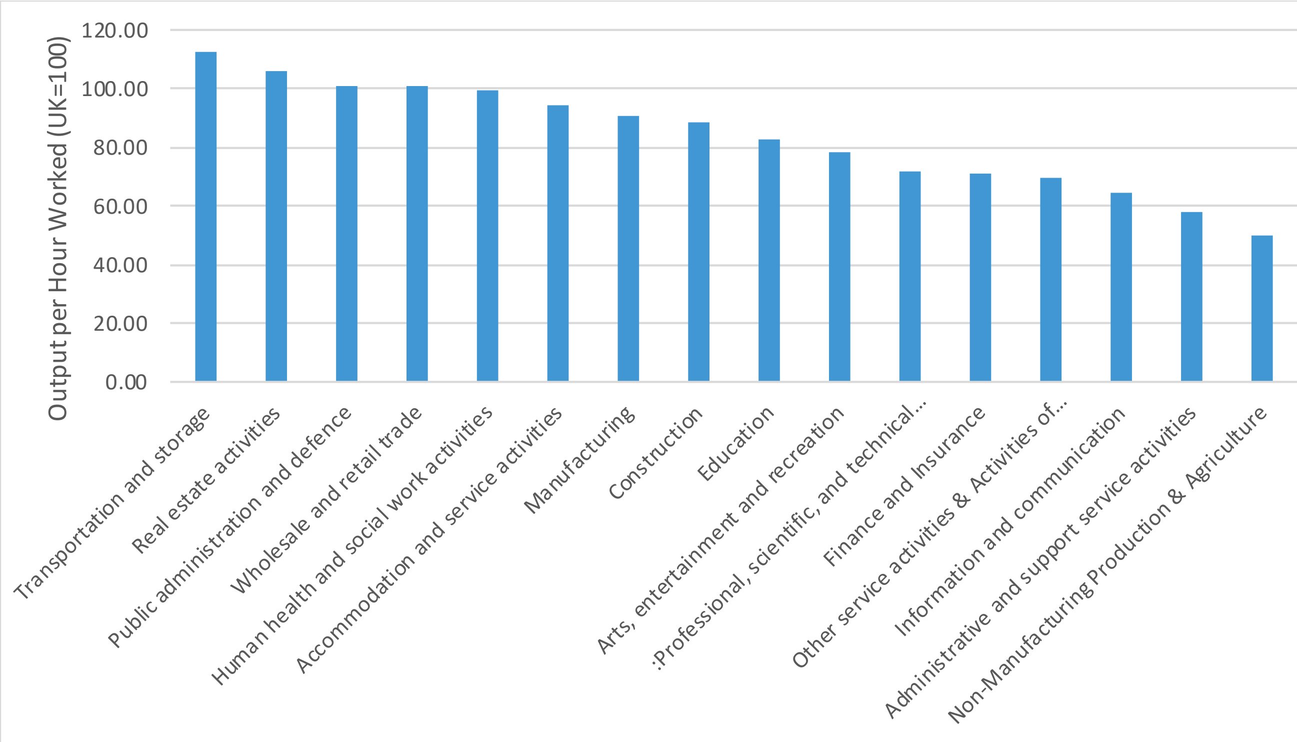
The acquisition of productive forms of capital and infrastructure is a vital component of a region's local economy. Often these productive assets complement the activities of the workforce and assist in exploiting economies of scale, therefore lowering the average cost of firms. Businesses in Northern Ireland do not have access to the same quality of public infrastructure as the rest of the UK due to inferior investment, especially the road and rail network. The more advanced network in Great Britain assists businesses involved in more complicated supply chains.

Northern Ireland by Industry

One of the main reasons for Northern Ireland experiencing slow labour productivity growth is high employment levels in less productive occupations and vice versa. The Information and communication industry is viewed as a highly productive sector, yet Northern Ireland ranks eleventh of the UK's twelve regions in this area and in 2018 recorded output per hour that was just 64% of the UK average. The latest evaluation of the Skills Strategy highlights upskilling the workforce as a key factor in improving productivity in Northern Ireland for the future, with ICT among the various areas where skills should be improved. Policies to improve this sector include further implementing computer science into the school curriculum and continuing ministerial sectoral working groups to target specific needs of business. Furthermore, better collaboration between education providers and employers may help ensure less mismatching in courses being offered.

Agriculture is another area for improvement for Northern Ireland. As shown by Figure 6, the non-manufacturing and agriculture sector lags behind the UK more than any other sector. There are many potential reasons for this, such as farmers being more reliant on EU subsidies in Northern Ireland which will reduce the actual GVA figure and low market concentration with lots of small farms, thereby hindering the exploitation of economies of scale. The gap between Northern Ireland and the UK agriculture sectors can be narrowed, especially considering 3.1% of civil employment in Northern Ireland is agricultural, compared to 1.1% in the UK.[ix]

Figure 6: Northern Ireland Output per hour worked by industry section 2018

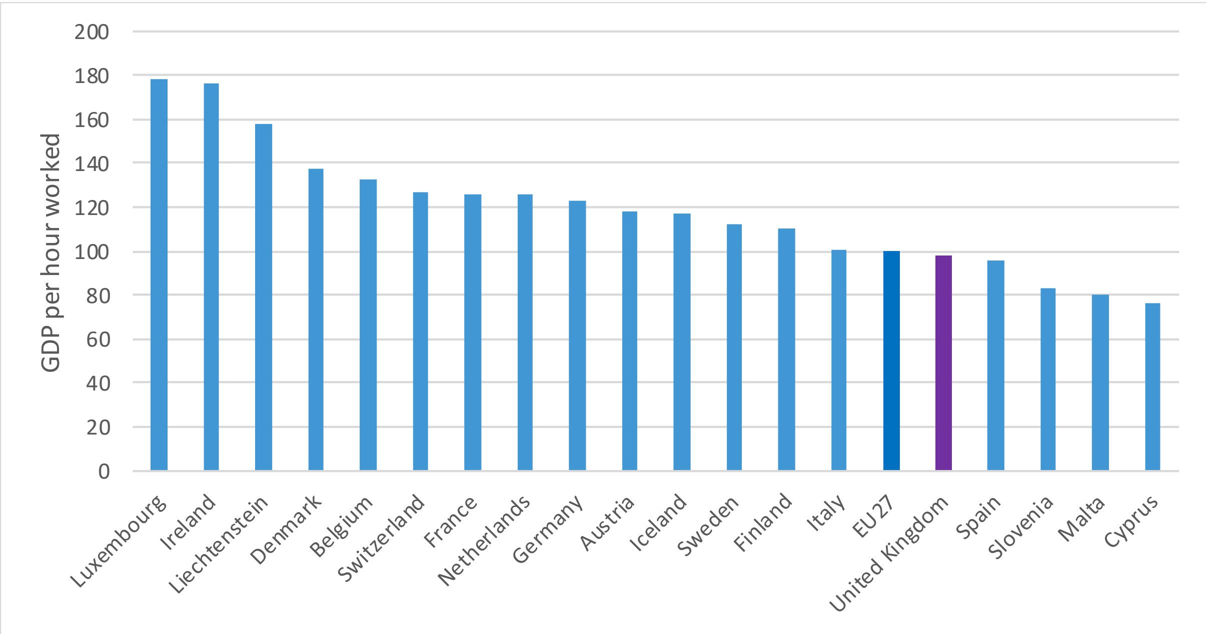


Source: ONS Labour Productivity by Industry Section

UK

In recent times, the UK has lagged behind other developed European countries in terms of labour productivity. In 2018, the UK's output per hour worked was below the EU27 average and significantly below France, Germany and most notably the Republic of Ireland. One of the reasons the Republic of Ireland is performing excellently in terms of labour productivity is their success in attracting FDI due to a number of factors, most notably its favourable taxation rates. Corporation tax in the Republic of Ireland is 12.5%, one of the lowest rates in Europe, and this has created an incentive for innovative multinationals such as Apple and Google to set up there. As shown by Figure 7, with the EU27 average as the index (=100) the UK is slightly below the average at 98.0. This is significantly below Germany (122.8), France (125.5) and the Republic Of Ireland (176.6).[x]

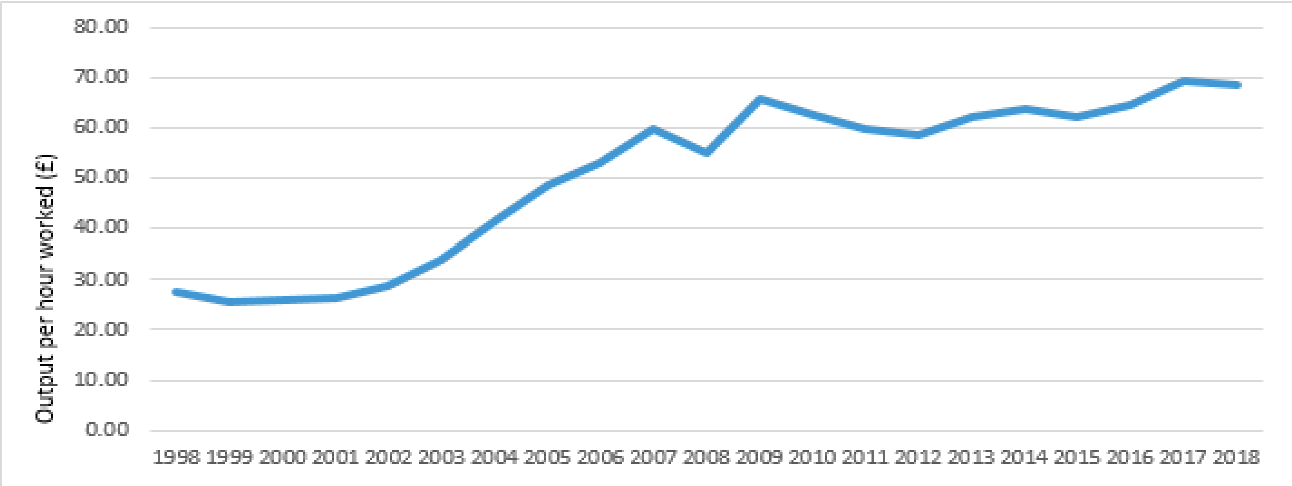
Figure 7: EU GDP per hour worked 2018 (EU27=100)



Source: Eurostat Labour Productivity Data

The most significant factor contributing to the UK's productivity slowdown was the Financial Crisis in 2008. This situation made it much harder for innovative businesses to access finance, hindering their ability to invest in research and development. Of course, businesses in neighbouring European nations experienced similar problems. However the Financial Servies sector is the UK's primary industry for driving growth and was experiencing significant growth in labour productivity prior to the financial crisis. Between 1998 and 2009, the UK experienced average annual growth of 8.7% in labour productivity in the Finance and Insurance Industry. Between 2009 and 2018, this average annual growth rate has fallen to 0.6%. This is illustrated in Figure 8 by the more flattened curve post 2009.

Figure 8: Output per hour worked in the UK Finance and Insurance sector



Source: ONS Labour Productivity by Industry Section

A 2017 report by OECD credited low levels of labour productivity in the UK to skill shortages in highly productive occupations and a surplus in manual and physical skills. It states, "Labour productivity growth, which is closely related to the use of skills, remains low".[xi] A factor holding labour productivity back in the UK is a shortage in knowledge-based labour, especially occupations that require skills involving STEM subjects.

Despite the UK having surplus labour in occupations requiring manual and physical skills, the UK Construction sector has consistently performed poorly in terms of labour productivity in comparison to the economy as a whole. This is illustrated in Figure 9 below. The graph shows that the Construction sector was badly affected by the Financial Crisis, as accessing finance is a vital component of the success of this sector. This has been one of the many factors contributing to slow productivity in the UK.

Figure 9: UK GVA per hour worked in the Construction Sector

Source: ONS Labour Productivity by Industry Section

Conclusions

The findings from this bulletin show that labour productivity is improving in Northern Ireland, and since 2010 has converged slightly towards the UK average. However, over the long-term Northern Ireland has consistently been below the UK average and there is still capacity for improvement. In terms of the UK as a whole, labour productivity has failed to recover from the Financial Crisis, and lags behind the performance of other major economies in Europe. There will be increased uncertainty regarding trade and investment in the UK as a result of the withdrawal from the European Union in the near future. It is therefore vital that the UK adapts to the increasingly digitalised economy to close the productivity gap with the likes of France, Germany and the Republic of Ireland.

The primary reason for slow growth rates in labour productivity in Northern Ireland and the UK is a continued misalignment between the skills of the workforce and the ever-changing needs of the economy. Economies all over the globe are becoming increasingly digitalised meaning there will be a shift in low value-added occupations which are in abundance in Northern Ireland and the UK towards knowledge-based occupations, many of which require skills involving STEM subjects.

To tackle the problem of labour productivity, Northern Ireland must prepare for the digital transformation of the economy and be aware of what the future demand for labour will look like, adapting that vision into education and skills. More steps should be taken to attract the large pool of the economically inactive into the workforce and better utilise the skills and talents of the well-educated workforce in Northern Ireland. In addition, more steps should be taken to encourage workers to move up the skills ladder and undertake life-long learning so that the future needs of the economy can be met. Due to the uncertain future regarding the implications of the Northern Ireland protocol component of the UK Withdrawal Agreement, it is vital that investment from innovative businesses continues to be attracted. Northern Ireland has achieved significant success in attracting foreign direct investment in recent years. The continuation of this success should contribute to Northern Ireland converging further towards the UK average in terms of labour productivity and consequently improve living standards.

Eoin Canning

For further information or queries please contact analyticalservices@economy-ni.gov.uk

[i] OECD Glossary of Statistical Terms
[ii] Krugman, P. (1994) The Age of Diminishing Expectations
[iii] ONS Regional Labour Productivity
[iv] Corry, D., Valero, A. and Van Reenen, J. (2011) UK Economic Performance since 1997 - Growth, Productivity and Jobs
[v] Department for International Trade Inward Investment Results 2018-19
[vi] ONS Subregional productivity in the UK
[vii] Evaluation of Success through Skills - Transforming Futures
[viii] UUEPC: Understanding productivity in Northern Ireland
[ix] Statistical Review of Northern Ireland Agriculture
[x] Eurostat: Labour Productivity per hour worked
[xi] OECD: Getting Skills Right United Kingdom