

Quarterly Economic Observer

Winter 2014



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About NERI and this publication

The Nevin Economic Research Institute (NERI) has been established to provide information, analysis and economic policy alternatives. Named in honour of Dónal Nevin, scholar, trade unionist and socialist who gave a life of service to the common good, the Institute aims to undertake research that will be of relevance to the Trade Union movement and the general public across the island of Ireland.

This is the twelfth Quarterly Economic Observer (QEO) of the Institute. The purpose of the QEO is to provide regular, accessible and timely commentary so as to equip trade unions and others in articulating and advancing a new economic paradigm where the old has failed. The QEO complements the NERI Winter 2014 Quarterly Economic Facts (QEF) which provides a set of statistical indicators to complement our analysis. Unless otherwise stated, the data cited in this Observer are the latest available as of early December 2014. The final draft of this document was completed on 3rd December 2014.

This report has been prepared by staff of the Institute. We are grateful to external reviewers from the academic and research community who reviewed and commented on an earlier draft of this document. The analyses and views expressed in this publication are those of the NERI and do not necessarily reflect those of others including the Irish Congress of Trade Unions or the unions supporting the work of the Institute.

Further information about NERI may be obtained at our website www.NERInstitute.net

The Nevin Economic Research Institute
Quarterly Economic Observer
Winter 2014

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Executive Summary

This edition of the NERI's *Quarterly Economic Observer* (QEO) outlines our latest expectations for the economic outlook in the Republic of Ireland and Northern Ireland (Section 3). It also presents an analysis of industrial policy in Northern Ireland and proposals for a new approach based on investment in key growth sectors of the economy (Section 4).

Economic Outlook

Our economic outlook for both parts of the island of Ireland is broadly positive, albeit uncertain. The Republic of Ireland is on course for strong growth in 2014. We are projecting reasonably strong growth in 2015 which we anticipate will slow somewhat in 2016. Continuing improvements in the public finances and the labour market along with stable net exports will contribute to continued recovery up to 2016. While 2014 marked the return of positive growth in personal consumption, the continuing decline in wages represents an acute challenge. Low inflation has, to some extent, shielded incomes from the impact of declining wages but that effect may well be transitory. Internationally concerns about stagnation or even decline in the Eurozone and lacklustre growth in emerging economies inform our outlook.

In Northern Ireland, output remains muted and there is little sign that Northern Ireland is benefiting from recent strong growth in either the UK or Republic of Ireland economies. Output remains almost 12% below its pre-crisis peak and contractionary trends in the construction and retail sectors are a cause for concern.

Based on the assumptions and expectations outlined Section 3, our current projections for Northern Ireland are:

- A modest increase in overall employment of 1.1% in 2015 and 0.6% on 2016, lagging growth in the UK as a whole.
- Increased employment in Construction, Health and Education (in some cases beyond the public sector) and 'Other Services' such as Arts and Entertainment.

- Employment projected to fall in both the Wholesale and Retail and the Banking and Finance sectors.

For Republic of Ireland:

- Reasonably robust growth in real GDP in 2015 and 2016, at 3.4% and 2.7% respectively; following a forecast of 4.9% for 2014
- A return to moderate export growth in 2015 and 2016 following 8.1% growth in 2014 (an explanation of recent export performance is contained in Section 3 of this publication)
- A decrease in government debt both nominally and as a % of GDP in 2014. Changes to the calculation of GDP have contributed further to the percentage decline.

Industrial Policy in Northern Ireland

In section 4 of this QEO we look at productivity in Northern Ireland and the challenges this poses for industrial policy:

- Despite significant growth in the decade up to 2007/2008, Gross Value Added per Capita or productivity in Northern Ireland is just 74% of the UK as a whole.
- Despite the recent surge in economic growth in the UK, productivity growth is below all other G7 economies apart from Japan.
- Larger shares of Northern Ireland's employment and economic activity are concentrated in low value added sectors, but Northern Ireland is less productive than the UK across all industries in the private sector.

Looking at how current industrial policies affect Northern Ireland:

- Increases in Total Research and Development Expenditure in recent years hide some important underlying problems:
 - o By European standards, Northern Ireland has among the lowest Government and Higher Education spending on Research and

Development as a percentage of total Research and Development spend.

- o Business Expenditure on Research and Development is almost exclusively secondary research that is mostly carried out by large, foreign owned companies.
 - o Policy may have been somewhat successful in attracting R&D expenditure into Northern Ireland, but have yet to succeed in generating it indigenously.
- Selective Financial Assistance (SFA) has been a cornerstone of industrial policy in Northern Ireland for some years. However the efficiency of SFA grants has been questioned on both the additionality and the productivity profile of the employment created.
 - Presently, debates on industrial policy have centred on reducing the rate of corporation taxes in Northern Ireland. Such a policy may suffer from many of the same faults as Selective Financial Assistance.
 - In effect it would seek to “buy in” economic success rather than inculcating economic growth by increasing the productive capacity of the domestic economy.
 - Furthermore, any cut in corporation tax would require a substantial reduction in public expenditure that would undermine the ability of the state to invest in areas like education and skills that are essential for future growth.
 - This QEO proposes an alternative approach based on a more direct role for the state, investing in key sectors of the economy to bridge the gap in productivity. Such a policy is based on international examples of how state financed innovation can bolster the productive capacity of the private sector.
 - As European Union rules on State Aid begin to seriously reduce the scope of SFA, we propose diverting existing resources of up to £50m into an ‘innovation fund’ which would seek to channel investment into basic research in sectors of the economy where Northern Ireland has most potential.

- Areas such as Agri-food, Sustainable Energy and Health and Life Sciences all present an opportunity for Northern Ireland to seek out a competitive advantage based long-term endeavour rather than short-term inducements.

1 Introduction

Our economic outlook for both parts of the island of Ireland is still positive but cautious. The Republic's economy has gathered momentum throughout 2014 and we expect this positive trend to continue in 2015 and 2016, albeit at more moderate pace. While the performance of the economy has been stronger than many anticipated, as recently as the start of this year, significant risks remain. At a global level the threat of pro-longed stagnation in the Eurozone coupled with weak growth in emerging economies may dampen the positive export trends which have contributed much to recent growth. In Northern Ireland, we project positive employment growth in 2015, moderating in 2016 in line with the rest of the United Kingdom. Political stability in Northern Ireland remains a threat to any positive outcomes in the short term.

In this *Quarterly Economic Observer* (QEO) we update our economic expectations for the Irish economies North and South (Section 3). Complementing this, in Section 4 we examine productivity in Northern Ireland and the role of Industrial Policy. We look at how current industrial policy has performed in recent years and suggest an alternative strategy based on active state investment in research and development.

The QEO is structured as follows. Recent economic trends in both parts of Ireland are reviewed in Section 2. Section 3 provides an overview of recent macro-economic projections made by various agencies and includes the NERI's macroeconomic projections out to 2016. In Section 4 we examine productivity and industrial policy in Northern Ireland. Section 5 concludes.¹

The Nevin Economic Research Institute (NERI) offers this report as a contribution to public debate on policy making and formation on the island of Ireland. We welcome feedback, comment and suggestions. The precise data used and the specifics of any proposal/projections are subject to review as fresh information and data become available.

¹ The analysis here complements a number of recent and forthcoming NERI research papers. These are cited throughout the report and can be accessed on the NERI website.

2 Overview of Recent Economic Trends

2.1 Introduction

This section of the QEO examines recent trends for key economic indicators. Headline economic developments from 2007 to 2013 are summarised in Table 2.1.

Table 2.1 Key Economic Trends (2007-2013)

	2007	2008	2009	2010	2011	2012	2013
Total Employment (% of working-age population)							
ROI	69.2	67.6	61.9	59.6	58.9	58.8	60.5
NI	66.9	66.4	63.8	65.1	66.1	66.2	65.8
UK	71.5	71.5	69.9	69.9	69.5	70.1	70.8
EA18	65.5	65.9	64.5	64.1	64.2	63.8	63.5
Unemployment (% of labour force)							
ROI	4.7	6.4	12.0	13.9	14.7	14.7	13.0
NI	3.9	4.4	6.5	7.2	7.2	7.4	7.6
UK	5.3	5.6	7.6	7.8	8.0	7.9	7.5
EA18	7.5	7.6	9.6	10.1	10.1	11.3	12.0
Gross Domestic Product (% volume change over previous year) – NI output refers to GVA							
ROI	5.0	-2.2	-6.4	-1.1	2.2	0.2	-0.3
NI	5.8	-3.8	-5.1	-1.4	-1.7	-0.5	N/A
UK	3.4	-0.8	-5.2	1.7	1.1	0.3	1.7
EA18	3.0	0.4	-4.5	1.9	1.6	-0.7	-0.4

Sources: Labour market data are from Eurostat (2014a) Labour Force Survey Database (Updated 22 October 2014 for employment and 18 November 2014 for unemployment; Online reference code lfsi_emp_a and une_rt_a); GDP data for Republic of Ireland (ROI), United Kingdom (UK) and for the Euro area (Euro) are from Eurostat (2014b) National Accounts database (Updated 17 November 2014; Online reference code nama_gdp_k); Gross Value Added (GVA) data for Northern Ireland (NI) are taken from ONS Regional Trends Series (Office for National Statistics, 2013a)

Notes: ROI, UK, NI and Euro area labour market data for 2007-2013 refer to the whole year; Total employment refers to all persons in employment (ILO definition) aged 15-64 as a proportion of all persons aged 15-64. Unemployment is measured on the ILO definition basis and refers to persons aged 15-74. n/a = not available

The Republic of Ireland's employment rate was 62.2% in the third quarter (Q3) of 2014 (CSO, 2014a). This compares favourably to the Q3 2013 rate of 61.1% and represents an annual increase in employment of 27,600. However, the employment rate is still well down on pre-crisis levels, with the decline in employment much more severe in the Republic of Ireland than in the United Kingdom or the euro area as a whole. Total employment of 1,926,900 in the Republic in the third quarter represents 242,700 less people employed than during the third quarter of 2007 (2,169,600 employed). The United Kingdom's employment rate was 71.9% in Q2 2014, which is close to its pre-crisis level, while the employment rate of 63.9% in the euro area represents a two percentage point decline on pre-crisis levels. Seasonally adjusted unemployment was 10.9% in the Republic of Ireland in October 2014 (Eurostat, 2014c) while seasonally adjusted unemployment was 5.8% in the United States, 11.5% in the euro area and 11.0% in the European Union. The seasonally adjusted rate in the United Kingdom was 5.9% in August. Greece (25.9%) and Spain (24.2%) had the highest unemployment rates in the

European Union in August 2014 and Austria (4.9%) and Germany (5.0%) had the lowest. Flash estimates (Eurostat, 2014d) suggest that seasonally adjusted GDP rose by 0.2% in the euro area and 0.3% in the European Union during Q3 2014 compared with the previous quarter and rose by 0.7% in the United Kingdom and 0.9% in the United States during the same period. Provisional data (Eurostat, 2014e) suggests an annual inflation rate (HICPS) to November 2014 of 0.3% in the euro area, down from 0.4% in October. Annual HICP inflation was 1.2% in the United Kingdom in the year to September 2014 and 0.4% in the Republic of Ireland in the year to October 2014.

2.2 Recent trends in the World Economy

High unemployment and substantial output gaps persist in many advanced economies. The recovery has been sluggish with real GDP growth in the OECD expected to be close to 1.8% in 2014 (OECD, 2014). Growth in much of the world economy in the first half of 2014 was weaker than predicted by most forecasters including in the United States, in China, in Japan, in Germany, in much of Latin America including Brazil, and in Russia where geopolitical tensions continue to play a role. The euro area remains stagnant with France exhibiting very little growth in the first half of the year and with Italy in mild contraction. High public and private debt levels, and the deleveraging associated with those high debt levels, are constraining the speed of recovery. Weak credit conditions in Europe are a further concern and it remains to be seen whether moves towards banking union in the euro area and new measures taken by the ECB will help in this regard.

Deflation concerns persist in the euro area and inflation is below officially expressed central bank targets in most advanced economies. As a result monetary policy remains generally accommodative with policy rates set at very low levels in many countries. Investment levels are also too low in many advanced economies. Secular stagnation, protracted demand weakness and high levels of structural unemployment are all major concerns and the advanced economies, in particular the euro area and Japan, may enter a prolonged period of stagnation in the absence of policy intervention.

However, there are signs for optimism and some evidence that global activity strengthened somewhat in the third quarter of 2014. There is less fiscal drag and less private sector deleveraging in some economies and these factors are combining to help support demand. In addition, global trade appears to be recovering gradually. After a weak first quarter the United States economy is showing signs of recovery in 2014 (FOMC, 2014). The improving labour market conditions prompted the Federal Open Market Committee to announce in October that

its asset purchases programme is coming to an end, although the federal funds rate is expected remain low for the foreseeable future. According to the Bureau of Economic Analysis (BEA, 2014) annualised real GDP growth was 4.6% in the second quarter and was 3.9% in the third quarter. Domestic demand and exports both grew strongly during the third quarter with consumer spending now at its highest level since the pre-crisis period. Sentiment data is also strong suggesting the recovery will carry-over into the fourth quarter. CPI inflation was 1.7% in September with labour market slack and falling gas and commodity prices keeping wages and price pressures subdued.

The United Kingdom economy grew strongly in the first half of the year with real GDP growing by 3.2% in the year to Q2 2014. Growth was mainly driven by personal consumption and investment with investment expanding particularly strongly. Unemployment fell to a five-year low in the third quarter although wage growth has remained modest. The programme of fiscal tightening continues with revenue growth weaker than expected. The weak growth in tax receipts presumably reflects the modest growth in wages, and the nature of recent employment growth which, in terms of its composition, has been skewed towards lower paid sectors. Inflationary pressures are subdued partially reflecting the weak wage growth and the appreciation of Sterling.

Performance has been weaker elsewhere. The euro area's recovery has been particularly weak with euro area real GDP growing by just 0.1% quarter on quarter in Q2 2014. Inflation remains very low although the low inflation is at least supporting real disposable incomes. The disinflationary trend is being driven by weak demand, labour market slack, and falling commodity prices (energy and food). Domestic demand is being supported by loose monetary policy although a demand recovery will continue to be hampered by the high levels of structural unemployment, by fiscal contraction in some countries, and by on-going balance sheet adjustments and weak credit conditions in the private sector. Investment activity remains a concern throughout the euro area while geopolitical tensions are still simmering on the eastern border of the European Union.

The Chinese economy has started to slow as monetary and fiscal stimulus unwinds. GDP growth was 7.3% annually in the third quarter, marginally down from 7.5% annually in the previous quarter. China may be entering a period of lower growth with house prices declining and credit flows moderating. The Japanese economy has fallen back into recession with consumer demand and business sentiment depressed by declining real incomes and by fiscal contraction, notably an increase in the main consumption tax in April. The economy shrank by 1.6% quarter on quarter in Q3 2014. This followed a sharp drop in output in the second quarter. More positively,

Japanese export growth was 9.6% annually in October, partially reflecting the weakening Yen, while flash estimates of factory output were showing strong recovery in the fourth quarter.

2.3 Recent trends in the Republic of Ireland Economy

There were 2,172,400 people in the labour force in the third quarter (Q3) of 2014. This represents a decline of 9,700 persons or 0.4% over the previous year. The labour force participation rate for persons aged 15 and over fell from 60.7% in Q3 2013 to 60.4% in Q3 2014. The *Dublin* region has the highest labour force participation rate at 63.0% while the *Border* region has the lowest rate at 56.2%. Unemployment was 245,500, or 11.3%, in the third quarter having declined by 37,400 in the year to Q3 2014. The seasonally adjusted unemployment rate was 11.1% in Q3 2014, declining from 12.7% in Q3 2013, and seasonally adjusted unemployment fell by 7,700 persons during the third quarter. The unemployment rate fell in every geographic region with the exception of the *Midlands* in the year to Q3 2014 but remains above 10% in each region. The unemployment rate is lowest in *Dublin* (10.2%) and highest in the *Midlands* (14.5%). The Live Register's standardised unemployment rate was 10.7% in November 2014 down from 10.9% in October (CSO, 2014a).

Total employment was 1,926,900 in the third quarter of 2014 representing an annual increase of 27,600 persons and a +1.5% improvement over the previous year. Male employment increased by 20,200 over the year (+2.0%) while female employment increased by 7,400 (+0.8%). Full-time employment increased by 26,100 (+1.5%) over the year while part-time employment increased by 1,500 (+0.3%). Seasonally adjusted employment increased by 10,400 (+0.5%) over the third quarter. Employment fell in four of the fourteen economic sectors and increased in the other ten economic sectors. The biggest sectoral increases in employment in the year to Q3 2014 were in *construction* (+7,000) and *human health and social work activities* (+5,900) while the biggest declines were in *industry* (-3,200) and *information and communication* (-2,700). The occupational group with by far the largest increase in employment was *skilled trades* (+19,200), representing 69.3% of the total net increase in employment in the year to Q3 2014, while the occupational group with the largest decline in employment was *professionals* (-12,800). Total youth employment (persons aged 15-24) fell by 6,500 between the third quarter of 2013 and the third quarter of 2014.

The regional jobs picture is mixed. Total employment increased by 6,400 in the *Dublin* region in the year to Q3 2014, increased by 8,800 in the *South-East* region, by 8,900 in the *Border* region and by 12,900 in the *Mid-East* region. However, employment declined by 9,900 in the *South-*

West region and by 3,700 in the *Western* region. Total Full-Time Equivalent (FTE) employment declined in the year to Q3 2014 in the *South-West*; *Mid-West* and *Western* regions.

Average weekly earnings fell by 0.8% in the year to Q3 2014 and fell by 1.9% from the previous quarter (CSO, 2014b). Preliminary estimates show that average weekly earnings were €671.70 in Q3 2014 compared to €677.13 in Q2 2013. However the average conceals substantial differences across sectors. Average weekly earnings have increased in 6 of the 13 sectors in the year to Q3 2014. The largest annual percentage increase in average weekly earnings was in *industry* (+3.4%) while the largest decline was in *professional, scientific and technical services* (-5.3%). Average hourly earnings fell by 1.4% over the previous year - from €21.36 in Q3 2013 to €21.07 in Q3 2014. Private sector average weekly earnings decreased 0.4% in the year to Q3 2014, while public sector hourly earnings fell by 0.9% in the same period. Average weekly hours increased marginally from 31.7 hours to 31.9 hours in the year to Q3 2014 while average hourly total labour costs (€24.52) have fallen by 1.1% over the year to Q3 2014.

The decline in weekly earnings is at least being ameliorated by low inflation (CSO, 2014c). The Irish economy is operating well below its long-run potential with an excess of unused resources and this is contributing to the subdued wage and price inflation. Falling food and energy prices combined with the strength of the euro are also contributing to low inflation. The annual change in the CPI was 0.2% in the year to October 2014 while the HICP increased by 0.4% over the same period. The largest upward contribution to the CPI in the year to October 2014 was *restaurants & hotels* (+0.42%), while *food & non-alcoholic beverages* (-0.30%) caused the largest downward contribution. The annual rate of inflation for services was 2.0% in the year to October, while goods inflation decreased by 2.2%. Services, excluding mortgage interest payments, increased by 3.3% in the year to October 2014. The annual change in the CPI has remained below 1.0% since March 2013 and has remained below 2.0% since September 2012.

The CSO revised the National Accounts in July of this year to ensure compatibility with the latest European System of National Accounts (ESA 2010). The changes to the system of National Accounts - most importantly the inclusion of R&D expenditure as an investment item instead of as intermediate consumption - raised the level of GDP in 2013 by 6.5%. The upward revisions to GDP and GNP are stock effects and do not imply changes to future growth rates. The revisions do however improve the debt to GDP ratio. Real GDP is estimated to have grown by 1.5% on seasonally adjusted basis in the second quarter of 2014 and to have grown by 7.7% compared to the second quarter of 2013 (CSO, 2014d). This followed annual real GDP growth of 3.8% in the first quarter. The year-on-year change for the first half of the year was +5.8% for real GDP and +6.0% for real GNP. The GDP growth figures are being flattered by the contract

manufacturing activities of a small number of multinational companies. This is discussed in detail in Section 3.

The volume of exports was up 10.2% in the first half of 2014 compared to the first half of 2013 while imports were up 8.9%. Capital formation increased by 18.0% in the second quarter of 2014 compared to twelve months previously and is up 11.3% in the first half of the year. Personal consumption is up 1.2% on the previous year in the first half of 2014 while data from retail sales (CSO, 2014e) suggests a recovery in consumer spending is taking hold. Seasonally adjusted total retail sales were up 5.6% in October in volume terms and +3.2% in value terms over the previous year, while core sales, which exclude motor trades, were up 4.6% in volume terms and 2.1% in value terms over the previous year. The September 2014 result was the eleventh consecutive month of seasonally adjusted positive growth in retail sales in both volume and value terms, although the volume and the value of retail sales both subsequently declined in October compared to the September 2014. The *KBC Ireland/ESRI Consumer Sentiment Index* (ESRI, 2014a) reached its strongest level since January 2007 in September of this year (92.8) before declining in October (85.5). The volume index of production has now shown growth in production for nine consecutive months on an annualised basis (seven out of those nine months had double digit growth) and is up 20.7% in September 2014 compared to the previous year (CSO, 2014f).

The headline *Manufacturing Purchasing Manager's Index* (PMI) was a robust 56.2 in November (Investec, 2014a). A score above 50 represents expansion in activity. The August result of 57.3 signified the fastest rate of expansion since December 1999. The headline Services PMI (Investec, 2014b) also shows growth in business activity, increasing slightly to 61.6 in November and marking the twenty eighth consecutive month of growth and one of the strongest results since 2007. Sentiment is very strong in the construction sector. The Construction PMI (Ulster Bank, 2014) rose to 64.9 in October from 61.5 in the previous month. This marks the second highest reading since the survey began in June 2000. The PMI readings for housing activity (66.4) and commercial activity (66.8) are particularly strong with civil engineering activity (50.6) continuing to lag, albeit showing a marginal increase.

The number of mortgage accounts for Principal Dwelling Houses (PDH) in arrears fell for the fourth consecutive quarter in Q2 2014 (CBI, 2014a). A total of 126,500 PDH accounts (16.5%) were in arrears at end Q2 2014, a decline of 4.7% relative to Q1 2014. Irish residential property prices rose by 16.3% in the year to October (CSO, 2014g). This marks the highest annual rate of change since April 2007. Household net worth rose by 0.9% during Q1 2014 marking the seventh consecutive quarterly increase (CBI, 2014b). Household net worth stood at €508.5

billion or €110,312 per capita, at end first quarter 2014. Household debt fell by €1.9 billion during Q1 2014 to stand at €164.3 billion and overall has fallen by 19.3% since Q3 2008. Household debt as a proportion of disposable income (a measure of debt sustainability) declined by 3 percentage points and is now 182.3%. The domestic economy (households, non-financial corporates and government) continues to be a net lender with the combined deleveraging by households and non-financial corporates outstripping the net borrowing of government.

An Exchequer deficit of €5.8 billion was recorded up to the end of November 2014 (DOF, 2014a). This compares with a deficit of €8.6 billion for the same period last year and the outturn to the end of November is better than the Budget 2014 profile to the extent of €1.8 billion. The improvement was driven by increased tax receipts, an increase in the Central Bank's surplus income, Semi-State dividends and a reduction in interest expenditure. Tax revenue is 3.0% ahead of profile and up 8.5% year on year. Net voted expenditure is down 2.4% year on year and is 0.5% above profile. The CSO estimates that at the end 2013 the gross debt of General Government stood at €215.6 billion or 123.3% of GDP, while net debt amounted to €161.0 billion or 92.1% of GDP (CSO, 2014h). Gross debt was €209.7 billion at end June 2014 or 116.7% of annualised GDP while net debt was €162.9 billion or 90.7% of GDP. The borrowing costs for 10-year bonds have fallen from over 14 per cent in 2011 to below 1.6 per cent in mid-November 2014. The current yield on Ireland's 10-year bonds is now at its lowest ever rate.

Box 2.1 Budget 2015

Over the course of 2014 the Budget 2015 arithmetic was significantly altered in a positive direction by methodological changes in the calculation of GDP, better than projected public finance outturns, and stronger than expected economic growth. A neutral budget was projected to have generated a general government deficit of close to 2.4% of GDP in 2015 and comfortably better than the minimum target of 3% of GDP. In light of these developments, and the Department of Finance's strong growth assumptions for the next few years (DOF, 2014b), the Government chose to abandon its previously stated intent to implement €2 billion worth of fiscal tightening in 2015 (i.e. discretionary tax increases and spending cuts).

Budget 2015 was the first non-austerity budget of the post crisis era. It was the fourth consecutive regressive budget. Excluding water charges (not strictly a budgetary measure) the fiscal loosening amounted to €1.05 billion (DOF, 2014b). There was an emphasis on cutting taxes rather than increasing public capital investment or other measures to increase potential growth. Evidence suggests the available fiscal space would have been better employed increasing the level of public capital investment or on measures to improve the human capital of the labour force. Investment based stimulus is generally found to be more effective at generating economic growth than tax cuts in the short- term as well as in the long-term (IMF, 2014). There was a modest increase in capital expenditure (€210 million) although by EU standards public capital investment remains very low as a percentage of GDP. Given the historically low cost of borrowing there was a strong case to be made for borrowing now to increase public investment. Current spending is to increase by €428 million in 2015 with health receiving 70% of the additional spending.

The main elements of the tax changes were cuts in Income Tax for middle and high earners (€405 million) and a reduction in the Universal Social Charge for most earners (€237 million). There were also tax reductions for corporations and farmers while Excise Duty was increased on cigarettes and there was an extension of betting duty. The controversial 'Double Irish' is set to remain in place for existing beneficiaries for six more years. Overall the changes are regressive with most of the benefits in nominal terms going to middle and higher earners.

Despite the fiscal loosening not all households are net winners from Budget 2015. Some low income households will lose out in terms of disposable income once the revised system of water charges is considered. Water charges for domestic users (originally intended to raise €300 million) were redesigned in November in the wake of public protests. The charges retain a highly regressive structure with low income households contributing larger percentages of their disposable income than higher income households. The charges as structured will have minimal behavioural impact.

The Republic of Ireland's debt dynamics remain fragile and vulnerable to external shocks. There is still an extremely high debt to GDP ratio while the debt to GNP ratio is only outstripped in the European Union by Greece. The general government balance is projected to remain in deficit until 2018 while the gross debt to GDP ratio will remain above 100% until 2018.

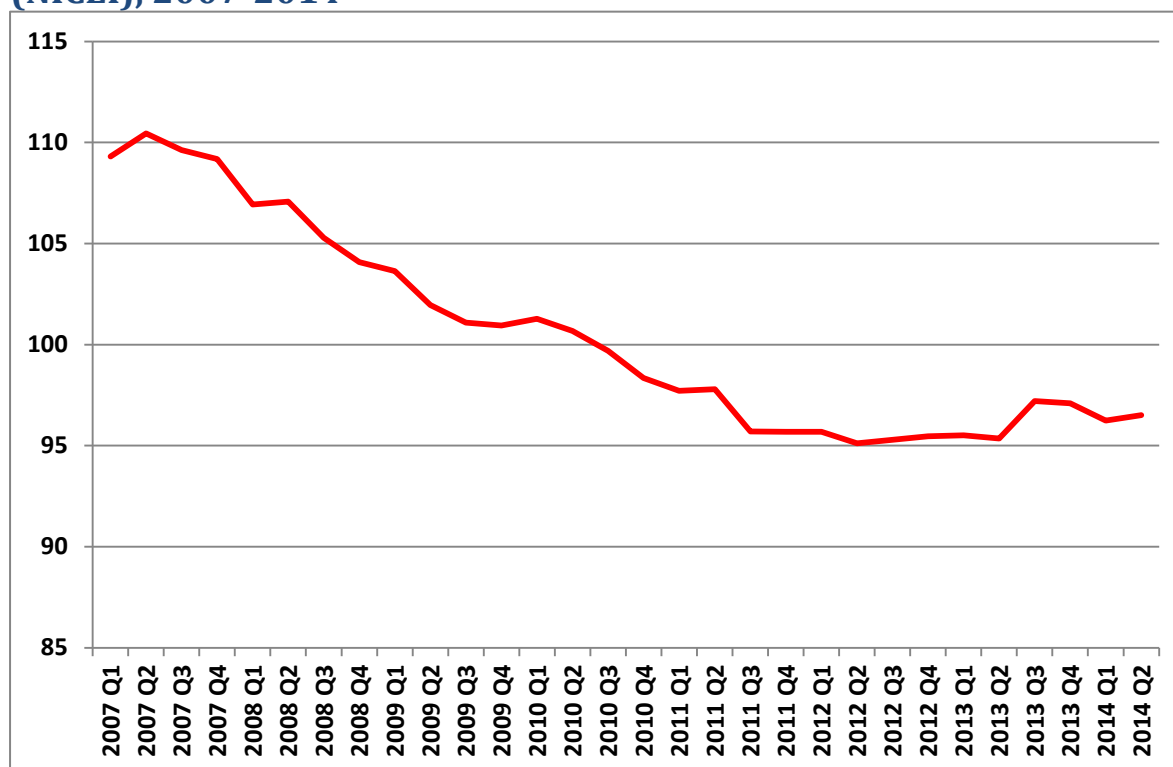
Following Budget 2015, the Republic's low tax and low spend model is not only being maintained but reinforced. This has consequences for the ability of the State to provide Western European levels of public services. Public capital investment as a percentage of GDP remains inadequate and is projected to fall from 1.8% of GDP in 2013 to 1.2% of GDP in 2018 – one of the lowest rates in the European Union. Primary (i.e. non-interest) public spending will fall from 36.1% of GDP in 2013 to 28.0% of GDP in 2018 although roughly half this decline is a consequence of falling social payments arising from an improved labour market. Government revenue is projected to fall from 34.8% of GDP in 2013 to 32.1% of GDP in 2018.

2.3 Recent trends in the Northern Ireland Economy

Official statistics for the Northern Ireland economy suggest that the economy still faces many challenges. While recent trends in the labour market have been positive, output growth in Northern Ireland is still lagging behind that of the UK and significantly behind that of the Republic of Ireland. The consequent reduction in Northern Ireland's productivity is the subject of Section 4 of this publication.

The latest figures for the Northern Ireland Composite Economic Index (NICEI) show that the Northern Ireland economy grew by 0.3% in the second quarter of 2014 following a contraction of 0.4% in the first quarter (NISRA, 2014a). However, growth of 0.6% in the last quarter of 2013 was revised down to -0.1% leading to an annual growth rate of 1.2% in the second quarter of 2014. Chart 2.5 shows that Northern Ireland output is still 12.7% in real terms below its peak in Q2 2007. Gross Value Added is the equivalent of GDP for Northern Ireland (plus indirect taxes and less subsidies) and the latest figures for 2012 indicated a real terms decline of 0.5% in that year. Northern Ireland contributes just over 2% of total output for the United Kingdom.

Chart 2.5 Trends in the Northern Ireland Composite Economic Index (NICEI), 2007-2014

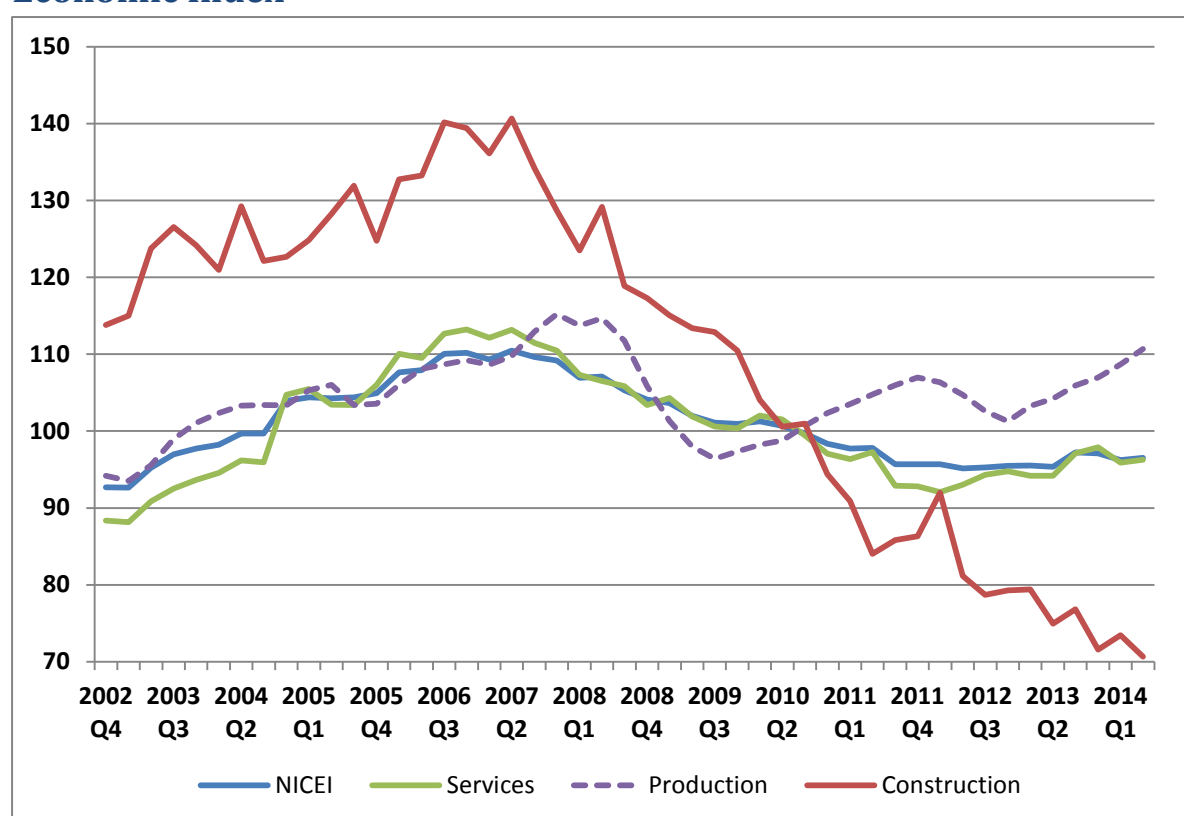


Source: NISRA (2014a) NI Composite Economic Index

The construction sector contracted 3.8% in the second quarter contributing -0.2% to the overall index. The construction sector has seen the largest fall in activity of any sector since 2007 and has had a mixed performance over the last three years. Construction sector output has once again reached a new low, with output almost exactly half what it was at its peak in the second quarter of 2007. Unlike the Republic Of Ireland house prices in Northern Ireland have only increased modestly in the last year and so consequently demand for residential construction remains muted. Furthermore, cuts to public capital spending may also be depressing output in the sector.

The production sector continued on its path of uninterrupted growth since the start of 2013, growing by 1.9% in Q2 2014. The production sector is now only 4% below its pre-crisis peak, however the sector only accounts for around 15% of total output in the Northern Ireland economy. The largest sector of the economy, services, only grew by 0.4% in the second quarter and is still some 15% below its pre-crisis peak. The growth in services was due to growth in 'Other Services' which includes areas such as private healthcare, arts and entertainment, membership organisations and residential care. These are sectors where employment has also grown and we forecast further growth in employment in these sectors in section 3. Banking & Financial as well as Wholesale & Retail have seen quarterly falls in output. Overall the positive performance of the production sector is negated by slow growth in the services sector and the further contraction in construction sector output.

Chart 2.6 Sectoral changes in the Northern Ireland Composite Economic Index

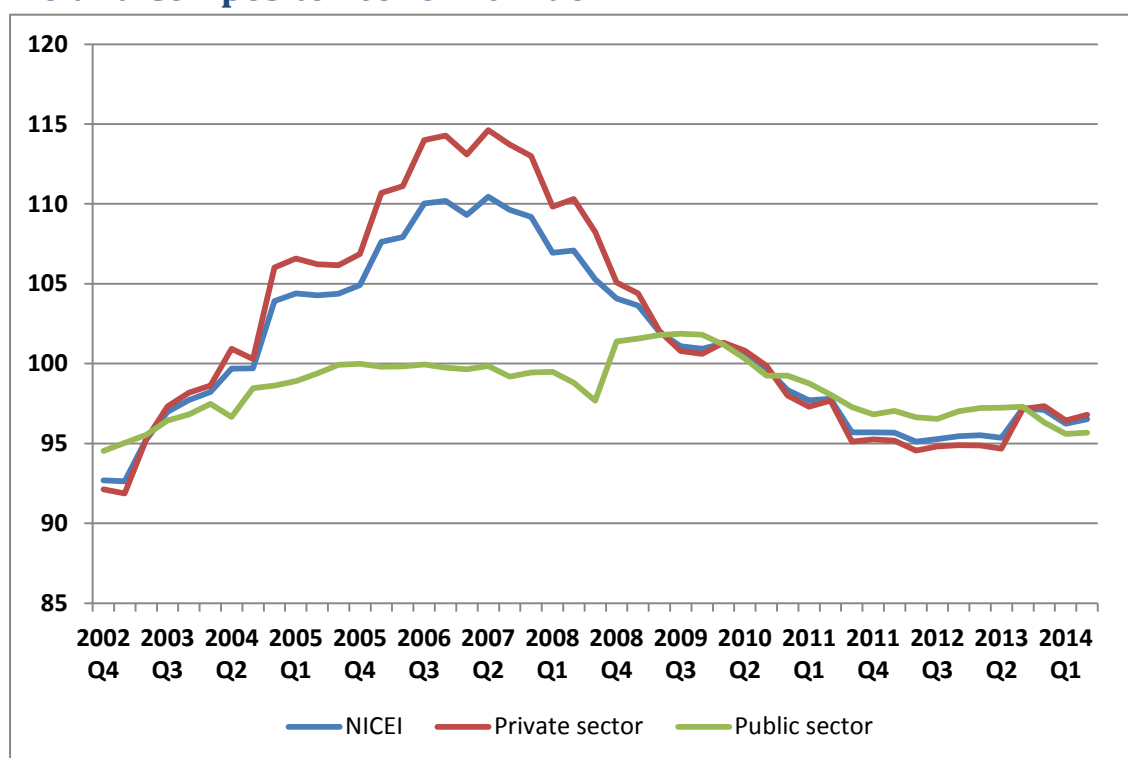


Source: NISRA (2014a) NI Composite Economic Index

Both the public and private sectors have contracted significantly from peaks in output in 2009 and 2007 respectively (see Chart 2.7). Following a contraction in the first quarter of 2014, public sector output reached its lowest point since 2002, before growing slightly in the second quarter of 2014 by 0.1%. The private sector grew by 0.4% in the second quarter of 2014 leading to an

annual growth rate of 2.2%. The privatisation and reclassification of the Royal Mail and Lloyds Banking Plc means that the public sector actually contributed -0.4% to overall annual growth. While growth in the private sector is welcome, it would appear that the rate of growth is not enough to absorb the contraction or stagnation of the public sector. As outlined in draft Budget for 2015-16 (DFP, 2014), Northern Ireland along with all areas of public expenditure in the UK will see significant reductions over the coming years. Further significant cuts to public expenditure will likely lead to a steep reductions in the overall NICEI in the medium term.

Chart 2.7 Public and private sector performance in the Northern Ireland Composite Economic Index



Source: NISRA (2014a) NI Composite Economic Index

The most up to date information we have on economic activity is survey data from the Purchasing Managers Index (PMI) for Northern Ireland. The PMI survey reports expectations and intentions of firms in various industries and sectors. The latest data for Northern Ireland in October showed a significant slowdown in private sector activity. (Ulster Bank, 2014b). Output growth whilst still positive was the weakest recorded in 16 months. Growth was positive in the construction and manufacturing sectors while the services sector grew only modestly and the retail sector contracted. There was also a significant drop in employment sentiment, with staffing levels increasing at the slowest pace in over a year. Input prices continued to fall, due

largely to reductions in the cost of fuel and other commodities, and companies decreased their output prices for the second month running.

The Northern Ireland labour market has seen some positive changes in recent months (NISRA, 2014b). Unemployment in the three months to the end of September was 6.0%, a fall of 6,000 or 0.6% from the previous quarter (April to June). However at the same time economic inactivity increased by 7,000 and total employment grew by only 1,000. The economic activity rate which had been growing since 2010 has now flattened out at 73%. More positively the data for the same quarter shows increases for full-time employment far outstripping decreases in part-time employment. The percentage of employment that is full-time has dropped from 78.6% in the third quarter of 2007 to 76.5% in the third quarter of 2014 (see Chart 2.8). Youth unemployment increased from 19.3% to 20% over the same quarter. The overall number of young people unemployed increased by 1,000 to 21,000 reversing a more positive trend that had begun in 2014. The claimant count, which measures out-of work benefits recipients, showed a decrease for the third quarter of this year and in so doing maintained an unbroken trend of 22 months of decline (NISRA, 2014c). The rate of decrease has fallen since the beginning of the year and is significantly less than the overall UK decrease. However the claimant count is a more accurate barometer of benefit eligibility than it is of overall unemployment.

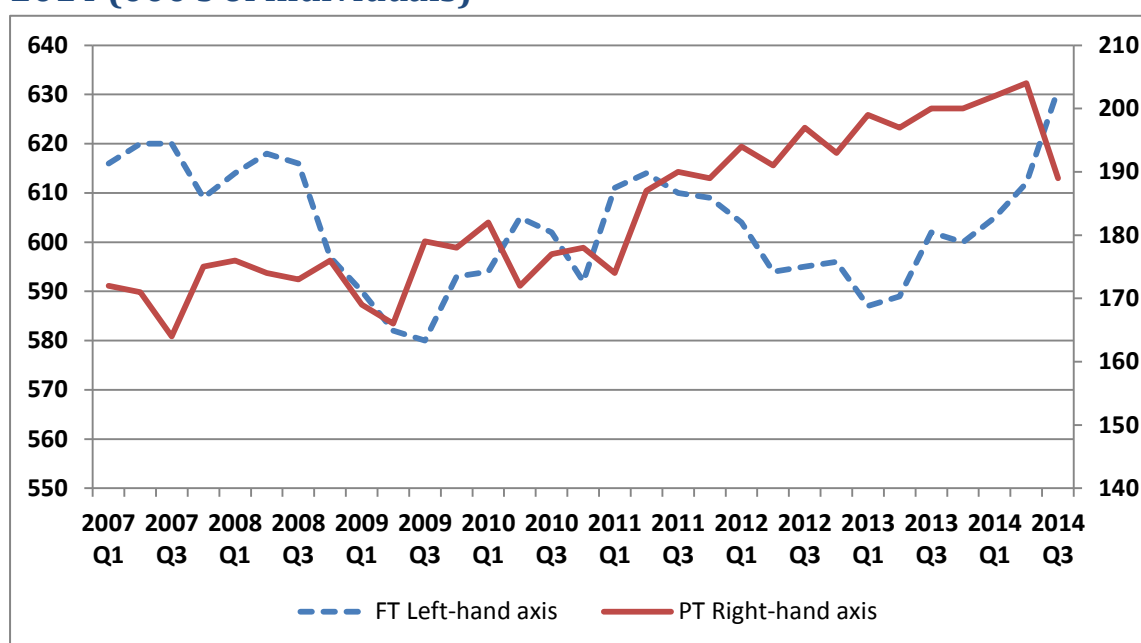
Wages in Northern Ireland continued to decline in 2014, in both real and nominal terms. In nominal terms, median gross weekly earnings declined by 2.2% for all workers with full-time workers seeing a decrease of 1.4% and part-time workers an increase of just 0.4% (NISRA, 2014d). In comparison, weekly wages in the UK only increased by 0.6% with both part-time and full-time median wages seeing small increases. Any of the nominal increases were well below UK inflation which was 1.8% at the time. Nominal wage growth was better for workers who had been in their current position for over 12 months, indicating that the fall in wages across the economy may be due to increased employment in low paid sectors which was highlighted in the Spring edition of this publication.

The Northern Ireland jobs market has had some notable successes in the third quarter of 2014 with announcements in the production and services sectors. The largest increases in jobs were in the financial and business services sectors, with PWC creating over 800 and Citi Group creating 600 positions, both in Belfast. Elsewhere 50 jobs were created at a contact centre in Enniskillen by the Trading Services firm Lakeland and US software firm Rapid 7 created 75 jobs through the establishment of a development centre in Belfast. Seagate, a data storage company, announced the creation of 35 engineering jobs at its base in Derry and Contract Services, a

Belfast based installation and maintenance firm, announced the creation of some 50 jobs after winning a £30m contract from the Northern Ireland Housing Executive.

In addition to these successes however some major losses have also been announced, with the possible closure of the JTI tobacco plant in Ballymena the most serious. While efforts are underway to try and salvage some of the jobs, there is the prospect that over 900 well paid positions could be lost if the company decides to move operations to Eastern Europe. FG Wilson has also announced further redundancies in their plants across Northern Ireland. Elsewhere the threat of substantial job losses in the public sector poses a significant challenge to the labour market. The loss of nearly 100 positions within HMRC operations in Newry are set against the backdrop of a prospective 6,000 reduction in employment across the public sector should the NI Executive implement its proposed redundancy scheme in full.

Chart 2.8 Full and part-time employment, Northern Ireland, 2007-2014 (000's of individuals)



Source: NISRA (2014b) Labour Force Survey

House prices in Northern Ireland increased by just 1% in the third quarter of 2014 following a 4% increase in the second quarter. The annual increase from the third quarter of 2013 to 2014 was 7% while the volume of residential sales increased by 21% over the same period (NISRA, 2014e). House prices in Northern Ireland reached their peak in the third quarter of 2007 and the overall index is still over 50% below peak level. Average property prices were 9.1 times the average salary in 2007, but as of 2013 the ratio had fallen to 4.2 times the average salary, a

more sustainable level. Growth in Northern Ireland house prices has been modest in comparison to other regions of the UK and the Republic of Ireland.

Overall we have seen positive growth in the labour market coupled with less positive trends in output particularly Retail and Construction. What is more worrying is that the poor performance of Northern Ireland output is now threatened by contracting business confidence as measured by the PMI. Job announcements of late have resulted in small amounts of net employment and so the prospect of significant public sector redundancies could prove destabilising.

Box 2.2 Autumn Statement 2014

The Chancellor of the Exchequer George Osborne gave an Autumn Statement to the House of Commons on the 3rd of December. There were further details given on pre-announced infrastructural spending for house building, roads and rail in addition to earmarked funding for established science and research. The chancellor also outlined a major reform to the way stamp duty is levied in the United Kingdom, removing the "cliff edge" that exists as the price of a property moves between established bands. While reform of this tax is welcome, it could be perceived as a further attempt to boost house prices and activity in the market. It is estimated that the cost of this policy will be in the region of £800m annually. Air passenger duty was also reduced along with a continuing freeze in fuel duty. There were small uprates to the personal tax allowance and the higher rate band.

The Office for Budget Responsibility's forecasts were also published which confirmed that the UK's GDP would grow by 3% IN 2014. While the OBR figures for 2014 and 2015 have been upgraded since the Budget, the figures for the years 2016-18 have been downgraded. The downward revision casts uncertainty over the future of the UK economy and the sustainability of its current growth path. While government borrowing will fall this year, the deficit is forecast to be higher than at the time of the Budget owing to reduced revenues. In particular the fall-off in income tax revenues raises serious concerns about the growth of low-paid employment across the United Kingdom. On wages, the OBR forecast that they will not return to their pre-crisis levels in the next five years. Additionally the government's spending plans will see spending frozen in 2019-20 indicating real terms cuts for the entire of the next Parliament.

The significant announcement for Northern Ireland was that the government would legislate to devolve corporation tax powers to Northern Ireland within this parliament, in the event that agreement is reached by political parties in the current round of talks. Given that this talks process also seeks agreement on the implementation of Welfare Reform it seems likely that the impact on NI's public finances from any reduction in corporation tax will face more intense scrutiny. The full cost of any reduction in corporation tax will have to be met by reductions in expenditure on public services in Northern Ireland. Given the scale of the most recent round of cuts announced in the Northern Ireland Draft Budget 2015-16 and the prospect of further spending round reductions from 2016, the cost of cutting corporation tax may prove unsustainable.

Beyond public finance concerns the ability of a reduction in the rate of corporation tax to deliver significant extra economic activity is highly questionable. The nature of the corporation tax base in the Republic of Ireland makes direct comparisons between the corporation tax rates in the two regions inappropriate. Furthermore international opinion is moving against this kind of aggressive tax competition, as evidenced by the OECD announcements earlier this year.

The key to building jobs and boosting wages and productivity in Northern Ireland is through investment in our industrial base. Identifying and supporting key innovation challenges in growth sectors of the economy is the more sustainable, efficient and equitable way to build prosperity. Section four of this edition of the Quarterly Economic Observer focuesses on this issue more detail.

3 Future Economic Outlook

3.1 Introduction

In this section of the Winter QEO we outline our basic assumptions for the main trading partners of the Republic of Ireland and Northern Ireland as well as our expectations for the economies of both parts of the island of Ireland. We also consider risks to the baseline forecast. For Northern Ireland we present sectoral employment projections for 2015 and 2016 in addition to external projections for economic activity and unemployment and consideration of the main risks to the Northern Ireland economy.

NERI projections for economic growth, the labour market and the public finances are presented out to 2016 for the Republic of Ireland. We are anticipating the economy will continue to operate below its potential output for the duration of the forecast period although we project the economy will grow faster than its long-run average potential growth rate. The unemployment rate, although falling in each of the next three years, will be in double digits until early 2016 and will remain well in excess of pre-crisis levels. The general government balance will remain in deficit over the forecast period, albeit declining steadily year-on-year.

We project fairly healthy employment growth in Northern Ireland in 2015 although employment growth will be slower than in the United Kingdom and the Republic of Ireland. Overall the economic outlook for Northern Ireland is clouded in uncertainty given the political situation and the possibility of a referendum to leave the European Union. Continuation of Westminster's austerity policies will act as a drag on demand and will constrain growth in economic output.

3.2 Macroeconomic Assumptions for the Global Economy

As a small open economy the Republic of Ireland's growth prospects are heavily linked to the economic performance of its main trading partners. The most important of these are the euro area, the United Kingdom and the United States. The slowdown in some emerging economies has implications for global trade, capital flows and overall economic activity in advanced economies. The OECD (2014) is projecting real GDP growth in the OECD economies of 1.8% in 2014, 2.3% in 2015 and 2.6% in 2016. Euro area real GDP grew by 0.1% over the previous quarter in Q2 2014, by 0.2% over the previous quarter in Q3 2014, and grew by 0.8% in real terms in the year to end Q3 2014 (Eurostat, 2014d). More recent data for the euro area is, if

anything, consistent with a weakening of growth momentum (ECB, 2014) and it now seems possible the euro area will fall into recession in late 2014 or early 2015.

The composite PMI has fallen to its lowest level since mid-2013 reflecting a general decline in business confidence. Recovery is being hampered by weak credit growth to the private sector, by legacy problems associated with the banking crisis, and by ongoing deleveraging in the public and private sectors. The elevated private sector debt burdens (household and corporate) continue to weigh on consumption and investment and are barriers to credit growth. More positively, a reduction in fiscal drag, a continuation of accommodative monetary policy, falling energy prices, and the prospect of improved lending conditions in the context of the nascent banking union, should all be supportive of demand over the next fifteen months. The IMF now projects growth of 0.8% in 2014 and 1.3% in 2015 while the European Commission (2014a) is projecting euro area growth of 0.8% in 2014, 1.1% in 2015 and 1.7% in 2016. There will be sizable spare capacity in the economy throughout the forecast period and the Commission is projecting an average euro area unemployment rate of 11.6% in 2014, 11.3% in 2015 and 10.8% in 2016. HICP inflation has been below 0.5% since July 2014 (ECB, 2014) and is projected to remain below 1% for most of 2015. Inflation was just 0.4% in October 2014 with deflation in the euro area now a realistic possibility. The ECB's 2% inflation target is unlikely to be achieved before 2016 or even 2017. Spare capacity and falling energy costs will keep wages and prices subdued although a weakening of the Euro against the US Dollar and Sterling will begin to exert some inflationary pressure. A weakening of the Euro has positive implications for net exports in 2015 and 2016. A more extensive asset buying programme by the ECB, including the purchase of government paper, represents an upside risk to growth in 2015, while a worsening of geopolitical tensions in the Middle East and Ukraine, and rising input costs, represents a downside risk to the forecast.

Economic prospects appear somewhat rosier for the United Kingdom and the United States. The European Commission (2014) is projecting that real GDP growth in the United Kingdom will be 3.1% in 2014, 2.7% in 2015 and 2.5% in 2016, while the IMF (2014) is projecting very similar growth estimates of 3.2% in 2014 and 2.7% in 2015. The Bank of England (2014) external forecasters project annual real GDP growth of between 2% and 2.5% for each of the next three years. The BOE itself anticipates annual growth of between 2% and 3% for the period out to end 2017. The main downside risk is seen as the weakness of the euro area, while the main upside risks are related to expansionary ECB policy and greater momentum in the United States economy. CPI inflation fell to 1.2% in September 2014 with medium-term expectations hovering between 1.5% and 2%. The unemployment rate is expected to continue to fall in the United Kingdom over the medium-term and to be close to 5.5% in 2016. The United States economy

has recovered strongly from a weak first quarter (BEA, 2014). The improving labour market and falling levels of private indebtedness are supporting growth in personal consumption while business investment has rebounded strongly in response to pent-up demand. The IMF (2014) is projecting that real growth in the United States will be 2.2% in 2014 and 3.1% in 2015, with consumer prices hovering close to 2% and unemployment falling to 7.1% in 2015. Normalisation of monetary policy is expected to take some time in order to minimise the negative spillovers to the global economy and the disruptions to domestic demand.

The concept of ‘secular stagnation’ (CEPR, 2014) has recently been developed. The idea is that four structural headwinds¹ in the global economy will lead to a structural increase in the savings rate – a savings glut - and insufficient demand, investment and productivity growth to sustain high levels of future economic growth. If secular stagnation is becoming a reality then the global outlook for consumption and investment may be substantially weaker than previously understood. Secular stagnation may represent the most significant downside risk to medium-term growth in the advanced economies.

3.3 Macroeconomic Projections for the Republic of Ireland

Gross Domestic Product

The national accounts have become increasingly difficult to interpret in recent years. The 2014 estimates for GDP are subject to particular uncertainty and are being flattered by the contract manufacturing activities of a few multinational companies (see Box 3.1). In this context caution should be exercised when interpreting the headline GDP and GNP growth figures. With the above caveats in mind we are projecting that real GDP growth will be 4.9% in 2014, 3.4% in 2015 and 2.7% in 2016 (see Table 3.1). An unwinding of contract manufacturing activities is a downside risk to these projections. The mini stimulus announced in Budget 2015 is the main factor driving our upward revision for 2015 growth since the Autumn QEO.

Net exports will make a substantial positive contribution to growth in 2014 and small but positive contributions in 2015 and 2016. It is now clear that domestic demand will make its first positive contribution to real GDP growth in seven years in 2014 and we are estimating there will be further growth in domestic demand in 2015 and in 2016. Investment will grow strongly from its historically weak base as a percentage of GDP, mainly driven by construction activity,

¹ The four structural headwinds dampening potential growth are demography (stagnant population growth and increasing life expectancy); education (the mass education revolution is complete); inequality (income growth for the bottom 90% has stagnated in the West since 1980) and public debt (high levels of public debt make public services increasingly unsustainable without higher levels of taxation).

while improving household balance sheets, a stronger labour market, and increases in disposable income will all drive growth in personal consumption. Survey indicators of economic performance and sentiment have been robustly positive throughout 2014 and are strongly suggestive of continued expansion for the remainder of 2014 and for the first half of 2015.

The exchequer returns, labour market and retail sales data are also strongly suggestive of a domestic economy in recovery. GDP is estimated to have grown by 5.8% in the first half of 2014 compared to the first half of 2013 while value added increased in all sectors (CSO, 2014d). GDP in 2013 was revised upwards from €164.1 billion to €174.8 billion in order to reflect methodological changes being introduced under ESA 2010.² We forecast that nominal GDP will marginally exceed €193 billion in 2015 and €201 billion in 2016.

Box 3.1 Contract Manufacturing

The Q2 2014 Quarterly National Accounts described a dramatic and unexpected increase in GDP. This was hailed by many as Ireland decoupling from the rest of the euro area and an end to Ireland's six years of recession and stagnation. The growth rate in Q2 2014 was up 7.7% over Q2 2013. Net exports accounted for almost half of the increase in GDP while investment accounted for a further third. The most notable result was the increase in exports which expanded by 13.0% in Q2 2014 when compared to Q2 2013. In terms of composition the volume of goods exports increased by 15.9% in the second quarter compared to the previous year, while the volume of services exports increased by 9.9%. Goods exports also expanded strongly (10.3%) in Q1 2014 compared to Q1 2013. However, it is not immediately evident what is driving the strong growth in goods exports. In addition, the data from the QNA does not fully reconcile with the CSO trade data on goods exports (CSO, 2014i). As explained in IFAC (2014), DOF (2014b) and Coffey (2014) the GDP growth figures are being distorted by the contract production, or 'contract manufacturing' activities of multinational companies. These activities appear to have surged in 2014.

Contract manufacturing can occur where Irish resident companies contract a manufacturer abroad to produce a good for supply to an end-client abroad. Even though the activity actually happens somewhere outside Ireland it nevertheless appears in the Irish national accounts with the sale of the good recorded as an Irish export of goods, while the contracted production is considered a service import.

IFAC points out that GDP growth in 2014 has been greatly flattered by highly concentrated increases in exports arising from offshore production activities – i.e. contract manufacturing – and that: *“future developments in contract manufacturing are especially difficult to forecast and this compounds the usual uncertainties surrounding growth prospects.”* DOF (2014) notes that this activity is unlikely to be associated with any significant domestic employment or second-round impacts on the wider economy. Finally, while these activities may provide a once off boost to GDP it is unclear whether contract manufacturing activities will continue to improve the GDP figures beyond 2014. The evolution and potential unwinding of these activities over the next few quarters represents a downside risk to the outlook for GDP growth.

² The European System of National and Regional Accounts (ESA 2010) is the newest internationally compatible EU accounting framework for a systematic description of an economy. From September 2014 onwards data transmissions from EU Member States to Eurostat are obliged to follow ESA 2010 rules. The most significant change to the GDP figures is that spending on Research and Development is now considered investment whereas previously it was considered intermediate consumption.

Table 3.1 Projections for Output, the Public Finances and the Labour Market, (Republic of Ireland)

	2013 values	2013	2014	2015	2016
National Income		<i>Percentage real change over previous year</i>			
Gross Domestic Product	€174.8bn	0.2	4.9	3.4	2.7
Personal Consumption	€83.3bn	-0.8	1.4	1.7	1.6
Investment	€26.5bn	-2.4	11.5	9.6	7.6
Government Consumption	€26.0bn	1.4	4.8	2.3	0.0
Exports	€184.1bn	1.1	8.1	3.6	3.3
Imports	€147.7bn	0.6	7.8	3.6	3.3
Government Finances		<i>Percentage of GDP</i>			
General Government Balance	€9.95bn	-5.7	-3.8	-2.8	-2.0
Gross Debt	€215.6bn	123.3	110.3	108.9	105.6
Labour Force		<i>Percentage change over previous year</i>			
Employment	1,881,150	2.3	1.8	2.1	1.9
		<i>Percentage of Labour Force</i>			
Unemployment	282,200	13.0	11.4	10.4	9.6

Sources: 2013 data are from CSO (2014d) National Accounts, CSO (2014h) Government Finance Statistics, CSO (2014a) Quarterly National Household Survey, and NERI calculations.

Personal Consumption

Consumption increased by 1.2% in the first half of 2014 compared to the first half of 2013 and we now expect that personal consumption to grow by 1.4% in 2014, 1.7% in 2015 and 1.6% in 2016. Higher levels of employment and disposable income, combined with improving net household worth, will drive the growth in domestic demand and personal consumption. Stagnant wage growth remains a drag on domestic demand. Average weekly earnings were down 0.8%% in the year to Q3 2014 (CSO, 2014b). However, the low inflation environment is helping to preserve the value of real incomes. The introduction of water charges will dent personal consumption somewhat in 2015 although this will be more than offset by the tax reductions announced in Budget 2015.

The 2014 retail sales data has been broadly positive so far. Although the volume of retail sales declined by 0.7% in October 2014 when compared with September (an increase of 0.3% when motor trades are excluded) this still represents a 5.6% increase over the previous year. On an annual basis the volume of retail trades (excluding motor trades) was up 2.8% in Q1, 4.1% in Q2 and 3.2% in Q3. The *KBC/ESRI Consumer Sentiment Index* was at 85.5 in October suggesting fairly strong growth in personal consumption over the next few months. Exchequer VAT and Excise returns have been robust (DOF, 2014a). The end-November 2014 outturn for VAT receipts is up 5.6% on the previous year while Excise receipts are up 5.0%.

Household debt continues to decline and fell by €1.9 billion to €164.3 billion (€35,694 per capita) during the first quarter of 2014 (CBI, 2014b). In terms of debt sustainability household debt as a proportion of disposable income fell by 3 percentage points to 182.3%. This is the lowest level since 2006 but is still high by international standards. The decline reflects the reduction in household debt as well as a slight increase of €185 million in disposable income. The decline in the ratio of debt to disposable income should increasingly feed through into a declining savings rate and a higher level of consumption. Finally, Household net worth rose by 2.9% during Q4 2013 and by 0.9% during Q1 2014, marking the seventh consecutive quarterly increase. The increase in net worth represents an increase in anticipated lifetime income and should eventually translate into higher levels of annual consumption.

Investment (Gross Domestic Fixed Capital Formation)

The methodological revisions under ESA 2010 increased the Republic's measured investment to GDP ratio from 11.2% to 15.2%. Even so, this remains one of the lowest ratios in the EU (European Commission, 2014b), well below the long-run historical average, and a constraint on the medium-term growth potential of the economy. Investment is by far the most volatile component of GDP in terms of year-on-year changes and has the strongest potential for fast growth rates and sharp declines. Investment data has been robust so far this year with capital formation up 11.3% in the first half of 2014 compared to the first half of 2013. We estimate that investment will grow by 11.5% in 2014, by 9.6% in 2015, and by 7.6% in 2016. Building and construction will drive the expansion in investment over the next two years. The excess of demand over supply in the Dublin housing market is feeding through into higher prices and this should eventually encourage higher levels of house completions. The Construction PMI (Ulster Bank, 2014) had its second strongest ever reading in October. The PMI readings for housing activity and commercial activity are particularly strong with civil engineering activity lagging somewhat.

The fast rate of growth in investment should be understood in the context of the Republic's historically low investment to GDP ratio which has fluctuated around 15% since 2010. The Republic's investment ratio was the lowest in the EU in 2010 and 2011, third lowest in 2012 and fourth lowest in 2013 (European Commission, 2014b). Access to credit, over-indebtedness and the need for deleveraging remain constraints on investment, particularly for SMEs. On the other hand the need for balance sheet restructuring is declining and combined with ongoing debt restructuring should help spur investment. In addition, non-traditional sources of funding

are being created including the establishment of the Strategic Banking Corporation of Ireland. The ECB's recent decisions to stimulate activity in the Euro area through asset purchases should place downward pressure on interest rates and on the cost of capital.³ The extended period of underinvestment is already manifesting as infrastructure deficits (e.g. housing, water infrastructure, broadband infrastructure) and may have damaged the economy's growth potential.

Government Consumption

Government consumption is largely a policy instrument. According to Budget 2015 government consumption is scheduled to increase in real terms by 4.8% in 2014 and by 2.3% in 2015 before stabilising in real terms in 2016 (DOF, 2014b). The Budget 2015 adjustment was substantially less austere than originally envisaged. In light of this apparent shift in policy we are modifying our forecasts for government consumption in 2015 and 2016.

Net Exports

The weak performance of the European economy will start to exert downward pressure on the demand for Irish exports. The Euro area accounted for 38.2% of goods exports in the first half of the year while the United States accounted for 22.2% and the United Kingdom accounted for 14%. Having said that, exports are up by 10.2% in the first half of 2014 compared to the first half of 2013 and we are now projecting that exports will increase by 8.1%⁴ in 2014 before reverting much closer to trend growth in 2015 (3.6%) and 2016 (3.3%). Exports will be boosted by the depreciation in the value of the Euro against the US Dollar and the UK Pound, as well as by continued recovery in the United States and the United Kingdom. On an annual basis the value of goods exports increased by 8% in September 2014 compared with September 2013 (CSO, 2014j). The *Investec Manufacturing PMI* (56.2 in November) suggests an improvement in business conditions and confidence in the sector with output and new orders both up strongly.

³ The cost of capital has a strong effect on the propensity to invest. However there is no guarantee that cheap capital will be channelled into productive investment. The property bubble of the 2000s can be understood as a combination of low cost capital and poor investment allocation aggravated by inappropriate fiscal policy (e.g. tax reliefs for investment in property). Fiscal and regulatory policy levers should be aggressively pursued in the short-to-medium term in order to prevent a misallocation of investment towards property and a repetition of the destructive property bubble of the 2000s.

⁴ We note again the uncertainty around current growth estimates due to the impact of contract manufacturing activities.

Imports grew strongly in the first half of 2014 and were up 8.9% on the first half of 2013. We are projecting that the volume of imports will increase by 7.8% in 2014 before moderating to 3.6% in 2015 and 3.3% in 2016. Investment growth will feed through into higher levels of merchandise imports while the more modest growth in personal disposable income and consumption will boost tourism imports, other services imports and imports of motor vehicles.

Labour Market

Employment was up 27,600 on an annual basis in the third quarter 2014. This represents a 1.5% improvement over the previous year and we are now projecting employment growth of 1.8% in 2014. There is significant remaining slack in the economy and we are projecting fairly robust employment growth of 2.1% in 2015 and 1.9% in 2016. Employment growth will mainly be driven by the anticipated improvements in domestic demand. In particular the increased investment will boost employment growth in the construction sector while the overall recovery in consumption will boost employment in the retail sector. We are forecasting that the unemployment rate will average 11.4% in 2014, 10.4% in 2015 and 9.6% in 2016. These rates are well above the long-term average for the Republic's economy. The seasonally adjusted unemployment rate declined from 11.5% to 11.1% (254,500 persons) over the third quarter of 2014 while the Live Register recorded a standardised unemployment rate of 10.9% in October.

Labour market improvements have yet to translate into higher average weekly earnings and the high degree of slack and low level of inflation suggest upward pressure on wages will remain somewhat muted in the short term. Sectoral shifts in the composition of employment are pushing down the average wage level with employment falling compared to the previous year in some higher paying sectors (manufacturing and ICT) and increasing in lower paid sectors. Earnings growth is occurring in some sectors of the economy, such as construction, and average earnings will begin to rise across the economy provided the unemployment rate continues to fall. The high rate of long-term unemployment and the length of the recession may have caused permanent damage to the economy in the form of a higher rate of structural unemployment. We expect the labour force participation rate to increase gradually in the medium-term with annual growth rates of close to 1%.

Our unemployment and employment projections are broadly consistent with that of other forecasters in 2014 and somewhat pessimistic compared to other forecasters in 2015. Table 3.2 shows a range of projections for unemployment in 2014 and 2015. The range of projections for 2014 is from 11.1% (European Commission and Central Bank of Ireland) to 11.5% (Investec

and OECD) while the range of projections for 2015 is from 9.6% (European Commission and ESRI) to 10.5% (IMF and OECD).

Table 3.2 Range of Projections for Unemployment as a Per Cent of the Labour Force, (Republic of Ireland)

	2014	2015	2016	2017	2018
NERI	11.4	10.4	9.6	-	-
Department of Finance (October)	11.4	10.2	9.4	8.9	8.1
Central Bank of Ireland (October)	11.1	10.3	-	-	-
European Commission (November)	11.1	9.6	8.5	-	-
IMF (October)	11.2	10.5	-	-	-
OECD (November)	11.5	10.5	9.9	-	-
ESRI (October)	11.3	9.6	-	-	-
Investec (November)	11.5	9.8	8.2	-	-

Sources: DOF : Budget 2015, Economic and Fiscal Outlook (DOF 2014b); CBI: Quarterly Bulletin 04, October, (CBI 2014c); European Commission: Autumn 2014 Forecasts, (EC, 2014a); IMF: World Economic Outlook October 2014 (IMF 2014a); OECD: Economic Outlook, (OECD 2014b); ESRI: Quarterly Economic Commentary, Autumn 2014 (ESRI, 2014b); Investec: Irish Economy Monitor, Q4 2014 (Investec, 2014c).

Public Finances

We are projecting significant improvement in the general government balance in 2014 and in 2015 based on our estimates for economic growth, unemployment and employment. The reductions in the numbers unemployed mean reduced expenditure on social transfers. At the same time increased employment and higher average incomes will generate additional direct and indirect revenue flows. The exchequer deficit up to end November 2014 was €5.8 billion, compared to €8.6 billion for the same period last year. We are projecting a general government deficit of close to 3.8% of GDP in 2014, 2.8% of GDP in 2015 and 2% of GDP in 2016. We estimate that gross debt will fall to 110.3% of GDP in 2014 and to 108.9% of GDP in 2015. These estimates assume there will be a reduction in precautionary cash balances of the scale described in the Budget 2015 *Economic and Fiscal Outlook* (DOF, 2014b) and also take into account the methodological shift from ESA 1995 to ESA 2010.

Risks to the Outlook

Table 3.3 compares the NERI's GDP projections to those of other agencies. Projections in 2014 vary from a low of 3.6% (IMF) and a high of 5.0% (ESRI), while the 2015 projections vary between 3.3% (OECD) and 5.3% (ESRI). These represent substantial differences, partially reflecting the uncertainties related to contract manufacturing, yet even this variation fails to catch the true range of feasible outcomes in 2015. There is a wide range of risks to the baseline

projections. Exchange rate movements always represent a source of uncertainty while weaker than expected output growth in the Republic's trading partners would impact significantly on the pace of the recovery. In addition, the slowdown in growth in emerging economies risks a knock on effect on growth in the advanced economies as demand for exports would fall. Secular stagnation, supply side shocks, lack of credit growth access and geopolitical tensions all represent further downside risks.

Table 3.3 Range of Projections for Annual Change in Real GDP, (Republic of Ireland)

	2014	2015	2016	2017	2018
NERI	4.9	3.4	2.7		
Department of Finance (October)	4.7	3.9	3.4	3.4	3.4
Central Bank of Ireland (October)	4.5	3.4	-	-	-
European Commission (November)	4.4	3.6	3.7	-	-
IMF (October)	3.6	3.0	-	-	-
OECD (November)	4.3	3.3	3.2	-	-
ESRI (October)	5.0	5.3	-	-	-
Investec (November)	4.8	3.5	2.9	-	-

Sources: See Table 3.2

The damage done to the Republic's human capital base may be larger than generally understood and there are valid concerns about the ability of the domestic economy to generate sustained employment growth in the medium-term. The high levels of long-term unemployment suggest the plateau for employment may be lower than in the pre-crisis period. Credit access remains fragile, particularly for SMEs, and this represents a potential risk to the outlook for investment levels. Finally, the uncertainty generated by the OECD's BEPS project may lead to a reduction in Foreign Direct Investment into the Republic over the next few years. This would have negative medium-term consequences for investment and growth and highlights the need for a more rounded industrial policy.

3.4 Macroeconomic Outlook for Northern Ireland

Macroeconomic Outlook

In the Spring 2014 Quarterly Economic Observer we published employment forecasts at industry level for the Northern Ireland economy. Since then the labour market at UK level and within Northern Ireland has continued to improve. However the sustainability of the current UK recovery remains a key concern. Despite a return to growth in business investment from the middle of 2013 and minor improvement in the current account, the recovery remains overly dependent on household consumption. As real wages continue to decline, increases in consumption become more of a cause for concern as it implies decreases in the savings rate and increased debt. The recovery to date has also been confined to southern regions within England and concerns of regional sustainability still remain. Northern Ireland is arguably the UK's most peripheral region and figures for wage performance alone indicate similar worrying trends for debt-fuelled consumption growth.

Within Northern Ireland the political situation is giving rise to uncertainty once again. The process of agreeing a one year budget for 2015-16 proved difficult although Executive parties were finally able to decide a settlement to remain within departmental spending limits. However the process did show how de-stabilising a further four years of expenditure cuts might be, particularly with the absence of any collective agreement on welfare reform. The all-party talks, which are currently being chaired by the Secretary of State, aim to reach a broad agreement on a range of issues; however it is important that the Executive parties use this opportunity to formulate a medium term strategy to deal with a continuation of austerity policies post-2015. The scale of expenditure cuts forecast over this period⁵ would have an enormous impact on the successful functioning of the Northern Ireland economy in the short and medium term.

Employment Projections

Given that, Northern Ireland is a small regional economy, trends in the UK will be a main determinant of performance for the Northern Ireland in the short term. However trends in the UK do not affect all regions uniformly and individual forces also factor in economic performance of Northern Ireland. Acknowledging this, the projections presented in this section are based on a shift share analysis that is driven by a central forecast of national UK employment and

⁵ See Institute for Fiscal Studies, Green Budget (2014)

augmented by regional characteristics. An explanation of the shift share model is contained in the appendix of this publication.

The central forecast for the UK economy is taken from the National Institute for Economic and Social Research. NIESR operate one of the few fully specified econometric models of the UK economy, NIGEM. This model has performed consistently over the last number of years and is regularly updated, so it provides a robust, independent national forecast.

The shift share calculation uses historical relationships between the regional and national economy and those between industrial sectors to produce the projections contained in table 3.4. The projections are based on share of employment between industrial sectors as defined by the Labour Force Survey.

Table 3.4 Projections of Employment by Sector for Northern Ireland to 2015

	2013	2014*	2015	2016
Total Employment	791,200	799,100	1.1%	0.6%
<i>UK Employment (NIESR projection)</i>			1.2%	0.7%
Industries				
Agriculture, forestry and fishing	30,100	31,000	2.9%	-1.5%
Energy and water	12,300	12,000	-2.5%	-3.0%
Manufacturing	85,800	87,800	2.3%	-1.1%
Construction	57,300	62,400	8.9%	8.4%
Distribution, hotels and restaurants	166,900	157,800	-5.5%	-6.0%
Transport and communication	45,500	45,200	-0.7%	-1.2%
Banking and finance	86,500	85,700	-1.1%	-1.6%
Public admin, education and health	271,500	278,400	2.5%	2.0%
Other services	35,200	38,800	10.2%	9.7%

Sources: ONS Annual Population Survey 2013-14
National Institute Economic Review (November 2014)*Prospects for the UK Economy*

Note: *2014 figures are based on mid year adjusted figures

Total employment growth in Northern Ireland is just below that which is expected for the UK in 2014 and much the same for 2015. At industry level the Construction sector has to date performed much more strongly than expected in 2014 and allied to similar positive trends in the UK as a whole, it is projected that Northern Ireland will see strong growth in the sector in 2015 and 2016. However it must be remembered that any growth in construction employment is coming from a very low base. The Distribution, Hotels and Restaurants sector shows decline in both years which is due in part to a contractionary trend that began in late 2013 continuing into 2014. Data from the Quarterly Employment Survey (NISRA, 2014f) would indicate that these reductions are mostly confined to the retail element of this sector.

There is forecast to be modest growth in Public Administration, Health and Education in both 2015 and 2016, and this is driven by continued growth in both Health and Education in 2014, which may come from activity outside the public sector. However if decisions about reductions in public sector employment in Northern Ireland are agreed by the NI Executive within this period, such projections would be significantly worse. 'Other Services' also perform strongly in both years with increases in Arts and Entertainment driving much of the growth seen in 2014 so far.

Table 3.5 outlines the expectations of other forecasters for the Northern Ireland labour market. The NERI projections are in line with those of Ernst and Young in 2015. However we project much weaker growth in 2016. Forecasts for the output in 2014 are much more optimistic than those that were made for 2013 with most forecasters expecting at least a doubling in the rate of growth.

Table 3.5 Overview of recent projections of Economic Activity and employment/unemployment (Northern Ireland)

	2012	2013	2014	2015	2016
Outcome (GVA)	-0.5	-	-	-	-
Outcome (NICEI)	-1.3	0.9	-	-	-
Outcome (Employment)	0.0	0.0	-	-	-
Outcome (Unemployment)	7.5	7.6	-	-	-
Economic Activity					
Ernst & Young (GVA)	0.5	-0.8	2.4	1.8	1.7
PWC (GVA)	-0.3	1.1	2.2	2.0	-
Danske Bank (GVA)	-	1.3	2.6	2.3	-
NICEP	-	-	2.2	1.9	1.3
Employment					
NERI			1.0	1.1	0.6
Ernst & Young	-2.6	-1.7	1.8	1.1	1.5
NICEP	-	-	1.4	1.3	0.5
Unemployment % Labour Force					
Danske Bank	7.3	7.6	6.1	5.8	-
Ernst & Young	7.4	7.6	6.4	6.1	6.0

Sources: Ernst and Young: Economic Eye, Summer (2014); PWC: Northern Ireland Economic Outlook September (2014); Danske Bank Economic Overview Q3 2014 (November 2014) NICEP Autumn Outlook (November 2014)

Note: Gross Value Added differs from GDP by the difference between taxes and government subsidies. 2014 figures are mid year estimate

Risks to the forecast

Our projections are based on an assumed central forecast for UK employment in 2015 and 2016. Whilst the NIGEM model has an impressive track record, it is just a model. Within Northern Ireland there are many uncertainties with regard to some sectors in particular. Internal decisions regarding public sector employment and the expansion of the construction sector within Northern Ireland compared to the rest of the UK are chief among these.

Internationally, Northern Ireland faces similar challenges with regard to slow growth in emerging markets and the prospect of long-term stagnation in the Eurozone. A recovery to the domestic economy in the republic of Ireland may provide some benefit for Northern Ireland. Lower than expected UK inflation has lifted the spectre of a rise in interest rates within the next 18 months, but any change to global commodity and fuel prices would naturally alter that situation.

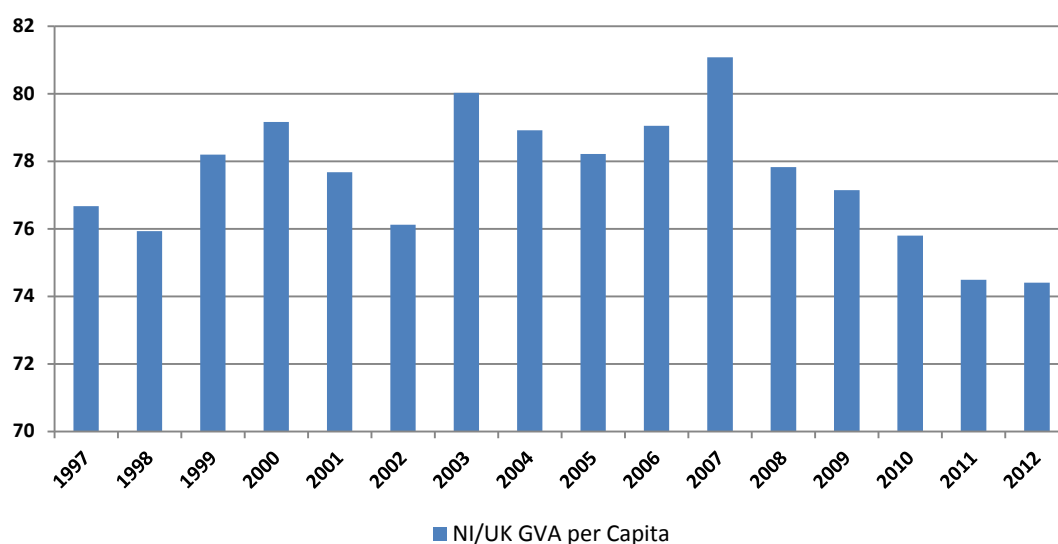
With the defeat of the Scottish independence referendum, one immediate political uncertainty has been removed from the equation. However with the prospect of an inconclusive UK general election in 2015 and a possible referendum to leave the European Union in 2017, significant risks still remain. Furthermore the precarious nature of Northern Ireland's political institutions remains an issue for 2015, particularly if there is no general agreement following the current round of talks.

4 Industrial Policy in Northern Ireland¹

4.1 Introduction

Over the last decade, in addition to the economic costs of the period of conflict, Northern Ireland has faced significant challenges in converging to higher productivity levels and standards of living. Despite some success in the mid-2000s, Northern Ireland's output per capita remains stubbornly at about three quarters of the United Kingdom average.

Chart 4.1 Gross Value Added per capita in NI as a % of UK



Source: Regional Gross Value Added Income Approach (ONS, 2013a)

These statistics are even more concerning when the international performance of UK productivity growth is taken into consideration. Among large, advanced economies the UK's recent GDP growth rate has been impressive with only the US economy growing faster in the second quarter of 2014.

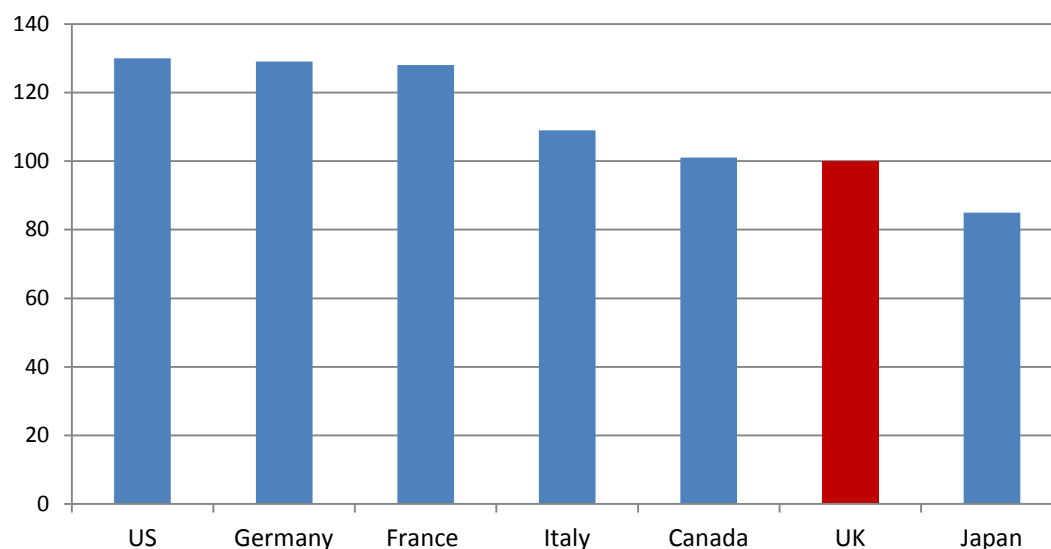
¹ A strategic approach to industrial policy Northern Ireland is discussed in greater detail in a forthcoming NERI Working Paper (Mac Flynn, 2015).

Table 4.1 Quarterly Growth rate of GDP for G7 Countries

	2014 Q2
United Kingdom	0.9
Canada	0.8
France	0.0
Germany	-0.2
Italy	-0.2
Japan	-1.8
United States of America	1.1
OECD	0.4

Source: Gross Domestic Product Preliminary Estimate, Q3 2014 (ONS, 2014c)

However when GDP is adjusted for the the number of hours worked, the UK falls from the second best performing economy to the second worst performing economy.

Chart 4.2 Current Price GDP per hour worked 2013

Source: International Comparison of Productivity (ONS, 2014d)

Note: Measure of output hour are indexed in current prices with the UK=100

Northern Ireland has had a devolved administration in place since 2007 and narrowing the productivity gap with the UK is listed as one of its primary economic goals. This section of the Quarterly Economic Observer examines the role of industrial policy in Northern Ireland and how well placed current policies are to meet such a challenge.

Industrial policy is broadly defined as a set of measures taken by government to affect the industrial performance of an economy to a desired end. It can therefore range from skills and education to infrastructure and enforcement of property rights. This section will focus on the most direct form of government intervention in the private sector and propose alternative policy options that may offer more substantial and efficient returns to the state.

4.2 Overview of Northern Ireland Industry

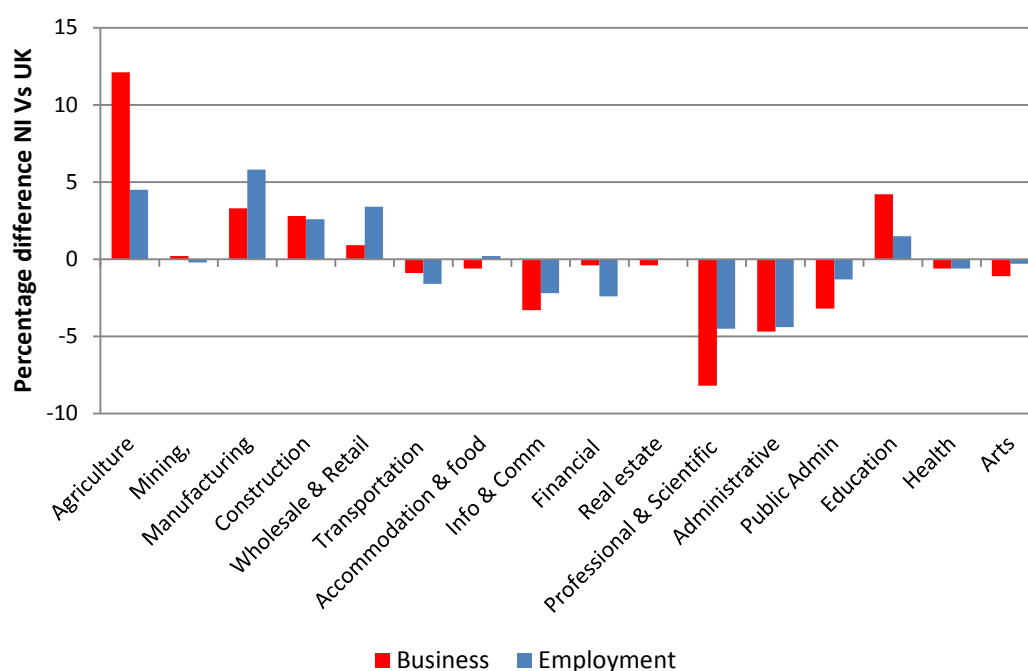
Northern Ireland in the 1960s was an economy dominated by a manufacturing sector which employed over 180,000 workers, with textiles, clothing and food and drink processing accounting for the largest share (Bradley & Best, 2012). Harland & Wolff was Northern Ireland's single largest employer, followed by the aerospace company Shorts Brothers. Both companies experienced periods of nationalisation but under very different circumstances. Shorts was nationalised twice, latterly during the Second World War for military reasons, remaining under government ownership until it was sold to Bombardier in 1977. It survives today as Northern Ireland's largest manufacturer with combined employment of almost 6,000 and turnover in the region of £570m. Ironically 1977 was also the year that Harland & Wolff was taken into government ownership along with many other UK ship-building firms at that time in an industry rescue. Harland & Wolff, unlike other firms, was not however subsumed into the British Ship-building Corporation and it was privatised in 1989. Today it survives as a manufacturer of off-shore renewable energy technologies, but with a workforce of only 250 and a turnover of £32m, a fraction of the size it was in 1960. Textiles factories in Northern Ireland expanded throughout the 1960s with significant foreign direct investment and many became specialised in production of synthetic materials such as viscose rayon. However globalisation of the textile industry saw factory closures that began in the 1990s and very rapidly contracted the sector which now employs only 1400 people in Northern Ireland (NISRA, 2014f).

Even with significant population growth, today manufacturing in Northern Ireland only employs 85,000 or 10% of total employment. Interestingly the evolution of the manufacturing sector in Northern Ireland contrasts sharply with the picture in the Republic of Ireland. Between 1960 and 1990, while manufacturing employment

declined by over a third in Northern Ireland, it increased by over a quarter in the Republic. Many attribute this decline in Northern Ireland to a period of civil unrest, but actually the Northern Ireland economy was merely following the trend of other UK regions at the time (Bradley & Best, 2012). Deindustrialisation in the 1980's shifted the UK economy toward a heavy reliance on the service sector, with the share of manufacturing output in the economy falling from 30% in the 1970s to 14% in 1997 and 10% in 2013 (House of Commons Library, 2014). In Northern Ireland manufacturing output has fallen from 21% in 1997 to just 12.7% in 2011 (ONS, 2013a).

Today the structure of Northern Ireland's economy broadly reflects that of the UK as a whole, with some important exceptions. Northern Ireland is dominated by small enterprise with 99% of businesses employing less than 50 people, the same percentage as the UK. However while 43% of UK total employment is accounted for by small businesses, the figure in Northern Ireland is 58%.

**Chart 4.3 Comparison of Business and Employment Structure
NI v's UK 2014**



Source: Business Population Statistics (BIS, 2014)

Chart 4.3 compares Northern Ireland and the UK by the sectoral make up of businesses and employment. Northern Ireland has a much larger Agricultural sector as a share of

total businesses, and also has a larger Retail sector. The rest of the UK has a much larger share of businesses in the Professional & Scientific and Information and Communications sectors. There is a similar pattern in terms of employment, except that Construction and Manufacturing account for higher percentages of total employment in Northern Ireland. The latest figures for the industrial breakdown of Gross Value Added in 2011 show a similar pattern (ONS, 2013a).

In terms of ownership, 97% of firms operating in Northern Ireland are domestically owned, although domestically-owned firms account for just 75% of overall employment (NISRA, 2014g). While not as large as in the Republic of Ireland the foreign owned business sector is important for Northern Ireland especially in relation to Research and Development.

Table 4.2 Output per Employment NI V's UK 2011

	NI	UK
Agriculture	14.7	27.3
Energy and Water	42.4	125.5
Manufacturing	42.0	49.5
Construction	30.0	40.3
Distribution, Hotels and Restaurants	29.8	34.8
Transport and Communications	47.0	59.1
Banking, finance and insurance	70.5	89.9
Public admin, Education and Health	31.7	29.6
Other	28.0	28.3

Source: ONS (2014b) Annual Population Survey, ONS Regional GVA Income Approach (2013a)

As already noted Gross Value Added per head in Northern Ireland is just 75% of the overall UK figure (ONS, 2013a). Public expenditure in Northern Ireland accounts for nearly two-thirds of total output, and various groups (Confederation of British Industry, the Institute of Directors, etc) consider this to be a drag on growth and productivity. However public spending per head in Northern Ireland in 2013 was £10,876 compared to £10,152 (HMT, 2014b) in Scotland which has a GVA per head that is 93% of the UK average (ONS, 2013a). If high public expenditure is not a source of sub-optimal productivity in Scotland why would it be in Northern Ireland? As can be seen in Chart 4.3 and Table 4.2 the private sector in Northern Ireland has greater activity in sectors that are on average lower value added and lower productivity across most sectors as well.

4.3 Current Industrial Policy in Northern Ireland

Industrial policies can be broken up into two broad types, horizontal and vertical. Horizontal policies describe economy-wide measures that seek to incentivise overall activity such as R&D tax credits or indiscriminate financial support for SMEs. Vertical policies are those which aim to selectively support particular firms in order to build up an industry or enable domestic firms to compete globally. While vertical policies have fallen out of favour in recent years, most industrial policy contains a mixture of the two.

The Northern Ireland Executive produced an 'Economic Strategy' outlining its industrial policy in 2012 which placed an emphasis on attracting high level Foreign Direct Investment with a particular focus on Research and Development (NI Executive, 2012). The document points to the success of the Nordic countries in achieving growth through high levels of investment in innovation, but also to the examples of Singapore and the Republic of Ireland who prioritise low corporate taxes and light business regulation. Throughout the rest of the Economic Strategy document horizontal policies are heavily prioritised although there remains a commitment to some vertical policies. On Research and Development, the Economic Strategy document highlights the need to move away from direct government support for individual research projects, and instead target such support at SME's that lack the ability to carry out R&D independently.

Research and Development

R&D in Northern Ireland has performed particularly well over the last number of years. Since 2006 total R&D expenditure has increased in cash terms from £330m to £643m in 2013 or by 65% in real terms. Total R&D spending in Northern Ireland represents 2.2% of Gross Value Added in 2013 which was above the EU 28 average of 2.02%. However, Government Expenditure on R&D (GERD) in Northern Ireland represents 2.5% of total R&D, far below EU 28 average of 12%. Denmark and Sweden have a similar level of GERD to Northern Ireland but both countries have larger than average Higher Education Expenditure on Research and Development (NISRA, 2014h).

Table 4.3 R&D expenditure as % of total in 2013

	Business	Government	Higher Education
Northern Ireland	75	2	23
United Kingdom	65	7	26
Rep, of Ireland	72	5	23
Spain	53	19	28
France	65	13	21
Germany	68	15	17
Denmark	65	2	32
Finland	69	9	22
Sweden	68	4	28
EU28	64	12	23

Source: NISRA (2014h) Northern Ireland Research and Development Statistics 2013, Eurostat (2014f) Research and Development Statistics 2013

75% of all Business Expenditure on Research and Development (BERD) in 2012 was carried out by foreign-owned firms and 87% of it was carried out by firms with more than 50 employees (NISRA, 2013). Just over 3% of BERD was basic research, and some 78% of it was concentrated in the engineering and allied industries. In 2013 60% of total R&D expenditure was undertaken by the 10 largest companies and the total amount of expenditure in the Aerospace or Transportation sectors are not reported as the figures would be disclosive, due to the small number of firms in that sector in NI. (up to £180m of BERD is contained within these two sectors). In summary the majority of BERD is secondary research carried out by a small number of large, foreign-owned firms in the engineering sector. This outcome is important because it indicates that while Northern Ireland is attracting significant R&D expenditure, it is perhaps work that might ordinarily have occurred elsewhere but which came to be located in Northern Ireland due to policy. Indeed the Northern Ireland Audit office confirmed that in 2011, 57% of the total amount of R&D supported by Invest Northern Ireland, was awarded to FDI companies, and consequently the commercial benefits did not remain within Northern Ireland (NIAO, 2012). If industrial policy was aimed purely at employment effects, such an outcome would not be concerning, but this does impact on productivity.

In addition to *Invest NI* support, R&D companies can also take advantage of UK wide horizontal policies such as R&D tax credits. Whilst research from HMRC (2010) finds

tax credits can be effective in increasing the total volume and value of research and development carried out by companies, the same research finds no evidence that R&D tax credits encourage the initial decision to undertake any specific R&D. A company will choose to carry out R&D on the basis of expectations about future demand and climate of technological progress in the sector. Tax credits also constrain government from being specific about the nature of the R&D being carried out. Governments regularly identify sectors in which they wish to see growth and often they will highlight the innovative capacity of that sector. Mazzucato (2014) points out that if government wants to achieve innovation in a particular sector, it is far more efficient to commission the technology that will produce it rather than to disperse subsidies or tax breaks to firms in the hope that such innovation may appear.

SMEs

The other focus for Northern Ireland R&D policy in the NI Executive Economic Strategy (2012) is small and medium sized enterprises. As noted earlier, the Northern Ireland economy is dominated by small firms. It is understandable that government policy would be aimed at stimulating investment and innovation among small firms as they are Northern Ireland's largest employer. However, less certain is the extent to which small firms can realistically achieve the scale of innovation required to deliver the productivity boost desired by policy makers.

The predominance of SMEs in contemporary industrial policy can be traced, at UK level, from 1979 onwards. A 2013 paper for the Federation of Small Businesses outlined UK government policy towards small businesses since 1979, before which, they argue, there was scant state support. They note that government efforts from 1979 to 1988 focused on increasing the quantity of small businesses and generally boosting individual entrepreneurial activity. This consisted of horizontal policies like tax incentives and loan guarantee schemes that attempted to bridge the divide between small businesses and the banking system. An increase of 1.2 million small firms during this period is seen as a policy success. From 1988 onwards there was a shift from quantity to quality and a focus on increasing the value added of small businesses. The success of this policy initiative was less clear. While the number of small business initiatives doubled in the time period, there was no discernible boost to productivity or the growth rate of output.

While there are almost 118,000 small and medium sized businesses (less than 250 employees) providing employment for over 385,000 in Northern Ireland, their capacity to innovate and increase productivity is lacking in scale. Government resources are limited and even more so since the financial crash of 2008. While the financial commitment of the state to SME's has grown over the last number of years, their capacity to deliver increased productivity has not. Small firms on average have less capacity for training, lower median wages and a lack of managerial experience particularly in family firms (Mazzucato, 2014). Whilst small firms are important and a significant source of employment, to view them as an engine for productivity growth and innovation is a mistake.

Moreover the employment benefits of SMEs can often be overplayed. Small businesses account for over 99% of firms in Northern Ireland, but they only account for 59% of total employment while 72% are sole traders. As Mazzucato (2014) points out, when a sole trader hires one employee, that business has doubled its workforce, whereas if a company employing one thousand people hires an additional ten, it will only have increased by 1%. All of this is not to say that industrial policy should become more focused on large firms at the expense of smaller firms. Support should be focused on firms owing to their innovative capacity, not their size.

Selective Financial Assistance

R&D tax credits - which cost the UK Exchequer £1.4bn in 2012/13 (HMRC, 2014a) - and schemes aimed at small businesses are two significant horizontal policies Northern Ireland. However, vertical policies have not gone out of fashion altogether. Some remain in the mix of industrial policy. One of the most common UK vertical policies is the enterprise zone. It is classified as a vertical policy because it favours an area or region over another, even though most of the policy benefits for business would be described as horizontal (capital allowances etc.). While the first enterprise zone in Northern Ireland was proposed in December 2013, the most ubiquitous vertical industrial policy in Northern Ireland to date has been Selective Financial Assistance (SFA).

SFA is a programme that offers grants to firms either choosing to locate or expand in Northern Ireland. The grants can be made to cover capital investment, employment, interest relief or R&D. EU guidelines on direct government assistance to private sector

firms are tightly regulated under rules for “State Aid”. Northern Ireland has “Assisted Area” status so SFA has been considered as Regional Aid and so exempt from State Aid rules. SFA consumes over half of Invest Northern Ireland’s total budget, but its performance as a key industrial policy needs to be scrutinised.

Northern Ireland is not alone in using SFA as other regions of the UK operate similar policies known more generally as Regional Selective Assistance (RSA). Griffith, Devereux & Simpson (2006) looked at the effectiveness of RSA, and found that it can have a small positive impact on the decisions of firms to locate, but that this effect is conditional on many other factors such as urbanisation and the existence of similar firms at the location. Criscuolo et al (2012) find that while RSA grants can have positive investment and employment effects, there is less of an impact on productivity. Furthermore, they find that the majority of positive employment effects tend to be for smaller firms. Girma et al (2007) find significant employment effects for grants to firms in the Republic of Ireland, and domestic firms in particular owing in part to positive spill-overs from increased foreign direct investment. Gual & Rosell (2006) examining the EU experience, find that the benefits of this type of vertical aid tends to encourage rent-shifting in the short term, and distort the single market. These findings help explain the EU’s adversity to such schemes more generally.

In Northern Ireland the performance of SFA has also come under scrutiny in recent years. Hart & Bonner (2011) modelled the impact of Invest NI assistance from 2001-2007 and found that while turnover may have increased from assisted firms, there was no significant overall employment effect. Two commissioned reports in recent years from the Northern Ireland Audit Office (NIAO) and SQW a consultancy firm, have examined the performance of Invest NI and SFA in particular. The NIAO (2012) report found that in terms of employment created, only 8.5% was “fully additional”, meaning a large amount of the employment gains would have taken place without any assistance. They also found that between 2002 and 2007 there was limited or no productivity growth from assisted firms. This was due to the low value added nature of the new jobs created. A report by SQW (2013) to the Department of Enterprise, Trade and Investment also found that SFA was not always the funder of last resort and that projects it funded could have sought assistance from regular channels. Even if Invest NI went beyond a market failure reason to grant assistance, the report also found that there was limited targeting or selectivity with regard to financial assistance and that this possibly played a part in the quality of the jobs that were secured.

Although there has been some success in boosting employment current policies have clearly lacked a focus on productivity and that has significant implications for the potential of the Northern Ireland economy in the long term.

4.4 A broader view of Industrial Policy

The prospect of convergence to UK levels of productivity is today as elusive as it was in the 1990s. NI's industrial policies have failed to deliver the desired scale of economic growth and in recent years much of the policy focus has shifted toward changes in the rate of corporation tax in Northern Ireland as a means to achieve this productivity convergence.

Whether a reduction in corporation tax could deliver a significant boost to the Northern Ireland economy is beyond the scope of this paper, but clearly such a policy may suffer from many of the same faults as Selective Financial Assistance. In effect it would seek to “buy in” economic success rather than inculcating economic growth by increasing the productive capacity of the domestic economy. Policies such as SFA may have been appropriate at a time when Northern Ireland needed to negate the impact of the conflict on inward investment. The same policies may not be appropriate for the task of converging productivity.

At its heart, closing the productivity gap between Northern Ireland and the rest of the UK is a question of economic growth itself, and how it can be achieved. In theory there are three sources of economic growth; increases in the availability of labour, capital accumulation and technological change (Burda & Wypolz, 1997). The returns to capital and labour suffer from diminishing marginal returns and investment is needed just to stand still, real progress in economic growth comes from technological change. A boost in overall productivity will come from a step change in technology that is created within Northern Ireland.

Investment in research and development is regularly used as the metric to judge the innovative capacity of economies, and recent statistics would suggest Northern Ireland is performing well on that front. However not all knowledge accumulation is the same and overall R&D spending levels do not give the full picture. The nature of research and the areas in which it happens are just as important. Mokyr (2005) posits that “technological advances are determined not so much by the stock of human capital as

by its distribution". A government policy concerned with raising productivity should therefore be a policy aimed at enabling technological progress in the areas where it is needed.

The Risk-Taking State

Mazzucato (2014) outlines the case for an 'entrepreneurial state'. The book rejects many of the horizontal policies that permeate the current industrial policy consensus, but more importantly it sketches a role for vertical industrial policies that have already shown their worth. The entrepreneurial state straddles two historical phases of industrial policy; it involves the state targeting specific industries and sectors, but lacks the exclusivity or partiality of nationalisation or national champions that dominated Europe from the 1950s until 1980. If those policies could be described as "picking winners", then the entrepreneurial state could be described as "picking races".

Mazzucato goes on to describe how government financed research laid the basis for the technological advancement behind modern pharmaceuticals, bio and nanotechnology and even the iPhone. Whilst the private sector may carry out much of the final stages of development, including commercialisation, the roots of these technological advancements are to be found in state funded basic research. In the US 67% of research and development is carried out by the private sector compared to 26% for the federal government. However in terms of basic research the situation is almost reversed, 67% of basic research is carried out or funded by the federal government compared to 18% for private businesses. Basic research tends to be both the most risky and most uncertain, but government investment in basic research has given rise to nearly all of the General Purpose Technologies of the last fifty years. As Mazzucato points out, it was a US Department of Defence research network (Arpanet) that laid the foundations for the internet. The internet was not what they had in mind when they started out, but basic research brought about a technology that now pervades every sector of our economy. In essence this shows how certain vertical policies can have horizontal benefits. Supporting particular industries can lead to advances in technology that benefit the many industries. Nanotechnology is expected to be the next general purpose technology, but it was heavy government investment over the last two decades that brought it to the point where private investors and companies are beginning to see opportunities.

The examples of state entrepreneurialism in the United States are obviously on a scale that is not applicable to many other economies but the theory still holds – and there is still scope for more limited government financed research in niche areas. State intervention in the private sector is often framed in the context of a market failure. However there was no clear market failure that prevented the internet from being developed by private firms, it's that the prospect of internet as a marketable product did not exist. Without the basic research carried out by the Department of Defence, no amount of incentives or tax credits could have brought the internet about.

The role of an entrepreneurial state should not be to supplant or replace business investment; it should lay the foundations for the next wave of business R&D. The state is the only economic actor with the ability to take a long term and multi-sector view of research and development. For Northern Ireland to adopt a similar strategy implies moving from incentivising and nudging innovation to directly bringing it about. The scale and scope of ambition of the Northern Ireland Executive to close the productivity gap will require bolder policy solutions and a radical re-assessment of the role of state intervention in the economy is needed.

4.5 A new policy for Northern Ireland

In July 2014 changes to Regional Aid significantly curtailed the scope of Invest NI to operate Selective Financial Assistance in the future (Invest NI, 2014). Rather than a challenge, such changes present a unique opportunity for a reformulation of Invest NI's assistance. This agency could be refocused to use its available resources to launch a state investment initiative or 'innovation fund' using SFA funds to channel investment within the key growth sectors the Executive have already identified. Invest NI has a total grant and programme budget of £123m. Selective Financial Assistance expenditure in 2014 is estimated to be somewhere in the region of £50m although this is down from a high of £68m in 2009 (Invest NI, 2014). However, Invest NI also has a significant financial commitment to research and development of somewhere in the region of £25-30m per year. Together with existing annual government R&D expenditure of £15m, this could become a fund for basic research within key growth sectors.

The funding could be divided between a fund to provide support for basic research and one to accelerate investment in the most promising opportunities that emerge. In essence this would split research and development funding into two separate stages allowing basic research to be more broad based and open-ended while also earmarking money for development of the most promising innovations.

Based on the nature of the innovation itself and the sector in which it is based, work could be commissioned through universities, small firms, large firms, state bodies or a combination of any of these. Block and Keller (2008) find that many of the most successful US innovation in the last number of years have been achieved through a academic and industrial collaborations and spin-off firms.

This ‘innovation fund’, if created, would account for almost two thirds of Invest NI’s business assistance expenditure, with the remainder of funds still directed towards smaller programmes for business development, start-ups and exports (some of these programmes were criticized on the grounds of efficiency and value for money in the NIAO report). As mentioned earlier, the NI executive, in its Innovation Strategy, has already outlined the potential growth sectors for the Northern Ireland economy. Research challenges and innovation opportunities are abundant in all of these sectors. The Northern Ireland Science and Industry Panel has already examined some of these sectors in detail.

Agri-Food

Within the Agri-food sector there are key areas that require significant research from nutrition to satellite imaging and precision farming. In the food processing sector the recent fruits of innovation in the areas of pasteurisation and sterilization are already permeating within the industry, but the next wave of technology also beckons. At present in the Northern Ireland Executive there is already an appreciation of the research challenges within the sector. The DARD Research Challenge Fund seeks to promote research among SMEs in the sector and encourage “industry-led consortia” to carry out research. An “Innovation Fund” would represent a more focused and intensive effort on behalf of the state to realise such potential.

The Agri-food sector is one of the most energy intensive sectors of the economy, but one which also has a significant capacity to contribute toward energy production. Biofuels and agricultural waste could become important domestic sources of energy.

To date there have been attempts with ethanol and sugar cane based biofuels, but the research has suffered from policy uncertainty and this has smothered a lot of investment in recent years as it has in other areas of sustainable energy.

Sustainable Energy

The case for alternative sustainable energy is accepted by nearly all policy-makers either on the basis of energy security or environmental and climate concerns. The renewable energy sector in many developed countries has received significant state support usually in the form of horizontal subsidies. In the US, wind energy has benefited from a tax credit for energy generation since 1992, but just as wind is reaching parity with gas in terms of efficient electricity generation, political disagreement over whether to renew the credit may deter the next round of investment that would make wind energy finally fully competitive. The efficiency of such a horizontal approach to state support has been questioned (Alzate, Barrera & Garcia, 2011) but moreover, the fickle nature of such state support often leads to a sub-optimal level of investment in renewables.

Mazzucato (2014) contends that some of the most important developments that have been made in renewable energy have come from Chinese investment. This is attributed to the policy commitment of the Chinese government, but more importantly the finance made available by the Chinese Development Bank to the solar power industry which has enabled it to achieve significant technological progress over competitors. Policy certainty is a pre-requisite for investment, and a financial commitment from the state is the best way to achieve that.

Cowell et al (2013) show that devolution within the UK has aided Scotland, Wales and Northern Ireland to achieve more on renewable energy than the UK as a whole. Whilst forms of renewable energy such as tidal, on-shore and off-shore wind energy have received state support in the past, a financial commitment by the Department of Enterprise Trade and Investment to the riskier elements of research and development in the sector such as anaerobic digestion in waste and biomass energy could open significant potential for Northern Ireland.

Health and Life Sciences

Health and Life sciences are another key growth sector outlined in the NI Executive's Innovation Strategy. The performance of the industry at UK level has been comparatively good. The NHS has played a key role in providing clinical trials and testing for new drugs and treatments in the pharmaceutical sector. However as Mazzucato (2014) points out the success of the UK is somewhat eclipsed by the performance of the US. The key achievement of this industry is built on the success of the National Institutes of Health (NIH), still the world's largest funder of medical research. Most, if not all, of the breakthrough drugs developed by US pharmaceuticals are minor derivatives of drugs developed through NIH programmes or with NIH funding. Once again, the state's role as a key investor in early stage, basic research is the key to building a successful and innovative industry base. The National Institute for Health Research (NIHR) in the UK established in 2006 is attempting to emulate this success, but the financial commitment is still somewhat behind the US, even adjusting for scale. The 2012 Budget for the NIHR was over £1bn, while the NIH for that year was just over \$30bn, more than 5 times the per capita spend.

Northern Ireland has long sought to emulate the creation of high-valued added pharmaceutical sector such as that in the Republic of Ireland. Pharmaceuticals is, per-employee, the most research intensive sector in Europe (Eurostat, 2013a) and within the university sector there is already a research capability that could be expanded to develop projects of benefit to the public health system in Northern Ireland such as mental health and the ageing society.

The Gain for the State

A strategy that is based on nurturing R&D rather than procuring it in through tax incentives, will also tackle concerns about the quality of jobs being created in Northern Ireland, an issue identified in both of the evaluations of the SFA scheme. In terms of attracting further investment, most of the evaluations of direct financial assistance find that an existing R&D base and presence of similar firms are more important location deciders than any such financial inducements.

The return to the State from investment in all these sectors can be secured in a number of ways. Across Europe, state investment banks enable governments to receive direct financial reimbursements for research funding they provide to key innovation sectors.

The state can also sell access to patents for innovations that are secured through basic research it has funded. Similarly the State could also claim a royalty for any applied technological breakthroughs that emanate from state financed basic research (Mazzucato, 2014). Notably the current programme of financial assistance operated by Invest NI seeks no financial return from its grants or packages. In fact Invest NI, in reference to their R&D programme, explicitly rule out the possibility of financial claw back from grants saying “the concept of repayable assistance runs contrary to the objective of supporting R&D projects which address clear market failure”.

There are further options for government to recoup direct benefits from investment in the private sector, but this can never replace the indirect benefits arising from the impacts on the wider economy. Growth in the private sector and increasing productivity need to be featured in the tax system, and this is why a corporate tax regime is important. The plans at present to dramatically reduce corporation tax in Northern Ireland, like R&D tax credits, extend public support to industry with little or no public control over how and where that support is utilised. The policy also suffers many of the problems of Selective Financial Assistance, notably the practice of rent-shifting and the longevity of outcomes. Furthermore reducing corporation tax also severely limits the power of the state to reap the financial benefits that flow from its investment in the economy.

4.8 Conclusion

The challenge of productivity convergence for Northern Ireland is immense and nothing in the preceding paragraphs should seek to diminish the efforts that have been made toward achieving this goal over the last number of years. However it is only reasonable and responsible to question whether the set of industrial policies in Northern Ireland will ever be up to this challenge. The Innovation Fund that is proposed in this section would seek to shift resources toward active investment in the economy.

Productivity is one of the key challenges facing the UK economy in the immediate future, but this only makes the productivity challenge in Northern Ireland more acute.² Productivity matters and not least because of the relationship it has to wages and

² See Mac Flynn (2013)

living standards. The extent and growth of low pay in Northern Ireland was outlined in the Spring Quarterly Economic Observer (NERI, 2014) earlier this year, and while new wage floors and access to collective bargaining will ameliorate some of these trends, the challenge of productivity remains. This section aims to be an instigator of and a contribution to that debate.

5 Conclusion

The outlook we present for the two economies on the Island of Ireland is positive but uncertain. In the Republic, the resurgence of domestic demand is welcome, but such growth is coming after years of stagnation and decline and in spite of falling real wages. Moreover the recent strong performance of exports remains sensitive to events in the global economy and the Eurozone in particular. For Northern Ireland trends in UK output and the labour market in particular have been positive, but political instability continues to threaten the economy in the short-term. In the medium-term the possibility of a further four years of fiscal contraction presents a significant headwind to overall output growth.

Looking to the future, for the Republic we have updated our projections to take into account the strong performance of exports and the continuing improvement in the labour market. For Northern Ireland our employment projections show positive growth in the next two years, but weaker than the performance of the UK as a whole.

Our analysis of industrial policy in Northern Ireland identifies the persistent gap in productivity between NI and the UK as a key challenge for policy both now and in the future. Current industrial policy is too focused on incentives and inefficient financial support for large foreign-owned companies. Overall figures within Research and Development statistics hide the paucity of basic research generated by indigenous firms and the constraint that this imposes on productivity driven growth. We outline a very different approach for the role of the state in industrial development, one where technological change in key growth sectors is actively commissioned by the state in order to stimulate broader innovation in the economy as a whole. Diverting existing resources away from financial inducements and incentives toward basic research represents a substantial policy shift. However a substantial policy shift is required in order to meet the productivity challenge facing the Northern Ireland economy.

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7 Appendix

Appendix 7.1. Overview of recent economic trends – Republic of Ireland

	2009	2010	2011	2012	2013
Total Expenditure					
Consumption €m	83,565	82,447	82,969	82,467	83,334
Investment: private and public €m	33,082	26,106	24,841	26,923	26,541
Government current spending €m	29,650	26,437	26,111	25,922	25,956
Exports €m	146,363	157,811	167,086	182,506	184,056
Imports €m	-121,555	129,023	-132,398	-147,079	-147,694
Domestic Demand €m	144,807	134,421	134,701	135,600	136,668
Total Income					
GDP €m	168,114	164,928	171,042	172,755	174,791
GNP €m	138,236	137,408	137,632	141,229	147,505
Income from Agriculture €m	2,064	2,586	3,202	3,019	3,027
Income non-Agriculture: Wages €m	74,683	69,440	69,465	69,519	71,854
Income non-Agriculture: Other €m	52,887	57,882	63,645	63,648	61,706
Employment					
Labour Force	2,242,400	2,196,700	2,173,700	2,165,800	2,182,100
Labour Force Participation Rate %	62.3%	61.0%	60.4%	60.2%	60.7%
Employment	1,953,600	1,886,100	1,845,600	1,841,300	1,899,300
Employment full-time	1,530,800	1,459,700	1,411,300	1,395,000	1,448,600
Employment part-time	422,700	426,400	434,300	446,300	450,700
Underemployment	112,900	112,500	140,800	147,600	139,300
Unemployment	288,900	310,600	328,100	324,500	282,900
Unemployment %	12.9%	14.1%	15.1%	15.0%	13.0%
Long-term Unemployment	80,600	152,600	191,700	193,000	165,100
Long-term Unemployment %	3.6%	6.9%	8.8%	8.9%	7.6%
Migration					
Immigration	73,700	41,800	53,300	52,700	55,900
Emigration	72,000	69,200	80,600	87,100	89,000
Net Migration	1,600	-27,500	-27,400	-34,400	-33,100

	2009	2010	2011	2012	2013
Public Finances					
Total General Gov. spending €m	78,144	103,544	76,550	69,844	70,371
Total General Gov. revenue €m	55,963	55,149	55,331	56,623	58,866
General Gov. Balance €bn	-22.18	-48.40	-21.22	-13.22	-11.50
General Gov. Gross Debt €bn	104.5	144.2	190.1	210.2	215.6
General Gov. Gross Debt % GDP	62.2%	87.4%	111.1%	121.7%	123.3%
Earnings and Prices					
Average earnings € per week	699.10	693.70	687.67	691.93	677.13
Average earnings % change	0.3%	-0.8%	-0.9%	0.6%	-2.1%
Private sector av. earn. % change	3.6%	-2.4%	-2.5%	1.0%	-1.3%
Public sector av. earn. % change	-2.4%	-0.8%	0.7%	1.2%	-1.2%
Inflation CPI %	-4.5%	-1.0%	2.6%	1.7%	0.5%
Inflation HCPI %	-1.7%	-1.6%	1.1%	2.0%	0.5%
Inequality and Poverty					
Gini coefficient	29.3	31.4	31.1	31.2	n/a
Quintile ratio	4.3	4.8	4.9	5.0	n/a
Relative poverty %	14.1%	14.7%	16.0%	16.5%	n/a
Consistent poverty %	5.5%	6.3%	6.9%	7.7%	n/a
Deprivation rate %	17.1%	22.6%	24.5%	26.9%	n/a
Sources:	CSO Quarterly National Accounts; CSO National Income and Expenditure; CSO Quarterly National Household Survey; CSO Population and Migration Estimates; CSO Earnings and Labour Costs; CSO Consumer Price Index; CSO SILC Reports; and Eurostat online database.				
Notes:	Earnings and labour market data are for Q3 in all years. Domestic Demand is Total Domestic Demand. National accounts data reported at current market prices.				

Appendix 7.2 Overview of recent economic trends– Northern Ireland

	2009	2010	2011	2012	2013
Total Expenditure					
Personal consumption £m	-	-	-	-	-
Investment: private and public €m*	8,833	9,353	7,332	-	-
Government consumption £m	-	-	-	-	-
Exports £m	5,270	5,438	5,910	5,627	5,987
Imports £m	5,152	5,417	5,774	5,690	5,807
Domestic Demand £m	-	-	-	-	-
Total Income					
GVA £m	28,447	28,945	29,063	29,410	-
GNP £m	-	-	-	-	-
Income from Agriculture £m	116	356	381	-	-
Income non-Agriculture: Wages £m	17,157	17,111	17,624	-	-
Income non-Agriculture: Other £m	11,175	11,477	11,058	-	-
Employment					
Labour Force	808,000	834,000	859,000	864,000	866,500
Labour Force Participation Rate	58.5%	59.9%	61.1%	61.0%	60.7%
Employment	750,500	773,500	794,000	797,500	795,000
Employment full-time	581,000	593,500	609,000	597,500	596,000
Employment part-time	171,250	175,000	184,000	193,000	198,000
Underemployment	25,500	27,000	32,000	41,500	43,000
Unemployment	52,500	59,500	62,000	65,000	65,000
Unemployment rate %	6.5%	7.1%	7.2%	7.5%	7.6%
Long-term Unemployment	17,500	26,000	27,500	33,000	35,000
Long-term as % of Unemployed	33.3%	43.7%	44.4%	50.8%	53.5%
Migration					
Immigration	25,261	24,544	23,724	23,255	23,100
Emigration	21,604	23,394	25,218	24,570	25,438
Net Migration	3,657	1,150	-1,494	-1,315	-2,338

	2009	2010	2011	2012	2013
Public Finances					
Total General Gov. spending £m	17,784	18,840	19,081	19,350	19,834
Total General Gov. revenue £m	-	-	-	-	-
General Gov. Balance £m	-	-	-	-	-
General Gov. Debt nominal £m	-	-	-	-	-
General Gov. Debt % GDP	-	-	-	-	-
Nominal earnings and Prices					
Average earnings £ per week	354.6	354.4	354.6	360.1	365.2
Average earnings % change	2.8%	-0.1%	-0.05	1.6%	1.4%
Private sector av. earn. % change	-	0.6%	0.1%	-2.3%	3.9%
Public sector av. earn. % change	-	6.5%	1.9%	5.4%	-1.3%
Inflation CPI %	-	-	-	-	-
Inflation HCPI %	-	-	-	-	-
Inequality and Poverty					
Gini coefficient	-	-	-	-	-
Quintile ratio	-	-	-	-	-
Relative poverty %	20%	22%	20%	21%	19%
Consistent poverty %	19%	20%	20%	23%	20%
Deprivation rate %	-	-	-	-	-
-					
Sources:	HMT Public Expenditure Analysis 2014; HMRC RTS; ONS Gross Value Added (Income Approach); LFS Quarterly Supplement; NISRA Northern Ireland Migration Flows; NISRA Annual Survey of Hours and Earnings; Department of Social Development Poverty Bulletin				
Notes:	Where cells are blank the data are unavailable. *Investment as Gross Fixed Capital Formation (estimated)				

Appendix 7.3 Methodology Notes

Shift share model for projecting Employment in Northern Ireland by sector

Northern Ireland is a small region of a much larger economy and so it seems more efficient to assume a central UK forecast of employment (in this case from NIESR) and calculate what the expected outrun of these projections would be in Northern Ireland.

In section 2 an augmented shift-share model is used to translate overall UK growth down to a Northern Ireland projection. There are many different derivatives of shift share models, most of which chart differences between performances of industries regionally and nationally. This allows the model to use national forecast of employment growth to then apply the peculiarities of the region and see how regional employment would be driven by national trends, and how national sectoral trends would augment the growth at regional level.

The statistical shift share model comprises three basic parts in all versions

1. The National Effect – the amount of regional growth explained by national employment growth. If the national economy grows, some of this would flow to the region. (rising tide lifting all boats)
2. The Sectoral Effect – isolates the percentage of national employment growth explained by each sector and applies this to the sectors in the region
3. Regional Competitive effect – isolates sectors where growth is not explained by national trends, but regional effects.

The formula for the basic shift share model is

$$E_{ir}^{t+1} - E_{ir}^t = \Delta E_{ir} = \underbrace{E_{ir}p}_{(NE)} + \underbrace{E_{ir}(p_i - p)}_{(SE)} + \underbrace{E_{ir}(p_{ir} - p_i)}_{(RCE)}$$

Where E_{ir} = employment in industry i ($i=1, \dots, s$) in region r ($r=1, \dots, p$) at time t or $t+1$ (forecast date)

$$p = \frac{\sum_{i=1}^s \sum_{r=1}^p (E_{ir}^{t+1} - E_{ir}^t)}{\sum_{i=1}^s \sum_{r=1}^p E_{ir}^t}$$

$$p_i = \frac{\sum_{r=1}^p (E_{ir}^{t+1} - E_{ir}^t)}{\sum_{r=1}^p E_{ir}^t}$$

$$p_{ir} = \frac{E_{ir}^{t+1} - E_{ir}^t}{E_{ir}^t}$$

Put simply the model isolates sectoral and regional trends from the national trend. Once there is a national forecast, we can build a regional forecast based on those differentials. Shift share models differ on how regional impacts are specified and how convergence in regional disparities is accounted for. Some models assume no regional disparities and so national sectoral employment growth rates are applied to sectors in the regional economy. Some assume constant regional competitive effect, which assume no change over the forecast period.

The projections in Section 2 use a classic shift share model as outlined above with one significant change. As sectoral employment forecasts are not available for the UK we have amended the sectoral component so that it compares sectoral differences in t and $t-1$ as opposed to $t+1$ and t . This substitution is not ideal but it represents the same relationship between sectors, based on historical rather than forecast associations.

Notes

Nevin Economic Research Institute (NERI)

31/32 Parnell Square
Dublin 1
Phone + 353 1 8897722

Email: info@NERInstitute.net
Web: www.NERInstitute.net

Carlin House
4-6 Donegall Street Place
Belfast
BT1 2FN,
Northern Ireland
Phone +44 28 902 46214