



**Department for Employment and Learning**

# **Forecasting Future Skill Needs in Northern Ireland**

**Summer 2009 update**

**Addendum to original main report (April 2009)**

**Oxford Economics**

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## Overview of update findings

### Introduction

- Oxford Economics recently produced a comprehensive report on future skills needs in the NI economy, entitled *Forecasting Future Skill Needs in NI* (see <http://www.delni.gov.uk/forecastingfutureskills>). This research was finalised in April 2009.
- This current report constitutes an update of the empirical evidence presented in that report. The original research was based on Oxford Economics' September 2008 forecasts [which were presented to the Economic Development Forum (EDF)]. Clearly economic conditions in the subsequent period have been rather less favourable than envisaged.
- In many ways the scale and severity of the recession took forecasters, much like everyone else, by surprise. The shock to world financial markets was however not easy to accurately predict, partly because of the opaqueness of many of the high-risk practices in the financial world such as in hedge fund management, as well as weak regulation of certain activities. Whilst the underlying exposure and implications of debt-led growth were understood by economists, the possibility of downside risks being realised were certainly not fully considered by all.
- The lessons from the recession should be that scenario planning is useful to do (both upside and downside scenarios) and that forecasts, whilst providing useful empirical evidence, should not be relied on as statements of fact. Rather they should be used to provoke debate and discussion around the key economic and labour market issues and to test alternate theories and assumptions.
- **What has changed?** Turning to skills forecasting in the period since September 2008, we have made the following comprehensive changes / update of assumptions to Oxford Economics NI skills forecasting model which was used in the original research. Note the actual methodology remains unchanged.
  - New underlying economic forecasts dated summer 2009 (reflecting latest global, industry and UK outlooks etc), specifically new sectoral and occupational employment forecasts which are central to the analysis of future skill needs
  - LFS data for 2008 including flows information on leaver and joiner rates and skills of new entrants, and stock information on workforce highest qualifications and degree subjects
  - HESA 2007/08 industry and occupation employment destinations by degree subject (recall this is used as a proxy for subject demand patterns)
  - Revised sectoral employee jobs data for 2007 onwards to bring the quarterly series in line with the 2007 Census of Employment
  - Revised sectoral self-employed data - a sectoral breakdown was provided by DETI for use in our PSA monitoring report. This improves on the previous estimated self-employed figures (and makes a significant difference to historic PSA1 levels and trends)

- Government schemes are now included in the NI employment aggregate definition. Though they are not included in the future skills analysis (as it is not possible to allocate schemes to occupations), their inclusion in the total employment estimate (again for consistency with DETI's PSA1 definition) changes the historical pattern of total employment and similar to the self-employment changes, and thereby also the historical pattern of the PSA1 target on private sector productivity
  - New and revised Regional Accounts GVA data published by ONS. While not of direct significance for baseline skill forecasts, GVA data is of particular importance for the aspirational scenario as it impacts upon the relative level of private sector productivity in conjunction with the new employment series (and thereby the quantum of employment and productivity / skills uplift to close the productivity gap)
- This update report is structured around the original report to allow referral back to specific chapters and respective results. To ease comparisons with the original research, a compendium of tables and charts has been provided presenting analysis and results in the previous report alongside updated summer 2009 analysis and results.
  - To avoid repetition from the original report and in the interests of brevity, the entire commentary of this update addendum report is contained in this overview of update findings section, with key differences drawn out and described, as well as an update on policy remarks. We do however refer readers to the original report for more detail on our skills forecasting methodology, important methodological caveats, NQF definition and degree subject classification etc.

## **Economic backdrop**

- The economic environment has weakened considerably since our original report (and especially since the EDF September 2008 outlooks). UK GVA growth is now expected to decline by 4.0% in 2009 in the latest Oxford Economics summer 2009 forecasts (indeed the 2009 Q2 UK GDP data was weaker than expected and provisional figures suggest Oxford Economics' autumn 2009 GVA outlook will be revised down to as low as perhaps -4.5 to -4.75%).
- Until summer 2009 almost all revisions to economic projections across the major forecast houses were downwards as published output, confidence and labour market data all pointed to weaker performance.
- There has been some modestly positive economic news coming through in early summer 2009 with business confidence indicators, housing transactions, house prices and unemployment all showing either slight improvement, or in the case of unemployment a slowdown in the rate of decline. This is however not yet sufficiently sustained or corroborated by other key labour market or output data to suggest the downturn is fully behind us.

**Table E.1: International GDP outlooks (summer 2009)**

	2008	2009	2010	2011	2012
NI (GVA)	0.7%	-3.5%	0.2%	2.9%	3.4%
UK	0.8%	-4.0%	0.3%	2.2%	3.2%
ROI	-3.0%	-8.2%	-1.7%	3.2%	3.1%
US	1.1%	-2.8%	1.6%	3.8%	3.8%
Germany	1.0%	-6.3%	0.2%	1.9%	2.7%
France	0.3%	-3.1%	-0.3%	1.6%	2.2%
Spain	1.2%	-4.1%	-0.8%	1.7%	2.5%
Sweden	-0.4%	-4.9%	1.0%	2.2%	2.9%
Australia	2.3%	0.0%	1.0%	4.1%	3.9%

Source: Oxford Economics

Note: Years of negative growth shaded in purple

- Recent economic developments and publication of new data have, unsurprisingly, led to a downward revision in the UK and ROI GDP outlooks from those quoted in our original report (which were at the time the latest February 2009 outlooks as well as EDF September 2008 outlooks). The ROI revisions in particular are startling. Current forecasts are for a -8.2% contraction in 2009 (based on the very latest 2009 Q1 GDP data), compared to Oxford Economics' modest growth forecast in the September 2008 EDF forecast, and the -4.2% contraction expected in February 2009.

**Table E.2: Change in UK and ROI GDP outlooks**

	UK		ROI	
	February 2009	Summer 2009	February 2009	Summer 2009
2008	0.8%	0.8%	-1.0%	-3.0%
2009	-2.9%	-4.0%	-4.2%	-8.2%
2010	0.6%	0.3%	0.6%	-1.7%
2011	2.3%	2.2%	2.7%	3.2%
2012	3.3%	3.2%	3.1%	3.1%

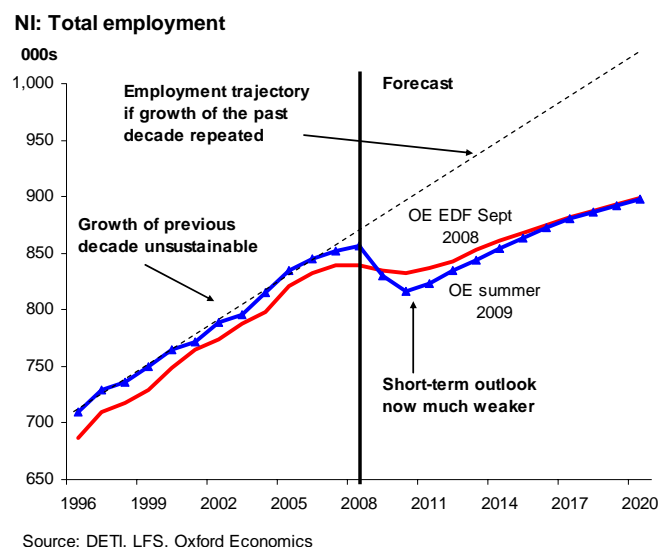
Source: Oxford Economics

Note: Annual average growth

- The recession may soon be bottoming out in terms of the scale of output and employment contraction but attention is now turning towards the medium to long-term legacy impacts the recession may leave. Two of these are worth highlighting at the outset of this update report:
  - Unemployment legacy** – unemployment has already risen sharply in the UK (and in NI and ROI), and is no longer forecast to fall back to the historic lows of late 2007 / early 2008. This is due to (1) insufficient pace of employment growth during recovery, (2) a mis-match of skills of the unemployed versus business / economy needs and (3) only a limited out-migration response to rising local unemployment (as migrant origin economies are similarly struggling with recession).

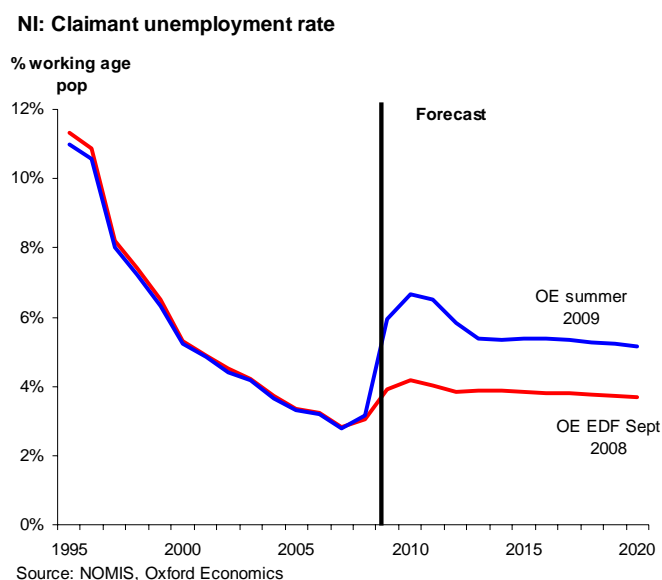
- 2. Public finances squeeze** – there is increasing acceptance about the inevitability of a period of real cuts in public expenditure levels in both NI and UK (such painful cuts have already commenced in ROI). Though it remains an issue of political contention as to the timing and scale of spending cuts, there is no doubt that higher taxes and spending cuts will be the reality for perhaps the best part of the decade ahead. It is difficult to be precise on how this will feed through to future skill needs until the balance between cuts and tax rises is clear. Regardless of the finer details it is clear that for the public sector the recessionary impact will be much longer than for the private sector where the impact has had a more immediate effect (but is likely to be less prolonged in many cases). However this may hold less true in NI where the private sector is less export-orientated and depends to a greater degree on public spending indirectly via procurement contracts (e.g. construction contractors, consultancies).
- For NI the outlooks have been revised downwards since our published report (and significantly since the EDF September 2008 outlooks), with a more acute recession now expected. Interestingly the revised employment data show the NI economy to have performed stronger in the recent past than previously thought [accordingly now this means the extent of net job loss peak to trough is higher (41,000) than previously predicted – 7,000 EDF September 2008 and 25,000 February 2009). The recent stronger employment performance is mainly due to an upward revision of employment growth in a number of sectors – most notably retail, business services and health]
  - The current long-run employment outlook suggests that the NI economy will not return to its 2008 employment level until around 2017, so close to a decade to return to peak employment levels. This is a clear indication of the more measured nature of the recovery phase in contrast to the spectacular ‘fall’ during the recession. Put another way, it will take a considerable period for the economy to create the quantum of jobs lost during the recession.

**Fig E.1: NI total employment forecast (job-based)**



- The rapid escalation in unemployment (according to claimant count data) and Oxford Economics' expectation of a sustained high level of people claiming unemployment benefit is a clear indicator of the personal impact of the recession. Indeed it is the labour market changes that matter most from a skills perspective more than GVA / output. The latest data continue to show unemployment rising (albeit at a reduced rate) and the sustained high level of unemployment is a further important change to our outlooks compared to the EDF September 2008 outlooks.

**Fig E.2: NI claimant count forecast**



- While the central baseline outlook in this report is a guide to the most likely outcome for the NI economy, the evidence of the recent past has taught all concerned that forecasts are subject to significant uncertainties. It is important therefore to be clear that there are risks, both upside and downside, to the outlooks. These are summarised below.

**Table E.3: Upside and downside risks for NI economy**

Upside risks	Downside risks
The global economy accelerates rapidly and demand for exports boosts the local economy, helped by Sterling weakness, and arrests job falls	The recession takes a 'double dip' as continued job shedding and the first round of public expenditure squeezes / tax rises 'bite' the economy
The NI housing market begins to move into positive territory as interest rates stay low and banks increase lending, leading to improved consumer confidence	As the global economy falters, Sterling appreciates reducing export competitiveness
Policy actions stave off the worst of the youth unemployment problem and leave the young labour force better equipped to lead the recovery	Public sector squeezes lead to unrest and strikes leading to a further weakening of the economy
The 'green revolution' yields dividends and an employment boost plus a reduction in costs for business and consumers	Oil prices move strongly upwards as Chinese demand accelerates raising consumer and business costs
	Policy to reduce public expenditure is carried out via head count reductions leading to a loss of confidence locally and significant unemployment
	Any further turmoil in financial institutions or markets that

Upside risks	Downside risks
	would reduce confidence and increase borrowing costs
	Interest rates are put up too quickly and / or strict new banking regulation introduced that could raise the cost of borrowing

- As Table E.3 indicates, downside risks remain more pronounced (even with all the bad news received to date) and this in itself provides clear warning that the economic environment could be more challenging than our summer 2009 down-revised forecasts suggest. Recovery is not a foregone conclusion and the ‘golden era’ for jobs and consumer-led growth is clearly over. (It is however worth saying that from a skills perspective, challenges from skill shortages and gaps may ease)

## Skills in context

- Workforce skills:** The latest LFS skills data published for 2008 present a very positive picture of high-end workforce skills in NI with an increase in the workforce share of persons qualified to NQF level 4-8 of 2-3% on 2007 from 29% to 31%<sup>1</sup> (the overall UK share did not change over the same period). Recall volatility in LFS data (due to sampling issues) means Oxford Economics’ NI skills forecasting model uses 3-year moving average LFS data.
- This rise in the share of high-end workforce skills may however reflect the early impact of the recession as lower skilled construction, manufacturing and temporary agency workers lose their jobs first (though the data points towards greatest falls in intermediate level skills partly discounting this theory). Even if this is not the reason for the patterns in the 2008 workforce skills data, this will be a likely trend of the recession that will be observed eventually. An uplift in the skills profile of the workforce will occur as more skilled staff are retained and lesser skilled staff are laid off. The on-flows claimant unemployment data supports this with approximately half of the unemployed entrants in the last 12 months coming from elementary, process and sales occupations. While job losses during the recession are heavily concentrated in lower skilled sectors, it is still a possibility that a rise in the workforce share of higher skilled employees could result in greater ‘under-employment’ where some workforce skills are under-utilised.
- If the latest LFS data survive any future revision, the improvement in NI’s proportion of the workforce with higher level skills (NQF 4-8) according to latest data (3-year average 2006-2008) will confirm that NI has moved above the UK excluding Greater South East high-end workforce skill share average (a new finding since our original report which was based on LFS data up to 2007). NI’s proportion of 31% is just below the South West and only the UK’s southern regions and Scotland are ahead of NI. Sectorally outside of hotel & restaurants, private services’ higher skill workforce shares remain very close to UK averages, NI’s retailing share has improved and business services have moved further ahead since our last report (4 percentage points higher). It remains in agriculture, construction, hotel & restaurants, and to a lesser extent manufacturing, in which NI’s workforce high-end skill profile is weaker than the UK average.

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<sup>1</sup> Figures are rounded to the nearest %

- **Occupations:** In terms of occupations the latest LFS data has done little to change our previous main conclusion of NI having a lower concentration of managers and professionals (save for business and public service professionals). NI is still bottom of the UK ladder despite the improvement in high-end workforce skills discussed above.
- **Workforce degree and above subjects<sup>2</sup>:** Graduate (degree and above) subject data, by and large, show little difference from the previous report with notably lower concentrations of STEM degree holders and much higher relative concentrations of business and medical degrees in the workforce. However the volatility of the underpinning LFS data is clear in a few subject areas where even using three-year averages has made a significant change to the picture. In physical sciences the relative under-concentration has fallen – now standing at 22% rather than 35%. Equally history & philosophy has now a recorded above UK average concentration (by 30%) compared to a 25% under concentration in the previous data. In contrast the under-representation of the creative and arts subjects has increased. Given sampling issues mentioned above, we do not recommend that a great deal is read into these changes at this stage until LFS data for 1 or more years becomes available. Overall NI appears to remain by far the UK region with the greatest proportion of its workers with degrees and above in business & administration and is now the second lowest in terms of STEM concentration (broad definition) and the lowest for creative arts and design.
- LFS data volatility, especially for bespoke analysis such as workforce degree subjects, means care must be taken when using this information. It is only a guide and cannot provide much in the way of precision. (Unfortunately, to the best of our understanding, there are no other sources on the entire stock of degree subject qualifications in the NI workforce - the Census, for example, does not ask questions on subject qualifications held)

**Table E.4: NI degree subject concentrations (average 2006-2008)**

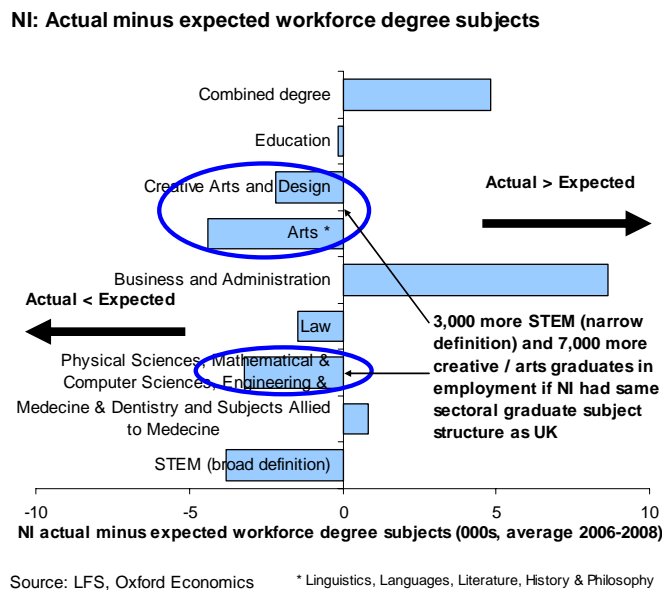
	NI % degree employed persons (2008, 3-year moving average)	UK % degree employed persons (2008, 3-year moving average)	NI rank (1=highest share)	NI subject degree employed persons per 10,000 working age population (UK=100)
Medicine and Dentistry	4%	2%	1	160
Subjects Allied to Medicine	13%	11%	5	104
Biological Sciences	4%	5%	12	68
Physical Sciences	4%	5%	11	70
Mathematical and Computer Sciences	4%	6%	12	71
Engineering	5%	6%	12	70
Architecture, Building and Planning	2%	2%	5	95
Social Studies	6%	7%	5	87
Law	2%	4%	12	63
Business and Administration	16%	11%	1	123
Linguistics, Classics and Related	1%	3%	12	33
History and Philosophical Studies	3%	4%	10	79
Creative Arts and Design	4%	5%	12	61
Education	7%	7%	9	90
Combined degree	20%	18%	1	104

Source: LFS, Oxford Economics

<sup>2</sup> LFS degree and above subject data is available for the majority (but not all) of the workforce qualified to NQF level 4 and above

- **Where NI could be?** Applying UK sectoral degree subject concentrations and given NI's economic structure allows a calculation to be made of the 'expected' level of degree subjects in the NI workforce as was done before. The evidence utilising the latest 2008 LFS data is similar to the results reported in the previous report. The NI economy has 3,000 less STEM graduates (narrow definition) and 7,000 less arts and design graduates even after adjusting for the structure of the NI economy.

**Fig E.3: NI actual minus expected subjects of graduates in employment by sector (average 2006-2008)**



## Tomorrow's economy

- As discussed above, the period since the original report / EDF September 2008 outlooks has been a particularly challenging one with a weakening global economy exacerbating the already known domestic weaknesses in the housing and consumer sectors. With the prospects of a more challenging public spending environment looming large, the outlook for the future NI economy is undoubtedly less favourable than it was just 6 months ago (and much less favourable than back in September 2008).

## Baseline scenario

- The short-term (2008-2010) job loss projection is now much more acute than before, with a net loss of 38,000 jobs expected compared to a net loss of only 7,000 at the time of the EDF September 2008 forecasts (people-based employment).
- The weakening outlook is across most sectors (one of the features of this recession is its wide reach sectorally and geographically) and if the Q1 2009 DETI employee job estimates prove to be correct, even the current Oxford Economics summer 2009 outlooks will understate the loss of jobs. For example over 5,000 net jobs were lost in Q1 2009 in retailing. Whilst half of this may be normal post-Christmas contraction, the scale of the remaining loss remains high, especially relative to our forecast which predicts a net loss of only 3,000 jobs over the two recessionary years.

**Table E.5: NI sectoral employment forecasts (000s)**

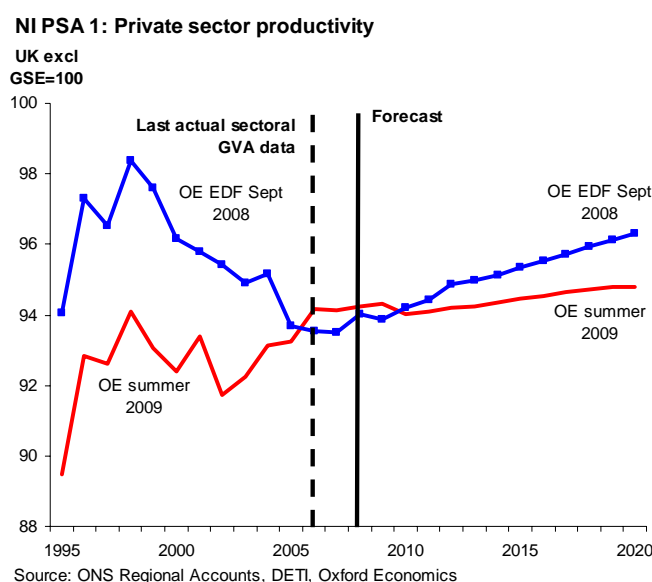
	OE baseline EDF Sept 2008		OE baseline summer 2009	
	2008-2010	2010-2020	2008-2010	2010-2020
Agriculture, forestry & fishing	1	0	0	0
Mining & quarrying	0	0	0	0
Manufacturing	-2	-9	-9	-10
Utilities	0	0	0	0
Construction	-4	3	-7	6
Retail & distribution	-3	10	-3	9
Hotels & restaurants	0	6	-2	7
Transport & communications	-1	3	-2	4
Financial services	0	4	-1	2
Business services	-2	26	-5	30
Public administration & defence	0	-1	-2	-1
Education	1	2	0	4
Health & social work	4	12	2	13
Other personal services	1	2	-1	4
<b>Total employee jobs</b>	<b>-5</b>	<b>57</b>	<b>-31</b>	<b>68</b>
Land forces	0	0	0	0
Self-employment	-2	10	-10	12
<b>Total employment (job-based)</b>	<b>-7</b>	<b>66</b>	<b>-41</b>	<b>81</b>
<b>Total employment (people-based)</b>	<b>-7</b>	<b>56</b>	<b>-38</b>	<b>69</b>
<b>Annualised</b>	<b>-4</b>	<b>6</b>	<b>-19</b>	<b>7</b>

Source: Oxford Economics

- Longer-term:** The longer-term employment recovery (2010-2020) is stronger in the current summer 2009 outlooks with an average of around 7,000 jobs per annum (people-based), compared to 6,000 per annum previously (EDF September 2008). This suggests the NI economy will get back to a similar level of employment in 2020 as previously projected despite heavy job losses during the recession (though recall also that employment definition changes and data revisions mean we are now starting from a higher base and include training schemes – this means that although employment returns to the same level by 2020, the absolute net increase in jobs between 2008 and 2020 in the summer 2009 baseline is lower – 31,000 compared to 49,000).
- However there are growing concerns that this projected rate of recovery may be revised down further in future outlooks as the position on public spending cuts / tax rises becomes clearer. Part of the reason for the higher long-term (2010-2020) employment growth than before is the increased 'bounce back' from the more acute recessionary job loss phase. While clearly not all jobs will be recovered (especially elements of 'luxury' employment), there will be areas of the market which will recover cyclically – such as services related to the housing market, business to business services and elements of leisure and retailing.
- Unemployment:** As noted previously, even with a faster job recovery, the current Oxford Economics outlooks are for higher unemployment in the longer-term – remaining around 6% (claimant unemployment % working age population) - as we expect modestly higher participation rates than before. This is partly based on the evidence of recent unemployment trends and a growing expectation that there will not be significant outflows of workers (in the form of migrants) to suppress the unemployment rate. What this is starkly evidencing is that the rate of job growth projected (even at a possibly optimistic 7,000 per annum people-based) is enough to only very slowly erode unemployment rates in migration-neutral conditions but not enough to significantly reduce the rump of unemployment 'deposited' by the sharp recession even over a 10-year horizon.

- **PSA1:** Looking toward the PSA1 productivity target, a revision in the employment definition and data has markedly changed the historical pattern (pre-2005). This is due to a different self-employment classification (more have been moved into private services away from public services) and the inclusion of government schemes in the employment denominator (which in 1995 for example accounted for 2.6% of employment in NI and just 0.7% in the UK). This has the effect of increasing NI employment (the productivity denominator) but as private sector GVA has not changed pre-2005, the effect is to record a weaker relative productivity position historically.
- Incorporation of new data and definitions suggest improvement in the PSA1 target post-2003 (including from new GVA data), though the overall change from the late-1990s to the latest year of full sectoral Regional Accounts GVA data (2006) shows barely any improvement (as the recent improvement simply offset the past decline)<sup>3</sup>.

**Fig E.4: PSA1 – closing the private sector productivity gap (OE EDF Sept 2008 and OE summer 2009)**



- The PSA1 baseline forecast is now slightly less favourable than the projected closing of the gap trend in September 2008, with the recent improvement in the PSA1 target now falling back during the recession before a more modest rise than was previously projected (by 2020 the target is 1.5% below what was previously forecast).
- Precision on productivity forecasting is complex and the graduate concentrations within employment may suggest scope for improvement. (Although increased graduate employment, if there is some under-employment, is no guarantee of higher productivity) However the latest forecasts have checked back some of the recent improvements in productivity in the professional services sectors (which could not have continued indefinitely anyway) as the role of the property and debt-boom in improving NI's productivity has now become clearer.

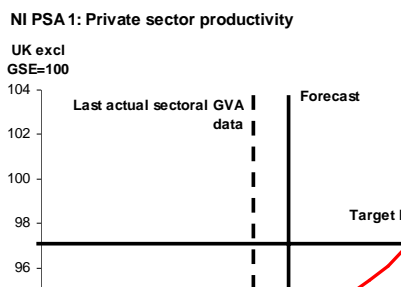
<sup>3</sup> Clearly the lack of clarity on the PSA definition remains a key issue for policy advice and Oxford Economics remains sceptical over the precise definition and the inclusion of training schemes in the employment denominator. It is worth bearing in mind that the definition remains imprecise as the PSA1 target is presented as an annual average (Oxford Economics' labour market models are mid year) and in nominal prices (Oxford Economics' GVA data are in real prices).

- Interestingly it is always worth remembering that it is possible for an improvement in the PSA1 target to be achieved via lower employment if output levels can be maintained – hardly a desirable outcome given the current recession and the expectation of persistent and higher unemployment as discussed above.

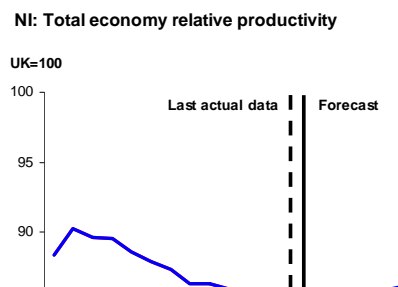
### Aspirational scenario

- Developing aspirational scenarios remains a complex process – there is no accepted route-map to delivering on the PSA1 target. Equally different government departments may place different relative priorities on job creation versus productivity growth as a means to achieving PSA targets (including beyond PSA1). This does not mean that hypothesising about potential future ‘faster growth’ is not useful but it should be considered just one of a range of possible outcomes – including the possibility of a much weaker outturn than even the baseline summer 2009 Oxford Economics projections.
- The aspirational scenario modelled for the original research was a hybrid scenario based on the two distinct Leitch approaches (essentially changing NI’s economic structure towards faster growing sectors and improving the productivity of the stock of what is already present in the economy), plus an additional jobs and productivity uplift in plausible export-orientated sectors in order to reach the PSA1 target (this continues to be broadly in line with DETI’s priority sectors and the MATRIX vision). The scenario shows a marked upturn in the PSA1 target but interestingly looks entirely plausible when compared against the trajectory for relative whole economy productivity versus the UK (a sizeable gap still remains in 2020 of around 10%).

**Fig E.5: PSA1 – closing the private sector productivity gap (OE aspiration and baseline summer 2009)**



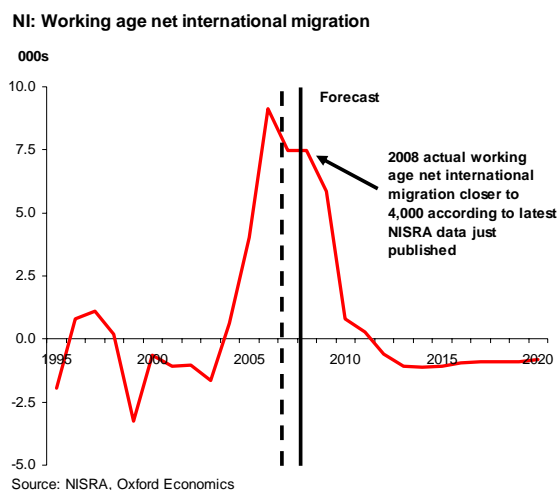
**Fig E.6: NI convergence with UK (OE aspiration and baseline summer 2009)**



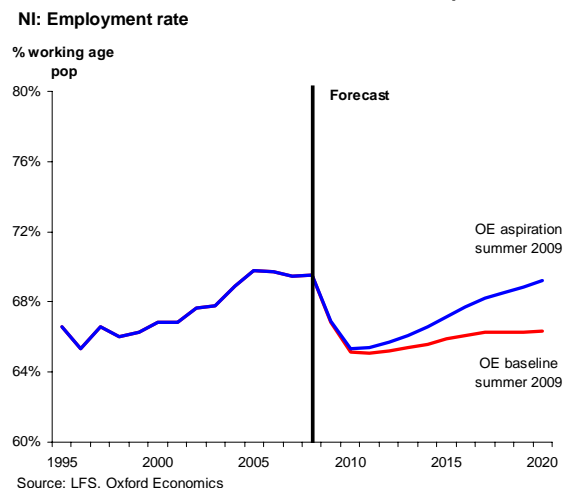
- The aspirational scenario produces job growth of 10,000 pa (people-based) compared to the baseline growth of 7,000 pa over the period 2010-2020. It also produces approximately £3.8bn of additional GVA compared to the baseline, more than previously forecast before for the GVA uplift (£2.5bn). This is because NI’s baseline PSA1 trajectory is weaker than before, which also has implications for the quantum and level of aspirational higher level skill entrant and upskilling requirements.

- Perhaps of particular interest is that with the current Oxford Economics net international migration assumptions (broadly in balance), this level of aspirational job creation would still leave NI with an employment rate in 2020 only roughly equivalent to the recent peak. With high unemployment likely to push job creation up the policy agenda, an aspiration for a higher employment rate than forecast (e.g. more PSA3 focused) may well be considered in the future. By way of example an extra 70,000 jobs would be required to raise employment rates by 2020 to 75%, what might be considered a ‘successful’ employment rate outcome.

**Fig E.7: NI net international migration (OE baseline summer 2009)**



**Fig E.8: NI employment rate (OE aspiration and baseline summer 2009)**



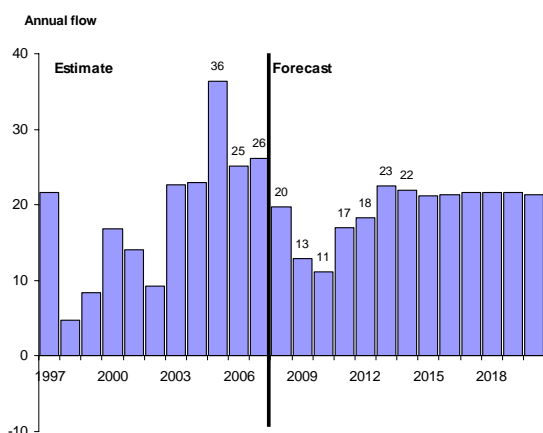
## Skills for tomorrow’s economy

- **Replacement demand:** With similar long-term employment growth projected as before (albeit now slightly higher), we maintain our prediction, as stated above, that the NI economy should over the period 2010-2020 fully absorb leavers from education and still have a requirement for moderate migration inflows (which is now also slightly higher than before). This is because of the significant net replacement demand component of labour demand (roughly 16,000 pa). Net replacement demand is now 1,000 higher pa than originally – this is due to the update of leaver and joiner assumptions based on new LFS data and migration assumptions (both joiner and leaver rates are slightly higher using three-year and five-year averages).
- This flows approach however says little about what happens to the stock of persons not finding employment during the recession. The reality is that by the time the economy recovers, there will be a rump of experienced laid-off workers and education leavers who did not find employment during the recession, not to mention a potentially large stock of migrants who were made redundant in sectors such as construction and manufacturing but who do not return to A8 and other countries. This ‘out of work’ stock will compete with leavers from education in 2010 and beyond, which makes the picture of the economy fully absorbing education leavers more complex than the flows approach would suggest.

- Net requirement for education leavers and in-migration:** As already alluded to, the short-term jobs market is / will be incredibly tough. Over recent years the net requirement for education leavers and in-migration has been around 30,000 pa, peaking at almost 40,000 in 2008 based on revised employment data and 2008 LFS flows data (previously we estimated the 2008 net requirement figure to be only 26,000). During the recession the net requirement is expected to drop below zero, emphasising the severity of the labour market challenge facing the NI economy. Whilst a sharp slowdown was factored into the EDF September 2008 outlooks, the average annual net requirement in 2009 and 2010 was still +11,000 to +13,000 compared to around -8,000 now.

**Fig E.9: Net requirement from education and migration (OE EDF Sept 2008 baseline)**

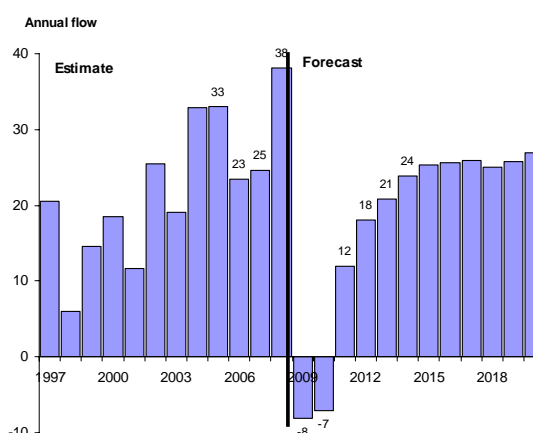
NI: Net requirement from education system and in-migration



Source: Oxford Economics

**Fig E.10: Net requirement from education and migration (OE summer 2009 baseline)**

NI: Net requirement from education system and in-migration



Source: Oxford Economics

- Skill demand:** Previously we predicted that just less than one half of the total net requirement from education and in-migration in the long-term would be for higher professional and technical sub-degree, degree and postgraduate qualified persons (average of 9,600 pa in the baseline). This largely still holds in the updated forecasts (9,000 pa) – the high-skill share has though dropped slightly due to a range of factors, notably a change in leaving rate assumptions which has increased the net requirement for lower qualifications. Now we predict one in five jobs for people leaving the education system / migrants will be for people with low qualifications under both scenarios (NQF 1 and below), compared to one in six before. We do not suggest that too much is read into this change. This is because the quantum of demand for lower skills will still be much lower than during the ‘golden era’ (due to lower overall growth and sectoral and occupational patterns). Also the availability of better qualified persons not in employment (the recently unemployed, education leavers not finding employment etc) is likely to limit opportunities for the low-skilled non-employed (but could create a situation of more widespread ‘under-employment’). Overall the skill demand picture, taking into consideration sectoral and occupational trends and leaver and joiner flows, is still one of an increasingly ‘graduate hungry’ economy.

**Table E.6: Net requirement from education and migration – NQF qualifications (OE summer 2009 baseline)**

	2008-2010 (annual)	2010-2020 (annual)	Difference	2010-2020 (annual % total)
Postgraduate (NQF 7-8)	-0.2	1.9	2.0	8%
First degree and sub-degree (NQF 4-6)	-2.2	7.1	9.3	31%
Intermediate a (NQF 3)	-3.0	5.6	8.5	24%
Intermediate b (NQF 2)	-1.2	3.1	4.3	13%
Low (NQF 1 and below)	-1.0	5.3	6.3	23%
<b>Total</b>	<b>-7.6</b>	<b>22.9</b>	<b>30.5</b>	<b>100%</b>

Source: Oxford Economics

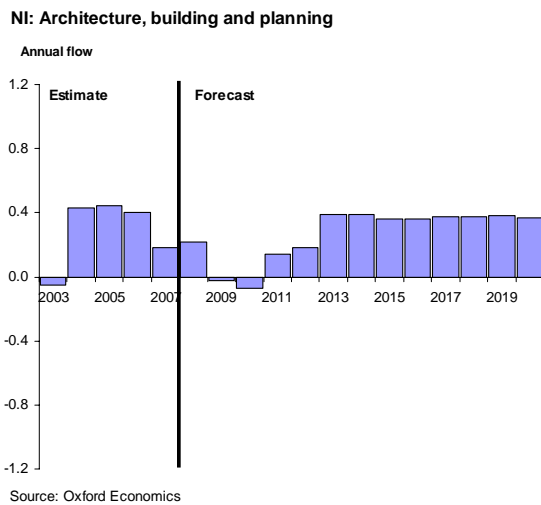
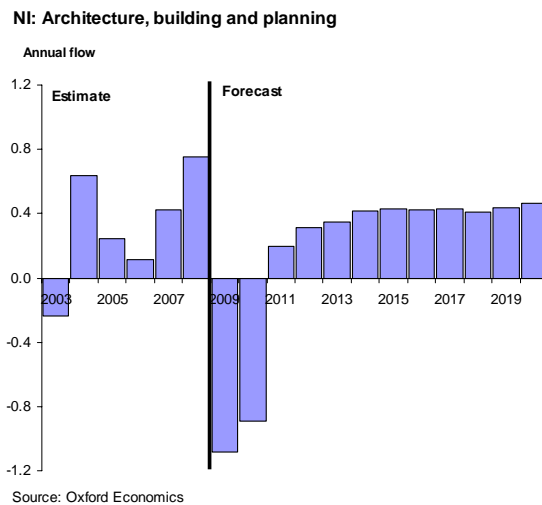
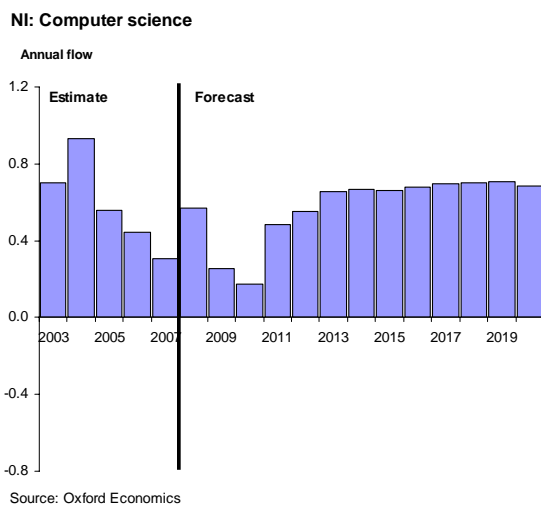
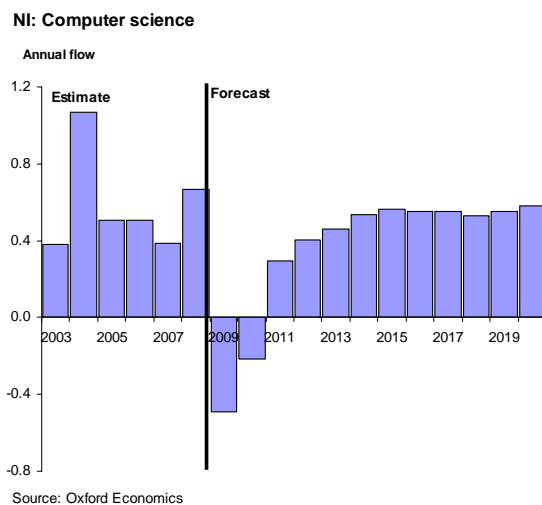
- **Upskilling:** A key (though widely accepted) conclusion from before was that up-skilling of the existing workforce is an extremely important element of the changing workforce skill structure. This continues to hold with little overall change in the quantum of the estimated annual up-skilling requirement in the baseline scenario.

**Table E.7: Upskilling of existing workforce requirement (OE summer 2009 baseline)**

	2008-2020 (annual upskilling)
Postgraduate (NQF 7-8)	2.4
First degree and sub-degree (NQF 4-6)	5.8
Intermediate a (NQF 3)	0.3
Intermediate b (NQF 2)	0.0
Low (NQF 1 and below)	-8.6
<b>Total</b>	<b>0.0</b>

Source: LFS, Oxford Economics

- **Degree and above subject demand:** Even with the incorporation of new HESA employment destination data for 2007/08, our central prediction is still that the degree subject requirement will become more skewed towards physical sciences, mathematical & computer sciences, engineering & technology, law and creative arts & design; and less skewed towards subjects allied to medicine and education.
- However in the short-run job prospects for graduates have weakened significantly since the previous forecasts (as they have across the entire skills spectrum). Before this applied particularly to degree subject areas traditionally supplying construction (e.g. architecture) but is now spreading to other subject areas (e.g. computer science, business & administration) as the recession has developed in three phases and reached out to almost all sectors: phase 1 (financial services and construction); phase 2 (retail, real estate, legal services); phase 3 (exporting sectors affected by a slump in global trade – manufacturing and to a lesser degree tradable services). A real concern is that the previously ‘untouched’ public sector could become phase 4 of a long-term downturn as real public spending cuts now seem inevitable.

**Fig E.11 Net degree requirement - architecture (OE EDF Sept 2008 baseline)**

**Fig E.12 Net degree requirement - architecture (OE summer 2009 baseline)**

**Fig E.13 Net degree requirement – computer science (OE EDF Sept 2008 baseline)**

**Fig E.14 Net degree requirement – computer science (OE summer 2009 baseline)**


- Aspirational scenario:** As explained previously, the uplift above the new summer 2009 baseline (in job and productivity terms) required to achieve the PSA1 target is more challenging than before. This is because NI's baseline PSA1 trajectory is weaker than before. This has a host of implications – higher expansion demand (10,000 pa compared to the previous aspiration of 8,000 pa), a higher net requirement for education leavers and in-migration (28,000 pa versus 24,000 pa) and a higher net requirement quantum across the entire skills spectrum (bar NQF level 2). The up-skilling requirement is also more marked. Furthermore assuming no change in higher education employment destination patterns (according to HESA), the shortfall in subject areas such as mathematical & computer sciences, engineering & technology and law will be larger than predicted by the previous aspirational analysis.

## Policy remarks

The depth and duration of the recession remains the main subject of conjecture, despite the greatest efforts of forecast models and expert commentary.

With this backdrop of uncertainty, the impact on the quantum and level of future skill needs is hard to be certain about, especially given at the time of writing the NI economy remains in the ‘eye of the recessionary storm’. The update carried out for this addendum report suggests a number of policy remarks to sit alongside the more considered thoughts in the main original report.

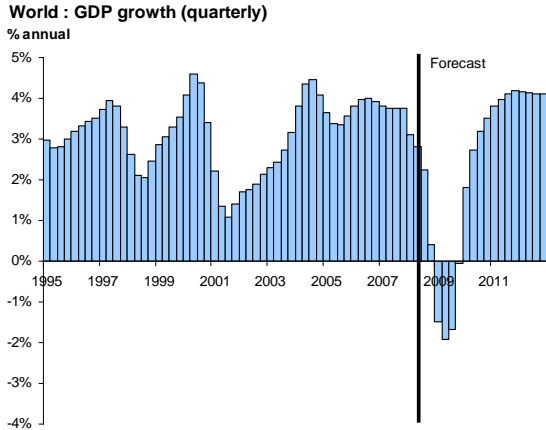
- **The education leaver problem** – with a much more acute recession underway than previously envisaged, the impact on leavers from education is severe - a lot of young people will face an extremely challenging search for work. For many the recession will last much longer than economic models show for the economy as a whole – this is the most immediate and severe recessionary impact facing NI residents.
- **An unemployment problem** – with unemployment already past 50,000 (claimant measure) and the latest forecasts suggesting it will stay high throughout the recession and into the medium-term, unemployment is going to be a policy problem for the considerable future. Understanding of the scale and potentially persistent nature of this problem will be important in the face of much tighter public spending pressures – e.g. who are the unemployed today, what is their skill level, employment background, intentions for training etc? This is not to mention the inactive problem which remained relatively high through the economy’s ‘golden era’. The inactivity position might be expected to worsen if the long-term unemployed slip into the inactive and further away from the labour market.
- **The golden era is over** – the spectacular job growth of the last decade is unlikely to be repeated and though this does not necessarily mean there will be insufficient jobs for leavers from education (due to the quantum of net replacement demand alongside more moderate expansion demand), it does mean that eroding the large unemployed stock generated by the recession will be more difficult. I.e. there is unlikely to be sufficient vacancies in the short to medium term for both education leavers and those persons made unemployed during the recession. Finding a job will clearly be harder in the decade ahead than in the past with increased competition between education leavers, returnees, the non-employed and migrants.
- **Some truths unchanged** – the research confirms that even with new 2008 LFS data, the evidence on lower concentrations of managers and professionals in the economy, an under-representation of specialist degrees (including STEM subjects, law and arts and creative design) and an over-representation of business & administration degrees and medical degrees remains factually correct.

- **Skill needs remain high** – the unemployment data is showing that, as is almost always the case, it does not matter where recessions start (in the boardrooms of banking institutions and estate agents in the case of this recession), it is the lowest skilled that remain the most vulnerable. The stock of people out of work with limited qualifications is going to increase as a result of the recession – the need for a high standard of education to complete in a global world will only be more acute in the years ahead as growth rebalances from domestic to external demand (especially in the aspirational scenario). The ability for consumer debt to effectively demand a significant level of lower formal skilled jobs (for example in construction, retailing and other services, as well as ‘luxury’ employment sectors) is unlikely to return to the levels it was previously at.
- **A considered route to growth** – it remains imperative that the government continues to assess the likely future path towards the prosperity it aspires to – what skills should the unemployed be retrained in? What potential is there in the green economy and what skills does it need? The recession is likely to change the prospects for a number of sectors and thus the skills agenda and particularly the subject focus needs to keep a watching and flexible brief.
- **Continue to monitor** – irrespective of the validity of forecasts, the exercise of forecasting future skills needs has, in our view, produced a valuable evidence base that has provided new information, confirmed some previously perceived ‘truths’ and revealed some surprises (for example the concentration of graduates within the business services sector is now above the UK average according to new LFS data).

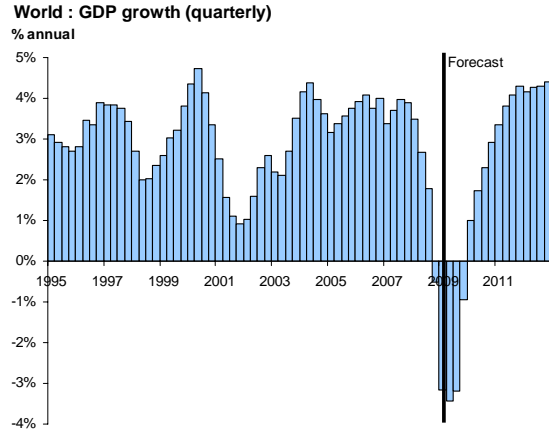
# 1 Economic backdrop

## 1.1 Global context

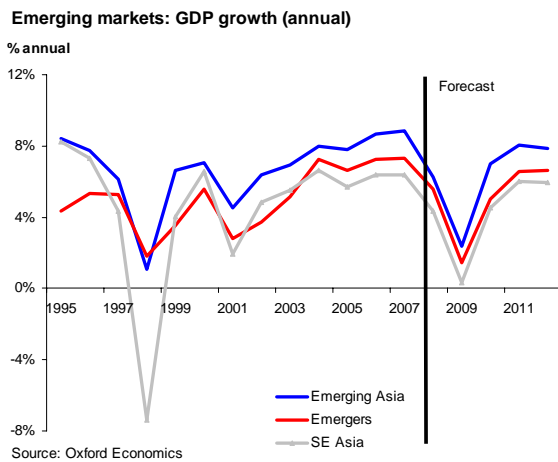
**Fig 1.1: World GDP growth (Feb 2009)**



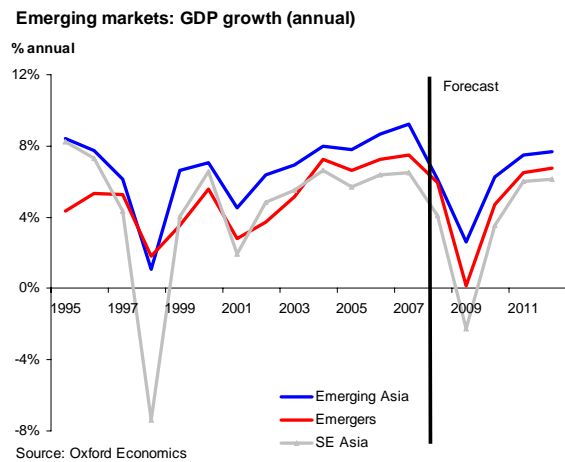
**Fig 1.2: World GDP growth (summer 2009)**



**Fig 1.3: Emerging market GDP growth (Feb 2009)**



**Fig 1.4: Emerging market GDP growth (summer 2009)**



**Table 1.1: Change in world GDP growth forecasts (Feb 2009)**

	EDF September 2008	February 2009
2008	3.1%	2.1%
2009	2.6%	-1.3%
2010	3.6%	2.8%
2011	3.8%	4.0%
2012	3.7%	4.1%

Source: Oxford Economics  
Note: Annual average growth

**Table 1.2: Change in world GDP growth forecasts (summer 2009)**

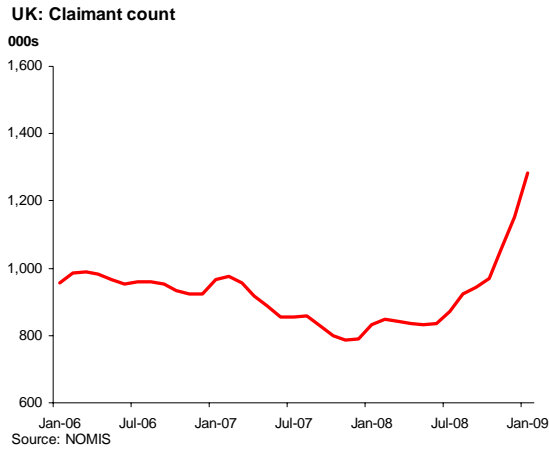
	February 2009	Summer 2009
2008	2.1%	1.8%
2009	-1.3%	-2.7%
2010	2.8%	2.0%
2011	4.0%	3.9%
2012	4.1%	4.3%

Source: Oxford Economics  
Note: Annual average growth

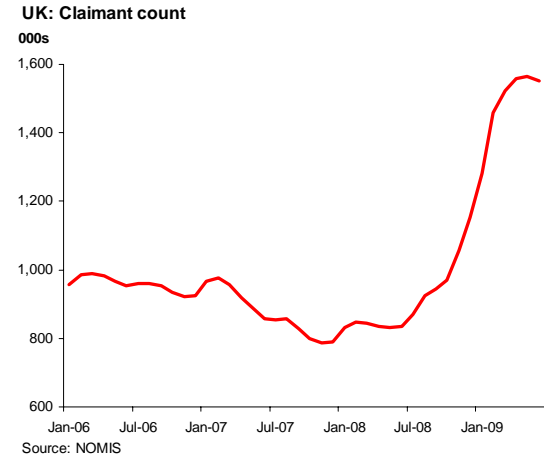
## 1.2 UK and ROI context

### UK context

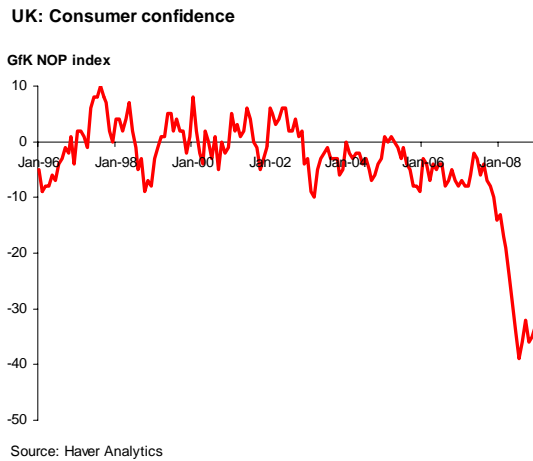
**Fig 1.5: UK claimant count (up to Jan 2009)**



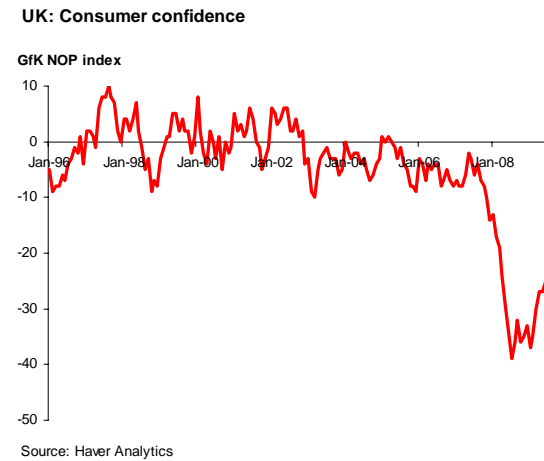
**Fig 1.6: UK claimant count (up to June 2009)**



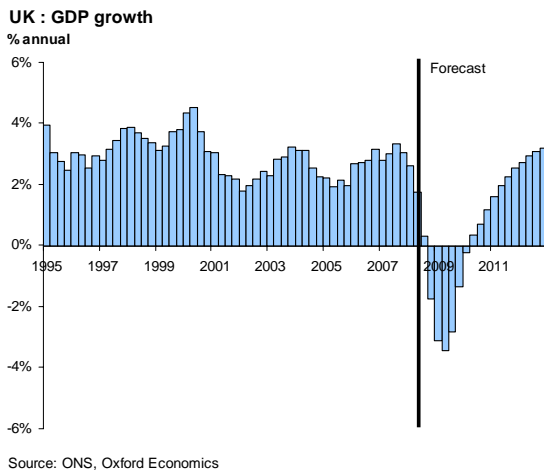
**Fig 1.7: UK confidence (up to Dec 2008)**



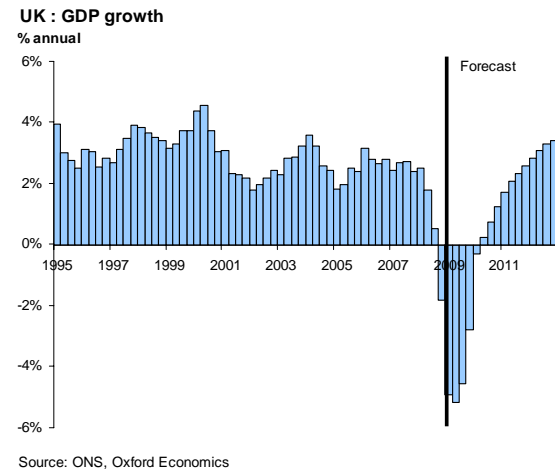
**Fig 1.8: UK confidence (up to June 2009)**



**Fig 1.9: UK GDP growth (Feb 2009)**



**Fig 1.10: UK GDP growth (summer 2009)**



**Table 1.3: Change in UK GDP growth forecasts (Feb 2009)**

	EDF September 2008	February 2009
2008	1.2%	0.8%
2009	0.5%	-2.9%
2010	2.2%	0.6%
2011	3.2%	2.3%
2012	3.2%	3.3%

Source: Oxford Economics  
Note: Annual average growth

**Table 1.4: Change in UK GDP growth forecasts (summer 2009)**

	February 2009	Summer 2009
2008	0.8%	0.8%
2009	-2.9%	-4.0%
2010	0.6%	0.3%
2011	2.3%	2.2%
2012	3.3%	3.2%

Source: Oxford Economics  
Note: Annual average growth

## ROI context

**Table 1.5: Change in ROI GDP growth forecasts (Feb 2009)**

	EDF September 2008	February 2009
2008	-0.4%	-1.0%
2009	1.1%	-4.2%
2010	2.9%	0.6%
2011	3.7%	2.7%
2012	3.4%	3.1%

Source: Oxford Economics  
Note: Annual average growth

**Table 1.6: Change in ROI GDP growth forecasts (summer 2009)**

	February 2009	Summer 2009
2008	-1.0%	-3.0%
2009	-4.2%	-8.2%
2010	0.6%	-1.7%
2011	2.7%	3.2%
2012	3.1%	3.1%

Source: Oxford Economics  
Note: Annual average growth

### 1.3 NI context ... end of 'golden era'

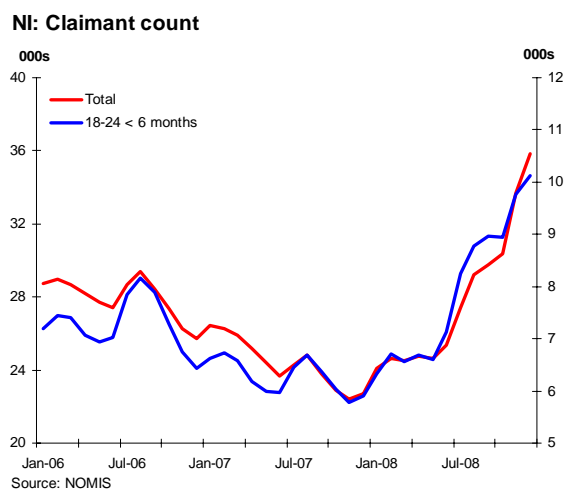
**Table 1.7: NI quarterly change in employee jobs (SIC 2007 industry classification)**

	Q1 2008	Q2 2008	Q3 2008	Q4 2008	Q1 2009
Manufacturing	-310	200	-1,000	-1,520	-2,420
Construction	-880	-840	-1,390	-1,640	-1,930
Retail & distribution	-3,270	390	-220	2,860	-5,770
Transport and storage	-20	-250	90	260	-1,040
Accommodation & food service activities	-810	360	-20	-1,260	-1,280
Information & communication	190	-70	-250	-240	-150
Financial & insurance activities	100	-20	-160	-20	-100
Real estate activities	-160	-210	-170	-120	-30
Professional, scientific & technical activities	-20	-130	-360	-120	-420
Administrative & support service activities	-440	570	-490	-470	-1,450
Public administration & defence, compulsory social security	30	-320	-10	-10	130
Education	730	-30	-4,400	4,360	2,100
Human health & social work activities	1,690	-190	-470	860	-90
Arts, entertainment & recreation	100	760	-200	-160	30
Other service activities	-110	-100	-60	0	-130
<b>Total</b>	<b>-3,230</b>	<b>280</b>	<b>-9,040</b>	<b>2,210</b>	<b>-12,680</b>

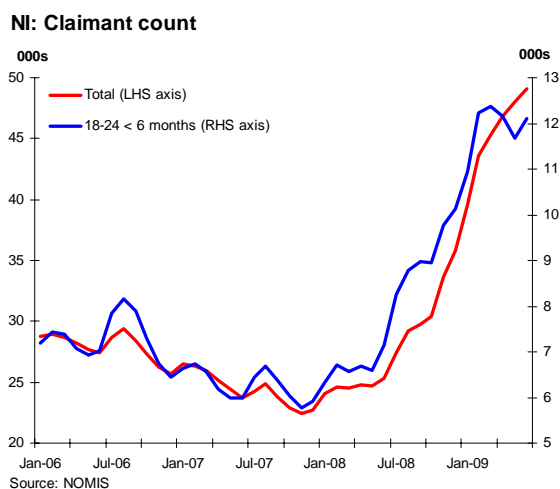
Source: DETI QES

Note: Cells shaded purple indicate quarterly employee net job loss of 100 or more; cells shaded blue indicate quarterly employee net job gain of 100 or more. QES figures presented are not seasonally adjusted and are rounded to the nearest 10

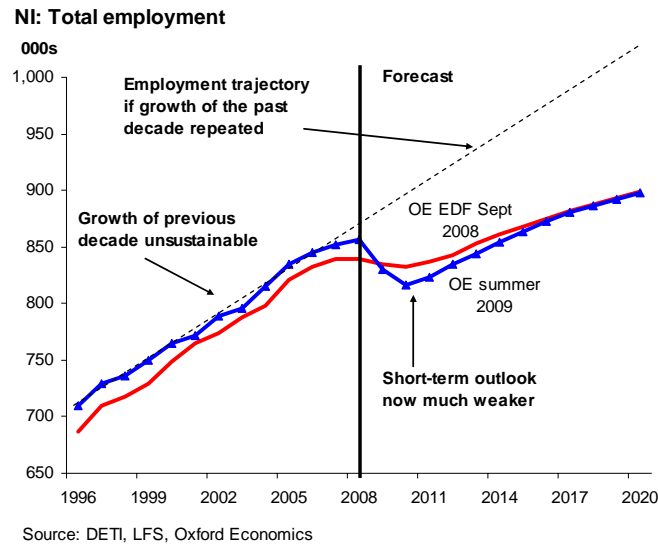
**Fig 1.11: NI claimant count (up to Jan 2009)**



**Fig 1.12: NI claimant count (up to June 09)**



**Fig 1.13: NI total employment forecast (job-based)**



**Table 1.8: Change in NI GVA growth forecasts**

	EDF September 2008	February 2009
2008	1.3%	1.2%
2009	0.5%	-2.3%
2010	2.1%	0.4%
2011	3.2%	2.2%
2012	3.1%	2.7%

Source: Oxford Economics  
Note: Annual average growth

**Table 1.9: Change in NI GVA growth forecasts**

	February 2009	Summer 2009
2008	1.2%	0.7%
2009	-2.3%	-3.5%
2010	0.4%	0.2%
2011	2.2%	2.9%
2012	2.7%	3.4%

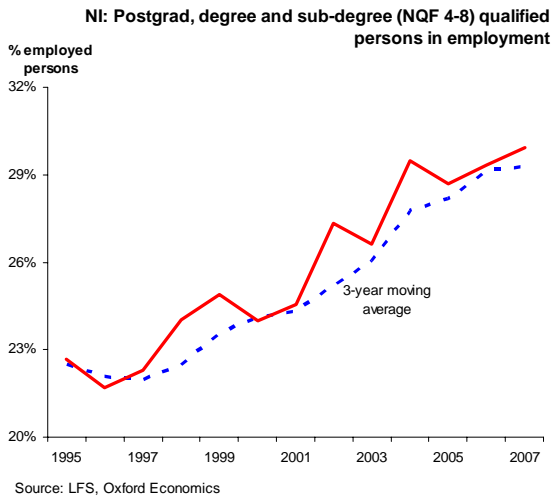
Source: Oxford Economics  
Note: Annual average growth

## 2 Skills in context

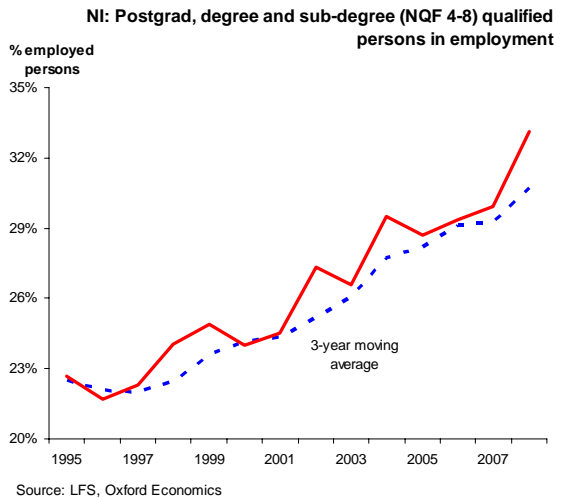
Recall the analysis in this chapter is based entirely on LFS analysis conducted specifically for this research (2008 data has been added to the previous analysis). None of the data or figures for NI and GB regions are taken from other publications or official data sources.

### 2.1 Recent trends in NI workforce skills

**Fig 2.1: Trend in NQF 4-8 qualified persons in employment (up to 2007)**



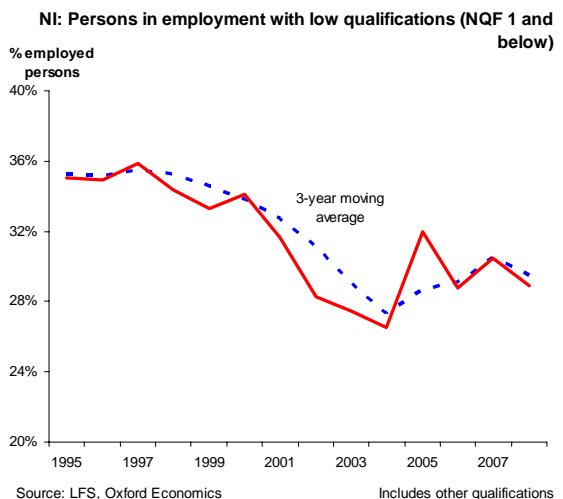
**Fig 2.2: Trend in NQF 4-8 qualified persons in employment (up to 2008)**



**Fig 2.3: Trend in persons in employment with low qualifications (up to 2007)**



**Fig 2.4: Trend in persons in employment with low qualifications (up to 2008)**



## 2.2 Where is NI today - comparison with GB regions and ROI

### Higher level skills in employment

**Table 2.1: Workforce higher level skill relativities – total economy (average 2005-2007)**

	Sub-degree, degree and postgrad % employed persons (2007, 3-year moving average)	UK=100
Canada (adult graduate pop 2005) *	46%	145
London	44%	137
US (adult grad pop 2005) *	39%	123
Scotland	36%	113
Finland (adult graduate pop 2005) *	35%	109
ROI (graduate) *	34%	106
South East	33%	104
UK	32%	100
South West	30%	96
North West	30%	94
UK excluding Greater South East	30%	93
NI	29%	92
Eastern	29%	91
Wales	28%	90
East Midlands	28%	88
West Midlands	28%	88
North East	28%	87
Yorkshire & Humber	26%	83
France (adult graduate pop 2005) *	25%	78
Germany (adult graduate pop 2005) *	25%	77

Source: LFS, OECD, CSO QNHS (ROI), Oxford Economics

Note: UK regional figures refer to the share of NQF 4-8 persons in employment. International figures refer to the share of 25-64 working age persons with graduate qualifications (ISCED 5+6, which is not directly comparable to NQF 4-8), i.e. not persons in employment. The graduate employed share in international comparators is likely to be higher still (and for a more recent year since 2005). ROI figure refers to persons in employment with 3rd level degrees (equivalent to ISCED 5+6, which is not directly comparable to NQF 4-8)

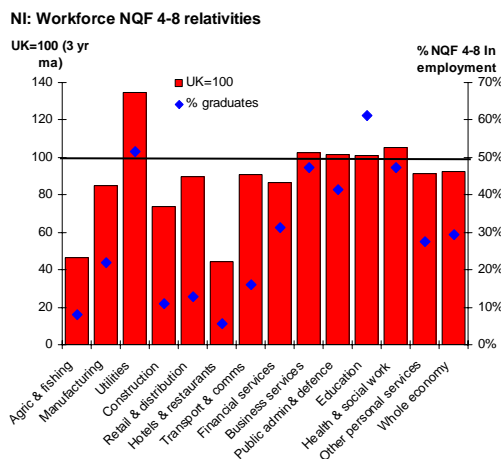
**Table 2.2: Workforce higher level skill relativities – total economy (average 2006-2008)**

	Sub-degree, degree and postgrad % employed persons (2008, 3-year moving average)	UK=100
Canada (adult graduate pop 2005) *	46%	141
London	45%	138
US (adult grad pop 2005) *	39%	120
Scotland	37%	113
Finland (adult graduate pop 2005) *	35%	106
ROI (graduate 2007) *	34%	103
South East	33%	103
UK	33%	100
South West	31%	96
NI	31%	94
North West	31%	94
UK excluding Greater South East	30%	93
Wales	30%	90
Eastern	29%	89
West Midlands	29%	89
East Midlands	28%	87
North East	28%	86
Yorkshire & Humber	28%	85
France (adult graduate pop 2005) *	25%	76
Germany (adult graduate pop 2005) *	25%	75

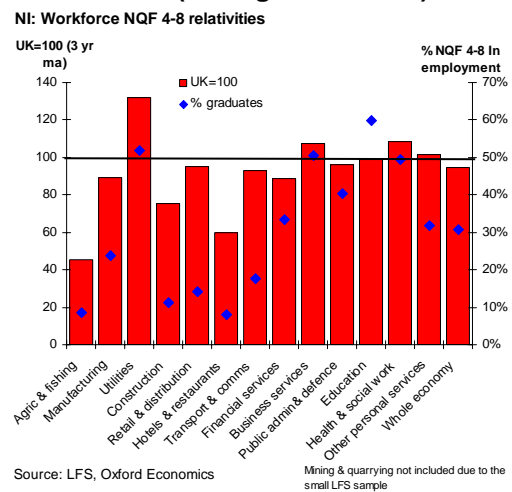
Source: LFS, OECD, CSO QNHS (ROI), Oxford Economics

Note: UK regional figures refer to the share of NQF 4-8 persons in employment. International figures refer to the share of 25-64 working age persons with graduate qualifications (ISCED 5+6, which is not directly comparable to NQF 4-8), i.e. not persons in employment. The graduate employed share in international comparators is likely to be higher still (and for a more recent year since 2005). ROI figure refers to persons in employment with 3rd level degrees (equivalent to ISCED 5+6, which is not directly comparable to NQF 4-8)

**Fig 2.5: Workforce NQF 4-8 relativities by sector (average 2005-2007)**

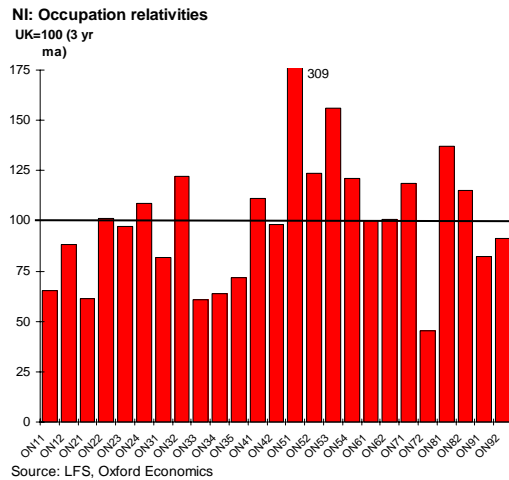


**Fig 2.6: Workforce NQF 4-8 relativities by sector (average 2006-2008)**

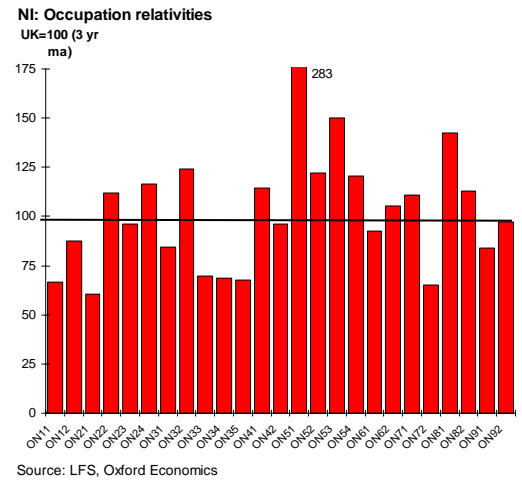


**Occupations**

**Fig 2.7: Occupation relativities (average 2005-2007)**



**Fig 2.8: Occupation relativities (average 2006-2008)**



**Table 2.3: Occupation relativities (average 2005-2007)**

		NI (UK=100)	NI weekly wage (2008)
ON11	Corporate Managers	66	£570
ON12	Managers & Proprietors in Agriculture & Services	88	£460
ON21	Science & Technology Professionals	61	£573
ON22	Health Professionals	101	£788
ON23	Teaching & Research Professionals	97	£690
ON24	Business & Public Service Professionals	109	£621
ON31	Science & Technology Associate Professionals	82	£381
ON32	Health & Social Welfare Associate Professionals	122	£519
ON33	Protective Service Occupations	61	£771
ON34	Culture, Media & Sports Occupations	64	£480
ON35	Business & Public Service Associate Professionals	72	£499
ON41	Administrative Occupations	111	£323
ON42	Secretarial & Related Occupations	98	£316
ON51	Skilled Agricultural Trades	309	£276
ON52	Skilled Metal & Electrical Trades	124	£466
ON53	Skilled Construction & Building Trades	156	£389
ON54	Textiles, Printing & Other Skilled Trades	121	£318
ON61	Caring Personal Service Occupations	100	£295
ON62	Leisure & Other Personal Service Occupations	101	£310
ON71	Sales Occupations	119	£253
ON72	Customer Service Occupations	45	£262
ON81	Process, Plant & Machine Operatives	137	£345
ON82	Transport & Mobile Machine Drivers & Operatives	115	£377
ON91	Elementary Trades, Plant & Storage Related Occupations	82	£317
ON92	Elementary Administration & Service Occupations	91	£282
	<b>Total</b>	-	<b>£418</b>

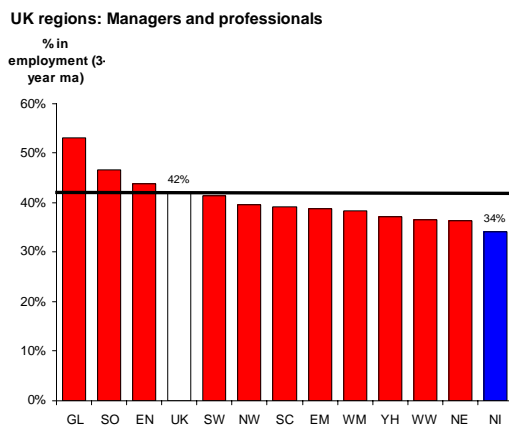
Source: LFS, DETI ASHE, Oxford Economics  
Note: Cells shaded purple indicate NI's occupation share is 10 per cent less than the UK average. Cells shaded blue indicate NI's occupation share is 10 per cent greater than the UK average. Weekly earnings are median gross earnings full-time

**Table 2.4: Occupation relativities (average 2006-2008)**

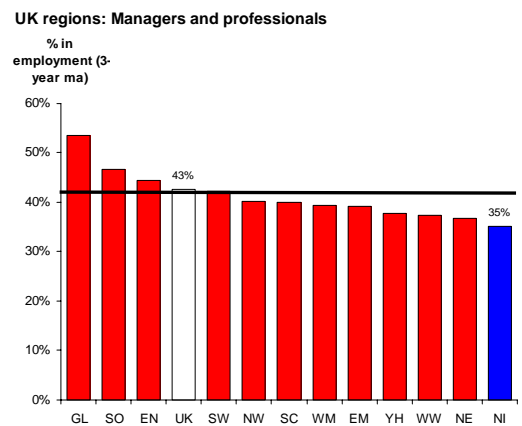
		NI (UK=100)	NI weekly wage (2008)
ON11	Corporate Managers	67	£570
ON12	Managers & Proprietors in Agriculture & Services	88	£460
ON21	Science & Technology Professionals	61	£573
ON22	Health Professionals	112	£788
ON23	Teaching & Research Professionals	96	£690
ON24	Business & Public Service Professionals	116	£621
ON31	Science & Technology Associate Professionals	84	£381
ON32	Health & Social Welfare Associate Professionals	124	£519
ON33	Protective Service Occupations	70	£771
ON34	Culture, Media & Sports Occupations	69	£480
ON35	Business & Public Service Associate Professionals	68	£499
ON41	Administrative Occupations	114	£323
ON42	Secretarial & Related Occupations	96	£316
ON51	Skilled Agricultural Trades	283	£276
ON52	Skilled Metal & Electrical Trades	122	£466
ON53	Skilled Construction & Building Trades	150	£389
ON54	Textiles, Printing & Other Skilled Trades	121	£318
ON61	Caring Personal Service Occupations	93	£295
ON62	Leisure & Other Personal Service Occupations	105	£310
ON71	Sales Occupations	111	£253
ON72	Customer Service Occupations	65	£262
ON81	Process, Plant & Machine Operatives	143	£345
ON82	Transport & Mobile Machine Drivers & Operatives	113	£377
ON91	Elementary Trades, Plant & Storage Related Occupations	84	£317
ON92	Elementary Administration & Service Occupations	97	£282
	<b>Total</b>	-	<b>£418</b>

Source: LFS, DETI ASHE, Oxford Economics  
Note: Cells shaded purple indicate NI's occupation share is 10 per cent less than the UK average. Cells shaded blue indicate NI's occupation share is 10 per cent greater than the UK average. Weekly earnings are median gross earnings full-time

**Fig 2.9: Managerial and professional occupation concentrations (average 2005-2007)**



**Fig 2.10: Managerial and professional occupation concentrations (average 2006-2008)**



**Degree subjects of workforce**
**Table 2.5: Degree subject relativities (average 2005-2007)**

	NI % total degree qualified employed persons (UK=100)	NI % total degree qualified employed persons	NI subject degree employed persons per 10,000 working age population (UK=100)
Medicine and Dentistry	197	5%	171
Subjects Allied to Medicine	126	14%	109
Biological Sciences	73	4%	63
Vetinary Science, Agriculture and Related Subjects	124	1%	107
Physical Sciences	65	3%	56
Mathematical and Computer Sciences	82	5%	71
Engineering	80	5%	69
Technologies	88	1%	77
Architecture, Building and Planning	92	2%	79
Social Studies	98	6%	85
Law	69	2%	60
Business and Administration	138	15%	119
Mass Communication and Documentation	48	1%	42
Linguistics, Classics and Related	31	1%	27
European Language, Literature and Related Subjects	62	1%	54
East Asiatic, African, American and Australian Languages and Literature	0	0%	0
History and Philosophical Studies	76	3%	66
Creative Arts and Design	66	3%	57
Education	107	7%	93
Combined degree	111	21%	96

Source: LFS, Oxford Economics

Note: Cells shaded purple indicate NI's employed degree subject share is 10 per cent less than the UK average. Cells shaded blue indicate NI's employed degree subject share is 10 per cent greater than the UK average

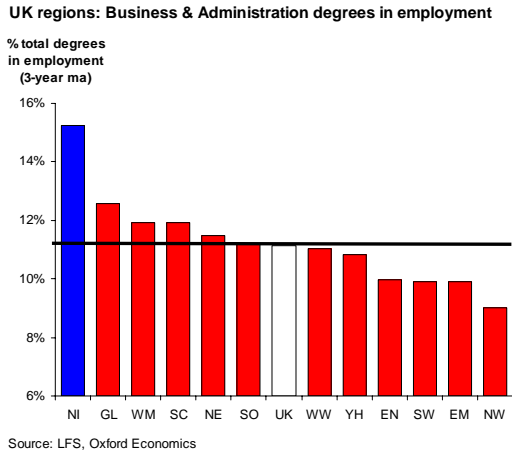
**Table 2.6: Degree subject relativities (average 2006-2008)**

	NI % total degree qualified employed persons (UK=100)	NI % total degree qualified employed persons	NI subject degree employed persons per 10,000 working age population (UK=100)
Medicine and Dentistry	178	4%	160
Subjects Allied to Medicine	115	13%	104
Biological Sciences	76	4%	68
Vetinary Science, Agriculture and Related Subjects	125	1%	112
Physical Sciences	78	4%	70
Mathematical and Computer Sciences	79	4%	71
Engineering	78	5%	70
Technologies	83	1%	74
Architecture, Building and Planning	106	2%	95
Social Studies	97	6%	87
Law	66	2%	63
Business and Administration	131	11%	123
Mass Communication and Documentation	120	6%	58
Linguistics, Classics and Related	40	1%	33
European Language, Literature and Related Subjects	41	1%	51
East Asiatic, African, American and Australian Languages and Literature	66	0%	0
History and Philosophical Studies	127	3%	79
Creative Arts and Design	49	2%	61
Education	100	6%	90
Combined degree	111	22%	104

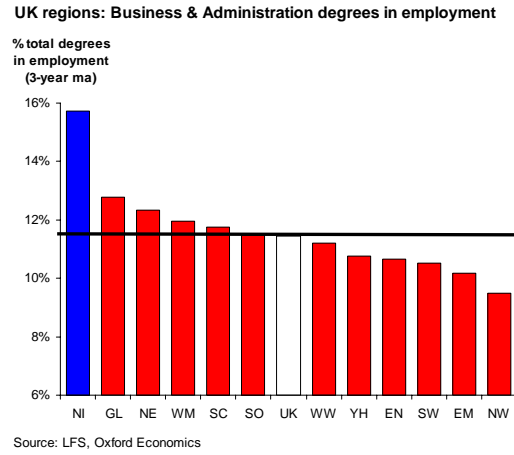
Source: LFS, Oxford Economics

Note: Cells shaded purple indicate NI's employed degree subject share is 10 per cent less than the UK average. Cells shaded blue indicate NI's employed degree subject share is 10 per cent greater than the UK average

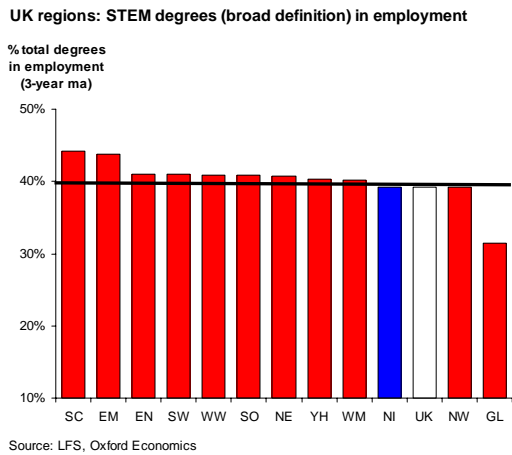
**Fig 2.11: Business and Administration degree concentrations (average 2005-2007)**



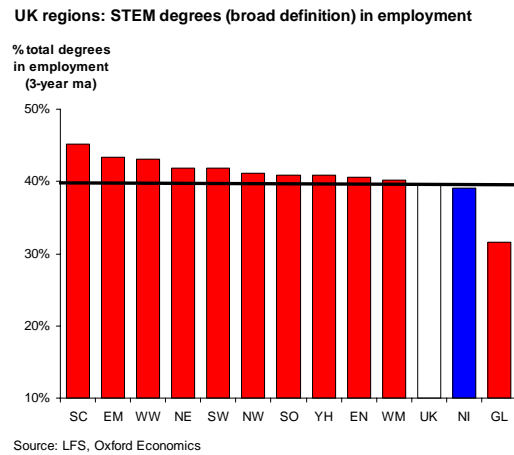
**Fig 2.12: Business and Administration degree concentrations (average 2006-2008)**



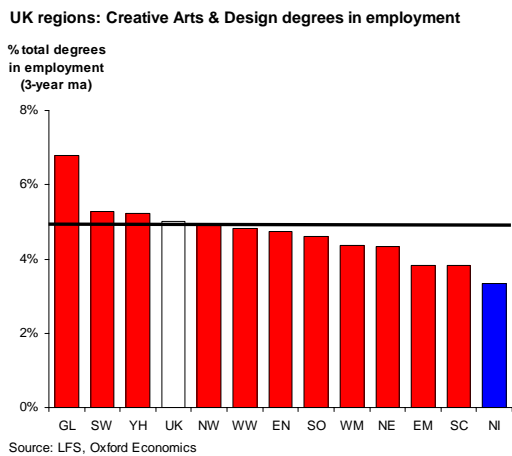
**Fig 2.13: STEM (broad definition) degree concentrations (average 2005-2007)**



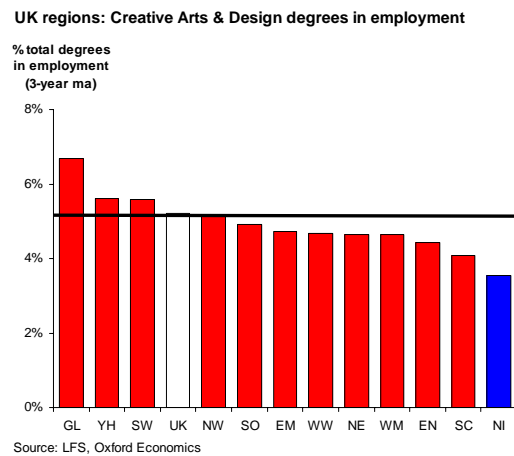
**Fig 2.14: STEM (broad definition) degree concentrations (average 2006-2008)**



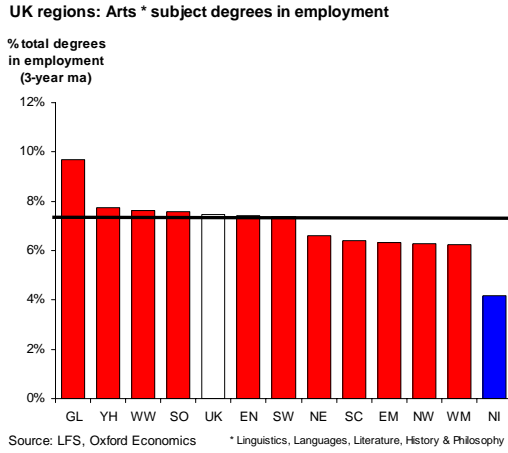
**Fig 2.15: Creative Arts and Design degree concentrations (average 2005-2007)**



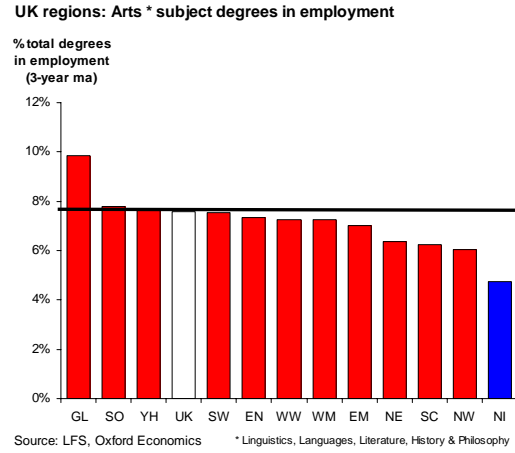
**Fig 2.16: Creative Arts and Design degree concentrations (average 2006-2008)**



**Fig 2.17: Arts Subjects degree concentrations (average 2005-2007)**

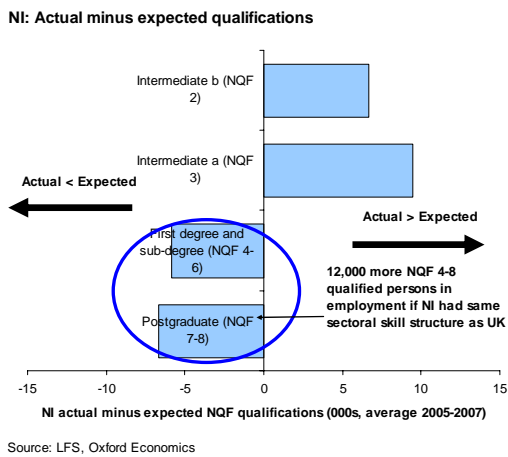


**Fig 2.18: Arts Subjects degree concentrations (average 2006-2008)**

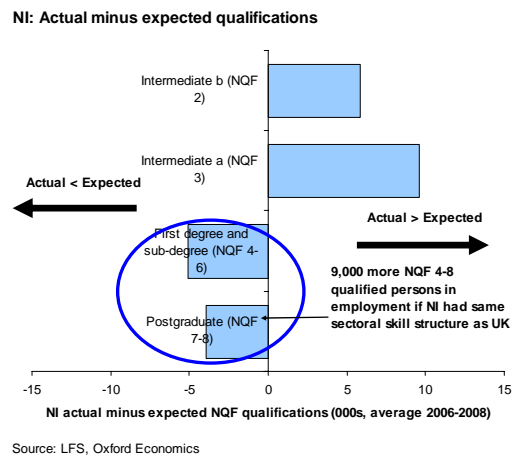


**2.3 Where could NI be?**

**Fig 2.19: NI actual minus expected qualifications of persons in employment (average 2005-2007)**

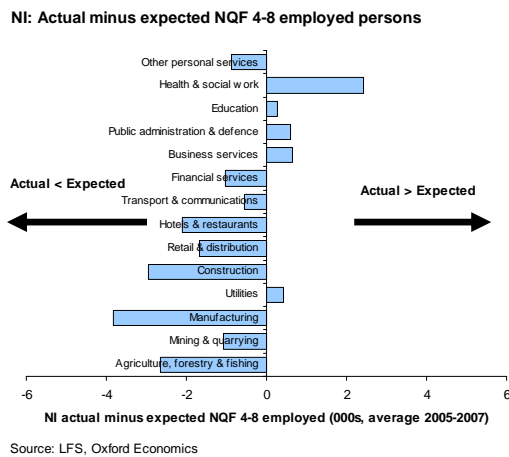


**Fig 2.20: NI actual minus expected qualifications of persons in employment (average 2006-2008)**

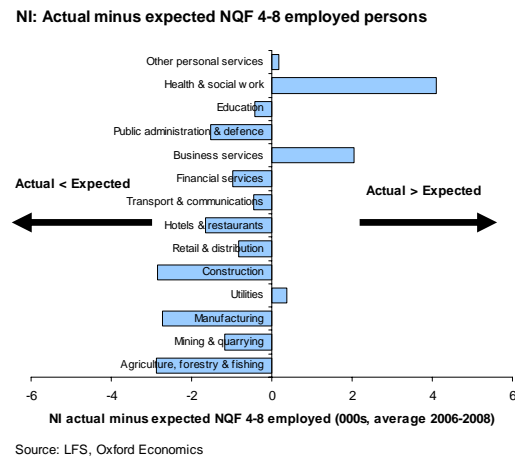


Note the changes between Fig 2.21 and 2.22 are likely to be explained by LFS sample size issues at sectoral level but also the observed (according to data) rise in NI workforce high level qualifications relative to the UK.

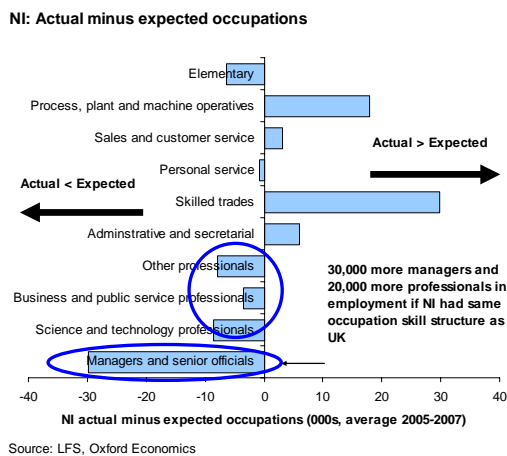
**Fig 2.21: NI actual minus expected NQF 4-8 qualified persons in employment by sector (average 2005-2007)**



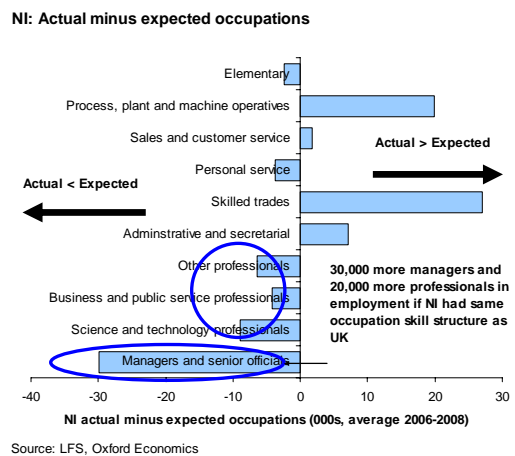
**Fig 2.22: NI actual minus expected NQF 4-8 qualified persons in employment by sector (average 2006-2008)**



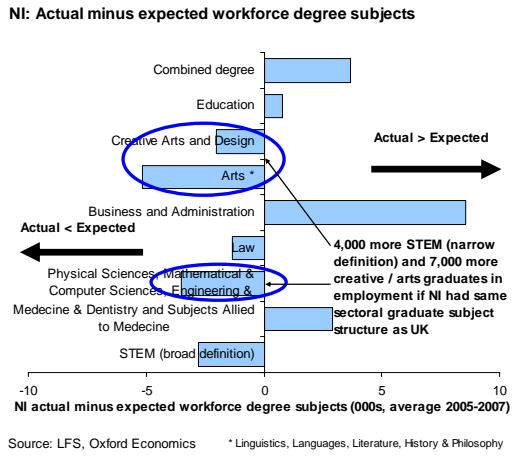
**Fig 2.23: NI actual minus expected occupations of persons in employment (average 2005-2007)**



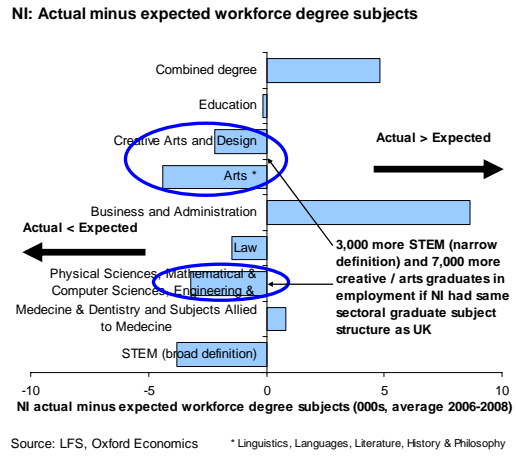
**Fig 2.24: NI actual minus expected occupations of persons in employment (average 2006-2008)**



**Fig 2.25: NI actual minus expected subjects of graduates in employment by sector (average 2005-2007)**



**Fig 2.26: NI actual minus expected subjects of graduates in employment by sector (average 2006-2008)**



### 3 Tomorrow's economy

#### 3.1 Baseline scenario

**Table 3.1: NI sectoral employment trends and forecasts (000s)**

	Summer 2009	OE baseline EDF Sept 2008		OE baseline summer 2009	
	1996-2008	2008-2010	2010-2020	2008-2010	2010-2020
Agriculture, forestry & fishing	-4	1	0	0	0
Mining & quarrying	0	0	0	0	0
Manufacturing	-17	-2	-9	-9	-10
Utilities	-2	0	0	0	0
Construction	20	-4	3	-7	6
Retail & distribution	43	-3	10	-3	9
Hotels & restaurants	15	0	6	-2	7
Transport & communications	8	-1	3	-2	4
Financial services	5	0	4	-1	2
Business services	48	-2	26	-5	30
Public administration & defence	-2	0	-1	-2	-1
Education	8	1	2	0	4
Health & social work	25	4	12	2	13
Other personal services	7	1	2	-1	4
<b>Total employee jobs</b>	<b>156</b>	<b>-5</b>	<b>57</b>	<b>-31</b>	<b>68</b>
Land forces	-7	0	0	0	0
Self-employment	10	-2	10	-10	12
<b>Total employment (job-based)</b>	<b>147</b>	<b>-7</b>	<b>66</b>	<b>-41</b>	<b>81</b>
<b>Total employment (people-based)</b>	<b>123</b>	<b>-7</b>	<b>56</b>	<b>-38</b>	<b>69</b>
<b>Annualised</b>	<b>10</b>	<b>-4</b>	<b>6</b>	<b>-19</b>	<b>7</b>

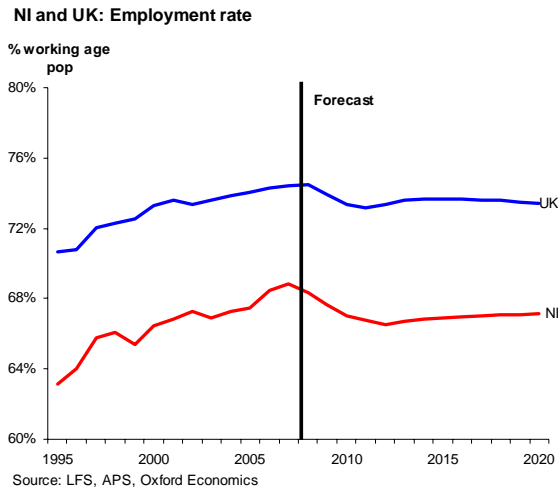
Source: DETI, LFS, Oxford Economics

**Table 3.2: NI occupation employment forecasts (000s)**

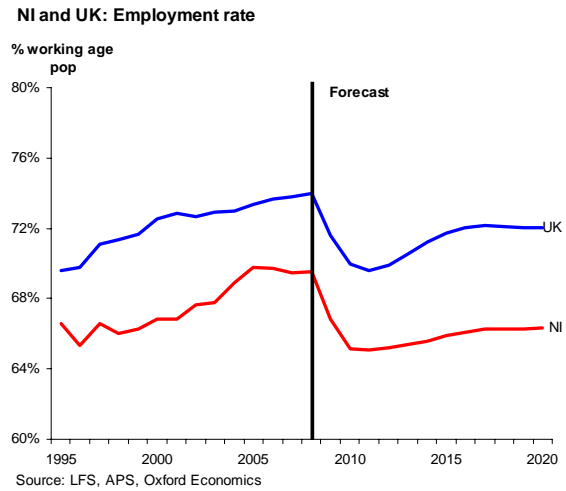
	OE baseline EDF Sept 2008		OE baseline summer 2009	
	2008-2010	2010-2020	2008-2010	2010-2020
Corporate Managers	2	29	-2	30
Managers & Proprietors in Agriculture & Services	0	2	-1	3
Science & Technology Professionals	1	9	-2	7
Health Professionals	0	1	0	1
Teaching & Research Professionals	0	1	0	1
Business & Public Service Professionals	1	11	-2	7
Science & Technology Associate Professionals	0	0	-1	1
Health & Social Welfare Associate Professionals	1	3	0	3
Protective Service Occupations	0	-1	-1	-1
Culture, Media & Sports Occupations	0	3	0	4
Business & Public Service Associate Professionals	1	9	-2	7
Administrative Occupations	-2	-4	-4	0
Secretarial & Related Occupations	-2	-7	-2	-1
Skilled Agricultural Trades	1	0	-1	0
Skilled Metal & Electrical Trades	-2	-6	-4	-3
Skilled Construction & Building Trades	-4	4	-6	5
Textiles, Printing & Other Skilled Trades	-1	-2	-1	-1
Caring Personal Service Occupations	3	12	1	10
Leisure & Other Personal Service Occupations	0	-1	-1	1
Sales Occupations	-1	7	-2	4
Customer Service Occupations	0	2	0	2
Process, Plant & Machine Operatives	-2	-9	-3	-4
Transport & Mobile Machine Drivers & Operatives	0	2	-2	2
Elementary Trades, Plant & Storage Related Occupations	-1	-5	-3	-2
Elementary Administration & Service Occupations	-1	6	-3	8

Source: Oxford Economics

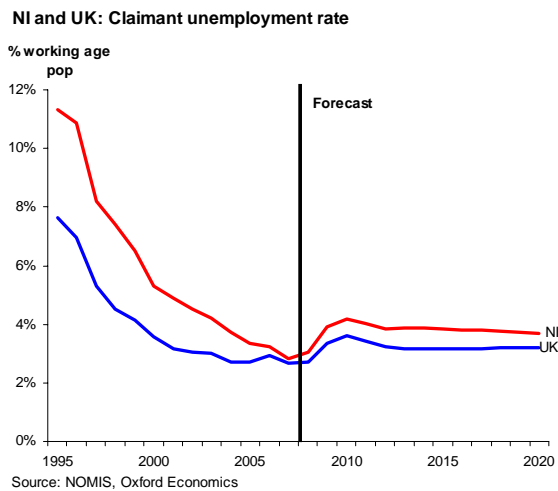
**Fig 3.1: NI and UK employment rates (OE EDF Sept 2008)**



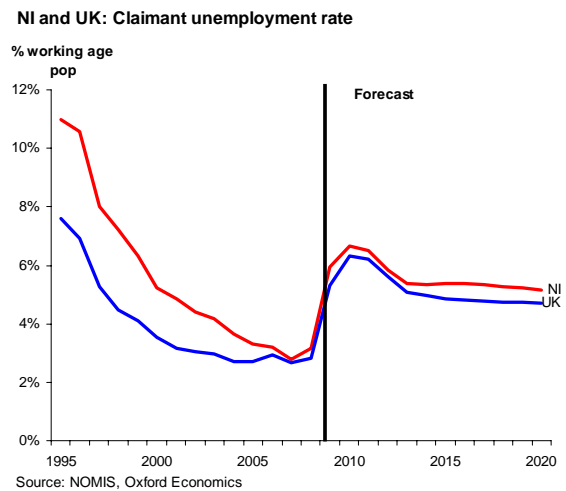
**Fig 3.2: NI and UK employment rates (OE summer 2009)**



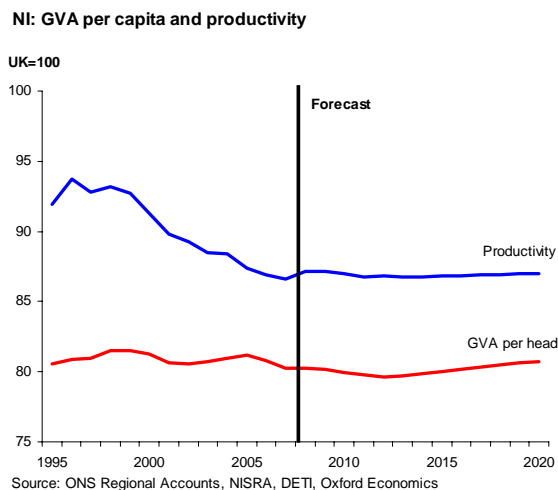
**Fig 3.3: NI and UK claimant unemployment rates (OE EDF Sept 2008)**



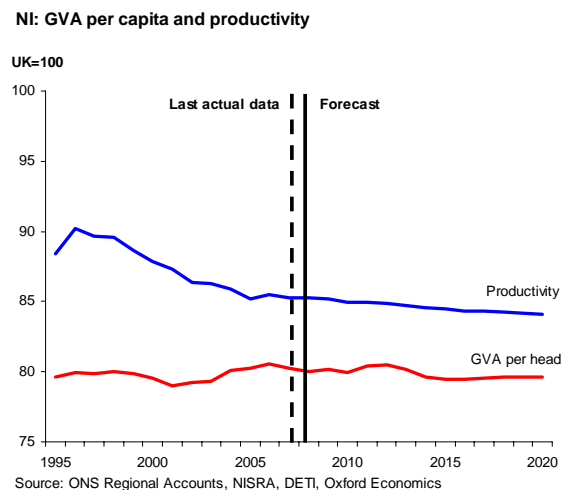
**Fig 3.4: NI and UK claimant unemployment rates (OE summer 2009)**



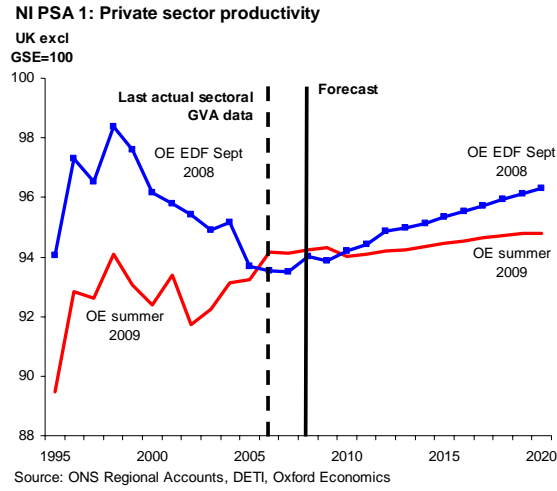
**Fig 3.5: NI convergence with UK (EDF Sept 2008)**



**Fig 3.6: NI convergence with UK (OE summer 2009)**



**Fig 3.7: PSA1 – closing the private sector productivity gap (OE EDF Sept 2008 and OE summer 2009)**



### 3.2 Aspirational scenario

**Table 3.3: NI sectoral employment forecasts (000s)**

	OE aspiration EDF Sept 2008		OE aspiration summer 2009	
	2010-2020	Difference from baseline	2010-2020	Difference from baseline
Agriculture, forestry & fishing	0	0	1	1
Mining & quarrying	0	0	0	0
Manufacturing	-7	2	-7	2
Utilities	0	0	0	0
Construction	4	1	8	2
Retail & distribution	14	4	12	3
Hotels & restaurants	8	2	11	4
Transport & communications	5	2	7	3
Financial services	5	2	4	2
Business services	34	8	44	13
Public administration & defence	-1	0	-1	0
Education	2	0	4	0
Health & social work	12	0	13	0
Other personal services	3	1	6	2
<b>Total employee jobs</b>	<b>79</b>	<b>23</b>	<b>100</b>	<b>32</b>
Land forces	0	0	0	0
Self-employment	14	4	19	6
<b>Total-employment (job-based)</b>	<b>93</b>	<b>27</b>	<b>120</b>	<b>39</b>
<b>Total-employment (people-based)</b>	<b>80</b>	<b>24</b>	<b>104</b>	<b>35</b>
<b>Annualised</b>	<b>8</b>	<b>2</b>	<b>10</b>	<b>3</b>

Source: Oxford Economics

**Table 3.4: NI occupation employment forecasts (000s)**

	OE aspiration EDF Sept 2008		OE aspiration summer 2009	
	2010-2020	Difference from baseline	2010-2020	Difference from baseline
Corporate Managers	34	5	36	7
Managers & Proprietors in Agriculture & Services	4	1	4	2
Science & Technology Professionals	11	2	9	2
Health Professionals	1	0	1	0
Teaching & Research Professionals	1	0	1	0
Business & Public Service Professionals	12	2	10	2
Science & Technology Associate Professionals	1	0	1	1
Health & Social Welfare Associate Professionals	3	0	3	0
Protective Service Occupations	-1	0	-1	0
Culture, Media & Sports Occupations	4	1	5	1
Business & Public Service Associate Professionals	11	2	9	3
Administrative Occupations	-2	2	3	3
Secretarial & Related Occupations	-6	0	0	1
Skilled Agricultural Trades	0	0	1	1
Skilled Metal & Electrical Trades	-6	1	-2	1
Skilled Construction & Building Trades	5	1	7	2
Textiles, Printing & Other Skilled Trades	-2	0	0	1
Caring Personal Service Occupations	12	0	10	0
Leisure & Other Personal Service Occupations	0	0	1	1
Sales Occupations	9	2	6	2
Customer Service Occupations	2	0	2	1
Process, Plant & Machine Operatives	-8	0	-3	1
Transport & Mobile Machine Drivers & Operatives	3	1	3	2
Elementary Trades, Plant & Storage Related Occupations	-4	1	0	1
Elementary Administration & Service Occupations	9	3	12	4

Source: Oxford Economics

**Table 3.5: NI GVA forecasts**

	OE aspiration EDF Sept 2008		OE aspiration summer 2009	
	2010-2020	Difference from baseline	2010-2020	Difference from baseline
Agriculture, forestry & fishing	117	34	161	69
Mining & quarrying	-14	0	-8	0
Manufacturing	1,845	572	1,722	776
Utilities	142	0	79	1
Construction	462	64	656	98
Retail & distribution	1,761	167	1,360	102
Hotels & restaurants	423	86	480	156
Transport & communications	775	193	815	330
Financial services	1,972	476	1,212	483
Business services	2,947	999	4,201	1,618
Public administration & defence	120	2	121	3
Education	188	2	166	3
Health & social work	677	3	738	5
Other personal services	193	67	342	146
<b>Total (£m 2003 prices)</b>	<b>11,346</b>	<b>2,536</b>	<b>12,275</b>	<b>3,792</b>

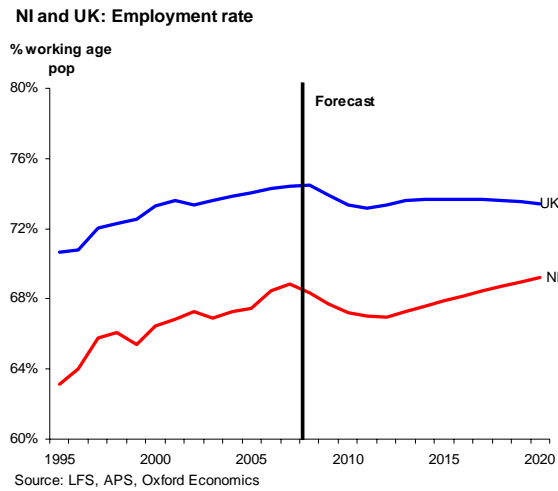
Source: Oxford Economics

**Table 3.6: NI employment and productivity differentials relative to baseline**

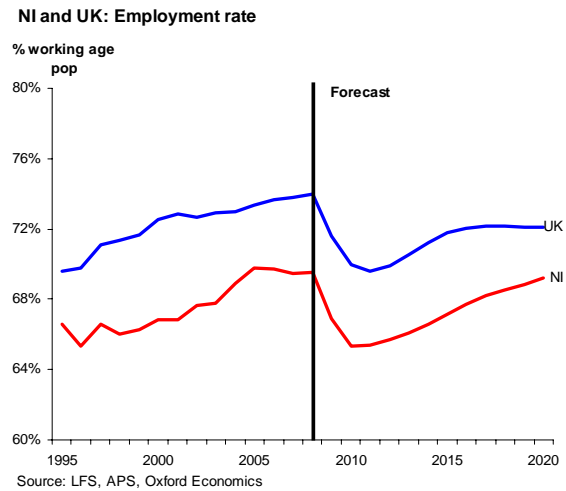
	Annual average growth difference from baseline (2010-2020)	
	Employment	Productivity
Agriculture, forestry & fishing	0.5%	0.6%
Mining & quarrying	0.0%	0.0%
Manufacturing	0.3%	1.2%
Food products, beverages & tobacco	0.3%	1.1%
Textiles & leather	0.4%	1.0%
Wood & wood products	0.3%	1.1%
Pulp, paper & printing	0.3%	1.1%
Coke, oil refining & nuclear fuel	0.0%	0.9%
Chemicals & man-made fibres	0.5%	1.3%
Rubber & plastic products	0.5%	1.4%
Other non-metallic mineral	0.5%	1.4%
Metals	0.3%	1.2%
Machinery & equipment nec	0.4%	1.3%
Electrical & optical equipment	0.4%	1.3%
Transport equipment	0.4%	1.3%
Manufacturing nec	0.3%	1.1%
Utilities	0.0%	0.0%
Construction	0.4%	0.0%
Retail & distribution	0.2%	0.0%
Hotels & restaurants	0.8%	0.7%
Transport & communications	0.8%	0.8%
Financial services	1.1%	1.1%
Business services	1.2%	1.1%
Public administration & defence	0.0%	0.0%
Education	0.0%	0.0%
Health & social work	0.0%	0.0%
Other personal services	0.6%	0.7%
<b>Whole economy</b>	<b>0.4%</b>	<b>0.6%</b>

Source: Oxford Economics

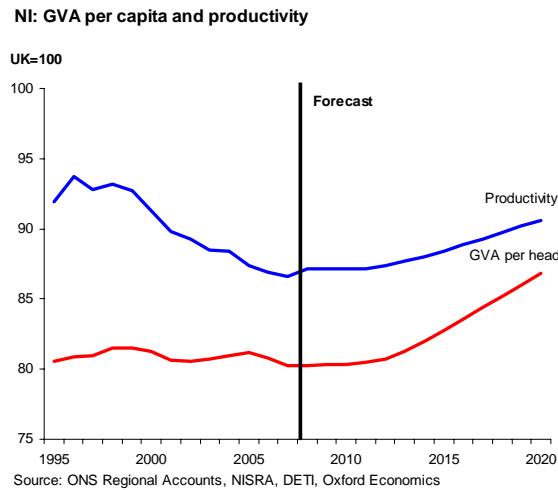
**Fig 3.8: NI and UK employment rates (OE aspiration EDF Sept 2008)**



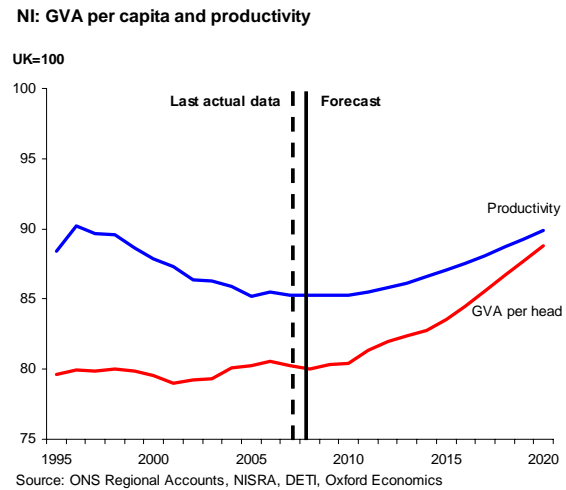
**Fig 3.9: NI and UK employment rates (OE aspiration summer 2009)**



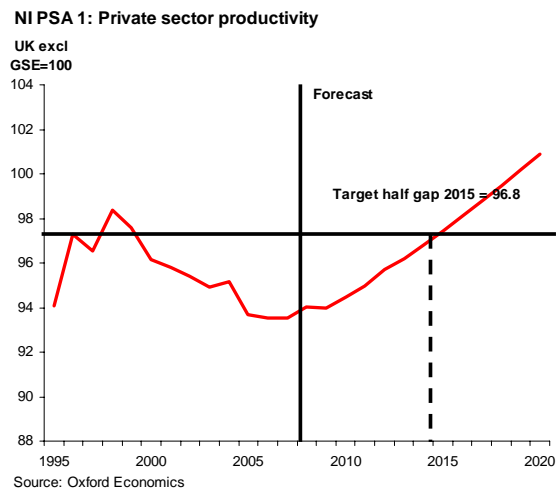
**Fig 3.10: NI convergence with UK (OE aspiration EDF Sept 2008)**



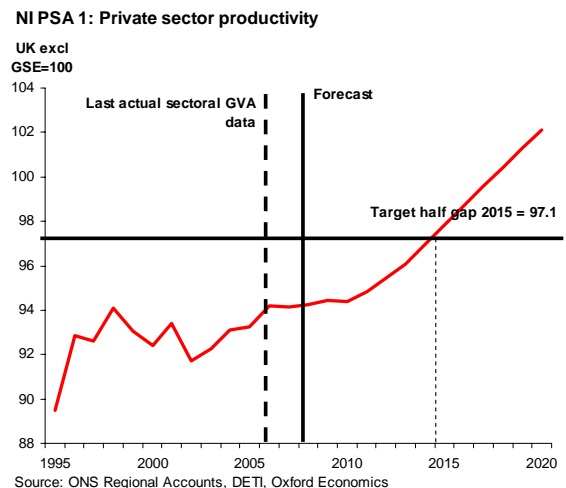
**Fig 3.11: NI convergence with UK (OE aspiration summer 2009)**



**Fig 3.12: PSA1 – closing the private sector productivity gap (OE aspiration EDF Sept 2008)**



**Fig 3.13: PSA1 – closing the private sector productivity gap (OE aspiration summer 2009)**



## 4 Skills for tomorrow's economy

### 4.1 Baseline scenario

**Table 4.1: Net requirement from education and migration (2007-2010 – OE EDF Sept 2008)**

	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	4.5	17.7	4.8	12.9
Professional occupations	3.2	15.8	8.6	7.2
Associate professional & technical occupations	2.2	14.2	11.8	2.4
Administrative and secretarial occupations	-5.2	15.0	13.3	1.7
Skilled trades occupations	-7.9	17.2	16.6	0.6
Personal service occupations	2.8	20.1	11.6	8.5
Sales and customer service occupations	0.2	16.8	17.6	-0.9
Process, plant and machine operatives	-3.8	17.6	11.5	6.1
Elementary occupations	-2.1	25.2	19.9	5.3
<b>Whole economy</b>		<b>159.7</b>	<b>115.8</b>	<b>43.9</b>
<b>Whole economy (annual)</b>	<b>-2.1</b>	<b>53.2</b>	<b>38.6</b>	<b>14.6</b>

Source: Oxford Economics

**Table 4.2: Net requirement from education and migration (2008-2010 – OE summer 2009)**

	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	-2.7	5.3	3.4	1.9
Professional occupations	-2.5	6.3	6.7	-0.4
Associate professional & technical occupations	-3.3	5.1	10.2	-5.1
Administrative and secretarial occupations	-6.2	8.5	11.4	-2.8
Skilled trades occupations	-12.0	5.8	12.7	-6.9
Personal service occupations	0.6	11.5	8.8	2.7
Sales and customer service occupations	-2.1	8.1	13.2	-5.1
Process, plant and machine operatives	-5.3	9.6	9.7	-0.1
Elementary occupations	-5.0	16.4	15.7	0.7
<b>Whole economy</b>		<b>76.6</b>	<b>91.8</b>	<b>-15.2</b>
<b>Whole economy (annual)</b>	<b>-19.3</b>	<b>38.3</b>	<b>45.9</b>	<b>-7.6</b>

Source: Oxford Economics

**Table 4.3: Net requirement from education and migration (2010-2020 – OE EDF Sept 2008)**

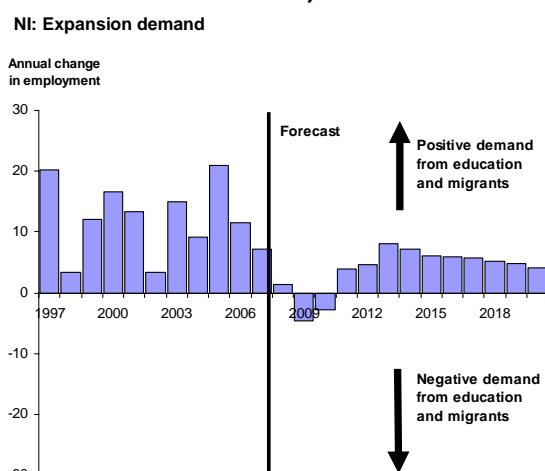
	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	26.6	78.6	18.4	60.2
Professional occupations	18.7	65.6	32.3	33.3
Associate professional & technical occupations	13.5	56.8	42.4	14.4
Administrative and secretarial occupations	-10.0	52.5	43.5	9.0
Skilled trades occupations	-4.3	73.5	55.4	18.1
Personal service occupations	9.5	73.0	41.7	31.3
Sales and customer service occupations	7.7	66.0	62.7	3.3
Process, plant and machine operatives	-7.3	55.3	37.7	17.7
Elementary occupations	1.3	90.6	69.5	21.1
<b>Whole economy</b>	<b>55.7</b>	<b>612.0</b>	<b>403.7</b>	<b>208.3</b>
<b>Whole economy (annual)</b>	<b>5.6</b>	<b>61.2</b>	<b>40.4</b>	<b>20.8</b>

Source: Oxford Economics

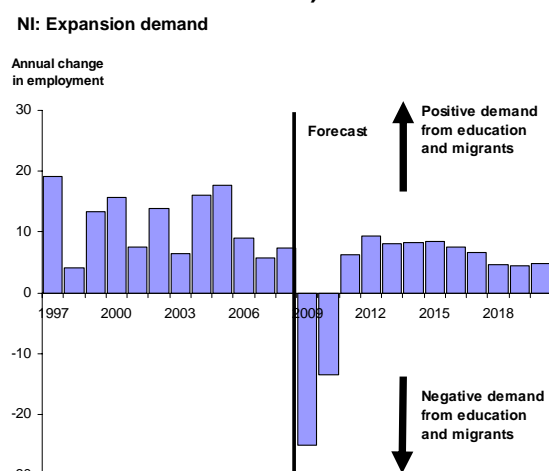
**Table 4.4: Net requirement from education and migration (2010-2020 – OE summer 2009)**

	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	27.1	71.9	19.5	52.4
Professional occupations	13.3	60.2	33.6	26.6
Associate professional & technical occupations	13.1	58.0	49.7	8.2
Administrative and secretarial occupations	-1.1	69.4	50.9	18.5
Skilled trades occupations	1.4	86.5	54.9	31.6
Personal service occupations	9.1	68.2	41.3	26.9
Sales and customer service occupations	4.4	56.0	59.9	-4.0
Process, plant and machine operatives	-2.9	67.7	41.4	26.3
Elementary occupations	4.0	111.1	68.3	42.8
<b>Whole economy</b>	<b>69.4</b>	<b>648.9</b>	<b>419.5</b>	<b>229.4</b>
<b>Whole economy (annual)</b>	<b>6.8</b>	<b>64.9</b>	<b>42.0</b>	<b>22.9</b>

Source: Oxford Economics

**Fig 4.1: Expansion demand (OE EDF Sept 2008)**


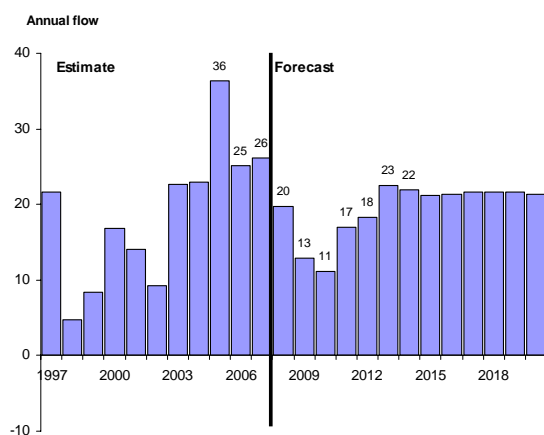
Source: DETI, LFS, Oxford Economics

**Fig 4.2: Expansion demand (OE summer 2009)**


Source: DETI, LFS, Oxford Economics

**Fig 4.3: Net requirement from education and migration (OE EDF Sept 2008)**

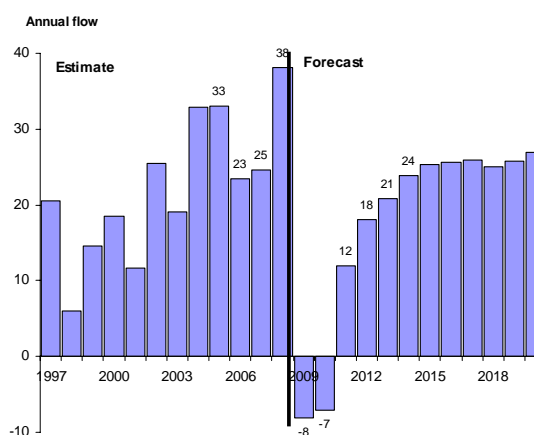
NI: Net requirement from education system and in-migration



Source: Oxford Economics

**Fig 4.4: Net requirement from education and migration (OE summer 2009)**

NI: Net requirement from education system and in-migration



Source: Oxford Economics

**Table 4.5: Net requirement from education and migration – NQF qualifications (OE EDF Sept 2008)**

	2007-2010 (annual)	2010-2020 (annual)	Difference	2010-2020 (annual % total)
Postgraduate (NQF 7-8)	1.2	1.8	0.6	9%
First degree and sub-degree (NQF 4-6)	5.0	7.8	2.9	38%
Intermediate a (NQF 3)	2.7	4.8	2.2	23%
Intermediate b (NQF 2)	2.8	2.8	0.0	13%
Low (NQF 1 and below)	2.9	3.6	0.6	17%
<b>Total</b>	<b>14.6</b>	<b>20.8</b>	<b>6.2</b>	<b>100%</b>

Source: Oxford Economics

**Table 4.6: Net requirement from education and migration – NQF qualifications (OE summer 2009)**

	2008-2010 (annual)	2010-2020 (annual)	Difference	2010-2020 (annual % total)
Postgraduate (NQF 7-8)	-0.2	1.9	2.0	8%
First degree and sub-degree (NQF 4-6)	-2.2	7.1	9.3	31%
Intermediate a (NQF 3)	-3.0	5.6	8.5	24%
Intermediate b (NQF 2)	-1.2	3.1	4.3	13%
Low (NQF 1 and below)	-1.0	5.3	6.3	23%
<b>Total</b>	<b>-7.6</b>	<b>22.9</b>	<b>30.5</b>	<b>100%</b>

Source: Oxford Economics

**Table 4.7: Upskilling of existing workforce requirement (OE EDF Sept 2008)**

	2007-2020 (annual upskilling)
Postgraduate (NQF 7-8)	2.6
First degree and sub-degree (NQF 4-6)	6.0
Intermediate a (NQF 3)	0.3
Intermediate b (NQF 2)	0.0
Low (NQF 1 and below)	-8.9
<b>Total</b>	<b>0.0</b>

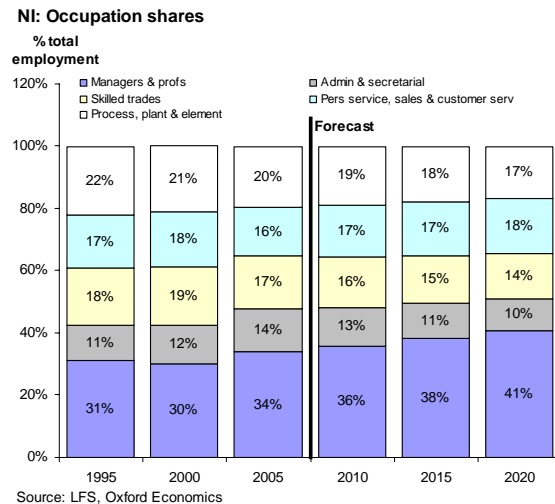
Source: LFS, Oxford Economics

**Table 4.8: Upskilling of existing workforce requirement (OE summer 2009)**

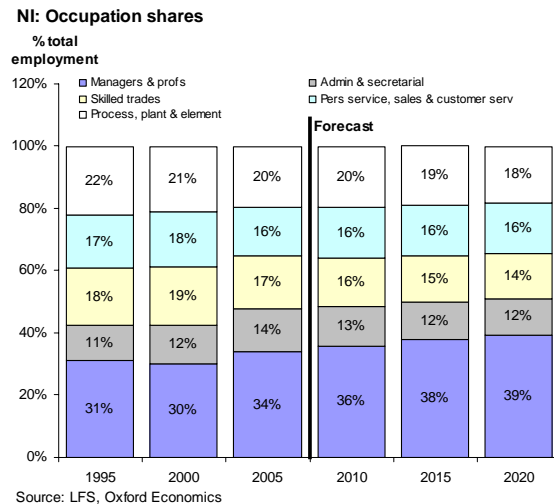
	2008-2020 (annual upskilling)
Postgraduate (NQF 7-8)	2.4
First degree and sub-degree (NQF 4-6)	5.8
Intermediate a (NQF 3)	0.3
Intermediate b (NQF 2)	0.0
Low (NQF 1 and below)	-8.6
<b>Total</b>	<b>0.0</b>

Source: LFS, Oxford Economics

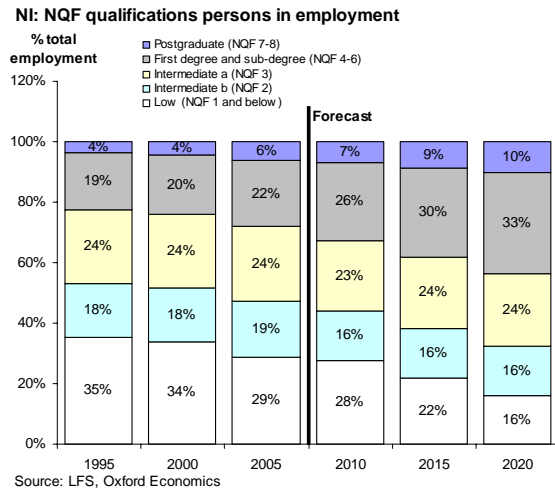
**Fig 4.5: Trend in occupations (OE EDF Sept 2008)**



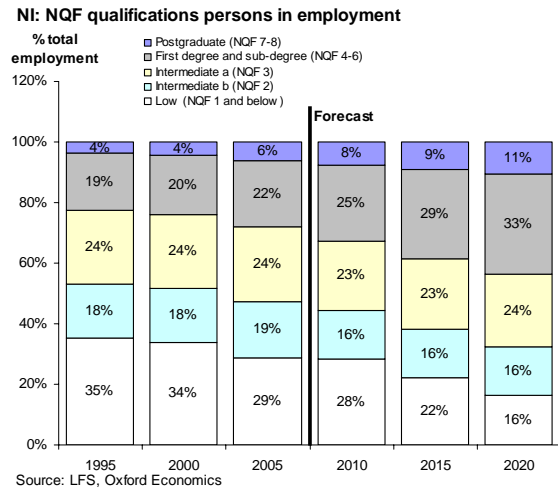
**Fig 4.6: Trend in occupations (OE summer 2009)**



**Fig 4.7: Trend in NQF qualifications of persons in employment (OE EDF Sept 2008)**



**Fig 4.8: Trend in NQF qualifications of persons in employment (OE summer 2009)**



**Table 4.9: Net requirement from education and migration – degree subjects (OE EDF Sept 2008)**

	2007-2010 (annual average)	2010-2020 (annual average)	<i>Difference</i>	2010-2020 (annual % total)	HESA NI domiciled graduates from UK HEIs entering employment in NI (2003-2007 annual average grossed up)
STEM	2.2	3.5	1.2	48%	3.6
Medicine & dentistry	0.2	0.2	0.0	3%	0.3
Subjects allied to medicine	1.0	1.1	0.1	16%	1.4
Biological sciences	0.3	0.4	0.1	5%	0.4
Veterinary science	0.0	0.0	0.0	0%	0.0
Agriculture & related subjects	0.1	0.0	0.0	0%	0.1
Physical sciences	0.1	0.2	0.1	2%	0.2
Mathematical sciences	0.0	0.0	0.0	1%	0.0
Computer science	0.3	0.6	0.3	9%	0.5
Engineering & technology	0.3	0.5	0.3	7%	0.3
Architecture, building & planning	0.0	0.3	0.3	5%	0.3
Law	0.1	0.3	0.2	5%	0.2
Business and Administration	0.7	1.1	0.5	16%	1.3
Languages	0.1	0.2	0.1	3%	0.2
Creative Arts and Design	0.2	0.3	0.1	4%	0.3
Education	0.7	0.9	0.2	12%	1.5
Combined degree	0.0	0.1	0.1	2%	0.1
Other *	0.6	0.8	0.2	11%	1.1
<b>Total</b>	<b>4.6</b>	<b>7.2</b>	<b>2.6</b>	<b>148%</b>	<b>8.4</b>

Source: Oxford Economics, HESA

Note: NQF 4-8 requirement from education and migration adjusted for LFS subject degree % NQF 4-8

\* Social studies; mass communication and documentation; and historical and philosophical studies

**Table 4.10: Net requirement from education and migration – degree subjects (OE summer 2009)**

	2008-2010 (annual)	2010-2020 (annual average)	<i>Difference</i>	2010-2020 (annual % total)	HESA NI domiciled graduates from UK HEIs entering employment in NI (2003-2007 annual average grossed up)
STEM	-1.1	3.2	4.3	47%	3.6
Medicine & dentistry	0.8	0.2	-0.6	3%	0.3
Subjects allied to medicine	3.0	1.0	-1.9	15%	1.4
Biological sciences	0.0	0.3	0.3	5%	0.4
Veterinary science	0.0	0.0	0.0	0%	0.0
Agriculture & related subjects	-0.2	0.0	0.2	0%	0.1
Physical sciences	-0.2	0.2	0.4	3%	0.2
Mathematical sciences	-0.1	0.0	0.2	1%	0.0
Computer science	-0.6	0.5	1.1	7%	0.5
Engineering & technology	-1.6	0.4	2.0	6%	0.3
Architecture, building & planning	-2.2	0.4	2.5	6%	0.3
Law	-0.4	0.3	0.7	5%	0.2
Business and Administration	-1.9	1.1	3.0	16%	1.3
Languages	-0.1	0.2	0.3	3%	0.2
Creative Arts and Design	-0.2	0.3	0.6	5%	0.3
Education	2.0	0.8	-1.2	11%	1.5
Combined degree	0.0	0.1	0.1	1%	0.1
Other *	0.0	0.8	0.8	12%	1.1
<b>Total</b>	<b>-1.8</b>	<b>6.7</b>	<b>8.5</b>	<b>147%</b>	<b>8.4</b>

Source: Oxford Economics, HESA

Note: NQF 4-8 requirement from education and migration adjusted for LFS subject degree % NQF 4-8

\* Social studies; mass communication and documentation; and historical and philosophical studies

## 4.2 Aspirational scenario

**Table 4.11: Net requirement from education and migration (2010-2020 – OE EDF Sept 2008)**

	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	31.0	84.5	18.8	65.7
Professional occupations	22.4	69.8	32.7	37.1
Associate professional & technical occupations	15.6	58.6	42.3	16.3
Administrative and secretarial occupations	-6.6	57.0	44.3	12.7
Skilled trades occupations	0.4	82.4	56.8	25.6
Personal service occupations	12.7	75.8	41.8	34.1
Sales and customer service occupations	6.6	64.3	62.5	1.8
Process, plant and machine operatives	-4.2	61.3	38.5	22.7
Elementary occupations	1.7	91.4	69.8	21.5
<b>Whole economy</b>	<b>8.0</b>	<b>645.0</b>	<b>407.6</b>	<b>237.4</b>
<b>Whole economy (annual)</b>	<b>8.0</b>	<b>64.5</b>	<b>40.8</b>	<b>23.7</b>
Whole economy (annual) - baseline	3.8	61.2	40.4	20.8

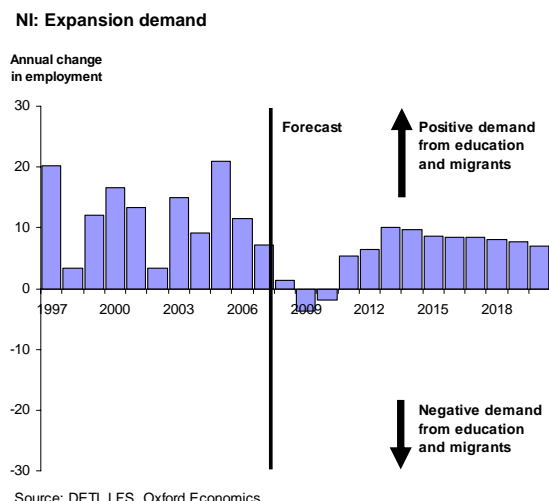
Source: Oxford Economics

**Table 4.12: Net requirement from education and migration (2010-2020 – OE summer 2009)**

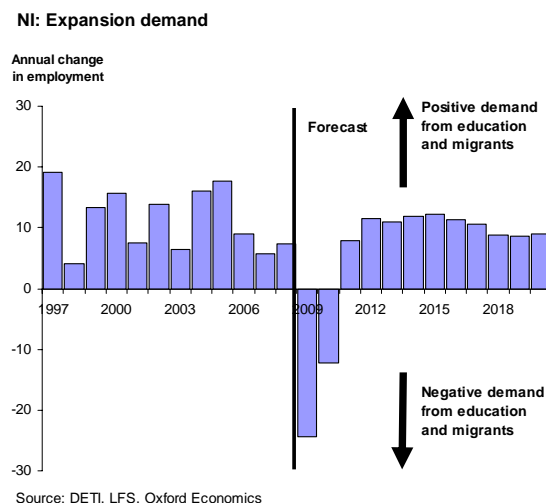
	Expansion demand	Gross expansion and replacement demand	Total returnees	Net requirement from education and migrants
Managers & senior officials	31.2	77.4	19.9	57.5
Professional occupations	20.3	68.2	34.1	34.1
Associate professional & technical occupations	18.9	64.7	50.0	14.7
Administrative and secretarial occupations	3.3	75.0	50.5	24.6
Skilled trades occupations	4.9	94.1	54.9	39.2
Personal service occupations	12.8	71.0	40.3	30.8
Sales and customer service occupations	6.0	57.0	58.5	-1.5
Process, plant and machine operatives	-0.4	71.9	41.1	30.8
Elementary occupations	6.1	114.7	67.2	47.4
<b>Whole economy</b>	<b>10.3</b>	<b>694.2</b>	<b>416.5</b>	<b>277.7</b>
<b>Whole economy (annual)</b>	<b>10.3</b>	<b>69.4</b>	<b>41.7</b>	<b>27.8</b>

Source: Oxford Economics

**Fig 4.9: Expansion demand (OE EDF Sept 2008)**

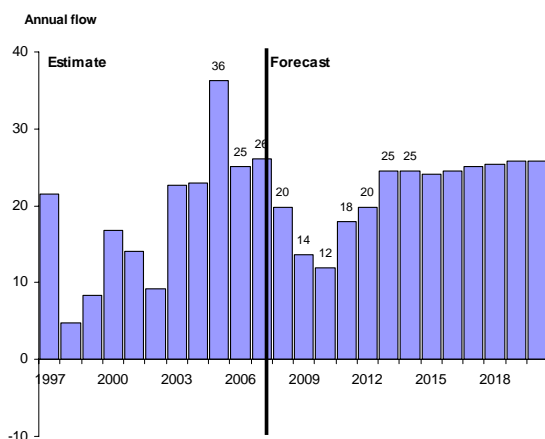


**Fig 4.10: Expansion demand (OE summer 2009)**



**Fig 4.11: Net requirement from education and migration (OE EDF Sept 2008)**

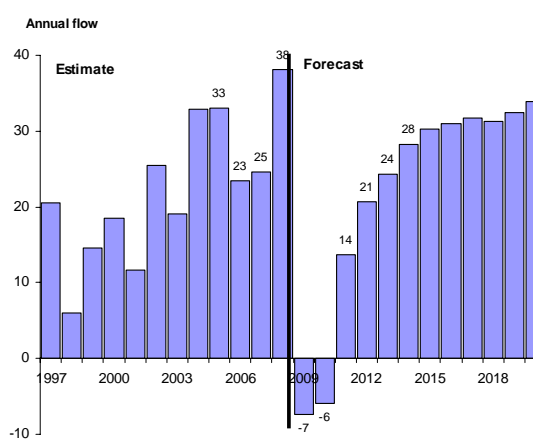
NI: Net requirement from education system and in-migration



Source: Oxford Economics

**Fig 4.12: Net requirement from education and migration (OE summer 2009)**

NI: Net requirement from education system and in-migration



Source: Oxford Economics

**Table 4.13: Net requirement from education and migration – NQF qualifications (OE EDF Sept 2008)**

	2007-2010 (annual)	2010-2020 (annual)	Difference	2010-2020 (annual % total)
Postgraduate (NQF 7-8)	1.2	2.0	0.8	8%
First degree and sub-degree (NQF 4-6)	4.8	8.7	3.8	36%
Intermediate a (NQF above 3 below 4 and NQF 3)	3.4	5.5	2.0	23%
Intermediate b (NQF 2)	2.9	3.9	1.0	16%
Low (NQF 1 and below)	2.8	3.8	1.0	16%
<b>Total</b>	<b>15.1</b>	<b>23.7</b>	<b>8.7</b>	<b>100%</b>

Source: Oxford Economics

**Table 4.14: Net requirement from education and migration – NQF qualifications (OE summer 2009)**

	2008-2010 (annual)	2010-2020 (annual)	Difference	2010-2020 (annual % total)
Postgraduate (NQF 7-8)	-0.2	2.4	2.7	9%
First degree and sub-degree (NQF 4-6)	-2.2	9.5	11.7	34%
Intermediate a (NQF 3)	-1.5	7.0	8.5	25%
Intermediate b (NQF 2)	-1.4	2.7	4.0	10%
Low (NQF 1 and below)	-1.4	6.2	7.6	22%
<b>Total</b>	<b>-6.7</b>	<b>27.8</b>	<b>34.4</b>	<b>100%</b>

Source: Oxford Economics

**Table 4.15: Upskilling of existing workforce requirement (OE EDF Sept 2008)**

	2007-2020 (annual upskilling)
Postgraduate (NQF 7-8)	3.7
First degree and sub-degree (NQF 4-6)	8.5
Intermediate a (NQF above 3 below 4 and NQF 3)	0.3
Intermediate b (NQF 2)	-0.9
Low (NQF 1 and below)	-11.7
<b>Total</b>	<b>0.0</b>

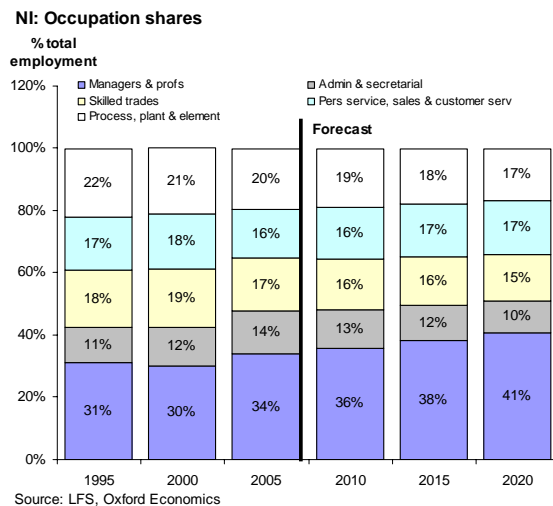
Source: Oxford Economics

**Table 4.16: Upskilling of existing workforce requirement (OE summer 2009)**

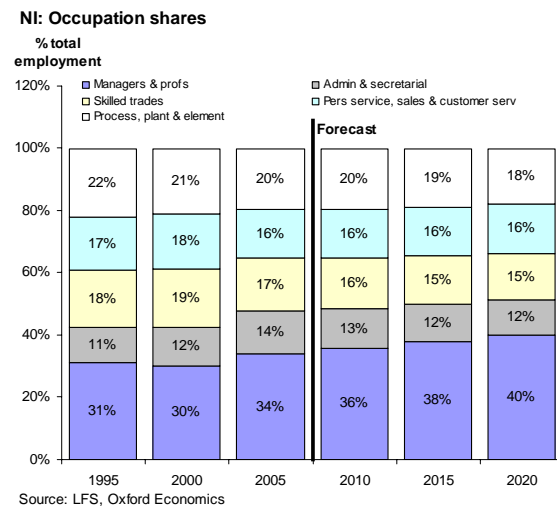
	2008-2020 (annual upskilling)
Postgraduate (NQF 7-8)	4.2
First degree and sub-degree (NQF 4-6)	9.8
Intermediate a (NQF 3)	0.3
Intermediate b (NQF 2)	-0.9
Low (NQF 1 and below)	-13.3
<b>Total</b>	<b>0.0</b>

Source: LFS, Oxford Economics

**Fig 4.13: Trend in occupations (OE EDF Sept 2008)**

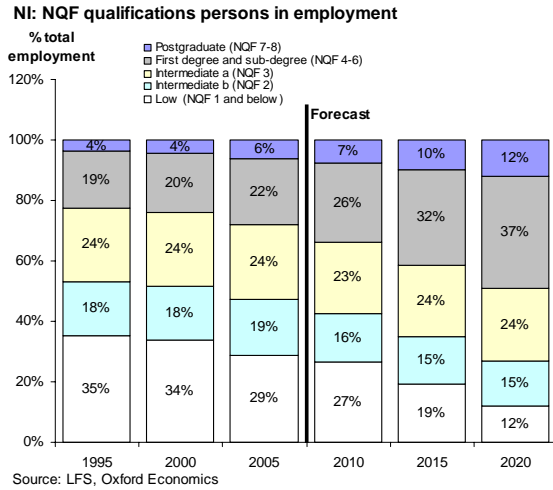


**Fig 4.14: Trend in occupations (OE summer 2009)**

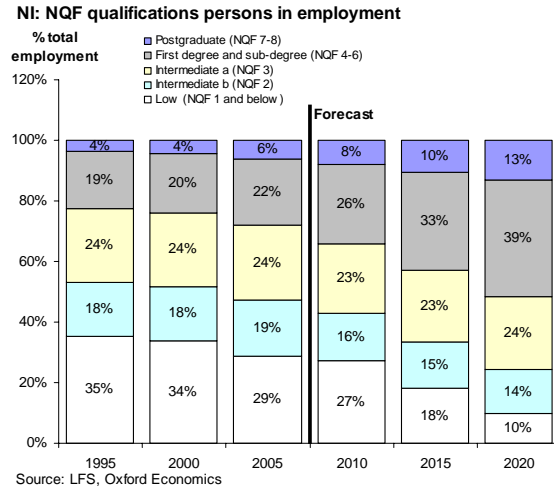


Note the rise in workforce higher qualifications between Fig 4.15 and 4.16 is explained primarily by greater short-term job loss in lower skilled sectors such as retail and manufacturing (with these sectors not recovering to the same long-term level of employment as predicted before), resulting in higher skilled sectors having a higher share of overall employment.

**Fig 4.15: Trend in NQF qualifications of persons in employment (OE EDF Sept 2008)**



**Fig 4.16: Trend in NQF qualifications of persons in employment (OE summer 2009)**



**Table 4.17: Net requirement from education and migration – degree subjects (OE EDF Sept 2008)**

	2007-2010 (annual)	2010-2020 (annual)	<i>Difference</i>	2010-2020 (annual % total)	HESA NI domiciled graduates from UK HEIs entering employment in NI (2003-2007 annual average grossed up)
STEM	2.2	3.9	1.7	35%	3.6
Medicine & dentistry	0.2	0.2	0.0	2%	0.3
Subjects allied to medicine	0.9	1.2	0.2	11%	1.4
Biological sciences	0.3	0.4	0.2	4%	0.4
Veterinary science	0.0	0.0	0.0	0%	0.0
Agriculture & related subjects	0.1	0.0	0.0	0%	0.1
Physical sciences	0.1	0.2	0.1	2%	0.2
Mathematical sciences	0.0	0.1	0.1	1%	0.0
Computer science	0.3	0.8	0.4	7%	0.5
Engineering & technology	0.3	0.6	0.4	6%	0.3
Architecture, building & planning	0.0	0.4	0.3	4%	0.3
Law	0.2	0.5	0.3	4%	0.2
Business and Administration	0.6	1.2	0.5	11%	1.3
Languages	0.1	0.2	0.1	2%	0.2
Creative Arts and Design	0.2	0.4	0.2	4%	0.3
Education	0.6	0.9	0.2	8%	1.5
Combined degree	0.0	0.1	0.1	1%	0.1
Other *	0.6	0.8	0.3	8%	1.1
<b>Total</b>	<b>4.5</b>	<b>8.0</b>	<b>3.5</b>	<b>37%</b>	<b>8.4</b>

Source: Oxford Economics

Note: NQF 4-8 requirement from education and migration adjusted for LFS subject degree % NQF 4-8

\* Social studies; mass communication and documentation; philosophical studies

**Table 4.18: Net requirement from education and migration – degree subjects (OE summer 2009)**

	2008-2010 (annual)	2010-2020 (annual average)	<i>Difference</i>	2010-2020 (annual % total)	HESA NI domiciled graduates from UK HEIs entering employment in NI (2003-2007 annual average grossed up)
STEM	-2.0	4.2	6.2	47%	3.6
Medicine & dentistry	2.2	0.2	-1.9	3%	0.3
Subjects allied to medicine	8.1	1.2	-6.9	13%	1.4
Biological sciences	0.2	0.4	0.3	5%	0.4
Veterinary science	0.0	0.0	0.0	0%	0.0
Agriculture & related subjects	-0.5	0.0	0.5	0%	0.1
Physical sciences	-0.6	0.3	0.9	3%	0.2
Mathematical sciences	-0.3	0.1	0.4	1%	0.0
Computer science	-1.3	0.8	2.0	9%	0.5
Engineering & technology	-4.1	0.6	4.8	7%	0.3
Architecture, building & planning	-5.7	0.6	6.2	6%	0.3
Law	-0.8	0.5	1.3	6%	0.2
Business and Administration	-4.3	1.4	5.7	16%	1.3
Languages	-0.1	0.2	0.4	3%	0.2
Creative Arts and Design	-0.5	0.5	0.9	5%	0.3
Education	5.5	0.9	-4.6	10%	1.5
Combined degree	0.0	0.2	0.2	2%	0.1
Other *	0.3	1.0	0.7	11%	1.1
<b>Total</b>	<b>-1.8</b>	<b>8.9</b>	<b>10.7</b>	<b>147%</b>	<b>8.4</b>

Source: Oxford Economics, HESA

Note: NQF 4-8 requirement from education and migration adjusted for LFS subject degree % NQF 4-8

\* Social studies; mass communication and documentation; and historical and philosophical studies

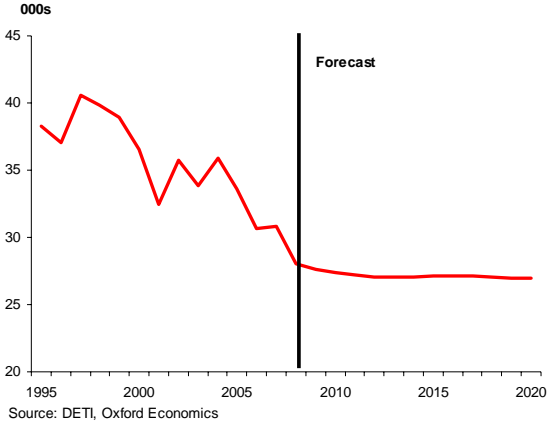
## **Annex A: Baseline scenario forecasts**

This annex presents detailed forecasts for the baseline scenario, including:

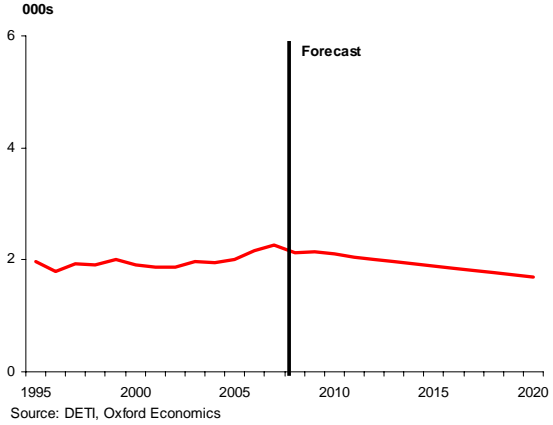
- Employment forecasts by industry sector and occupation
- Detailed replacement demand analysis by industry and occupation
- Graduate subject demand annual forecast charts for selected broad subject areas (based on the sectoral approach, scaled to the occupational replacement demand forecast approach)

## Sectoral employment forecasts

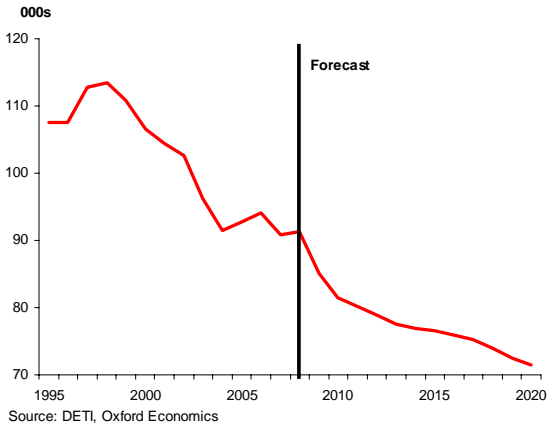
**NI: Agriculture, forestry & fishing (people-based)**



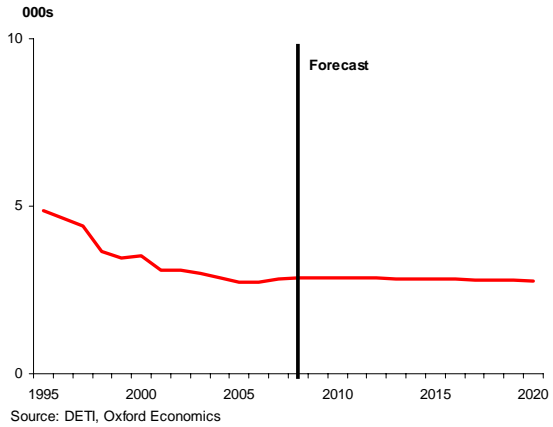
**NI: Mining & quarrying (people-based)**



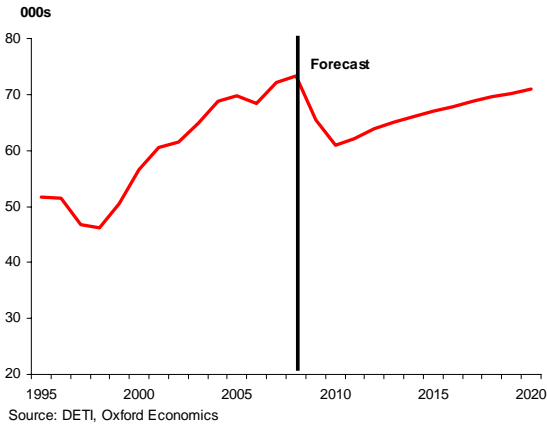
**NI: Manufacturing (people-based)**



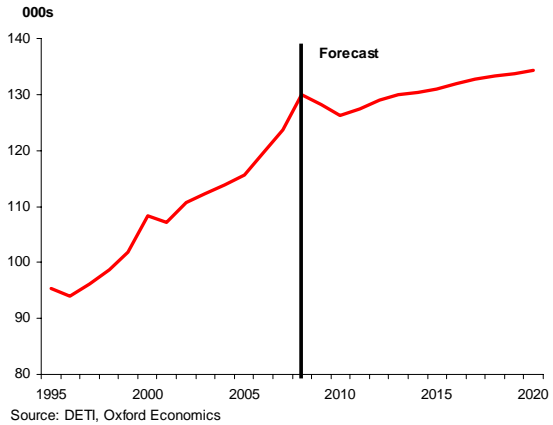
**NI: Utilities (people-based)**



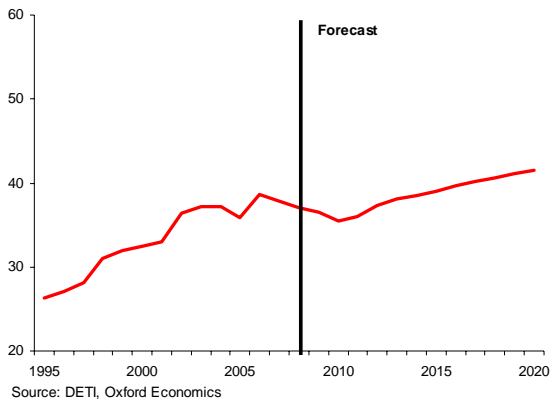
**NI: Construction (people-based)**



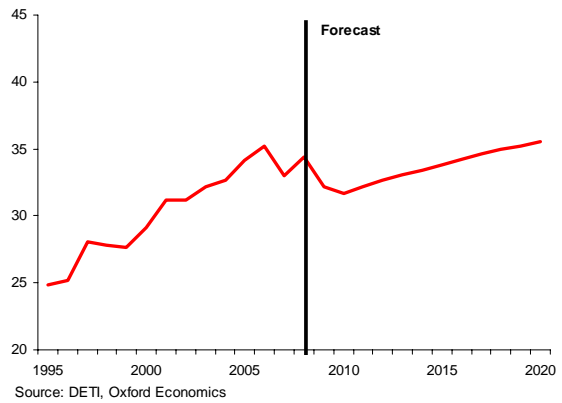
**NI: Retail & distribution (people-based)**



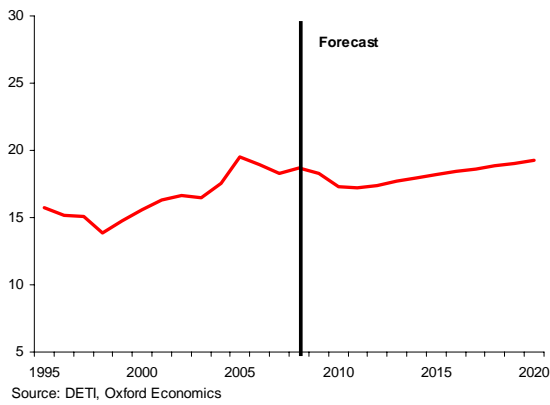
**NI: Hotels & restaurants (people-based)**  
000s



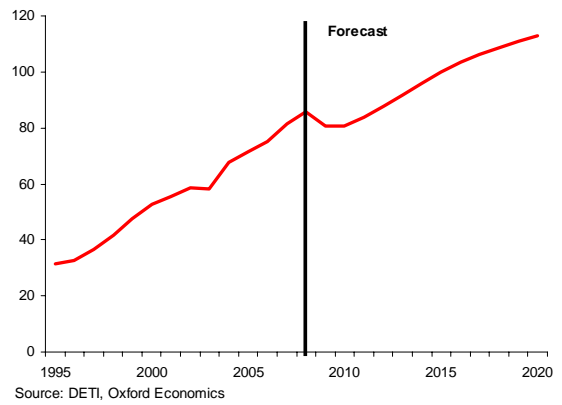
**NI: Transport & communications (people-based)**  
000s



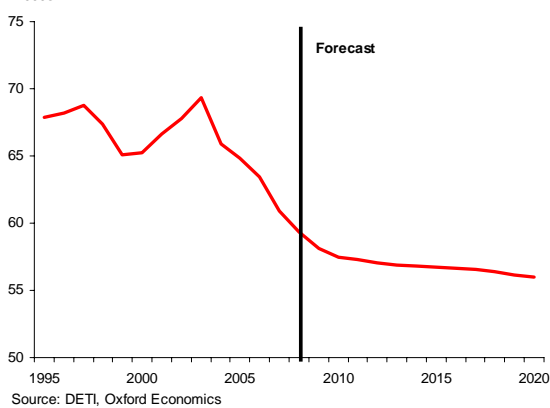
**NI: Financial services (people-based)**  
000s



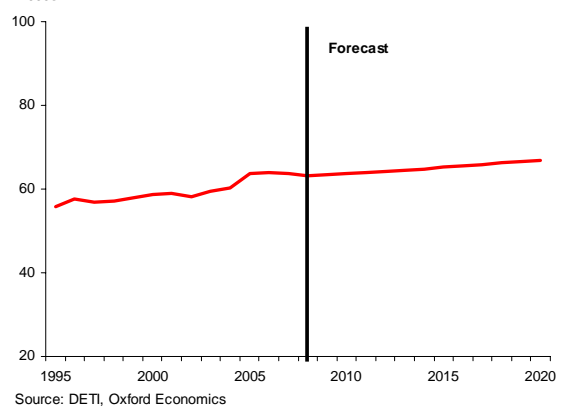
**NI: Business services (people-based)**  
000s



**NI: Public administration & defence (people-based)**  
000s

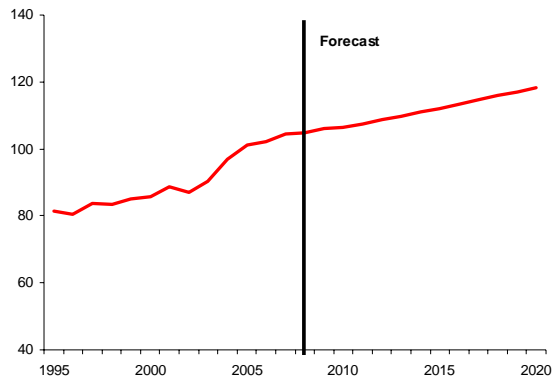


**NI: Education (people-based)**  
000s

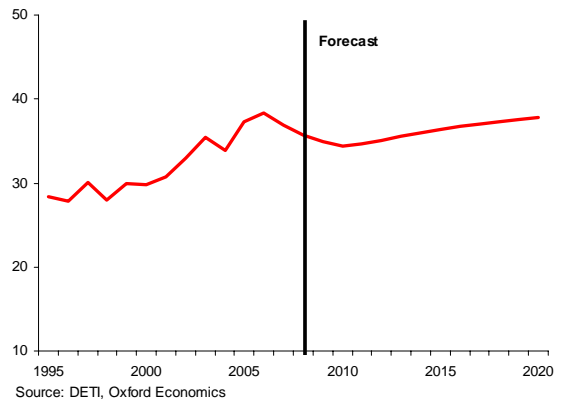




NI: Health & social work (people-based)  
000s

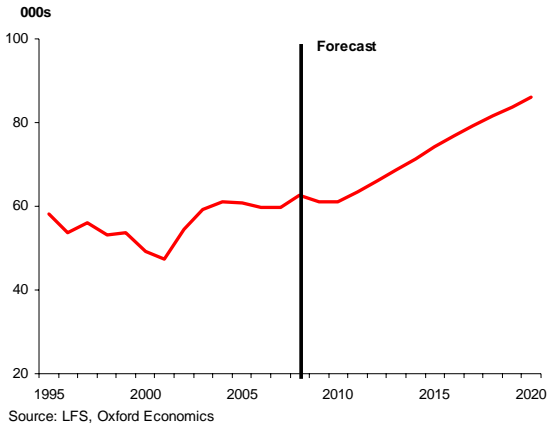


NI: Other personal services (people-based)  
000s

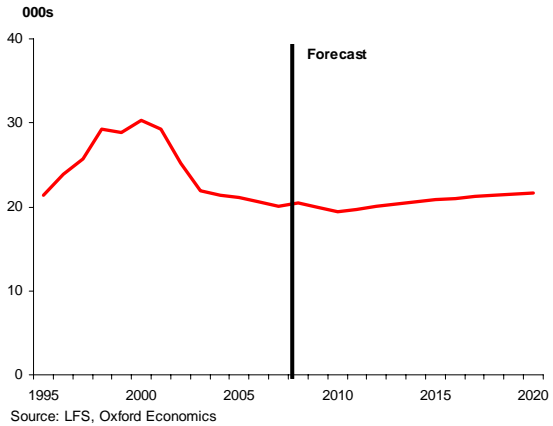


## Occupation employment forecasts

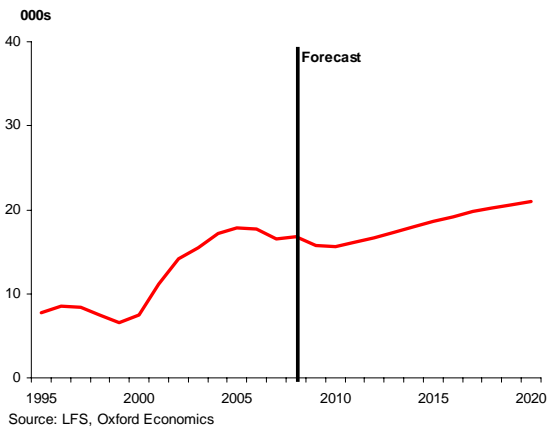
**NI: Corporate managers (people-based)**



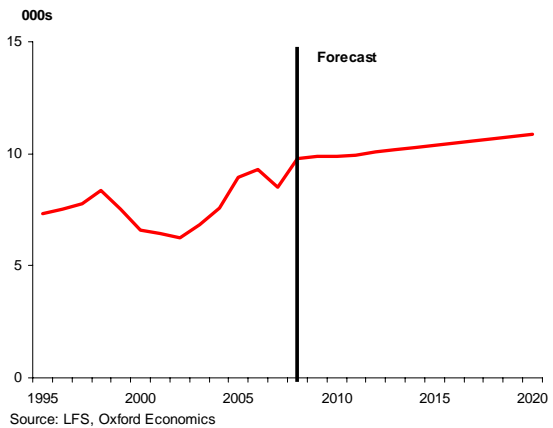
**NI: Managers in agriculture & services (people-based)**



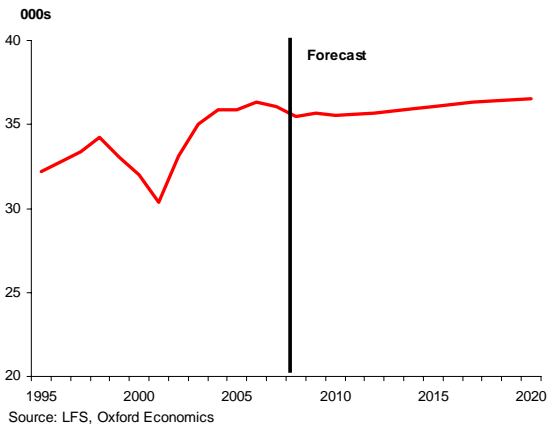
**NI: Science & technology professionals (people-based)**



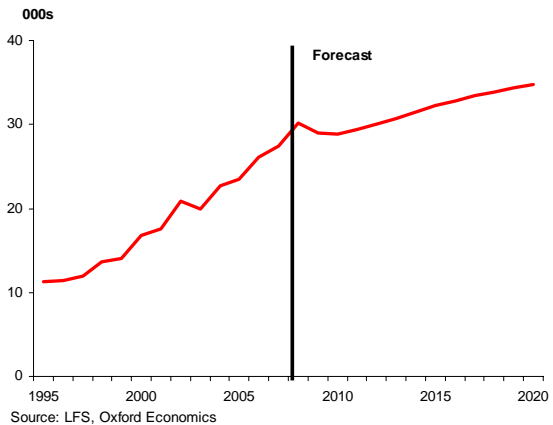
**NI: Health professionals (people-based)**

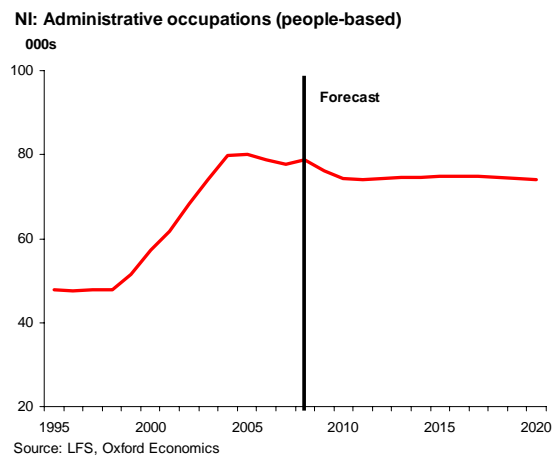
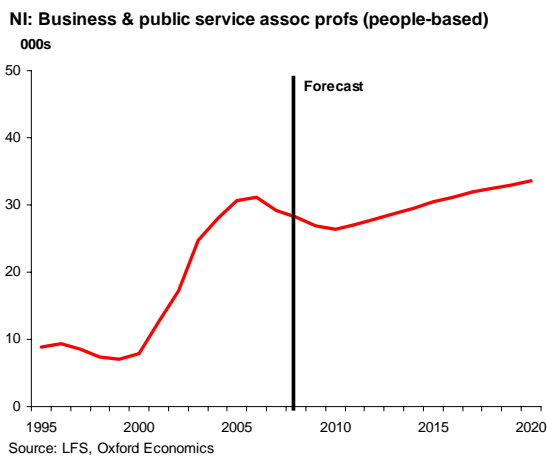
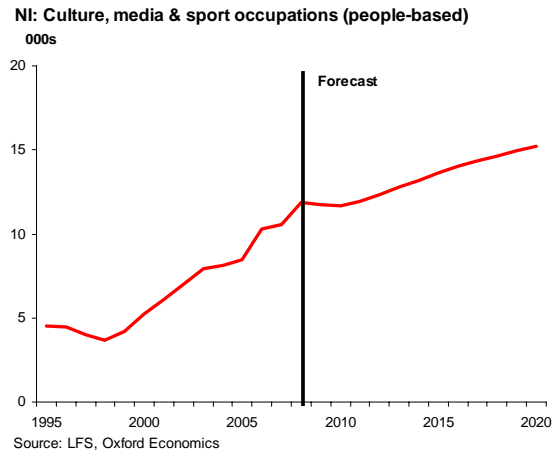
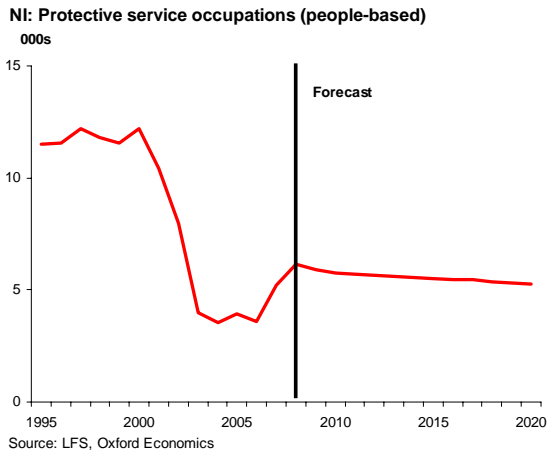
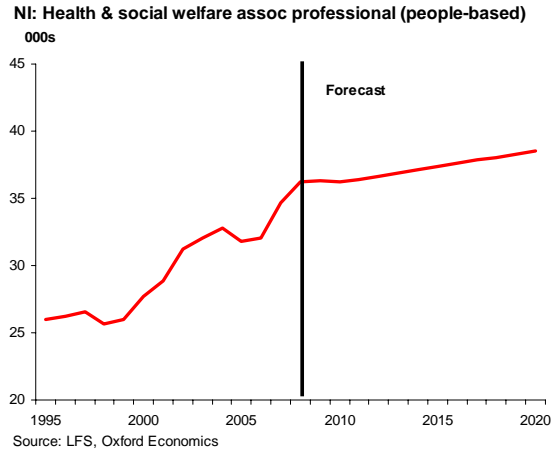
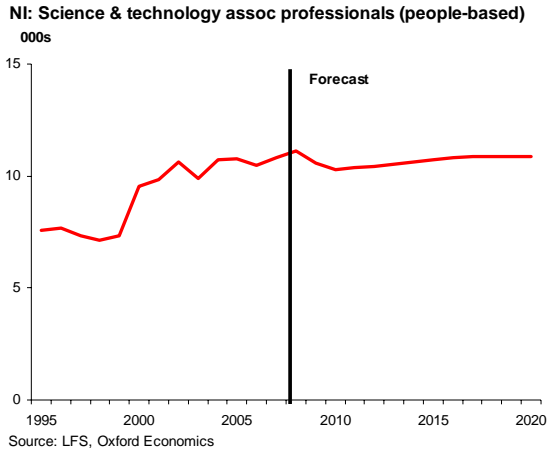


**NI: Teaching & research professionals (people-based)**

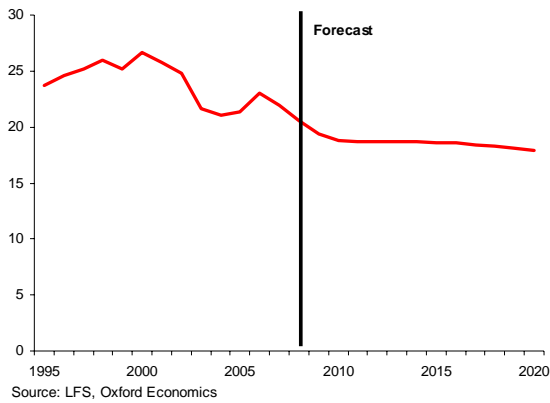


**NI: Business & public service professionals (people-based)**

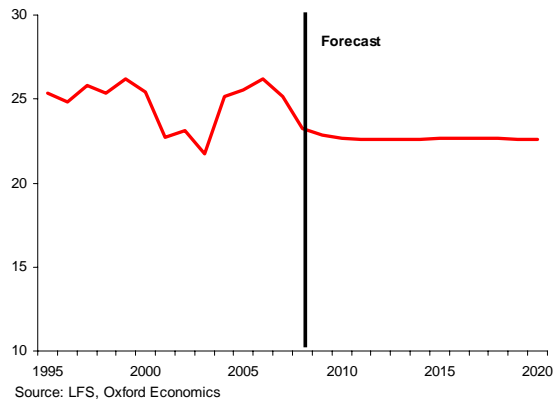




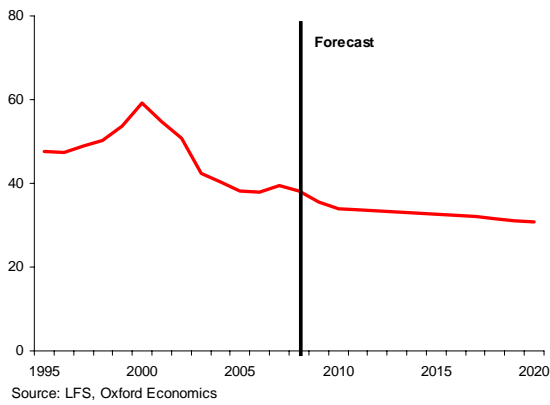
**NI: Secretarial & related occupations (people-based)**  
000s



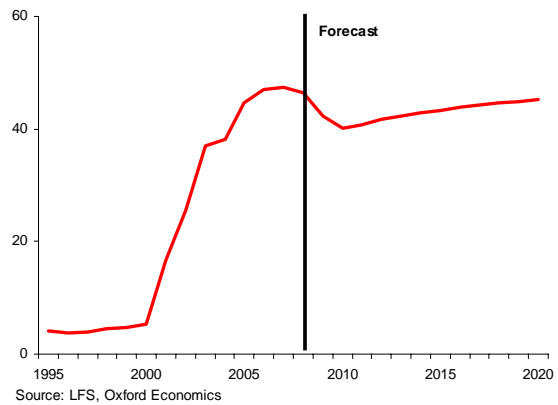
**NI: Skilled agriculture trades (people-based)**  
000s



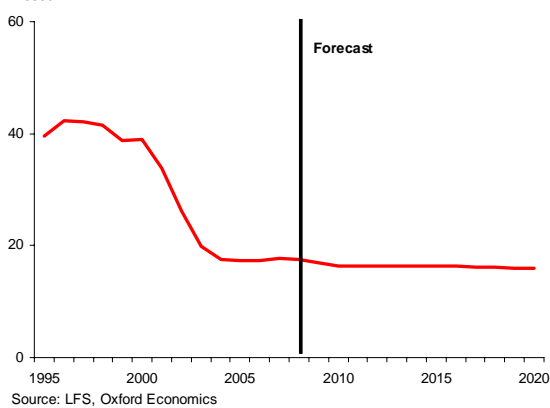
**NI: Skilled metal & electrical trades (people-based)**  
000s



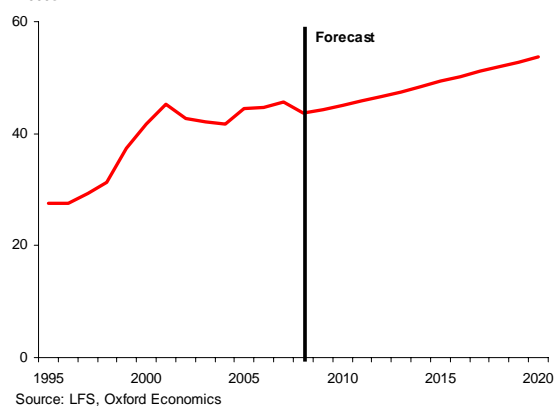
**NI: Construction & building trades (people-based)**  
000s

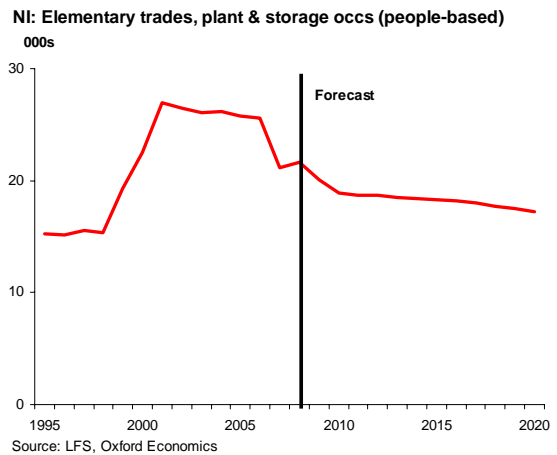
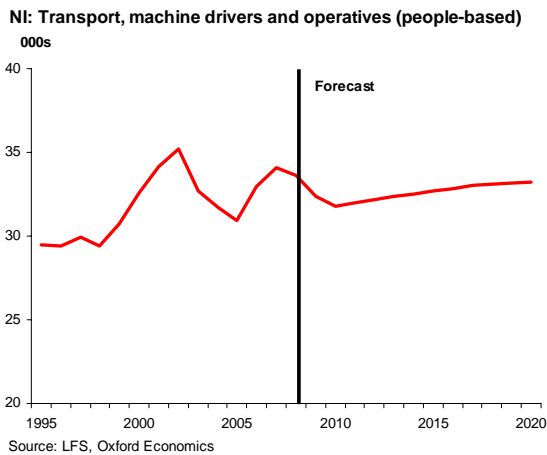
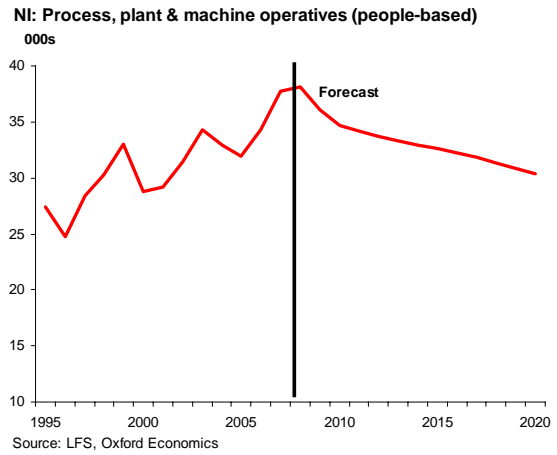
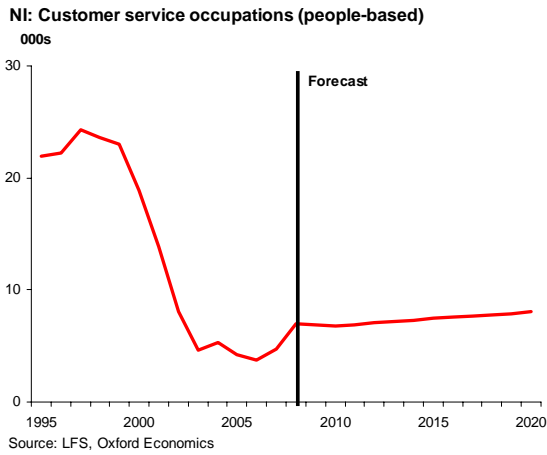
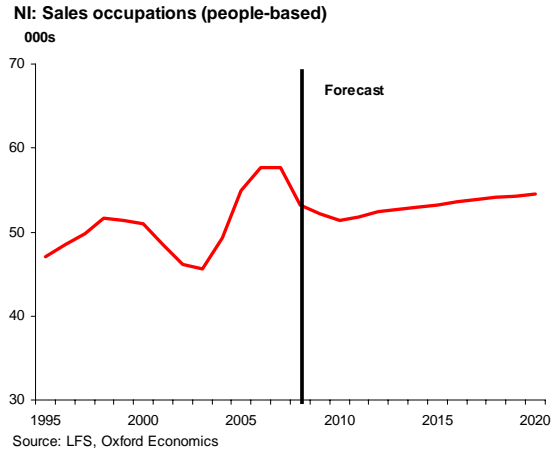
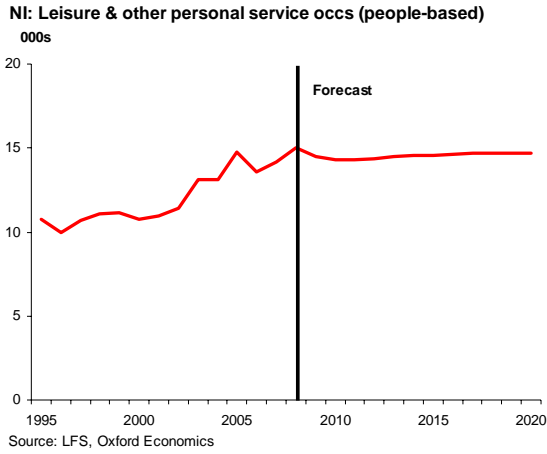


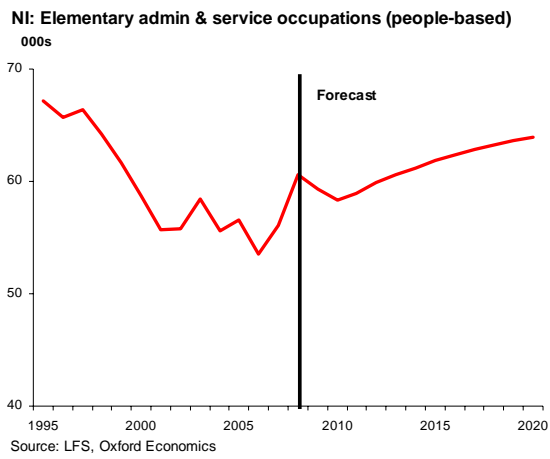
**NI: Textiles, printing & other skilled trades (people-based)**  
000s



**NI: Caring & personal service occupations (people-based)**  
000s







## Replacement demand analysis by industry and occupation

### Industry (2010-2020)

#### OE EDF Sept 2008

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Agriculture, forestry and fishing	-0.7	1.3	0.0	0.7	2.5	0.9	0.0	4.7	1.3	2.6	4.0	7.9	-3.2
Mining & quarrying	-0.3	0.1	0.0	0.8	0.0	0.2	0.0	0.8	0.0	0.0	2.0	2.0	-1.2
Manufacturing	-8.4	2.2	18.3	13.7	8.1	35.2	13.7	82.8	17.6	6.3	15.2	39.1	43.7
Utilities	0.2	0.1	0.0	0.0	0.0	0.8	0.0	1.1	0.0	0.0	1.3	1.3	-0.2
Construction	4.1	1.5	15.2	15.2	4.5	9.9	0.0	50.3	18.5	5.0	16.2	39.7	10.6
Retail & distribution	8.2	2.6	17.3	19.2	13.7	51.5	4.1	116.6	31.4	13.4	27.3	72.1	44.6
Hotel & restaurants	5.5	0.8	6.1	16.1	0.0	22.9	0.9	52.3	7.6	3.7	15.4	26.8	25.6
Transport & communications	2.9	0.8	5.6	10.1	0.0	9.5	0.7	29.6	8.0	4.3	9.3	21.6	7.9
Financial services	4.0	0.4	0.0	3.1	0.8	7.0	0.9	16.1	1.9	2.4	18.5	22.8	-6.6
Business services	27.0	2.2	23.7	15.4	7.0	30.5	8.9	114.7	14.1	4.0	46.0	64.1	50.7
Public administration & defence	-1.2	1.5	4.0	8.0	5.8	6.7	1.5	25.6	10.1	7.0	15.0	32.1	-6.5
Education	2.0	1.9	4.2	12.1	7.7	13.7	0.0	41.5	8.6	6.1	6.0	20.7	20.8
Health & social work	10.4	2.9	9.0	26.0	7.2	20.3	13.5	89.4	16.0	11.7	21.1	48.8	40.6
Other personal services	2.1	0.9	6.7	11.7	4.0	4.2	1.5	31.1	8.2	4.3	16.8	29.2	1.9
<b>Whole economy</b>	<b>55.7</b>	<b>19.0</b>	<b>110.1</b>	<b>152.1</b>	<b>61.2</b>	<b>213.4</b>	<b>45.0</b>	<b>656.5</b>	<b>143.3</b>	<b>70.8</b>	<b>213.9</b>	<b>428.0</b>	<b>228.5</b>
<b>Whole economy (annual)</b>	<b>5.6</b>	<b>1.9</b>	<b>11.0</b>	<b>15.2</b>	<b>6.1</b>	<b>21.3</b>	<b>4.5</b>	<b>65.7</b>	<b>14.3</b>	<b>7.1</b>	<b>21.4</b>	<b>42.8</b>	<b>22.9</b>

Source: Oxford Economics

#### OE summer 2009

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Agriculture, forestry and fishing	-0.4	1.2	0.8	0.6	2.3	0.8	0.3	5.6	0.6	3.9	2.8	7.3	-1.7
Mining & quarrying	-0.4	0.1	0.5	0.6	0.0	0.0	0.0	0.8	0.0	0.0	1.3	1.3	-0.5
Manufacturing	-10.0	1.9	13.6	13.3	6.7	33.7	10.3	69.4	19.5	5.7	11.0	36.2	33.2
Utilities	-0.1	0.1	0.0	0.0	0.0	0.8	0.0	0.8	0.0	0.0	1.3	1.3	-0.5
Construction	10.1	1.4	15.5	14.4	3.6	8.4	5.4	58.8	18.5	4.9	20.0	43.3	15.5
Retail & distribution	8.1	2.8	18.5	14.7	13.6	56.6	5.2	119.5	32.5	12.7	42.7	87.9	31.6
Hotel & restaurants	6.1	0.8	10.3	19.0	2.2	24.7	9.5	72.6	2.7	4.1	15.5	22.3	50.3
Transport & communications	3.8	0.8	5.7	9.2	0.8	7.5	2.0	29.9	8.8	4.2	11.3	24.3	5.6
Financial services	1.9	0.3	0.0	1.7	0.6	8.2	0.3	13.1	1.7	2.3	15.9	20.0	-6.9
Business services	32.5	2.3	20.2	14.7	5.3	30.7	6.3	112.0	13.7	4.4	38.7	56.8	55.2
Public administration & defence	-1.5	1.6	4.3	9.1	6.9	7.8	0.6	28.8	6.3	5.9	14.6	26.8	2.0
Education	3.2	1.9	2.5	12.2	8.2	13.5	0.0	41.6	7.2	7.8	7.7	22.7	18.8
Health & social work	11.7	2.9	7.4	28.0	8.7	20.9	12.6	92.1	14.0	11.1	22.3	47.4	44.8
Other personal services	3.4	0.9	6.3	15.4	4.3	6.5	4.3	41.1	10.8	4.2	15.5	30.6	10.6
<b>Whole economy</b>	<b>68.4</b>	<b>19.0</b>	<b>105.5</b>	<b>153.0</b>	<b>63.3</b>	<b>220.1</b>	<b>56.9</b>	<b>686.1</b>	<b>136.4</b>	<b>71.2</b>	<b>220.5</b>	<b>428.1</b>	<b>258.0</b>
<b>Whole economy (annual)</b>	<b>6.8</b>	<b>1.9</b>	<b>10.6</b>	<b>15.3</b>	<b>6.3</b>	<b>22.0</b>	<b>5.7</b>	<b>68.6</b>	<b>13.6</b>	<b>7.1</b>	<b>22.1</b>	<b>42.8</b>	<b>25.8</b>

Source: Oxford Economics

**Occupation (2010-2020)**
**OE EDF Sept 2008**

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Corporate Managers	24.9	2.0	8.5	3.9	7.1	15.3	2.6	64.4	3.0	0.9	9.6	13.5	50.8
Managers & Proprietors in Agriculture & Services	1.7	0.6	2.4	1.4	2.4	5.8	0.0	14.2	2.6	0.4	1.9	4.8	9.4
Science & Technology Professionals	7.9	0.5	3.9	3.5	0.0	1.6	0.0	17.4	1.5	1.4	7.4	10.3	7.0
Health Professionals	1.2	0.2	0.0	1.0	1.0	0.0	1.4	4.9	0.8	0.0	0.0	0.8	4.1
Teaching & Research Professionals	1.1	1.0	4.2	7.5	2.6	4.5	0.0	20.8	3.5	1.8	5.4	10.7	10.1
Business & Public Service Professionals	8.6	0.8	4.7	2.8	1.8	2.6	1.3	22.5	0.9	0.5	9.0	10.4	12.1
Science & Technology Associate Professionals	0.4	0.3	0.0	0.0	1.1	1.1	0.0	2.8	1.6	0.5	4.8	6.8	-4.0
Health & Social Welfare Associate Professionals	2.7	0.9	0.0	4.7	1.2	5.0	5.1	19.6	1.5	2.3	14.0	17.8	1.7
Protective Service Occupations	-0.5	0.1	0.0	1.8	0.4	1.0	0.0	2.8	0.0	0.0	0.0	0.0	2.8
Culture, Media & Sports Occupations	2.9	0.4	0.0	0.0	0.0	1.3	0.0	4.6	3.3	0.0	1.3	4.6	-0.1
Business & Public Service Associate Professionals	8.1	0.8	2.3	1.1	4.5	10.2	0.0	27.0	2.7	2.5	8.0	13.2	13.9
Administrative Occupations	-4.4	1.6	11.8	16.2	5.6	17.6	1.3	49.7	16.6	6.9	10.3	33.7	15.9
Secretarial & Related Occupations	-5.7	0.4	1.4	0.6	1.9	4.2	0.0	2.8	0.0	1.9	7.9	9.8	-7.0
Skilled Agricultural Trades	-0.4	1.2	0.0	2.7	2.4	1.1	0.0	7.1	0.7	1.8	0.9	3.3	3.8
Skilled Metal & Electrical Trades	-5.8	0.8	4.8	3.5	2.2	12.2	2.2	20.0	6.0	2.2	9.1	17.3	2.7
Skilled Construction & Building Trades	3.7	0.9	15.0	10.8	3.4	4.2	0.0	37.9	11.3	3.2	8.1	22.7	15.3
Textiles, Printing & Other Skilled Trades	-1.9	0.4	1.0	0.8	1.8	6.0	0.4	8.5	3.1	2.4	6.7	12.1	-3.7
Caring Personal Service Occupations	10.0	1.2	6.1	18.0	4.0	12.3	7.3	58.9	14.1	6.4	9.4	30.0	29.0
Leisure & Other Personal Service Occupations	-0.5	0.3	4.6	4.8	1.7	3.3	0.0	14.1	4.1	2.4	5.3	11.8	2.3
Sales Occupations	6.3	1.1	8.9	9.3	5.1	30.5	0.0	61.2	18.0	11.2	31.3	60.5	0.7
Customer Service Occupations	1.4	0.1	0.0	1.8	0.0	1.5	0.0	4.8	0.0	0.5	1.8	2.2	2.6
Process, Plant & Machine Operatives	-8.8	0.8	4.2	6.6	1.9	18.5	8.2	31.3	8.5	2.9	10.4	21.9	9.5
Transport & Mobile Machine Drivers & Operatives	1.5	1.0	2.1	7.1	2.1	6.8	3.3	24.0	6.5	2.4	6.9	15.8	8.2
Elementary Trades, Plant & Storage Related Occupations	-4.1	0.4	5.8	5.6	3.6	7.7	0.5	19.5	10.3	2.6	6.1	19.0	0.5
Elementary Administration & Service Occupations	5.5	1.6	10.0	29.5	3.8	15.7	5.1	71.1	22.2	13.4	15.0	50.5	20.6
<b>Whole economy</b>	<b>55.7</b>	<b>19.1</b>	<b>101.7</b>	<b>144.9</b>	<b>61.6</b>	<b>190.2</b>	<b>38.7</b>	<b>612.0</b>	<b>142.7</b>	<b>70.4</b>	<b>190.6</b>	<b>403.7</b>	<b>208.3</b>
<b>Whole economy (annual)</b>	<b>5.6</b>	<b>1.9</b>	<b>10.2</b>	<b>14.5</b>	<b>6.2</b>	<b>19.0</b>	<b>3.9</b>	<b>61.2</b>	<b>14.3</b>	<b>7.0</b>	<b>19.1</b>	<b>40.4</b>	<b>20.8</b>

Source: Oxford Economics

**OE summer 2009**

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Corporate Managers	25.0	1.9	4.6	5.8	5.1	14.4	0.3	57.2	0.0	4.1	13.6	17.7	39.6
Managers & Proprietors in Agriculture & Services	2.1	0.7	2.4	3.2	2.4	3.8	0.0	14.6	0.0	0.4	1.4	1.8	12.8
Science & Technology Professionals	5.4	0.4	2.2	2.1	0.0	2.6	2.4	15.2	0.8	1.4	7.8	9.9	5.3
Health Professionals	1.0	0.3	0.2	1.1	1.1	1.3	1.6	6.6	0.8	0.0	0.0	0.8	5.9
Teaching & Research Professionals	1.0	0.9	1.8	7.6	3.5	6.6	0.0	21.5	2.6	2.2	5.5	10.4	11.1
Business & Public Service Professionals	5.9	0.8	3.4	1.5	1.7	2.5	0.9	16.9	0.9	1.3	10.3	12.5	4.4
Science & Technology Associate Professionals	0.6	0.3	0.0	0.2	1.1	2.5	0.0	4.6	1.4	0.5	5.8	7.7	-3.1
Health & Social Welfare Associate Professionals	2.3	0.9	0.0	4.8	1.2	7.0	4.2	20.4	1.3	0.9	18.1	20.3	0.0
Protective Service Occupations	-0.5	0.1	0.0	1.4	0.5	1.2	0.0	2.7	0.0	0.4	0.2	0.7	2.0
Culture, Media & Sports Occupations	3.6	0.3	0.0	0.4	0.0	2.8	0.0	7.1	3.1	0.0	1.8	4.8	2.3
Business & Public Service Associate Professionals	7.2	0.7	0.5	2.2	4.3	7.3	0.9	23.2	2.5	2.4	11.3	16.2	7.0
Administrative Occupations	-0.2	1.8	10.0	17.1	8.3	21.3	0.5	58.9	12.1	5.4	18.4	35.9	23.0
Secretarial & Related Occupations	-0.9	0.4	1.5	0.7	2.2	6.5	0.0	10.5	2.7	4.6	7.7	15.0	-4.5
Skilled Agricultural Trades	-0.1	1.1	1.0	3.0	3.2	4.7	0.3	13.2	0.0	1.8	1.1	2.9	10.3
Skilled Metal & Electrical Trades	-3.2	0.8	5.8	2.8	1.0	13.6	2.5	23.2	5.6	3.1	10.2	18.8	4.3
Skilled Construction & Building Trades	5.1	0.9	12.6	11.8	2.7	1.4	1.0	35.6	9.9	2.3	6.5	18.6	16.9
Textiles, Printing & Other Skilled Trades	-0.5	0.4	1.1	1.1	2.2	7.6	2.7	14.6	4.9	2.8	6.9	14.6	0.0
Caring Personal Service Occupations	8.7	1.1	3.0	19.3	3.7	14.9	1.5	52.4	10.4	6.4	12.1	28.9	23.5
Leisure & Other Personal Service Occupations	0.4	0.4	5.2	5.9	2.1	1.8	0.0	15.8	2.5	4.2	5.8	12.4	3.4
Sales Occupations	3.1	1.0	7.0	5.5	3.6	27.4	0.7	48.3	16.0	9.7	26.1	51.7	-3.4
Customer Service Occupations	1.3	0.1	0.5	1.9	0.0	3.9	0.0	7.7	4.1	1.4	2.8	8.2	-0.6
Process, Plant & Machine Operatives	-4.3	0.8	5.5	6.6	1.4	22.4	4.9	37.3	6.6	2.4	12.3	21.2	16.1
Transport & Mobile Machine Drivers & Operatives	1.4	1.0	5.1	6.1	2.0	10.5	4.2	30.4	9.4	2.4	8.3	20.1	10.2
Elementary Trades, Plant & Storage Related Occupations	-1.6	0.4	6.3	6.9	4.1	8.6	1.0	25.7	9.5	1.7	7.8	19.0	6.6
Elementary Administration & Service Occupations	5.6	1.6	11.5	28.5	4.2	24.6	9.4	85.5	19.3	9.9	20.1	49.3	36.2
<b>Whole economy</b>	<b>68.4</b>	<b>19.1</b>	<b>91.4</b>	<b>147.8</b>	<b>61.7</b>	<b>221.5</b>	<b>39.0</b>	<b>648.9</b>	<b>126.3</b>	<b>71.3</b>	<b>221.9</b>	<b>419.5</b>	<b>229.4</b>
<b>Whole economy (annual)</b>	<b>6.8</b>	<b>1.9</b>	<b>9.1</b>	<b>14.8</b>	<b>6.2</b>	<b>22.1</b>	<b>3.9</b>	<b>64.9</b>	<b>12.6</b>	<b>7.1</b>	<b>22.2</b>	<b>42.0</b>	<b>22.9</b>

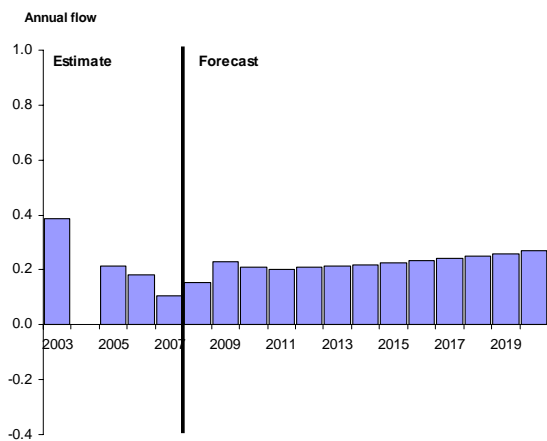
Source: Oxford Economics

## Degree subject demand

Note other subject demand forecasts can be provided upon request

**OE EDF Sept 2008**

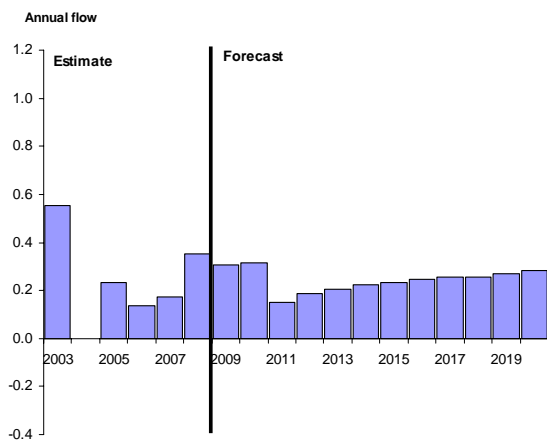
**NI: Medicine & dentistry**



Source: Oxford Economics

**OE summer 2009**

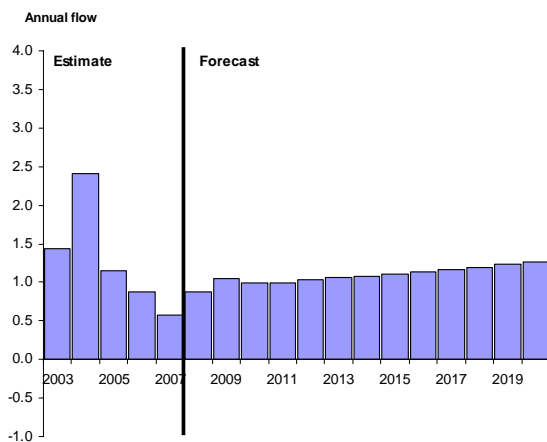
**NI: Medicine & dentistry**



Source: Oxford Economics

**OE EDF Sept 2008**

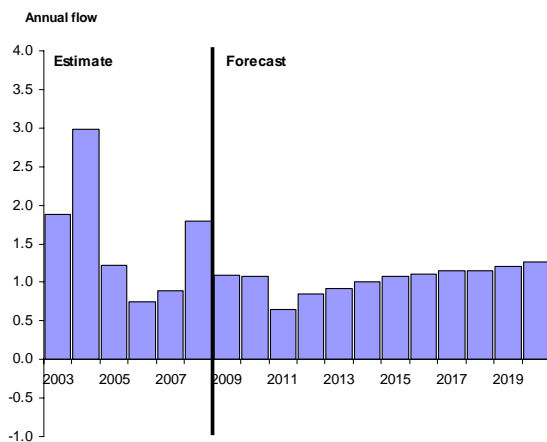
**NI: Subjects allied to medicine**



Source: Oxford Economics

**OE summer 2009**

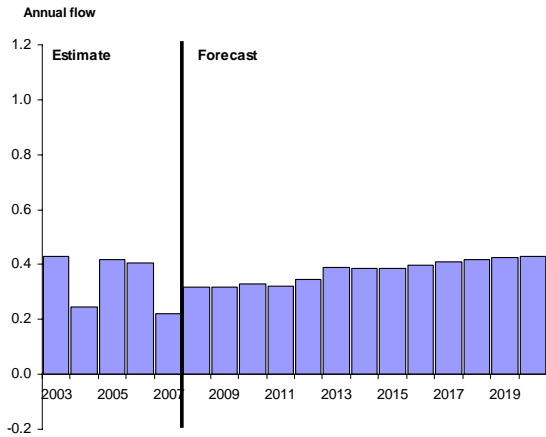
**NI: Subjects allied to medicine**



Source: Oxford Economics

**OE EDF Sept 2008**

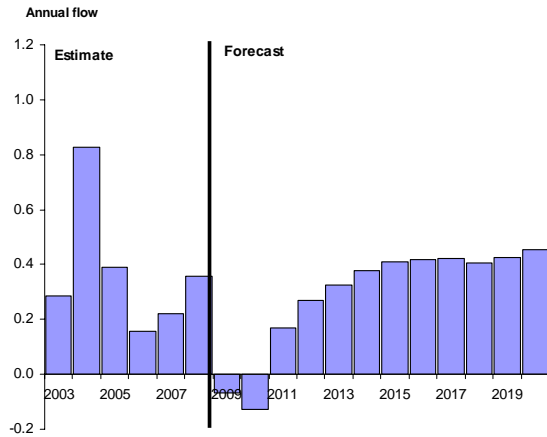
**NI: Biological, veterinary and agricultural sciences**



Source: Oxford Economics

**OE summer 2009**

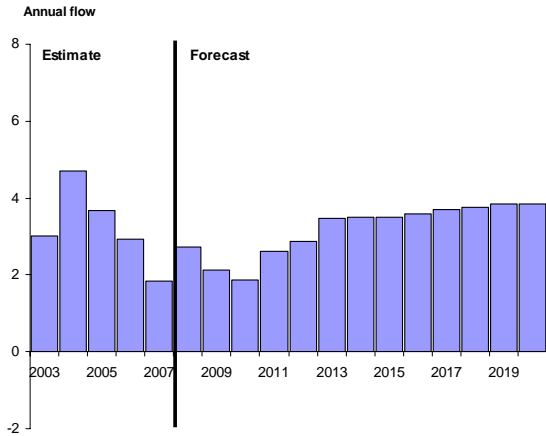
**NI: Biological, veterinary and agricultural sciences**



Source: Oxford Economics

**OE EDF Sept 2008**

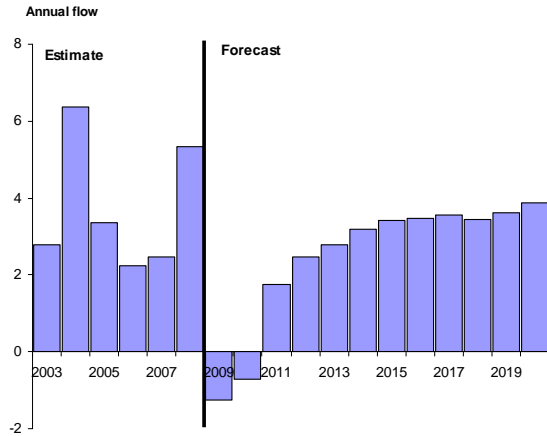
**NI: STEM (broad definition)**



Source: Oxford Economics

**OE summer 2009**

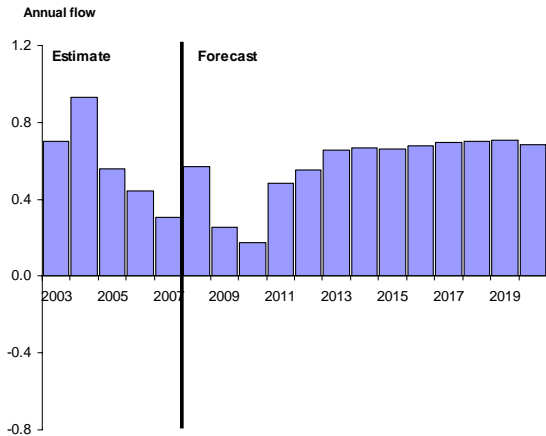
**NI: STEM (broad definition)**



Source: Oxford Economics

**OE EDF Sept 2008**

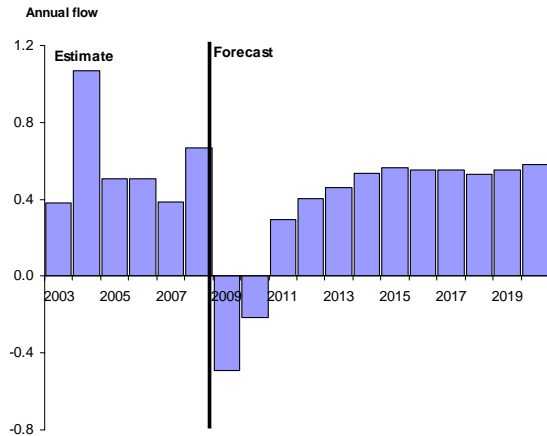
**NI: Computer science**



Source: Oxford Economics

**OE summer 2009**

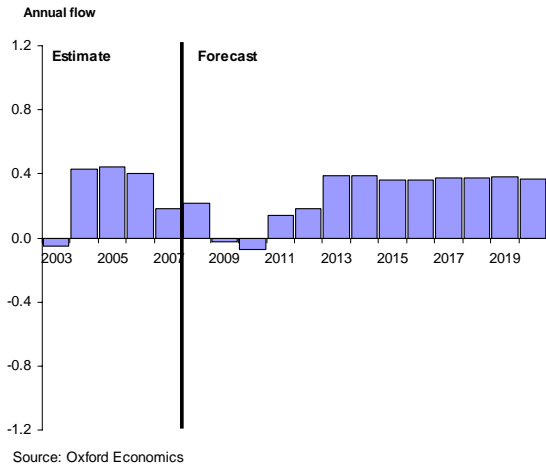
**NI: Computer science**



Source: Oxford Economics

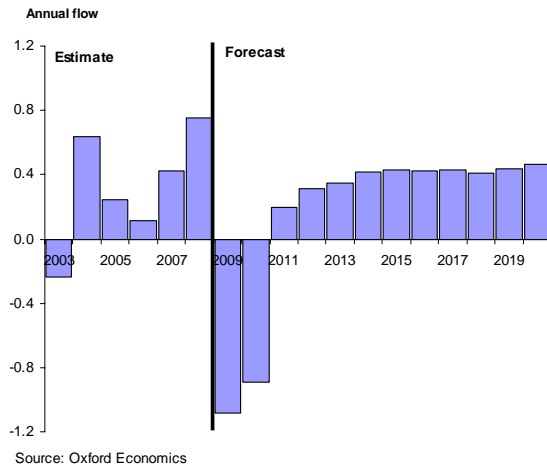
**OE EDF Sept 2008**

**NI: Architecture, building and planning**



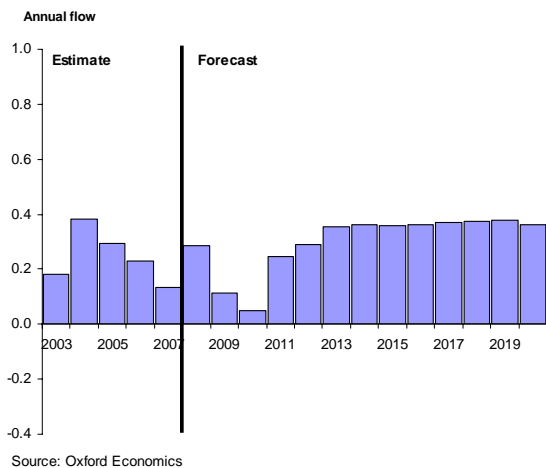
**OE summer 2009**

**NI: Architecture, building and planning**



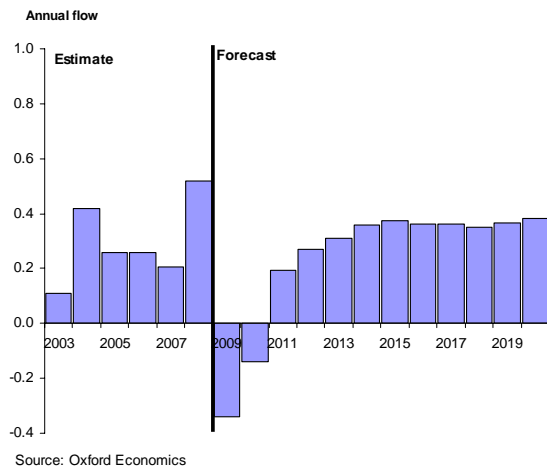
**OE EDF Sept 2008**

**NI: Law**



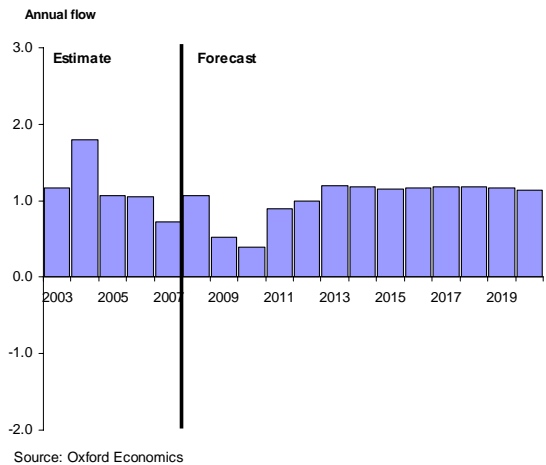
**OE summer 2009**

**NI: Law**



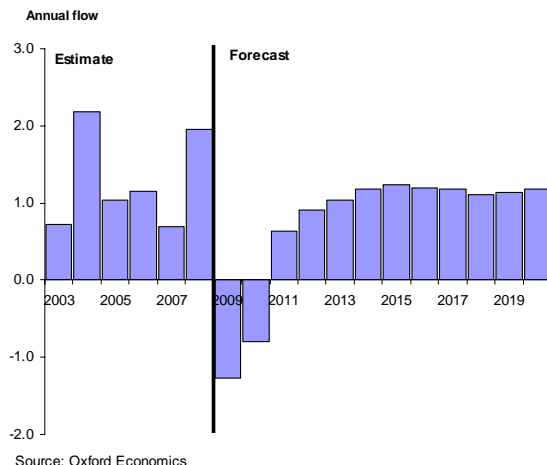
**OE EDF Sept 2008**

**NI: Business & administration**

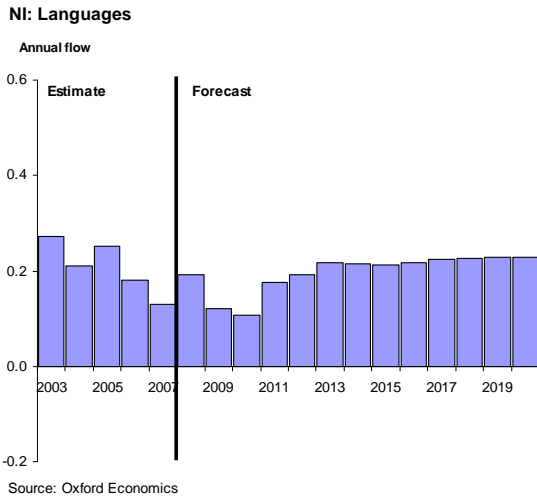


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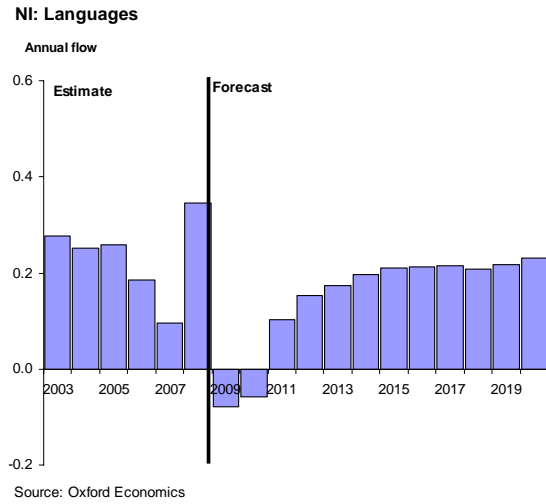
**NI: Business & administration**



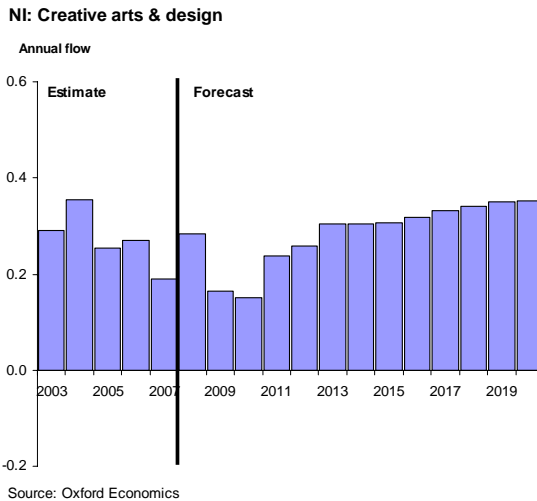
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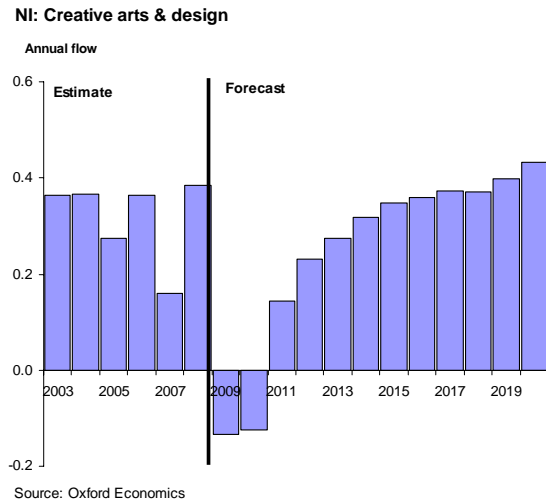
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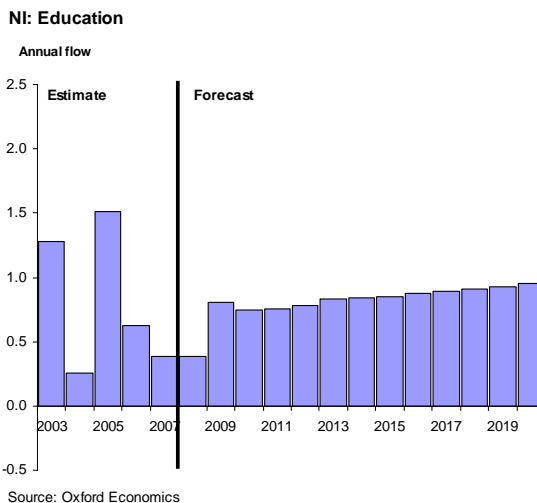
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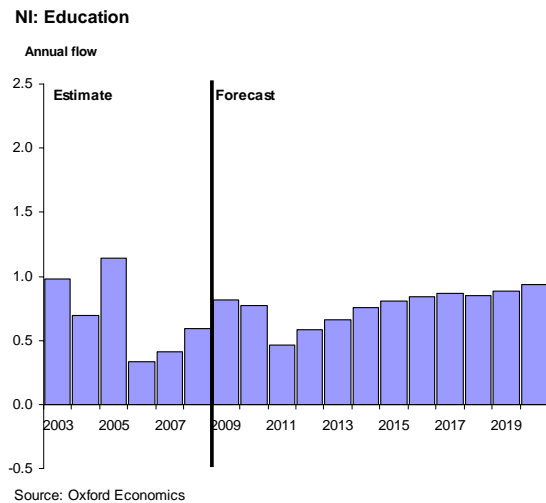
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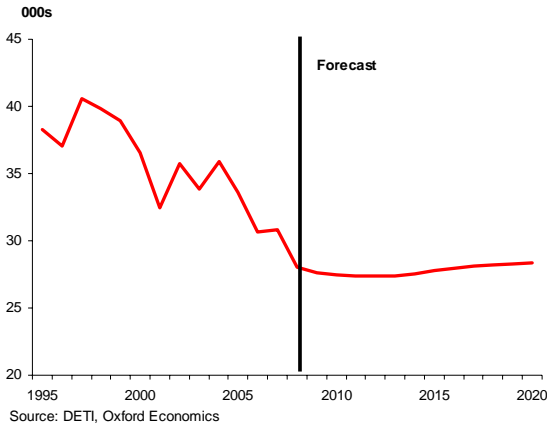
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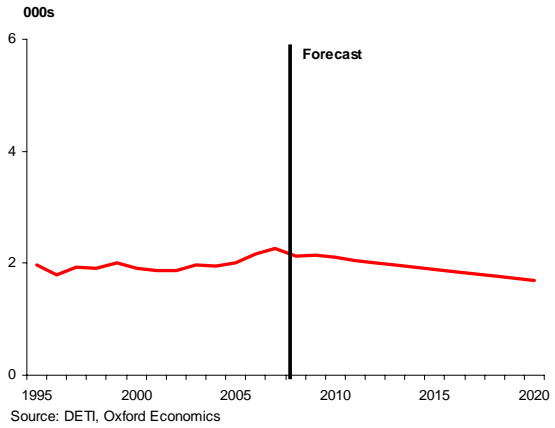
## Annex B: Aspirational scenario forecasts

### Sectoral employment forecasts

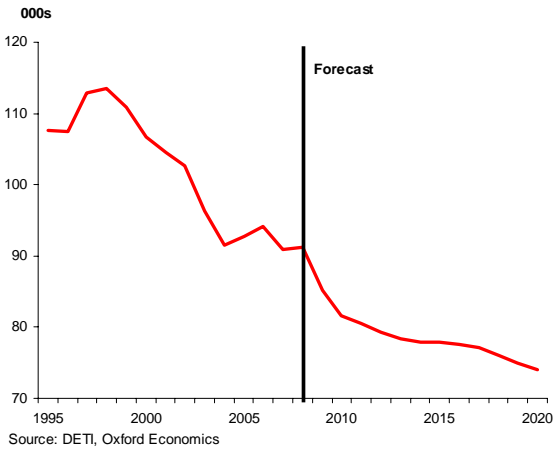
**NI: Agriculture, forestry & fishing (people-based)**



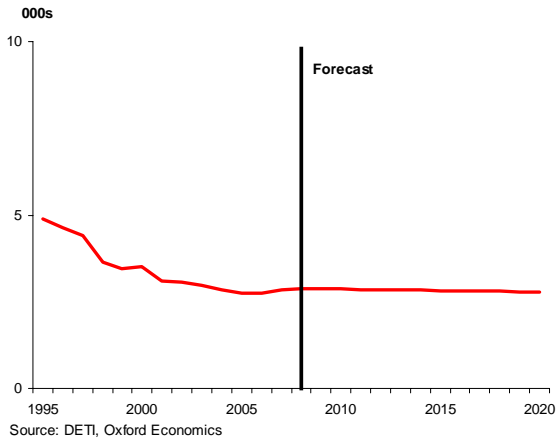
**NI: Mining & quarrying (people-based)**



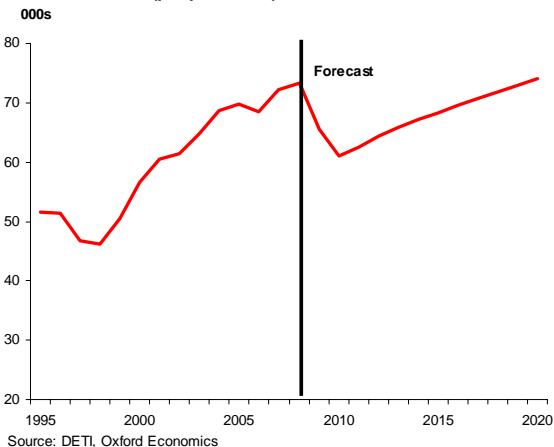
**NI: Manufacturing (people-based)**



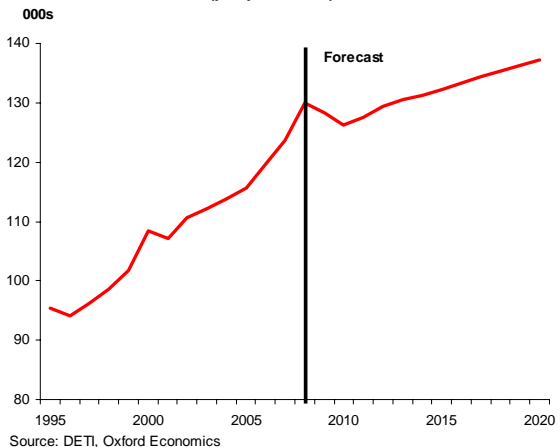
**NI: Utilities (people-based)**



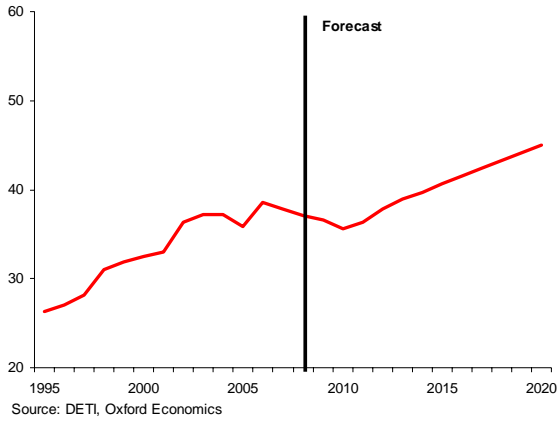
**NI: Construction (people-based)**



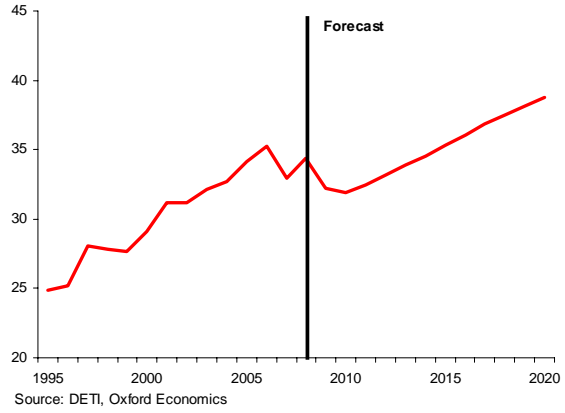
**NI: Retail & distribution (people-based)**



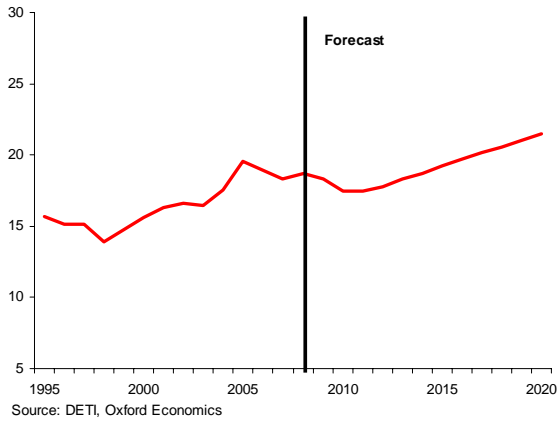
**NI: Hotels & restaurants (people-based)**  
000s



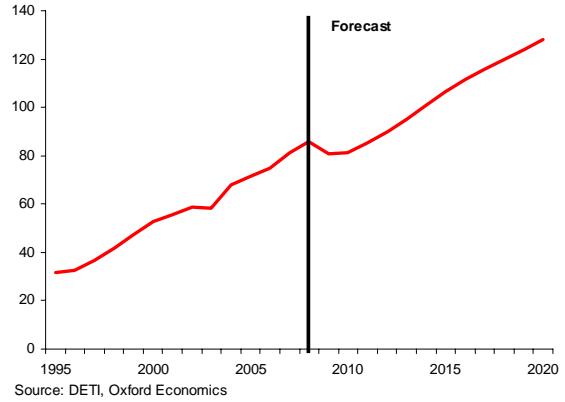
**NI: Transport & communications (people-based)**  
000s



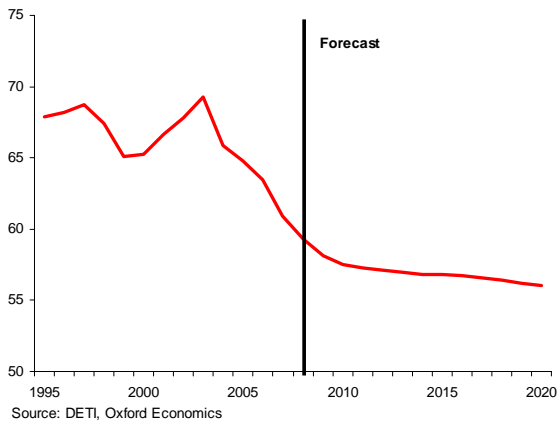
**NI: Financial services (people-based)**  
000s



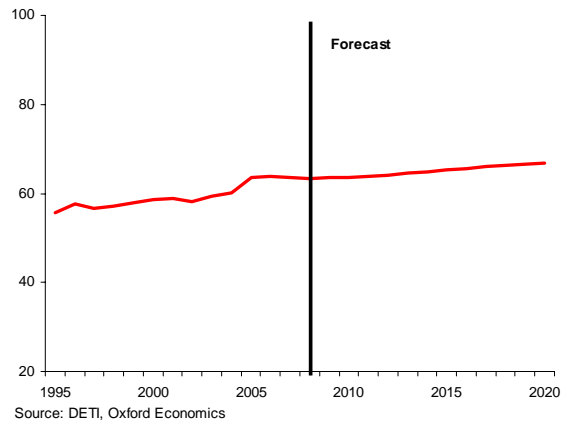
**NI: Business services (people-based)**  
000s



**NI: Public administration & defence (people-based)**  
000s

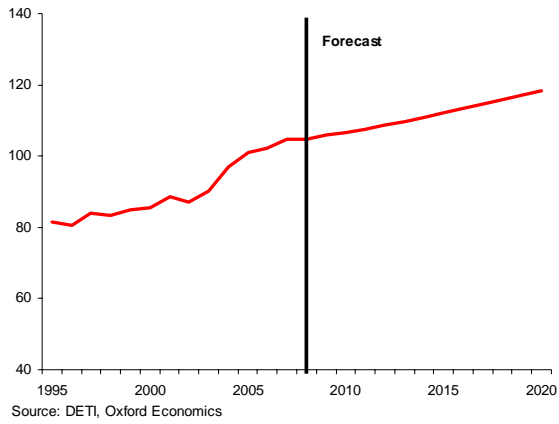


**NI: Education (people-based)**  
000s

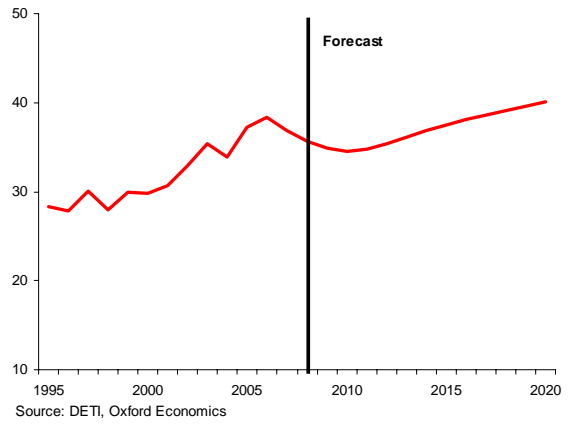




NI: Health & social work (people-based)  
000s

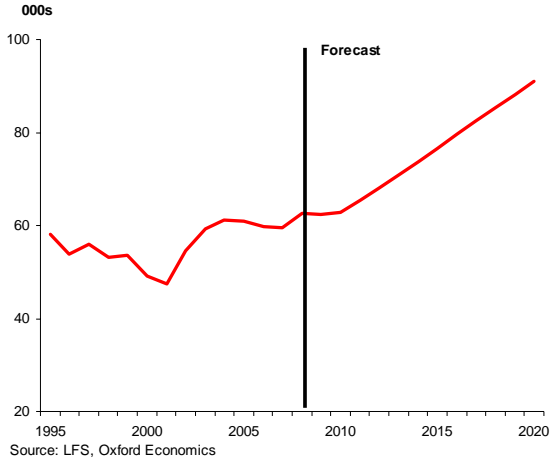


NI: Other personal services (people-based)  
000s

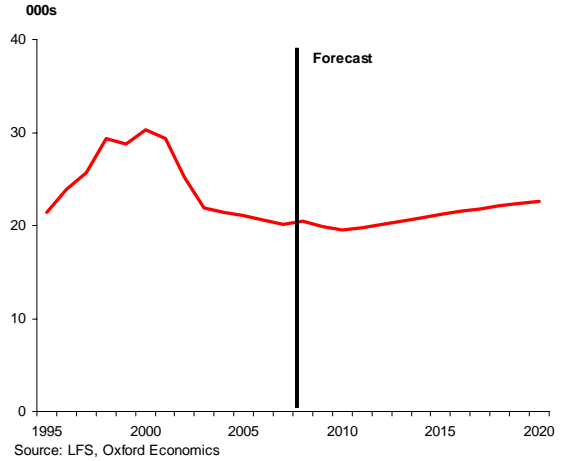


## Occupation employment forecasts

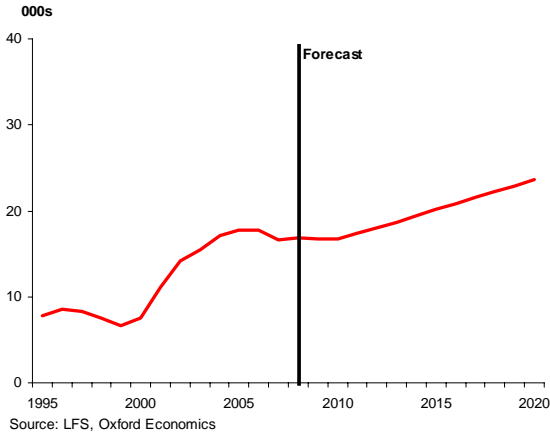
**NI: Corporate managers (people-based)**



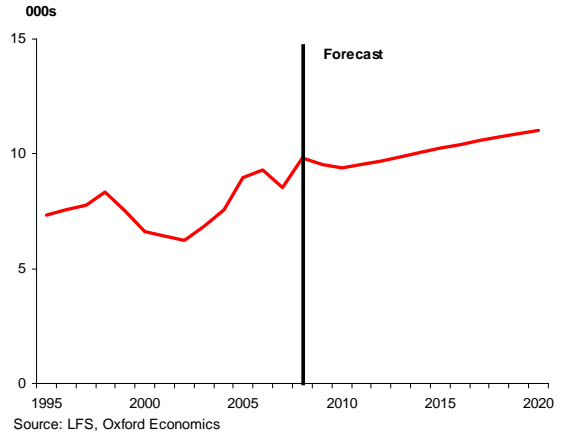
**NI: Managers in agriculture & services (people-based)**



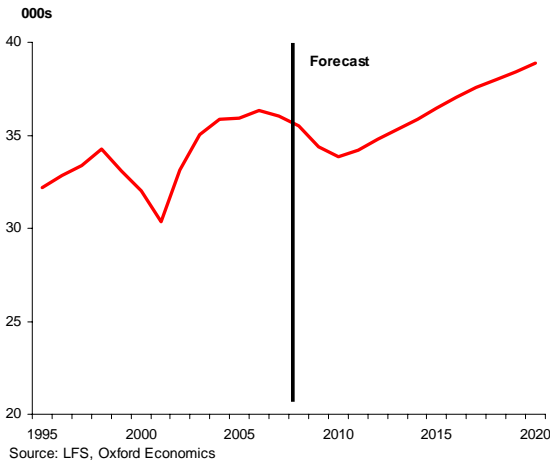
**NI: Science & technology professionals (people-based)**



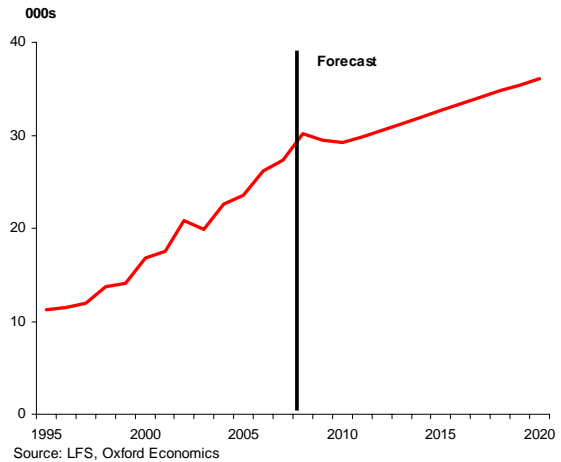
**NI: Health professionals (people-based)**

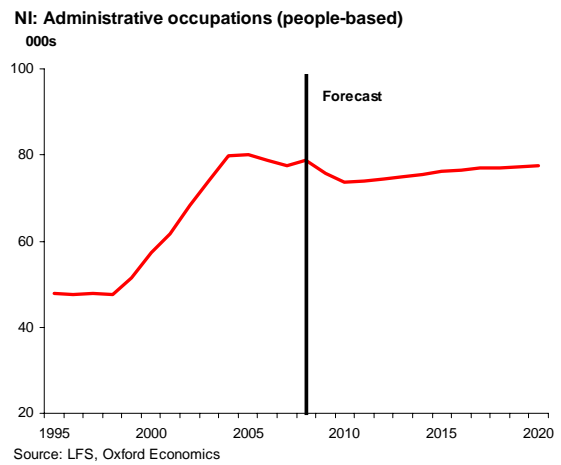
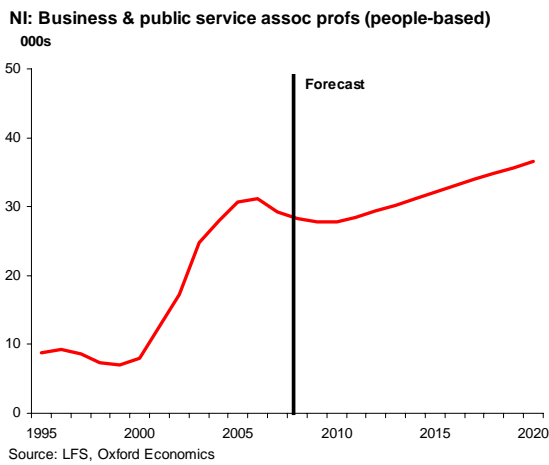
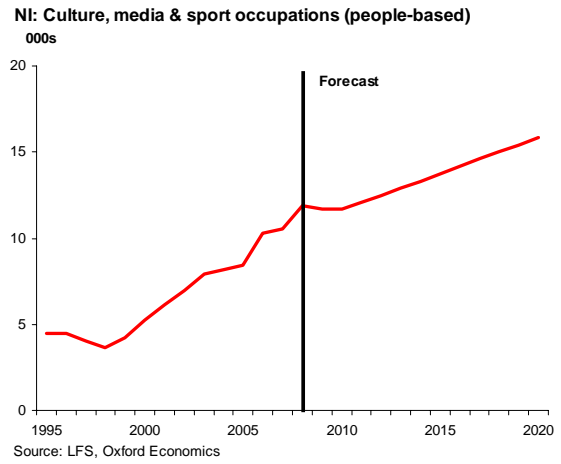
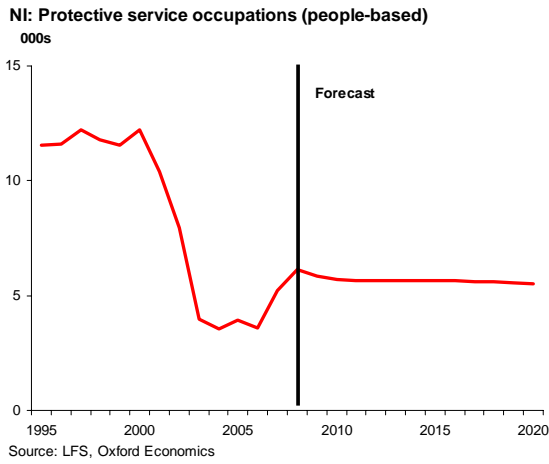
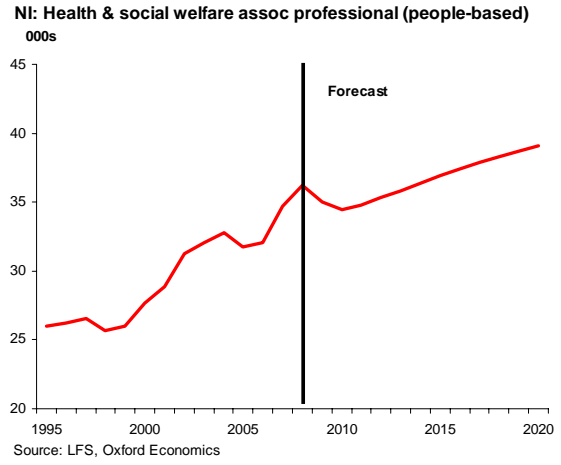
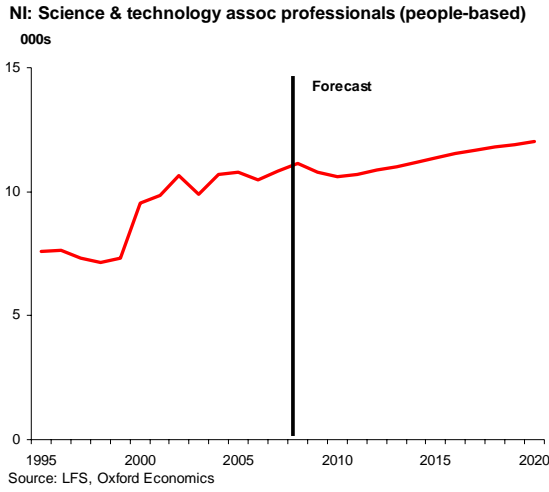


**NI: Teaching & research professionals (people-based)**

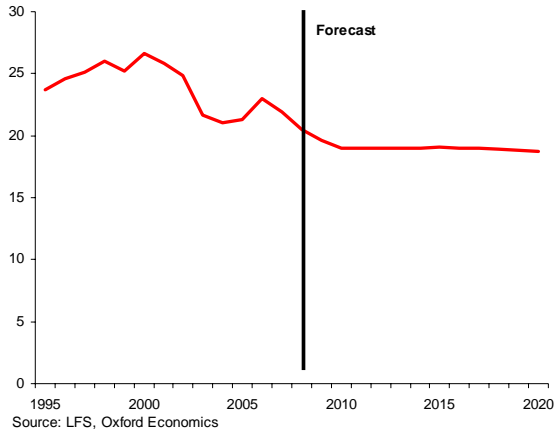


**NI: Business & public service professionals (people-based)**

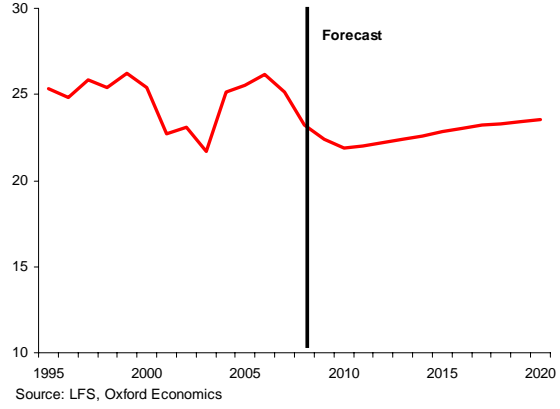




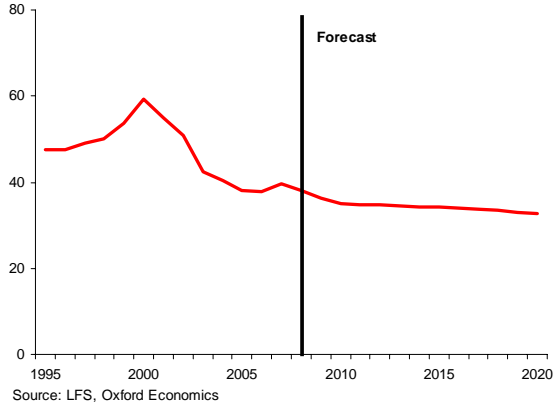
**NI: Secretarial & related occupations (people-based)**  
000s



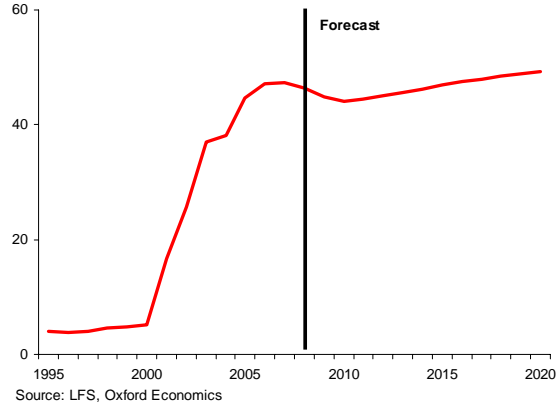
**NI: Skilled agriculture trades (people-based)**  
000s



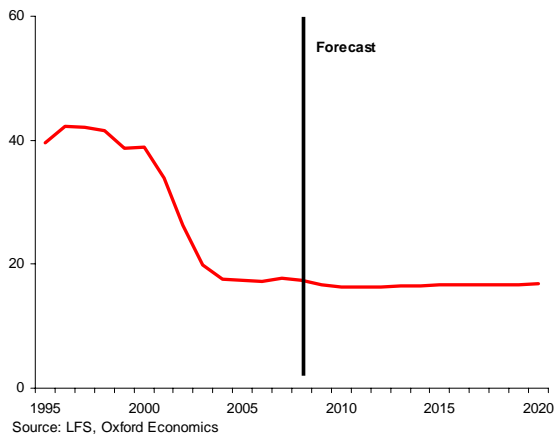
**NI: Skilled metal & electrical trades (people-based)**  
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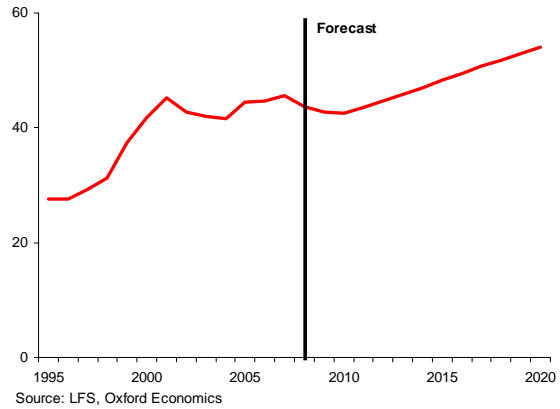
**NI: Construction & building trades (people-based)**  
000s



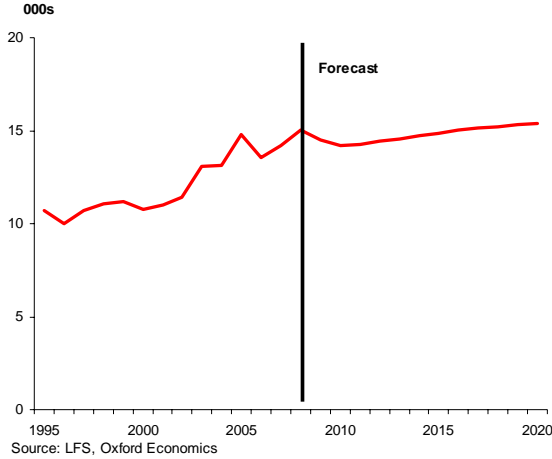
**NI: Textiles, printing & other skilled trades (people-based)**  
000s



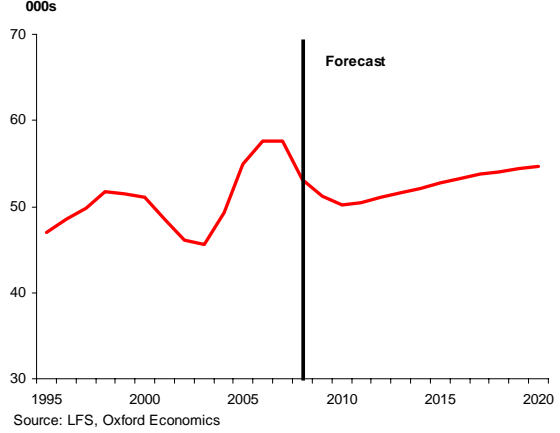
**NI: Caring & personal service occupations (people-based)**  
000s



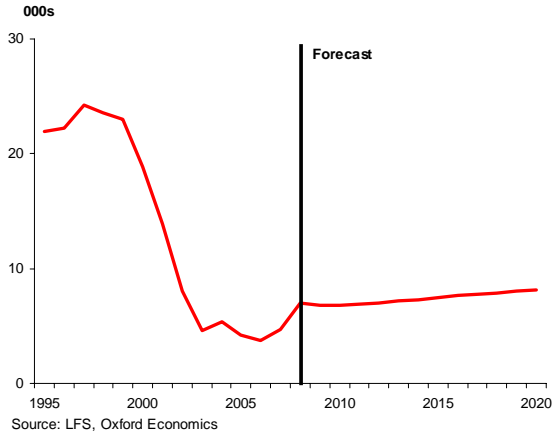
**NI: Leisure & other personal service occs (people-based)**



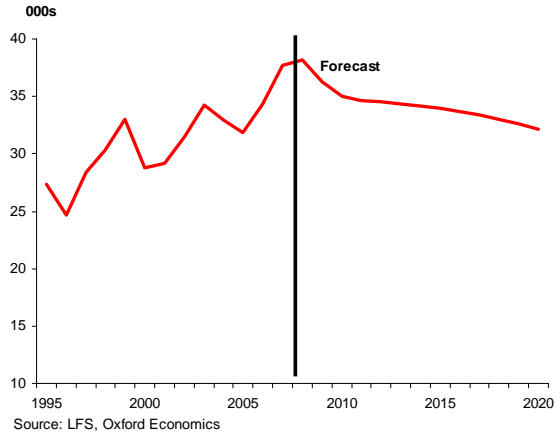
**NI: Sales occupations (people-based)**



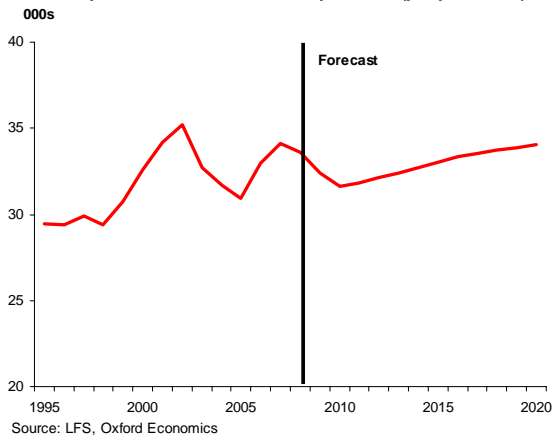
**NI: Customer service occupations (people-based)**



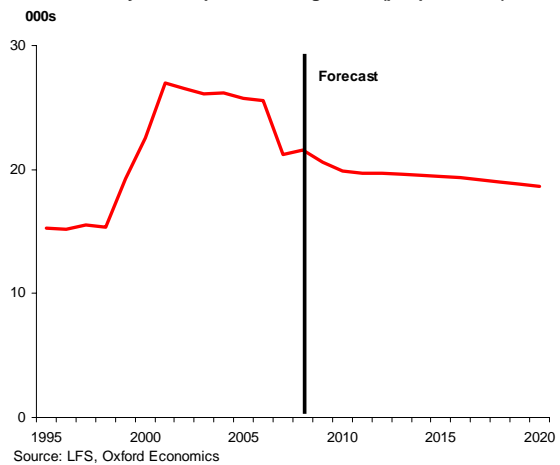
**NI: Process, plant & machine operatives (people-based)**



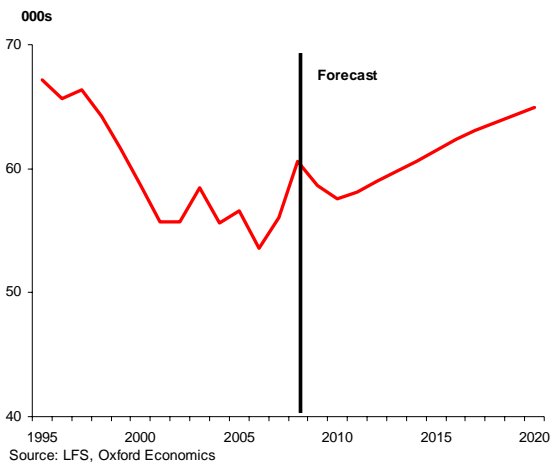
**NI: Transport, machine drivers and operatives (people-based)**



**NI: Elementary trades, plant & storage occs (people-based)**



**NI: Elementary admin & service occupations (people-based)**



## Replacement demand analysis by industry and occupation

### Industry (2010-2020)

#### OE EDF Sept 2008

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Agriculture, forestry and fishing	0.0	1.3	0.0	0.7	2.6	0.9	0.0	5.5	1.3	2.5	4.0	7.9	-2.4
Mining & quarrying	-0.3	0.1	0.0	0.8	0.0	0.2	0.0	0.8	0.0	0.0	2.0	2.0	-1.2
Manufacturing	-6.4	2.2	18.6	13.9	8.2	35.7	13.8	85.9	17.9	6.1	15.4	39.4	46.5
Utilities	0.2	0.1	0.0	0.0	0.0	0.8	0.0	1.1	0.0	0.0	1.3	1.3	-0.2
Construction	6.1	1.5	15.4	15.4	4.6	10.1	0.0	53.0	18.8	4.9	16.4	40.1	12.9
Retail & distribution	12.1	2.7	17.6	19.5	13.9	52.4	4.2	122.3	31.9	13.1	27.7	72.7	49.6
Hotel & restaurants	7.5	0.9	6.2	16.5	0.0	23.4	0.9	55.4	7.8	3.7	15.7	27.1	28.2
Transport & communications	4.8	0.8	5.8	10.3	0.0	9.7	0.7	32.1	8.1	4.2	9.5	21.9	10.2
Financial services	5.7	0.4	0.0	3.2	0.8	7.3	0.9	18.3	1.9	2.3	19.2	23.4	-5.1
Business services	35.5	2.3	24.7	16.0	7.3	31.8	9.3	127.0	14.4	3.9	47.9	66.1	60.9
Public administration & defence	-1.2	1.5	4.1	8.0	5.8	6.7	0.8	25.7	10.3	6.8	15.0	32.1	-6.4
Education	2.0	1.9	4.2	12.1	7.7	13.7	0.0	41.6	8.7	6.0	6.0	20.7	20.9
Health & social work	10.5	2.9	9.0	26.1	7.2	20.4	13.5	89.6	16.2	11.5	21.1	48.8	40.7
Other personal services	3.2	0.9	6.8	11.9	4.0	4.3	1.5	32.6	8.3	4.2	17.0	29.5	3.1
<b>Whole economy</b>	<b>79.7</b>	<b>19.3</b>	<b>112.2</b>	<b>154.3</b>	<b>62.0</b>	<b>217.4</b>	<b>45.7</b>	<b>690.6</b>	<b>145.8</b>	<b>69.2</b>	<b>218.1</b>	<b>433.0</b>	<b>257.6</b>
<b>Whole economy (annual)</b>	<b>8.0</b>	<b>1.9</b>	<b>11.2</b>	<b>15.4</b>	<b>6.2</b>	<b>21.7</b>	<b>4.6</b>	<b>69.1</b>	<b>14.6</b>	<b>6.9</b>	<b>21.8</b>	<b>43.3</b>	<b>25.8</b>

#### OE summer 2009

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Agriculture, forestry and fishing	-0.4	1.2	0.8	0.6	2.3	0.8	0.3	5.6	0.6	3.9	2.8	7.3	-1.7
Mining & quarrying	-0.4	0.1	0.5	0.6	0.0	0.0	0.0	0.8	0.0	0.0	1.3	1.3	-0.5
Manufacturing	-10.0	1.9	13.6	13.3	6.7	33.7	10.3	69.4	19.5	5.7	11.0	36.2	33.2
Utilities	-0.1	0.1	0.0	0.0	0.0	0.8	0.0	0.8	0.0	0.0	1.3	1.3	-0.5
Construction	10.1	1.4	15.5	14.4	3.6	8.4	5.4	58.8	18.5	4.9	20.0	43.3	15.5
Retail & distribution	8.1	2.8	18.5	14.7	13.6	56.6	5.2	119.5	32.5	12.7	42.7	87.9	31.6
Hotel & restaurants	6.1	0.8	10.3	19.0	2.2	24.7	9.5	72.6	2.7	4.1	15.5	22.3	50.3
Transport & communications	3.8	0.8	5.7	9.2	0.8	7.5	2.0	29.9	8.8	4.2	11.3	24.3	5.6
Financial services	1.9	0.3	0.0	1.7	0.6	8.2	0.3	13.1	1.7	2.3	15.9	20.0	-6.9
Business services	32.5	2.3	20.2	14.7	5.3	30.7	6.3	112.0	13.7	4.4	38.7	56.8	55.2
Public administration & defence	-1.5	1.6	4.3	9.1	6.9	7.8	0.6	28.8	6.3	5.9	14.6	26.8	2.0
Education	3.2	1.9	2.5	12.2	8.2	13.5	0.0	41.6	7.2	7.8	7.7	22.7	18.8
Health & social work	11.7	2.9	7.4	28.0	8.7	20.9	12.6	92.1	14.0	11.1	22.3	47.4	44.8
Other personal services	3.4	0.9	6.3	15.4	4.3	6.5	4.3	41.1	10.8	4.2	15.5	30.6	10.6
<b>Whole economy</b>	<b>68.4</b>	<b>19.0</b>	<b>105.5</b>	<b>153.0</b>	<b>63.3</b>	<b>220.1</b>	<b>56.9</b>	<b>686.1</b>	<b>136.4</b>	<b>71.2</b>	<b>220.5</b>	<b>428.1</b>	<b>258.0</b>
<b>Whole economy (annual)</b>	<b>6.8</b>	<b>1.9</b>	<b>10.6</b>	<b>15.3</b>	<b>6.3</b>	<b>22.0</b>	<b>5.7</b>	<b>68.6</b>	<b>13.6</b>	<b>7.1</b>	<b>22.1</b>	<b>42.8</b>	<b>25.8</b>

Source: Oxford Economics

**Occupation (2010-2020)**
**OE EDF Sept 2008**

	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Corporate Managers	28.6	2.0	8.8	4.0	7.4	15.9	2.7	69.5	3.1	0.9	10.0	13.9	55.6
Managers & Proprietors in Agriculture & Services	2.3	0.6	2.4	1.4	2.4	5.8	0.0	15.0	2.6	0.4	1.9	4.9	10.1
Science & Technology Professionals	8.4	0.5	4.0	3.6	0.0	1.6	0.0	18.1	1.5	1.4	7.6	10.5	7.6
Health Professionals	1.6	0.2	0.0	1.0	1.0	0.0	1.4	5.2	0.8	0.0	0.0	0.8	4.4
Teaching & Research Professionals	3.4	1.0	4.3	7.6	2.6	4.5	0.0	23.4	3.6	1.8	5.5	10.8	12.6
Business & Public Service Professionals	9.0	0.8	4.8	2.8	1.8	2.6	1.3	23.1	1.0	0.4	9.1	10.5	12.6
Science & Technology Associate Professionals	0.7	0.3	0.0	0.0	1.1	1.1	0.0	3.1	1.6	0.4	4.8	6.9	-3.7
Health & Social Welfare Associate Professionals	4.1	0.9	0.0	4.6	1.2	5.0	5.0	20.7	1.5	2.3	13.8	17.6	3.2
Protective Service Occupations	-0.3	0.1	0.0	1.8	0.4	1.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0
Culture, Media & Sports Occupations	3.1	0.4	0.0	0.0	0.0	1.3	0.0	4.8	3.4	0.0	1.3	4.7	0.1
Business & Public Service Associate Professionals	8.1	0.8	2.3	1.1	4.5	10.1	0.0	27.0	2.8	2.4	8.0	13.2	13.8
Administrative Occupations	-2.3	1.6	11.8	16.3	5.7	17.7	1.3	52.1	16.9	6.7	10.4	34.0	18.2
Secretarial & Related Occupations	-4.3	0.4	1.5	0.7	2.1	4.6	0.0	4.9	0.0	1.8	8.5	10.4	-5.5
Skilled Agricultural Trades	1.3	1.2	0.0	2.7	2.4	1.1	0.0	8.7	0.7	1.7	0.8	3.3	5.4
Skilled Metal & Electrical Trades	-4.0	0.9	5.0	3.6	2.3	12.7	2.3	22.9	6.1	2.1	9.5	17.7	5.2
Skilled Construction & Building Trades	4.1	0.9	16.2	11.7	3.7	4.6	0.0	41.2	11.5	3.2	8.8	23.5	17.7
Textiles, Printing & Other Skilled Trades	-1.0	0.4	1.1	0.8	1.8	6.1	0.4	9.6	3.1	2.3	6.9	12.3	-2.7
Caring Personal Service Occupations	12.5	1.2	6.1	17.8	3.9	12.2	7.2	61.0	14.3	6.3	9.4	30.0	31.0
Leisure & Other Personal Service Occupations	0.2	0.3	4.6	4.8	1.7	3.3	0.0	14.9	4.1	2.4	5.3	11.8	3.0
Sales Occupations	5.2	1.1	8.8	9.2	5.0	30.2	0.0	59.5	18.3	11.0	31.0	60.3	-0.8
Customer Service Occupations	1.4	0.1	0.0	1.9	0.0	1.5	0.0	4.9	0.0	0.4	1.8	2.3	2.6
Process, Plant & Machine Operatives	-6.1	0.8	4.5	7.1	2.1	19.9	8.8	36.9	8.7	2.8	11.2	22.7	14.2
Transport & Mobile Machine Drivers & Operatives	1.9	1.0	2.1	7.1	2.1	6.8	3.3	24.4	6.6	2.4	6.9	15.9	8.5
Elementary Trades, Plant & Storage Related Occupations	-3.4	0.4	6.0	5.8	3.7	8.0	0.5	21.0	10.5	2.6	6.3	19.3	1.7
Elementary Administration & Service Occupations	5.1	1.6	9.9	29.3	3.8	15.6	5.0	70.4	22.5	13.1	14.9	50.5	19.9
<b>Whole economy</b>	<b>79.7</b>	<b>19.4</b>	<b>104.2</b>	<b>146.6</b>	<b>62.6</b>	<b>193.2</b>	<b>39.3</b>	<b>645.0</b>	<b>145.2</b>	<b>68.9</b>	<b>193.6</b>	<b>407.6</b>	<b>237.4</b>
<b>Whole economy (annual)</b>	<b>8.0</b>	<b>1.9</b>	<b>10.4</b>	<b>14.7</b>	<b>6.3</b>	<b>19.3</b>	<b>3.9</b>	<b>64.5</b>	<b>14.5</b>	<b>6.9</b>	<b>19.4</b>	<b>40.8</b>	<b>23.7</b>

**OE summer 2009**

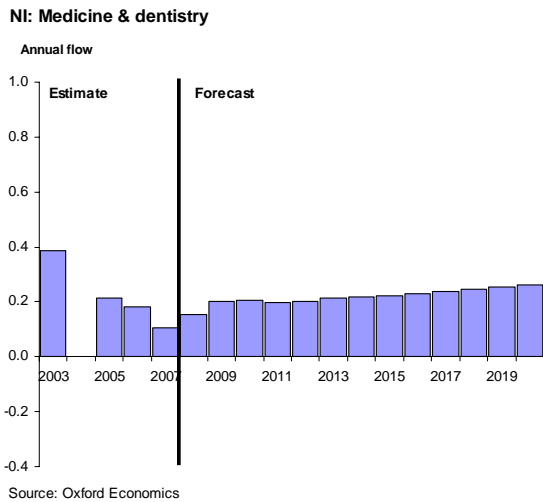
	Expansion demand	Leavers to death	Leavers to unemployment / training schemes	Leavers to inactivity excluding retirement	Leavers to retirement	Leavers to occupations	Leavers to out migration	Gross expansion and replacement demand	Joiners from unemployment / training schemes	Joiners from inactivity (excluding inactive students)	Joiners from other occupations	Total returnees	Net requirement from education and migrants
Corporate Managers	25.0	1.9	4.6	5.8	5.1	14.4	0.3	57.2	0.0	4.1	13.6	17.7	39.6
Managers & Proprietors in Agriculture & Services	2.1	0.7	2.4	3.2	2.4	3.8	0.0	14.6	0.0	0.4	1.4	1.8	12.8
Science & Technology Professionals	5.4	0.4	2.2	2.1	0.0	2.6	2.4	15.2	0.8	1.4	7.8	9.9	5.3
Health Professionals	1.0	0.3	0.2	1.1	1.1	1.3	1.6	6.6	0.8	0.0	0.0	0.8	5.9
Teaching & Research Professionals	1.0	0.9	1.8	7.6	3.5	6.6	0.0	21.5	2.6	2.2	5.5	10.4	11.1
Business & Public Service Professionals	5.9	0.8	3.4	1.5	1.7	2.5	0.9	16.9	0.9	1.3	10.3	12.5	4.4
Science & Technology Associate Professionals	0.6	0.3	0.0	0.2	1.1	2.5	0.0	4.6	1.4	0.5	5.8	7.7	-3.1
Health & Social Welfare Associate Professionals	2.3	0.9	0.0	4.8	1.2	7.0	4.2	20.4	1.3	0.9	18.1	20.3	0.0
Protective Service Occupations	-0.5	0.1	0.0	1.4	0.5	1.2	0.0	2.7	0.0	0.4	0.2	0.7	2.0
Culture, Media & Sports Occupations	3.6	0.3	0.0	0.4	0.0	2.8	0.0	7.1	3.1	0.0	1.8	4.8	2.3
Business & Public Service Associate Professionals	7.2	0.7	0.5	2.2	4.3	7.3	0.9	23.2	2.5	2.4	11.3	16.2	7.0
Administrative Occupations	-0.2	1.8	10.0	17.1	8.3	21.3	0.5	58.9	12.1	5.4	18.4	35.9	23.0
Secretarial & Related Occupations	-0.9	0.4	1.5	0.7	2.2	6.5	0.0	10.5	2.7	4.6	7.7	15.0	-4.5
Skilled Agricultural Trades	-0.1	1.1	1.0	3.0	3.2	4.7	0.3	13.2	0.0	1.8	1.1	2.9	10.3
Skilled Metal & Electrical Trades	-3.2	0.8	5.8	2.8	1.0	13.6	2.5	23.2	5.6	3.1	10.2	18.8	4.3
Skilled Construction & Building Trades	5.1	0.9	12.6	11.8	2.7	1.4	1.0	35.6	9.9	2.3	6.5	18.6	16.9
Textiles, Printing & Other Skilled Trades	-0.5	0.4	1.1	1.1	2.2	7.6	2.7	14.6	4.9	2.8	6.9	14.6	0.0
Caring Personal Service Occupations	8.7	1.1	3.0	19.3	3.7	14.9	1.5	52.4	10.4	6.4	12.1	28.9	23.5
Leisure & Other Personal Service Occupations	0.4	0.4	5.2	5.9	2.1	1.8	0.0	15.8	2.5	4.2	5.8	12.4	3.4
Sales Occupations	3.1	1.0	7.0	5.5	3.6	27.4	0.7	48.3	16.0	9.7	26.1	51.7	-3.4
Customer Service Occupations	1.3	0.1	0.5	1.9	0.0	3.9	0.0	7.7	4.1	1.4	2.8	8.2	-0.6
Process, Plant & Machine Operatives	-4.3	0.8	5.5	6.6	1.4	22.4	4.9	37.3	6.6	2.4	12.3	21.2	16.1
Transport & Mobile Machine Drivers & Operatives	1.4	1.0	5.1	6.1	2.0	10.5	4.2	30.4	9.4	2.4	8.3	20.1	10.2
Elementary Trades, Plant & Storage Related Occupations	-1.6	0.4	6.3	6.9	4.1	8.6	1.0	25.7	9.5	1.7	7.8	19.0	6.6
Elementary Administration & Service Occupations	5.6	1.6	11.5	28.5	4.2	24.6	9.4	85.5	19.3	9.9	20.1	49.3	36.2
<b>Whole economy</b>	<b>68.4</b>	<b>19.1</b>	<b>91.4</b>	<b>147.8</b>	<b>61.7</b>	<b>221.5</b>	<b>39.0</b>	<b>648.9</b>	<b>126.3</b>	<b>71.3</b>	<b>221.9</b>	<b>419.5</b>	<b>229.4</b>
<b>Whole economy (annual)</b>	<b>6.8</b>	<b>1.9</b>	<b>9.1</b>	<b>14.8</b>	<b>6.2</b>	<b>22.1</b>	<b>3.9</b>	<b>64.9</b>	<b>12.6</b>	<b>7.1</b>	<b>22.2</b>	<b>42.0</b>	<b>22.9</b>

Source: Oxford Economics

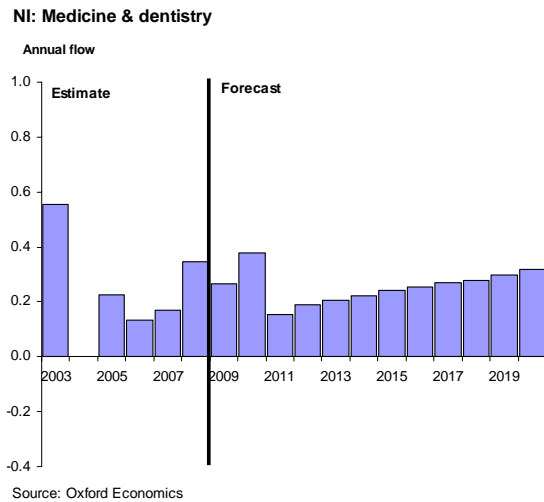
## Degree subject demand

Note other subject demand forecasts can be provided upon request

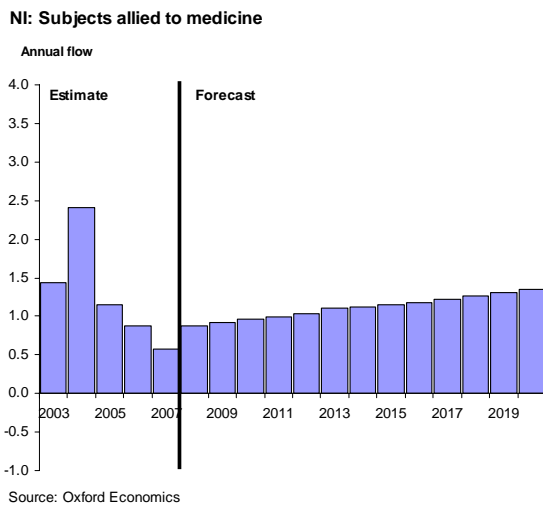
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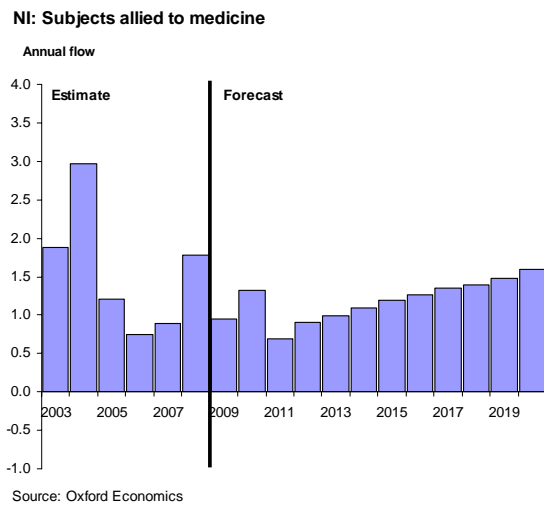
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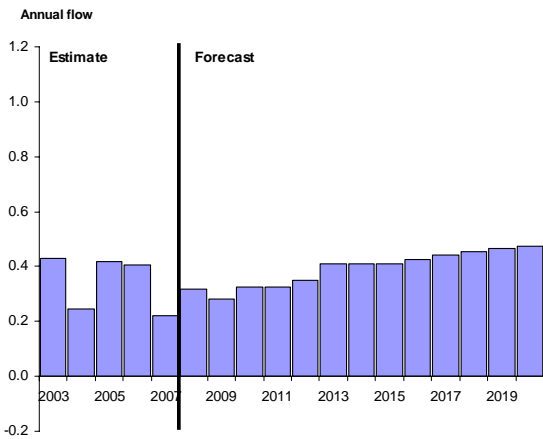


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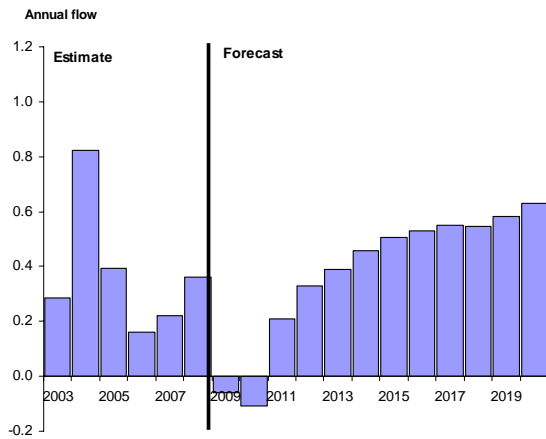
**NI: Biological, veterinary and agricultural sciences**



Source: Oxford Economics

**OE summer 2009**

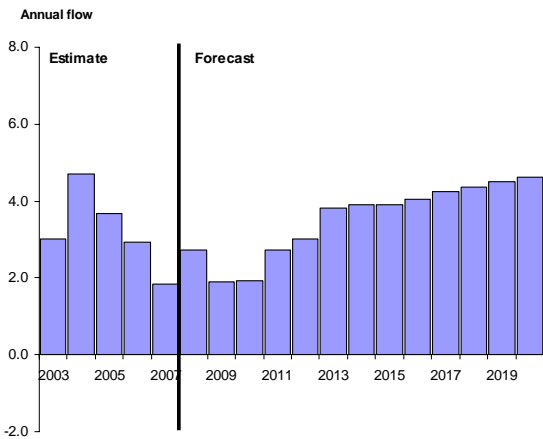
**NI: Biological, veterinary and agricultural sciences**



Source: Oxford Economics

**OE EDF Sept 2008**

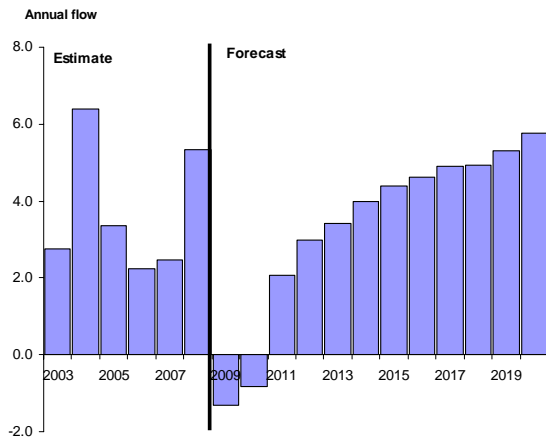
**NI: STEM (broad definition)**



Source: Oxford Economics

**OE summer 2009**

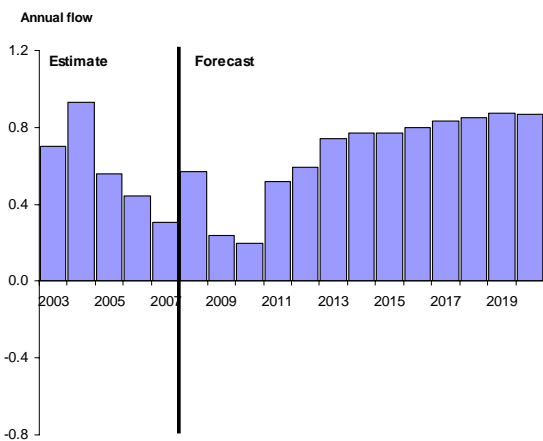
**NI: STEM (broad definition)**



Source: Oxford Economics

**OE EDF Sept 2008**

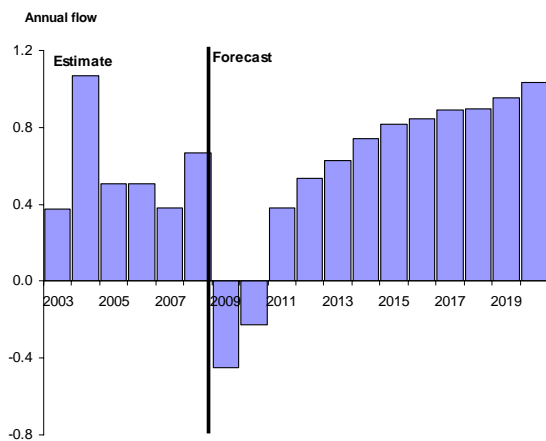
**NI: Computer science**



Source: Oxford Economics

**OE summer 2009**

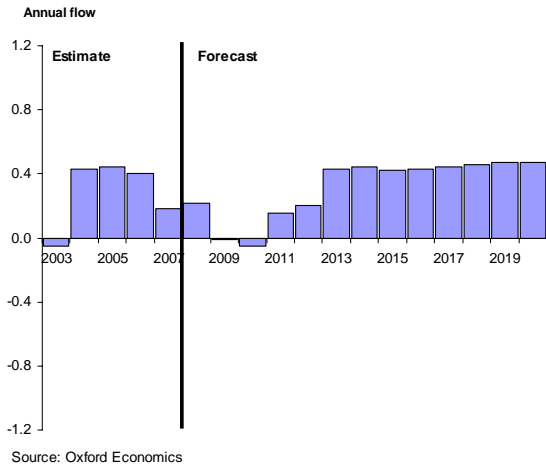
**NI: Computer science**



Source: Oxford Economics

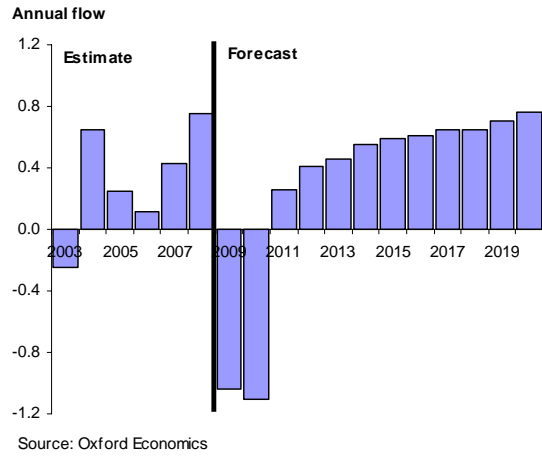
**OE EDF Sept 2008**

**NI: Architecture, building and planning**



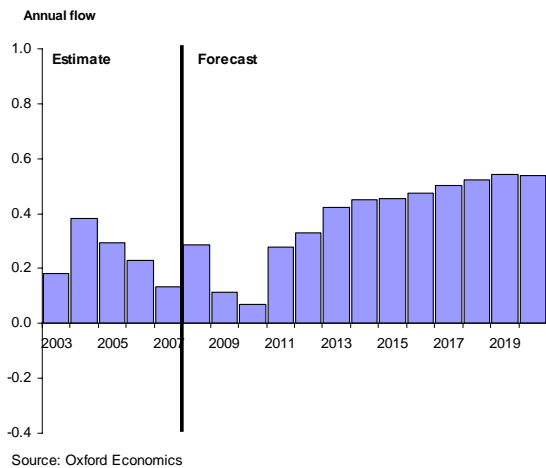
**OE summer 2009**

**NI: Architecture, building and planning**



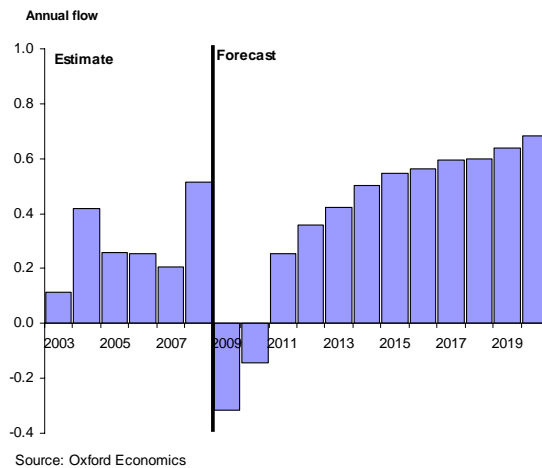
**OE EDF Sept 2008**

**NI: Law**



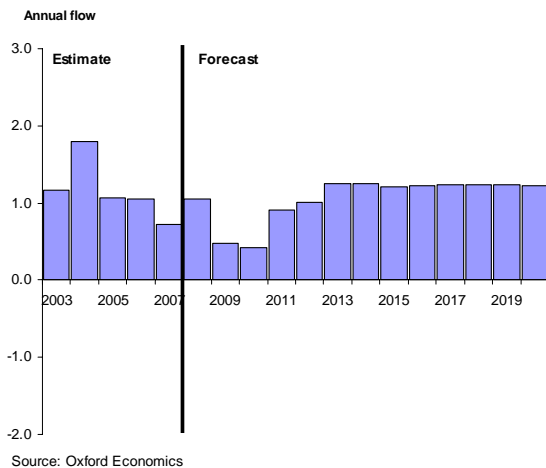
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**NI: Law**



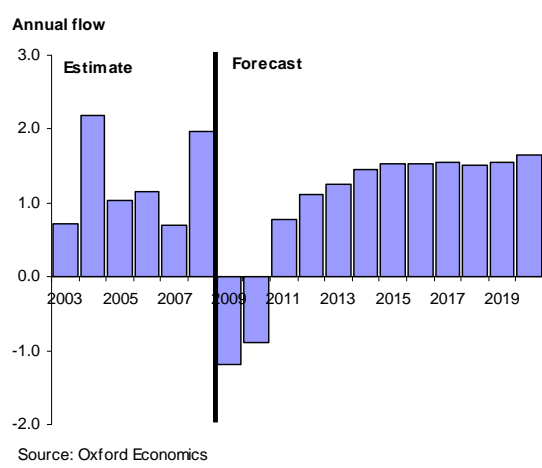
**OE EDF Sept 2008**

**NI: Business & administration**



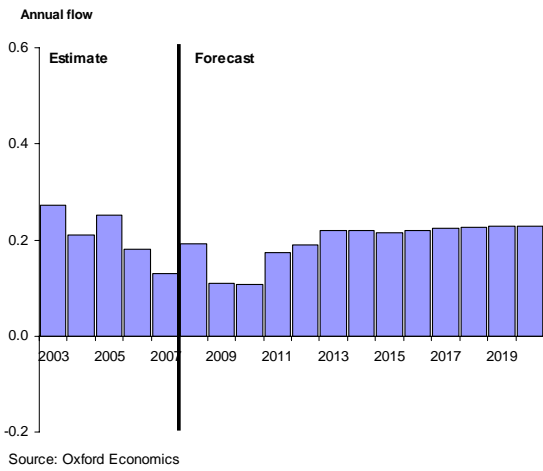
**OE summer 2009**

**NI: Business & administration**



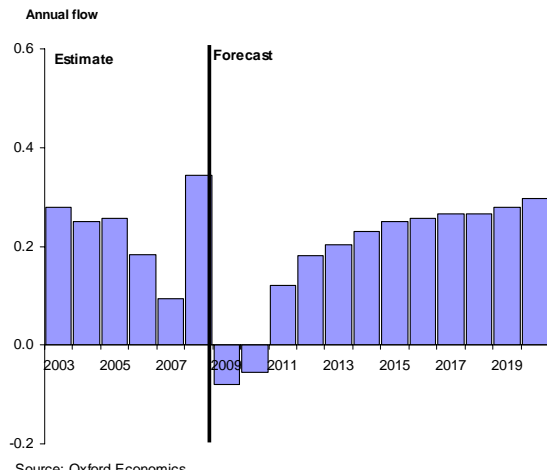
**OE EDF Sept 2008**

**NI: Languages**



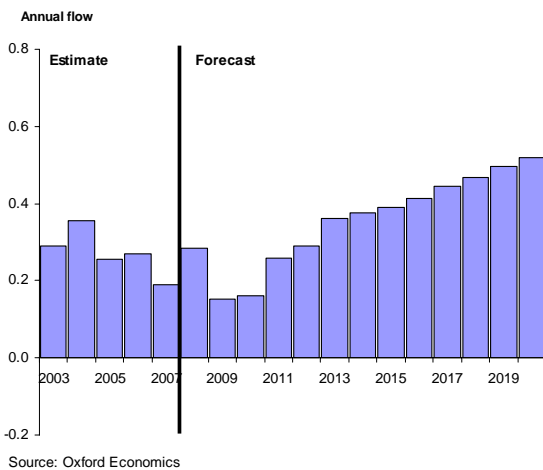
**OE summer 2009**

**NI: Languages**



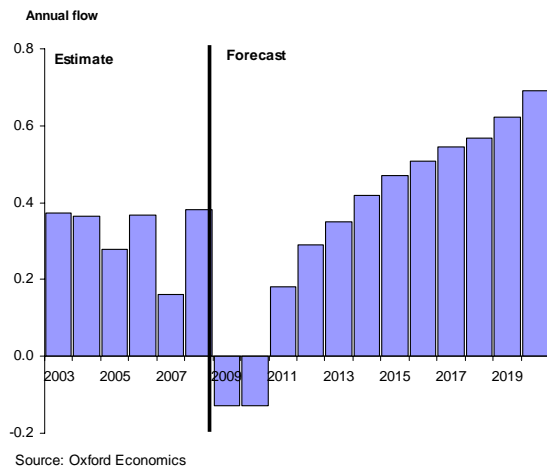
**OE EDF Sept 2008**

**NI: Creative arts & design**



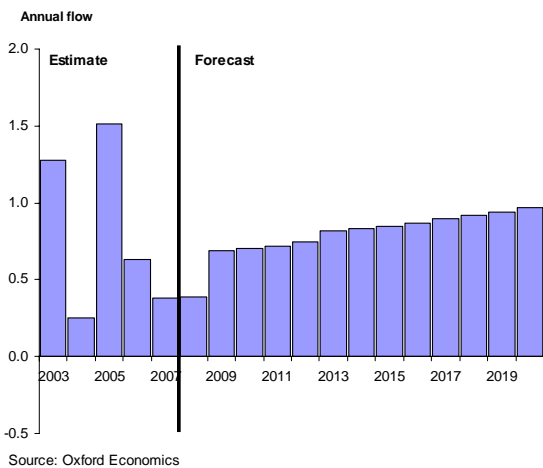
**OE summer 2009**

**NI: Creative arts & design**



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**NI: Education**



**OE summer 2009**

**NI: Education**

