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NICCE Post Primary Review Briefing Conference:
The Economic, Skills and Demographic context

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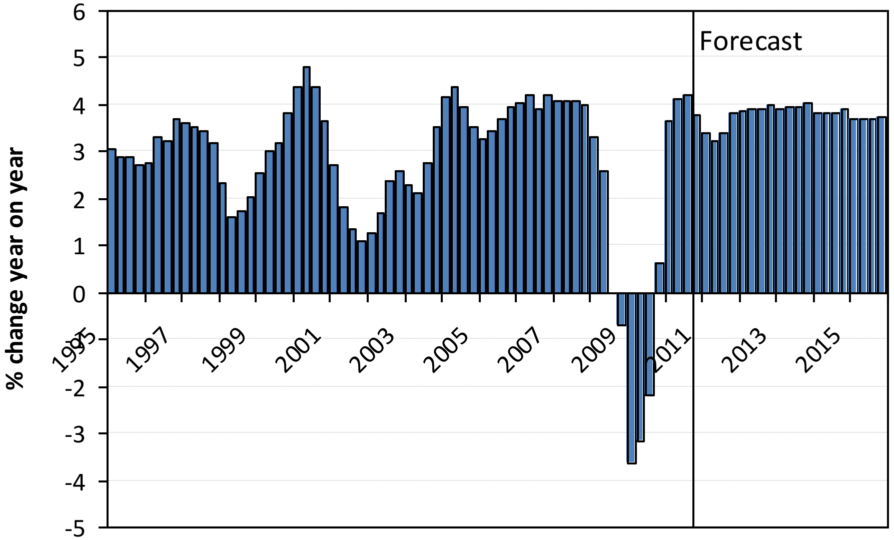
The recession has come to an end

- Challenging economic backdrop for our young people
- Skills and education in Northern Ireland – are we as good as we think?
- Understanding the demographic outlook
- Concluding remarks – does our education system need to change and how?

Challenging economic backdrop for our young people

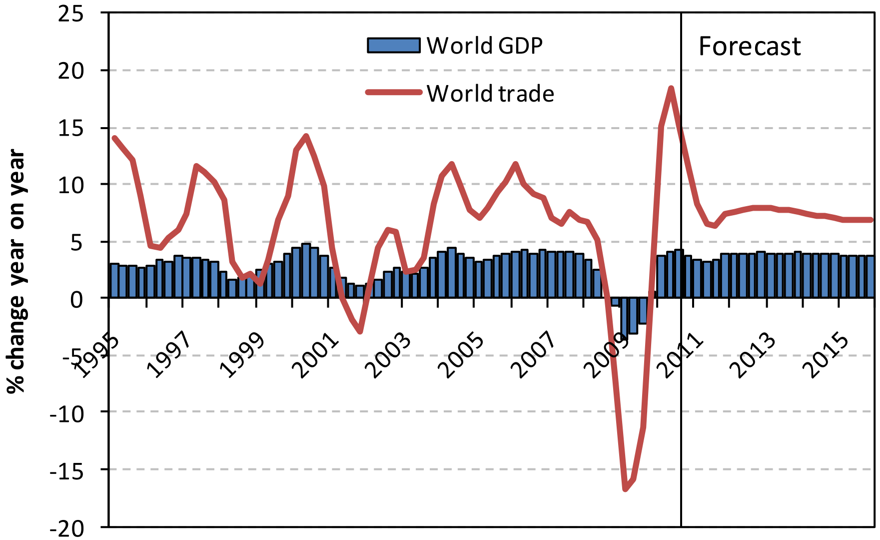
The recession has come to an end…

World GDP 1995 - 2015



Source: Oxford Economics

World GDP and world trade 1995 - 2015



Universal GDP contraction in major European countries in 2009

GDP growth, selected countries, 2008 - 2020

	Annual GDP % change				
	2008	2009	2010	2011 - 2014	2015 - 2020
US	0.0	-2.6	2.9	3.4	2.8
Japan	-1.2	-6.3	4.2	1.8	1.1
China	9.6	9.1	10.1	8.9	8.3
Eurozone	0.3	-4.0	1.7	1.8	1.8
Germany	0.7	-4.7	3.5	2.0	1.8
France	0.1	-2.5	1.5	2.0	1.8
Italy	-1.3	-5.1	1.0	1.2	1.4
Ireland	-3.6	-7.6	-0.8	0.9	3.2
Greece	1.3	-2.3	-4.1	0.0	1.6
Spain	0.9	-3.7	-0.2	1.4	1.7
UK	-0.1	-4.9	1.6	2.6	2.4
Brazil	5.2	-0.7	7.6	4.6	3.9
OPEC	5.9	3.1	4.0	4.9	4.2

Source: Oxford Economics

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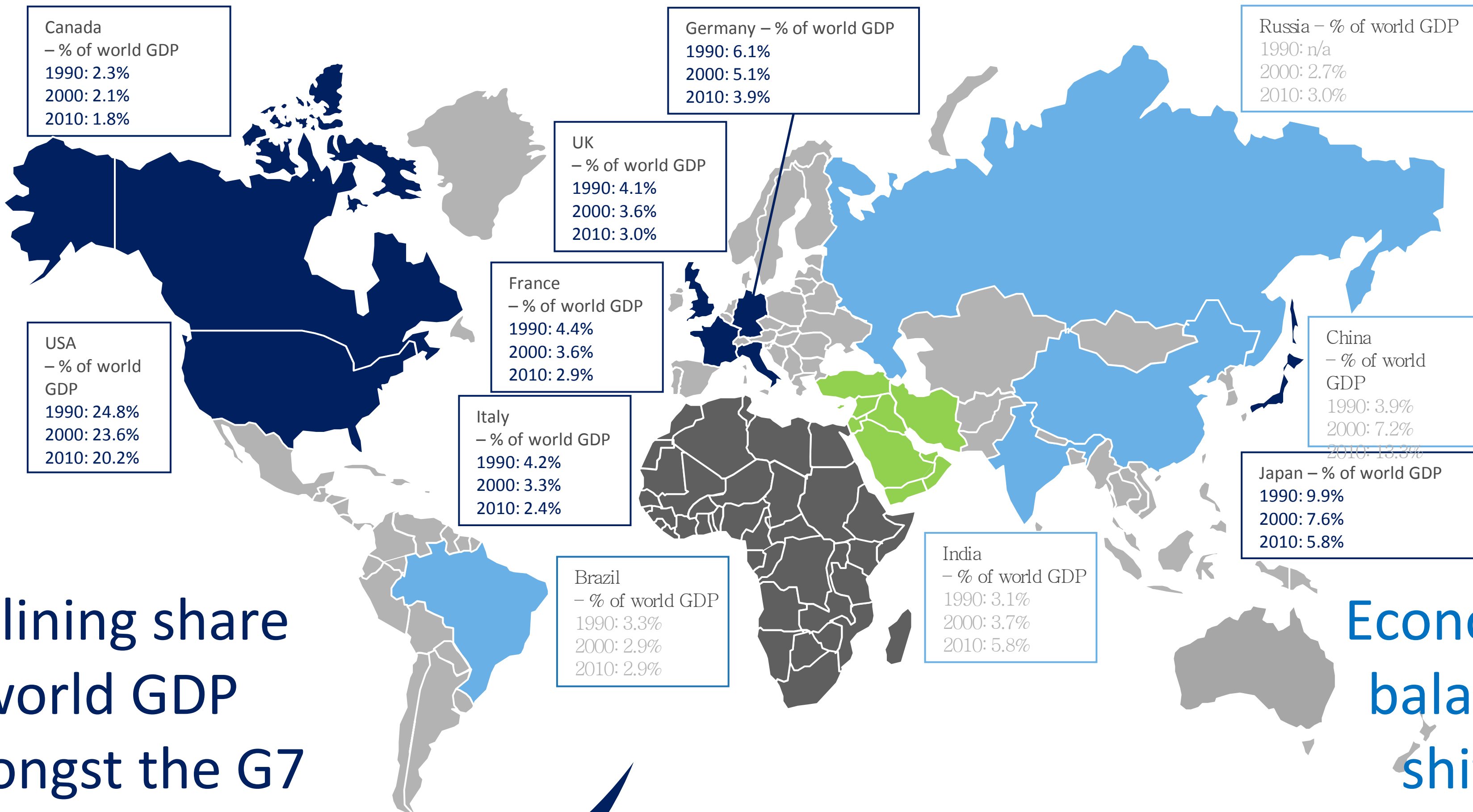
The 'new normal'...



Declining share of world GDP amongst the G7 group of countries

1990 = 69.4%

2000 = 63.0%

2010 = 51.9%

Economic balances shifting towards BRIC economies

1990 = 7.0%

2000 = 13.5%

2010 = 21.6%

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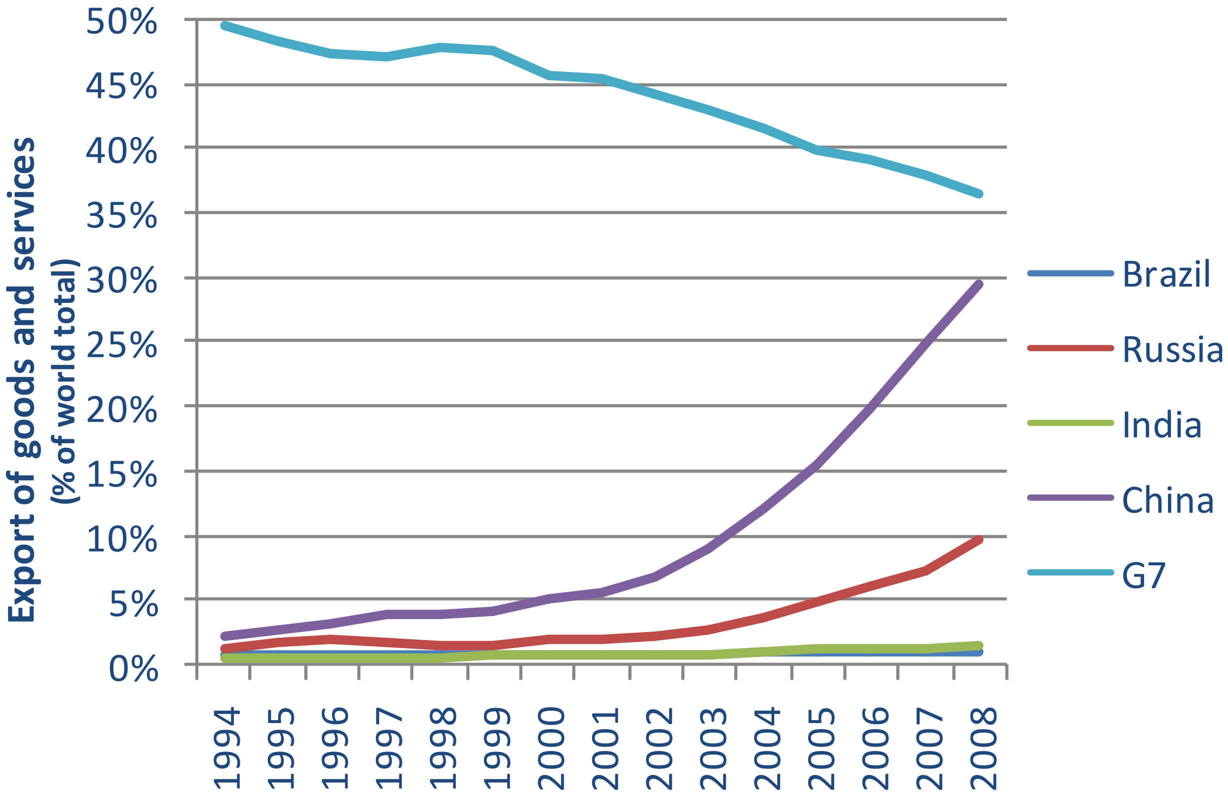
Developing countries are increasingly driving global trade…

Exports of goods and services (share of world total)



Source: World Bank, World Development indicators

China's share of world trade has increase from less than 5% to almost one third of global exports in under a decade

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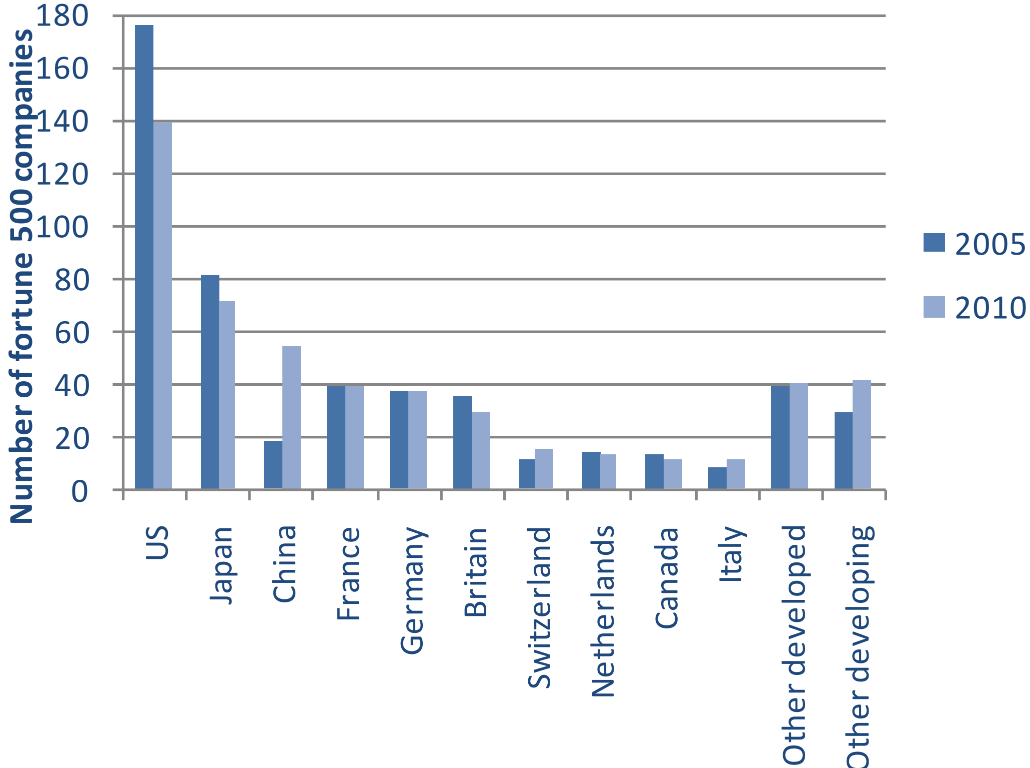
Developing nations becoming ‘big business’…

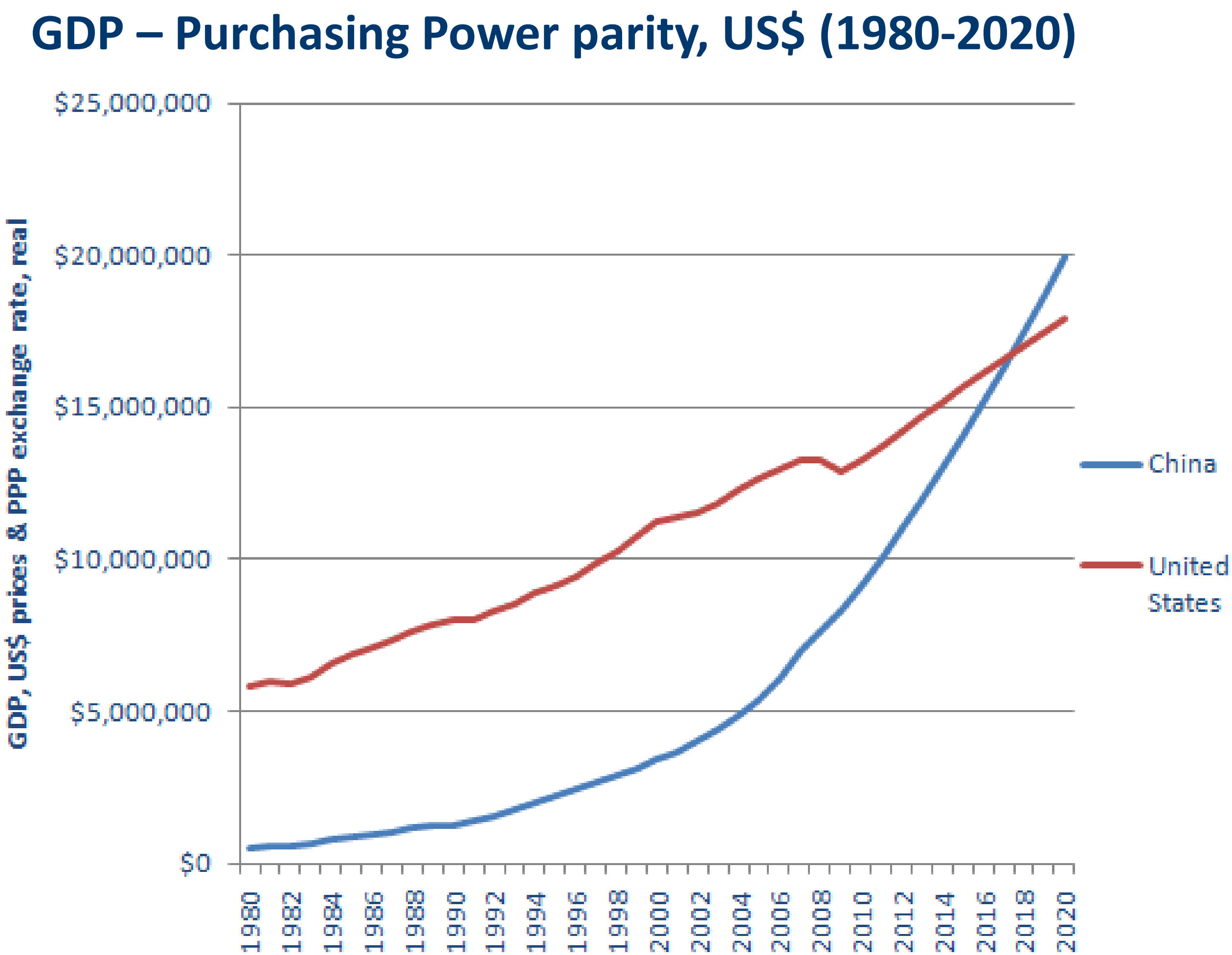
Number of Fortune 500 companies per country in 2005 & 2010



Source: Fortune magazine

Competition for labour will become increasingly global

The rise of these sleeping giants will transform the balance of economic power over the next decade and beyond. …



Source: Oxford Economics

Oxford Economics estimates that China will overtake the US in 2018 to become the world's largest economy (measured in US$ prices & PPP exchange rate).

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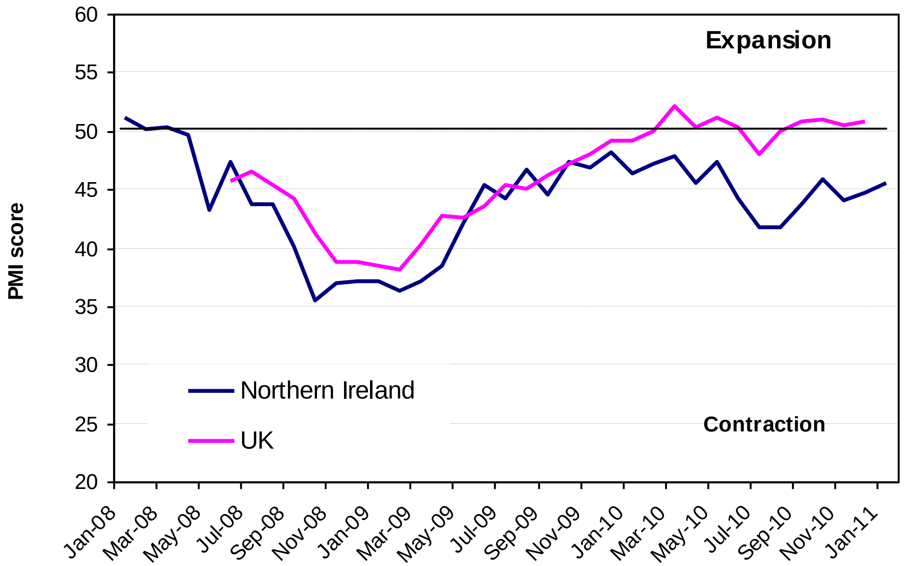
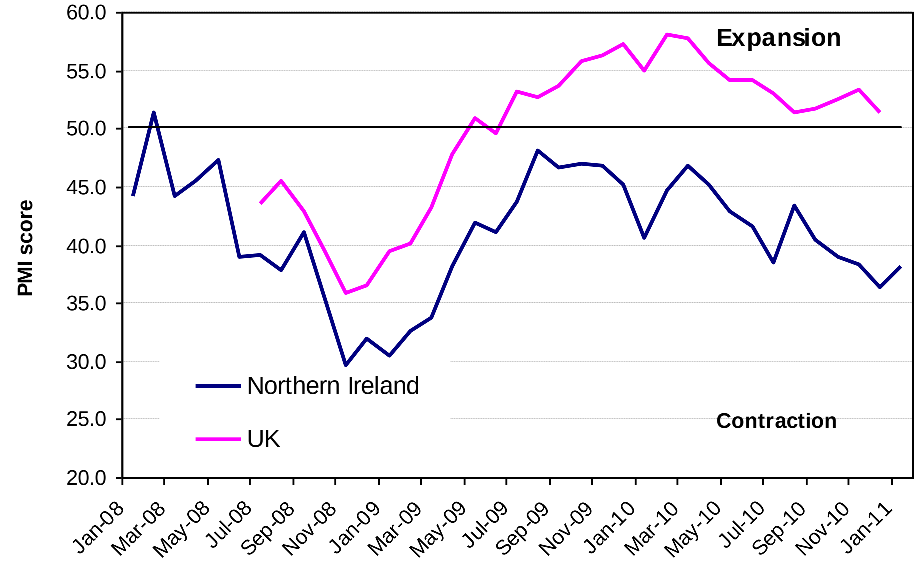
Indicators suggest that the recession is still underway in NI and ROI. …

PMI Output, NI and UK, Jan 08 – Jan 11



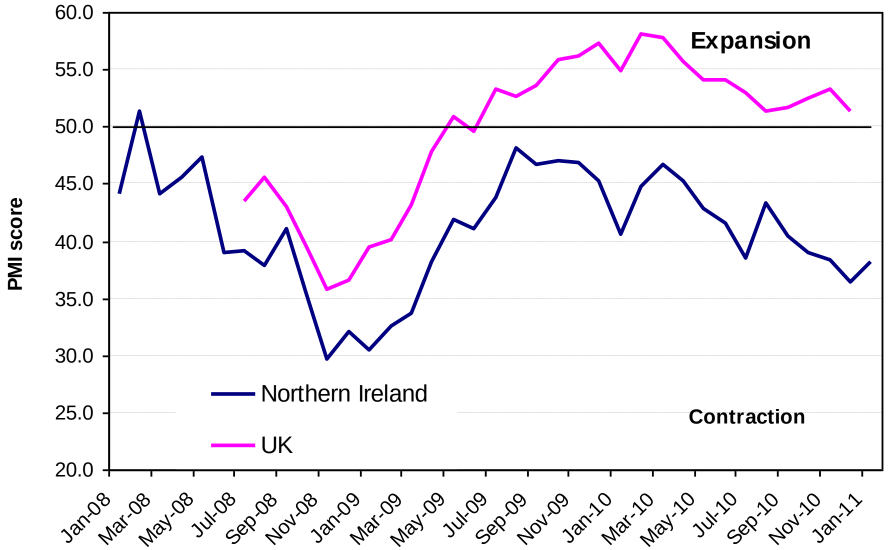
PMI Employment, NI and UK, Jan 08 – Jan 11



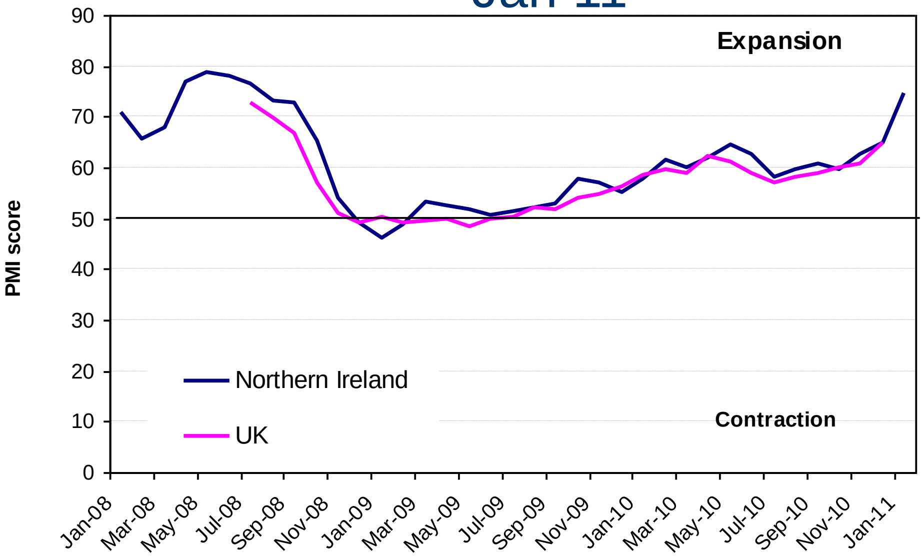
Source: Markit Economics, Ulster Bank

Input prices eroding competitiveness….

PMI New Business, NI and UK, Jan 08 – Jan 11



PMI Input prices, NI and UK, Jan 08 – Jan 11



Source: Markit Economics, Ulster Bank

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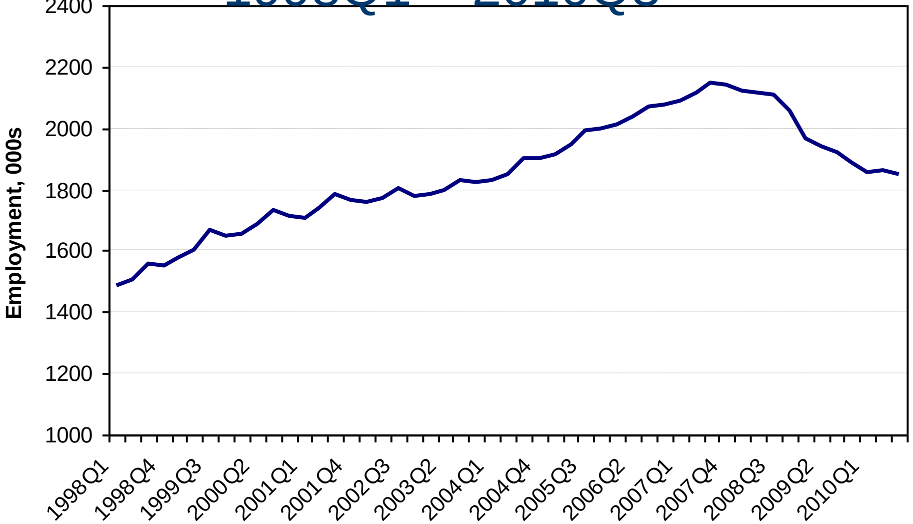
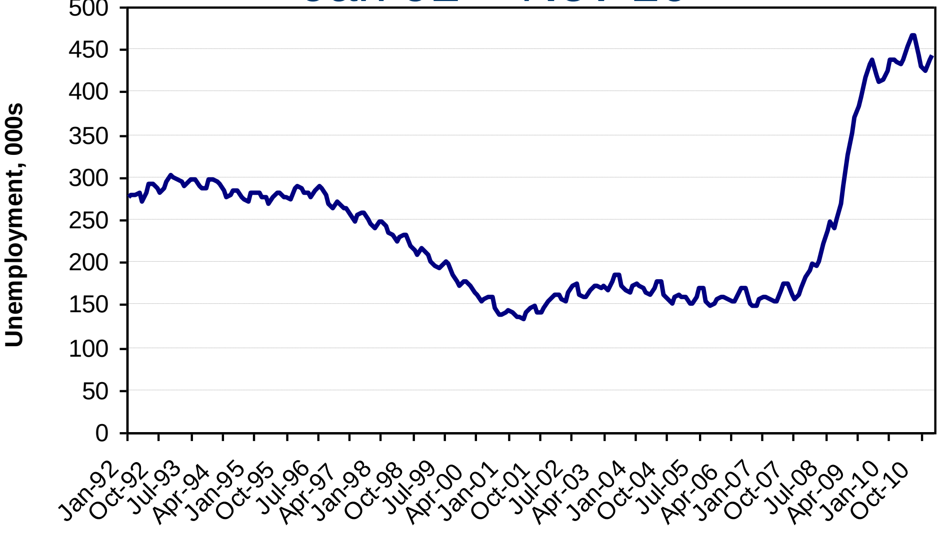
Unemployment at record highs in ROI….

Employment (unadjusted), ROI, 1998Q1 – 2010Q3



Unemployment (unadjusted), ROI, Jan 92 – Nov 10



Source: CSO

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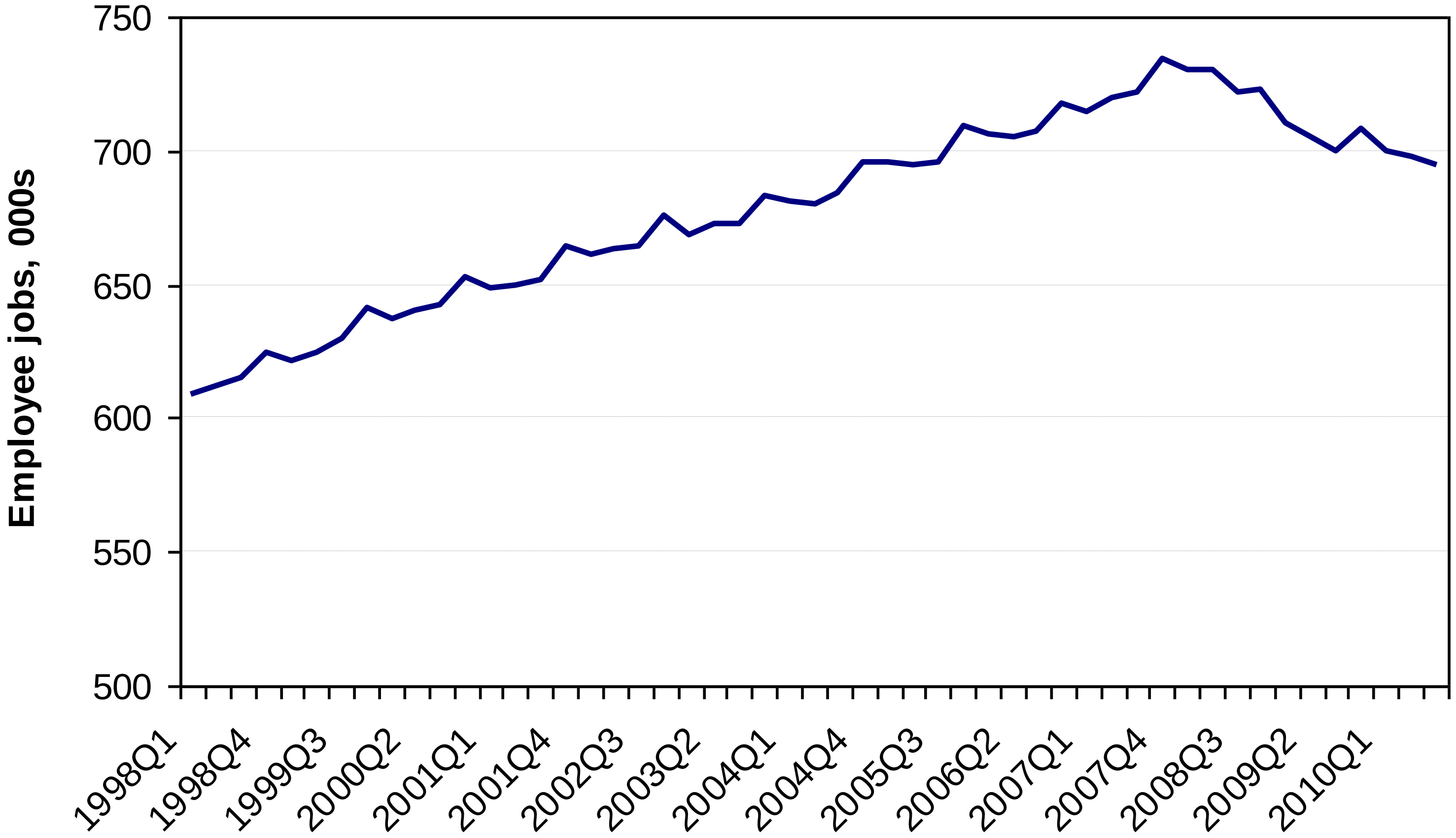
Employment has fallen back to 2005 levels in NI….



Source: QES NI

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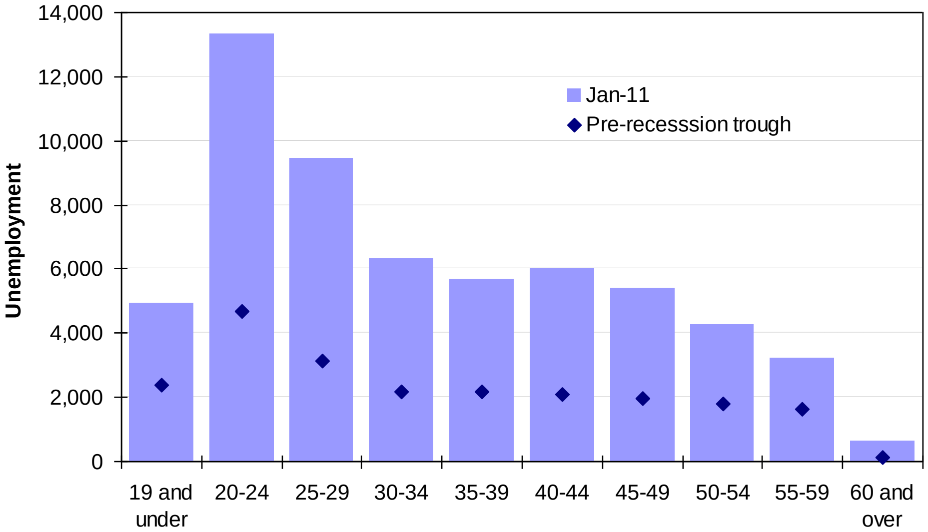
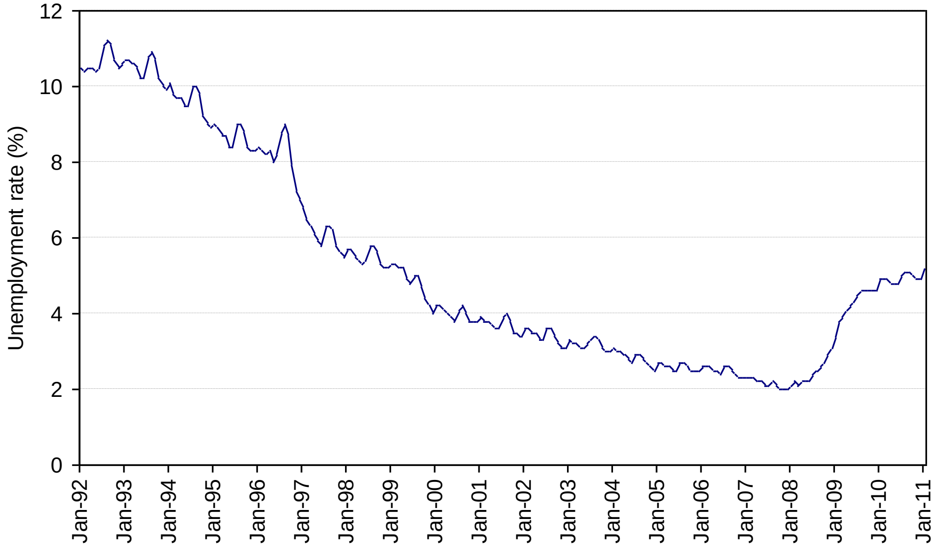
Unemployment has risen rapidly,

largely accounted for in the under 24's….

Unemployment by age band, NI, Jan 2011 and trough



Unemployment (unadjusted), NI, Jan 1992 – Jan 2011



Source: Claimant Count

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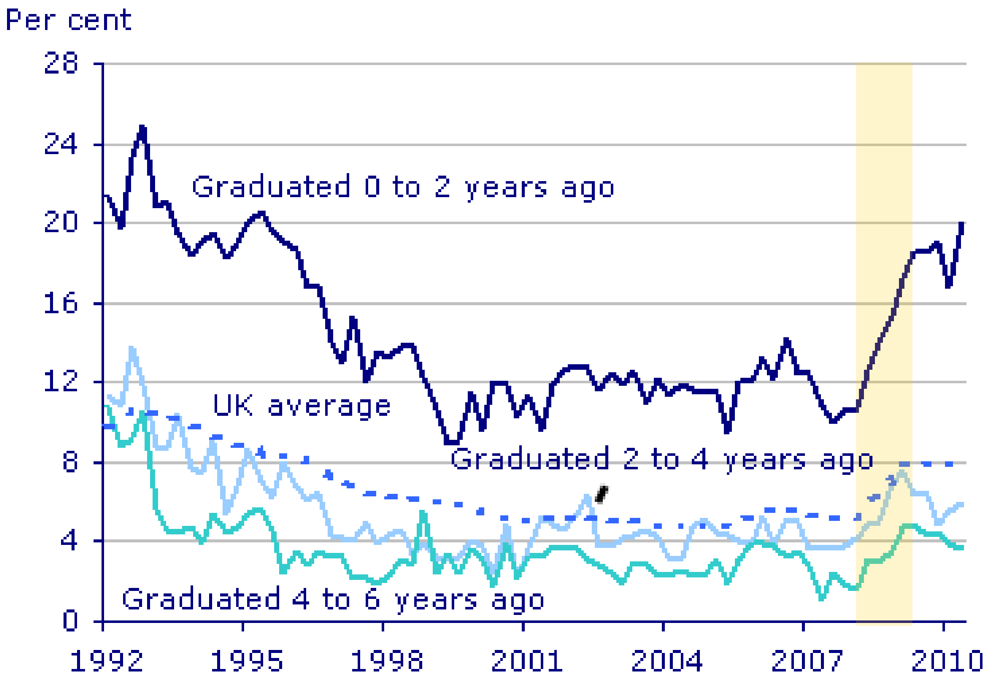
Graduate unemployment has risen to a 17 year high….



Graduate unemployment rates

Unemployment increased faster for new graduates compared to the UK as a whole.

By the end of the recession the rate for new graduates was 2.3 times higher (18.5% compared to 7.9%).

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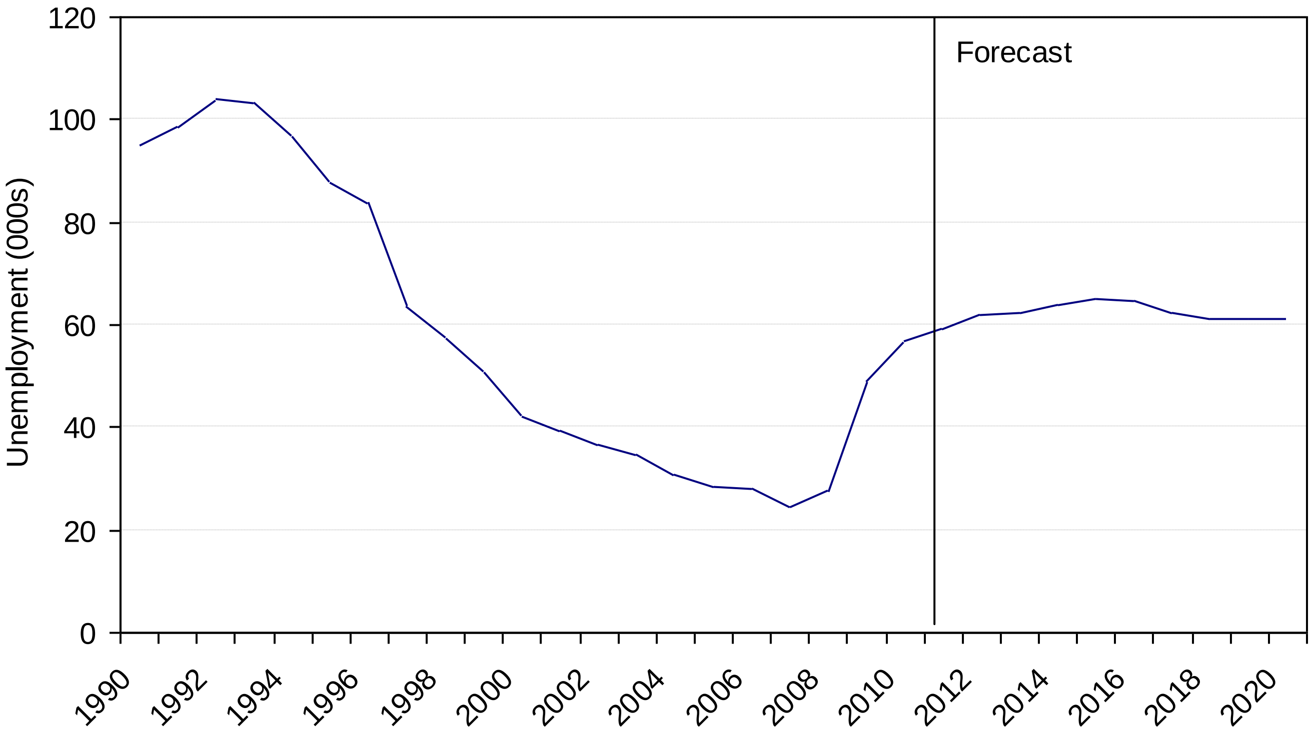
The unemployment level will remain high over the coming decade….

Unemployment, NI, 1990 - 2020



Source: Oxford Economics

Unemployment is not forecast to return to previous lows due to austerity measures creating less public sector employment …

Time for the private sector to deliver

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Belfast will continue to be the key driver of employment ….

Employment change by DC, NI, 2010 - 20

	2010 - 20	
	000s	**%**
Antrim	1.2	3.9
Ards	-0.2	-0.6
Armagh	0.1	0.2
Ballymena	0.0	-0.1
Ballymoney	0.3	3.1
Banbridge	0.9	6.0
Belfast	16.8	8.1
Carrickfergus	-0.3	-2.6
Castlereagh	1.5	5.0
Coleraine	-1.0	-4.0
Cookstown	0.2	1.4
Craigavon	2.0	4.7
Derry	3.4	7.2
Down	-0.8	-3.0
Dungannon	1.3	5.0
Fermanagh	-0.4	-1.4
Larne	0.4	3.8
Limavady	-0.1	-1.1
Lisburn	2.6	5.3
Magherafelt	0.8	4.1
Moyle	0.0	-0.3
Newry and Mourne	2.9	7.0
Newtownabbey	0.6	1.8
North Down	1.1	3.7
Omagh	-0.5	-2.0
Strabane	0.2	1.6
Northern Ireland	**33.2**	**4.0**

Two third of jobs created between 2010-2020 will be in the Belfast Metropolitan Area

Source: Oxford Economics

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The ‘new normal’ economy will see much fewer employment opportunities over the next decade….

Employment change by sector, NI, 1998 – 08 and 2010 - 20

	Employment change (000s)	
	1998 - 08	2010 - 20
Agriculture	-11.0	-3.4
Extraction	0.3	-0.5
Manufacturing	-24.2	-9.2
Utilities	-1.3	-0.2
Construction	27.5	0.9
Distribution & retail	34.3	10.9
Hotels & restaurants	7.1	6.9
Transport & communications	6.8	4.4
Financial services	6.6	0.1
Business services	47.9	24.7
Public admin.	0.8	-8.3
Education	7.3	-2.9
Health	24.5	3.1
Other personal services	10.6	7.1
Total	**125.2**	**33.2**

Source: Oxford Economics

The economy will create 90,000 less jobs over the next decade compared to the decade preceding the recession

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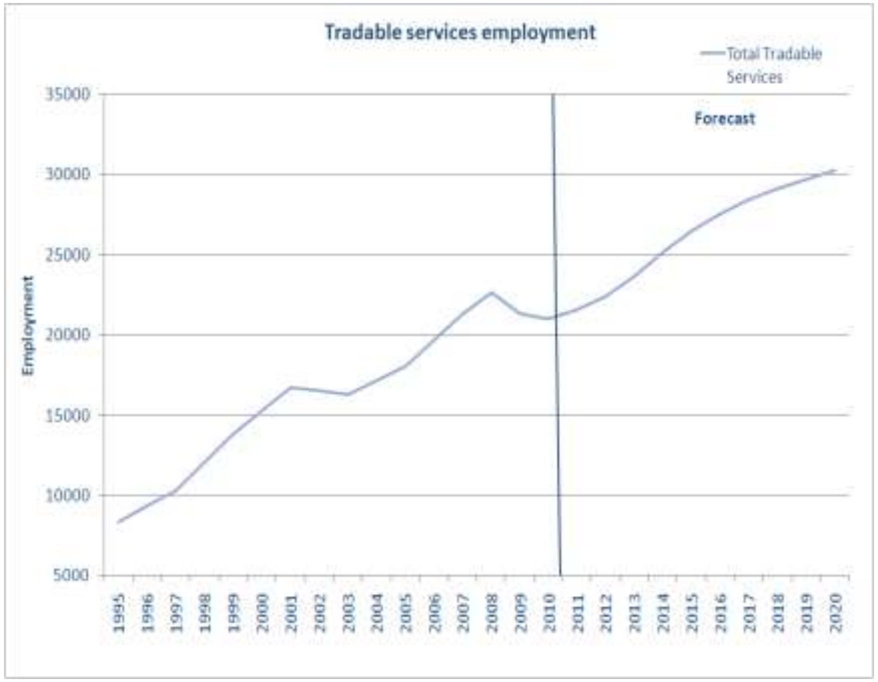
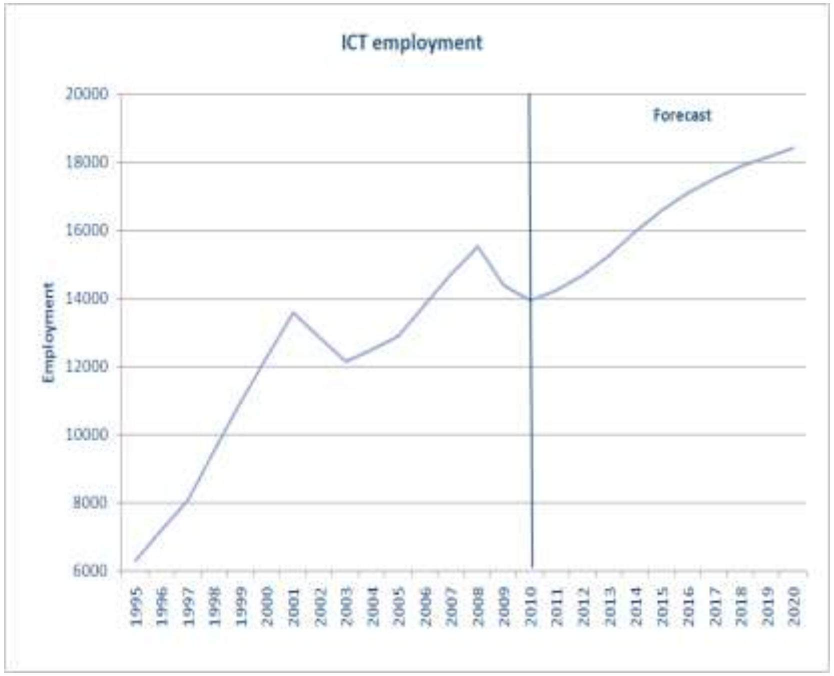
Areas where NI has had success will continue to be important...





Source: Oxford Economics

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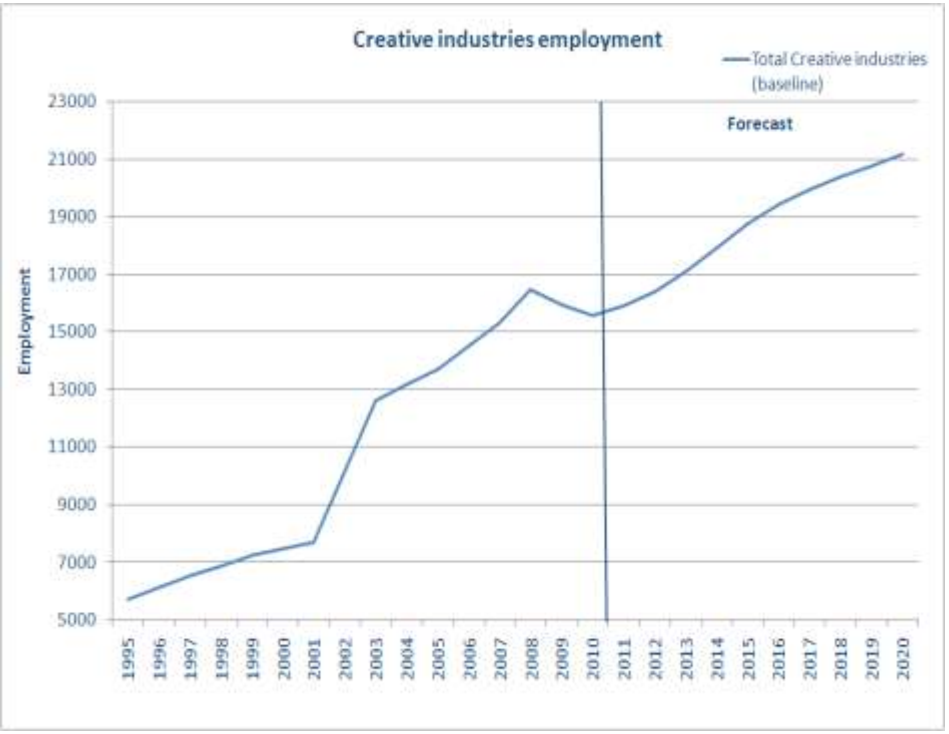
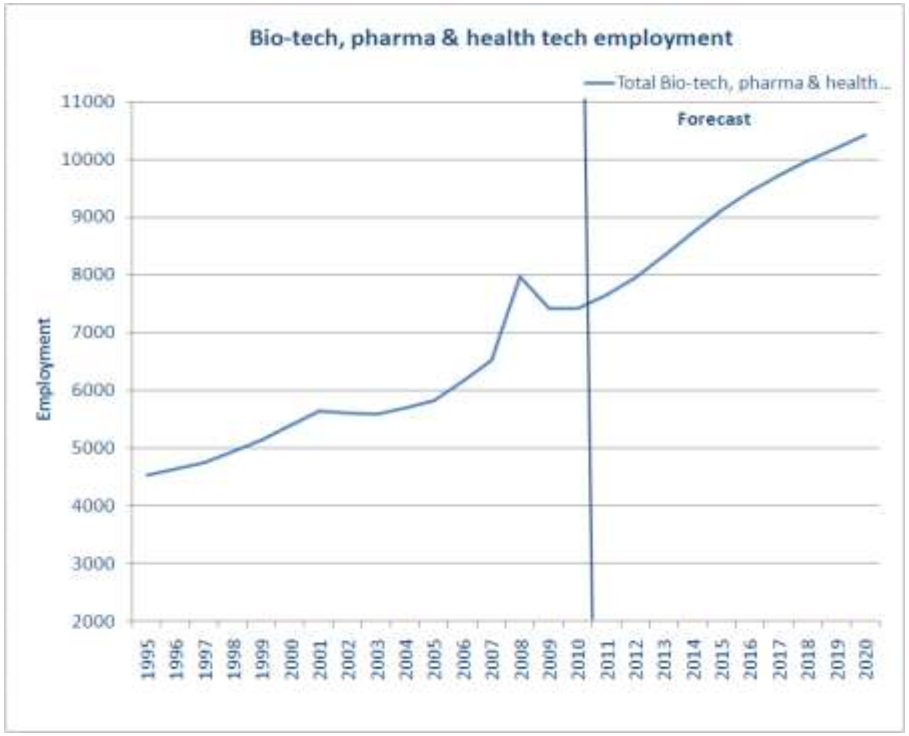
Previous 'niche' sectors becoming more staples of the local economy….





Source: Oxford Economics

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What does the 'New Normal' look like for new entrants into the Northern Ireland Labour market?….

- More competition – fewer jobs
- Wages bid down – it may take longer save for deposits for homes
- More have to leave for GB or further afield (already seeing this in some sectors)
- Limited opportunities traditional sectors – public sector
- Frustration if students feel they have not been given good career advice or have been failed by education system
- Still high demand for areas NI good at – ICT, medical research, finance – and good wage returns in these sectors

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Challenging conditions remain in the short term, but opportunities remain…

The NI economy is forecast to create 33,000 new jobs over the next 10 years

-9000 new jobs in tradable services
-- 6,000 new jobs in creative industries
-- 3,000 new jobs in pharma / biotech
-- 8,000 new jobs in tourism
-- 4,500 new jobs in ICT

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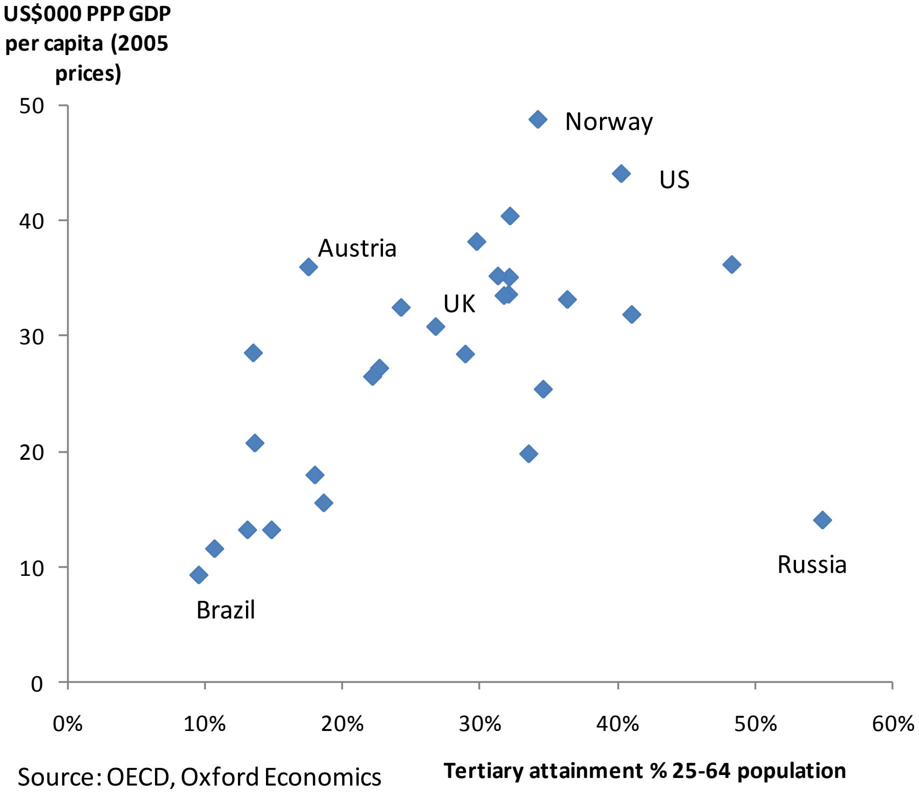
Skills and education in Northern Ireland – are we as good as we think?

Reminder of why education and skills matter...

International: Tertiary skills and GDP per head (2007)



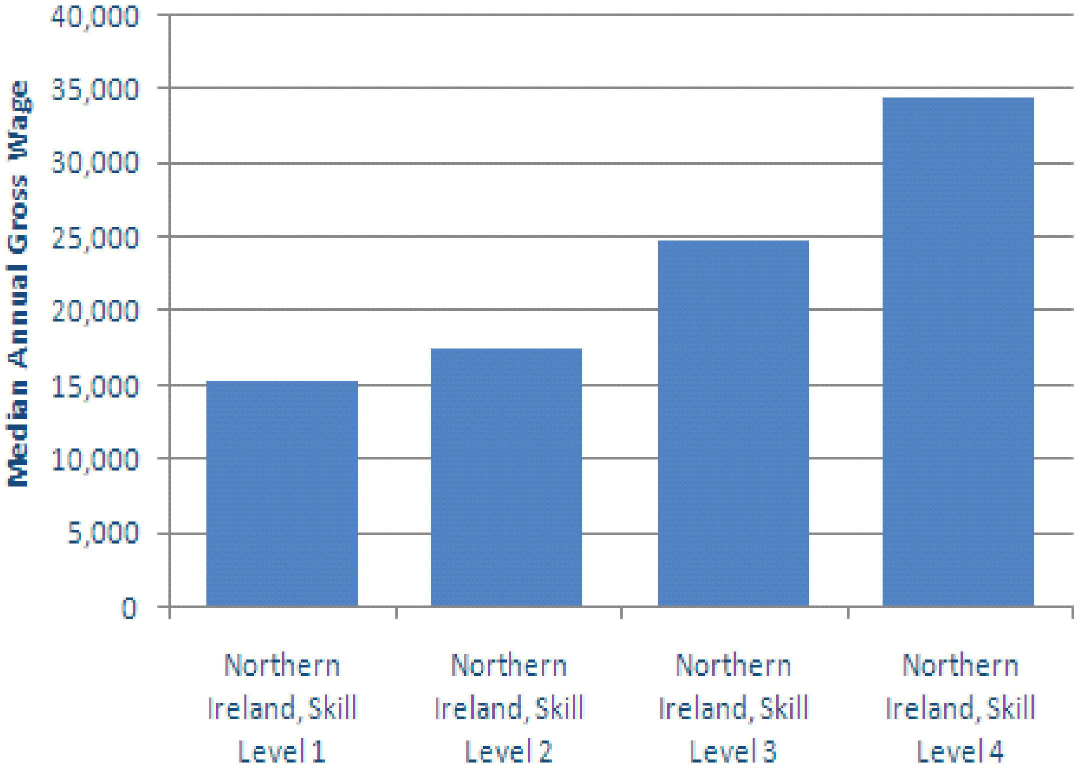
Source: OECD, Oxford Economics

	2009
Degree or equivalent	90%
GCE A level or equivalent	77%
GCSE grade A-C or equivalent	73%
Other qualification	70%
No qualification	47%
Total	**72%**

Source: LFS, Oxford Economics

Note: Annual figures are 4-quarter averages. **Working age denominator excludes inactive students**

High wage jobs need highly skilled labour...



	Employed	Unemployed	Inactive excluding students and early retirees
NVQ 5	93%	1%	5%
NVQ 4	91%	1%	8%
NVQ 3	84%	3%	14%
NVQ 2	81%	4%	15%
NVQ 1	68%	7%	25%
NVQ 0	54%	5%	41%

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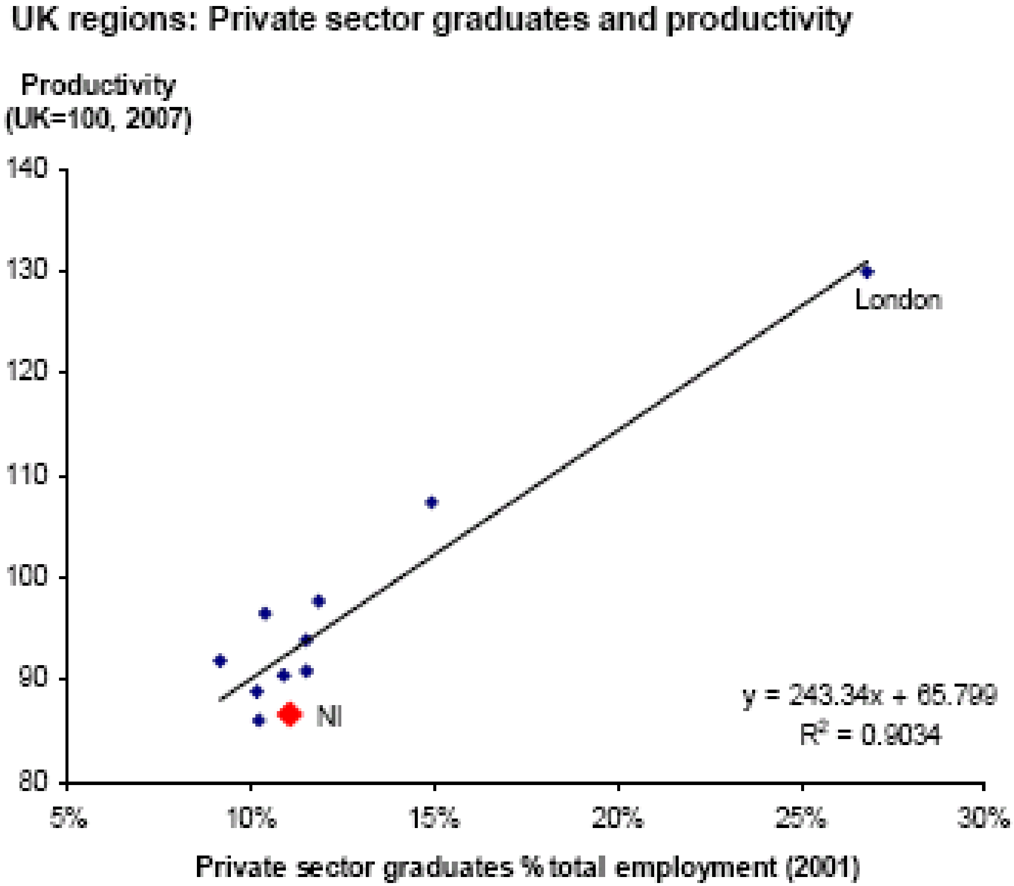
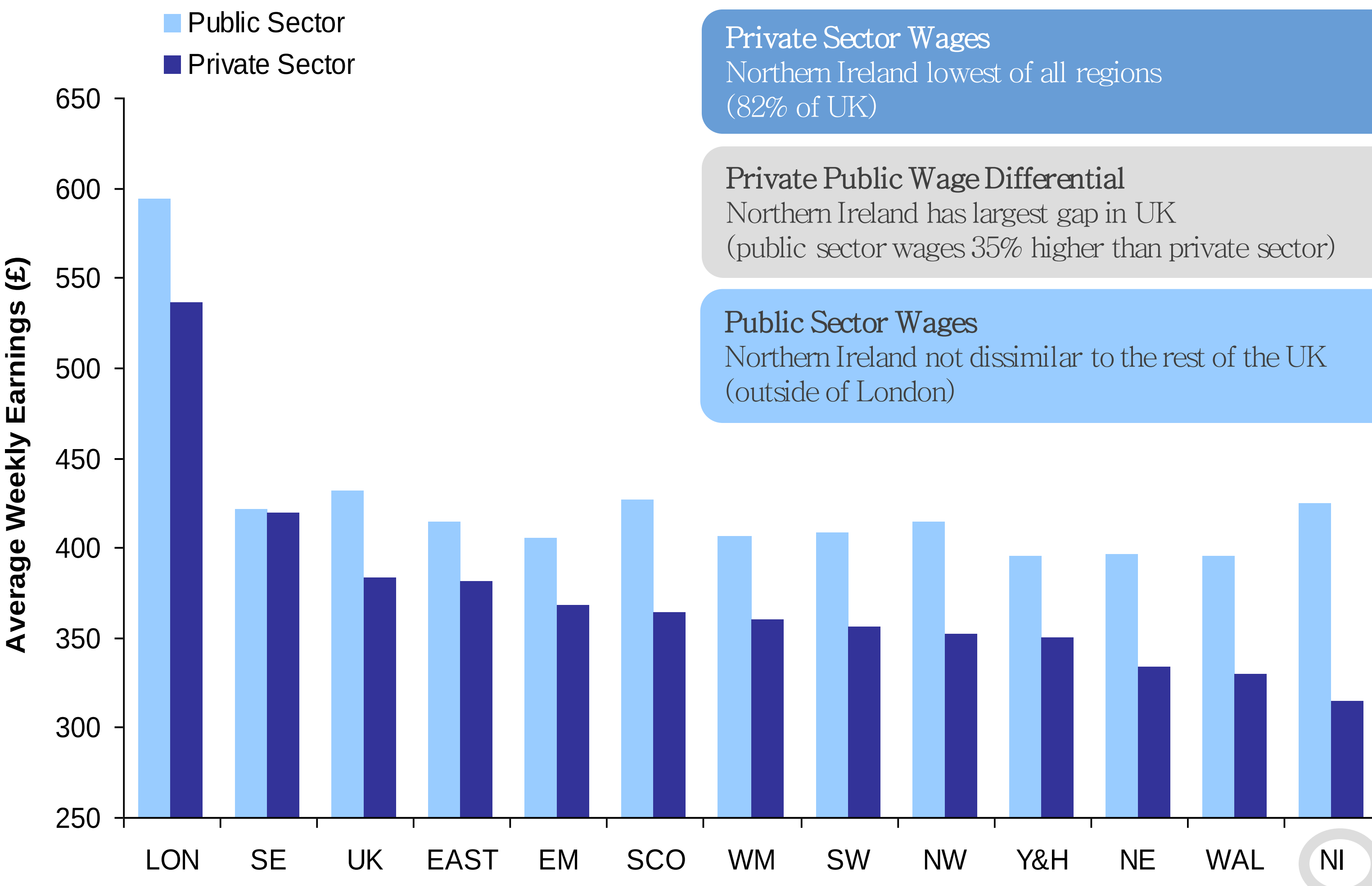
Graduates in the private sector create wealth...



Source: Census, Regional Accounts, DETI, ONS, Oxford Economics

Public sector has previously crowded out skilled labour...



Private Sector Wages
Northern Ireland lowest of all regions
(82% of UK)

Private Public Wage Differential
Northern Ireland has largest gap in UK
(public sector wages 35% higher than private sector)

Public Sector Wages
Northern Ireland not dissimilar to the rest of the UK
(outside of London)

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Need the right skills –

STEM graduates are crucial for future growth...

STEM

	% total first destination	
	Managers & professionals	Sales, customer service, process and elementary
(H2) Civil engineering	82%	5%
(H3) Mechanical engineering	66%	13%
(G6) Softw are engineering	61%	12%
(H4) Aerospace engineering	60%	13%
(F1) Chemistry	53%	12%
(G3) Statistics	51%	10%
(H6) Electronic & electrical engineering	51%	16%
(F3) Physics	50%	14%
(G1) Mathematics	47%	12%
(G4) Computer science	46%	16%

Source: HESA

Non-STEM

	% total first destination	
	Managers & professionals	Sales, customer service, process and elementary
(N1) Business studies	30%	16%
(R1) French studies	30%	13%
(L2) Politics	29%	16%
(L4) Social policy	28%	16%
(C8) Psychology	28%	16%
(V5) Philosophy	25%	22%
(C6) Sports science	24%	18%
(N5) Marketing	22%	17%
(W4) Drama	17%	25%
(P5) Journalism	11%	13%

Source: HESA

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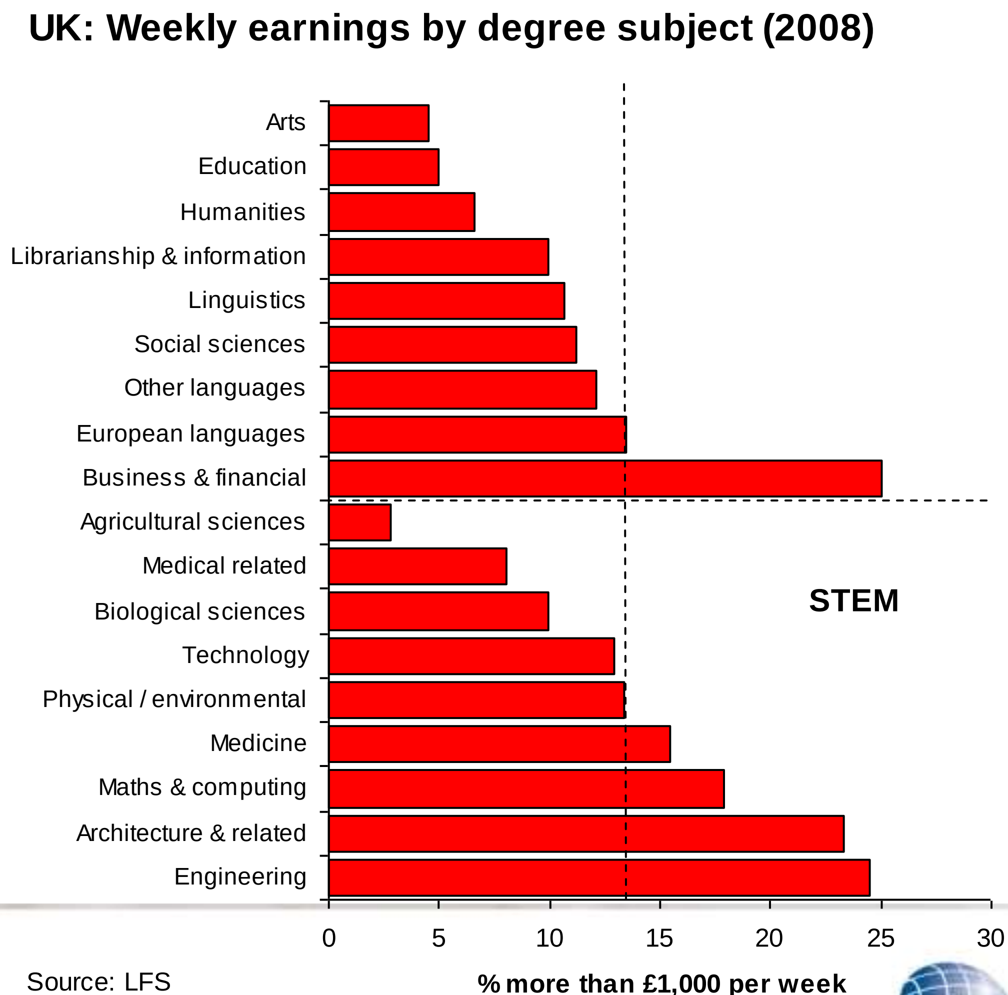
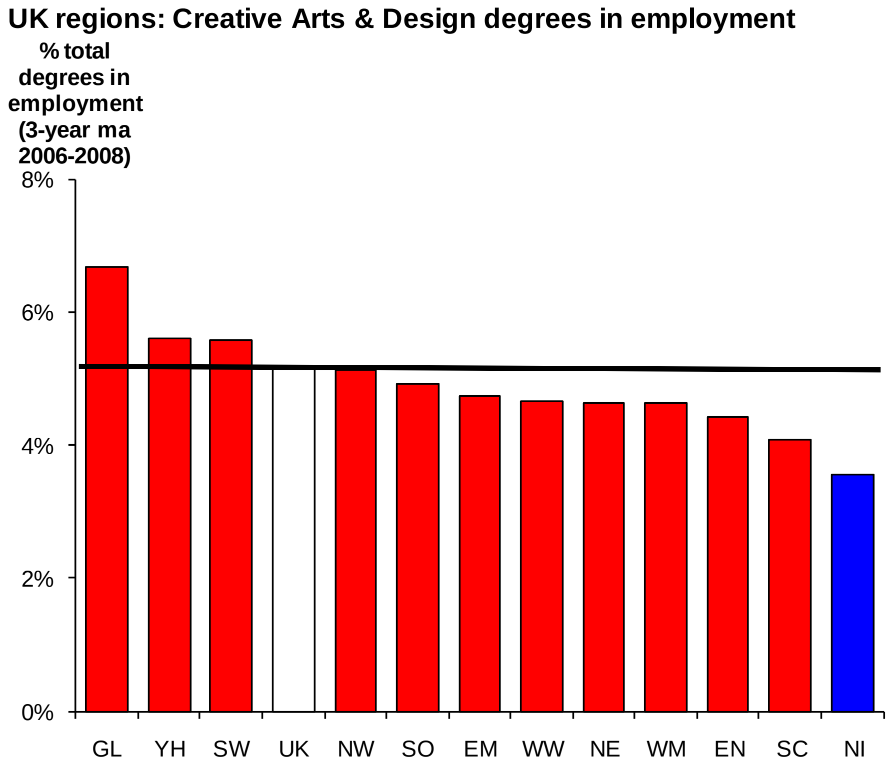
A high rate of return from STEM subjects...

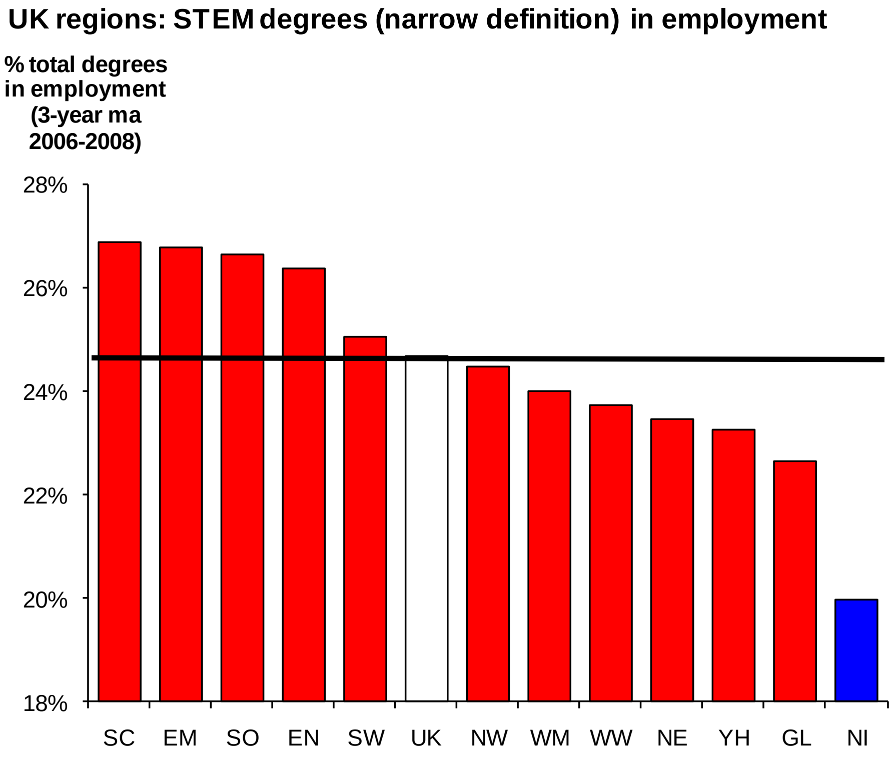


Source: LFS

Low relative supply in some key sectors...



Source: LFS, Oxford Economics



Source: LFS, Oxford Economics

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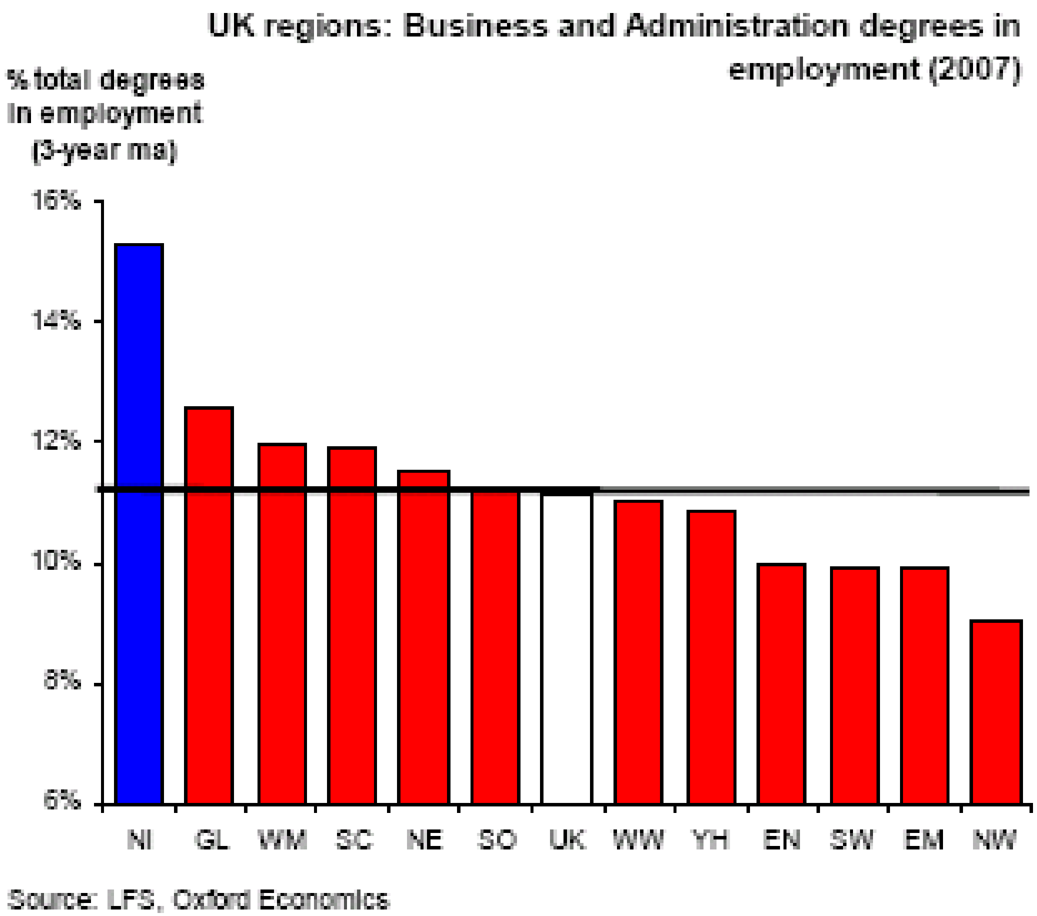
Oversupply in some subjects?...



Narrow ‘unspecialised’ subject focus – Too many Generalists?...

	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

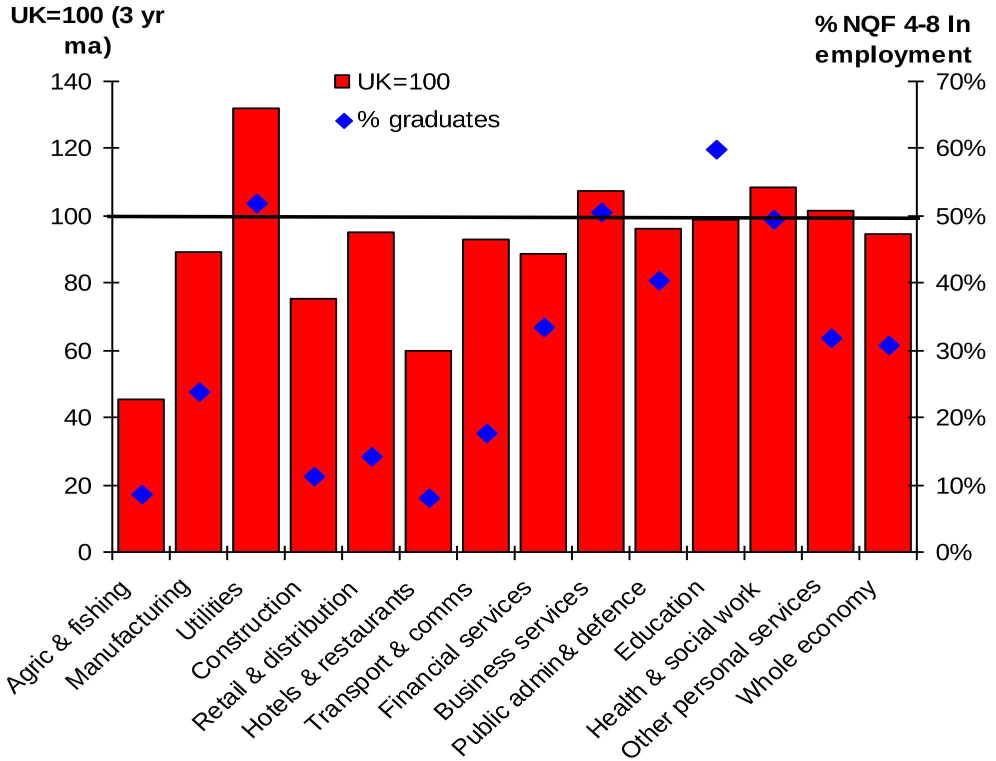
Source: LFS, Oxford Economics

Slightly lower skill intensity than the UK...

	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

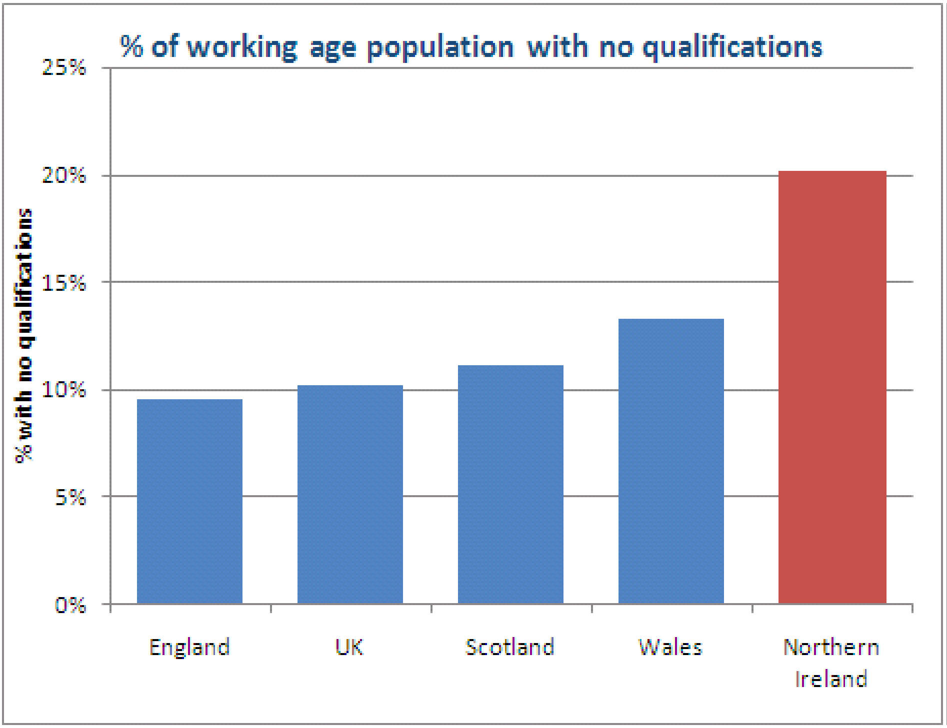
NI: Workforce NQF 4-8 relativities

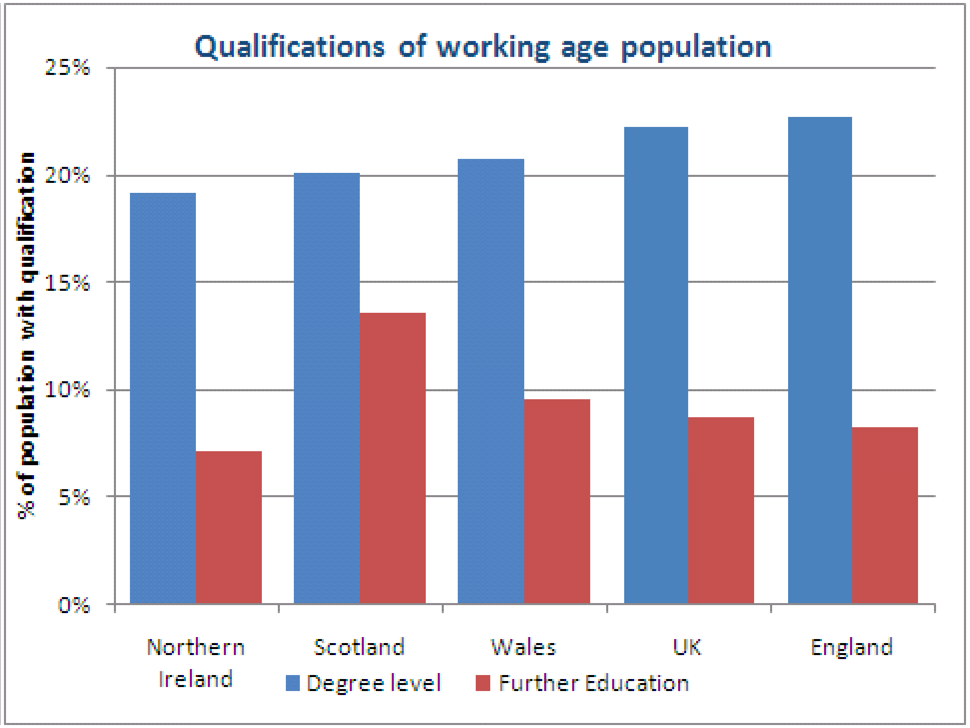


Source: LFS, Oxford Economics

Mining & quarrying not included due to the small LFS sample

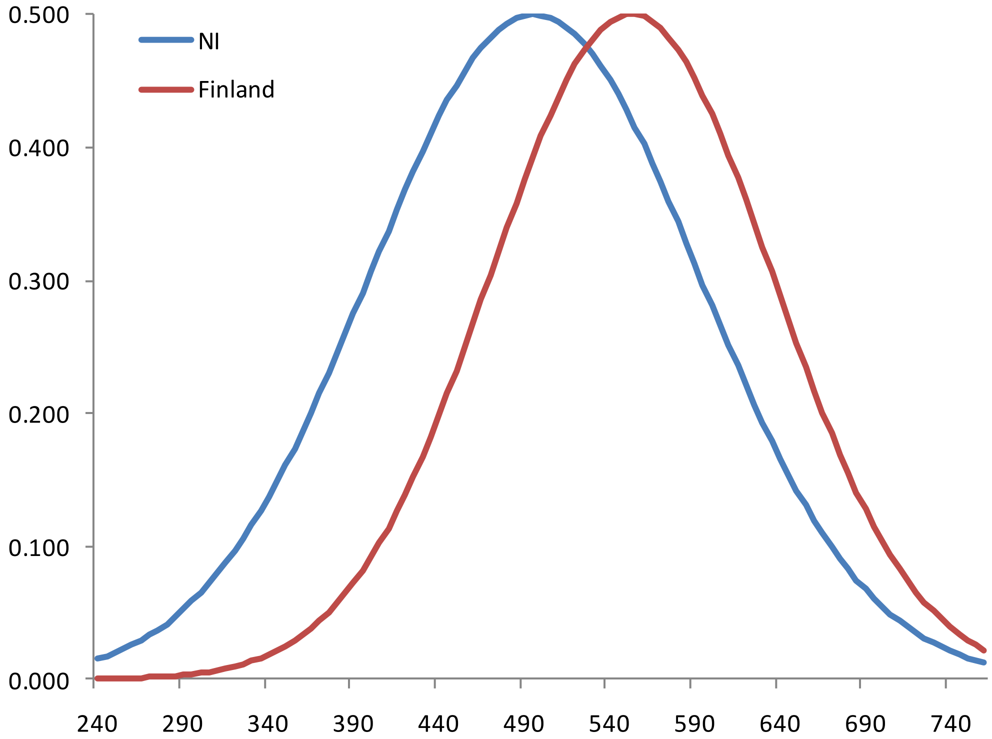
A story with two sides....





A ‘tail’ of underachievement at the low end of the skills spectrum...

NI and Finland: PISA subject average distribution (2006)



Source: OECD, NfER

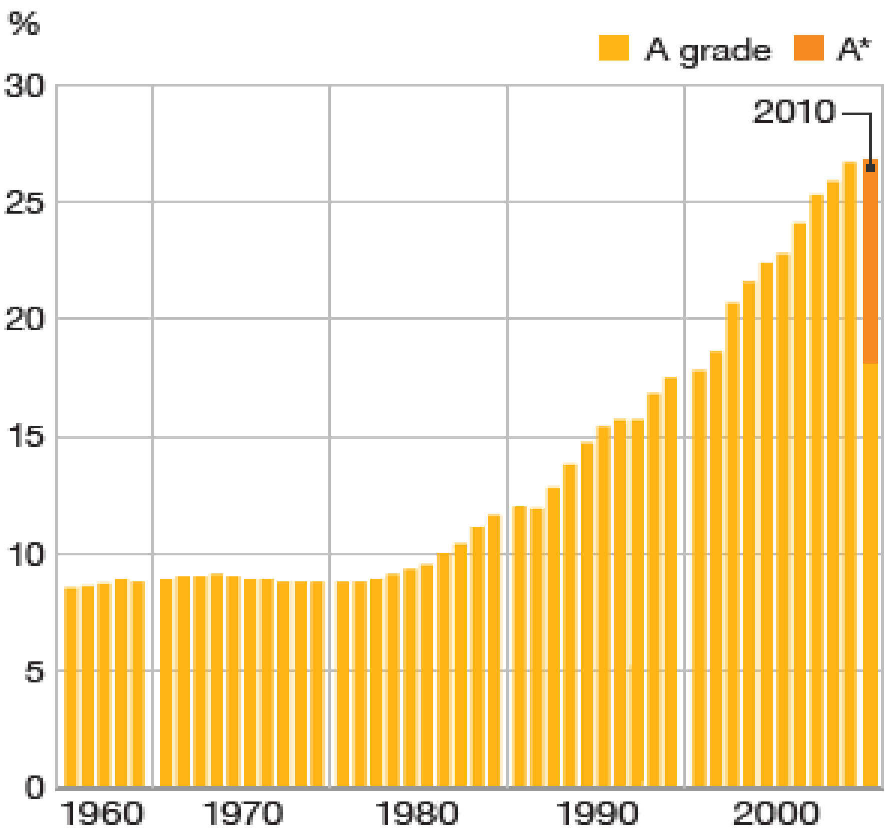
School leaver GCSE highest qualifications (2008/09)

	At least 5 GCSEs A*-C incl English and Maths	Not achieving at least 5 GCSEs A*-C incl English and Maths
Year 12	7%	31%
Year 13	4%	5%
Year 14	48%	5%
Total	**58%**	**42%**

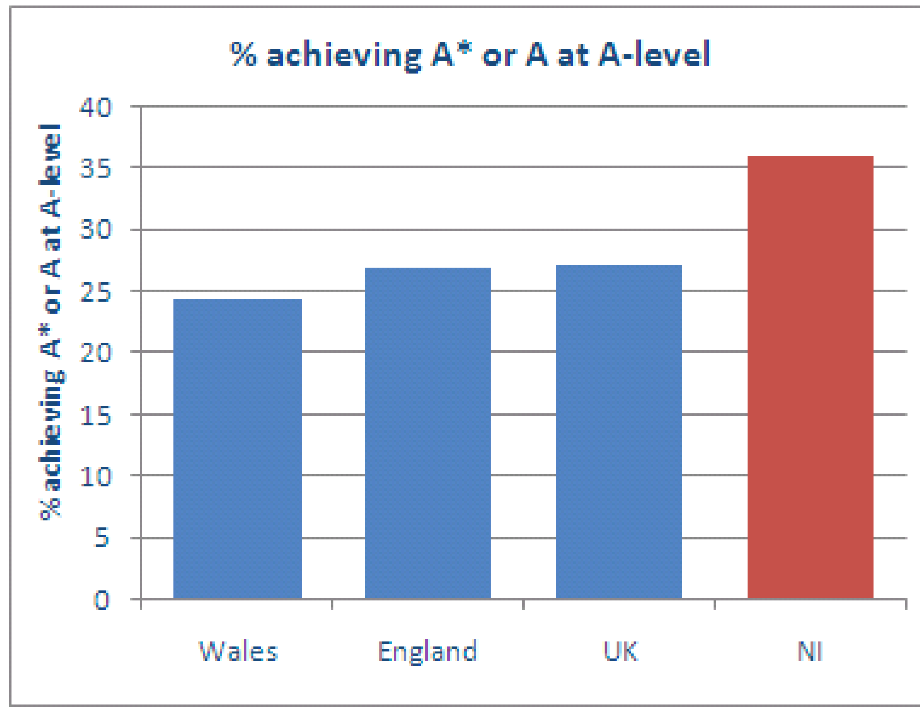
Source: DE

Are we really getting smarter?...

% of A-level entries awarded A grade



Source: Centre for Education and Employment Research, University of Buckingham/JCQ



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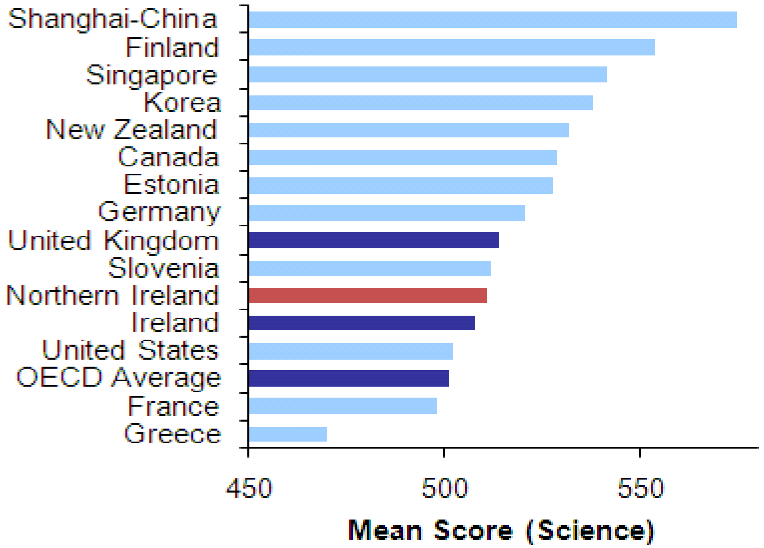
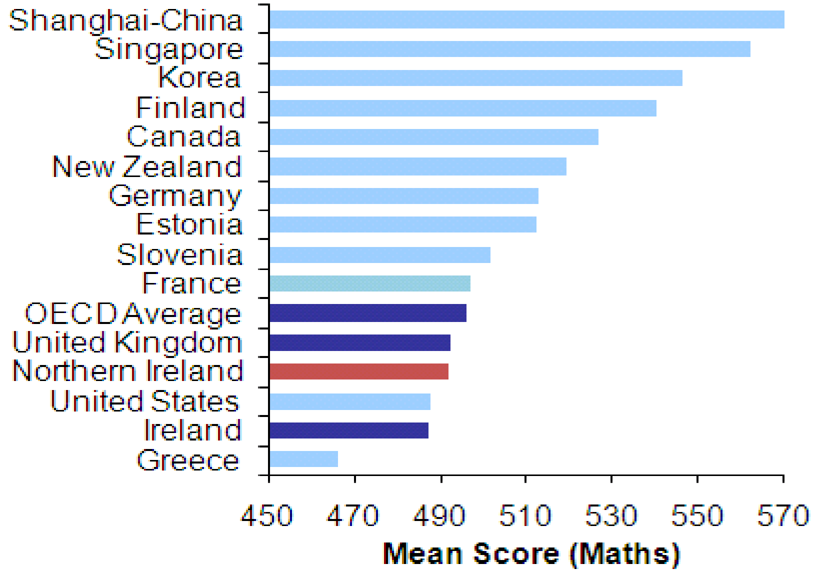
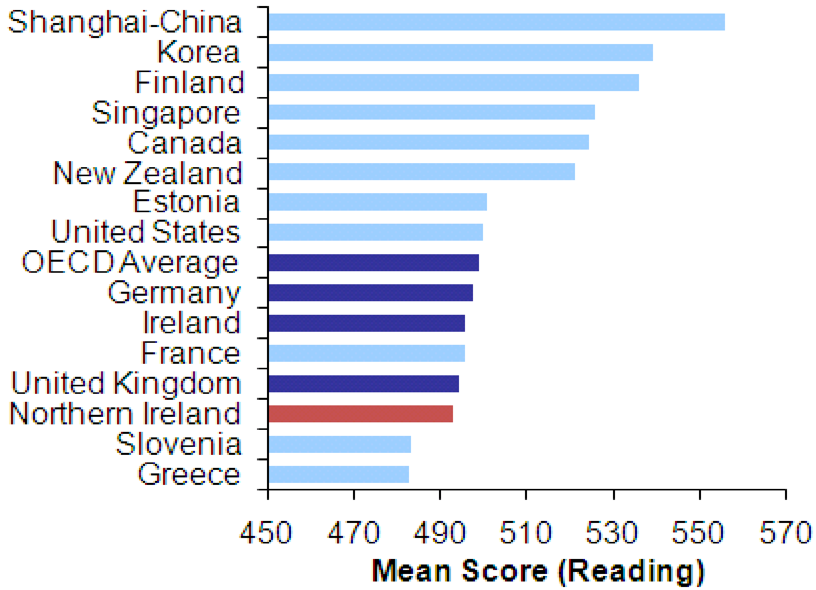
Competition for labour is increasingly global – and NI is falling behind emerging markets







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Business forecasts the need for a higher skilled workforce...

- Business expects make up of workforce to change rapidly over next 5 years; 55% needing higher skilled individuals
- Major growth in management and leadership posts -69% employers
- 51% not confident of being able to meet their need for high skilled staff
- Less than half (46%) rate current competences in low skilled jobs as good; literacy, numeracy, IT
- Employability Skills – 57% see weaknesses in school leavers self management abilities; 68% inadequate business and customer awareness
- 24% dissatisfied with graduate problem solving and 26% concerned with graduate self management skills
- STEM – 45% experiencing difficulties in recruiting STEM staff; 60% expect difficulties in next 3 years

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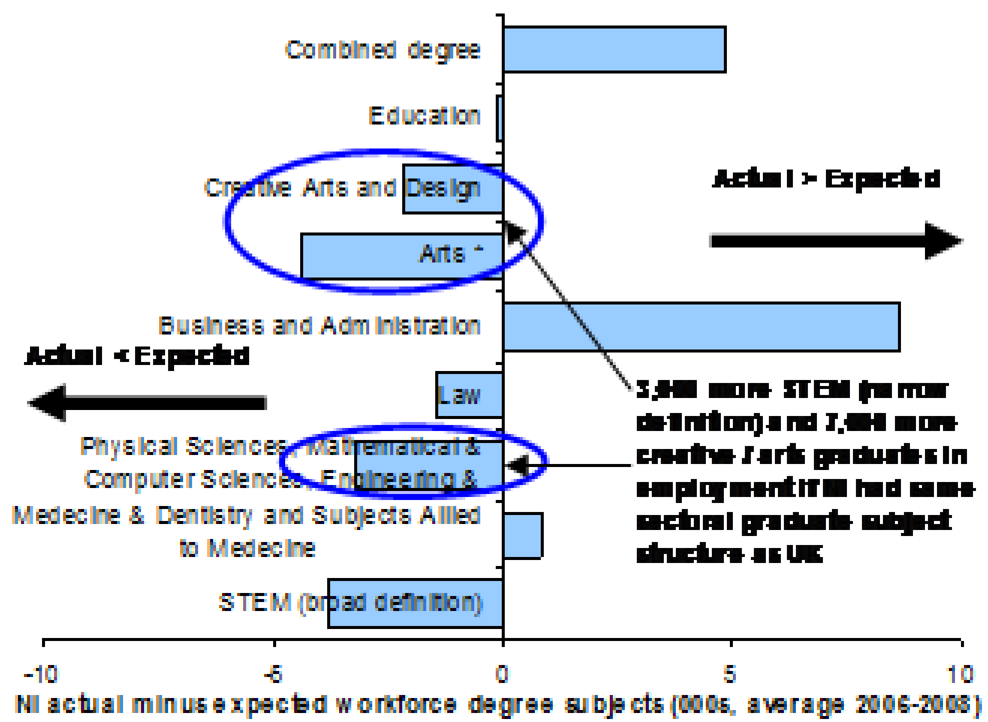
Where could NI be?...

NI: Actual minus expected workforce degree subjects



Source: LFS, Oxford Economics

* Linguistics, Languages, Literature, History & Philosophy

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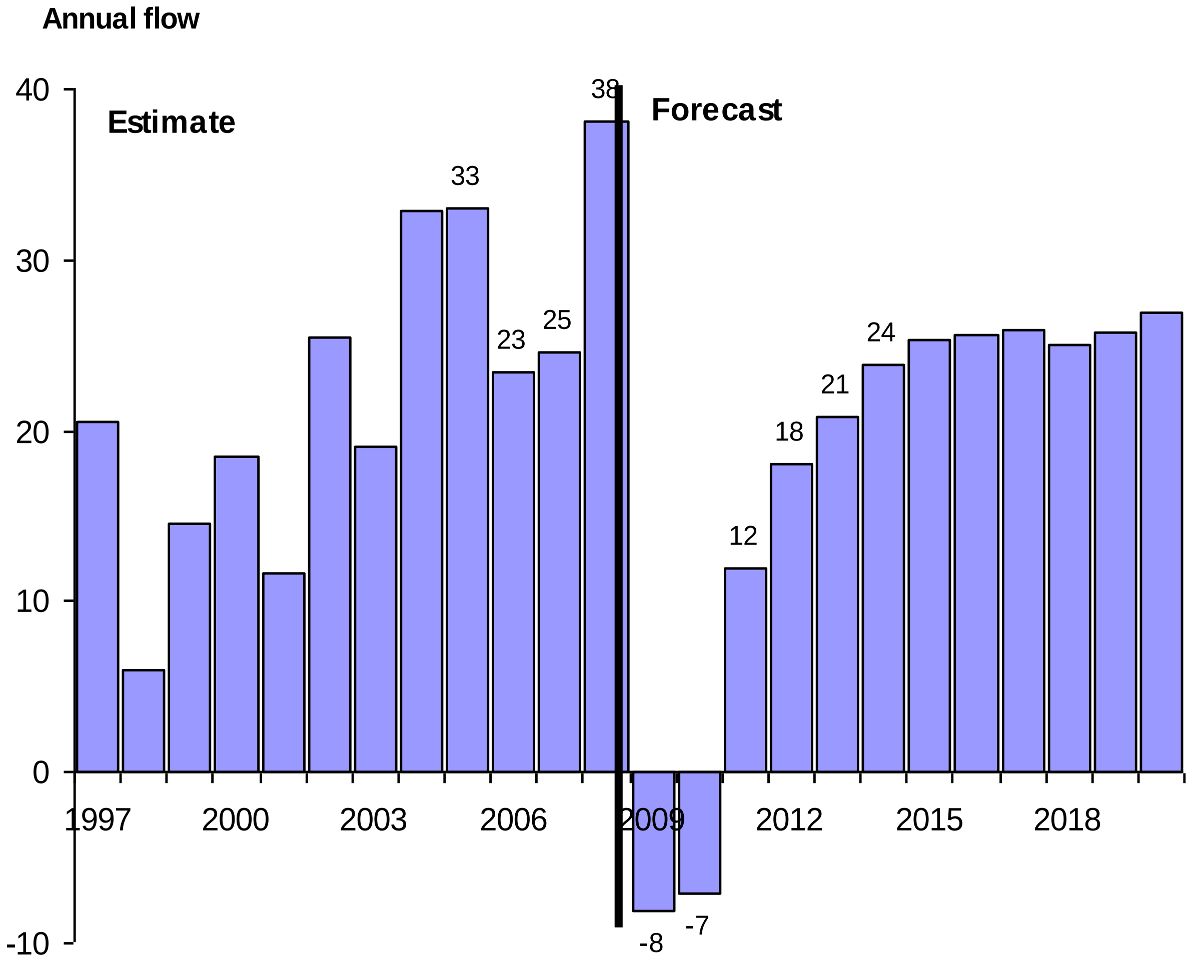
Despite short term demand issues, net requirement from education will return to a positive trajectory ?...

NI: Net requirement from education system and in-migration



Source: Oxford Economics

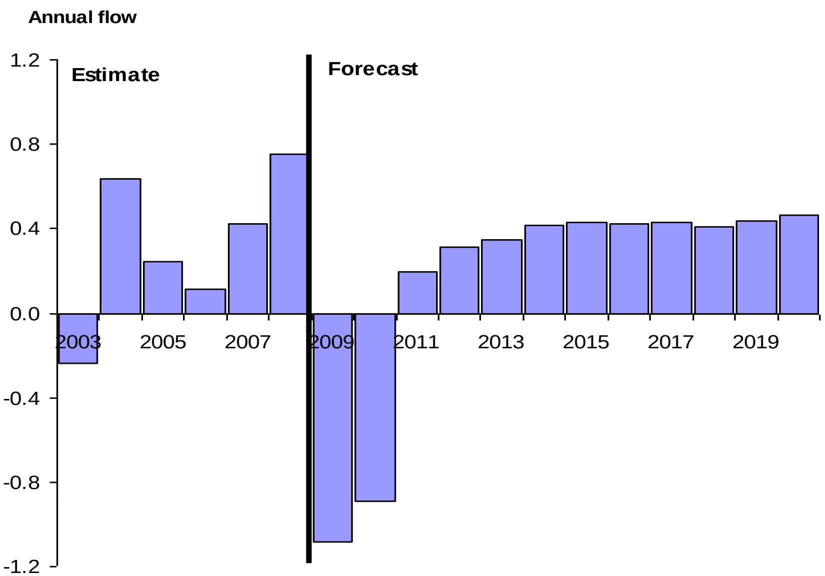
But not all required from higher education – Further Education Colleges and Apprenticeships are also good options, and one in 5 jobs will be for people with low skills

The next 10 years will still be a graduate hungry economy, but needs to be better tailored to sectors where demand exists…

	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%
Total	**-7.6**	**22.9**	**30.5**	**100%**

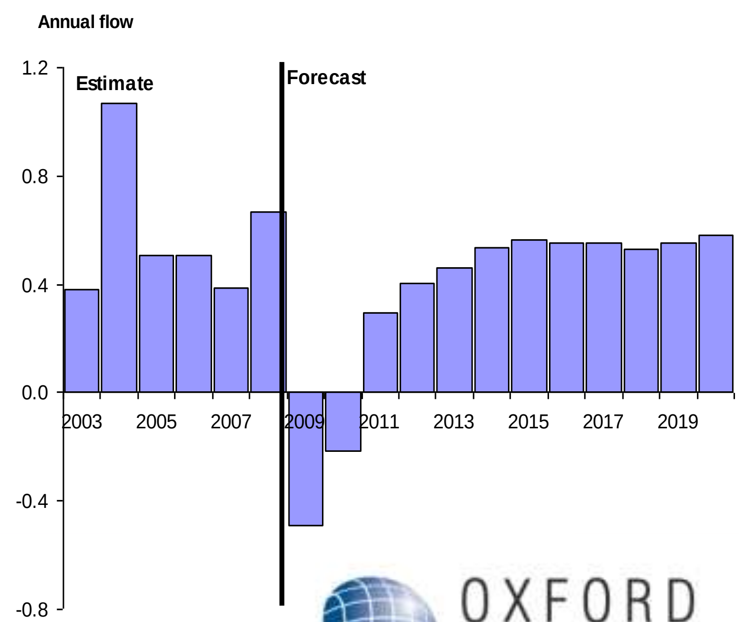
Source: Oxford Economics

NI: Architecture, building and planning



Source: Oxford Economics

NI: Computer science



Source: Oxford Economics

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Understanding the demographic outlook

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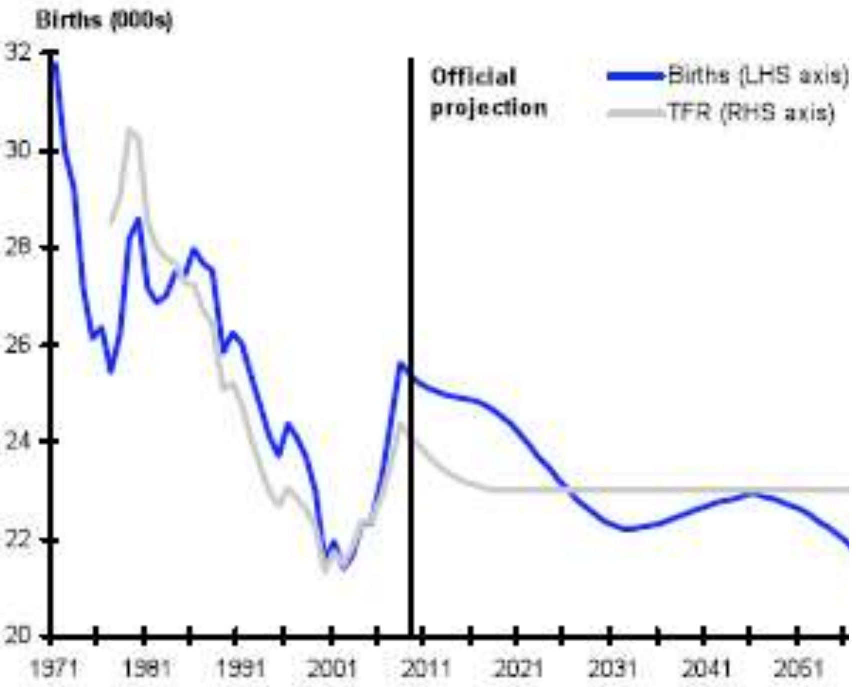
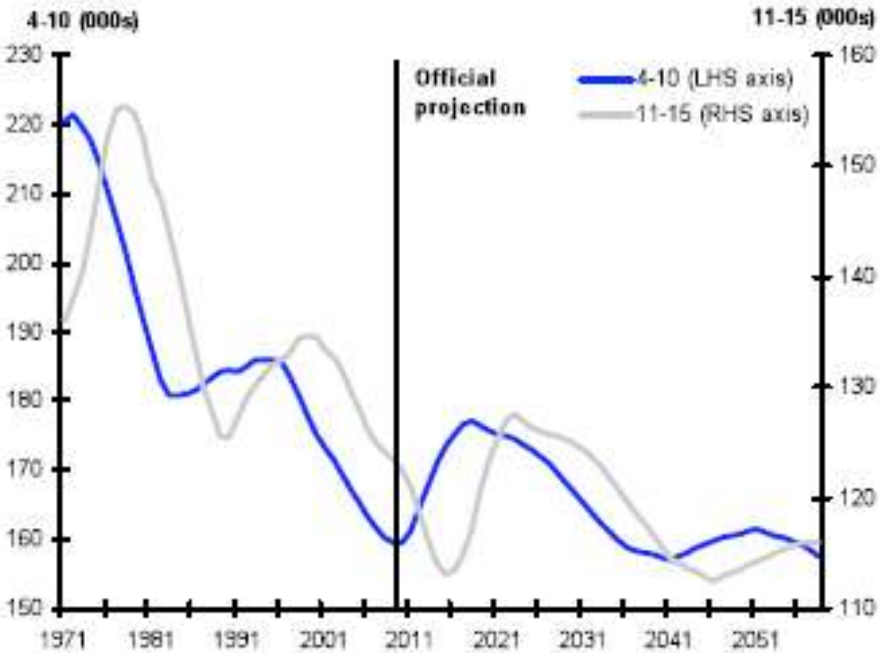
Short-term boost in demand is forecast, putting pressure on resources...



Source: NISRA



Source: NISRA

Given demand and funding pressures, innovative and more efficient ways of education delivery will need to be considered in the next 10-20 years to manage this projected 'temporary' growth.

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Concluding remarks – does our education system need to change and how?

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Short-term boost in demand is forecast, putting pressure on resources...

- Very different from the 'baby boomer generation of the past
  - Baby boomers collectively own close to £500bn of the UK's assets, which is four-fifths of the entire nation's wealth.
  - On average, young people owe £9,016 in personal debts and that's excluding mortgages or their share of the national debt, which is currently £2.2 trillion.
  - As young adults, baby boomers had a fantastic start in life, with free education, paid apprenticeships and work contracts that lasted an average of 10.4 years.
  - Today's youngsters become adults with an average of £20,000 in student debt and struggle to find jobs that last an average of 15 months.

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A changing world – important to consider career choices early to gain a competitive advantage...

- Increased global competition from developing countries such as China, India, Brazil, Russia etc
    - In both world export markets, and the increasingly global competition for talented labour
- World has changed immeasurably but long-term trends and fall out from recession
- Incomes will be squeezed in the future due to inflationary pressures stemming from the developing world (i.e. price of our imported goods increases)
- Look at situation today for young people – much harder but they need to know and think carefully about their decisions. An effective careers strategy is important
- But no need to be overly pessimistic – growth opportunities are there, just very different from last decade

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Cannot be complacent about education...

- Are we as good as we think? Is it enough to achieve the level of economic growth required in the future
- Other countries are overtaking – and in these countries skills are not the only area they are better than us at (lower costs, better infrastructure, stronger demand).
- Can we learn from education systems elsewhere?
- Why has education not changed over the past 30 years at the same pace as the economy?
- Not only school way of doing things needs to change – why are universities not offering learning opportunities in Far East?
- What is our approach to work placements? The give students a competitive edge

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What could a better education system in the future look like...

- Evolving curriculum in line with the changing needs of the economy
  - Mandarin as an additional language? Are German and French still the most appropriate languages? The Assembly advising on politics modules? ICT to included an i-phone application design module?
- Experts becoming more involved in the design of the curriculum
- E.g. GlaxoSmithKline advising on the design of science subjects; Treasury advising on economics etc
  - Over two thirds of businesses surveyed by the CBI indicated that they would be willing to work alongside schools to help shape STEM subjects
- Regular presentations from industry help inform students
- Shaping entrepreneurs – including developing your own business as part of business studies subjects (potentially making up marks for the final grade)
- Introducing a preparing for work subject (providing advanced excel skills, drafting briefings etc)

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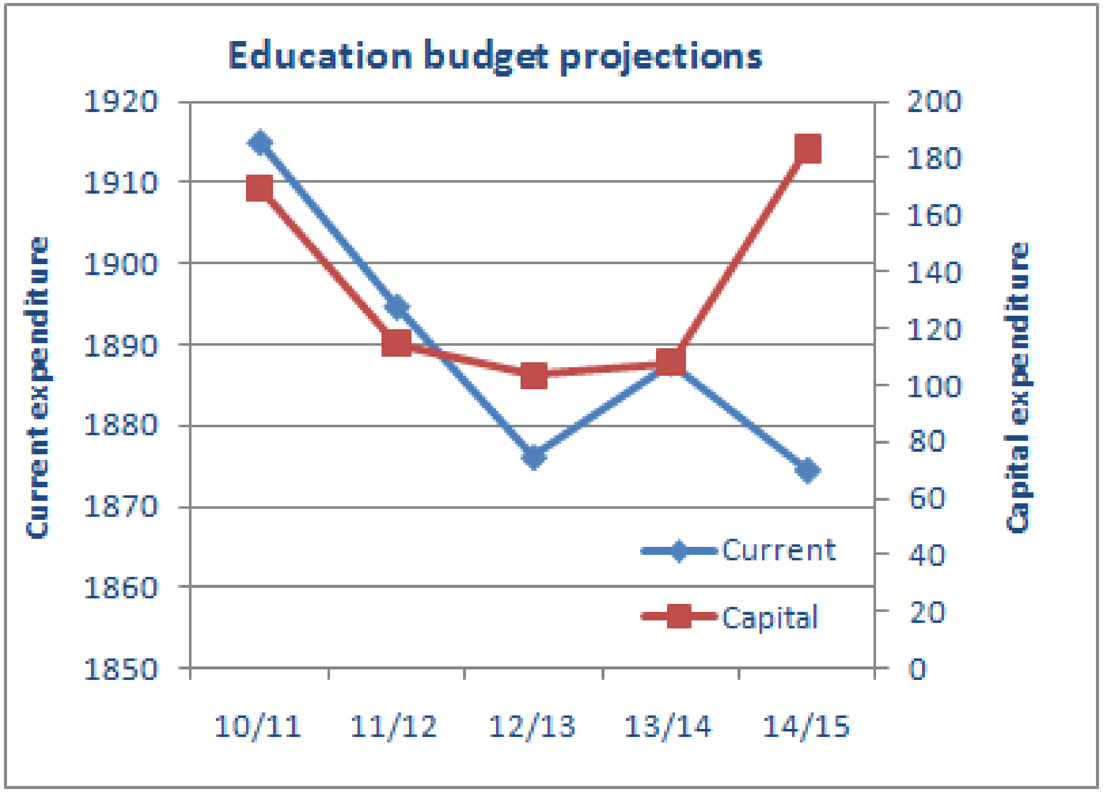
But where could the money come from...



- Is shared education an option?
- Collaboration on curriculum and equipment (sports, science labs etc)?
- Potential for amalgamation in some instances?
- Area based delivery?
- More independence?

- If a plan for change is of benefit to the economy the Executive may find it hard to turn down – the economy is their number one priority

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Global analysis for better decisions

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