

PRESIDENT'S REPORT

2012/13



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1. Introduction and Review of 2011/12Report

The academic year 2012/13 was dominated by the ongoing implementation of the National Higher Education Strategy. LYIT moved from its own submission to the process in July 2012 to the interpretation of these submissions and the Ministers final comments on the HEA's position in May 2013.

In the midst of this LYIT has continued to remain active on a number of fronts including the Connacht Ulster Alliance with IT Sligo and GMIT. The first year of work on this alliance has allowed the development of better working relationships among the Institutes and the progression of a number of projects of mutual benefit.

This has proven difficult as the impact of cutbacks has been felt on our own financial position. The Governing Body has worked to deliver a solution to our budgetary position with an increased emphasis on our Killybegs campus. However, the financial situation requires an all-encompassing solution that does not in any way point the finger at any specific Institute activity. At the end of the academic year 2012/13, a three year financial plan has been submitted to the HEA and the Institute is awaiting a response.

2. HE Strategy

2.1 Submission in Response to HEA Landscape Document

The above submission was made by the Institute to the HEA on 31 July 2012. This followed an extensive consultation process and excellent work by Dr Paddy Hannigan in compiling the document internally.

The final submission is attached at appendix 1. Since the submission, each higher education institution has been invited by the HEA to meet with representatives of the HEA and an international panel assessing the higher education landscape. LYIT's meeting was scheduled for Wednesday, 10 October 2012.

2.2 HE Strategy Implementation

The heads of all Irish higher education institutions were summoned to a meeting with the Minister for Education & Skills on Thursday, 22 November 2012. A copy of the Ministers speech on that occasion is appended (see appendix 2).

In advance of the meeting the HEA published the following documents:

- 1. A Study of Future Demand for Higher Education in Ireland
- 2. International Panel Report
- 3. Institutional Responses to the Landscape Document and Achieving the Objectives of the National Strategy for Higher Education: A Gap Analysis

These reports are included in appendix 3.

2.3 Meeting with Secretary General (Education and Skills)

The President and Head of Development met with the Secretary General of the Department of Education and Skills, Sean O'Foghlu and Anne Forde, Principal Officer on Thursday, 21 February 2013 in advance of the Institute's meeting with the HEA.

The meeting touched on a number of issues including:

- HEA Strategy Implementation
- All-island initiatives in Higher Education
- Current funding model for Higher Education
- Proposed visit to LYIT

As a result of the meeting the Secretary General did visit Letterkenny on Friday, 19 April 2013.

2.4 Meeting Joint Oireachtas Committee

The three Presidents from Letterkenny IT, IT Sligo and Dundalk IT appeared before the above committee on Thursday, 30 May 2013. The topic under discussion was cross border undergraduate mobility. The opportunity to meet the committee arose from the meeting of the British Irish parliamentary Assembly hosted by the Institute earlier this year.

3. Connacht-Ulster Alliance (CUA)

3.1 Introduction

The Strategic Alliance Agreement between the Institutes of Technology at Galway-Mayo, Sligo and Letterkenny was signed on 9 July 2012. The Chairmen and Presidents of the three Institutes signed the agreement and an implementation plan for the alliance was to be developed by the end of 2012. The Registrars from the three Institutes (Billy Bennett LYIT, Michael Hannon GMIT and Dr Brendan McCormack IT Sligo) have produced a draft implementation plan.

Project Managers from each of the three institutes (Dr Seán Duffy, LYIT, Tom Reilly, IT Sligo and Gerard Mac Michael, GMIT) co-ordinated activities detailed in the plan.

Following a meeting (October 16) of the Registrars and Project Managers a draft C-U Alliance Implementation Plan was presented for consideration to each Institute's Executive Board. A series of meetings of the Project Managers was scheduled in IT Sligo (October), GMIT (November) and LYIT (December). A draft template for recording on-going activity for the C-U Alliance has been prepared. This was used to record all activities/projects. Over time, summary reports will be issued detailing the status of projects and will serve as evidence of progress made on the objectives detailed in the implementation plan.

3.2 Executive Board Meeting

The Executive Board members from the C-U Alliance Institute's (GMIT, IT Sligo and LYIT) held a joint meeting at the Castlebar Campus of GMIT on Monday, 19 November 2012. The purpose of the meeting was to provide an opportunity for Executive Board members to meet one another, attend a brief presentation on each Institute and participate in a group exercise to discuss the development of the Connacht Ulster Alliance. The majority of members attended the meeting; Professor Terri Scott (President IT Sligo) was unable to attend due to a family illness.

At the start of the meeting presentations were made on each of the three Institutes detailing organisation structure, school/department/functional areas, staff and learner numbers. After an informative discussion on the

presentations, the members focused on recent reports on Higher Education in Ireland and the role that the C-U Alliance should play in the development of higher education in the Connacht Ulster region.

The group exercise (which was facilitated by GMIT) focused on (i) what the C-UA Technological University (TU) will look like in 5 years' time (ii) the ranking of each Institute against the TU criteria, (iii) in terms of achieving TU status, what is the greatest potential for success?, (iv) what is the biggest hurdle to achieving TU status?, (v) key actions that will most raise awareness and engage staff across all three partner institutions? The feedback from the meeting was collated.

3.3 Functional Area Meetings

Following the initial meeting (November 2012) of the Executive Boards from each of the CUA Institutes, a series of meetings were scheduled in January 2013 and February 2013. The meetings were structured around nine functional groups: the four academic areas (1) Business, (2) Science, (3) Engineering, (4) Tourism/Hospitality and (5) Development, (6) Research, (7) International, (8) Finance/Human Resources and (9) Registrars. The purpose of the meetings was to discuss the CUA implementation plan from a functional group perspective, to explore joint projects, ways of working together and to propose firm projects.

To date the functional groups have agreed to engage in a variety of projects which relate to the objectives and tasks detailed in the CUA Implementation Plan. The groups were exploring how to harness unique Institute specialisms and strengths for the CUA members and explore the flexible and on-line delivery of innovative programmes. The projects include; reciprocal borrowing from CUA libraries, joint development of on-line learner survey, sharing of expertise and development of on-line learning modules and application system for the recognition of prior learning (RPL) scheme, enhancements to teaching and learning practices, mapping of programme modules to allow mutual recognition of learners, mapping of programmes across CUA institutes with a view to identifying any gaps in provision to the region, investigating the joint promotion of programmes to international learners. Further face to face and video conference meetings are planned for each functional group in February and March.

The first meetings of the Engineering and Science groups took place in March and April. A joint meeting of the Schools of Business, Tourism, Hospitality and Humanities was scheduled for 18 June in IT Sligo. The Registrars' group initiated a number of projects including: Learning, Teaching and Assessment, Access, Recognition of Prior Learning (RPL), Student Union Collaboration and Learner Retention. The Registrars also started discussions with QQI in order to explore quality and qualifications issues.

A meeting of the CUA Steering Committee (Presidents, Registrars, Co-ordinators and Steering Committee Chairman Martin Cronin) was held at the GMIT Castlebar Campus on 18 April, 2013. At the meeting the progress to date on specific elements of the CUA Implementation Plan were reviewed and a summary of progress to date was presented by the co-ordinators. Projects underway, or being considered, by each of the functional groups include: joint on-line delivery of some specialised programmes, programme mapping with a view to mutual recognition of programmes to facilitate learner transfer, structured research training, joint Springboard proposal (Culinary Arts), development of special purpose awards, opening access to placement, learner recruitment fairs, development of a joint language policy, joint marketing on an international basis and the development of a CUA webpage.

The Chairs and Presidents met in Galway on Tuesday, 28 May to discuss progress on the Alliance. This meeting was in anticipation of the publication of the HE Landscape document.

4. Research

4.1 CoLab Activities

CoLab is LYIT's dedicated Research, Enterprise, Incubation and Innovation facility. It occupies 2,500 sq mtrs of state of the art Research, Incubation and Enterprise support accommodation in the heart of the campus. Originally built in 2000 with financial support from INTERREG and the International Fund for Ireland and called the Business Development Centre, the CoLab brand was created and the physical facility was extended in 2009 with financial support from Enterprise Ireland and the Department of Education and Science (now Skills).

Currently CoLab is 95% occupied and is home on a daily basis to a combined total of 109 graduate level knowledge workers across the following domains of activity:

- 25 high potential start up organisations,
- 8 funded participants on the Enterprise Ireland, New Frontiers Graduate Enterprise programme, run in conjunction with IT Sligo,
- 6 earlier stage high potential entrepreneurs,
- LYIT's WiSAR Research Centre,
- 6 LYIT Post Graduate Researchers,
- Tech NW, the Skillnets funded Project which has upskilled 360 people at work in Donegal, Sligo and Leitrim in 2012 as well as training 40 unemployed people.

Consistent with our Strategic Plan 2007-2013, CoLab represents an emerging ecosystem of activity supported by LYIT across the spectrum of Research, Innovation and Enterprise contributing to the development of a knowledge economy in the North West Region.

The North West Regional Science Park project, which is expected to be formally approved soon, envisages a 1,850 sq mtr fully funded Science Park at LYIT which should be available for occupancy in June 2015.

4.2 North West Regional Science Park

North West Regional Science Park is a collaborative cross-border project involving Northern Ireland Science Park (NISP), North West Regional Cross Border Group, ILEX (Derry City's Urban Renewal Company) and LYIT. In February 2011 the project partners submitted an application to Interreg/SEUPB for a £12m project to build a 50,000 sq ft Science Park facility at Fort George in Derry and a 20,000 sq ft extension to LYIT's existing CoLab.

NWRSP, as the project is called, involves bringing the successful NISP brand, operating model and support programmes to the NW region with LYIT, via CoLab, working collaboratively with the existing NISP in Belfast and the planned facility in Derry.

Over £12 million of funding, from the European Union's INTERREG IVA Programme, was announced on Friday, 30 November 2012 in Derry to extend the successful science park model currently operating in Belfast to the North West. If both sites achieve maximum occupancy by 2019 the project has the potential to create up to 285 added value jobs directly and add impetus to the creation of a knowledge-based economy in the region.

Project partners include the Northern Ireland Science Park (NISP) Foundation Ltd, Letterkenny Institute of Technology and the North West Region Cross Border Group (NWRCBG). The funding provided for the project, under the EU's INTERREG IVA Programme, is managed by the Special EU Programmes Body (SEUPB).

The NWRSP embodies the LYIT's Strategic Plan 2007-13 which emphasises our commitment to research, innovation and enterprise, and to developing collaborative strategic partnerships consistent with the National Development Plan, which in turn leverage our all-island capacity to create a regional innovation ecosystem in the North West. The NWRSP is tangible evidence of the success of this collaborative strategic and wider NW regional approach.

Match-funding for the North West Regional Science Park project has been provided by the Department of Finance and Personnel in Northern Ireland and the Department of Jobs, Enterprise and Innovation in Ireland.

Governance structures have been agreed for the North West Regional Science Park (NWRSP) project. LYIT's President will be the Senior Responsible Officer at LYIT. The (NWRSP) Project Board (quarterly) and Steering Group (monthly) meetings took place.

4.3 WiSAR Technology Gateway Programme:

The WiSAR Research Centre within the School of Engineering is at the final stages of approval for the Enterprise Ireland Technology Gateway Programme.

A successful outcome is anticipated shortly and if confirmed is expected to be worth in excess of €1 million over the next 4 years.

5. Finance

5.1 Internal Auditors Meeting

On Monday, 26 November 2012, a meeting took place between the Institute's Executive Board and Mary Rose Cremin and Tony Lane, representing Deloitte, the Institute's internal auditors. Deloitte provided an update to Executive Board regarding the sectoral Internal Controls Framework, and obtained input from Executive Board regarding the Internal Audit Plan for 2013. Following the meeting, Deloitte met with the Audit Committee to progress audit planning. An Internal Audit Plan for 2013 was subsequently drafted and agreed by the Institute Audit Committee.

5.2 HEA Budget Meetings

On Tuesday, 9 April 2013, the President, Sec/Financial Controller and Finance Manager participated by video conference in a 2013 Budget review meeting with the HEA. The President confirmed that LYIT had forecast an operating deficit of €1.975 million for 2013, and confirmed that this would be absorbed through the Institute's reserves. Mary Kerr, Deputy Chief Executive of the HEA, expressed concern regarding the underlying deficit position at LYIT.

The President and Sec/Financial Controller pointed out that, between 2008 and 2013, the core grant allocation to LYIT had decreased by 43%, employee numbers decreased by 18% and student numbers increased by 30%. The President also confirmed that the Institute would prepare a 3 - 5 year financial plan for submission to the HEA around May / June 2013.

On 26 April 2013, the HEA wrote to LYIT formally requesting a three year financial / business plan, indicating the strategy to be used to address the underlying deficit in the Institute's finances. The HEA requested that all strategies for reform of the cost base and associated structures and practices be considered, to include

rationalisation of provision, HR reform, closer collaboration with partner HEIs, expansion of student numbers and broadening of the cost base.

6. Estates

6.1 Car Parking

At its meeting on 26 July 2012, the Governing Body approved the recommendation to proceed with the tendering process in respect of the proposed car park construction at Port Road. On 3 September 2012, Letterkenny Town Council granted final planning permission for the construction. In compliance with the Department of Finance Construction Works Management Framework, the Institute had advertised on e-tenders inviting interested parties to apply for inclusion on a short list of candidates who would be invited to tender for the position of works contractor and project supervisor for construction stage (PSCS). This shortlisting process was completed by O'Connor Sutton Cronin on behalf of the Institute, and from a total of twenty four applicants, the six most suitable applicants were invited to tender for the work. Five tenders were received by the closing date, 2 October 2012. It was proposed, subject to Governing Body approval, to award the contract to SIAC Construction on the basis of lowest price.

The total project cost is estimated by LYIT's Estates office to be €1,221,000 inclusive of VAT. This includes construction costs, design team fees for the car park and master plan, equipment (CCTV and related items), clerk of works and other sundry costs associated with the project. The Students Union generously agreed to contribute an amount of €1,028,000 from the Capital Development Reserve towards the project. The balance of €193,000, including €70,000 expended to date in 2011 and 2012, was to be funded from LYIT central funds.

7. Institute Events

7.1 Executive Board Strategy Day

The Executive Board held its annual strategy day on Tuesday, 28 August.

7.2 Launch Irish Language Scheme

The Institute's second draft scheme under Section 15 of The Official Languages Act was formally approved by the Minister for Arts, Heritage and the Gaeltacht with effect from 20 June 2012. The purpose of the second scheme is to build upon the significant progress made by the Institute in relation to Irish language service delivery over the course of the first scheme. The first scheme shall continue to remain in force, along with any new commitments set out in the second scheme. The new scheme became a statutory instrument once approved by the Minister.

The scheme was launched on Thursday, 15 November 2012 at the Letterkenny Campus. The launch was publicised by means of a bilingual press release, a bilingual public notice and an interview on Raidió na Gaeltachta. The scheme document has been uploaded to the Institute website and has been circulated electronically to the appropriate agencies and public bodies and to all interested parties, including staff and students, in recent weeks.

The Institute will be expected to meet all objectives outlined in the scheme. Detailed audits will take place on a phased basis over the duration of the scheme and any failure to fulfil the commitments made will be subject to sanctions as decided by *An Coimisinéir Teanga*. It is intended that progress under Scheme 2 will be closely

monitored and recorded at quarterly intervals by means of electronic updates from Executive Council members. A copy of the second scheme may be viewed at <u>http://www.lyit.ie/aboutus/irishatlyit/officiallanguagesact/.</u>

7.3 Barry McNamee Event

Barry McNamee, 3rd year Bachelor in Business and Sports Coaching student, an LYIT Soccer Club and Derry City FC player was recently honoured by his peers at a lunchtime reception attended by Paul Hannigan, President, Billy Bennett, Registrar, Dr Lynn Ramsey, Head of Department of Law and Humanities, David Heraty, Student Union President, Paddy Gallagher, Sports Officer and the Clubs and Societies Finance Committee members as well as the LYIT Soccer Team and their coach Niall McGonagle.

The event marked the outstanding contribution made by Barry, a Scholarship recipient 2011-2012, who played for Derry City FC in their recent successful run in the FAI Senior Cup. Barry's ability to harness both his academic and sporting endeavours was recognised by Paul Hannigan, and others that attended the function.

He has for some time shown promise on the sporting fields and this achievement marks a milestone in Barry's young footballing career.

7.4 Class Reunion

Ian Harkin MD of Arklu, which manufactures the child's doll Lottie, graduated from the School of Business at LYIT in 1994. Ian has relocated his business from London to CoLab and in that context arranged a Class Reunion of his classmates from Business 1992-94. On Saturday, 24 November 2012, the Head of Development, who taught this class, hosted a visit from the group of 35 who were very impressed by the LYIT Campus and CoLab. Later that evening LYIT hosted a dinner in the Orchard Inn for this class all of whom are working and progressing well in their careers.

7.5 MBE

Ms Marianne Moutray, Head of Department of Nursing and Health Studies, received her MBE at Buckingham Palace on Wednesday, 7 November 2012 in recognition of her contribution to nurse education.

7.6 Science Week

This year the Department of Science at LYIT held 2 days of events for Science Week on Monday 12 and Tuesday 13 November 2012 at the Aura Leisure Centre in Letterkenny. A total of 65 national schools, accounting for just over 1600 pupils, had a science show presented by W5 on Science Magic.

7.7 Guidance Counsellors

The Institute hosted its annual meeting with Donegal Guidance Counsellors on 17 January. Eighteen Guidance Counsellors from 14 schools met with the President, Registrar, Academic Administration and Student Services Manager and the Heads of School of Science, Engineering, Business and Tourism. Issues discussed included:

- Student destination survey
- Student referrals to the Curve and student profile reports
- Sports scholarships
- Taster programmes
- Promotion of programmes

- Funding of Tourism programmes
- SUSI (Grants)

Individual programmes and programme areas were also discussed, including:

- Higher Certificate in Agriculture
- Bachelor of Business
- Sports Coaching
- Tourism
- Computing
- Food Science with Business
- Early Childhood
- Construction/Fire safety
- Opportunities: Arts /Humanities/English/Media/ Journalism/Science with Spanish/Geography

This meeting is extremely important in on-going relationships with the secondary schools in the county and we continue to get excellent support from them.

7.8 Sports Scholarship

Twelve Sports Scholarships were awarded in 2012/13 at Letterkenny IT by President of the Institute, Paul Hannigan. Among those selected for the €1100 award were:

Josh Mailey, Letterkenny (Soccer), Dylan Ramsey, Ballybofey, (Soccer), Conor Parke, Letterkenny (GAA), John Manley, Glenealy, Co Wicklow, (Hurling), Patrick McNulty, Ballina, Co Mayo, (GAA), Aine Higgins, Co. Mayo, (GAA), Denise Doherty, Malin , (Soccer), Conor Dorrian, Letterkenny (Basketball), Chantelle Grant, Letterkenny (Soccer), David O'Reilly, Co Mayo, (Rugby), Ciaran McBride, Letterkenny, (Athletics), Barry McNamee, Ramelton, (Soccer),

The awards were presented at a lunch in the Radisson Blu Hotel on Thursday, 28 February 2013. The awards were introduced by Paul Hannigan, who complimented the efforts of all 48 applicants, noting that there had been consistent interest in the Sports Scholarship scheme in the Institute since its introduction in 2006. In maintaining academic standards, the selection committee confirmed that all successful applicants had reached the required academic standards in their respective courses and had been referred to the final stage for award.

7.9 Architectural Technology Showcase

The BSc in Architectural Technology graduate exhibition was opened on Friday, 24 May by Mr Tom Parlon, Director General of the Construction Industry Federation (CIF). The exhibition showcases graduate student project work across all programmes in the Department of Civil Engineering and Construction. All final year Architectural Technology students presented drawings and physical and computer models in the architectural studios and the open architectural display area. Final year Civil Engineering and Sustainable Construction Management project poster presentations were displayed in the adjacent first year drawing office. Fire Safety Engineering Project drawings and a range of drawings from the final year Building Energy, Services and Design projects as well as Construction & Fire Technology were also displayed.

This is the fourth year that the Department has put on an end of year exhibition and it is proving to be a successful event on the academic calendar with LYIT staff and students joining in on the celebration. Final year

Architectural Technology students bring along their parents and family and mingle with local professionals who also attend to view the work.

7.10 SciFest Competition

SciFest is a series of one-day science fairs for second-level students hosted at local level in schools and at regional level in the Institutes of Technology, culminating in a national competition for the overall winners from the institutes. This year the Department of Science at LYIT hosted the Northwest SciFest event on Friday, 10 May. A total of 48 projects were submitted with over 150 secondary school children in attendance. The following schools participated: St. Eunan's, Letterkenny; St. Columba's Comprehensive, Glenties; Abbey Vocational School, Donegal Town; Pobalscoil Ghaoth Dobhair, Doire Beaga; Colaiste Cholmcille, Ballyshannon; Colaiste Ailigh, Letterkenny; and Rosses Community School, Dungloe.

The awards were as follows:

SFI/Discover Science and Engineering Best Project:	Colaiste Cholmcille
Intel Award: Best Physical Science or Technology Project:	Colaiste Ailigh
SciFest Display:	Colaiste Ailigh
Newstalk Best Communicator	St. Columba's Comprehensive
Pharmachemical Chemistry:	Colaiste Ailigh
NCE-MSTL Mats in Science:	Abbey Vocational School
Sustainable Energy (SEAI):	Abbey Vocational School
Discover Space (ESERO):	Colaiste Cholmcille
Discover Space (ESERO) Award Teacher:	Caitriona O'Donnell, Colaiste
	Cholmcille, Ballyshannon

RSC Teacher of Chemistry Award:

LYIT Awards

Physical Science (Senior/Intermediate) Physical Science (Junior) Life Science (Senior/Intermediate) Life Science (Junior) Technology (Senior/Intermediate/Junior)

e Shane O'Breacain, Colaiste Ailigh, Letterkenny

Colaiste Ailigh St. Eunan's Pobalscoil Ghaoth Dobhair Abbey Vocational St. Eunan's

7.11 Memorial Services

Philip Corcoran

On the evening of 16 October 2012, a Memorial Service was held for a deceased member of the lecturing staff of the Department of Nursing, Philip Corcoran, who died on 5 June this year. The service was very well attended by both staff and students of LYIT and fitting tributes were delivered by Mary Dunnion, a colleague of Philip, and Sinéad Murphy, one of his former students. Volunteers from staff and students provided the music for the service. Mr Paul Hannigan, President of LYIT, also spoke, and presented bouquets of flowers to Philip's widow and mother. The Chaplain organised the service in collaboration with the School of Science, and presided.

Owen McGinley

A memorial service was held in LYIT for deceased member of the School of Engineering, Owen McGinley on the evening of Thursday, 2 May. The service was well attended by students and staff, principal among whom were his wife, Angela, and sister, Anne, also members of staff at the Institute. The Chaplain presided at the service with readings and prayers read by Owen's colleagues Richard Alcorn and James Molloy, and a fitting tribute given by

Hugh Carron from the Department of Mechanical Engineering. Pat Campbell of the Department of Design organised and led the music for the service which was performed by students and staff. Paul Hannigan, President of LYIT, delivered an apt address at the conclusion of the service and presented bouquets of flowers to Angela and Anne.

8. Conferences/Seminars

8.1 Enterprise Ireland Annual Report - Donegal

On Thursday, 5 July, Enterprise Ireland Chairman Hugh Cooney hosted an event in Donegal Town which was one of a number of regional events held to publicise Enterprise Ireland's recently published annual report. The President attended on behalf of LYIT. Paul Mc Nulty, CEO of Trinity Innovations Ltd - a client company based in CoLab, made a presentation to the audience as one of Enterprise Ireland's clients, promoting the ability to do business in County Donegal.

8.2 Local Authorities Members Association (LAMA) Conference

The President was invited to speak at the above conference on Friday, 28 September 2012. It was an opportunity to outline the changes brought about in the IOTI sector but also more specifically in LYIT in response to the ongoing recession.

8.3 British-Irish Parliamentary Assembly

The Institute was requested to host a meeting of the British-Irish Parliamentary Assembly on Monday 4 and Tuesday, 5 March 2013. This was an opportunity for the Institute to showcase its facilities to a large audience including An Taoiseach, Enda Kenny, TD.

8.4 Irish Signals and Systems Conference (ISSC)

Over the past 24 years, the Irish Signals and Systems Conference (ISSC) has become established as the premier conference in Ireland addressing all aspects of signals and systems. The conference focuses on Digital Signal Processing, Control and Communications, and encompasses algorithm and system modelling, design, and implementation, for a broad range of applications. The conference this year included an additional topic on Systems and Information Security which covered areas such as Secure Coding, Cloud Infrastructures, Mobile Security, Cryptography, Watermarking, Steganography and Digital Evidence/Forensics. The Institution of Engineering and Technology (IET) is a world leading professional organisation sharing and advancing knowledge to promote science, engineering and technology across the world and will publish all accepted papers in a digital online proceedings. Other sponsors this year included MCCI, Rohde & Schwarz, The UKRI chapter of the IEEE Computational Intelligence Society (CIS), Rits Computer Forensics (also sponsoring a paper prize of a Kindle), Xilinx (sponsoring another paper prize with an iPad) and Pramerica.

ISSC 2013 attracted submissions from all over Ireland and abroad including, LYIT, DIT, AIT, Cork University, DCU, Trinity, Maynooth, Queen's, UU, CIT, ITT, Blanchardstown, Intel, India, University of Germany, Beijing University China, Mississippi State University and the University of Calgary. The plenary speakers provided interesting conversation on the day and included: Dr Vivienne Mee, Mr Brendan Farley, Dr Kevin Curran, Prof Dr JM Blackledge, Dr David Dampier and Dr Mike Smith. More details can be found at: www.issc.ie

8.5 Advisory Board U-Multiranks

The President has been nominated by Eurashe to sit on the above committee of the European Commission. This is a body which is developing a mechanism for the comparison of academic institutions against new benchmarks. The President attended his first meeting of the board on Friday 26 April 2013.

8.6 APP Conference

LYIT hosted the "Advocates for Personal Potential" (APP) seminar on Friday, 19 April. The theme for the seminar was "An inclusive society for adults with disabilities" and to this end LYIT gave a presentation on all the services that are available for students with various disabilities throughout the Institute.

The seminar was very well attended with representatives from the HSE, advocacy groups, professionals and users of the services present (in total over 200 participants). There has been several follow-ups since the seminar with interested parties resulting in an occupational therapists referring potential students to our programmes.

8.7 Eurashe Conference

The President attended the Eurashe Annual Conference in Split, Croatia from Wednesday, 8 to Friday, 10 May. The theme of the conference this year was "Higher Education – Making the Knowledge Triangle Work". As the Irish representative on the Council of Eurashe, the President attended on behalf of IOTI.

9. Visitors

9.1 Nataly Ritter Visit

On Tuesday, 25 September 2012, Ms Nataly Ritter and a number of her friends and relatives unveiled a plaque in the new Science facilities in memory of Birdie Docherty, a lifelong friend of Nataly's who was originally from Donegal.

This was a very important event for the Institute and we are indebted to Ms Ritter for her very kind donation to the Institute.

9.2 Visit by An Taoiseach, Enda Kenny, TD

An Taoiseach, Enda Kenny, TD visited the Institute on Friday, 5 October 2012 to officially open our new suite of science laboratories. This was a very successful event with An Taoiseach taking time to mingle with guests and particularly spending time with our students. There is no doubt that it was an important event for LYIT.

9.3 Meeting with Sinn Féin TDs

The President met with Pearse Doherty, TD and Padraig MacLochlainn, TD on Monday, 15 October 2012. This meeting was instigated at the TDs' request and offered a useful opportunity for an exchange of views on the emerging higher education landscape and related topics.

9.4 Visit of Secretary General and Deputy Assistant Secretary - DoES

Mr Sean O Foghlú, Secretary General and Ms Mary Doyle, Deputy Assistant Secretary visited the Institute on Friday, 19 April. This was the first occasion that the Secretary General of the department had visited the Institute during the tenure of the current President.

On arrival the visiting delegation met with members of the Executive Board in CoLab. They then visited with a number of client companies in CoLab including the Wisar research laboratory.

After a private meeting with the President, they then had a working lunch with the Executive Board. This engagement was extremely useful as Board members got an opportunity to articulate their views on the emerging higher education landscape. The Secretary General was extremely happy with this engagement and appreciated the frank exchange of views.

9.5 Meeting Pat Colgan - SEUPB

On Tuesday, 21 May 2013, Pat Colgan, Chief Executive of Special EU Programmes Body (SEUPB), visited LYIT and met with the President, Head of Development and Secretary Financial Controller. Mr. Colgan outlined the consultation process that is currently underway with regard to the next round of EU funding under the INTERREG V programme. Where applicants are successful, this programme will result in 85% funding of crossborder projects under four distinct strands, namely Research and Innovation, Shift towards a Low Carbon Economy, Environmental Protection and Resource Efficiency and Social Inclusion and Combating Poverty.

The President provided an overview of LYIT's experiences in cross-border collaboration. Mr Colgan stated that LYIT could consider seeking INTERREG V funding under the Research and Innovation strand, either through participation in an academic cluster incorporating a cross-border element, or through an arrangement with an international research partner.

9.6 Boston Delegation

On Friday, 10 May a high level Delegation from the State of Massachusetts visited CoLab. The Chairman of LYIT's Governing Body Mr Henry McGarvey, the Head of Development, Head of Business and CoLab Manager represented LYIT at the meeting.

The Delegation was led by Therese Murray, President of the Senate of the State of Massachusetts and consisted of her senior advisors and representatives from University of Massachusetts, Mass Life Sciences Institute and Mass Technology Collaborative.

The Massachusetts Delegation were interested in further developing links with Ireland, North and South. Over the course of the 2 week visit, the Delegation also held meetings in Belfast and Derry as well as attending a major EU-US Health Conference in Dublin.

9.7 John Cullinane Visit

John Cullinane is a very successful Boston businessman whose parents emigrated to the US from Dunmore East Co Waterford in 1929.

On Sunday, 26 May, John visited CoLab where he and his colleague Frank Costello met with the Chairman of LYIT's Governing Body, Mr Henry McGarvey, LYIT's President Paul Hannigan, Head of Development, Head of Business and CoLab Manager and representatives of 10 CoLab client businesses.

Mayor of Donegal Cllr Frank McBrearty, Senior Council Officials, Steve Orr Northern Ireland Science Park, and Willie McCarter formerly Chairman of IFI also attended the meeting.

John Cullinane met each of the CoLab businesses individually and was able to provide valuable business guidance to them.

9.8 Taiwanese Ambassador

On Friday, 26 April 2013, in the absence of the President who was abroad on business, the Head of Development and Ms Jill Murphy facilitated a visit to LYIT by Mr Harry Tseng, Taiwanese Ambassador to Ireland and the Third Secretary in the Taiwanese Embassy, Ms Kathy Ko.

The visit to Donegal was coordinated by Senator Jimmy Harte. During the visit to the NW Region, Mr Tseng also met representatives from the Chamber of Commerce and Businesses in Donegal.

9.9 Meeting Safety Technology Ltd (STL)

Paul Hannigan President, LYIT, John Andy Bonar, Head of Development, Denis Mc Fadden, Head of School of Engineering, Dr John Doran (Wind Energy Centre) met with representatives from Safety Technology Ltd – Bob Dickens Managing Director, STL, Ben Williams, Sales Development and Training Manager on Monday, 20 May.

The objective of the meeting from the LYIT perspective was to enter into a strategic alliance with a partner to improve the employability of our graduates and embed approved training modules into our wind energy programme. The IDA and EI have been targeting companies in this training sector for the Killybegs region for the last while. Having a company such as STL partnered with an IOT and based in Killybegs fits well with regional and national policy.

Safety Technology Ltd has Global Wind Organisation (GWO) and Renewable UK (RUK) approval_for_Working at Heights, First Aid and Manual Handling training. By forming a strategic alliance with STL, LYIT would be able to piggy back on their successful trade accreditation process in the UK. From STL's perspective they would be able to enter the Irish market (Low risk entry mechanism) with a proven base and partner, in the shape of the Wind Energy Centre at our Killybegs Campus. From an LYIT perspective, having GWO and RUK approval would open up an industry market for our programmes. Industry wants a one stop shop for safety and basic technical training and it is our goal at the Wind Energy Centre in Killybegs to be able to provide accredited industry based training in a cost effective and efficient manner.

9.10 Engineering Visitors

LYIT's Department of Civil Engineering and Construction was pleased to welcome and play host to local and international students and staff who are partners in Comenius and Leonardo da Vinci projects, under the European Commission's Life Long Learning Programme 2007-2013. The Comenius project is the 'Houses of Europe' project, with Gairmscoil Chú Uladh, Ballinamore being joined by partners from Germany, Spain and Cyprus in their quest to determine the ideal European house specification.

In tandem with the Comenius project, LYIT is a partner on the Leonardo project 'The Sustainable Construction Company' with Nyköping Upper Secondary School, Sweden; IES Geneto, Tenerife and Max-Born Berufskolleg,

Germany. Focusing on sustainability, the project also looks at the development of entrepreneurship in vocational education, the transition between education and working life, strengthening self-esteem in vocational education training and improving communication skills. A social media network for both projects has been established on http://houseofeurope.ning.com.

Funding under Leonardo is available to public and private bodies and institutions involved in vocational education and training. The project runs over two years and LYIT has been granted €14,000 to fund a minimum of eight (primarily staff) mobilities to attend the subsequent meetings in La Laguna, Tenerife; Recklinghausen, Germany and Nyköping, Sweden where the final aim of the project, to build a small prototype European house, will be achieved in April/May 2014.

During their week in Letterkenny, the Leonardo partners were given a talk on how work placements are conducted on our Wind Energy programme by Dr John Doran and they visited a local construction company (MacGabhann Architects) to find out how it is run, with a presentation/workshop by Antoin MacGabhann. The entire group (joined by some of our students) took a day trip to the new Causeway Visitor Centre at the Giant's Causeway, Co. Antrim, where a tour by the Building and Services Manager was organised outlining the sustainable technologies employed in the centre. The group then returned to the Ilex regeneration area at Ebrington in Derry with Tony Carr and walked across the Peace Bridge.

Lecturers and students in both Engineering and Business were very welcoming to the international visitors, either in meeting with them, formally and informally, or inviting them into their classes. The group was introduced to the international work of the Development Office through John Andy Bonar and Dr Sylvie Walsh. A small gift was presented to each partnering country at the end of the week and token gifts also received. It is evident that the visitors enjoyed being part of LYIT for the week with the Swedish teachers choosing to attend our conferring ceremonies on the Friday, after the other groups had left. An email from one of the German teachers, sent on her arrival back in Germany, described the visit as 'exceptional'. The good weather did help!

10. Miscellaneous

10.1 North South Ministerial Council

On Wednesday, 4 July 2012, the President met with Margaret Stanley, who had been recently appointed to the North South Ministerial Council as Acting Joint Secretary. This was a fact-finding mission regarding crossborder activity in higher education and the President took the opportunity to brief her on a number of initiatives but particularly the evolving NWRSP.

On Friday, 6 July, the President attended a reception in Derry City hosted by the NSMC to coincide with the Clipper Race activities in the city. This event was primarily organised around The Gathering in the Republic of Ireland and the UK City of Culture in Derry for 2013. Mr Tim O'Connor, who spoke at our 40th anniversary celebrations last year, is the national chairman of The Gathering in the Republic.

10.2 Tip O'Neill Centenary Commemoration Celebrations

This event was held in Buncrana on Friday and Saturday, 7 and 8 September. The Institute was represented at all events and it is hoped to develop a working relationship in Boston with Mr Tommy O'Neill, son of Tip O'Neill, through the Institute's international activity.

10.3 Finn Harps Scholarships

On Friday, 20 July, LYIT and Finn Harps launched a new scholarship scheme in the presence of John Delaney, Chief Executive of FAI, and Giovanni Trapattoni, international team manager.

Since the launch, Finn Harps have been in contact regarding the strengthening of the relationship with the Institute through work placements and other initiatives.

10.4 Donegal Branding Initiative

As part of the work of the County Development Board, supported by DLDC, the President participated in a Steering Committee to develop a brand for County Donegal.

10.5 Meeting with Bord Iascaigh Mhara (BIM)

A meeting was held on October 17 between representatives of Bord Iascaigh Mhara (BIM) and LYIT. The purpose of the meeting was to progress the on-going relationship between both organisations. During the past year BIM and LYIT have collaborated on a number of projects, including seafood recipe testing, product development, crab meat workshop for industry and postgraduate learner placements.

BIM operates a very successful Seafood Development Centre (SDC) in Clonakilty, Co. Cork. The centre offers seafood companies the opportunity to test and trial their innovative product and process ideas in state of the art facilities, before committing to full commercialisation and capital investment costs. Research conducted by BIM, amongst Irish fish producers, has shown that outside of the South East and South West region, Irish seafood enterprises feel that the services provided by BIM SDC are not available to them. The main reason for not being able to use/access the service is the distance between Western and Northern based fishing communities and the SDC in Clonakilty, Co. Cork.

The report of the High Level Group to Minster Coveney TD on the Jobs Initiative for the Killybegs Region (October 2011) contained a number of action points aimed at developing added-value opportunities for local enterprises. Two of the key actions (page 11) relate directly to LYIT. They focused on the introduction of a graduate placement programme and the development of a seafood innovation hub in LYIT linked to the BIM Seafood Development Centre in Clonakilty.

The 'key actions' formed the basis of further discussions which focused on how to achieve the above objectives and enhance the partnership between BIM and LYIT. A series of actions were agreed at the meeting, they include (i) The formation of a LYIT working group to progress the BIM/LYIT project, (ii) Organise a visit by representatives from LYIT to the BIM Seafood Development Centre (SDC) in Clonakilty, Co. Cork, (iii) Develop placement opportunities for LYIT learners in regional seafood enterprises via specific undergraduate and postgraduate programmes, (iv) Investigate the formation of a North West seafood innovation hub within LYIT linked to the BIM Seafood Development Centre in Clonakilty and (v) Organise an information workshop (or series of workshops) for the NW seafood industry.

Following on from the Planning meeting held in October 2012, four LYIT representatives (Dr Gertie Taggart, Dr Anne Nelson, Mr Ciarán ó hAnnracháin and Dr Seán Duffy) visited the Bord Iascaigh Mhara (BIM) Seafood Development Centre in Clonakilty, Co. Cork. The centre offers seafood companies the opportunity to test and trial their innovative product and process ideas in state of the art facilities, before committing to full commercialisation and capital investment costs. On Monday December 3, LYIT attended a meeting over dinner with representatives of BIM to discuss the development of a partnership between both organisations. On Tuesday, December 4, the LYIT representatives visited the SDC and received a tour of its facilities along with a thorough explanation of the SDC operations. Further discussions were held with regard to investigating the formation of a North West seafood innovation hub within LYIT linked to the BIM Seafood Development Centre in Clonakilty.

BIM has proposed a three hub structure for its activities:

- Dublin
- Clonakilty (BIM in partnership with UCC)
- Donegal (BIM in partnership with LYIT)

A summary report was prepared for the Executive Board and the Governing Body. The LYIT Executive Board has expressed their support for the project and wish to see it progress to the next stage. The next steps involve the discussion of and decisions to be made on the following:

- 1. Financial Investment
- 2. Location (and space provision) of the Seafood Development Centre
- 3. Appointment of Centre Manager

A meeting was held, on 5 February 2013, with representatives from BIM (Donal Buckley and Dr Michael Gallagher) and LYIT (Paul Hannigan, Dr Gertie Taggart and Dr Seán Duffy) to discuss the next steps to be taken. A twin track approach has been agreed. This will involve (1) the appointment of a Food Technologist/Culinary Specialist to be funded by BIM and based on the Killybegs campus and (2) the preparation of a detailed proposal for the establishment of a Food Development Centre in LYIT.

The food technologist/culinary specialist will engage with the seafood industry and BIM. This person will focus on the development of seafood products with specific emphasis on 'Boarfish' and 'Blue Whiting' as value added products. To progress the LYIT/BIM project, which has the ultimate aim of establishing a Seafood Development Hub/Centre at LYIT, a detailed proposal document is required once developed, the document will be used to initiate discussions with potential funding bodies.

10.6 Graduation - NUIG

The first cohort of students from the BA Riararchán Gnó (BARG) programme was conferred on Thursday, 25 October at NUI Galway. The unique programme is a collaboration between LYIT and NUIG and is delivered in Acadamh na Ollscoláiochta in Gaoth Dobhair by academic staff from both institutions. Graduates successfully completed a four year honours programme which combined study with workplace learning and study abroad. BARG graduates learn to work effectively through the medium of Irish and English in a bilingual administrative and business environment. The graduating class of 2012 has already progressed onto further study and employment at home and abroad.

10.7 Letterkenny Chamber of Commerce Ball

This year's Letterkenny Chamber of Commerce Awards and Dinner took place on Friday, 16 November 2012 in the Mount Errigal Hotel.

Operating to a different format, the event was very successful, with over 300 guests attending. LYIT/CoLab sponsored the Business Start-up Award, which was presented in the Presidents absence, by the Head of Development, to the winner, Kelly's Centra of Mountain Top.

Other winners on the evening included Safetech/Business Excellence, Evolve Menswear/Retailer of the Year, Gartan Technologies/Exporting, Mangan Tours/Customer Service, Swilly Group/Marketing Excellence, Ben Sweeney/Hall of Fame and Station House Hotel/Overall Winner.

10.8 FoI Training

On Tuesday, 27 November 2012, Executive Board and members of Executive Council participated in in-house training in the matter of Freedom of Information and the relevance of FoI legislation to the Institute.

The Institute's FoI Officer has recently undertaken training in the area of Data Protection. It is anticipated that a Data Protection policy will be presented to the Governing Body for approval in early 2013.

10.9 Hillsborough Castle

The Chairman and President attended a dinner in Hillsborough Castle on Tuesday, 29 January hosted by Prince Andrew. The dinner was organised to recognise the role of philanthropy in commercialising technology in the Northern Ireland economy. The LYIT representatives were invited by Mr Norman Apsley, Chief Executive of Northern Ireland Science Park (NISP) and recognises the developing relationship with NISP since the announcement of funding for the NWRSP.

10.10 Regional Tourism Briefing

The President attended the Fáilte Ireland Tourism Briefing in the Great Northern Hotel, Bundoran on Thursday, 24 January. This briefing is an annual event and is invaluable in identifying trends in the tourism market, how these affect the North West and particularly their impact on courses emerging from the School of Tourism.

10.11 CIOB Competition

On 25 January, the Northern regional heat of the Chartered Institute of Building (CIOB) 'Student Challenge 2013'was hosted by the School of Engineering at LYIT and included 7 groups of students from colleges and universities across Ulster. The teams were tasked with solving a construction management related problem designed to showcase their construction knowledge in front of CIOB members, judges, lecturers and fellow students - a pressurised and nerve racking task.

Representing LYIT were Eilis Mee (Carrickmacross), a BSc in Quantity Surveying year 3 student, Hugh Gallagher (Letterkenny) and Martin Sheridan (Portnablagh), both in 4th year BSc Hons Fire Safety Engineering, and Paul Bradley (Buncrana) studying the BSc Hons in Sustainable Construction Management (4th year). Austin Sammon and Rory McShane, Lecturers at LYIT, mentored the LYIT team having previously accompanied teams to the competition in Northern Ireland and winning twice in the last three years. This year, the first time it was held in Donegal, the LYIT team were runners-up narrowly losing out to the University of Ulster with the South Eastern Regional College (Lisburn) team following a close third.

10.12 Donegal Food Provenance Event

In July 2012, Donegal County Enterprise Board published the 'Donegal Food Strategy'. The document sets out a food strategy for Donegal County which covers the next five years and has been created to provide vision and direction to all stakeholders involved in food within the county. LYIT is represented on the Donegal Food Strategy Steering group by Dr Seán Duffy (Head of School of Tourism). The steering group has met on several occasions since September 2012. It is coordinating a series of actions including the promotion of Donegal Food and a start your own food business programme. The School of Tourism, in conjunction with Fáilte Ireland, recently hosted an industry event designed to promote the Donegal Good Food Strategy. Over 50 members of the hospitality and tourism industry from across the North West gathered on 29 January, 2013 for a 'Master-class and Networking Event' on 'Growing Business Success with Food Provenance'.

The event, organised by Fáilte Ireland, was an opportunity for the attendees (a mixture of hospitality owners, managers and executive chefs) to gain insight and advice from top international chef and kitchen consultant John Wood together with Gary O'Hanlon, Donegal Food Strategy Ambassador, (graduate of Tourism College Killybegs and Head Chef at Viewmount House, Longford). Well known food and drinks blogger Oisin Davis and all-Ireland Cocktail champion, demonstrated how local food ingredients can play a role in showcasing some great Irish culinary cocktails. Hosting the event provided a great opportunity for School of Tourism staff and learners to engage with industry experts and benefit from the latest knowledge and trends in food tourism. The locally produced Elderflower Cordial used by Oisin Davis during his cocktail demonstration was developed by one of our current students – Tanya Keane as part of the Food Product Development module on the BA in Culinary Arts programme. The importance of using seasonal food locally sourced is a significant theme running through all our culinary arts programmes, we were able to demonstrate this by providing a lunch for those attending the event based on produce from Donegal.

10.13 Relay for Life

The official launch of Relay for Life 2013 was held in the Mount Errigal Hotel on Monday, 28 January. LYIT is again one of the corporate sponsors for the event and we are delighted to host the event in May of this year.

10.14 Donegal Enterprise Week

Enterprising Donegal Business Week took place across Donegal during week beginning Monday, 4 March.

As is now traditional, LYIT worked to support the County Enterprise Board's promotion of Entrepreneurship in Donegal in a number of ways including hosting world renowned US Professor Heidi Neck's well attended Visiting Lecture on Entrepreneurship and an Inventors Workshop with Cruickshank and Co Patent Attorneys, both events being held at CoLab.

CoLab also hosted an event for Graduates looking to set up their own Businesses.

The President of LYIT chaired a session in Donegal town entitled Improving Your Business through Team Development including contributions from Donegal Manager Jim McGuinness, Brian Leslie of SeaQuest and Ramona Nicholas of Cara Pharmacies and Dragons Den fame.

The Head of Development was an adjudicator in the Business Awards competition and Eugenia Moran Lecturer in Business was a judge in a new joint initiative between LYIT and Donegal County Enterprise Board designed to encourage LYIT students to consider setting up their own businesses. In association with Donegal County Council, LYIT has already committed to supporting Donegal County Enterprise Board with its Discovery Zone programme for 2013 and looks forward to attending the Business Awards Presentation evening in Ballybofey on Friday, 22 March 2013.

10.15 Zhida Ice

Recently as part of LYIT's Internationalisation Strategy and our prioritised focus on China, Jill Murphy made contact with a new Chinese business which the Irish Government and IDA Ireland have invited to locate in Dublin. Zhida International Cultural Exchange was established to deliver the Succeed in Ireland initiative which is part of the Irish Government's 2012 Action Plan for Jobs.

Zhida's mission is to develop cultural, educational and business links between China and Ireland and they are currently recruiting Irish Businesses to participate in a Trade Mission which will depart for China in late April.

With significant support from Zhida, 15 Errigal College Transition Year students to whom Jill Murphy has taught Mandarin, accompanied by 2 teachers, spent 12 days in Shanghai in August 2013 on an educational exchange programme.

On Thursday, 21 February 2013 LYIT hosted a visit from the 2 principals of Zhida, Wynne Liu and Shaun Liu.

During the course of the day the delegation met with the President, Head of Development, Head of Business, Jill Murphy and visited CoLab, Errigal College as well as making a presentation to the Mandarin Chinese Lifelong Learning programme.

As a follow up to this initial engagement the Head of Development and Jill Murphy on behalf of LYIT visited Beijing, Zibo, Jinan and Shanghai in China from 1 -10 March 2013 to initiate relationships with Recruitment Agents, Universities and Vocational Colleges and Businesses to advance this strategic priority.

Good initial contacts have been established and LYIT is hopeful that these efforts will bear fruit in the not too distant future.

10.16 Non-EU International Students

Last year following a tendering process, LYIT commissioned Venture Advancement to identify potential non exchequer revenue generating possibilities and to assist in developing plans to exploit such opportunities.

Among those identified the area of short intensive comparative International Studies programmes emerged as an area of growing demand.

With assistance from Venture Advancement, Marianne Moutray Head of Department of Nursing and Health Studies at LYIT hosted our first pilot group of Post Graduate Nursing Students from Notre Dame University, Baltimore, Maryland, USA.

The Students attended a series of comparative nursing sessions at LYIT and at Clinical locations across Donegal.

10.17 Pramerica Presentation

On Tuesday, 5 March 2013 a group of Pramerica employees were presented with Certificates in Managing and Mentoring People at an event hosted by the company. Twelve employees at supervisor/manager level completed the Mentoring programme which was delivered on-site in Pramerica during 2012. The event was attended by Billy Bennett (Registrar); Michael Margey (Head of School of Business); Oran Doherty (RPL and WBL facilitator); Mary Howick (Vice-President of Human Resources, Pramerica); and Gareth Houston (Senior Learning and Development Specialist, Pramerica).

10.18 New Frontiers 2013-15

Last year in association with IT Sligo, LYIT ran a very successful pilot Enterprise Ireland funded New Frontiers Entrepreneur Development Programme. LYIT and IT Sligo were successful in being awarded €525,000 to run the New Frontiers Programme in the NW Region for the next 3 years.

10.19 Donegal TV Launch

To coincide with the Year of the Gathering, a number of stakeholders from the Tourism, Community, Education and Public Sectors in Donegal, supported the launch of Donegal TV in April 2013.

The initiative was led by Paul McLoone, former Manager of Fáilte Ireland NW, and Shane Wallace, MD of Wallace Media. Donegal TV broadcast four 30 minute pilot programmes on Thursday evenings throughout April 2013 at 7pm on the Sky Information Channel, which were available online and also to viewers of Sky. The programmes featured Donegal people at home and abroad, tourism locations in Donegal, and special programmes on Letterkenny and Ballyshannon.

The programmes were well received and attracted audiences of over 100,000 viewers.

10.20 Donegal Airport Consultation

The President met with Anne Bonner and Micheal McLoone on Tuesday, 14 May to discuss the future of Donegal Airport. This was part of an on-going stakeholder's evaluation and the Institute is delighted to be involved.

10.21 Springboard Announcement

This year LYIT submitted 22 Programmes for funding support under the Springboard Initiative. Ten programmes have been funded for 164 unemployed people in a range of programmes across Computing, Business and Engineering.

10.22 Church of Ireland, Bishop of Derry and Raphoe

Bishop Ken Good invited the President to a social occasion at his home in Derry on Tuesday, 21 May. The event allowed the President to meet with current members of the clergy and civic leaders within the Derry community. This represented the esteem with which LYIT is held by the bishop who is a regular attender at Institute events.

10.23 Prize Givings

National Learning Network

On Monday, 13 May the President was the guest speaker at the national Learning Network prize giving ceremony in the Radisson Hotel. The Network does fantastic work with people accessing second chance education, there was a large attendance at what was a very positive event.

Mulroy College Awards

The President was guest speaker at the Mulroy College annual awards on Wednesday, 22 May.

Coláiste Ailigh

The Institute sponsors an award at the Coláiste Ailigh Awards each year. The President attended the event on Thursday, 30 May.

10.24 Launch of Health Innovation Corridor

On 9 May the Head of Development represented LYIT at the launch of the Health Innovation Corridor by MEP Martina Anderson in Derry.

The initiative is based on the Massachusetts model of connected healthcare and involves linking together Higher Education Institutions, Research Institutes, Hospitals and Industrial partners across the NW Region from Derry, Donegal and Sligo.

APPENDIX 1

HEA Landscape

Final Submission





Positioning Letterkenny IT on the Irish Higher Education Landscape

A Response to the HEA's

"Towards a Future Higher Education Landscape" Document

July 2012

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1 INTRODUCTION

As part of the preparations for the *National Development Plan 2000-2006*, the Department of Finance commissioned the Economic and Social Research Institute (ESRI) to identify key priority areas for investment in the 2000-2006 period that would maximise the contribution to Ireland's growth potential and sustainable employment growth. ESRI's study recommended that the best strategy for promoting balanced regional development was to invest in a series of nodes which would provide a development focus for their surrounding hinterlands. The selected major regional centres for development were Dublin, Cork, Limerick/Shannon/Ennis, Galway, Waterford and Letterkenny/Derry. It was also suggested that the economic development of the North West region hinged on the development of the Letterkenny/Derry node.

A key recommendation from the ESRI was that a national spatial strategy be developed to concentrate on the selection of a second tier of nodes important to regional development. The National Spatial Strategy (NSS) 2002-2020 included the addition of the smaller population centres of Sligo and Dundalk as nodes and a further linked node to include Athlone/Tullamore/Mullingar. The NSS focuses on providing better balanced social, economic and physical development through what were referred to as nine gateways or engines of growth. Letterkenny with Derry is designated as a linked gateway and the only cross-border gateway, the North West Gateway. The NSS states Letterkenny will be further developed in association with Derry in a way that ensures both continue to be effectively linked, have complementary strengths and, in essence, work together as a gateway for the North West economic and social development in their region.

Shaping our Future, the Regional Development Strategy for Northern Ireland (RDS) 2025, published in 2001, which was adopted by the Northern Ireland Assembly, identifies Derry as a major regional city for the North West, including Donegal. In the ten year review of the RDS it is noted that cross-border co-operation and collaboration provide opportunities to boost the economic performance and competitiveness across the island and goes on to note that more can be achieved through collaboration than competition. The NI RDS defines the North West as Derry, Strabane and Limavady, along with the greater part of County Donegal.

In the 1980s a series of joint National Economic and Social Council and Northern Ireland Economic Council reports explored different aspects of possible cross-border collaboration. As part of this process, Professor Gareth Williams, a British higher education policy analyst, was invited to review the prospects for North South collaboration in higher education. Williams suggested, in particular, that there was considerable scope for cross-border collaboration in the Derry-Donegal border area. Chapter 6 of the Williams Report is entitled *The Special Case of the North West* where he argues that the North West is relatively remote from the rest of the country and provides special opportunities for cross-border co-operation. Williams specifically refers to Letterkenny Institute of Technology (then RTC Letterkenny) and the University of Ulster at Magee, Derry in his analysis.

The Hederman O'Brien report to Niamh Breathnach, TD, Minister for Education on the Letterkenny Regional Technical College, July 1994 concluded that:

Letterkenny could be one of the more challenging locations for a regional college in terms of a truncated hinterland which results from its proximity to the border with Northern Ireland to the east and its sea boundaries to the North and West. Add to this the geographical location of Donegal county itself, the proximity of two other third-level establishments in Derry and Sligo, the absence of mainline rail links to the rest of the country, the difficulties associated with cross-border travel and the relatively small population of County Donegal one gets a sense of the challenges facing a third-level institute in the region. While this quotation may present a rather bleak picture for the Institute and Donegal, it does emphasise the distinguishing feature for Letterkenny Institute of Technology (LYIT) on the emerging higher education landscape, its location. However, a lot has changed since the mid '90s and with the peace process in Northern Ireland, location has changed from being a disadvantage to one where LYIT has a strategically important national leadership role to play in developing all-island activity in Higher Education.

Since that time the Institute has seen significant capital investment in developing a state of the art campus at Letterkenny and the former Tourism College Killybegs became part of LYIT in 2007. Student numbers have increased by over 100%, while the percentage of students from the North West region has gone from 40% of the student population to over 70%. The Institute has acted as a catalyst to attract industry to the region from SMEs to multi-national corporations, with a commensurate growth in economic activity. This is reflected in the strong population growth of County Donegal in the last two censuses and particularly the recent growth of Letterkenny to now becoming the largest population centre in the North West of Ireland (Census 2011).

While current economic circumstances are difficult, LYIT has adopted a leadership role within the region, linking into a regional innovation ecosystem with all relevant public and private sector partners to deliver for the region.

2 MISSION

This submission to the HEA is primarily driven by the LYIT *Strategic Plan 2007-2013*. A major focus of that strategy was on Institute capacity and the necessity for LYIT to be a leading participant in driving an all-island agenda.

The key vision of *Towards a Future Higher Education Landscape* (February 2012) detailed below is thoroughly addressed in the Institute's Strategic Plan:

The National Strategy identified the need to move beyond a simplistic binary notion of a higher education system, towards a system of coherent, diverse, and well co-ordinated HEIs, capable of meeting the social and economic needs of the country. Such a system requires distinctiveness of missions at the institutional level, and diversity of missions at system level. This means having a range of institutional types with clearly differentiated missions and clear strategic orientations.

LYIT stands apart from other HEIs in terms of its distinctive mission and unwavering commitment to this mission and the achievement of an important national policy objective. This submission is important to this cross-border region and also at a national level for realising the ambitious change agenda envisaged in the Landscape Document. In addition to setting out the Institute's clear, ambitious, and consistent strategic vision, the submission emphasises LYIT's strengths in relation to regional focus and engagement, flexibility in meeting national policy objectives, broadening higher education participation, quality of programmes delivered, and the excellent standing the Institute has with students, alumni, enterprise and other regional stakeholders.

This focus is reflected in the LYIT mission and vision articulated in the Institute's *Strategic Plan 2007-13*. As stated, location has become an opportunity for the Institute and with the continued support of all stakeholders LYIT will continue to pursue an aggressive all-island strategy.

LYIT's *Strategic Plan 2007-2013* was specifically written to align with *National Development Plan (NDP)* 2007-2013 reflecting the significant concentration in the plan on the all-island agenda. In particular *Strategic Plan 2007-2013* is in line with the priority under All-Island Co-operation in the *NDP* for:

A significant upgrading of higher education capacity in the North West and the border region through strategic alliances between the educational institutions, North and South.

LYIT's mission and vision statements, which were reviewed for the strategic plan, both underline the Institute's commitment to the region and to collaboration.

Mission:

To continuously develop as an academic institution of international repute, serving regional and national needs and pursuing, in a collaborative fashion, an ambitious progressive agenda that delivers on the aspirations of its vibrant Institute population and its external stakeholders.

Vision:

- To be the higher education institution of choice for a wide spectrum of learners on a broad range of employment-focused, high quality education and training programmes delivered in a supportive and increasingly innovative learning environment.
- To make a major contribution to the development of the region in partnership with stakeholders through the exploitation of research, innovation and enterprise.

In particular, a key objective in the plan is to:

Position LYIT as a leading participant in the development of the all-island approach articulated in Ireland's National Development Plan 2007-2013 exploiting the significant existing collaboration with the University of Ulster and other partner institutions in Northern Ireland.

A first step to achieving this objective was the joint submission of the North West Gateway Strategic Alliance (NWGSA) proposal with the University of Ulster for funding under the HEA administered *Strategic Innovation Fund* (SIF) in September 2007. The successful NWGSA had as its aim to develop a blueprint for a significant upgrading of higher education capacity in the North West and border region.

The Higher Education Strategy resonates with the vision for the NWGSA in terms of the importance of clusters.

The cluster model complements the National Spatial Strategy, and will benefit from the ongoing improvements in regional governance structures. These offer the potential to enhance engagement between higher education institutions and local authorities, local State agencies and other stakeholders, and to assist in developing shared solutions to local and regional needs.

A manifestation of this has been the establishment of the North West Partnership Board (NWPB). The NWPB draws its membership from the Donegal County Development Board (CDB) and the Derry Strategy Board, Strabane District Council and Limavady Borough Council. The aim of this partnership is to promote a coordinated approach and collaboration with regard to the economic, social and cultural development, on a cross-border basis, of the North West of Ireland. The NWPB is building on the work of the North West Gateway Initiative and acts as a vehicle to highlight the needs and opportunities for the North West region. The aim of the NWPB is to promote co-operation and collaboration in the context of the Letterkenny/Derry Gateway as recognised in the NSS and RDS and also in the context of the North West Gateway Initiative as promoted by the two governments North and South. The NWPB is currently developing a cross-border action plan. Priority areas

are being identified and two working groups have been established in the areas of Tourism, Cultural and Creative Industries and Education, Skills and Job Creation with the President of LYIT convenor to this second working group.

The fourteenth plenary meeting of the North South Ministerial Council (NSMC) was held at Farmleigh House, Dublin on 15 June 2012. Among the issues discussed was the North West Gateway Initiative where Ministers welcomed progress that has been made on a range of projects completed and planned which aim to deliver economic and social benefits in the North West. Ministers are to meet again prior to the next plenary meeting to reaffirm their commitment to maintaining progress and to ensure that the measures to be taken forward through the North West Gateway Initiative are effectively delivered through the work of their Departments. The June meeting of the NSMC also discussed *the importance of co-operation on Third Level Education, taking account of the likely increase in student mobility between both jurisdictions and the importance of continuing collaborative action between third level institutions to assist with cost savings and on research and development. The Taoiseach, in answer to Dáil questions on 19 June 2012, outlined <i>that third level education and its capacity and potential should be issues for discussion at the next meeting of the* NSMC and further referred to *very exciting opportunities in the whole area of third level education*. A further significant development in relation to North South agenda is the North South Parliamentary Forum which is expected to be established shortly and it is believed to comprise equal numbers of TDs and MLAs meeting alternately at Leinster House, and Stormont.

This activity is in line with the strong emphasis in the Higher Education Strategy that:

Collaboration across the system nationally will also continue to be encouraged, focusing on areas where there is potential to build national scale and strength. There is also significant potential for institutional collaboration on a North-South basis to advance cross-border regional development and strategically advance Irish higher education on an all-island basis.

The outcomes of the NWGSA Scoping Study (Appendix 1) undertaken by Indecon International Economic Consultants and London Economics identified a need to augment higher education provision in the region, recognised the potential offered by a strategic collaboration between LYIT and the University of Ulster, and set out specific opportunities for collaboration between the two institutions.

The Minister for Education and Skills, Ruairi Quinn, TD has articulated his personal support for cross-border alliances at a meeting with the Chairs and Presidents of all Institutes of Technology in February 2012. For the NWGSA to work effectively then LYIT must continue on its current growth path to achieve a more equitable position compared to the University of Ulster. This need for continued growth at the Institute is supported by strong demographic data for this region and can be facilitated in the projected growth in higher education provision in the period up to 2017 (the Department of Education and Skills midrange projections suggest that numbers in full-time higher education will grow from 170,300 places in 2011 to 213,500 in 2017).

The Minister's support for cross-border alliances is in accordance with the Higher Education Strategy, which states that generally IoTs should not gain university status through mergers with existing universities; however, the strategy does reference an exception in the form of a "very exciting" cross-border alliance:

However, formal mergers between institutes of technology and universities should not in general be considered.... An exception would be the formation of alliances on a cross-border basis. These would be potentially very exciting and creative ways to align the higher education resources of those regions with the needs of students, enterprise and other stakeholders and should be encouraged where possible.

In addition, a proposed broader regional cluster including HEIs in Connacht is also envisaged, linking with the University of Ulster. Through this broader regional collaboration the Institute will be able to address aspects of national policy that can be best progressed with other HEIs in the Republic of Ireland. It is envisaged that this grouping involving two universities (University of Ulster and the National University of Ireland, Galway), three Institutes of Technology, further education colleges, and the many partner institutions will be sufficient to provide a counter-balance to higher education provision in other regions, particularly the Dublin area.

A close working relationship between the three IoTs in Connacht-Ulster will underpin this broader regional collaboration and this co-operative relationship has been framed in a Strategic Alliance Agreement (included in Appendix 2). This Connacht-Ulster Alliance (C-U Alliance) was formally signed by the Presidents and Chairs of GMIT, LYIT and IT Sligo in the presence of An Taoiseach, Enda Kenny, TD on 9 July 2012. The three Institutes currently have a combined population of just over 16,000 students and offer a wide range of programmes from Level 6 to Level 10 of the National Framework of Qualifications. The new alliance focuses on delivering wider educational opportunities in addition to enhancing the economic and social development of the Connacht-Ulster region. The alliance will form part of the broader cluster of higher and further education providers in the region and will include collaborations with cross-border institutions. The alliance also includes the stated intention of the three institutions to pursue technological university status.

2.1 Teaching and Learning

LYIT's *Strategic Plan 2007-2013* groups activity focused objectives under the three strategic domains of *Teaching and Learning; Learner Experience*; and *Research, Innovation and Enterprise*. The strategic plan outlines that quality of *Learner Experience* is enriched through education programmes in which the *Teaching and Learning* is informed by *Research, Innovation and Enterprise* and supported by adequate *Institute Capacity*.

Objectives listed under *Teaching and Learning* in the strategy encourage more flexible approaches to teaching and assessment, development of teaching materials, use of technology and further support for lecturers including pedagogical support. In addition, there are plans for a review of programme provision, improving programme delivery in light of learner feedback, utilising links with relevant external bodies to inform programme development, and the further enhancement of language education.

LYIT's continued commitment to the continuous professional development of academic staff is evident in the objective:

Build on existing collaboration in the provision of externally accredited staff development programmes for higher education practice encompassing short courses to the development of a full range of postgraduate opportunities.

Pedagogical training programmes have been developed in conjunction with the University of Ulster and date back to the Institute's response to the quality assurance requirements associated with the *Qualifications (Education and Training) Act 1999.* LYIT academic staff have completed the *Postgraduate Certificate in Higher Education Practice* (PgCHEP), *Postgraduate Diploma in Higher Education Practice* (PgDHEP), and the *MSc in Higher Education Practice* (MScHEP) programmes. The PgCHEP has been delivered at LYIT since 2003; more than 50 staff members have completed the programme and approximately a third of these have gone on to complete the PgDHEP programme. Other centres where lecturers have undertaken pedagogy programmes include Dundalk Institute of Technology and Queens University, Belfast. In addition to these longer term professional programmes, academic staff also participate in various teaching and learning workshops, seminars and conferences. Shorter training programmes undertaken by academic staff in the areas of pedagogy and the use of modern technologies, include:

- Formative assessment, best practice in assessment, and designing assessment to avoid plagiarism
- Pedagogy and practical use of the Virtual Learning Environment (VLE)
- Various practical and technical workshops on relevant technology such as Turnitin, Articulate, etc
- Ethics Research Workshop
- Lecturing approaches, techniques and engaging diverse learners
- Context of Higher Education levels and framework and LYIT policies including Quality and Ethics
- Peer assisted learning and problem based learning.

All new academic staff participate in a three day Teaching and Learning Workshop as soon as possible after their appointment.

2.2 Research

LYIT's *Strategic Plan 2007-2013* for the first time specifically prioritised the key domain of Research, Innovation and Enterprise. Objectives set within this strategically significant domain included the need to formulate an ambitious research strategy, to build on existing research groupings, encourage more staff to become research active and research supervisors, strengthen research planning at School level, and to develop quality assurance procedures to cover postgraduate research. To date *Research Strategy 2008-2013*, has been implemented which, inter alia, put in place a range of infrastructural and other supports to prioritise research at LYIT including the following:

- provision of dedicated postgraduate and research accommodation at CoLab
- agreed Institute-wide recognition of staff time requirements to enable research
- internal prioritised seed funding of research and support for travel to conferences
- appointment of a project accountant
- research training for Research Supervisors and postgraduate students
- mentoring, and co-supervision supports for inexperienced research supervisors
- support for online databases, research equipment, consumables and an agreed research overheads plan.

With the singular exception of the appointment of a senior academic in research, all other objectives in the *LYIT Research Strategy 2008-2013*, have been addressed. In addition to implementing the Research Strategy, LYIT has also developed a range of other supporting and supplementary policies including: Post Graduate Regulations; Intellectual Property Procedures; Research Ethics Policies and Procedures; and Knowledge Transfer and Innovation Policy.

Since 2007, LYIT has generated almost €8 million in competitively bid research and related funding, consisting primarily of:

- 2 Enterprise Ireland Applied Research Centres (CAMBio in the School of Science and WiSAR in the School of Engineering).
- 70 completed Enterprise Ireland Innovation Vouchers
- 3 completed Enterprise Ireland Innovation Partnerships
- 20 completed InterTradeIreland Fusion projects

- 1 IRCSET Scholar
- 1 European Union FP7 KBBE Programme, involving 11 partners across Europe and Asia
- 2 Enterprise Ireland Commercialisation Funds, one in association with DKIT.

In framing the NWGSA proposal the critical mass that could be achieved through the alliance with the University of Ulster was a key focus in terms of the significant benefits for this border region for research *capacity and activity and the further commercialisation of research findings through partnerships with industry.*

An LYIT research submission, with significant support from the University of Ulster, was developed in 2009/10 to seek funding under Cycle 5 of the HEA administered Programme for Research in Third Level Institutions (PRTLI). LYIT's PRTLI submission was presented in two parts, an infrastructure project, the *Science and Technology Research Facility* (STRF) and a structured PhD proposal, the *North West Research Doctoral Programme* (NWRDP). The deliverables identified for these proposals included provision of a state of the art science research facility, development of a structured PhD programme, establishment of research teams, generation of strong research output, further development of the collaborative research effort to achieve critical mass, and to become a magnet for attracting high value employment to the region.

The objectives of this overall proposal were to build and equip the STRF to enable the further development of two internationally significant research centres of excellence, and to offer a Structured PhD programme of the highest quality. The STRF element was designed to accommodate four work packages and provide additional research capacity in which to continue to develop further research in line with the Institute's strategy. Funding of the NWRDP would have provided access to research expertise and world class facilities at the two University of Ulster centres of excellence and to programmes and structures for supporting PhD education at the University. It would also have provided the key appointments of Head of Research and the 4 post-doctoral research associates to augment the two strategic research centres together with stipends for 12 PhD students.

This collaborative proposal brought together the top biomedical research department in the UK (RAE 2008, Health Professions and Studies), the Biomedical Sciences Research Institute at University of Ulster's Coleraine campus, and the Centre for Applied Marine Biotechnology (CAMBio) at LYIT for three work packages. The fourth involved the University of Ulster's Magee (Derry) campus based Intelligent Systems Research Centre, an internationally recognised centre of excellence, and LYIT's Wireless Sensor Research group (WiSAR).

Both proposals were successful under Phase I of the PRTLI assessment process; however, the proposals did not secure funding after the final phase (Phase II) despite the international panel recommending that the NWRDP project be funded. The international peer reviewers for the NWRDP proposal "were convinced that if the project is successful, the impact regionally would be enormous." The peer reviewers also stated: "They were also persuaded that the growth that the institution wants will never take off unless they get an injection of funding like this." The international peer reviewers for the STRF proposal noted "Given what is proposed here and the regional significance the peer reviewers believed that this should be considered at a senior Government level rather than through PRTLI and regional support should also be sought." LYIT recognises the immense commitment and valuable technical support that the University of Ulster provided in relation to these research proposals.

LYIT in association with Northern Ireland Science Park (NISP), Belfast, has recently been approved funding of €14 million for the North West Regional Science Park project in the NSS joint gateway of Letterkenny/Derry. This is a very significant all-island Interreg/SEUPB award designed to build a 50,000 sq ft Science Park in Derry and extend LYIT's existing CoLab by an additional 20,000 sq ft, and also involves leveraging the NISP world class brand and associated programme supports to provide additional capacity at LYIT to further support the development of the North West regional economy. This project fulfils the STRF element of the PRTLI submission
and strengthens the position of LYIT to re-engage with government departments regarding the structured doctoral programme.

In addition a new Technology Gateway Project, the successor EI Research programme to the Applied Research Enhancement (ARE) funding stream, is being developed and LYIT is currently working on an ambitious project involving the development of a Research Centre for Renewable Energies and Seafood based at Killybegs.

In February 2012 LYIT was pleased to receive continuing approval from HETAC for postgraduate Research degrees at Level 9 in Computing, Business and Science and at Level 10 in Science.

Although the overall current context and environment for research is challenging, LYIT continues to retain its ambitions to continue to conduct world class quality research for the benefit of its learners and the wider stakeholder community of the North West region.

2.3 Regional Engagement and Knowledge Transfer

A number of national policy documents form the backdrop to LYIT's regional engagement, knowledge transfer and innovation strategy. Knowledge transfer forms the foundation for many of the overarching objectives of the NDP 2007-2013; and generation, capture, protection and exploitation of Intellectual Property (IP) is a major component of the *Strategy for Science Technology and Innovation* (SSTI). The European Commission's *Improving knowledge transfer between research institutions and industry across Europe* (2007) is an important reference for guiding the development of technology transfer activity at LYIT.

LYIT has six key pillars in its knowledge transfer, regional engagement and innovation strategy: organisational and management structures, teaching and learning and dissemination of knowledge, Intellectual Property (IP) Policy, infrastructural support, commercialisation support services, and enterprise support.

Key elements of LYIT's regional, cross-border, national and international engagement (co-ordinated through the Development Office) include:

- CoLab, LYIT's incubation, enterprise, research and development centre is currently home to 100 knowledge workers, working with 25 High Potential Start Up businesses, and the base for 10 LYIT Post Graduate Researchers.
- Enterprise Development initiatives, including: a suite of entrepreneurship modules within full-time programmes; unique distinct Masters programmes in innovation and leadership for both the public and private sectors.
- Support for Enterprise Ireland's Enterprise Start programme and LYIT's Enterprise Platform Programme.
- An increasing number of work based and flexible learning programmes including: HDip in Financial Services Technologies with Pramerica/Allstate; Higher Certificate in Financial Services with Pramerica: Masters in Enterprise Applications Development with SITA.
- Related to the HDip in Financial Services Technologies, LYIT has been recognised by both IBM and LOMA (<u>www.loma.org</u>) for its engagement with industry. LYIT, in association with corporate partners, Pramerica and Allstate NI, has been profiled in an IBM Case Study entitled "*LYIT: A Lesson in Enterprise Education Agility*" (Appendix 6).
- Leading the Tech NW Skillnet Project supporting 40 developing companies across Donegal, Sligo and Leitrim in addressing their current and future skills needs.
- Labour Market Activation/Springboard programmes where LYIT has created 500 additional places for recently unemployed people.

This level of engagement reflects the regional innovation ecosystem already mentioned, of which LYIT is an integral part.

2.4 International

LYIT has a proud and distinguished tradition of involvement over many years in efforts to internationalise the educational experience of its learners. Principal among LYIT's instruments to achieve this has been the Institute's involvement in Erasmus Programmes since their inception in 1987. With the appointment in 2009 of a dedicated International Coordinator, this aspect of the internationalisation strategy gained a new impetus. LYIT has currently 48 bilateral Erasmus agreements in place with partner institutions in 15 countries, a significant reduction from 78 agreements only 3 years ago. This is consistent with LYIT's plans to consolidate and more strategically focus and prioritise international partnerships to deliver higher added value to learners and the institution.

Table 2.1 Numbers of Incoming Erasmus Students for 2007/08 to 2011/12

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Total	123	132	124	119	68

With increasing support from the academic departments there has been an encouraging increase in the numbers of outgoing Erasmus students in the past two years and the Institute is committed to increasing this number to nearer the levels of incoming students. In addition to student exchange under Erasmus, LYIT has consistently supported lecturing staff mobility.

Building on experience, established systems and procedures for Erasmus students at LYIT, the Institute is currently developing revenue generating international education streams of activity, consistent with the recently published internationalisation strategy for Irish higher education. In this respect the Institute is initially targeting growth territories and markets and leveraging LYIT's established links via the Donegal and North West diaspora to prioritise initially the North American and Canadian markets. It is expected that the first revenue generating international students from Lasell College, Boston and Colleges Ontario, Canada will arrive in September 2012.

3 STUDENT PROFILE

LYIT currently has approximately 3,000 students enrolled mainly on higher certificate, ordinary degree, honours degree and postgraduate programmes. A large proportion of the student population is from County Donegal and the North West and every county in the Republic of Ireland is represented in the LYIT student body with the greater concentrations of students coming from counties with good transport links to Letterkenny. In stark contrast, the very poor mobility of students from Northern Ireland is evident in the Institute's data where only 16 current students are from Northern Ireland with no students coming from counties Antrim, Armagh or Down. LYIT has been very successful in attracting a high number of mature students and they account for approximately 30% of the student population (including the Certificate in Preparatory Studies for Higher Education). There has been a slight growth in the number of male students over the past three years where now there are marginally more males than females. There are marked differences in the programmes choices of males and females with females making up less than 7% of the students in Engineering.

Table 3.1 Student Numbers	(Percentages) for 2007/08 to	2011/12 by Mature Category
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Year	2007/08	2008/09	2009/10	2010/11	2011/12
Mature	529	635	842	911	846
	(23.3)	(24.7)	(28.5)	(31.9)	(31.2)
Non Mature	1740	1936	2112	1941	1866
	(76.7)	(75.3)	(71.5)	(68.1)	(68.8)
Total	2269	2571	2954	2852	2712
	(100)	(100)	(100)	(100)	(100)

Table 3.2 Student Numbers (Percentages) for 2006/07 to 2011/12 by Gender

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Female	1129	1222	1368	1433	1417	1338
	(53.3)	(53.9)	(53.2)	(48.5)	(49.7)	(49.3)
Male	991	1047	1203	1521	1435	1374
	(46.7)	(46.1)	(46.8)	(51.5)	(50.3)	(50.7)
Total	2120	2269	2571	2954	2852	2712
	(100)	(100)	(100)	(100)	(100)	(100)

The Institute is organised around four academic schools: Business, Engineering, Science, and Tourism at two campuses in Letterkenny and Killybegs. Tourism College, Killybegs (TCK) became a School of the Institute on 1 February 2007 with the commencement of the Institutes of Technology Act 2006.

Table 3.3 Student Numbers (Percentages) for 2006/07 to 2011/12 by School

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	1156	1102	1216	1296	1227	1147
	(54.5)	(48.6)	(47.3)	(43.9)	(43)	(42.3)
Science	582	658	757	992	1049	1104
	(27.5)	(29)	(29.4)	(33.6)	(36.8)	(40.7)
Engineering	357	402	459	522	431	299
	(16.8)	(17.7)	(17.9)	(17.7)	(15.1)	(11)
Tourism	25	107	139	144	145	162
	(1.2)	(4.7)	(5.4)	(4.8)	(5.1)	(6)
Total	2120	2269	2571	2954	2852	2712
	(100)	(100)	(100)	(100)	(100)	(100)

The student numbers by year of study reflect the number of Level 6 and Level 7 programmes in the Institute's programme portfolio. The Periodic Programme Evaluations (PPEs) completed by each of the Institute's four schools in June 2012 will see a larger number of add-on Level 8 and ab-initio Level 8 programmes being offered to students in September 2012. Post-graduate student numbers have increased in recent years with the increase in provision of taught programmes.

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Year 1	788	1009	1068	1261	1027	1009
	(37.2)	(44.5)	(41.5)	(42.7)	(36)	(37.2)
Year 2	518	478	633	695	780	703
	(24.4)	(21.1)	(24.6)	(23.5)	(27.3)	(25.9)
Year 3	464	441	485	575	609	585
	(21.9)	(19.4)	(18.9)	(19.5)	(21.4)	(21.6)
Year 4	305	302	331	334	346	350
	(14.4)	(13.3)	(12.9)	(11.3)	(12.1)	(12.9)
Post-grad	45	39	54	89	90	65
	(2.1)	(1.7)	(2.1)	(3)	(3.2)	(2.4)
Total	2120	2269	2571	2954	2852	2712
	(100)	(100)	(100)	(100)	(100)	(100)

Table 3.4 Student Numbers (Percentages) for 2006/07 to 2011/12 by year of study

The Access Office was established in 2001 to support:

- mature students
- students with sensory, physical and multiple learning difficulties
- students from low income families.

The Access Office has recently been re-conceptualised and re-branded and is now known as The Curve. The Curve is home to Access programmes, Learning Support (housing the Mathematics and Communications Learning Centres) and Lifelong Learning.

The Mature Student category refers to learners who are 23 years or older on entry to higher education. In the *National Plan for Equity of Access to Higher Education*, the target set out for mature students is 20% by 2013. By 2010/11, LYIT had already exceeded the national target with mature students on full-time programmes making up 24% (excluding the Certificate in Preparatory Studies) of the student population. The Access Office is active in promoting the Institute's programmes to prospective mature students.

The most significant and successful method of targeting mature students and growing this cohort has proven to be the Foundation Certificate programme and its replacement the Certificate in Preparatory Studies for Higher Education. The course includes four mandatory subjects: Communications, Mathematics, Study Skills, and Information Technology. Students choose an additional two elective subjects from the list: Business Studies, Design, Engineering, Science, Nursing and Tourism.

Table 3.5 Students on Certificate in Preparatory Studies for HE (Foundation Cert)

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Students	70	45	127	185	137	155

In summary, 719 learners have completed this programme to date both on campus and in outreach centres. An average of 90% of these learners were recipients of social welfare payments and 75% could be categorised as early school leavers, while 50% of students have progressed onto further LYIT programmes. Important in the

continued success of this programme has been the support obtained from the Department of Social and Family Affairs and ring-fenced internal funding.

In the *National Plan for Equity of Access to Higher Education* a target has been set to double the number of learners in the learners with disabilities category by 2013. In 2010/11, LYIT had over 5% of all learners with disabilities in the country. The majority of these learners have Specific Learning Difficulties (SLD). The table below details the growth in this category of learners over the years 2006/07 to 2011/12. The Learning Support Specialist and Learning Support Tutors positions were created to meet the demands of learners with additional learning needs.

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Students	100	113	99	101	103	117

Table 3.6 Number of Students with Disabilities

At registration, all first year learners are assessed to determine their learning style using the diagnostic Quickscan test. Through these tests, learners are tested for SLD or dyslexic tendencies. All tests are done via computer with the test results normally available in November each year. Since 2004/05 an average of 10% of the first year intake has been identified as having SLD or dyslexic tendencies.

Support mechanisms are in place to address issues which arise:

- learners with indicators of a learning difficulty are invited to complete the LADS (Lucid Adults Dyslexia Screening) to test for dyslexia.
- learners highlighted as having positive indicators of dyslexia are then offered the opportunity to sit the Dyslexia Adult Screening Tool (DAST) assessment. This is a one-to-one battery of tests to give a more definitive diagnosis (99% accurate).
- the learner is then advised to see an Educational Psychologist for a full assessment.

In the National Plan a target of 54% participation by 2020 has been set for Learners from Low Income Families. LYIT has initially identified learners from low income families in terms of those learners that are in receipt of grants. On this basis, LYIT has exceeded the 2020 quota/target with 67% of LYIT learners in receipt of grants in 2010/11.

The Learners Assistance Fund came into existence in 2004, in 2010/2011 over €220,000 was paid out through this fund to learners. This fund is allocated from the HEA on a per capita basis and is not based on the actual number of learners that may need help. Further financial help of €25,000 was secured from the local Pobal Company to assist this cohort of students.

The Mathematics Learning Centre (MLC) has been in operation since November 2007 to deal with the large number of learners who seek help and support in modules which have a mathematical component. It complements the existing tutorials delivered by lecturing staff. The MLC is staffed by one full-time Director and one part-time lecturer (appointed in November 2008). Services which are currently offered to learners include:

- individual one-to-one and small group consultations
- pre-examination revision programmes at the end of each semester
- access to paper resources on specific topic areas and online access to model solutions and additional resource material which is hosted on the Institute's VLE Blackboard.

Approximately 80% of the learner traffic on an annual basis comes from first and second year students. Tutorial class size ranges from 1 to 10 with much larger groupings appearing for the tailored exam revision classes at the end of each semester. Repeat visits by learners on a weekly basis are a common occurrence with the MLC averaging more than 2,500 student engagements over the past two years.

A Communications Learning Centre was established in 2011/12 and has already proved very popular with learners. Support is offered to learners in small groups or via individual support sessions as appropriate. Working with support from the National Council for Curriculum and Assessment (NCCA) and in collaboration with all academic departments LYIT recently developed new modules in "Learning to Learn" and "Communications" which have now been adopted across the Institute. Furthermore, a study has just been completed on the impact of these modules being delivered as part of a blended learning approach and the outcomes are very positive.

The Curve participates in a number of pre-entry initiatives to attract under-represented groups to LYIT. These initiatives include working with primary and post-primary schools throughout the region including the Business in The Community project. The centre also participates on a number of national and regional fora which are concerned with the widening participation agenda, these include representing the IoT sector at the National Advisory Group of the HEA. This active participation ensures that LYIT continues to play a leadership role in widening and deepening access to Higher Education for under-represented groups.

The national target for part-time learners is 17% of the student population by 2020 with LYIT's part-time student population growing to 11% by 2010/11.

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Full-time	2120	2269	2571	2954	2852	2712
	(84.7)	(83.8)	(85.5)	(88.5)	(86.9)	(88.8)
Part-time	383	439	437	382	429	342
	(15.3)	(16.2)	(14.5)	(11.5)	(13.1)	(11.2)
Total	2503	2708	3008	3336	3281	3054
	(100)	(100)	(100)	(100)	(100)	(100)

Table 3.7 Student Numbers (Percentages) for 2006/07 to 2011/12 by Mode of Study

The Institute's proposed profile for 2017/18 is included in Appendix 8.

4 REGIONAL CLUSTERS/COLLABORATION/STRATEGIC ALLIANCES

The Institute undertook a consultation process in the first half of 2012 to capture the views of stakeholders on the potential impact of the Higher Education Strategy on LYIT and particularly in relation to the Institute formulating a response to the HEA Landscape Document that reflected the views of these stakeholders. This was essentially an updating of the myriad of consultations that were conducted in the production of the NWGSA Scoping Study 2009. At each of these events the President made a presentation setting out the key elements of the Higher Education Strategy, the Institute's own strategy and achievements, the questions posed by the HEA Landscape Document and the form of the response required. Following the presentation, the President answered questions from those in attendance and sought their views in respect of the future role they would wish to see LYIT play. The groups consulted included:

Table 4.1 Stakeholder Consultation Group Meetings

Stakeholder Group	Date
Elected Members of Donegal County Council	Monday, 26 March
Elected Members of Letterkenny Town Council	Monday, 23 April
Oireachtas Representatives	Wednesday, 25 April
Secondary School Principals - Donegal	Tuesday, 17 April
Secondary School Principals – Northern Ireland	Tuesday, 12 June
Donegal County Development Board	Tuesday, 27 March
Letterkenny Chamber of Commerce	Tuesday, 24 April
Leadership North West	Thursday, 21 June
LYIT Student Representatives	Tuesday, 17 April
LYIT Staff	Wednesday, 30 May

Local elected representatives and the County Development Board (CDB) were strongly supportive of the growth that has been achieved at the Institute; expressed some concerns about the difficulties that could be involved in co-ordinating a number of higher education institutions over a broad region such as the Border, Midlands and Western (BMW) region; observed that Donegal is often seen as peripheral at a national level; and recommended that that the cross-border alliance be further explored. It was also noted that the CDB Strategy 2012-2014, launched in June 2012, has many parallels with the Institute's cross-border focus.

Letterkenny Chamber of Commerce recognised the valuable contribution made by staff and students of the Institute in supporting positive development in Letterkenny; they emphasised the importance of recognising that Letterkenny was identified as a gateway town in the NSS; argued the importance of striving for university status; recognised the need to work collaboratively with higher education institutions in the Border, Midlands and Western (BMW) region; and saw the cross-border alliance as very important.

The views of Leadership North West, an LYIT alumni group made up of students and graduates from the MBS in Leadership and Innovation, were that LYIT was distinguished from other HEIs through its cross-border activity, they outlined the view that a cluster involving the University of Ulster as opposed to NUI Galway was a better fit for LYIT, they were not convinced by the merits of a Technological University and also argued that LYIT should continue to pursue other collaborative activity to further the Institute's strategic aims and not just regionally based alliances.

School principals from the region including Northern Ireland set out their view that LYIT belonged to the people of the region and had been responsive to the demands of the region; they expressed the need to maintain a broad programme portfolio; saw opportunities for the Institute in supporting teachers and other school staff in terms of CPD; wished to see a further development of taster programmes for prospective students; were concerned about proposals for new universities; and wished to see further opportunities for engagement with school staff prior to rolling out any changes arising from the Higher Education Strategy.

In the consultation with the student representatives the potential disadvantages in an alliance of providers spread over a broad geographic region were voiced, including that it may result in a loss of focus on teaching and learning and a reduction in the good support available from academic staff; they stressed that student finances were a major concern; argued that for many moving to a new location to complete their study was not possible; emphasised the need to retain the close to industry focus that IoTs are recognised for; wished to see LYIT more proactive in furthering its Technological University ambitions; supported the further development of the cross-border alliance; and felt that rationalisation or reduction in programme offerings at LYIT would be detrimental to future students' prospects.

Institute staff articulated the need for the response to the Landscape Document to be consistent with existing Institute strategy; argued for a commitment to the continued growth of the Institute for the benefit of stakeholders and particularly to be cognisant of students' views; set out the advantages in terms of research collaboration in the existing strategy; stressed that LYIT was unique in terms of the region served; and reconfirmed a commitment to the cross-border alliance.

A structured engagement also took place with all five IoTs that are members of the Líonra network: LYIT, IT Sligo, GMIT, AIT and DKIT. Arising out of these discussions, and taking on board the results of the consultation process a Strategic Alliance Agreement was drafted to cover collaboration between the three IoTs in Connacht-Ulster (referred to as the C-U Alliance). Through this alliance the partners LYIT, IT Sligo and GMIT commit to deliver on jointly agreed strategic objectives to meet the higher education needs of the Connacht-Ulster region. This alliance will be characterised by:

- leadership of the social and economic development of the Connacht-Ulster region, through enhanced access and the provision of industry-relevant and professionally focussed programmes of higher education
- vibrant working relationship with the business community, including employers in the Connacht-Ulster region, who will have a corporate role in providing direction and guidance on the education provision. The collective suite of programmes offered by the Alliance will be developed to meet the needs of employers, students and the wider community
- flexible teaching and learning platform that builds on its established reputation for cost effective and online delivery
- enhanced student access, transfer and progression pathways between and through the institutions in the Alliance
- externally acknowledged as a high profile higher education alliance in the European Higher Education arena in its provision of learning and teaching that is informed by applied research
- a higher education alliance delivering an internationally recognised and valued learning experience for students, leading to greater employment opportunities, as indicated by the demand for its programmes and graduates who are employable upon completion of their programmes of study
- through partnership, delivering its services more cost effectively and efficiently
- more direct and effective access by the business and the wider community to the full range of knowledge transfer, business support and incubation services.

The focus will be on areas such as:

- flexible learning delivery
- research and innovation
- bespoke delivery for industry
- links to local education and training boards
- international student recruitment and staff development.

All three partners are working to achieve the rigorous criteria required for re-designation as a Technological University. Specific provisions in the agreement address:

- pathways for student progression
- teaching, learning and curriculum development
- CPD for staff including doctoral studies
- research collaboration
- activities directed at increasing international profile in a co-ordinated way
- opportunities for greater collaboration in terms of shared services.

In addition, to these interactions, the senior management from LYIT met with the President of NUI Galway to discuss the Higher Education Strategy and HEA Landscape Document. A subsequent position paper drawn up by NUI Galway consistent with these discussions identified that the role of a cluster involving NUIG will be to:

- co-operate to continually analyse, document and respond to the needs of all stakeholders in its region
- seek economy and efficiency in the provision of programmes of teaching and research which meet the needs of the various stakeholders in the region through joint planning of a suite of programmes which will meet the needs of its student cohort
- seek to share staff and facilities where appropriate
- develop systems to facilitate student mobility
- co-operate in the provision of programmes to facilitate access by non-traditional and part-time students
- co-operate in the development of systems to support teaching and learning, including the provision of online and blended learning programmes
- co-operate in technology transfer and intellectual property protection
- co-operate in the marketing of its programmes to potential international students
- seek out and develop systems to support joint procurement and shared services including in particular back office services.

Indecon Intl/London Economics was commissioned in relation to the NWGSA Scoping Study and the analysis in their final report (March 2009) indicates that despite the gains of recent years, educational attainment in the region remains low in comparison with elsewhere on the island of Ireland and the level of higher education course provision (on a per capita basis) is relatively low. They also found that the socio-economic profile of the NWGSA region indicates a need for the region to 'catchup' with elsewhere in the island of Ireland in terms of higher education provision and in terms of higher educational attainment among its residents. A survey carried out as part of the Scoping Study revealed very strong support among local businesses and employers for enhanced co-operation between the University of Ulster and LYIT.

Key opportunities identified through the NWGSA Scoping Study include:

- further development of educational programmes, primarily at postgraduate level and with flexible delivery modes, e.g. part-time or online, that address the population's lifelong need for access to higher education
- joint initiatives in the development of programmes with an emphasis on STEM subjects
- collaboration in research, particularly in those areas where LYIT has current strengths
- joint approaches to the provision of services to businesses in the region.

Collaboration is very important in LYIT's strategic development and the Institute is firm in its belief that the advantages accruing from collaboration will be better realised through the NWGSA and also via a broader regional collaboration with partner HEIs in Connacht. The NWGSA is very significant at a national level reflecting the growing appetite for cross-border initiatives and the North West cross-border region in particular. LYIT and the University of Ulster have energetically pursued this initiative with backing from the Strategic Innovation Fund for the past five years. In parallel with this commitment to the cross-border alliance, LYIT has been an active member of the Líonra network while collaborating with NUIG on the delivery of Irish Language and Access programmes. LYIT sees no rational reason for deviating from this strategy which is in line with the objectives of both the Higher Education Strategy and the HEA Landscape Document. The broader regional collaboration involving two universities, three Institutes of Technology and other partner institutions has significant scale even in comparison to the Dublin region. The three IoTs that are signatories to the C-U Alliance will be key to making this broader regional collaboration effective.

Publication of the Higher Education Strategy in January 2011 and the subsequent HEA Landscape Document of February 2012 set an agenda for a much changed future higher education environment. LYIT has kept the University of Ulster abreast of the potential impact of the strategy together with plans for its implementation. These discussions recognised that the activity already being conducted via the NWGSA matches what is envisaged through regional clusters. In addition, both partners noted the significant overlap in the NWGSA project with what is set out for cross-border collaboration in the recently published Northern Ireland Higher Education Strategy.

It is important to LYIT's strategic ambition that a proposed cross-border regional cluster is recognised by the HEA. Of particular interest to LYIT in this respect is the potential of a formal cross-border alliance backed by both governments given the prominence of cross-border collaboration in both the RoI Higher Education Strategy and also in the recently published NI Higher Education Strategy.

The Minister for Education and Skills in a reply to Dáil question on 19 April 2012 gave insight into his thinking on the possibility of an innovative Technological University being formed on a cross-border basis:

I am unsure of the precise technical answer to that question but let me offer an opinion. I have established a good working relationship with my counterpart in Northern Ireland who now has total responsibility for higher level education ... We are considering cross-Border collaboration in several ways.

I imagine a university recognised by two separate, legal jurisdictions would require the co-operation and agreement of both. I am not averse to it. ... When I met the Presidents and Chairpersons of the 14 institutes of technology I indicated they should consider an all-Ireland collaborative approach to third level provision in future. If that collaboration moves in the direction of a technological university then I do not envisage the Border as a barrier. However, any institution would have to meet the academic criteria and the standards set out. If this means collaboration between Belfast and Dublin to achieve it ... If the Higher Education Authority were to decide after six months that such a joint approach is a credible one and should be facilitated, then we would have to take the steps - between Belfast and Dublin and possibly London, although that is unlikely - to allow it to happen.

Clearly the definition of a Technological University outlined in the Higher Education Strategy describes much of the programmes and research provision at the University of Ulster very well; a technological university is a higher education institution that operates at the highest academic level in an environment that is specifically focused on technology and its application. In addition, the need to focus on Science, Technology, Engineering and Mathematics (STEM) emphasised in the Higher Education Strategy was an identified opportunity for collaboration through the NWGSA Scoping Study. In fact the scoping study achieved its aim to build a fuller picture of the opportunities for collaboration, views of stakeholders, the needs of the North West Gateway region, the respective operating environments of the partner institutions and possible models for achieving the aims of the proposal.

It is evident that the nature of collaboration that can be delivered via the NWGSA covers the whole spectrum from Level 6 to Level 10 on the National Framework of Qualifications (NFQ). LYIT has particular strengths at Level 6 to Level 9 which can be very beneficial from a workforce development perspective. The PRTLI research submission which received important support from the international assessment panel was clearly at a much higher level encompassing an innovative Structured PhD Programme in collaboration with world class research institutes at the University of Ulster. In fact the PRTLI submission is exactly the type of activity that would be expected of a dynamic Technological University. Furthermore the PRTLI submission sets out the success the University of Ulster has had in commercialising its research discoveries and how that expertise could be made available through the research collaboration. As part of NWGSA Scoping Study Indecon/London Economics carried out a detailed review of the respective operating environments in NI and RoI aimed at assessing whether there might be any system differences that could impede enhanced strategic collaboration between the University of Ulster and LYIT. Their assessment identified two possible impediments: the Maximum Student Number (MaSN) Cap in NI and differences in tuition fees between NI and RoI that could place constraints on the proposal. They also noted that if these constraints are overcome, there could be significant potential to develop full-time undergraduate provision jointly in the NWGSA Region. Since the publication of Scoping Study there is now greater clarity with respect to tuition fees and in fact greater convergence in the treatment of fees in both jurisdictions. In addition, the NI Higher Education Strategy recommends a relaxation of the application of the MaSN cap in STEM areas and encourages cross-border collaboration. The Scoping Study report also recognises *Existing joint initiatives between LYIT and Ulster – notably the MSc in Innovation Management in the Public Services – clearly demonstrate how differences in operating systems can be overcome.* Indecon/London Economics also considered that there is likely to be significant scope to develop courses in lifelong learning and at postgraduate level where differences between the two HE operating systems appear to be less significant.

LYIT has worked very closely with the HEIs in the Border, Midlands and Western (BMW) region since the formal establishment of the Líonra Network in November 2001. This has provided the platform for many joint initiatives including the very successful enterprise development programme, CEIM, which ran until June 2012 in collaboration with IT Sligo; both partners are now collaborating on EI's New Frontiers Programme where 45 potential entrepreneurs have already completed Phase 1. Co-operative activities through Líonra provided the basis for a further strengthening of links between LYIT, GMIT and IT Sligo which was formalised in July 2012 with the signing of the Strategic Alliance Agreement.

A long established history of progression by LYIT graduates to the University of Ulster exists, and a number of research partnerships are in place between academic staff of both institutions. LYIT and University of Ulster have jointly developed the Master of Science in Innovation Management in the Public Sector. This programme is unique among higher education qualifications in Ireland in that it is jointly accredited by HETAC and the University of Ulster. It was developed in 2003 through collaboration with the Taoiseach's Office in Dublin and the Office of the First and Deputy First Minister in Belfast. In addition, LYIT obtained support from the University in its efforts to address the requirements of the Qualifications Act in respect of both teaching and learning and quality assurance. This support included seminars on quality assurance and the very successful offering of the University's Postgraduate Certificate in Higher Education Practice (PgCHEP) at LYIT.

Significant collaborations undertaken by the two partners include the development of the submissions for the SIF funded NWGSA, the development of the NWGSA Scoping Study and the two elements of the PRTLI submission. The HETAC Institutional Review panel of January 2008 strongly commended the achievement of the Institute on the North South agenda and for the approach to North South cooperation through the North West Gateway Strategic Alliance. Under the NWGSA, LYIT submitted an application to the University of Ulster for Institutional Recognition in June 2010. LYIT obtained Recognised Institute status (Appendix 3) following an assessment by three senior University staff in September 2010 and this was an important requirement for the development of joint programmes, a key recommendation from the NWGSA Scoping Study. The North West Science and Technology Partnership, which includes representatives from LYIT, successfully applied to the INTERREG programme for the establishment of a North West Regional Science Park. The Park will be co-located in Derry and Letterkenny and aims to provide a platform for joint developments in research and business incubating activities supported by both higher education institutions.

Indecon International Economic/London Economics Scoping Study for the NWGSA recognised the considerable scope, and need, to develop and enhance the provision and role of higher education for the betterment region in relation to:

- full-time undergraduate course development
- full-time postgraduate programme development
- part-time undergraduate and postgraduate study lifelong learning
- collaboration with local business and industry regarding information and technology exchange, R&D/innovation and the attainment of other higher-order functions (e.g. business development)
- specialist incubation and graduate support for businesses in high-tech sectors with significant growth and employment potential.

Another impetus for cross-border collaboration was provided by the recently published Northern Ireland Higher Education Strategy which commits to supporting *HEIs in collaborating on teaching and learning on a crossborder basis, in particular where it is geographically advantageous to do so, and where there are benefits for the institutions involved and for students.* In terms of the NWGSA the reference here to *geographically advantageous* is important. The NI Department of Education and Learning (DEL) also pledges to work in partnership with the HEIs and the Irish Government to reduce the obstacles to student mobility between North and South, and to implement the recommendations of the IBEC-CBI Joint Business Council report on undergraduate mobility. Short term and medium term outcomes are set for these North South collaborations:

- By 2013, the HEIs will have identified opportunities for north-south cooperation in teaching and learning
- By 2020, the HEIs will have established, and met, targets on increased cross-border student mobility.

5 TECHNOLOGICAL UNIVERSITY

Minister Quinn in his presentation to the Presidents and Chairs of the Governing Bodies of the Institutes of Technology on 22 February 2012, stated:

The potential of opportunities for deeper collaboration on a North-South basis, including future crossborder alliances of a more permanent and formal nature, should also be fully explored by the relevant institutions as part of this.

This statement came under the heading of Technological University and is line with the exciting opportunity suggested in the Higher Education Strategy for alliances up to and including mergers between IoTs and universities on a cross-border basis that would not in general be considered otherwise.

The C-U Alliance partners are committed to preparing a joint feasibility and implementation plan by December 2012. The plan will address the implementation of the strategic areas outlined in the Strategic Alliance Agreement under the headings of Institutional Profile, Student and Graduate Profile, Staff Profile, Teaching & Learning, Research, Development & Innovation, International Profile, and Leadership, Management and Governance.

Following the development and evaluation of the feasibility and implementation plan, the three Institutes expect to be in a position to submit an expression of interest (as outlined in the 'process and criteria for the establishment of a technological university' document) in 2013. The partners in the alliance expect that this

process will remain open for applications for those consortia of institutions that do not seek re-designation at this time.

Technological University status is therefore a natural evolution, consistent with the historical development and investment of the partner Institutes of Technology that have served the region and the country over the last 40 years.

6 CONSOLIDATION

LYIT's growth to this point has been built on the Institute's ability to attract a very significant number of students from the immediate catchment area. This catchment area is artificially restricted by the border and the impediments that exist on North to South migration of students for higher education. A main strand of the successful strategy for attracting students has been strong engagement with the local community and in particular with schools in the region; this engagement has included interaction with guidance counsellors to ensure LYIT offers a suite of programmes that fit with Institute strategic planning and that students are enthusiastic about.

Students along the border have traditionally looked beyond the Republic of Ireland for study opportunities in far greater numbers than their peers further South. For a significant part of LYIT's catchment area, along the border and the Inishowen peninsula, the closest higher education provider is the University of Ulster at Magee, Derry; and the North West Regional College in Derry also provides a strong portfolio of further and higher education courses. Competition for students in the region is intense and LYIT has learned a great deal about the right programme mix to meet the demands of prospective students. The operating environment is significantly different from other IoTs in terms of attracting students and this is particularly true for Level 6/7 entrants where the North West Regional College offers alternative study options where no fees apply to further education programme sand higher education programme fees are approximately \pounds 1,700.

LYIT has been successful in growing the depth and breadth of provision over the past ten years to a point which would suggest an institution with a far greater staff complement; the published 2012 CAO Handbook included 16 Level 8 and 35 Level 6/7 programmes and a further 7 Level 8 and 6 Level 6/7 programmes were added following the Periodic Programme Evaluations of June 2012. This comprehensive programme offering has been achieved through a series of consolidation initiatives which can be traced back to the Institute's initial Modularisation and Semesterisation Framework of 2005 and the 2007 programmatic review process. The framework provided for the major revision of individual modules allowing for a greater sharing of modules across programmes and Departments and significant efficiency savings. A second Modularisation and Semesterisation Framework was agreed by the Academic Council in May 2011 in time for the 2012 programmatic review process. This new framework addresses concerns raised in the Higher Education Strategy concerning over teaching and over assessment of students and further efficiencies will be delivered by reducing total student contact hours. These efficiencies will be realised over the next four years as the newly validated programmes are rolled out.

Attracting sufficient number of learners onto programmes and reducing total costs bring down the unit costs for programmes. LYIT has made significant strides in reducing unit costs over the period 2006/07 to 2010/11 with Institute unit costs decreasing by 17% and particularly good progress in reducing the costs associated with the School of Tourism by 18% over this period. For the year to 31 August 2011, combined income from core grant (RGAM), tuition fees and student contribution amounted to €23.9 million. Unit costs by Department for the academic years 2006/07 to 2010/11 are included in Table 6.1 below.

An important factor in reducing unit costs has been the substantial reduction in overall staff numbers where between June 2008 and June 2012 total staff numbers have reduced from 360 to 299, a decrease of 61 or 17%. This reduction in staff is accounted for by the reduction in academic staff numbers from 195 to 169 a 13% decrease with non-academic staff numbers decreasing from 165 to 130 a 21% decrease. A significant contribution to this reduction in staff numbers has been staff retirements with a substantial number of staff leaving on 28 February 2012. Implementation of the Croke Park Agreement and particularly academic staff taking on an additional two hours of lecturing each week has helped in addressing the resulting shortfall.

While LYIT has experienced significant growth since the mid-1990s, in the last four years it has been severely impacted by financial cutbacks. Given the significant leadership role that the Institute has to play it is important that it retains its ambitions in spite of these constraints. The Institute's Strategic Plan emphasises institute capacity and this has been a dominant theme in decisions taken during strategy implementation, particularly in cross-border initiatives and proposed collaboration with other Institutes of Technology. Despite the 17% reduction in its staff numbers since 2008 student numbers have increased by 20% over the same period. This reduction in staff and the strong growth in student numbers has resulted in an increase of 31% in the ratio of students to academic staff member. Together with the reduction in unit costs, this reflects a prudent management of resources to ensure that the Institute can plan ahead proactively while offering a strong suite of programmes.

Department	2006/07	2007/08	2008/09	2009/10	2010/11
Civil	14,746	12,007	10,787	10,385	9,701
Mech / Elec	7,528	25,617	24,116	17,970	16,646
Business	7,528	7,140	7,490	7,396	6,579
Law	10,448	11,933	9,586	7,962	7,313
Design	10,448	10,850	12,507	11,066	10,041
Science	25,261	20,382	18,708	13,551	14,851
Computing	14,238	12,909	13,131	9,792	9,588
Nursing	8,467	8,017	7,649	7,520	7,232
Tourism*		26,284	25,197	22,236	21,452
TOTAL	10,755	11,793	11,708	10,384	9,824

Table 6.1 Unit Costs for 2006/07 to 2010/11 by Department

*TCK was not part of LYIT in 2006

Average Staff Numbers	Aug-07	Aug-08	Aug-09	Aug-10	Aug-11	Aug-12
Academic	159.0	189.4	194.0	182.9	188.0	175.6
	(48.2)	(51.8)	(51.6)	(51.7)	(55.1)	(56.4)
Non-Academic	170.7	175.9	182.3	170.9	153.5	135.9
	(51.8)	(48.2)	(48.4)	(48.3)	(44.9)	(43.6)
Total	329.7	365.3	376.3	353.8	341.5	311.5
	(100)	(100)	(100)	(100)	(100)	(100)

Table 6.2 Average Academic Staff Numbers (Percentages) 2007 to 2012

LYIT as a member of the Connacht-Ulster Alliance recognises the perilous state of the public finances, a situation that is likely to prevail for the medium term. In this regard the Alliance particularly welcomes the increased transparency being introduced by the HEA to the rationale for allocating the increasingly scarce resource. The Alliance is also committed to responding and delivering the recommendation of the National Strategy in respect of improving efficiency of the higher education system.

It is envisaged that an element of up-front investment in a project team to manage the implementation process will be required, a cost that would be met through a combination of the HEA Sectoral Development Fund and from within the existing institutional resources. It is also anticipated that philanthropic and private sector funds will be forthcoming.

The Alliance is confident that it could compete successfully in this landscape driving improved system performance and increased valued for money.

7 CONCLUSION

This response to the HEA Landscape Document is consistent with LYIT's Strategic Plan 2007-2013 and its implementation to date. Collaboration and the all-island agenda are a key focus of the LYIT strategy and sit very well with the main provisions in the Higher Education Strategy and the HEA Landscape Document. A strong argument is presented that LYIT has been actively pursuing an innovative cross-border alliance since 2007 mirroring the vision for regional clusters articulated in the Landscape Document. This submission sets out the strong and growing support in national policy for the North West Gateway Strategic Alliance (NWGSA) with the University of Ulster, the history of collaborative activity with the university, and the outcomes from the ongoing alliance. The merits of a broader regional collaboration of HEIs in Connacht-Ulster, to complement NWGSA activity, involving two universities and supported through a Strategic Alliance Agreement between the regions three Institutes of Technology (IoTs) is also presented.





North West Gateway Strategic Alliance (NWGSA) Scoping Study

Final Report - Overview

Prepared for Letterkenny Institute of Technology and the University of Ulster

By

Indecon International Economic Consultants in association with London Economics

March 2009



OVERVIEW

1. Introduction

This independent <u>Scoping Study</u> has been prepared by Indecon International Economic Consultants, in association with London Economics, for the University of Ulster (<u>Ulster</u>) and Letterkenny Institute of Technology (<u>LYIT</u>). The purpose is to examine whether scope exists for the delivery of additional higher education (HE) in the North West Gateway Strategic Alliance Region (<u>NWGSA Region</u>), which has been defined to comprise County Donegal in the Republic of Ireland (RoI) and the six Northern Ireland (NI) local authority areas corresponding to Coleraine Borough Council, Limavady Borough Council, Derry City Council, Strabane District Council, Omagh District Council and Fermanagh District Council.

2. Overview, Vision and the Role of Higher Education

While the NWGSA Region has traditionally suffered from geographic and economic isolation in relation to the rest of the island of Ireland, some encouraging socio-economic developments have been occurring over recent years to which Ulster and LYIT have contributed significantly. These include population growth and the presence of innovative firms.

Other positive socio-economic characteristics include a large level of population – with 500,000 residents the NWGSA Region is one of the most populous regions in the island of Ireland. It includes the linked 'Letterkenny-Derry' Gateway under the Irish National Spatial Strategy (NSS) (2002-2020) and Derry has been identified as a major regional city for the North West (including Donegal) in Shaping Our Future, the Regional Development Strategy for NI (which runs to 2025). The Letterkenny-Derry Gateway is the largest linked gateway, and the only cross-border gateway, in the NSS.

With a combined population of over 125,000 persons in 2006, the Letterkenny-Derry Gateway is the fourth largest urban centre in the island of Ireland (after Dublin, Belfast and Cork) and it grew strongly by 3.3% between 2002 and 2006 (in contrast, the population of Greater Belfast contracted during this period). Further, Letterkenny has been the fastest growing urban centre in RoI with a higher education institution (HEI) (2002-2006).

Telecommunications infrastructure in the Letterkenny-Derry Gateway (including high-speed broadband) is being enhanced and transport infrastructure across (and within) the NWGSA Region has witnessed significant improvements in recent years, facilitating improved access between the region and other parts of the island of Ireland (as well as within the region). The region also benefits from two airports, one in the west (at Carrickfinn in the Donegal Gaeltacht) and one in the east (at Eglington, County Londonderry) and both facilitate international as well as national access to the region.

In our 'vision' for the NWGSA Region, we anticipate higher levels of educational attainment among residents and a greater emphasis on knowledge-based activities, including higher-order functions such as business development and innovation. We also envisage the region will become more attractive for high value added activities such as internationally-traded services (including software development and business services) by virtue of continuing to be a cost competitive location. The NWGSA Region will also continue to benefit from a high quality of life and, together with its other comparative economic strengths, could become an even more attractive location for people to live, work and study, including those born in the region but who have spent their working lives to date elsewhere (for example because they undertook their third-level studies outside the region and/or

emigrated from the region to find employment).

A key requirement in helping to realise this ambitious vision for the NWGSA Region over the next decade (notwithstanding the currently very challenging economic climate) is the need to boost the provision of HE in both parts of the region. The analysis presented in the Scoping Study reveals that LYIT and Ulster have played a significant role in the positive developments underway in the NWGSA Region and these include growth in course development (despite a more challenging market environment in the form of an absence of growth in the number of residents aged 15-24 years in the NWGSA Region during 1996-2006) and support to local business and industry in the form of mentoring and collaborative R&D.

However, our analysis also indicates that there is need to further augment HE provision in the NWGSA Region. This finding comes across very clearly in both our quantitative analysis of existing data and in the new primary research evidence gained from our internal and external stakeholder consultations in the NWGSA Region.

In particular, despite the gains of recent years, educational attainment in the region remains low in comparison with elsewhere in the island of Ireland and the level of HE course provision (on a per capita basis) is also relatively low. For example, while the population of the NWGSA Region has grown more rapidly than that of Greater Belfast during 2002-2006, the degree of HE course provision (per head of population) is much higher in Greater Belfast. In fact, among all the comparator regions considered in the Scoping Study, including the Greater Dublin Area (GDA), RoI and NI as well as Greater Belfast, the NWGSA Region is found to have the lowest estimated density of HE provision (as well as having the lowest level of higher educational attainment).

Central to achieving the vision outlined above is the need to build on the gains made by LYIT and Ulster in recent years (which have helped to underpin the socio-economic development of the NWGSA Region) and to further augment both the level and quality of HE provision in the region so that it is at least on a par with elsewhere in the island of Ireland. The importance of the need to boost HE in the region reflects the increasing weight placed on encouraging the development of knowledge-based activities in the policy/strategy arena and we believe this is especially pertinent in the case of the NWGSA Region.

A central conclusion of this Scoping Study is that the most effective means of further boosting HE provision in the NWGSA Region is through strategic collaboration between Ulster and LYIT (the two leading third-level education providers in the region) aimed at enhancing the degree of collaboration in three categories – course development, research and technology exchange with local business and industry.

The new internal and external stakeholder consultation evidence presented in the Scoping Study reveals a very significant level of support (in each part of the NWGSA Region as well as within each institution) for enhanced strategic collaboration between Ulster and LYIT aimed at boosting the quantity and quality of HE provision in the region.

The very positive and consistent stakeholder views regarding enhanced collaboration between Ulster and LYIT are with respect to the following aspects of HE provision:

- □ Full-time undergraduate courses;
- □ Full-time postgraduate programmes;
- □ Part-time undergraduate and postgraduate study lifelong learning;

- □ Recognition of prior learning/accreditation of prior (experiential) learning (RPL/AP(E)L) as a means of ensuring lifelong learning;
- □ Collaboration with local business and industry regarding R&D/innovation and the attainment of other higher-order functions (e.g. business development);
- □ Specialist incubation support for new business starts in high-tech sectors with significant growth and employment potential.

We identify in the Scoping Study areas within each of the above where we believe enhanced collaboration between Ulster and LYIT may be feasible. Such enhanced collaboration is aligned with each institution's strategic plan and is consistent with their respective commitments to the NWGSA Region. It also reflects our consultations with stakeholders in the region as well as the existing strengths of Ulster and LYIT in the NWGSA Region.

The benefits from enhanced collaboration for both institutions and the NWGSA Region overall should not be underestimated. Leveraging the skills and expertise of both institutions and catering for a larger demographic area will facilitate greater impact and utilisation of talent over a wider geographic area. Combined with the other cross-border initiatives currently underway in the region, which are considered in the Scoping Study, local business and industry will become more aware of other existing businesses *via* networking, technology events/seminars and signposting activities (facilitated by Ulster and LYIT).

3. Methodological Approach and Stakeholder Consultations

Our methodological approach has involved quantitative and qualitative analyses of various data and information compiled by the Indecon/LE Consultancy Team (including analysis pertaining to current and future demographic trends in the NWGSA Region and other regions, including NI and RoI). In addition to our analyses of various existing data sources, our methodological approach also includes the results of <u>external</u> and <u>internal</u> stakeholder consultations carried out during the course of the Scoping Study.

The *external stakeholders* with whom we consulted included, in each part of the NWGSA Region, the inward investment agencies, enterprises boards, tourism agencies, chambers of commerce and local authorities.

We also consulted with senior representatives of the Higher Education Authority (HEA) in Dublin and the Department for Employment and Learning (DEL) in Belfast.

Our external stakeholder consultations also included two new surveys in each part of the NWGSA Region, namely the Indecon/LE Survey of Businesses and Employers in Donegal and the Indecon/LE Survey of Businesses and Employers in the NI part of the NWGSA Region. We had originally targeted approximately 100 responses for each of these surveys but the outcome in each case exceeded initial expectations – we received 151 responses from businesses and employers in Donegal and 144 responses from business and employers in the NI part of the NWGSA Region, bringing the total number of survey responses received from businesses and employers across the NWGSA Region to 295.

The fourth component of our external consultation programme involved two further surveys in each part of the NWGSA Region, namely the Indecon/LE Survey of Post-Primary Schools in Donegal and the Indecon/LE Survey of Post-Primary Schools in the NI part of the NWGSA Region (including sixth-

form colleges). It was originally agreed that we would consult with a sample of 2/3 post-primary schools/sixth form colleges in each part of the NWGSA Region. However, in order to gain as full a picture as possible from this aspect of the external consultation programme, we decided to significantly broaden it out and we wrote to post-primary schools and sixth-form colleges across the NWGSA Region. As a result, we received 26 completed survey questionnaires from second-level schools and sixth-form colleges in the NWGSA Region (10 from the NI part and 16 from the Donegal part of the region).

Our consultations with *internal stakeholders* entailed the design and carrying out of staff and student surveys at each of Ulster and LYIT (i.e. four dedicated surveys):

- □ Indecon/LE Survey of Staff at Ulster;
- □ Indecon/LE Survey of Students at Ulster;
- □ Indecon/LE Survey of Staff at LYIT;
- □ Indecon/LE Survey of Students at LYIT.

These surveys were undertaken electronically through adaptation of the survey questionnaires in respect of Ulster's and LYIT's respective internal staff and student communication systems. The numbers of responses gained in each case were as follows:

- □ Indecon/LE Survey of Staff at Ulster (all campuses) resulted in 441 completed survey questionnaires;
- □ Indecon/LE Survey of Students at Ulster (all campuses) elicited 863 completed survey questionnaires;
- □ Indecon/LE Survey of Staff at LYIT (undertaken at LYIT's Killybegs campus as well as its Letterkenny campus) resulted in 151 completed survey questionnaires;
- □ Indecon/LE Survey of Students at LYIT (Killybegs campus as well as the Letterkenny campus) elicited 110 completed survey questionnaires.

The other key elements of our internal consultation programme were (in addition to our regular liaising with members of the Project Team comprising members from Ulster and LYIT):

- □ Indecon/LE presentation to, and discussion with, the EB (Executive Board) of LYIT on 27 August 2008;
- □ Indecon/LE presentation to, and discussion with, the SMG (Senior Management Group) at Ulster on 6 October 2008;
- □ Consultations with each of the three LYIT/Ulster Scoping Study Working Groups on 6 November 2008 (face-to-face and *via* video-link);
 - Working Group on HE operating environment and collaborative models
 - Working Group on external consultation and knowledge/technology exchange
 - Working Group on course/programme development and research
- Presentation of our preliminary emerging findings to the Scoping Study Steering Committee on 7 November 2008 – those in attendance included Dr. Don Thornhill (Chairman of the National Competitiveness Council in RoI) and Professor Sir David Melville (Chair of Lifelong Learning UK).

4. Strategic and Policy Context

The strategic and policy context of the Scoping Study comprises a number of levels, the highest of which is to ensure enhanced educational attainment and skills acquisition as key inputs into the Lisbon Goal, which aims to make the EU "the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion".

High-level policy studies in the context of all-island initiatives, such as the Comprehensive Study on the All-Island Economy (2006) and the All-Island Skills Study (2008), emphasise cross-border collaboration in higher education.

Various studies and initiatives underway in the NWGSA Region recognise the importance of improving educational attainment in the region and the importance of enhancing co-operation between Ulster and LYIT as the two principal HEIs in the NWGSA Region.

Our review of the strategic context of the Scoping Study suggests the importance of strategic collaboration between LYIT and Ulster across the range of HE activities (at all levels), including full-time undergraduate courses, postgraduate courses, lifelong learning and knowledge/technology exchange with business and industry.

A theme cutting across all these aspects of potential collaboration between Ulster and LYIT is the importance of developing skills and qualifications in science, technology, engineering and maths (STEM). Enhancing skills in STEM are increasingly being recognised as critical to the development of knowledge-based activities in business, finance and healthcare as well as in science, engineering and technology.

Owing to its peripheral location in the island of Ireland, we believe that the need to enhance STEM is critically important in the NWGSA Region and an effective means by which this may be achieved in practice is through enhanced strategic collaboration between LYIT and Ulster as the leading thirdlevel education providers in the region.

5. Socio-Economic Profile of the NWGSA Region

Our socio-economic profile of the NWGSA Region has revealed the following results.

- 1. The NWGSA Region has a large population base amounting to almost 500,000 persons (based on 2006 figures). This represents a 4% increase on the level in 2002 and the level and recent growth in population are important in determining the availability of a critical mass of population in the NWGSA Region to support demand for HE.
- 2. While population density across the region is below that for NI and RoI, there are a number of areas of high population density, including Derry/Londonderry and Letterkenny.
- 3. Within the NWGSA Region, recent population growth has been strongest in Donegal (7% between 2002 and 2006), bringing the county's population to 147,264 persons in 2006. The NI part of the region saw its population expand by 3% over this period, to reach 349,700 persons by 2006.
- 4. The population of the linked Letterkenny-Derry Gateway amounted to 125,490 persons in 2006. Outside the major urban areas of Dublin, Belfast and Cork, the Letterkenny-Derry Gateway has the largest population base among the 14 gateway cities/towns in RoI and is one of the largest interurban areas in the island of Ireland.
- 5. With a population of 17,586 persons in 2006, Letterkenny enjoyed the fastest growth in population out of the 11 cities and towns in RoI with a HEI since 2002 (15% growth cumulatively or 3.7% per annum on average during 2002-2006).
- 6. The proportion of the population in the 0-14 year age cohort is relatively high in the NWGSA Region compared with RoI and NI, suggesting a comparatively high 'latent' demand for HE in the region for the next few years.
- 7. However, during the past decade (1996-2006), there was no growth in the number of residents in the NWGSA Region aged 15-24 years and the number of people in this age category fell by 0.6% per annum in Donegal.
- 8. Projections for population developed by Indecon/London Economics (based on official population forecasts in NI and RoI) suggest the following outcomes in terms of the likely pattern of prospective demand for HE in the NWGSA Region over the medium- to long-term (until 2021):
 - i. A likely driver of the growth in HE demand in the NWGSA Region will be from the 25+ age cohort. This relates to 'non-traditional' students and lifelong learners, including people seeking to enhance or differentiate their skills;
 - ii. Across the NWGSA Region, the absolute and relative population in the 'traditional' new entrant (15-24 years) cohort is expected to decline and this may lead to a decline in HE demand among this group (although not necessarily so in the event that a greater proportion of the persons aged between 15 and 24 years enrol on HE courses, which may be likely) thus, it is not necessarily correct to say that there will be a decline in the traditional segment of the HE intake in the NWGSA Region over the coming years.
- 9. Despite the gains in student enrolments achieved by LYIT and Ulster in the NWGSA Region in recent years, the level of higher educational attainment (among residents) is relatively low in the NWGSA Region: in the NI part of the Region, 17% of the working age population had a primary degree or higher in 2006 compared with 23% in NI as a whole; in the Donegal part of the NWGSA Region, 12.5% of persons aged 15+ years had a primary degree or higher qualification in 2006 compared with 18.5% for RoI. These facts are likely to reflect the structure of economic activity and employment in the region.
- 10. The NWGSA Region has a lower proportion of its employment base in market services activities (36% versus 41% across the RoI and 40% across NI). In non-market services which largely equates to the public sector 39% of total employment in the region is located in this sector. This compares with 40% across NI but is substantially above that across the RoI (28%). Within the NWGSA Region, it is notable that the primary sectors (including agriculture and utilities) are

relatively important employers in Donegal, while the construction sector is also relatively important in that county. Reflecting national developments, the region will need to grow high value internationally-traded market services activities.

11. Finally in respect of our socio-economic profile, notwithstanding the positive developments in relation to FDI, key shares of foreign-owned activity in the NI part of the NWGSA Region remain disproportionately low in relation to relative size of the population of this part of the region. In Donegal, the figures indicate a concentration of foreign-owned company employment in pharmaceuticals and healthcare, with companies in this sector accounting for half of all IDA Ireland-assisted firms in the county. The ICT sector is also an important employer in Donegal. These areas of concentration point to the importance of developing skills in STEM subjects.

6. Higher Education Operating Environment – Comparative HE Systems in RoI and NI

We have carried out a detailed review of the respective HE operating environments in NI and RoI aimed at assessing whether there might be any systems differences that would act to impede the possibility of enhanced strategic collaboration between Ulster and LYIT in the context of the NWGSA Region. Our review of HE systems in each jurisdiction has also considered the similarities, which would tend to make potential co-operation easier.

Our overall assessment is that some institutional factors currently in place might limit the scope to develop full-time, undergraduate courses separately or jointly by LYIT and/or Ulster in the NWGSA Region – namely the MaSN Cap in NI and differences in tuition fees between NI and RoI.

However, if these constraints are overcome, we believe there could be significant potential to develop full-time undergraduate provision jointly in the NWGSA Region. While the MaSN cap is likely to remain a feature of the NI HE system, it may be possible to review its application in the case of STEM subjects and there is also the possibility of the cap being differentiated on a regional basis.

We consider that there is also likely to be significant scope to develop courses in lifelong learning and at postgraduate level where differences between the two HE operating systems appear to be less significant and the MaSN Cap does not apply. Lifelong learning in this context is interpreted broadly – including part-time study for people hoping to acquire third-level qualifications and part-time postgraduate study for people with existing third-level qualifications.

Apart from tuition fee differences and the MaSN Cap, we do not believe that other differences in the HE operating environments North and South are likely to impede enhanced collaboration between LYIT and Ulster for the betterment of the NWGSA Region. Existing joint initiatives between LYIT and Ulster – notably the MSc in Innovation Management in the Public Services – clearly demonstrate how differences in operating systems can be overcome (graduates from this novel programme gain dual accreditation, namely an MSc with the Ulster brand and RoI HETAC Level 9 branding, which is both unique and attractive to students).

7. Higher Education Operating Environment – Profiles of Ulster and LYIT

Both LYIT and Ulster have experienced impressive expansion in recent years and this has been an important input into the positive socio-economic developments occurring in the NWGSA Region, including population growth, employment growth and the presence of a number of innovative enterprises in the Donegal and NI parts of the region. It is also important to recognise that the growth

in student numbers achieved by Ulster and LYIT has come against a more difficult market environment – as stated earlier the number of residents aged between 15 and 24 years has declined in certain parts of the region.

Ulster is the largest provider of HE in NI – in fact in the island of Ireland – with approximately 24,000 students in 2007/08. It is a significant contributor to the NWGSA Region: in 2007/08, Ulster's Magee and Coleraine campuses together accounted for over 9,000 full-time and part-time undergraduate and postgraduate students and both campuses currently employ in the region of 2,000 staff (headcount basis) (almost 1,400 on full-time equivalent basis).

Taking Ulster's Magee and Coleraine campuses together, our analysis reveals that part-time undergraduate and postgraduate numbers have grown more rapidly than full-time undergraduate and postgraduate numbers in the NWGSA Region during the past decade. This trend reflects Ulster's commitment to lifelong learning in the NWGSA Region and is further illustrated by the fact that part-time students as a proportion of all students has risen at Ulster's Magee and Coleraine campuses during 1997/98-2007/08.

Magee and Coleraine together had over 7,600 undergraduate enrolments in 2007/08, making up almost 40% of Ulster's total undergraduate population in that year. Key faculties at Magee and Coleraine are Life and Health Sciences (1,749 and 990 undergraduate enrolments at Coleraine and Magee respectively in 2007/08), the Ulster Business School (1,119 and 618 undergraduate enrolments at Coleraine and Magee respectively in 2007/08) and Arts (1,063 and 609 undergraduate enrolments at Coleraine and Magee respectively in 2007/08). Also important at Magee are the Faculty of Social Sciences and the Faculty of Computing and Engineering – the latter accounted for 619 undergraduate enrolments in 2007/08.

Turning to postgraduate students at Ulster, most (84% in 2007/08) are enrolled on taught programmes (which involve research *via* dissertation or minor thesis). Well-over 2,000 students were enrolled on taught and research postgraduate programmes at both Coleraine and Magee in 2007/08. By faculty, the largest postgraduate enrolments in Coleraine occur in Life and Health Sciences, Social Sciences and Arts; the largest postgraduate enrolments at Magee occur in Social Sciences, the Ulster Business School, Arts and Life and Health Sciences.

In terms of mode of study, most (72% in 2007/08) postgraduate study at Ulster is undertaken on a part-time basis. By type of postgraduate study, the majority of part-time postgraduate students at Ulster are enrolled on taught programmes while most of the research programmes at Ulster (that is, research masters and doctoral study) are accounted for by full-time postgraduate students. Within the NWGSA Region, part-time postgraduate study is larger than full-time postgraduate study in Coleraine and Magee – part-time study is especially important among taught programmes in Coleraine, particularly in Life and Health Sciences (in 2007/08, 1,063 part-time students were enrolled in taught postgraduate programmes, of which 886 or 83% were enrolled in the Life and Health Sciences Faculty).

The relatively large numbers of student enrolments in part-time (taught) postgraduate study at Ulster further reflects Ulster's commitment to lifelong learning and skills development across NI and beyond (as some of the students are resident in RoI).

Ulster has a strong record of achievement in research. In the most recent UK Research Assessment Exercise (RAE) (December 2008), there were especially strong performances in Nursing and Celtic

Studies (with 100% of research in these areas classified as international quality). Across the university as a whole, 86% of research activity was rated as being of international quality and almost 20% classed as world-leading. The results also confirm Ulster's research excellence in Biomedical Sciences, Law, Architecture and the Built Environment, Media Studies and Art and Design. Significant improvement in the quality of research in areas such as Computing and Nanotechnology were also recorded.

Ulster's campuses in the NWGSA Region play an important role in its research strengths. Coleraine is home to the Centre for Molecular Biosciences, which is at the heart of international research into molecular and nutritional aspects of degenerative diseases and microbial and pharmaceutical biotechnology and comprises approximately 200 research staff and doctoral students. The Centre for Functional Genomics, established in Coleraine in October 2003 at Ulster's Coleraine campus with £2m (€2.2m) funding from the EU Programme for Peace and Reconciliation, aims to augment the existing world-class biotechnology and biomedical facilities at Coleraine by creating a specialist Centre of Excellence in Functional Genomics (CFG), concentrating on research projects that may have commercial impact on biotechnology, biomedicine or high-added-value food production. The Centre for Coastal and Marine Research is also located on the Coleraine campus, providing a world-class facility for research into coastal environments and coastal geology, archaeology and management. As well as Celtic Studies, other research strengths at Magee include: IT and Electronics; Creative Multi-media; Design; International Business; Psychology; Nursing; and areas of Arts and Social Sciences (History and Social Policy). Centres of Excellence include the Intelligent Systems Research Centre (ISRC), the Academy for Irish Cultural Heritages, the Institute of Ulster Scots Studies, the Transitional Justice Institute and INCORE (International Conflict Research). Also notable is the fact that there are a number of initiatives currently underway at Magee with the potential to boost research activities at this campus as well as further developing its provision of niche undergraduate and postgraduate courses. The new initiatives include the Creative Technologies (Industries) Research Centre; the Centre for Postgraduate Professional Legal Education; the Clinical Translational Research and Innovation Centre (CTRIC) at Altnagelvin; Financial Services; Construction, Quantity Surveying and Spatial Planning; and Psychology.

Knowledge/technology exchange and the commercial exploitation of ideas are promoted by the Office of Innovation at Ulster through a range of initiatives and ongoing collaboration with business and industry (which is appropriately widely defined to include new starts and SMEs as well as international businesses with facilities in NI and the NWGSA Region). Ulster's participation in such activities includes collaboration with local business and industry through the FUSION Programme (an all-island initiative managed by InterTradeIreland) and Knowledge Transfer Partnerships.

Ulster's science research parks at Coleraine, Magee and Jordanstown are aimed at supporting the clustering of knowledge-based companies. The Magee Science Park focuses on software development and advanced IT, the Coleraine Science Park on life, health and environmental technologies and the Jordanstown Science Park concentrates on engineering, medical devices and software. The science parks at Magee and Coleraine have been successful in incubating a range of entrepreneurial ventures and in generating significant new high quality employment locally.

Within the Magee Science Park, the Technology and Software Innovation Centre (TSIC) provides 3,000 sq ft of office space. A Software Development Centre provides 4,000 sq ft of space for companies graduating from TSIC or ICT-based R&D companies seeking to establish a close and dedicated interaction with Ulster. The facilities at Magee have seen 10 firms 'graduating' in the past five years and 9 are currently under incubation (employment growth to date among the 10 graduator firms is estimated to be approximately 50% and the 9 firms currently under incubation account for about 70 employees). Ulster's Science Research Park at its Coleraine campus, concentrating on life, health and environmental technologies, reflecting Coleraine's international research excellence in the life and health sciences, contains the Science Innovation Centre (SIC), which provides a strong location for bioscience R&D companies and also for companies developing software for the healthcare sector and bio-informatics applications. The Science Innovation Centre provides 8,500 sq ft of office space and laboratory space. In the past five years at Ulster's Coleraine Science Research Park, 12 firms have graduated and 8 are currently active employing in the region of 30 staff; employment among the current 11 firms under incubation is approximately 50 and most of these firms involve local entrepreneurs.

LYIT is the leading third-level education provider in Donegal. Established in 1971, it has approximately 3,000 students, comprising in the region of 2,500 full-time students and 400 part-time students over two campuses, the main campus in Letterkenny (the largest urban centre in Donegal) and the tourism and hospitality campus in Killybegs, the largest fishing port in RoI.

The built environment at LYIT has undergone significant transformation over recent years. Investment in infrastructure of more than \pounds 50m (£45m) was made during 1997-2005, creating an additional 17,000 square metres of accommodation. The Business Development Centre (BDC), launched in 2000, was funded by \pounds 3m (£2.7m) from INTERREG and today provides 1,100 square metres of specialist incubation space and associated supports for new start-up businesses in high-tech sectors. Phase 2 of the BDC development is due to be completed at the end of 2008 and will add an additional 400 square metres at a cost of \pounds 2.7m (£2.4m) – funding is *via* Enterprise Ireland under the NDP. Further research facilities encompassing 700 square metres at a cost of \pounds 1.2m (£1.1m) will be constructed in conjunction with Phase 2 of the BDC, funded by the Department of Education and Science under the NDP. It is envisaged that the total 2,200 square metres of space dedicated to specialist research and business incubation facilities at LYIT will be complete in February 2009.

In 2007/08, 18 firms were tenants of the BDC and the number of firms fully spun-out from the centre totalled 19 during 2003/04-2007/08. The planned completion of the BDC should see more tenants being accommodated and even more high-tech spin-out activity in the coming years.

Most courses on offer at LYIT are at bachelor degree or higher – of the 66 courses in 2007/08, over 75% were at these levels, including 20 bachelor degrees at honours level and 6 postgraduate degrees at masters level. The latter included that MSc in Innovation Management in the Public Service, a unique, specialist course offered jointly by LYIT and Ulster on a part-time basis throughout the island of Ireland and an example of successful existing co-operation between the two institutions.

The growth in undergraduate numbers in the Schools of Engineering and Science at LYIT is also noteworthy, not least in the context of encouraging greater study of STEM subjects at third-level (and in view of the aforementioned challenging market in Donegal, in which the number of residents aged 15-24 years declined during 1996-2006).

Like Ulster, LYIT has a strong tradition of catering for mature students (those aged 23 years plus) - in

2006/07, mature students accounted for 22% of all undergraduates, illustrating LYIT's commitment to lifelong learning in the NWGSA Region.

At postgraduate level, LYIT offers a range of taught Masters degrees in the Schools of Business and Science. The largest of these, in terms of student numbers, is the MSc in Innovation Management in the Public Service, which is offered jointly (as stated above, on a part-time basis) with Ulster and is jointly accredited in both the RoI and the UK (demonstrating that the differences in accreditation between RoI and NI are unlikely to impede new course development on a joint basis between Ulster and LYIT).

Notwithstanding its relative small size, LYIT benefits from a number of research activities, including marine biotechnology (CAMBio) and electronics, production and innovation (EpiCentre), which brings together Ulster, LYIT and NWRC (North West Regional College). In December 2008, it was announced that the EpiCentre project at LYIT is to benefit from Enterprise Ireland funding of over €1m (£1.1m) to aid the construction of the WiSAR Lab within the project (Wireless Sensor Applied Research). This is a significant development for LYIT and the NWGSA, not least because of LYIT's collaboration with Ulster in the EpiCentre project and the fact that there is also collaboration between EpiCentre and CAMBio (and the Machine Vision Research Group at LYIT, which is active in games programming, *inter alia*).

8. Existing Collaboration between Ulster and LYIT

The extent of collaboration between LYIT and Ulster has expanded in recent years and plays an important role in supporting the development of the linked Letterkenny-Derry Gateway and the NWGSA Region.

Initiatives in joint course development between Ulster and LYIT include:

- □ The MSc in Innovation Management in the Public Service jointly accredited by HETAC and Ulster (the only such course in the island of Ireland to be so accredited), this postgraduate programme had a total stock of 61 students enrolled in 2007/08 (all cohorts) and produced 25 graduates in 2006/07 (11 from NI and 14 from RoI); and
- □ The Postgraduate Certificate in Higher Education Practice (PgCHEP) this course is delivered by Ulster to LYIT lecturing staff at LYIT as a means of ensuring high quality standards at LYIT and offers graduates the possibility of proceeding to obtain diploma and masters qualifications in higher education.

Further, Ulster's Diploma in Nursing at LYIT provided the foundation for the subsequent development of LYIT's own suite of nursing degrees, namely the BSc (Hons) in General Nursing (annual intake of 30 students), the BSc (Hons) in Intellectual Disability Nursing (annual intake of 20 students) and the BSc (Hons) in Psychiatric Nursing (annual intake of 25 students). These HETAC Level 8 courses commenced at LYIT in 2002 and are funded by the Department of Health and Children. The growth of nursing studies has been one of the main successes of LYIT in recent years and, coupled with the fact that Ulster pioneered (within the UK HE system) third-level nursing degree courses at Coleraine and Magee, it would appear that the NWGSA Region may have a competitive advantage in the provision of professional nursing education, not least in view of the fact that Letterkenny and Altnagelvin also boast major hospitals in close proximity to each other.

Joint initiatives between Ulster and LYIT in research and technology exchange include the aforementioned EpiCentre and the North West Science and Technology Partnership. Both initiatives also involve NWRC and are aimed at developing knowledge-based activities in the NWGSA Region.

9. Assessment of Existing Higher Education Provision in the NWGSA Region

An important aspect of the Scoping Study is our assessment of the existing level of HE provision in the NWGSA Region, taking account also of that in other key regions, including RoI and NI. Our analysis suggests that, despite the noteworthy gains made by Ulster and LYIT over recent years, including their collaborative initiatives, there is a comparably low level of HE provision in the NWGSA Region and that preference for the region as a place to study is not a particularly strong factor currently influencing a student's choice regarding where to undertake his or her HE study.

There are a number of key elements underpinning this assessment.

The first such element is our analysis in respect of estimating the 'density' of HE provision in the region and other parts of the island of Ireland – namely the number of full-time HE undergraduate and postgraduate students per head of the population (in particular, the overall population and the working age population (aged 15-64 years) in each of the regions that we have considered).

Our analysis of HE density reveals a relatively low level of HE provision in the NWGSA Region. In particular, the number of full-time HE students per 1,000 of population is estimated to be 20 in the NWGSA Region (comprising an estimated 16 in the Donegal part and an estimated 22 in the NI part) compared with 23 in NI and 32 in RoI. According to the analysis, the highest estimated densities in the island of Ireland are in the Greater Dublin Area (GDA) and Greater Belfast, with an estimated density of 54 in each case. When deflated by the working age population (15-64 years) rather than the overall population, the estimates densities increase but the same relative pattern is apparent, with the estimated density of HE provision lowest in the NWGSA Region (lowest of all in Donegal) and highest in the GDA and Greater Belfast.

The other elements of our assessment of the existing level of HE provision in the NWGSA Region (in a comparative context) make use of the new Indecon/LE primary research evidence.

According to the Indecon/LE Survey of Business and Employers in the NWGSA Region (2008), the main perceived *strengths* of existing HE provision in the region are as follows:

- □ Overall capacity of HE facilities (59.7% of respondents indicated that this factor is a 'very important' or 'important' strength);
- □ Range of taught undergraduate courses (53.2%) (although almost 1-in-4 also felt that this is a 'very important' or 'important' weakness);
- □ Quality of graduates (52.9%).

However, none of the above factors were perceived to be particularly significant strengths, judging by the magnitude of the proportions indicating 'very important' or 'important' strength in our business/employer survey.

The main perceived weaknesses of existing HE provision in the NWGSA Region (according to respondents of our business and employer survey) include:

- □ The extent and depth of collaboration between higher education institutions and business (35.3% regarded this as a 'very important/important' weakness);
- □ The quality of incubation/support facilities for business start-ups (30% of participants regarded this as a 'very important/important' weakness);
- □ Range and quality of adult/life-long learning programmes (29.3% of respondents regarded this as 'very important/important weakness).

However, like the main perceived strengths, none of the main perceived weaknesses of HE provision in the region are viewed by local businesses and employers as particularly significant (judging by the magnitude of the proportions indicating 'very important' or 'important' weakness).

Turning to our surveys of students at Ulster and LYIT, our new primary research evidence indicates that the two most important factors in students' decision to study at Ulster (all campuses) are quality of their chosen course/programme (96% of respondents felt that this factor is 'very important' or 'important') and availability of a place on their preferred course (89%). Preference for the North West as a location to study emerged as the least important factor underpinning students' decision to study at Ulster (36% of respondents said that this factor is 'very important').

Students at LYIT are in clear agreement with their counterparts at Ulster that quality of chosen course/programme and availability of a place on students' preferred course are the most important factors in students' decisions to study at LYIT (the proportions indicating 'very important' or 'important' factors were 92% and 91% respectively). Preference for the North West as a location to study was seen as the least important of factors cited in students' decision to study at LYIT (56.3% of respondents said that this is 'very important' or 'important').

With regard to our survey of post-primary schools and sixth-form colleges in the region, our new primary research evidence indicates that availability of preferred course is a key factor influencing a school-leaver's decision to study at a particular HE institution (96% of respondents felt that it is 'very important' or 'important'). On the other hand, a relatively low proportion of respondents (40%) indicated that preference for the region as a place of study is 'very important' or 'important'.

10. Views Regarding Enhancing Higher Education Provision in the NWGSA Region

We have considered both external and internal views regarding the potential benefits, and possible disadvantages, of enhanced collaboration between Ulster and LYIT.

The results from our survey of businesses and employers in the NWGSA Region are noteworthy for the strength of views placed on the need to enhance the range and quality of HE in the region and also for the very high degree of consistency in views among businesses and employers in the Donegal and NI parts of the region. Across the region, businesses and employers attach a very high degree of importance to improving the range and quality of undergraduate, postgraduate and lifelong learning study as well as initiatives aimed at enhancing commercialisation of research and R&D.

Second-level schools/sixth-form colleges in the region emphasise the importance of offering a wider range of undergraduate courses with professional accreditation and enhanced relationships/links with local businesses and employers in the NWGSA Region. Schools in the region also believe that opportunities to engage in study in each part of the region (e.g. Donegal as well as the NI part and *vice-versa*) are important in influencing students' decisions to remain and study in the region.

The survey results in respect of students at Ulster and LYIT echo the second-level schools survey results in that existing students at either institution are of the view that a greater range of undergraduate courses/programmes and more such programmes with professional accreditation would make studying in the NWGSA Region more attractive. Enhanced relationships/links with local business and industry are also felt to be important in helping to make third-level study in the region more attractive.

Our surveys of staff at Ulster and LYIT exhibit a high level of agreement on the importance of a range of potential benefits from enhanced collaboration between Ulster and LYIT. The very positive survey results reveal likely significant benefits as including the development of new undergraduate and postgraduate courses, raising the profile of LYIT and Ulster in NI and RoI respectively and opportunities for collaborative research and technology exchange. Also noteworthy is the consistent view that enhanced collaboration between Ulster and LYIT is unlikely to constrain possible linkages between each of these institutions and other HEIs.

11. Summary of Findings and Potential Collaboration Opportunities

The main findings of the Scoping Study are given in the following table.

Main Findings of the Scoping Study

There is considerable scope, and need, to develop and enhance the provision and role of higher education (HE) for the betterment of the NWGSA Region in the following areas:

- ✓ Full-time undergraduate course development;
- ✓ Full-time postgraduate programme development;
- ✓ Part-time undergraduate and postgraduate study lifelong learning;
- ✓ Collaboration with local business and industry regarding information and technology exchange, R&D/innovation and the attainment of other higher-order functions (e.g. business development);
- ✓ Specialist incubation and graduator support for businesses in high-tech sectors with significant growth and employment potential.

Source: Indecon/LE.

A tabular summary of the factors underpinning the main findings of the Scoping Study are set out in the table below.

Factors Underpinning the Main Findings of the Scoping Study

- 1. At the highest level is the importance of enhancing educational attainment and skills acquisition as key inputs into the development of the knowledge-based economy (Lisbon Goal).
- 2. High-level policy studies in the context of all-island initiatives, such as the Comprehensive Study on the All-Island Economy (2006) and the All-Island Skills Study (2008), emphasise cross-border collaboration in higher education.
- 3. Various cross-border initiatives currently underway in the NWGSA Region recognise the importance of improving educational attainment in the Region and the importance of enhancing co-operation between Ulster and LYIT as the leading third-level education providers in the region.
- 4. The analysis of independent and official data reveals a relatively low level of HE provision currently in the NWGSA Region, which may act as a competitive weakness of the Region on a per-capita basis, the number of full-time HE students in each part of the NWGSA Region is lower compared with other parts of the island of Ireland as well as NI and RoI overall.
- 5. The socio-economic profile of the NWGSA Region indicates a need for the region to 'catch-up' with elsewhere in the island of Ireland in terms of HE provision and in terms of higher educational attainment among its residents.
- 6. New survey evidence reveals very strong support among local businesses and employers for enhanced co-operation between Ulster and LYIT for the economic development of the NWGSA Region.
- 7. New survey evidence further reveals very strong support among both staff and students at each of Ulster and LYIT for enhanced co-operation in HE.
- 8. The areas identified above for enhanced collaboration are consistent with projected demand developments in HE within the NWGSA Region as well as reflecting the very positive support of external and internal stakeholders in the region
- 9. The proposed areas for enhanced collaboration also take account of differences in the HE operating environments North and South, including the cap on full-time undergraduate students in NI and fee differences we believe these should not adversely affect plans for enhanced co-operation between LYIT and Ulster.
- 10. The proposed areas for enhanced collaboration also reflect the respective strategic plans of LYIT and Ulster.
- 11. Enhanced collaboration will also have long-run strategic value for each institution for example, enhanced collaboration will permit Ulster to develop its presence in the South and will facilitate LYIT to broaden its learner base.
- 12. Enhanced collaboration is also likely to open up new opportunities for Ulster and LYIT to access EU research funds.
- 13. Enhanced collaboration is also likely to be significant in a wider EU and international context

 it would serve to project a positive signal for the NWGSA Region that could lead to further benefits for the Region and for each institution.

Source: Indecon/LE.

The next table overleaf presents a tabular summary of potential opportunities arising from enhanced collaboration between LYIT and Ulster, under the main headings of cross-cutting themes, full-time undergraduate course development, full-time postgraduate course development, lifelong learning, research and technology exchange (which comprises a broad range of activities including training for employers and employees, mentoring support, IP and R&D).

Other possible areas that may work to the mutual advantage of both institutions concerns attracting international students to the NWGSA Region – given the natural beauty and unique features of the area and the opportunity to engage in study in a varied range of subjects.

Potential Collaborative Opportunities and Key Requirements

Key Cross-Cutting Themes of Enhanced Collaboration

- **4** Maintain and develop existing collaboration between LYIT and Ulster
- Ensure a focus on developing STEM subjects vital for economic development (in business, finance and health as well as in science and technology)
- 4 Maximise complementary strengths of Ulster and LYIT
- Tailor collaboration towards local school-leavers and employers to ensure greater retention of the brightest students in the region, development of high value employment and inward investment potential

Full-Time Undergraduate Course Development

- Expand the range of courses to attract and retain more students in the region (e.g. arts as well as technology subjects, niche courses like renewable energy technologies, teacher training courses, 'para'-professional courses)
- Lensure rigorous quality standards on new jointly developed courses
- 4 Consider incorporating work placements as part of new collaborative courses
- Expanding full-time undergraduate course provision will serve to create a 'critical mass' of HE in the region, which in turn has the potential to generate further demand for postgraduate and executive education study

Full-Time Postgraduate Course Development

- 4 Maintain and develop the MSc in Innovation Management in the Public Service (including variants aimed at other executives)
- Maintain the Postgraduate Certificate in Higher Education Practice (PgCHEP) and subsequent qualification opportunities (at diploma and masters levels)
- 4 Consider the development of a 'joint graduate school' with centres at Letterkenny, Magee and Coleraine
- Develop PhD capacity in Donegal (through doctoral study among LYIT staff and students at Ulster and other HEIs) this would have the additional benefit of furthering developing research in LYIT
- Consider also the development of 'professional PhDs' in the region e.g. DNSc (aimed at specialised nursing practitioners in the region) (the DNSc is currently available at all Ulster campuses)

Lifelong learning

- Given the importance of skills acquisition and projected demographic trends, lifelong learning will become critically important in the socio-economic development of the NWGSA Region
- 4 It will be particularly important to ensure lifelong learning in STEM subjects, in order to help underpin skills development in relation to high value employment in the region
- Fundamental to maximising the potential of lifelong learning will be appropriate RPL/AP(E)L and flexible delivery modes (including e-learning) important that a consistent approach to both is taken by LYIT and Ulster in joint course development

Research

- Specific areas of potential collaboration include marine, biomedicine, biotechnology, electronics, computing (including games), business and creative technologies
- Maintain and develop existing collaborative initiatives (e.g. EpiCentre)
- Consider the development of Creative Technologies (Industries) Research Centre between Ulster (Magee), LYIT and NWRC (North West Regional College)
- Potential to compete for future public research funds in RoI

Technology/Knowledge Exchange

- 4 This has significant potential given recent and planned developments at LYIT and Ulster
- Enhanced collaboration via pooling of expertise would see greater availability of experts, wider geographic coverage (across the NWGSA Region), greater opportunities for student placements and support for such higher-order functions as business development and innovation
- + Ensuring appropriate publicity and sign-posting of business support functions at LYIT and Ulster will be important

Source: Indecon/LE

12.Concluding Remarks

The overall conclusion of the Scoping Study is that there is need to further augment the provision of higher education (HE) in the NWGSA Region. The two largest HE providers in the region – LYIT and Ulster – have a tradition of collaboration in teaching and research that has contributed to the development of the region, and we consider that enhanced strategic collaboration between them offers the most effective means of boosting both the quantity and quality of HE provision in the region.

The NWGSA Region has one of the largest populations in the island of Ireland and we believe there is now a unique opportunity for both LYIT and Ulster to come together in a more proactive way than hitherto to grow their market, retain a larger proportion of the brightest and most talented students in the region and from other parts of the island, enhance local worker skill levels and contribute significantly to the economic, social and cultural development of the region.

The next stage of the overall project will be to consider the development of the 'blueprint' of how best to realise the enhanced collaboration identified in the Scoping Study. We believe that the second stage of the project should examine (*inter alia*) the specific complementary strengths of each institution (as identified in our institutional profiles of LYIT and Ulster) and should also be mindful of various possible models of strategic collaboration among higher education institutions, including examples of existing collaboration internationally (which we have considered as part of our research in the course of the Scoping Study). Consideration also needs to be given to any possible legislative implications or requirements of enhanced strategic collaboration between Ulster and LYIT.

Acknowledgements

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APPENDIX 2 - CONNACHT-ULSTER STRATEGIC ALLIANCE AGREEMENT

Connacht-Ulster Alliance

09/07/2012

Connacht-Ulster Strategic Alliance Agreement

between

the Institutes of Technology at Galway-Mayo, Letterkenny and Sligo

AGREEMENT: Made on July 9th, 2012.

BETWEEN: Institutes of Technology at Galway-Mayo, Letterkenny and Sligo (the partners).

WHEREBY: The partners commit to an alliance to deliver on jointly agreed strategic objectives that meet the higher educational service needs of the business and wider communities of the Connacht-Ulster Region of Ireland. This alliance will be known as the Connacht-Ulster Alliance (or the CU Alliance).

Scope: This strategic alliance agreement is intended to provide a clear statement of the depth and breadth of the proposed collaboration between the three partners. Throughout the collaboration proposed in this agreement, the partners will retain their legal independence.

Statement of ambition of the CU Alliance

The three institutions are forming the CU Alliance with the stated ambition of achieving redesignation as a Technological University.

The mission of the alliance will reflect the specific socio-economic profile of students in the Connacht-Ulster region, the opportunities presented by the region's magnificent natural landscape, the proximity to the border and the growth in high technology industries. Specifically, the CU Alliance will provide academic leadership to exploit existing strengths and collaboratively develop new opportunities in areas of strategic importance, in the realms of Business, Engineering, Science and Humanities.¹.

In particular, the CU Alliance will bring coherence to higher education in the region by:

- Within 12 months, formally agreeing a common mission and vision and developing common, shared strategic objectives, with a focus on collaboration.
- b) Agreeing a trajectory to achieve re-designation as a Technological University.
- c) Forming a cluster with other higher education and further education providers in the Connacht and Ulster regions.

Characteristics of the CU Alliance

- Leadership of the social and economic development of the Connacht-Ulster region, through enhanced access and the provision of industry-relevant and professionally focussed programmes of higher education;
- b) Vibrant working relationship with the business community, including employers in the Connacht-Ulster region, who will have a corporate role in providing direction and guidance on the education provision. The collective suite of programmes offered by the CU Alliance will be developed to meet the needs of employers, students and the wider community;
- Flexible teaching and learning platform that builds on its established reputation for cost effective and online delivery;

Final Version

³ For example: life sciences, creative industries, ICT, marine, tourism, agri-food, and the energy sector.
- d) Enhanced student access, transfer and progression pathways between and through the institutions in the alliance;
- e) Externally acknowledged as a high profile higher education alliance in the European higher education arena in its provision of learning and teaching that is informed by applied research;
- A higher education alliance delivering an internationally recognised and valued learning experience for students, leading to greater employment opportunities, as indicated by the demand for its programmes and graduates who are employable upon completion of their programmes of study;
- g) Through partnership, delivering its services more cost effectively and efficiently;
- More direct and effective access by the business and the wider community to the full range of knowledge transfer, business support and incubation services.

Rationale

This agreement arises from the impetus created by the recently published National Strategy for Higher Education to 2030 (DES, 2011) in Ireland that creates a context in which the partners will provide a significantly more focussed range of educational services that respond better to the needs of learners and of the businesses and employers in the region.

The CU Alliance identifies areas where significant added value to the student experience, student learning, the engagement with the business community, resource management and community collaboration may be achieved. The institutions concerned have a track record of cooperation, for example within Líonra. Other examples include ignite West – A regional Technology Transfer Consortium (NUIG (Lead), GMIT, LYIT and IT Sligo) and the New Frontiers Programme (LYIT and IT Sligo).

Alliance Profile

The demographics of the Connacht-Ulster region is particularly characterised by a rural population, on the periphery of Europe, spread across eight counties in the Republic of Ireland in addition to Northern Ireland. The North West is a recognised constituency of the European Parliament. The Alliance between the three Institutions, representing two of four provinces in Ireland, brings cohesion in higher education provision across this region.

The CU Alliance will maintain the professional and vocational education ethos of the constituent IoTs and will develop its programme offerings in close collaboration with industry. There will be a student-centred approach, underpinned by a shared staff development plan that builds on the existing high calibre pedagogical delivery that supports the currency, relevance and sustainability of programmes.

The alliance will develop a common overarching academic quality assurance framework that will be approved through each of its Academic Councils. The CU Alliance QA Framework will be aligned to the national QA Framework and the development of the proposed TU Quality Assurance procedures. Policies in the area of collaborative, transnational, and joint awards, in consultation with HETAC/QQAI will also be developed. A specific set of operational procedures for ensuring the quality assurance of the collaboration between the members of the Alliance will be developed.

The CU Alliance will form a cluster with universities and colleges of Further Education in the region. The cluster will provide tailored support for regional development, stakeholder engagement and engagement between higher education providers, including cross border. The Alliance partners will explore the validation and provision of joint awards for levels 9 and 10 research programmes with cluster universities.

As part of this agreement, it is proposed to develop common strategies, with a view to consolidating services for the following functions across the alliance:

- Programme Offerings
- Online Provision
- Access Support
- Research and Innovation Support
- Library Services
- International Offices
- Careers Services
- MIS
- Human Resources
- Financial Services

Student and Graduate Profile

The CU Alliance will be a leader in providing accessible pathways and alternative routes to higher education. Specifically the alliance will further develop access initiatives for students from socioeconomic disadvantage, mature, first time education and further education backgrounds and will actively promote and implement admissions based on the recognition of prior learning (RPL).

The portfolio of programmes offered by the CU Alliance will attract and be relevant to the needs of the growing population of students from the region.

The alliance will be defined by the quality and employability of its graduates. The alliance, through its academic programmes and approach to learning and teaching, will ensure that all its graduates have a comprehensive understanding of relevant disciplines, professional knowledge and skills appropriate to their awards.

Staff Profile

The CU Alliance acknowledges the achievements and capabilities of its staff and will continue to recruit staff with significant professional work experience and competence in relevant employment roles. The alliance is cognisant of the metrics and profile specified for academic staff in the criteria for TU and will have a heightened awareness of the need for coordinated recruitment of staff with the potential to contribute to teaching and research objectives.

Targeted professional doctorate provision will be established across the alliance for academic staff with potential for up-skilling. Research opportunities will be supported through bursaries and research capacity building initiatives, work allocations and through support for the dissemination of research findings through academic and professional publications and conferences and seminars.

Staff will be trained appropriately and will collaborate with their counterparts across the alliance.

The CU Alliance will develop administrative and technical support structures that ensure optimal integration of services, where appropriate, and will provide the necessary training and development for administrative staff to achieve this integration. The alliance will review its work practices across the 3 institutions with a view to developing more effective workflow efficiencies and businesses processes.

Teaching, Learning and Curriculum Development

Student centred learning will be the focus of the Learning and Teaching Strategy for the CU Alliance. The alliance will respond to the unique dimensions of disadvantage in our region. There will be a particular drive to develop part-time, flexible and blended delivery methods appropriate to the learning styles of the student cohort. There will be a high priority given to the development of online delivered programmes with a particular focus on bespoke delivery to meet the needs of industry.

The CU Alliance will deliver higher education major programmes at levels 6 to 10 on the National Framework of Qualifications (NFQ) and Minor, Supplemental, and Special Purpose Awards, based on the identified needs of students and employers.

As part of the common shared strategic objective, the alliance will collaborate to provide programmes in strategically important areas, in line with the Higher Education Strategy.

Research

The CU Alliance recognises that there is a significant effort required to achieve the metrics for research in the HEA Technological University criteria.

The alliance, together with regional businesses and the community, will agree a common Research, Development & Innovation Strategy that builds a vibrant and visible research and innovation community. This will be informed by the niche and differentiated research expertise of the three institutions, and the priorities of the geographical regions being served. The alliance will establish a small number of high quality research centres of excellence capable of competing for national and international funding. The alliance recognises that, while there is a high level of research expertise within the three Institutions, it will work towards growing new applied research areas.

The alliance proposes to develop a joint research strategy.

The partners in the CU Alliance will collaborate with each other in making joint applications for research funding.

International Profile

The partners will combine their resources to substantially grow the number of international students across the CU Alliance institutions. The alliance supports the objectives, targets and strategic actions outlined in investing in Global Relationships² and will develop a common international strategy for the Connacht-Ulster region. The objectives of this strategy will be to identify niche markets for the recruitment of international students and establishment of structures to ensure the sustainability of the provision of a quality experience for international students. The strategy will also generate non-exchequer income through the recruitment of non-EU students and will optimise the utilisation of resources in the provision of education to these students.

The alliance will develop a strategy for teaching and research collaborations with international HE providers.

The alliance will also develop collaborations with international partners in the provision of student support services.

Leadership, Management and Governance

This agreement has the approval of the Governing Bodies of the three partner Institutions. A CU Alliance Working Committee will be constituted to consider the governance and management of the alliance. This committee will monitor and report on progress towards the objectives of the alliance,

² Investing in Global Relationships 2010-2015, Report of the High-Level Group on International Education to the Tánaiste and Minister for Education and Skills, September 2010.

to recommend actions and to oversee the communication process. The importance of coordinated and managed communication is recognised and a common approach will be established.

Implementation Plan

An immediate task following the signing of this agreement is the development of an implementation plan. This will clearly set out objectives and timelines. An early element in the process will involve developing and communicating a risk assessment and business plan.

A draft implementation plan will be approved by December 2012.

Signed under seal, on behalf of Galway-Mayo Institute of Technology

Governing Body Chair

Date: President

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Signed under seal, on behalf of Institute of Technology, Sligo

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Signed under seal, on behalf of Letterkenny Institute of Technology

Harry Me Goway Governing Body Chair 97112 Date: a President 2012 Date: Final Version



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APPENDIX 3 – INSTITUTIONAL RECOGNITION REPORT

Paper No: ADEC/09/

UNIVERSITY OF ULSTER

Agenda Item:

ACADEMIC DEVELOPMENT AND ENHANCEMENT COMMITTEE 27 October 2009

REPORT OF INSTITUTIONAL APPROVAL VISIT LETTERKENNY INSTITUTE OF TECHNOLOGY – 30 SEPTEMBER 2009

The Committee is asked to recommend to Senate that Letterkenny Institute of Technology be approved as a recognised institute of the University of Ulster.

Report of Institutional Approval Visit Letterkenny Institute of Technology 30 September 2009

Panel: Prof Denise McAlister, PVC Teaching and Learning Prof Paul Fleming, Associate Dean Life and Health Sciences Prof Deirdre Heenan, Dean of Academic Development, Magee

In attendance: Gráinne Dooher, Quality Management & Audit Unit

Letterkenny Institute of Technology Representatives: Mr Paul Hannigan, President Mr Danny Brennan, Registrar Mr John Andy Bonnar, Head of Development Mr Billy Bennett, Head of School of Business Studies Mr Denis McFadden, Head of School of Engineering Dr Gertie Taggart, Head of School of Science Dr Seán Duffy. Head of School of Tourism, Ms Mary Daly, Estates Manager (Tour of Resources)

1. Introduction

An Institution seeking to become a partner of the University of Ulster must be evaluated under the Procedures for Approval of Partner Institutions as agreed by ADEC in October 2008. Under these procedures, Letterkenny Institute of Technology submitted documentation outlining the various aims, objectives, policies and procedures that are in place to ensure a quality learning experience and environment for the students in their institution. This documentation was evaluated by QMAU in consultation with other Departments. In general, the Institution was found to be sound and represented a low risk to the University. As part of the procedures the University is required to undertake an Institutional Approval Visit which provides an opportunity to evaluate resources and investigate further any queries which may have arisen during the review of documentation. This report outlines the major issues which were discussed and clarified during the recent institutional approval visit to Letterkenny Institute of Technology.

2. Background to Letterkenny Institute of Technology

Letterkenny Institute of Technology was established in 1971 as Letterkenny Regional Technical College offering courses at certificate and diploma level.

The Regional Technical College Act 1992 established the RTC's as separate legal entities, provided for Governing Bodies and Academic Councils, set out the colleges' roles including a research agenda and removed them from the control of VECs. RTC's were renamed Institutes of Technology in 1998. In 2004 Letterkenny IT obtained delegated authority to make awards up to and including honours degrees, this was extended to include taught post-graduate programmes in October 2007.

Mission

To continuously develop as an academic institution of international report, serving regional and national needs and pursuing, in a collaborative fashion, an ambitious progressive agenda that delivers on the aspirations of its vibrant Institute population and its external stakeholders.

<u>Vision</u>

To be the higher education institution of choice for a wide spectrum of learners on a broad range of employment – focused, high quality education and training programmes delivered in a supportive and increasingly innovative learning environment.

To make a major contribution to the development of the region in partnership with stakeholders through the exploitation of research, innovation and enterprise.

Letterkenny Institute has delegated authority from the Higher Education Training and Awards Council (HETAC). HETAC is the awarding body for third level and training institutions, outside of the University Sector in the Republic of Ireland. This statutory body has as part of its remit:

- setting standards, accrediting programmes and awarding qualifications at all levels of higher education and training;
- providing assurance to the public that programmes of higher education and training are above an acceptable threshold level of quality and that objective quality assurance processes are in place to meet the expectations of Irish Society and the International Community;
- delivering a quality improvement service to accredited educational providers so as to contribute to raising standards to increasingly higher levels.

HETAC undertook a review of Letterkenny IT in which was completed in June 2009 and found the Institution to be sound.

3. Tour of Resources

The panel was given a tour of the buildings including teaching facilities, library and IT facilities, the students union and student support facilities. It was noted that there has been over €60m capital investment in the Institution including the recently completed Business Development Centre which acts as a conduit for emerging local businesses to develop and grow. The panel was satisfied that resources meet the University requirements.

4. Meeting with Panel

4.1 Presentation by President of Letterkenny Institute of Technology

The president of Letterkenny Institute of Technology, Mr Paul Hannigan gave a presentation to the panel. The presentation outlined the development of and strategic plans for the institution, taking into account the current and imminent developments in the Higher Education sector in the Republic of Ireland.

Letterkenny Institute of Technology was established by statute and has delegated authority from the Higher Education and Training Awards Council (HETAC) to make awards up to level 9. The Institute has grown substantially in recent years. Student numbers have increased 100% since 1994 to a current total of 2740 full time students. Letterkenny has a substantial proportion of mature students (classified as those over 23) who now make up almost 27% of the total student population.

The Institution currently has 345 staff members; this includes 188 teaching staff, 73 administrative staff, 47 technical staff and 23 maintenance staff. The funding authority for Higher Education in the Republic of Ireland, the HEA, has instructed all third level institutions to implement a 3% reduction to staff costs; these will be made via natural wastage and retirements.

Letterkenny has two campuses, the primary campus located in the town of Letterkenny and a smaller campus in Killybegs, catering mainly for students in the School of Tourism. The institution has four schools in total, Business, Engineering, Science and Tourism, these schools have ten Departments in total. Letterkenny has fully modularised and semesterised programmes.

Letterkenny Institute contributes greatly to the social and economic environment in the county. A first destination survey of graduates indicated that over 50% of graduates are employed in Donegal. Furthermore, it is estimated that the economic impact of the Institute to the local economy is in the region of €100m per annum.

The Institute is required by legislation to have a governing body made up of representatives from local industries, public and statutory bodies as well as academic, non-academic and student representatives and an academic council. The Institute also has an Executive Council and a smaller Executive Board which is the Senior Management Group in the Institute and comprises the President, Registrar, Head of Development, Financial Controller and the four Heads of School.

The Institution' strategic plan was published in 2007 and focuses on development until 2013. However, the plan is impacted by external factors, namely the downturn in the economy and the impact that this has on government funding and by the lack of space on the current campus which will limit expansion. Despite these factors, the Institute is still committed to expansion and is actively seeking to acquire land to facilitate this.

The presentation outlined the current policy developments in the Republic of Ireland that were likely to have an impact on Higher Education provision. The panel was informed that an Advisory Group on Higher Education would be reporting by end of 2009. This group is tasked with identifying how the sector can be rationalised and developed in order to meet the changing needs of the country in the future and is likely to have a significant impact on the Institute of Technology Sector in the Republic of Ireland. A further development which may impact is the amalgamation of several bodies in the Republic of Ireland; HETAC, FETAC, NQAI and IUQB. This will require legislation which is imminent, however, Letterkenny are currently lobbying to ensure that the legislation will make provision for Institutes of technology to be able to award validated programmes from other institutions.

4.2 <u>Panel Discussion</u>

Likely impact of policy developments on Letterkenny Institute of Technology

The panel was informed that have been a number of reports in the Republic of Ireland recently aimed at tackling the budget deficit in the Government finances. One report has already recommended amalgamations between institutions. The imminent report of the Advisory Group on Higher Education is likely to recommend cross-sectoral collaboration as a way of addressing curriculum deficits in specific regions.

The institute also informed the panel that all indications pointed to fees being introduced in the next academic year and that they had been obliged by the HEA to inform first year students that they were likely to pay fees next year. When asked about the impact that this would have the Institute stated that they felt that the perception of the introduction was likely to be worse than the reality. Over two thirds of students at the Institute do not pay the current registration fee (\pounds 1500) as it is means tested and the likelihood would be that they would not have to pay any fees should they be introduced. As an addendum to this issue of fees it has been stated by the coalition Government in the Republic that student fees will not be introduced in the life time of the current Government. This may have resource implications for third level development in the Republic of Ireland.

Constraints on numbers of Full Time students.

The institute has no cap placed on the numbers of students that they recruit, however they are limited by a staffing cap and to that end expansion is curtailed by this. The institute is creating efficiencies to deal with this staff freeze including an increased sharing of modules. They have reached capacity in a number of Departments however, there still remains some capacity in others.

Staffing costs in the Institution.

Staffing costs are typically 80% of total income which is the norm in the sector. The reduction in numbers in line with benchmarks set by the funding authority will have an impact on this ratio moving forward.

Funding for Capital projects taking into account the current fiscal environment

Funding for capital projects comes directly from Government. In 2002 a prioritisation group was set up to make decisions on capital investment in Higher Education. A similar group will almost certainly be formed again

Killybegs Campus

The Institute informed the panel that Killybegs Catering College merged with Letterkenny IT in 2007. They acknowledge that the campus needs significant development.

Replacement Cycle for Equipment

The Institute builds the money required for replacement of equipment into their budgets for the year. The Institute does upgrade their library stock on an ongoing basis but the Institute of Technology Sector does not have the same resources as the University sector in this regard.

Continuing Professional Development

The Performance Management and Development System (PMDS) facilitates management and individual staff to examine elements of continuous professional development that may be needed. PMDS meetings with line managers are held annually, at these meetings targets are set for the year and training is identified to enable the member of staff to reach the targets. The Institute has also stated that it will not cut back on the training budget despite the funding climate.

Student Support Service

The student support service, particularly that for careers and counselling was perceived to be modest by the panel. The Institute stated that they are linking in more external support and that to some extent they are limited by space. They acknowledged that in the current economic climate the careers service would need to focus on employability skills and that the Institute as a whole needs to pursue the embedding of employability in the curriculum as a whole. The panel commended the maths development centre which provides additional support and tuition for those students who feel they require it on a one to one or group basis. The institute informed the panel that they are seeking to develop this service for literacy skills also.

Assessment and Student Consultation

The institute recognises the importance of external examiners and confirmed that there is a code in place for recruitment of these. It is the policy of the Institute that external examiners mark a sample of assessments.

A review of assessment measures has been initiated by the institute following a comment by HETAC in their recent review that assessment was primarily examination based. This review is ongoing.

The Institute confirmed that there are a number of formal and informal mechanisms for student consultation including school student committees, a student survey and an open door policy which all staff adopt in their approach to students in the institution.

Partnership with University of Ulster

The Institute feels that a partnership with the University of Ulster would aid regional development, provide an opportunity for the region to retain graduates and provide programmes that are not currently available in the North West. They see potential for collaboration in a lot of areas particularly in the areas of CPD, Part Time provision and Research. As mentioned previously, the Institute stated that they have lobbied to ensure that legislation will be drafted to ensure that they will have the capacity to offer validated programmes from other institutions. The Blueprint for the Northwest Gateway Strategic Alliance which is due to be completed in December 2009 will identify potential areas for collaboration and examine how these can be progressed having regard to current and potential governance arrangements, requirement of third party involvement, additional resources and a realistic timeline.

5. Conclusions and Recommendations

The panel wished to record its thanks to Letterkenny Institute of Technology for the hospitality it was shown during the visit. The panel was satisfied that, based on the documentation provided prior to the visit and as a result of clarifications provided during the visit that Letterkenny Institute of Technology meets the University of Ulster requirements to become a recognised institute of the University of Ulster.

The panel acknowledged that the nature and extent of any specific collaboration between the two institutions could not be determined until various strategic issues were resolved. These include, inter alia, the potential changes which the review of the Higher Education Strategy in the Republic of Ireland could propose, the publication of the blueprint for the Northwest Gateway Strategic Alliance, the necessary governmental approval that this may require and, allied to this the tailored governance framework which would be required to facilitate the effective working of such a partnership.

ADEC is asked to recommend to Senate that Letterkenny Institute of Technology be approved as a recognised institute of the University of Ulster.

APPENDIX 4 – LYIT STATISTICAL PROFILE

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Year 1	788	1009	1068	1261	1027	1009
Year 2	518	478	633	695	780	703
Year 3	464	441	485	575	609	585
Year 4	305	302	331	334	346	350
Post-grad	45	39	54	89	90	65
Total	2120	2269	2571	2954	2852	2712

Table 1 Student Numbers for 2006/07 to 2011/12 by year of study

Table 2 Student Percentages by year of study for 2006/07 to 2011/12

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Year 1	37.2	44.5	41.5	42.7	36	37.2
Year 2	24.4	21.1	24.6	23.5	27.3	25.9
Year 3	21.9	19.4	18.9	19.5	21.4	21.6
Year 4	14.4	13.3	12.9	11.3	12.1	12.9
Post-grad	2.1	1.7	2.1	3	3.2	2.4
Total	100	100	100	100	100	100

Table 3 Student Numbers for 2006/07 to 2011/12 by School

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	1156	1102	1216	1296	1227	1147
Science	582	658	757	992	1049	1104
Engineering	357	402	459	522	431	299
Tourism	25	107	139	144	145	162
Total	2120	2269	2571	2954	2852	2712

Table 4 Student Percentages by School for 2006/07 to 2011/12

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	54.5	48.6	47.3	43.9	43	42.3
Science	27.5	29	29.4	33.6	36.8	40.7
Engineering	16.8	17.7	17.9	17.7	15.1	11
Tourism	1.2	4.7	5.4	4.8	5.1	6
Total	100	100	100	100	100	100

Table 5 Student Numbers for 2006/07 to 2011/12 by Department

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
BS	654	679	674	677	670	584
DM	202	201	212	248	204	211
LH	300	222	330	371	353	352
СС	262	327	356	363	266	176
ЕМ	95	75	103	159	165	123
СР	197	215	218	368	387	396
NH	287	306	367	377	392	421
SC	98	137	172	247	270	287
GC	13*	65	81	77	78	100
НТ	12*	42	58	67	67	62
Total	2120	2269	2571	2954	2852	2712

* Actual number of 25 divided equally between the two Departments in the School of Tourism *Departments*

School of Business: BS - Business Studies, DM -Design and Creative Media, LH - Law and Humanities. School of Engineering: CC - Civil Engineering and Construction, EM - Electronic and Mechanical Engineering. School of Science: CP - Computing, NH - Nursing and Health Studies, SC – Science. School of Tourism: GC - Gastronomy and Culinary Arts, HT - Hospitality and Tourism.

Table 6 Student Percentages by Department for 2006/07 to 2011/12

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
BS	30.8	29.9	26.2	22.9	23.5	21.5
DM	9.5	8.9	8.2	8.4	7.2	7.8
LH	14.2	9.8	12.8	12.6	12.4	13
СС	12.4	14.4	13.8	12.3	9.3	6.5
ЕМ	4.5	3.3	4	5.4	5.8	4.5
СР	9.3	9.5	8.5	12.5	13.6	14.6
NH	13.5	13.5	14.3	12.8	13.7	15.5
SC	4.6	6	6.7	8.4	9.5	10.6
GC	0.6*	2.9	3.2	2.6	2.7	3.7
НТ	0.6*	1.9	2.3	2.3	2.3	2.3
Total	100	100	100	100	100	100

* Actual percentage of 1.2 divided equally between the two Departments in the School of Tourism.

School		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	F	726	701	752	735	689	590
	Μ	430	401	464	561	538	557
	Total	1156	1102	1216	1296	1227	1147
Engineering	F	32	43	50	45	30	19
	Μ	325	359	409	477	401	280
	Total	357	402	459	522	431	299
Science	F	354	413	493	573	618	646
	Μ	228	245	264	419	431	458
	Total	582	658	757	992	1049	1104
Tourism	F	17	65	73	80	80	83
	Μ	8	42	66	64	65	79
	Total	25	107	139	144	145	162
Institute	F	1129	1222	1368	1433	1417	1338
	М	991	1047	1203	1521	1435	1374
	Total	2120	2269	2571	2954	2852	2712

Table 7 Student Numbers for 2006/07 to 2011/12 by School and Gender

Table 8 Student Numbers for 2006/07 to 2011/12 by Mode of Study

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Full-time	2120	2269	2571	2954	2852	2712
Part-time	383	439	437	382	429	342
Total	2503	2708	3008	3336	3281	3054

Table 9 Student Percentages by Mode of Study for 2006/07 to 2011/12

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Full-time	84.7	83.8	85.5	88.5	86.9	88.8
Part-time	15.3	16.2	14.5	11.5	13.1	11.2
Total	100	100	100	100	100	100

School		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	F	62.8	63.6	61.8	56.7	56.2	51.4
	М	37.2	36.4	38.2	43.3	43.8	48.6
	Total	100	100	100	100	100	100
Engineering	F	9	10.7	10.9	8.6	7	6.4
	М	91	89.3	89.1	91.4	93	93.6
	Total	100	100	100	100	100	100
Science	F	60.8	62.8	65.1	57.8	58.9	58.5
	М	39.2	37.2	34.9	42.2	41.1	41.5
	Total	100	100	100	100	100	100
Tourism	F	68	60.7	52.5	55.6	55.2	51.2
	М	32	39.3	47.5	44.4	44.8	48.8
	Total	100	100	100	100	100	100
Institute	F	53.3	53.9	53.2	48.5	49.7	49.3
	М	46.7	46.1	46.8	51.5	50.3	50.7
	Total	100	100	100	100	100	100

Table 10 Student Percentages by School and Gender for 2006/07 to 2011/12

Table 11 Student Numbers for 2006/07 to 2011/12 by School and Mature Category

School		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	Mature	192	246	322	347	373	345
	Non Mature	964	856	894	949	854	802
	Total	1156	1102	1216	1296	1227	1147
Engineering	Mature	38	66	75	124	136	94
	Non Mature	319	336	384	398	295	205
	Total	357	402	459	522	431	299
Science	Mature	164	189	185	299	328	338
	Non Mature	418	469	572	693	721	766
	Total	582	658	757	992	1049	1104
Tourism*	Mature		28	53	72	74	69
	Non Mature		79	86	72	71	93
	Total	25	107	139	144	145	162
Institute	Mature		529	635	842	911	846
	Non Mature		1740	1936	2112	1941	1866
	Total	2120	2269	2571	2954	2852	2712

*Data on the breakdown of Mature/Non Mature is not available for Tourism students in 2006/2007. Tourism College Killybegs (TCK) only became part of LYIT in 2007.

School		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Business	Mature	16.6	22.3	26.5	26.8	30.4	30.1
	Non Mature	83.4	77.7	73.5	73.2	69.6	69.9
	Total	100	100	100	100	100	100
Engineering	Mature	10.6	16.4	16.3	23.8	31.6	31.4
	Non Mature	89.4	83.6	83.7	76.2	68.4	68.6
	Total	100	100	100	100	100	100
Science	Mature	28.2	28.7	24.4	30.1	31.3	30.6
	Non Mature	71.8	71.3	75.6	69.9	68.7	69.4
	Total	100	100	100	100	100	100
Tourism	Mature		26.2	38.1	50	51	42.6
	Non Mature		73.8	61.9	50	49	57.4
	Total		100	100	100	100	100
Institute	Mature		23.3	24.7	28.5	31.9	31.2
	Non Mature		76.7	75.3	71.5	68.1	68.8
	Total		100	100	100	100	100

Table 12 Student Percentages by School and Mature Category for 2006/07 to 2011/12 $\,$

	BS	LH	DN	CE	EM	SC	СР	NU	TKG	ТКТ	Total
Antrim											0
Armagh											0
Carlow	1				1				2		4
Cavan	3	4	1			6	4	5	2	2	27
Clare	4		1		1	1	1	2			10
Cork					1	1		2			4
Derry	3		1	3	1			3			11
Donegal	477	289	127	159	102	188	300	290	70	48	2050
Down											0
Dublin	3	4	3			7	3	3		2	25
Fermanagh	1										1
Galway	7	7	7			9	1	8		1	40
Kerry		1	2	1	1		1	1			7
Kildare	1	1	3		1	4			1		11
Kilkenny			1			3		1			5
Laois		2	2			1	1	1	1		8
Leitrim	3		3	1	1	7	2	12	2		31
Limerick		1	2			1		2			6
Longford	2	1	2		1	3		2			11
Louth	1	7	2	1		1	2	1	1	1	17
Мауо	12	6	15	3		11	10	29	7	1	94
Meath	4	2	4		2	4	1	3			20
Monaghan	13	9	12	8	4	5	17	11	1	3	83
Offaly		2	1				2				5
Roscommon	4	3	1	1	1	6	6	10			32
Sligo	7	12	9	1		16	8	31	9	1	94
Tipperary			1			1	1				4
Tyrone	1					1	1	1			4
Waterford						1	1				2
Westmeath	1	1	1	1	1	4	1	2			12
Wexford			1				1		1	1	4
Wicklow		1	1			2	2	1	2	1	10
Other	32	8	13	1	5	7	9		3	5	83
Total	580	361	216	180	123	290	375	421	102	66	2714

Table 13 Overall Intake for each Department and County of Origin 2011/12

Departments

BS - Business Studies, DM -Design and Creative Media, LH - Law and Humanities, CC - Civil Engineering and Construction, EM - Electronic and Mechanical Engineering, CP - Computing, NH - Nursing and Health Studies, SC – Science, GC - Gastronomy and Culinary Arts, HT - Hospitality and Tourism.

APPENDIX 5 – LIST OF LEVEL 6 – 9 PROGRAMMES (SEPTEMBER 2012)

PROGRAMME TITLE	LEVEL	DEPARTMENT		
Master of Arts in Accounting	9	Business Studies		
Master of Arts in Motion Graphics	9	Design & Creative Media		
Master of Business in Innovation & Leadership	9	Business Studies		
Master of Science in Computing in Enterprise Applications Development	9	Computing		
Master of Science in Computing in Systems & Software Security	9	Computing		
Master of Science in Innovation Management in the Public Service	9	Business Studies		
Master of Science in Innovation Management with Applied Research	9	Business Studies		
Master of Science in Marketing Practice	9	Business Studies		
Masters by Research	9	Business Studies, Computing, Science		
Postgraduate Diploma in Accounting	9	Business Studies		
Postgraduate Diploma in Computing in Enterprise Applications Development	9	Computing		
Postgraduate Diploma in Marketing Practice	9	Business Studies		
Bachelor of Arts (Hons) in Administration & IT	8	Business Studies		
Bachelor of Arts (Hons) in Business with Irish/French/Spanish/German	8	Law & Humanities		
Bachelor of Arts (Hons) in Culinary Arts	8	Gastronomy & Culinary Arts		
Bachelor of Arts (Hons) in Destination Tourism with Marketing	8	Hospitality & Tourism		
Bachelor of Arts (Hons) in Digital Media Design & Production	8	Design & Creative Media		
Bachelor of Arts (Hons) in Hotel, Restaurant & Resort Management	8	Hospitality & Tourism		

Bachelor of Arts (Hons) in Social & Community Enterprise	8	Law & Humanities
Bachelor of Arts (Hons) in Sport Studies with Marketing	8	Law & Humanities
Bachelor of Arts (Hons) in Visual Communications	8	Design & Creative Media
Bachelor of Arts i Riarchán Gnó (Hons)	8	Law & Humanities
Bachelor of Business (Hons)	8	Business Studies
Bachelor of Business (Hons) - part-time	8	Business Studies
Bachelor of Business (Hons) in Accounting	8	Business Studies
Bachelor of Business (Hons) in Management	8	Business Studies
Bachelor of Business (Hons) in Marketing	8	Business Studies
Bachelor of Engineering (Hons) in Embedded System Design	8	Electronic & Mechanical Engineering
Bachelor of Engineering (Hons) in Fire Safety Engineering	8	Civil Engineering & Construction
Bachelor of Engineering (Hons) in Mechanical Engineering	8	Electronic & Mechanical Engineering
Bachelor of Science (Hons) Bioanalytical Science	8	Science
Bachelor of Science (Hons) in Computing	8	Computing
Bachelor of Science (Hons) in Computing in Applied Computing	8	Computing
Bachelor of Science (Hons) in Computing in Computer Services Management	8	Computing
Bachelor of Science (Hons) in Computing with Cloud & Green IT	8	Computing
Bachelor of Science (Hons) in Computing with Computer Games Development	8	Computing
Bachelor of Science (Hons) in Computing with Computer Security & Digital Forensics	8	Computing
Bachelor of Science (Hons) in Computing with Web & Mobile Applications Development	8	Computing

Bachelor of Science (Hons) in Early Childhood Care, Health & Education	8	Nursing & Health Studies
Bachelor of Science (Hons) in Fire Safety Engineering	8	Civil Engineering & Construction
Bachelor of Science (Hons) in Food Science & Nutrition	8	Science
Bachelor of Science (Hons) in General Nursing	8	Nursing & Health Studies
Bachelor of Science (Hons) in Health & Social Care	8	Nursing & Health Studies
Bachelor of Science (Hons) in Intellectual Disability Nursing	8	Nursing & Health Studies
Bachelor of Science (Hons) in Psychiatric Nursing	8	Nursing & Health Studies
Bachelor of Science (Hons) in Sports Coaching & Performance	8	Law & Humanities
Bachelor of Science (Hons) in Sustainable Construction Management	8	Civil Engineering & Construction
Higher Diploma in Financial Services Technologies	8	Business Studies
Higher Diploma in Science in Computing	8	Computing
Bachelor of Arts (Hons) in Law with Criminal Justice/ Irish/French/Spanish/German	8	Law & Humanities
Higher Diploma in Science in Nursing Specialties	8	Nursing & Health Studies
Bachelor of Arts in Administration & IT	7	Business Studies
Bachelor of Arts in Animation	7	Design & Creative Media
Bachelor of Arts in Culinary Arts	7	Gastronomy & Culinary Arts
Bachelor of Arts in Digital Media Design	7	Design & Creative Media
Bachelor of Arts in Hotel, Restaurant & Resort Management	7	Hospitality & Tourism
Bachelor of Arts in Law with Criminal Justice/Irish/French/Spanish/German	7	Law & Humanities
Bachelor of Arts in Product Design	7	Design & Creative Media

Bachelor of Business in Management	7	Business Studies
Bachelor of Business in Marketing	7	Business Studies
Bachelor of Business in Retail Management Practice	7	Business Studies
Bachelor of Engineering in Building Services & Renewable Energy	7	Civil Engineering & Construction
Bachelor of Engineering in Civil Engineering	7	Civil Engineering & Construction
Bachelor of Engineering in Computer Engineering	7	Electronic & Mechanical Engineering
Bachelor of Engineering in Electronic Engineering	7	Electronic & Mechanical Engineering
Bachelor of Engineering in Mechanical Engineering	7	Electronic & Mechanical Engineering
Bachelor of Science in Analytical & Forensic Science	7	Science
Bachelor of Science in Architectural Technology	7	Civil Engineering & Construction
Bachelor of Science in Bioscience	7	Science
Bachelor of Science in Computing	7	Computing
Bachelor of Science in Computing in Information Technology Support	7	Computing
Bachelor of Science in Computing with Computer Games Development	7	Computing
Bachelor of Science in Computing with Computer Security & Digital Forensics	7	Computing
Bachelor of Science in Computing with Web & Mobile Applications Development	7	Computing
Bachelor of Science in Food Science & Nutrition	7	Science
Bachelor of Science in Health & Social Care	7	Nursing & Health Studies
Bachelor of Science in Science	7	Science
Bachelor of Science in Veterinary Nursing	7	Science

Certificate in Preparatory Studies for Higher Education	6	Law & Humanities
Higher Certificate in Arts in Bar & Restaurant Supervision	6	Hospitality & Tourism
Higher Certificate in Arts in Culinary Arts	6	Gastronomy & Culinary Arts
Higher Certificate in Arts in Hotel Administration	6	Hospitality & Tourism
Higher Certificate in Business (Accounting & Administration)	6	Business Studies
Higher Certificate in Computing in Information Technology Support	6	Computing
Higher Certificate in Early Childhood Care, Health & Education	6	Nursing & Health Studies
Higher Certificate in Science (Pharmacy Technician)	6	Science
Higher Certificate in Science Applied Agriculture	6	Science
Higher Certificate in Science in Computing in Technical Support	6	Computing
Higher Certificate in Science in Dental Nursing	6	Nursing & Health Studies
Higher Certificate in Science in Health & Social Care	6	Nursing & Health Studies
Higher Certificate in Sports Studies	6	Law & Humanities

APPENDIX 6 - IBM/LOMA CASE STUDY

Transworld Data Case Study Letterkenny Institute of Technology: A Lesson in Enterprise Education Agility

Located in Donegal, North West of Ireland, Letterkenny Institute of Technology <u>http://www.lyit.ie/</u> has a population of 3,000 students who predominantly come from the local area and from 31 different countries. The Institute has two campuses in Letterkenny and Killybegs, and is strongly committed to raising the economic prospects of its students and its surrounding communities. As part of this effort, LYIT focuses on courses that teach the knowledge and the skills that employers are looking for. One of these programmes is enterprise technology, which has been part of LYIT's curriculum since 2005.

"Our strategic plan for enterprise technology education is divided into four areas," explained LYIT President Paul Hannigan, "These areas are teaching; the strength of the student experience; research and innovation; and an ongoing evaluation of Institute capability in which we achieve the maximum that we can accomplish with the resources that we have to work with. Our enterprise technology programme engages all of these objectives."

Mr Hannigan emphasizes that there are different teaching methods that LYIT employs to both maximize and fully leverage its instructional resources. One of these methods involves an active use of online learning, which extends the reach of the enterprise technology program, and which provides for agile education. The second key focus that LYIT premises its education on is engagement with local employers to ensure that what is being taught is always what is needed in the enterprise workplace. "Research and innovation with multinational employers continually infuses vitality and workplace relevance into our enterprise technology offerings," said Hannigan. "This is pivotal to the student experience at LYIT, because our students are not only looking for Honours degrees and academic accomplishment. They are also looking for employability in their field of study."

Creating a Results-Oriented Curriculum

LYIT's core enterprise education programme began in 2005 and consists of a one-year, fulltime Level 8 course in Financial Services Technologies, which in the Irish system is the equivalent of a Postgraduate Degree. "Currently this programme is in the form of a "blended learning" style of delivery, which consists of two days per week at college, and a remainder which is self-study with remote assistance provided by the lecturer using a Virtual Learning Environment (VLE)," outlines Michel Carey, Lecturer in Computing and Business Studies at LYIT. There is also a part-time option for this programme that gives students two years to complete the course of study.

The one-year curriculum focuses on IBM System z education in the form of a first semester Mainframe I course and a second semester Mainframe II course. The year-long course sequence is geared to address training requirements that local enterprises have requested, based upon their IT workforce needs. LYIT has also been successful in leveraging its enterprise and System z computing programme by developing different "flavors" of the programme that are taught via distance learning. In these cases, students can receive either a certificate or a pass/fail rating. These programme permutations also include individually designed courses, such as one on CICS that is taught to enterprise employees and supported by guest lectures from sponsoring companies on CICS, JCL , tricks and tips, general Cobol, and emerging changes and technologies.

"There are many variations of IBM System z and enterprise computing courses that we have presented to different audiences, based upon the educational needs that were identified," said Carey.

This is especially significant because it has been LYIT's goal to target academic offerings that would go to the heart of the local workforce needs in the communities it serves. To this end, there have been continuous and concerted efforts to customize courses to specific needs and to work closely with enterprises and the local community to ensure that this happens. The result has been highly relevant and agile education that can be customized for content and for learning channel (online or physical classroom)—and that delivers both conceptual and practical training to students that can immediately be "put to work" by enterprises.

"For the first six years of this programme, we delivered this education for fulltime study only and it was entirely classroom-based," observed Carey, "But since September of 2011, we have modified both the content and the delivery of this program. All modules have been revised and improved in consultation with industry. We also deliver the programme part-time as well as full-time. We have changed the definition of full-time to mean two evenings per week, so we have shortened the delivery of full-time instruction from four full days to two half days per week. This could *only* have been possible by using the college virtual learning environment (VLE), which runs Blackboard V9. 1. In turn, a great deal of self-study is required from the student, which is different from earlier study demands during the previous six years. This heightened requirement for self-study also requires greater Institute support for students using the VLE outside of regular hours."

Addressing Instructional Challenges

Like many institutes of higher learning, LYIT found that deciding to kick off an enterprise computing programme was initially a major challenge. "In the beginning, we experienced three primary challenges," said Carey, "They were mainframe access and availability, costs and resources." IBM assisted with the first challenge of mainframe access and availability, which left LYIT to budget and fund for system connectivity costs and Lotus software maintenance.

The next challenge involved the Institute's teaching staff. "We found that we had to locate and train the lecturers who had the necessary skillset that we were looking for," said Carey, "This skillset consisted of knowledge in Cobol, Lotus Notes and the mainframe itself."

Carey went on to say that finding the lecturers was a greater challenge than the Institute had anticipated. "Many of the Lecturer candidates viewed Cobol to be a "dead" language that was on its way out. They were not aware of how integral it was to many enterprises," said Carey. "These lecturers tended to be more drawn to the Java and .Net software development languages. Consequently, what we decided to do was to appoint two Champion Programme Managers and also a Programme Coordinator, which was myself. All three positions were essential to the success of this program, because this team pulled together other peers and provided the necessary passion and motivation to make the programme work." As part of the educational process for faculty, the IBM Academic Initiative also provided free Mainframe and DB2 education at its London-based facility.

Building Student Enterprise Computing Awareness

The incoming students also knew very little about enterprise computing and mainframes. "In the beginning we only accepted computing students who had many of the skills associated with software development but again, lacked all knowledge of Mainframe and Cobol," said Carey. "We now accept all disciplines, and this in turn has created numerous new challenges in that students come from business, accounting and other technical disciplines and are not computer people at all—and also have little knowledge of the mainframe. In fact, of late we may even consider people who have worked in the "real world" for many years

and may in fact not have a Primary Degree, but are able to demonstrate great enthusiasm for the mainframe and programming. We address this need by using our system of RPL (Recognition of Prior Learning)."

In the classroom, lecturers take students through all aspects of the mainframe--from initial communication, logging on, TSO/ISPF, etc.; to programme development. Instruction begins with a study of JCL and then progresses into work with Cobol source programs, which are then submitted as JCL jobs, with the results being checked on SDSF. "In all honestly, most modern day students don't like the look of the green screen, so we have to deal with this challenge," said Carey. "We use multiple tools such as SCRENR and Camtasia to "screen-scrape" numerous tasks such as logging on/off and JCL and Software Development. We then make these available on YouTube and of course on our VLE (Virtual Learning Environment). Students make great of use of our VLE environment. Also in the VLE environment, the College provides support to students, who can use the VLE Discussions board, a common area where the class communicates and raises questions, and where the Lecturer can address these questions and issues online .One of the great advantages with our current mainframe setup is that the Lecturer can see all of the students' areas and can view, edit and run their programs."

The value of the education is making an impression on students. "I had limited knowledge of mainframe computing before I started the course," said Garry McBride, an LYIT enterprise education graduate who now works in production support for Allstate in Northern Ireland. "When I was completing the course I was very surprised on how important mainframe computing was in the area of enterprise computing. I was also surprised that the mainframe is actually the backbone of the majority of enterprise financial computing worldwide."

Collaborating with Business Partners

Pivotal to the success of LYIT's enterprise and IBM System z educational programme has been the tight cooperation between key enterprise employers in Letterkenny's community and the Institute itself.

Allstate Insurance and Pramerica, a division of Prudential, are both multi-national employers with employee bases in the Northwest of Ireland. "We maintain a strong relationship with both companies in our enterprise technology programme, both in curriculum development and in the courses and knowledge enrichment that the programme delivers to these companies' new and existing employees," said Carey. "A number of senior managers from both companies have also come to LYIT to participate in executive education Master degree work, and are engaged in individual research projects that have additional benefit for their companies. The companies maintain an active involvement in our curriculum reviews and development. The Chairman of our Governing Body is the chief executive of Pramerica."

"Back in 2004, we got together with Pramerica, another local employee in Ireland, and together we approached LYIT about offering enterprise and mainframe courses that would tie into what our IT needs were," said Louise McGee, Human Resources Manager for Allstate. "Because both companies were in the same industry of financial services and insurance, we felt we that had an advantage when we approached LYIT, because our training needs were similar."

When Allstate and Pramerica teamed with LYIT, the result was an active collaboration that produced an enterprise computing curriculum, complete with all of the relevant details and syllabi needed to support it. "This effort took approximately twelve months," said Carey. "The course syllabi then had to be externally examined and audited, as is the practice with all new programs. The external examination panel was comprised of representatives from the two participating companies along with representatives of other universities and institutes of technology."

LYIT didn't stop once it had its approved curriculum in place. "We recognized that the primary challenge over the lifetime of the programme would be to maintain the alignment of the programme we were teaching with the changing needs of industry," said Carey. "This is a very difficult space to be in. It continues to be a major challenge in that a syllabus is created which then has a four-year lifecycle before it can be officially modified by our PPE (Periodic Programmatic Review) process. This rate of change and review is unacceptable to the business partners we collaborate with, so of course this is a major challenge".

LYIT tackles this challenge by meeting regularly with its business partners. This includes daily phone calls between LYIT and its business partners to determine what the changing company educational needs are, and how the Lecturer is going to modify the existing curriculum to accommodate these new needs between fouryear review cycles. The process gives LYIT great agility in the way it prepares its educational offerings, although it is a constant challenge for Lecturers to make course revisions. The participating business partners assist in the process by regularly providing guest speakers in numerous areas of interest. They also accept LYIT students on internships for the students' final module of enterprise education, which is for a fourweek period. In this way, the students get on-the-job experience in a global company, and the company gets a chance to evaluate the students. "Often during this fourweek-period the student gets hired," said Carey, "Alternatively, students sometimes get hired soon afterwards--whenever a vacancy arises."

The enterprise technology programme offers opportunities to undergraduate students, but it also delivers benefits to students at the post-graduate level. "In both cases, we maintain strong links to area employers," said President Paul Hannigan, "As a consequence, students graduating from the LYIT enterprise technology programme have a ready- made career path that they might not have had if they had not been in the program. On the employer side, companies get highly skilled people capable of performing the jobs that they are looking to fill. This is good for our community here in the Northwest of Ireland, because the collaboration that we have with local businesses and our enterprise-relevant curriculum bring employment into the region, and makes our programme very attractive. On the enterprise side, our business partners can also show that they're working on their corporate responsibility initiatives by aiding the local community with employment opportunities for well-paying jobs."

Louise McGee of Allstate added that over the past four or five years, the company has sponsored between 20 and 24 LYIT interns. "They come to us with background in the mainframe and also insurance and finance, and are strong hires," she said.

Seeing the Results

Since 2005, when LYIT began tracking the results of its enterprise computing program, nearly 75 students have graduated. An additional 25 enterprise employees have attended a number of mainframe modules delivered by LYIT since 2005.

"Virtually all of our students have received internships from local employers and have gone on to secure permanent IT employment in local enterprises that work closely with us," said Carey. One reason is that LYIT is always open to new ideas. "What makes the mainframe course so unique is the close collaboration that we have with LYIT," said Allstate's Louise McGee. "This collaboration guarantees that course content stays close to the kind of training that we are looking for in our company. LYIT also offers a Masters in Innovation degree which a number of our staff have undertaken. We send a lot of our senior managers there. LYIT is a fantastic institution."

Students agree.

"I attended LYIT for four years, where I completed my Computing Degree and then an additional year for the IBM System z course," said Garry MacBride, who resolves production issues relating to source code and carries out other production support roles at Allstate. "The course that I did was a Higher Diploma in Art in Financial Services Technologies. Within this course I studied mainframe programming. The IBM System z coursework gave me a good foundation for the work place. The skills such as mainframe programming and JCL helped with my ability to carry out my current work. Also, the assignments that we carried out gave us a good working knowledge of how the mainframe operates."

MacBride said that he researched local companies in the area and discovered that there was a need for Cobol programmers. "I was just finishing a computing course when I found out that Letterkenny Institute of Technology was offering the Financial Services Technologies course," said MacBride. "I signed up for it immediately!"

Madeline Villasante, who has worked for Allstate IT for nearly five years, also took LYIT's Financial Services Technologies course. "I work on various projects, using programming languages like Cobol, SAS, PL1 and Assembler," said Villasante, "The LYIT coursework helped me, because it was there that I learned Cobol and also obtained very valuable work experience."

Conclusion

LYIT has distinguished itself in its ability to place nearly 100 percent of its students graduating from the enterprise technology programme with employers—because these students have the skills employers are looking for. This is good for LYIT's immediate community in the Northwest Region because it contributes to the economy—but the success of the programme is also extending LYIT's reach to students in the border areas. The ability of the LYIT enterprise technology programme to contribute to the local economy has not gone unnoticed. Letterkenny recently received funding from Ireland's central government to further build out the programme. This is national recognition that the programme works.

"This programme can have even larger appeal," said President Paul Hannigan. "We are presently talking with other institutions in Ireland about franchising this program, and we are also talking with other employers about getting involved. Our ultimate goal is to move the programme to an online platform, which will give us a more flexible approach for the delivery of our instruction."

Paul Hannigan acknowledges that the enterprise computing curriculum was highly important to LYIT as a Higher Education Institution. "We came up with course content constructed around enterprise best practices, and we brought in guest lecturers. The effort established our credibility with enterprises, which not only hire LYIT graduates, but also send existing employees to enterprise and mainframe classes that LYIT customizes for their needs," said Hannigan. Being able to adapt to an enterprise workforce needs was a key success factor. "Industry came to us with a training problem—that they couldn't seem to recruit the mainframe talent that they needed--and we had to prove to them that we could deliver a solution," said Hannigan. "We sat down together with them to identify the issues and the problems—and we retrained our internal staff so they could teach the subject matter that was needed."

APPENDIX 7 – LYIT ORGANISATION STRUCTURE



APPENDIX 8 – PROFILE FOR 2017/18

			Letterk	enny Insti Profile	tute of Technol 2017/18	ogy				
				STUDENT	NUMBERS					
		Entrants				Gra	duates			
			N-						Ne	
New Entra	ants (Full-time Undergraduate)		NO. 1,185	_	Undergr	aduate Graduates (Levels 7 &	8)		NO. 1.145	
					Postgrad	uate Graduates			115	
				Enrol	Iments					
		Full-tin	ne Part-time	Total				Full-time	Part-time	Total
Other Enr	olments (IoTs only)	No. 150	38	188	Other En	rolments (IoTs only)	%	80%	20%	100%
	Foundation	No. 133	28	161		Foundation	%	83%	17%	86%
	FETAC Cert	No. 0	0	0		FETAC Cert	%	C2 0/	200/	0%
	of which are apprenticeships	NO. 17	10	27		of which are apprenticeships	%	62%	38%	14%
	or which are apprended hips	10.				or milen are apprendees inpo	<i>,</i> ,,			070
Undergra	duate	No. 3,484	1,210	4,694	Undergr	aduate	%	74%	26%	95%
	Diploma/Cert	No. 318	229	547		Diploma/Cert	%	58%	42%	11%
	Ordinary Degree (L7)	No. 1,947	492	2,439		Ordinary Degree (L7)	%	80%	20%	49%
	Honours Degree (L8)	No. 1,220	301	1,520		Honours Degree (L8)	%	80%	20%	31%
Postgradu	ate	No. 128	126	254	Postgrad	uate	%	50%	50%	5%
	Postgrad Diploma/Cert	No. 62	0	62		Postgrad Diploma/Cert	%	100%	0%	1%
	Masters Taught (L9)	No. 49	121	170		Masters Taught (L9)	%	29%	71%	3%
	Masters Research (L9)	No. 35	23	58		Masters Research (L9)	%	60%	40%	1%
	PRD (L10) Occasional	NO. 12	8	20		PriD (L10)	%	60%	40%	0%
Total Enro	Iments	No. 3.612	1,336	4,948	Total En	olments	%	73%	27%	100%
			_,	.,						
	Research & Taught (L9/10)	FTE ¹⁾		306		Research & Taught (L9/10)	% FTE L8 a	nd All PG		16.9%
	Research (L9/10)	FTE		58		Research (L9/10)	% FTE L8 ai	nd All PG		3.2%
	Research (L10)	FTE		20		Research (L10)	% FTE L8 ai	nd All PG		1.1%
		AITE	E Level 8 upward				i i			
				DIJCH LI						
	Full-time Under	graduate New Entr	ants	_		Full and P	art-time Ph	Ds		
	21		No.	%					No.	%
General P	rogrammes ²⁷		0	0%	General	Programmes			0	0%
Humanitie	s & Arts		111	9%	Humanit	ies & Arts			0	0%
Social Scie	ence, Business & Law		296	25%	Social Sc	ience, Business & Law			2	10%
Science			296	25%	Science				8	40%
Engineeri	ng, Manufacturing & Constructi	on	235	20%	Engineer	ing, Manufacturing & Constru	ction		6	30%
Agricultur	e & Veterinary		59	5%	Agricultu	ire & Veterinary			2	10%
Services	wendle		41	4%	Services	wenale			0	0%
Combined	1		0	0%	Combine	d			0	0%
Total			1,185	100%	Total				20	100%
				STUDEN	T PROFILE					
	(% of Enrolments)		No	9/		/% of New Entrant	c)		No	9/
Elexible L	earners (Part-time, Distance, F-Lez	arning)	1.336	27%	Mature F	ntrants (Full-time Undergraduat	e)		296	25%
		0,	,				.,			
Internatio	nal Students (Full-time)		500	10%	Estimate	: Entrants with Disability (EAS) ³⁾		70	6%
	EU		375	75%	Estimate	: Entrants from Non-Manual, :	Semi- and U	nskilled	593	50%
	Non-EU		125	25%	Backgrou	inds (EAS) "				
				PROGE	RESSION					
		1				1				
Non-Prog	ression Rate from 1st to 2nd Ye	ar		%		Level 7				20%
	Level 8			4%		Level 6				20%
			CT.							
			51	AFF & FIN	ANCIAL DATA					
			No	9/					£ 0005)	9/
Core Staff			326	100%	Total Inc	ome			36 278	100%
	Academic Staff		186	57%		State Grants			11,050	30%
	Support staff		140	43%		Fees			16,078	44%
Contract F	Research & Specialist Staff		25	100%		Research Grants & Contracts	5		1,750	5%
	Academic Staff		0	0%	Total Eve	Other Income			7,400	20%
Total Staf	f		351	100%	Total LA	Core - Pav			25.589	71%
	Total Academic		186	53%		Core - Non-Pay			8,882	25%
	Total Support		165	47%		Research Grants & Contracts	s - Pay		1,188	3%
						Research Grants & Contracts	s - Non-Pay		548	2%
Academic	/Non-Academic Staff Ratio (cor	e)	1 2		Pay/Non	-Pay Expenditure Ratio (incl.	Research \= \		2.8	(74/26)
Student/4	Academic Staff Ratio (FTF/Core)	c,	1.3		Pay/Non Pay/Non	-Pay Expenditure Ratio (Incl.)	Research)5)	2.0	(74/20)
					-,,					
Staff Qual	ifications (Proportion of)			%					m²	
	Full-time Academic Staff with	PhD qualification		30%	Net Spac	e per FTE Student			5.4	
	All Academic Staff with	PRU or Masters qu.		90%	Gross Sp	ace per FIE Student			7.7	
	All Academic Staff with PhD of	Masters qualificati	on	85%						
			К	NOWLED	GE TRANSFER					

It is difficult to predict actual outcomes for Knowledge Transfer. Please refer to the narrative in the main document.



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APPENDIX 2

Minister' Speech

November 2012



22 November, 2012 - Speech by Minister for Education and Skills, Ruairí Quinn TD, on Higher Education Reform

Introductory Remarks

Good morning - I want to thank you all for making time to be here and participating in this event.

This is the second time that I have addressed, in a comprehensive way, my own views of the future direction of higher level education in Ireland.

We started last year in the Royal Irish Academy which has a fine tradition of promoting debate on public policy issues in Ireland. I am glad that its President, Luke Drury is able to chair this meeting as he did last year.

I would like to use this occasion to review the rapid pace of developments over the last year and to set out a clear direction on a number of key policy issues

But before I do so it would be useful to remind ourselves of background in which we operate.

International Context

If we are to survive in the current turbulent European and global environment we need to build on our strengths. And our primary strength lies in our people.

The quality of what economists call our human capital is a significant attraction for investors and entrepreneurs.

Last year new foreign direct investment grew again by 30%.[1]

This year, Dublin ranked number one in the world in terms of human capital in the Economist Intelligence Unit benchmarking of city competitiveness.

Maintaining this sort of headline position will be one of the significant challenges for Ireland in the coming decades.

We are unique in Europe in that just over half of our population is under 35 years of age. We lead Europe in the proportion of our population of 25-34 year olds with higher education qualifications and rank fourth in the OECD[2].

These favourable demographics if coupled with a high quality education system with a strong research base will give us every advantage in supplying the needs of our indigenous enterprise and attracting the biggest and best international companies into this country.

But we have to redesign our higher education system to reconcile our need to increase capacity while maintaining quality within a sustainable and stable funding context.

In that redesign I believe that we must preserve - even enhance the diversity of the system, and in particular the current strengths of our technology sector inherent in our binary system.

The National Strategy for Higher Education (Hunt Report)

The need for a more co-ordinated, multi-faceted and coherent system was recognised in the National Strategy for Higher Education published last year. A lot has happened since then. Let me just list some of the developments.

The HEA published the criteria and process for designation for the Technological Universities.

It also published its review of the Structure of Initial Teacher Education Provision in Ireland which seeks to reduce the number of publicly funded providers from 19 to 6.

A Review of Creative and Performing Arts and Media in the Dublin Region is underway.

The HEA has published its Landscape document and I know that all of you have responded to that document and for that I thank you.

Last Friday, it published four input documents which it commissioned to assist in its own deliberations of a possible reconfiguration of the system which will be presented to me in the Spring. The HEA's advice will be crucial in helping to determine Government decisions on the future direction of our higher education system.

I think it's important, therefore, that as the Minister of the Government with responsibility for Higher Education I should spell out my priorities for the next stage of reform.

Priorities for future System Design and Reform

My four clear priorities are:

1. Strengthening our university system.

2. The development and consolidation of the Institute of Technology sector.

3. The formation of regional clusters between universities, stronger institutes of technology and future technological universities.

4. Increased sustainability and capacity in the higher education system.

I would like to explore each of these further in turn:

Priority 1 – Strengthening our university system

Our seven universities each have their own histories and traditions. Because we as a people cherish knowledge and scholarship, they are deeply rooted in our concept of who we are as a nation. We are justly proud of what they have achieved and how for a small country they have punched high above their weight.

There are 15,000 universities in the world and all seven are in the top 600 overall. It should also be pointed out that DIT features in the top tier as well. Our Institutions are seen as world leaders in some key areas of research.

That's no mean achievement and I know that the Governing Bodies and the staff of these institutions are committed to continuing to make this important contribution to the country. I acknowledge and am grateful for it.

Given the difficult circumstances facing the country, I know that there are challenges in continuing to provide the level of service, particularly with numbers increasing.

However, providing a quality university experience for students is not all about funding - it's about the best utilisation of the academic staff and resources available, aiming high, being world class and playing a greater part in the globalised higher education market.

The process we are currently engaged in is designed to assist the universities to meet the challenges which will confront them in the future.

Priority 2 - Consolidation, strengthening and evolution of the IOT sector – why it is still so important

One of the most radical periods in modern Irish education was when Paddy Hillery was Minister, Seán O'Connor was Assistant Secretary and the OECD Investment in Education report was published in 1966. That same year a steering committee was set up to plan for regional technical colleges.

The original thinking behind the development of the technological sector was visionary in its time. It was based on what were then new levels of ambition for Ireland, its economy and its people.

More than ever, we need a technological sector that is agile and responsive to not only the skills needs-but also the research and development needs - of a rapidly changing enterprise sector, and an increasingly diverse workforce.

A core objective will, therefore, be to protect and enhance the role of the IOT sector in supporting enterprise, underpinning diversity and promoting access and participation.

Some institutes of technology are on a developmental path towards becoming Technological Universities.

I endorse the criteria set out by the HEA for the establishment of a Technological University.

It will be an arduous journey from existing institute of technology status to arrive at and meet those criteria. In some cases where institutes merge they may need to consolidate for some time in the new amalgamated entity before advancing further.

The final decision on applications for technological university status will be made on academic, not on political grounds and I intend to underpin this important approach with appropriate statutory provisions. It is clear at this stage that some institutes are not seeking to amalgamate with others and become technological universities.

I want those institutes and those that do not become technological universities to concentrate on their core mission of developing close links with the local and regional business community and giving the best possible quality of education to their students, both from home and abroad.

Their flexible responses to date and the high quality of their courses have ensured for them a key part in our education system and I want that to continue.

Priority 3 – Achieving critical mass through Consolidation and Collaboration and the development of Regional Clusters

The context in which reform is happening is totally different to 10 years ago, let alone 50 years ago. Communications in every shape and form have changed utterly. Time and space have been altered by the availability of new technologies and our new physical transport infrastructure.

There is need to achieve critical mass through consolidation and collaboration and the development of Regional Clusters.

But the level of system change and rationalisation required will not, frankly, be achieved on the basis of the submissions received to date from the institutions.

The Gap Analysis published by the HEA showed a mismatch between the sum of institutional aspirations and what is required. It also identified the need for some very serious consideration of the management and governance arrangements which must be put in place to achieve successful regional clusters.

This mismatch is, perhaps, not surprising. Institutions are autonomous organisations. They each have their own perspective and ambition that have been reflected in their submissions.

Inevitably individual submissions are stronger on individual aspirations; and weaker in terms of collectively addressing some of the issues we need to confront.

The challenges facing our institutions in achieving greater coherence and collaboration were clearly identified in the report of the International Expert Panel appointed by the HEA. But in welcoming the Panel's insights I disagree with some of its proposed solutions. I do not envisage forced mergers of any of the 7 universities – we have been there before and it simply does not work.
Nor would I envisage institutes of technology merging with existing universities or mirroring their provision on a smaller scale. We want collaboration and clusters yes, but not at the expense of losing the distinctive institute of technology mission.

It is my view that institutional consolidation together with much stronger levels of inter-institutional collaboration will bring benefits to students, staff and the wider system.

Consolidation and collaboration bring opportunity to pool expertise, concentrate resources, improve choice and enhance the quality of the student experience.

There is clearly unnecessary duplication of course provision, both in the universities and in the institutes of technology and indeed between the two sectors. There are areas of high cost disciplinary provision that can be strategically rationalised to improve both quality and sustainability.

The Initial Teacher Education Review is a good example of how focussed consideration on key aspects of delivery in our system can bring those benefits. We need to look at further areas where strategic rationalisation can be considered, whether in the new cluster arrangements or through further reviews initiated by the HEA. Engineering and business are obvious examples that spring to mind.

Priority 4 - to release capacity and increase sustainability of the system

I want to acknowledge the flexibility that higher education institutions have displayed in responding to the increases in student-staff ratios. The increases were, unfortunately, necessitated by the worsening economic conditions of the past few years.

I have set out my clear plans for the student services charge to increase to €3,000 by 2015 to relieve some of the pressure on exchequer funding. It is clear that we have to proceed over the next few years within a very constrained funding environment.

We are operating in a context where further productivity gains in every area of institutional activity, management and administration will also have to be made.

The Government has a strong agenda to promote shared services, common procurement and the outsourcing of services where appropriate within the public sector. There are some very good examples of continuing innovation in this regard.

However, it is imperative that all higher education institutions are actively pursuing the realisation of savings as a matter of urgency.

There needs to be a sea-change in attitudes in terms of this agenda. Crucial to advancement is greater transparency.

I refer to transparency of academic workload management and academic management generally. We need more public information in this regard if good policy and planning are to succeed in achieving the outcomes we need. In higher education this means that we must also collectively confront embedded or restrictive work practices. We simply have to ensure that outdated rigidities are not allowed to impede the provision of the highest quality of service to those we serve.

Maintaining the practices of the past as they relate to issues such as the duration of the academic year will not serve us well in the future. We will have to manage and manage well in leaner times and this will demand greater productivity and innovation in how we deliver Higher Education.

The Government's decision to invite the unions to discuss further Croke Park savings affords us an opportunity in this regard.

Good Governance for our Higher Education Sector

I want to turn now to an area which will be key to success in the future. Effective system leadership is an essential prerequisite, encompassing as it does the roles of my Department, the HEA and the HEIs.

I know that ensuring the alignment of policy and the mobilisation of resources is a very live issue on which I understand good progress is being made in discussions.

For my part, I will introduce the necessary legislation to underpin the reform objectives I have outlined today. This process will include taking a hard look at the need to strengthen the powers of the HEA to allow them to fulfil their enhanced system governance and regulatory role.

The government will also introduce legislation to reform the internal governance structures of higher education institutions. In doing so we will draw on the very useful submissions from the IUA, IOTI and the RIA.

The Government has already announced its intention to address a deficiency in the current university legislation. This is intended to ensure compliance with statutory requirements on remuneration and staffing numbers.

The intended measure is not about a 'command and control' approach by my Department as has been asserted. It will simply add to the options for an appropriate response by government.

It will be focussed and tightly drawn and relate to specific areas critical to public policy and will be drafted in the context of updated governance arrangements.

Greater clarity of the relationships, roles and responsibilities of the Department, the HEA and individual institutions is also needed and will be provided.

Implications for the Strategic Direction of HEIs

So what does all of this mean for you - the leaders of our higher education institutions?

The HEA Landscape process to date has been instrumental in giving us all a birds' eye perspective on how the various drivers of change are converging on our system's future. It allows institutions to examine all of the other submissions; to take a critical look around their regions and begin to seriously consider how they may come together to provide collaborative opportunities for all students, national, international, undergraduate and postgraduate that realistically match future estimated demand.

I would now urge all institutions to take a long hard look at their future sustainability.

They should also look at their place in our Higher Education system, especially if their submissions have been predicated on wishful thinking. Because the harsh reality is that as a country we can no longer afford to indulge plans that are not based on credible and realistic analysis of likely outcomes.

The HEA will shortly re-enter a phase of engagement with all higher education institutions. I appeal to institutional leaders to put narrow institutional considerations aside and approach this new phase with a greater national perspective.

I expect to have the HEA's advice on a new configuration for higher education by early Spring. The Government will then take decisions so that each institution and the system as a whole knows where it is heading.

Launch of the National Forum for Teaching and Learning

And now last but by no means least - the student experience.

Many students in our system today are preparing for jobs that do not yet exist. When they join the workforce they will be using technologies that have not yet been invented. They will be attempting to solve problems that are as yet not even recognised as problems.

This brings the teaching and learning agenda strongly to the fore. Higher education is not just about preparing people for the workforce but also for active participation in society. The students of today will face a rapidly changing environment.

It is vital that higher education supports the development of Irish society in ensuring that graduates are motivated people that are adaptable and flexible. We need a generation of innovative thinkers who will have many jobs and careers over their lifetime and who will contribute to Ireland's cultural and societal development.

That is why the National Forum for the enhancement of Teaching and Learning that I am pleased to launch today is of crucial significance in this modern era.

It will allow the system to provide all students with a teaching and learning experience of the highest quality through engagement with innovative pedagogies and the technologies that support these.

It will also provide a platform for progressing implementation of the key objectives outlined on teaching and learning in the National Strategy for Higher Education.

I have every confidence that the Forum, ably chaired by Prof Sarah Moore of the University of Limerick will draw on the strong areas of existing expertise in our institutions. It will build on that expertise and disseminate best practice throughout the system, raising standards of teaching and learning overall.

The setting up of the Forum is particularly timely in the light of the expected changes in the initial years of undergraduate education. These changes will follow on from the work being done on the transition from second to third level.

The universities and institutes of technology are engaging in depth on these issues in partnership with my department, the IUA, IOTI, SEC, and NCCA. I look forward to the outcome of this work early next year.

In conclusion let me summarise by saying we are talking about a wide range of reforms across higher education. These changes are of crucial importance to the citizens of this country.

Ultimately it will be the students and the wider society that will benefit from the reforms we are making. This time next year I want to be able to report progress on all fronts but I need your help in achieving that. Thank you.

[1] There was an overall increase of 17% in the number of investments from IDA client companies in 2011 and despite the current global economic situation and a strong increase in international competition, there was a record number of 148 new investments won during the year across all industry segments. Most encouragingly, there was an increase of 30% in the number of companies investing in Ireland for the first time (DJEI, Press Release 5/1/2012

[2]Education at a Glance, 2012, OECD

APPENDIX 3

- 1. A study of Future Demand for Higher Education in Ireland
- 2. International Panel Report
- 3. Institutional Responses to the Landscape Document and Achieving the Objectives of the National Strategy for Higher Education: A Gap Analysis





A Study of Future Demand for Higher Education in Ireland

Seamus McGuinness, Adele Bergin, Elish Kelly, Selina McCoy, Emer Smyth and Kevin Timoney

Report to the Higher Education Authority: 15th November, 2012.

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GLOSSARY OF ACRONYMS

- CAO Central Applications Office
- CEDEFOP (translated) European Centre for the Development of Vocational Training
- CSO Central Statistics Office
- DARE Disability Access Route to Education
- DEIS Delivering Equality of Opportunity in Schools
- DES Department of Education and Skills (of Ireland)
- ESRI Economic and Social Research Institute (Ireland)
- EU European Union
- FE Further Education
- FETAC Further Education and Training Awards Council
- GDP -- Gross Domestic Product
- GNP Gross National Product
- HE Higher Education
- HEA Higher Education Authority (of Ireland)
- HEAR Higher Education Access Route
- HEI Higher Education Institution
- ICL Income Contingent Loans
- IOT Institute of Technology
- IT Information Technology
- IUA Irish Universities' Association
- LL Life-long Learning
- LII Living in Ireland (Survey)

- MMI Maximally Maintained Inequality
- NCCA National Council for Curriculum and Assessment
- NFQ National Framework for Qualifications
- NMS New Member States
- NUI National University of Ireland
- OECD Organisation for Economic Cooperation and Development
- PLC Post-Leaving Certificate Qualification
- QNHS Quarterly National Household Survey
- SBTC Skill Biased Technological Change
- SILC Survey on Income and Living Conditions
- SLS School Leavers' Survey
- SOC Standard Occupation Classification
- STEM Science, Technology, Engineering and Mathematics
- TFR Total Fertility Rate

EXECUTIVE SUMMARY

Despite our current economic difficulties, it is important for Ireland to consider medium to longer-term issues and challenges. Since human capital is central to Ireland's growth prospects, as the importance of knowledge activities increases, it is timely to consider and plan for the needs of the Irish economy for graduates to meet future labour market needs. However, it is important to emphasise the limitations of any analysis that attempts to map future labour market requirements against the supply of workers for Ireland, as for other EU countries; uncertainty around (i) rates of graduate immigration (emigration) during different phases of the economic cycle and (ii) the future trajectory of macroeconomic growth, make it difficult to accurately predict exactly how both labour market supply and demand will evolve over time. Nevertheless, this work provides a useful contextual framework within which the debate on the future structure of Higher Education (HE) in Ireland can be placed. This report provides an analysis of the future demand for HE places in Ireland over the coming two decades. The study is funded by the Higher Education Authority (HEA) and the issues addressed herein represent our attempt to address the requirements of the HEA tender (Appendix 3). The report considers a range of issues pertinent to HE policy, including:

- 1. The likely balance between the demand for, and supply of, graduate labour in Ireland up to the year 2030;
- 2. The implications of HE expansion for social inclusion and educational progression;
- 3. The need for structural reform with respect to both HE funding and educational delivery.

The principal findings of the study are as follows:

The Demographic Outlook

- 1. Relative to the EU average, Ireland had a uniquely high birth-rate until the early 1980s and, as a result, has benefited from a favourable demographic structure compared to other European countries. This suggests that Ireland will have a sufficient number of young people to meet the broad demands of the labour market at least up to the year 2030. However, demographic factors have the potential to constrain the growth of the HE system in the longer term given the expected decline in the growth rate of younger cohorts.
- 2. On the basis of current participation rates and demographic projections, the number of potential undergraduate HE entrants is expected to grow from 41,000 in 2010/2011 to 44,000 in 2019/20 (7 per cent) and to just over 51,000 by 2029/2030. The Economic and Social Research Institute (ESRI) estimates are broadly in line with recent projections produced by the Department of Education and Skills (DES). These

estimates are not considerably impacted when the underlying assumptions relating to migration are altered. Both the ESRI and the DES estimates lie substantially below the projections that were used in the *National Strategy for Higher Education to 2030*.¹ Consequently, any policy suggestions centred on the projections contained in this National Strategy document require re-examination.

The Impact of HE Expansion on Social Exclusion and Educational Progression

- **3.** The rapid expansion of HE places in Ireland has allowed greater numbers of young people from disadvantaged backgrounds to access HE. However, neither expansion nor the removal of tuition fees has brought about a significant reduction in social inequality in HE access. Even if provision continues to grow, social inequality will only be reduced only if the array of factors across both the second-level education system and HE that impact negatively on participation and progression are addressed. These include the level and nature of guidance provision in second-level schools, the degree of support for children and young people from disadvantaged backgrounds attending DEIS² and non-DEIS schools, the level and nature of financial support for HE students, and the financial resources available to families more broadly.
- 4. Successful progression within HE is strongly influenced by academic preparedness. Within the HE setting, the evidence points to the value of identifying 'at risk' students early in the undergraduate cycle and ensuring that they have the academic, social supports and guidance that they need to enhance their motivation, engagement and performance. Furthermore, some thought should be given to the extent to which individuals at the highest risk of non-completion within HE might be more effectively accommodated within the further education (FE) sector.

The Expected Balance between Demand and Supply

5. If HE student demand expands along the lines outlined within the current study, and assuming that resources are made available to facilitate such growth, we estimate that the HE system will supply somewhat more than the number of graduates required to meet the demands of the domestic labour market. On average, annual graduate supply is expected to be around 25 per cent above the level required to

¹ Department of Education and Skills (2011). *National Strategy for Higher Education to 2030 – Report of the Strategy Group*. Dublin: Department of Education and Skills.

² DEIS refers to an action plan for educational inclusion by the Department of Education and Science (2005), 'Delivering Equality of Opportunity in Schools'.

meet labour market requirements. However, if the emigration rate by new graduates continues at around 10 per cent (as it has done in the past), the level of actual surplus is likely to be lower at around 13 per cent, implying that graduate employment opportunities in Ireland should remain strong in the face of relatively rapid HE expansion.

- 6. While some surpluses are expected to prevail within the graduate labour market over the 20-year period, there is considerable uncertainty about what will prevail in practice as a number of risk factors exist. In particular, graduate shortages could emerge under a scenario of continued trend emigration combined with a relatively modest increase in the demand for graduate labour within high-tech sectors of the economy.
- 7. Over the projection horizon, and assuming no major changes in the structure of the economy, the analysis points to surpluses in the areas of law, IT and science, but not in engineering, as the projected level of surplus in this area appears much lower relative to the other subjects.
- 8. The analysis shows that the wage premium to third-level qualifications in Ireland held up well over the period 1994 to 2009, which reinforces the notion that the expansion of HE provision in Ireland has been keeping pace with the level of labour demand, as opposed to exceeding it. Furthermore, some preliminary analysis of Central Applications Office (CAO) data suggests that the rapid increase in HE participation has not been associated with any marked decline in the average points score of applicants. However, since the current study could not deal with the issue of grade inflation, this indicative result is somewhat tentative. Bearing this in mind, the CAO data suggest that the provision of HE places has kept pace with rising demand, given that we do not observe any marked increases in either the entry requirements for Level 8 courses, or qualification levels among unsuccessful applicants. If anything, the lowest points requirements for entry to many disciplines actually fell.
- **9.** Given the longer-run demographic constraints facing the Irish labour market as the population begins to age, the analysis considers briefly a number of other potential sources of supply to the labour market, including a greater focus on the provision of lifelong learning opportunities. Lifelong learning should be seen as an imperative in its own right as well as a strategy for achieving continued upskilling of the workforce in the face of worsening demographics. Available data suggest that Ireland lags

substantially behind other countries in its provision of life-long learning programmes. The research also highlights the current under-utilisation of educated immigrant labour and considers the potential barriers to full labour market integration of this key source of labour.

Structural Issues: Student Financing and the Need for a More Flexible Learning System

10. In recent years, the scale of the registration charge in Ireland has been rising rapidly to the level of the standard tuition fee charges in many other countries. Despite this increase, there is no public funding mechanism in Ireland to accommodate this new charge, other than the means-tested HE grants scheme. As students from lower-income families have access to both maintenance and fee grants, it is likely that financial constraints arising from increases in the registration fee are being most heavily felt within households just above the grants threshold. Existing evidence suggests that Ireland has the potential to adopt a successful Income Contingent Loans (ICL) system along the lines of those implemented elsewhere. However, careful thought should be given to the design of any ICL system to ensure that HE becomes affordable at the point of consumption, which can be achieved by implementing loans in tandem with means-tested grants or extending loans to cover both living and tuition expenses. The issue of affordability also relates to the costs of the HE system, an important issue which lies beyond the scope of the present study.

The Need for Better Data

11. An initial objective of the current report was to assess the most appropriate balance between HE and FE provision in order to meet the requirements of the labour market. Unfortunately, this objective was not achievable due to a lack of detailed data on FE entrants, progression rates and ultimate labour market status. Given the central position of the FE sector in serving the needs of the labour market, much more effort needs to be given to data collection processes within the FE sector in order that policy can be properly informed.

BACKGROUND AND INTRODUCTION

The Irish labour market has undergone huge change in recent years. Unemployment has grown from 4.6 per cent in the second quarter of 2007 to 14.3 per cent in the second quarter of 2011. Over the same four-year period, employment contracted by 14 per cent; furthermore, both the participation rate and the size of the labour force also fell. Individuals of all levels of education have struggled to find employment and graduates have not been immune to the impacts of the downturn. The relative position of female graduates has declined substantially. Between the fourth quarter of 2006 and the third quarter of 2011, the graduate share of female unemployment increased from 22.5 to 30.8 per cent while the proportion of female graduates that were long-term unemployed increased from 11 to 25 per cent. In contrast, the share of graduates in male unemployment and long-term unemployment fell slightly over the period,³ suggesting that female-dominated professional sectors were particularly badly hit by the downturn.⁴ While the situation is highly challenging for all graduates, the difficulties faced by individuals obtaining third-level qualifications since 2008 are likely to be immense. Notwithstanding the impact of the likelihood of unemployment (Stevens, 2007), existing research shows that, for new labour market entrants, an economic downturn also has a dampening impact on earnings (Bloom & Freeman, 1986; Sine, 1994). However, there is some debate over the persistence of these unemployment and wage effects (Bachmann et al., 2010; Baker et al., 1994; Oreopoulas et al., 2008; Harris & Holmstrom, 1982; Welsh, 1979). Evidence from international studies shows that unemployment impacts for graduates entering the labour market for the first time during a recession tend not to be permanent (Burgess et al,. 2003; Raaum & Roed, 2006), suggesting that, despite continued low economic growth, we are unlikely to see a continued substantial build up of unemployed recent graduates. This is supported by data from the Quarterly National Employment Survey (QNHS), which indicates that the number of unemployed graduates who had left university within the previous three years actually declined between 2010 and 2012 from 17,501 (6.0 per cent of the unemployed) to 14,580 (4.7 per cent of the unemployed). It is likely that emigration has been a strong factor in preventing a growth in the numbers of newly qualified graduates.

Despite current difficulties, it is important for policy to ensure that Ireland continues to produce a sufficient number of Higher Education (HE) graduates to meet future labour market needs. It is this imperative that provides the context for the current study. The study is funded by the Higher Education Authority (HEA) and

³ The graduate share of male unemployment stood at 16.6 per cent in the fourth quarter of 2006 and 16.5 per cent in the third quarter of 2011.

⁴ The pattern is explained, at least in part, by the fall in public sector employment that took place over the period.

the issues addressed herein represent our attempt to address the requirements of the HEA tender (Appendix 3). We seek to provide a comprehensive analysis of the future demand for HE in Ireland and consider a range of issues pertinent to HE policy, including:

- 1. The likely balance between the demand for, and supply of, graduate labour in Ireland up to the year 2030;
- 2. The implications of HE expansion for social inclusion and educational progression;
- 3. The need for structural reform with respect to both HE funding and educational delivery.

The report is structured as follows: Section 1 examines the demographic context and develops a framework for projecting the demand for HE places and explores the principal factors driving HE participation rates. Sections 2 and 3 of the report consider the implications of future HE expansion for both social inclusion and educational progression. Section 4 estimates the demand for new graduate labour and maps a series of demand and supply scenarios. Sections 5 and 6 provide evidence of the effect of HE expansion on both labour demand and graduate supply by examining recent movements in both the graduate wage premium and the CAO points profile of entrants to third-level institutions. Section 7 examines alternative methods of improving human capital within the economy centred on the use of skilled immigrant labour and improving links with the Further Education (FE) sector. Sections 8 and 9 consider the need for structural reform in both the funding of HE and the need for a more flexible delivery model centred on life-long learning. Finally, Section 10 presents a summary and considers a number of policy implications arising from the research. Detailed tables on the profile of HE and non-HE completers over time (discussed in Section 9) are presented in Appendix 1, while Appendix 2 provides details of a demographic-based approach to projecting postgraduate entrants. Appendix 3 contains a copy of the tender document issued by the HEA.

SECTION 1: PROJECTING UNDERGRADUATE ENTRANTS TO HIGHER EDUCATION

Introduction

Ireland's demographic structure is somewhat unusual in comparison to other EU-15 countries. Following the post-Second World War baby boom, the birth rate remained uniquely high in Ireland until the early 1980s, while it fell much earlier in other European countries. This means that there is now a large cohort of people of working age in Ireland. In addition, the high level of emigration from Ireland up to the 1960s means that many of the people who were born in Ireland then (now in their sixties and seventies) emigrated, reducing the numbers in the older cohorts of the population. The demographic profile has significant ramifications for the economy both now and in the future. Over the time horizon considered in this report, the population structure is likely to remain broadly favourable (i.e. with a relatively low dependency rate) especially in comparison to other European countries. However, the process of population ageing becomes more apparent as we look farther out. Furthermore, there is considerable uncertainty around future migration flows throughout the whole period.

Demographics, and in particular the likely growth of the 17 to 19 year old age cohort, are the primary determinant of the demand for higher education. This section describes the methodology used to project new undergraduate entrants into higher education (HE) out to 2030.⁵ Our projections are driven by estimates of the number of people in each relevant age cohort and a series of HE participation rates. This approach is broadly similar to what is used in other countries (see Coleman and Bekhradnia, 2011 for the UK, Hussar and Bailey, 2009 for the USA and Hango and de Broucker, 2007 for Canada). The model distinguishes between different types of undergraduates, namely direct (<20 years old, transferring from school), late (20-22 years old), mature (>23 years old) and international entrants. It considers males and females separately and the analysis refers to full-time students only. We also consider how sensitive the projections are to the key demographic assumptions, especially around migration. The central projections presented in this section, which we subsequently refer to as our baseline model, are based on unchanged HE participation rates.⁶ However, we also examine two scenarios, one where the participation rate for direct entrants is 5 percentage points higher by the end of the projection horizon and another where it is 5 percentage points lower.

While demographic factors are at the core of these projections, other influences potentially also play a role in driving participation in HE. This section also describes the results from a behavioural analysis that attempts to capture the influence of changes in the labour market and the macroeconomic environment on HE participation rates and assesses the sensitivity of HE demand to changes in these determinants.

Methodology for Projecting New Entrants to Higher Education

Demographic Projections

The first factor that determines the future number of undergraduate new entrants is the likely evolution of the population. The CSO produces population projections, typically a couple of

⁵ The data used in this analysis refer to Universities and Institutes of Technology that are funded by the Higher Education Authority (HEA).

⁶ We define participation rates in terms of the percentage of people within different age cohorts with a Leaving Certificate who enter higher education.

years after a Census has taken place.⁷ The most recent projections are based on the 2006 Census and were published in April 2008 just before the economic crisis began. As a result, we generate new population projections that make use of the newly-published Census 2011 data and that incorporate stronger assumptions on net migration, given recent economic activity and the likely future trajectory of the economy.

To generate population projections we use the demographic component method. This involves starting with a base population by single year of age and by gender in a given year. Then the population is projected forward over time using age- (and gender-) specific assumptions about birth rates, death rates and net migration. We use 2011 as the base year for our analysis as this is the year of the most recent Census. By applying assumptions on the three components of population change (fertility, mortality and migration) to the population structure in 2011, we can generate population projections by gender and by single year of age out to 2030. In essence, starting with the population in 2011, for all individuals from the age of one, the population age *x* in 2012 is given by the population age x-1 in 2011 less the number of deaths of people age *x* that occur in the year less net emigration of people age *x* and so on for each subsequent year. The number of people aged less than 1 in 2012 is given by the projections for births in that year. This procedure is then repeated for each subsequent year. This is a standard methodology for producing population projections and is used by national statistical offices, as well as international agencies such as EUROSTAT and the United Nations.⁸

In terms of the components of population change, net migration is particularly difficult to predict with recent actual net migration estimates varying considerably. For example the CSO has recently revised the historical estimates for net (in-)migration between 2007 and 2011 by a cumulative 86 thousand. The total fertility rate⁹ is less volatile and is affected by when women choose to have children as well as the number of children they have. In this report, our projection horizon extends to 2030 and assumptions on the future fertility rate will only affect the projections in the last couple of years as the students entering the system in earlier years have already been born. Finally, improvements in mortality tend to be more gradual and a typical assumption in the literature is to assume that current mortality rates slowly converge to some standard rate of improvement.

We assume that the total fertility rate (TFR) will fall from 2.07 in 2010 to 1.85 in 2016 and remain constant thereafter.¹⁰ Despite the decline in the overall TFR over the projection period, the projection model uses age-specific fertility rates and allows for an increase in total fertility among women in their mid to late thirties, reflecting a postponement effect whereby

⁷ See, for example, CSO (2008). The next set of population projections from the CSO should be available in 2013.

⁸ For example, see http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-andmigration/population-projections/methodology---national-population-projections/index.html for the UK and http://www.census.gov/population/www/documentation/twps0038/twps0038.html#A for the USA.

⁹ The total fertility rate represents the theoretical average number of children who would be born to a woman during her lifetime if she were to pass through her child bearing years (ages 15-49) conforming to the age-specific fertility rates of a given year.

¹⁰ The CSO (2008) consider two alternative fertility assumptions in their Population and Labour Force Projections; in one scenario the TFR is around 1.9 and in a second scenario it is 1.65 so the assumption used in this Report is between the most recent assumptions of the CSO.

women are now having children at older ages.¹¹ On mortality, we follow the assumptions used by the CSO (2008) which incorporate continued improvements in life expectancy over the projection horizon. The mortality assumptions translate into an increase in life expectancy at birth from 76.7 years in 2005 to 85 years in 2030 for males and an increase from 81.5 years in 2005 to 87 in 2030 for females.¹² These improvements in life expectancy have little impact on the population projections for younger age cohorts.

Migration is the most volatile component of population change and is strongly influenced by the state of the economy. Following more than a decade of net immigration into the country, the onset of the fiscal and banking crisis in Ireland in 2008 saw a reversal to net outward migration. Net emigration is estimated to have been around 30,000 per annum between 2010 and 2012 (CSO, 2012a). Underlying these net migration figures are considerably larger gross outflows and inflows. For example, in 2012 gross outflows and inflows are estimated to be around 87 and 53 thousand respectively (CSO, 2012a).

The most recent CSO population projections were produced before the crisis began and, therefore, did not incorporate migration assumptions consistent with the downturn in the economy. As a result, we use alternative assumptions for future net migration. We assume that there will be continued net emigration, averaging around 28,000 per annum out to 2020; with the level of net emigration falling from around 40,000 in 2012 to 10,000 by 2020.¹³ Thereafter, we assume some moderate levels of net immigration of around 5,000 per annum out to 2030. These aggregate migration projections are broken down into projections by single year of age and by gender using weights based on data from the CSO for earlier years on the age of male and female emigrants and immigrants. Figure 1A shows the underlying age breakdown of the aggregate net migration has been concentrated among those aged 15 to 44¹⁴ and we assume that the age composition of migration will be similar in the future.

There has been a dramatic deterioration in the labour market, owing to the economic crisis, with the unemployment rate rising from 4.6 per cent in 2007 to 14.7 per cent in the second quarter of 2012 (CSO, 2012b). The weakening in the labour market has been particularly marked for younger people, with current unemployment rates of 29 and 15.9 per cent for those aged 20-24 and 30-34 respectively (CSO, 2012b). In addition, between 2007 and 2012, on average 40 per cent of the outflow of people were between the ages of 15 and 24, while a further 50 per cent were in the 25 to 44 age group (CSO, 2012a). Although, the CSO does not produce estimates of emigration by education level, other data sources indicate that graduates comprise a large portion of the outflow. For example, the historical new/recent graduate emigration rate is around 10 per cent (see Flannery and O'Donoghue, 2011, estimates based on HEA data for graduates in 2008).

¹¹ See, for example, "Perinatal Statistics Report 2010", available at:

http://www.esri.ie/UserFiles/publications/SUSTAT41.pdf

¹² We use the CSO (2008) projections to generate mortality rates by single year of age and by gender.

¹³ In the demographic model, we assume that out-migration is constant in the future at 30,000 per year and that all the fluctuation occurs in in-migration.

¹⁴ See, for example, CSO (2012a), 'Population and Migration Estimates April 2012'.



Figure 1A: Age-Specific Migration Assumptions

Note: A negative value denotes net emigration for a particular age cohort, while a positive figure denotes net immigration for a given age group.

Figures 1B and 1C show the projected population in the relevant age groups for direct, late and mature student entrants. Figure 1B shows there is an increase in the projected population aged 17 to 19 out to 2030. The projected population aged 17 to 19 increases by around 6 per cent between 2011 and 2020 and by around 15 per cent between 2020 and 2030. However, the population aged 20 to 22 falls between 2011 and 2020 (by around 9 per cent), as this age group is more affected by the assumptions on net migration, before increasing over the period 2020 to 2030 (by approximately 26 per cent). Similarly, the projected population aged 23+, shown in Figure 1C, displays muted growth between 2011 and 2020 (of approximately 2 per cent) as it is somewhat constrained by the assumptions on net migration before expanding considerably over the period 2020 to 2030 (by around 10 per cent). The figures suggest that the rate of any HE expansion up to 2030 in Ireland is likely to be constrained by relatively low demographic growth among key age cohorts.

Figure 1B: Population Projections for 17-19 and 20-22 Year Olds



Figure 1C: Population Projections for 23+ Year Olds



It should be noted that there is substantial uncertainty over some of the demographic assumptions, especially on net migration, as its future path will be strongly influenced by macroeconomic conditions. Therefore, below we conduct some sensitivity analysis on our baseline projections for entrants; we examine the impact on the projections of zero net migration (at an aggregate level) over the entire projection period and also of a higher TFR of 1.95 from 2016 (see sub section on sensitivity analysis on demographic projections).

Participation Rates

The second key factor that determines the number of new undergraduate entrants is the likely participation rate in HE. In this section, we define participation rates in terms of the percentage of people within different age cohorts with a Leaving Certificate who enter HE. Ideally, time series data on new entrants would be used to analyse trends in participation. However, while detailed data on new entrants to HE are available for more recent years (from 2006 on), there are significant historical data gaps which have constrained the direction of the analysis on a number of fronts. In addition, somewhat surprisingly, there exists no time series readily available for those who have completed a Leaving Certificate by age group.

To overcome these data barriers, data from the *School Leavers' Survey* (SLS) is used to construct a consistent time series of participation rates for direct entrants to HE. The SLS provides an insight into the position, experiences and attitudes of school leavers one to two years after leaving second-level education.¹⁵ The Survey ran consecutively from 1980 to 1999 and in 2002, 2004 and 2006, thus facilitating the analysis of long term trends in participation.¹⁶ In order to determine the participation rates of late and mature entrants, data from the *Quarterly National Household Survey* (QNHS)¹⁷ are used to calculate the population whose highest level of educational attainment is a Leaving Certificate.¹⁸

Direct Entrants

Data from successive SLSs are used to calculate the proportion of people who have completed the Leaving Certificate and who have ever-participated on a full-time basis in HE (including non-HEA funded Institutes). They also take account of those who dropped out before the end of the first year. The derived participation rates for males and females over time are shown in Figure 1D.¹⁹ The figure shows that the female direct participation rate was significantly below the male rate in the early 1980s but it caught up and surpassed the male rate in the mid-1990s. It should be noted that these rates exclude individuals choosing to enter HE institutions outside of Ireland.

To generate projections for the number of direct entrants (< 20 years old) we use historical data on the number of students who have completed a Leaving Certificate²⁰ and project this series forward by indexing it to the rate of population growth of 17 year old males and females from the demographic model. This yields a projection of the number of students that are 'higher education ready' i.e. that have completed a Leaving Certificate. We assume unchanged gender-specific participation rates of approximately 60 per cent for males and 64

¹⁵ The *School Leavers' Surveys* (SLSs) are based on a stratified random sample of those leaving the official second-level system, which includes the Post Leaving Certificate sector.

¹⁶ The SLS was not carried out in the years 2000, 2001 or 2003 and unfortunately has not been carried out since 2006.

¹⁷ The *Quarterly National Household Survey* (QNHS) is the quarterly labour force survey which is carried out by the CSO.

¹⁸ This constitutes the denominator in any participation rate calculation.

¹⁹ HEA (2012) indicates that the gender difference in new entrants has narrowed in more recent years.

²⁰ We use data from the Department of Education and Skills on the number of students who sit a minimum of five subjects as a proxy for the number of students who complete a Leaving Certificate. These data also include repeat candidates as data on results by type of candidate are not available.

per cent for females.²¹ These participation rates for males and females are multiplied by the numbers that are 'higher education ready' to generate projections of direct entrants to HE.



Figure 1D: Direct Entrant Participation Rates

Source: School Leavers' Survey, various waves

Late Entrants

Late entrants to HE refer to those who enter HE between the ages of 20 and 22. To calculate participation rates for this group we use Higher Education Authority (HEA) data on new entrants by age²² combined with QNHS data on the population in this age group whose highest level of educational attainment is a Leaving Certificate.²³ The calculated participation rates are shown in Table 1A. Although the time series is relatively short, the table shows that there has been a rise in HE participation for those aged 20 to 22 since the beginning of the recession.

Table 1A: Participation Rates for Late Entrants, First Estimates

²¹ The gender relativities into the future are likely to reflect broader post-school opportunities for young people, including training and apprenticeship opportunities, the capacity and composition of the further education sector, and the extent to which students get greater opportunities to progress through and between different pathways.

²² While a longer time series is available for entrants to universities, data on entrants to IOTs are only available from the HEA from 2006/07. Also, these data implicitly include international entrants and an adjustment is made to the participation rates later to separately identify international entrants.

²³ The age data in the QNHS is banded so we have extracted the numbers between the ages of 20 and 24 whose highest level of educational attainment is a Leaving Certificate. We assume that 20 to 22 year olds make up three-fifths of the 20 to 24 year old age group.

	2006/07	2007/08	2008/09	2009/10	2010/11
Males, aged 20-22	5.4	6.8	8.4	9.8	11.1
Females, aged 20-22	8.3	8.9	11.4	10.3	14.5

Source: Calculated using HEA data on new entrants to higher education by age and data from the Quarterly National Household Survey on the population whose highest level of educational attainment is a Leaving Certificate by age.

Projections for late entrants are calculated by indexing the numbers of males and females aged between 20 and 22 whose highest level of educational attainment is the Leaving Certificate to the rate of population growth in these age cohorts from the demographic model and then applying a participation rate to these figures. As before, we assume unchanged gender-specific HE participation rates from 2010/11 over the projection horizon. However, should the 2010/11 participation rate estimate transpire to relate to a business cycle effect, as opposed to a trend, this will result in some over-estimation of the projected demand for HE among late entrants.

Mature Entrants

An identical approach to that of late entrants to HE is used for mature entrants (23+ years old). Using a combination of entrants' information²⁴ and data from the QNHS, we calculate separate participation rates for those aged 23 to 24, 25 to 34, and 35 and over as participation is highly concentrated in the younger age cohorts. The estimated participation rates are shown in Table 1B. As before, we can see a rise in participation rates since the beginning of the downturn in the economy.

To generate projections for mature undergraduate entrants we index the historical numbers of males and females whose highest level of educational attainment is the Leaving Certificate to the rate of population growth from the relevant age groups. As before, we assume unchanged gender-specific participation rates from 2010/11 and apply these to the projections of the population that is 'higher education ready'. Section 9 and Appendix 1 contains a more detailed analysis of the characteristics of individuals without third-level qualifications.

	2006/07	2007/08	2008/09	2009/10	2010/11
Males 23-24	1.9	2.3	2.7	4.0	5.0
Males 25-34	0.9	0.8	1.3	1.9	2.2
Males 35+	0.3	0.3	0.4	0.5	0.5
Females 23-24	2.7	2.6	3.1	3.6	4.8
Females 25-34	1.2	1.3	1.4	1.6	1.6
Females 35+	0.3	0.3	0.4	0.4	0.4

Table 1B: Participation Rates for Mature Entrants, First Estimates

²⁴ As with late entrants, these data implicitly include international entrants and an adjustment is made to the participation rates later to separately identify international entrants.

Source: Calculated using HEA data on new entrants to higher education by age and data from the Quarterly National Household Survey on the population whose highest level of educational attainment is a Leaving Certificate by age.

International Entrants

Data on the number of international entrants are not readily available so the historical number of international entrants is estimated using a combination of data from the HEA and Department of Education and Skills (DES). We use data from the DES on the domiciliary origin of all students enrolled in full-time undergraduate education to estimate the number of EU (excluding Ireland) and non-EU total enrolments in the system. HEA data on the year of study for 2009/10 are used to estimate the number of students in year 1 as a proportion of the total number of full-time undergraduates and this is used as a proxy for the proportion of new entrants. We apply this proportion to our estimate of the total number of EU (excluding Ireland) and non-EU international enrolments to generate a proxy for the number of international entrants. Our estimates indicate that the number of EU undergraduate (excluding Ireland) entrants rose from around 760 in 1999/00 to around 1,050 in 2010/11, while the non-EU international entrants rose from around 890 to 2000 over the same period. These estimates imply that the share of international entrants in total direct, late and mature undergraduate entrants was around 8 per cent in 2010/11.

To project the number of international entrants forward we assume that the share of international entrants will rise to 14 per cent of total direct, late and mature entrants by 2030. This yields a projection for international entrants in 2030. The projection is linearly interpolated back to the 2010/11 figure. The assumption on the share of international entrants in 2030 corresponds to the existing rate of international entrants in the UK system. The UK has one of the highest rates of international student enrolments in the world and so, this assumption is chosen to reflect the maximum expansion that could occur in Ireland.

Adjustments to Participation Rates and Consistency Checks

Before producing our Baseline Model estimates for undergraduate entrants, we must take account of the fact that various sources have been used and historical data, in some places, had to be estimated e.g. for international entrants. Therefore, wherever possible, we need to ensure that the historical data match published sources.

The HEA data on entrants to HE by age that have been used in this analysis implicitly include international entrants and consequently our estimates of international entrants must be subtracted from direct, late and mature entrants. Internal HEA estimates for 2010/11 indicate that around 35 per cent of international entrants are included in the direct entrants group, 52 per cent are incorporated as late entrants and the remaining 13 per cent are in the mature entrants category. To take account of this we apply these proportions to our historical estimates of international entrants to calculate the number of direct, late and mature foreign entrants and these figures are then subtracted from the HEA figures for direct, late and mature entrants for each year from 2006/07 to 2010/11. Then we can calculate revised participation rates for direct, late and mature entrants which apply to domestic entrants. A further adjustment is made to the historical participation rates for the direct (domestic) entrants which were derived from the SLS data to ensure that the implied numbers of historical direct entrants broadly add up to the HEA data for direct entrants less international students. The overall adjustment to the direct entrant participation rate is downwards by around 7 per cent

or around 4 percentage points.²⁵ The analysis confirms the accuracy of our SLS time series and, thus, validates the use of these data as the dependent variable within the environmental assessment.

Table 1C shows the adjusted participation rates for direct, late and mature entrants from 2006/07 to 2010/11. The participation rates for 2010/11 for each type of entrant are used in the projections. Finally, the sum of the historical data for direct, late, mature and international entrants is compared to the HEA data for total entrants from 2006/07 to 2010/11 to check the overall model estimates. The model performs very well with an average discrepancy of less than 1 per cent of all entrants over the period.²⁶

	2006/07	2007/08	2008/09	2009/10	2010/11
Direct Entrants:					
Males	56	56	56	56	56
Females	60	60	60	60	60
Late Entrants:					
Males, aged 20-22	3.8	4.8	5.9	6.8	7.8
Females, aged 20-22	5.8	6.2	8.0	7.2	10.1
Mature Entrants:					
Males 23-24	1.7	2.1	2.5	3.7	4.7
Males 25-34	0.9	0.8	1.3	1.8	2.1
Males 35+	0.2	0.3	0.3	0.4	0.5
Females 23-24	2.5	2.5	2.8	3.3	4.5
Females 25-34	1.1	1.2	1.3	1.5	1.5
Females 35+	0.3	0.3	0.3	0.4	0.4

Table 1C: Final Participation Rates for Entrants

Source: School Leavers' Survey for direct entrants. Late and Mature entrants are calculated using HEA data on new entrants to higher education by age and data from the Quarterly National Household Survey on the population whose highest level of educational attainment is the Leaving Certificate by age.

As mentioned before, we assume unchanged gender specific HE participation rates for late and mature entrants from 2010/11 over the projection horizon. There is some evidence indicating that the current high unemployment rate has increased the demand for HE. Conefrey (2011) uses data from the Quarterly National Household Survey to examine the fall in labour force participation among the younger age groups from late 2008 and finds that the majority of those who have exited the labour force but remain in Ireland have returned to education. If the 2010/11 participation rates are related to the current unemployment rate

²⁵ It should be noted that the participation rates generated using the SLS data also include private higher education which helps explain why the initial estimates of the historical participation rates for direct entrants are above the HEA figures.

²⁶ This is equivalent to an average discrepancy of around 347 over the period.

rather than a trend in HE participation, then there may be some over-estimation of projected demand among late and mature entrants.

Baseline Projections for New Undergraduate Entrants

The approach for projecting direct, late and mature entrants is to apply participation rates, based around historical relationships, to population growth in relevant age groups. International entrants are projected forward in 2029/30 as a share of all direct, late and mature entrants, using a similar share to the prevailing one in the UK, and then this figure is interpolated back to 2011/2012. Then the sum of the projections for direct, late, mature and international entrants provides a Baseline projection of all full-time undergraduate entrants to HE. It is important to note that these projections are driven solely by changes in student demand for HE places over time (through demographic change) rather than an interaction with the supply of actual places in the HE system. It should also be noted that we assume that there is no capacity constraint at this stage, that is, each student seeking a place within an Irish institution gains one. The issue of potential unmet demand and its implications for policy will be considered in Section 6.

Figure 1E presents our Baseline Model projections for undergraduate new entrants out to 2029/30. The graph shows an increase in entrants from around 41,000 in 2010/11 to just over 51,000 in 2029/30. Figure 1F shows the composition of undergraduate entrants underlying the Baseline Model projections. While the majority of entrants are direct entrants, the graph shows the rising share of international entrants over time.



Figure 1E: Baseline Projections; Total Full-Time Undergraduate Entrants



Figure 1F: Baseline Projections: Composition of New Entrants

Figure 1G shows the official projections from the Department of Education and Skills (DES), which were published in July 2012²⁷ ESRI projections from the Baseline Model and older projections from the DES that were used in the *National Strategy for Higher Education to 2030* (known as the Hunt report).²⁸ The July 2012 DES projections and the ESRI Baseline Model produce broadly similar results compared to earlier projections that were used in the *National Strategy for Higher Education to 2030*. Any discrepancies are relatively minor and are driven by differences in the methodologies employed and some of the underlying assumptions. Specifically, the DES projections refer to all full-time places in third-level institutions funded by the Department of Education and Skills, while the ESRI projections are based on HEA-funded institutions. Part of the gap between the two sets of projections is due to the fact that the DES makes an adjustment for the non-HEA funded colleges namely the National College of Ireland, the Pontifical College, Milltown Institute and the non-HEA funded teacher education institutions (CICE, Marino College and Froebel College). This effectively explains part of the gap between the two sets of projections.

²⁷ These projections are available at: http://www.education.ie/en/Publications/Statistics/Projections-ofdemand-for-Full-Time-Third-Level-Education-2011-2026.pdf

²⁸ See Table 3.1 (page 44) of the National Strategy for Higher Education to 2030, published in January 2011, available at: http://www.hea.ie/files/DES_Higher_Ed_Main_Report.pdf



Figure 1G: Comparison of Projections for Full-Time Undergraduate New Entrants with Department of Education and Skills Projections

In addition, the DES use recent administrative data to project HE participation rates by age cohort, making no distinction between direct and late entrants. Furthermore, the DES model assumes a much more moderate growth in immigrant students. The ESRI model, on the other hand, although broadly comparable, is driven primarily by a continuation of a direct entrant participation rate derived from a historical time series using the *School Leavers' Survey*. The use of the SLS data allows us to investigate behavioural factors that may influence participation and to subsequently test the sensitivity of projected demand to changes in the economic environment. The approach dictated therefore that we distinguish direct from late entrants. In addition, we have allowed for a more rapid expansion of immigrant demand and utilise this as a policy variable within our analysis. Thus, in summary, while the ESRI projections align closely with the official estimates, there are some relatively minor differences driven by both the variation in approach and the fact that the ESRI analysis is more exploratory in nature and allows for changes in participation rates, immigrant demand and responses to external macro-economic influences.

The ESRI Baseline Model and the July 2012 DES estimates are relatively closely aligned but both sets of projections show a radical difference from the projections that were used in the *National Strategy for Higher Education to 2030*.²⁹ Consequently, any policy arguments that are based on these older projections need to be updated in light of the new projections.

²⁹ See <u>http://www.education.ie/en/Publications/Statistics/Projections-of-demand-for-Full-Time-Third-Level-Education-2011-2026.pdf</u> for an explanation of the difference between the two sets of projections from the DES.

Sensitivity Analysis on Demographic Projections

The Baseline Model projections are mainly driven by demographic change so it is important to assess how sensitive the projections are to changes in the main demographic assumptions. Two sensitivity tests are performed that assess the impact on the projections of more positive demographic assumptions. First, we assess the impact of a higher TFR of 1.95 from 2016 compared to the Baseline Model assumption of 1.85. Then, we examine the impact of zero net migration at an aggregate level from 2012 over the projection horizon as compared to the Baseline assumption of net emigration of around 28,000 per annum out to 2020 and net immigration of around 5,000 per annum thereafter. As mentioned before, projections around net migration path on our projections. This sensitivity analysis would be consistent with a stronger than expected economic recovery. In each case, the total number of international entrants is held constant in the Baseline Model projections.

Figure 1H: Sensitivity Analysis: Total Undergraduate Entrants under Alternative Migration and Fertility Assumptions



The results of the sensitivity analysis are shown in Figure 1H. The higher fertility rate only affects the projections in the last couple of years as the students entering the system in earlier years have already been born. The overall impact of the higher fertility rate is to add approximately 730 entrants to the Baseline model projections in 2029/30. The impact of zero net migration out to 2030 has a larger impact on the Baseline model projections; it raises the number of entrants by around 1 per cent over the Baseline model projections in the short-term by around 3 per cent in 2019/2020 (or approximately 1,500) and close to 4 per cent in 2029/30 (or approximately 2,100).

Scenarios: High and Low Participation

In the Baseline Model we largely assume that HE participation rates will remain constant over the period.³⁰ Here, we examine the impact on the Baseline estimates of higher and lower

³⁰ This assumption applies to direct, late and mature entrants.

direct participation rates. Specifically, we assess the effect of the direct participation rates for males and females rising over the projection horizon so that the rates are 5 percentage points above those in the Baseline Model by 2029/30. This raises direct participation rates to 60 per cent for males and 65 per cent for females, which, might reasonably be considered as an upper limit for any policy target over the forecast horizon. Both scenarios hold the level of international entrants constant at the levels projected in the Baseline Model. In addition, both scenarios keep the participation rates for late and mature entrants constant at the Baseline Model rates as increasing the direct participation rate means the scope for increasing the participation rates for late and mature entrants.

Figure 1I: Total Undergraduate Entrants under High and Low Participation Scenarios



The results of the high and low participation scenarios are shown in Figure 1I. The difference in the number of entrants as compared to the Baseline Model is symmetric; in the high participation scenario, the number of entrants is around 3,200 (or 6.2 per cent) higher than the Baseline Model in 2029/30, while the number of entrants is around 3,200 (or 6.2 per cent) lower than the Baseline Model in 2029/30 in the low participation scenario.

Behavioural Analysis

Although demographics play a central role in determining future student demand for HE, there are other factors that may influence participation. We perform a time series analysis on the direct participation rates for males and females using data from the SLS to try to explore the importance of these forces on participation over the period 1980 to 2006. A multiple linear regression model is used to estimate the influence of these different factors on direct HE participation rates.

A whole range of non-demographic factors were considered for inclusion in the behavioural analysis. The factors included the opportunity cost faced by students which reflects the choice between work and study. The weakness in the labour market since 2008 appears to have encouraged more people into HE.³¹ Conversely, when the labour market is tight young people may be more tempted to enter the labour market rather than enrol in HE. Variables such as the unemployment rate, the low skilled wage rate³² and employment growth may capture the opportunity cost faced by students. In addition, the decision to undertake HE or to invest in human capital will also be affected by the private rate of return on that investment which is given by expected future earnings.³³ Variables such as GNP per capita, GDP per capita or average wages in the economy can act as a proxy for the rate of return to HE. We

³¹See, for example, Conefrey, T. (2011), "Unemployment and Labour Force Participation during the Recession", Economic Letters, Vol. 2011, No. 4, Central Bank of Ireland.

³² In the analysis the low-skilled wage rate is proxied by the wage rate in the clothing sector.

³³ See Becker, G. (1964), *Human Capital*, Chicago: The University of Chicago Press.

may also expect HE participation to be affected by the types of student funding available, for example, whether or not undergraduate fees had to be paid³⁴ or the prevailing grant rates. In addition, to capture skill biased technological change, a range of variables such as the share of high-tech employment in total employment and the share of employment by the various levels of education were also included in the analysis. Finally, trends in the level of excess demand for HE among school leavers may also affect participation. This is proxied in the analysis using a variable constructed from CAO data that includes the number of HE applications divided by the number of HE acceptances.

The approach taken was to include different combinations of these variables in models for male and female direct participation rates. The regression results indicate that the male direct participation rate is largely exogenous with respect to the types of variables that we included in the models. However, the model for female participation performs better. The results indicate that the female direct participation rate depends on GNP per capita, real average wages in the economy and the real low-skilled wage rate. The direction of the impacts is as expected; consistent with human capital theory a rise in future earning (captured by GNP per capita and real average wages) serves to increase the female participation rate. Conversely, a rise in the opportunity cost (captured in the model by the real low-skilled wage rate) serves to reduce the female participation rate. The model details are presented in Table 1D below. The natural log of GNP per capita, real average wages and the real low-skilled wage rate are included as explanatory variables in the model. Dividing the coefficient estimates by 100 means the estimates can be interpreted as the absolute change in the participation rate for a percentage change in one of the explanatory variables.³⁵

Combining the regression results with projections from the *Low Growth* scenario from the *Recovery Scenarios in Ireland: An Update* published in July 2010, we can estimate the future female direct participation rate that accounts for economic factors.³⁶ Figure 1J shows the estimates of the economic-based participation rate and the baseline model demographic-based participation rate for females. Predicated on a recovery in the economy over the medium term³⁷, the results show a rise in the economic-based participation rate is between 4 to 5 percentage points above the rate assumed in the Baseline Model and close to the participation rate used in the high participation scenario. Using the economic-based participation rate for female entrants leads to an increase in the total number of entrants of around 1,500 above the Baseline Model estimates in 2024/25.

Table 1D: Female Direct Participation Rate Regression Results

³⁴ The effect of the free fees initiative can be captured in a model by including a dummy variable that is equal to one from 1996 onwards when undergraduate fees were abolished.

³⁵ As we are working with time series data, we have to consider the possibility that the error terms in the regression model are correlated, in which case OLS estimates will not be efficient. The results of Durbin's alternative test for autocorrelation and the Breusch-Godfrey serial correlation Lagrange multiplier test indicates that there is no autocorrelation in the error terms of the model.

³⁶ This document is available at:

http://www.esri.ie/UserFiles/publications/RecoveryScenarios/QEC2010SumSA_Recovery%20Scenarios.pdf Projections for the real low-skilled wage rate are not included in the publication, so we assume they grow at the same rate as real average wages.

³⁷ The average GNP growth rate over the period 2013 to 2025 in this scenario is around 2.3 per cent.

	Coefficient_Estimates
Ln GNP per Capita	17.0*
Ln Average Wages	133.9***
Ln Low-Skilled Wage	-75.7***
Constant	-238.9***
22	0.0746
κz	0.9746
Ν	23
Prob > F = 0.0000	0.0000
Range: 1980 to 2005 ³⁸	

Note: *** p<.001; ** p<.01; * p<.05

Figure 1J: Comparison of Economic and Demographic Based Direct Participation Rates for Females



³⁸ As the SLS did not take place in every year, we have no data on participation rates for three years.

SECTION 2: HIGHER EDUCATION EXPANSION AND SOCIAL INCLUSION

The previous section outlined that the demand for HE places has expanded rapidly as a consequence of rising participation rates and it is envisaged that rising participation will continue into the future. The extent to which the expansion of higher education provision will result in changes in the social profile of higher education entrants has been the subject of much debate internationally. The thesis of maximally maintained inequality (MMI), put forward by Raftery and Hout (1993), suggests that educational inequality will only decrease where the enrolment of advantaged groups is already so high (near saturation) that further expansion is only feasible by increasing the participation rates of more disadvantaged groups. Lucas (2001) has suggested that even very high levels of expansion may not be sufficient to bring about change since more advantaged groups will continue to access more prestigious colleges and courses within a differentiated system. Both sets of theories have focused on the relative position of advantaged and disadvantaged groups. In contrast, Arum et al. (2007) argue that while relative differences may prevail, it is important to acknowledge that the absolute number of working-class young people obtaining third-level qualifications has increased significantly as a result of higher education expansion. This section outlines the consequences of higher education expansion in Ireland for social differences in participation rates, unpacking the processes underlying such differences. Much of the discussion draws on a rich body of evidence, gathered over the last decade in particular, and as such there is less reliance on new analysis in this section.

There is now a substantial body of research which documents social inequality in HE participation in Ireland. Existing studies tend to use measures of family social class and/or socio-economic group to explore this differentiation. Looking at the social class background of school leavers (using 2007 data as this is the latest available), taking the higher social class where both parents are employed (a 'dominance approach'), a clear linear pattern is found with the highest participation found among those from higher professional backgrounds (see Figure 2A). Participation rates are also low among other working-class groups, namely, those from skilled and semi-skilled manual backgrounds. Although those from farming backgrounds can be allocated to a social class category on the basis of acreage, historically farm sons and daughters have been found to have very distinctive patterns of educational participation. Thus, farm families are regarded as a distinct group in Figure 2A, with their HE participation rates found to resemble the levels among the lower professional groups.

Figure 2A: Proportion of all school leavers entering higher education by social class (dominance), 2007



Source: School Leavers' Survey data

Using socio-economic group as a basis for classification reveals additional insights into the processes of differentiation. The highest participation levels are found among the higher professional group and the lowest among the unskilled manual group. However, there is considerable variation among the other groups, with the 'other non-manual' group having lower rates of participation than the skilled manual group (Figure 2B), all statistically significant differences. Over time, virtually all groups have increased their levels of participation in higher education, although the gains have been greater among less advantaged social groups, in particular the skilled manual group. However, these trends also reflect professional and managerial groups largely reaching 'saturation' in their levels of participation (O'Connell et al., 2006; Clancy, 2007). The other non-manual group is the only group to have seen a fall in levels of entry over the ten year period between the late 1990s and the late 2000s. Disaggregating the group into 'intermediate non-manual' and 'other (lower) non-manual' groups, a practice not typically used by analysts in the Irish context, reveals stark differences in the profile and HE entry levels of the two groups (McCoy et al., 2010a). This research has been important in highlighting the need to move beyond broad inter-class analysis towards a nuanced approach incorporating intra- as well as inter-class analysis (McCoy and Byrne, 2011; Byrne and McCoy, forthcoming). Over and above the effects of social class and socio-economic group, having non-employed parents is found to reduce the chances of HE entry (McCoy and Smyth, 2011).

Further, the evidence indicates that inequality in access to HE extends to the nature of HE accessed. Expansion in university places over the 1990s in particular drew in large numbers of middle class young people, reflecting the higher direct costs of university entry as well as the risk of social demotion for middle class young people who attend Institutes of Technology. Less advantaged social groups have increased their participation in HE largely through accessing Institutes of Technology and consequently shorter duration courses and less prestigious fields of study (McCoy and Smyth, 2011). These long-standing trends in HE access have also been documented in the work of Clancy (2008, 2007, 1996) and have also

been documented in international research examining differentiation in higher education (Reimer and Jacob, 2011; Boliver, 2011; Schindler and Reimer, 2011).

In sum, existing research points to lower rates of HE entry (and access to more prestigious institutions and fields of study) among the 'traditional' working class (manual workers) as well as those in less skilled white-collar jobs and those in non-employed households.

Figure 2B: Proportion of all school leavers entering higher education by father's socio-economic group, 2007



Source: School Leavers' Survey data

The extent to which HE expansion in Ireland has reduced the degree of inequality in participation has been the subject of much policy attention. The picture is one of continuity and change – expansion resulted in increased HE participation among all social groups but relative differences remained significant (O'Connell *et al.*, 2006; McCoy *et al.*, 2010a). Analyses indicate that the higher professional groups benefited most from the initial expansion of HE places with this differential only declining as they reached near saturation levels, consistent with the thesis of Raftery and Hout (1993). Farm families show a very rapid increase in participation levels over time. There is no evidence that the removal of tuition fees narrowed the social differential in HE participation (McCoy and Smyth, 2011). In sum, HE expansion has meant greater numbers of young people from disadvantaged backgrounds entering college but the social gap in participation has remained largely unchanged.

What accounts for the persistence of these differences in participation? Theorists have sought to distinguish between primary and secondary effects in looking at the processes influencing social class differences in HE participation (Jackson *et al.*, 2007). Primary effects relate to differences in achievement; thus, working-class young people may not access HE either because they do not complete second-level education or because they achieve lower Leaving Certificate grades. Secondary effects relate to differences in behaviour/choice at a given level of achievement; thus, there may be differences by social class in the proportion of young people with particular Leaving Certificate 'points' who go on to HE. Both processes are evident in the Irish context.
Second-level completion varies significantly by social background in the Irish context, with higher rates of early school (pre-Leaving Certificate) leaving found among those from semi/unskilled manual and non-employed backgrounds (Byrne and Smyth, 2010; McCoy *et al.*, 2010a). Furthermore, young people who attend schools with a concentration of students from disadvantaged backgrounds have lower rates of school completion than those who attend mixed or middle-class schools, even taking account of their own social background (Byrne and Smyth, 2010; McCoy *et al.*, 2010a; Smyth, 1999). In attempting to understand why such 'contextual effects' operate in Irish schools, ongoing work by McCoy *et al.* (2011) is examining the role of teacher, student and peer effects in explaining lower performance among students in socio-economically disadvantaged primary schools. Among those who enter senior cycle education, young people from working-class and non-employed backgrounds are more likely than others to enter the Leaving Certificate Applied programme, a route which does not permit them direct access to HE (Banks *et al.*, 2010; McCoy *et al.*, 2010a). In sum, prior processes shaping school completion and the type of programme taken constrain the potential of working-class young people to access HE.

Not surprisingly, the level of educational performance plays a crucial role in shaping later pathways. At all levels of the educational system, children and young people from workingclass backgrounds achieve lower standardised test scores or examination grades than those from middle-class backgrounds (Smyth and McCoy, 2009). Thus, a good deal of the social background variation in HE participation is accounted for by the grades achieved in the Leaving Certificate (McCoy *et al.*, 2010a; McCoy and Smyth, 2011). In sum, 'primary effects' (that is, differences in prior achievement) are evident among Irish school leavers. Turning to secondary effects, we find that social class variation is evident even taking account of these differences in prior achievement. Thus, young people from higher professional backgrounds are more likely than similarly performing working-class young people to go on to HE (McCoy and Smyth, 2011). Overall, and as expected, primary effects are stronger than secondary effects and social class differences in behaviour are weaker at higher levels of achievement. In policy terms, this points to the fundamental importance of enhancing school retention and educational achievement among working-class young people as well as boosting aspirations.

While the distinction between primary and secondary effects may provide a useful way to think about the processes influencing HE entry, in practice levels of achievement and HE intentions are closely intertwined. An emerging body of research indicates the way in which the proportion of young people going on to HE differs across individual schools, even taking account of individual background characteristics (Smyth and Hannan, 2007; McCoy et al., 2010a). In some schools, going on to college assumes a 'taken for granted' quality, partly but not wholly related to the social class mix of the school (Smyth and Banks, 2012). A school's orientation to HE tends to be reflected in concrete practices, particularly the nature of access to higher level subjects and the level and nature of guidance provision. The proportion of students taking higher level subjects varies significantly across second-level schools, reflecting the complex interplay between school policy regarding access, teacher expectations and student expectations (Smyth et al., 2008, 2011). Low levels of take-up of higher level subjects will set a ceiling on student achievement, thus constraining the likelihood of entering HE. Schools with higher levels of guidance provision (as reflected in the number of guidance hours) have a greater proportion of students who apply for HE (Smyth and Hannan, 2007). Even more important than the level of guidance provision is the nature of such provision. Formal guidance provision plays a more important role in the decision-making of young people from more disadvantaged backgrounds but, in some instances, such guidance is

directed at 'realistic' (that is, class-appropriate) options (McCoy *et al.*, 2010a; Smyth and Banks, 2012).

In conclusion, expansion has resulted in greater numbers of disadvantaged young people accessing HE but neither expansion nor the removal of tuition fees has brought out a reduction in social inequality in HE access. The processes influencing school retention and educational achievement are therefore crucial to bringing about enhanced HE entry rates for disadvantaged groups. Projected trends in the level of demand for HE are discussed elsewhere in this report. However, it is worth making a number of explicit points regarding potential trends regarding social inclusion:

- International research has shown that relative inequalities in educational participation decline significantly only when the most advantaged groups have reached saturation levels (Raftery and Hout, 1993). In the absence of specific measures to reduce inequality, this would require very high levels of participation among middle-class students (in other words, very substantial levels of HE expansion) before greater inclusion would be possible.
- There has been a good deal of policy attention to issues of educational disadvantage within primary and second-level education. Current policies focus on designated disadvantaged (DEIS) schools which do indeed have lower retention rates, lower Leaving Certificate achievement levels and much lower levels of HE entry historically (McCoy *et al.*, 2010a). However, the majority of students from disadvantaged backgrounds attend non-DEIS schools (Smyth and McCoy, 2009), raising challenges for promoting the inclusion of these students.
- The current recessionary conditions may encourage young people to remain in, or return to, full-time education in order to avoid unemployment. However, reductions in living standards at the household level along with reduced opportunities for part-time employment for students may constrain the ability of families to cover the costs of HE.
- The removal of ex-quota provision³⁹ for career guidance within second-level schools is likely to disproportionately impact on more disadvantaged students who do not have other sources of information and advice regarding college choices (Smyth and McCoy, 2011).
- The degree of social inclusion will be strongly influenced by the nature and level of financial support for students through the grant system. Earlier research has indicated that HE participation rates are somewhat lower than might be expected at income levels just below the grant threshold (Watson and Smyth, 2003). Furthermore, the lack of entitlement to HE grants has been seen as a factor in the declining participation of other non-manual groups (McCoy *et al.*, 2010a).

³⁹ These are additional posts provided outside of the pupil-teacher ratio.

• The removal of tuition fees was found to have little impact on inequalities in HE access but this is not to say that a reintroduction of fees or other forms of payment would have neutral effects. International research has indicated that working-class young people tend to be more risk averse (Reay *et al.*, 2005) and so a student loan system, for example, might negatively affect their participation levels.

In sum, future trends regarding social inclusion within HE will not only depend on the degree of expansion in provision but on a complex array of factors, including the level and nature of financial support for students, the financial resources available to families, the degree of support for disadvantaged children and young people attending DEIS and non-DEIS schools, and the level and nature of guidance provision in second-level schools.

SECTION 3: HIGHER EDUCATION EXPANSION AND PROGRESSION

To what extent does higher education (HE) expansion have implications for levels of student achievement and successful course completion? While patterns of access to, and participation in, HE are now well established in the Irish context (as discussed in section 2), it is only in more recent years that we have been able to gain an understanding of the processes shaping student progression and success on entry to HE. There is little doubt that large-scale and rapid expansion in the HE sector has had important implications for extending HE to wider sections of society. However, it is important to assess the extent to which such widening access has implications for students' capacity to benefit from, and succeed within, HE. As acknowledged internationally, improving student retention represents an 'on-going challenge because as the goal of increased student diversity is being embraced, the needs of the student body are shifting' (Thomas *et al.*, 2002). In a recent Higher Education Authority (HEA) report it is further noted that in the context of growing accountability and efficiency, "minimising students' non-completion of courses is an important part of ensuring that the resources available to the HE sector are utilised with maximum efficiency" (Mooney *et al.*, 2010, page 10).

In recent years data gathered from all institutions funded by the HEA has allowed research to examine the factors influencing student progression in Irish HE institutions. Drawing on these data, a recent study (Mooney et al., 2010) examined student progression from first to second year across HE institutions, sectors and courses. While research examining HE completion more broadly is somewhat limited in the Irish context (with the exception of Morgan et al., 2001, Eivers et al., 2002 and Kinsella et al., 2006), international research points to the importance of the first to second year transition. In the US context, Porter (1990) found that over half of student attrition occurs in the first year, while Smith and Naylor (2001) had similar results in the UK. Mooney et al. (2010) found that an average of 15 per cent of new entrants were not present one year later. While acknowledging serious difficulties in comparing retention and progression rates across countries (Van Stolk, 2007), these figures are not out of line internationally, despite a much more rapid HE expansion rate in Ireland than in many other countries. Further, OECD estimates of HE completion published earlier (2009) suggested that Ireland was among the best-performing countries for university completion. The Mooney et al. (2010) study provides valuable insights into the processes and factors shaping non-progression in HE, both at institutional and individual levels, and in the process provides important lessons in terms of expansion of the HE system and its implications for levels of student success and achievement.

It is clear that prior academic achievement or 'academic preparedness' plays a central role in student success at HE. Leaving Certificate performance emerges as the strongest predictor of successful progression within HE (McCoy and Byrne, 2010), in line with research from a wide range of countries. As shown in Figure 3A, Leaving Certificate performance is highly influential – the relationship is linear with rising points predicting lower non-progression, a finding which holds when taking account of field of study and course level. For each additional rise of 50 points, non-progression odds fall steadily: for example, relative to those securing 305-350 points, students who achieved 255-300 points are 1.5 times more likely to drop out, while those with 205-250 points are 2.6 times more likely to not progress to second year. Similar findings emerge in the US context, with Adelman (1999) finding that high school academic achievements, such as grades and test scores, provide the best indicators of success later in college. It is interesting to find that Leaving Certificate Maths performance is a particularly important predictor of HE progression (Figure 3B) – suggesting that students

with poor Maths skills, in particular, struggle to meet the academic demands of HE. Finally, McCoy and Byrne (2010) found that any social class effects were largely mediated through prior achievement – while working-class students are disproportionately less likely to enrol in HE, once the transition is made there are few notable social class differences in progression.



Figure 3A: Non-Progression Rates by Prior Educational Attainment and NFQ Level

Source: Mooney et al. (2010), A Study of Progression in Irish Higher Education, based on raw data.



Figure 3B: Non-Progression by Leaving Certificate Mathematics Points Attainment

This evidence is significant and has important implications for ongoing expansion of the HE system. In particular, the results highlight the importance of two key areas: academic preparedness prior to entry (i.e. in the second-level system) and adequate learning supports on entry to HE. The tension between admission standards and widening and increasing HE entry remains. In the Spanish context, Lassibille and Gomez (2008) argue that tighter selection at the point of entry to HE might be needed – but this is in a context where there are few restrictions on HE entry. In the Irish context, given the *numerus clausus* system in operation,⁴⁰ the academic requirements for entry reflect variation in student demand for courses and result in considerable variation between fields of study and institutions (and over time) in the academic 'standard' of HE entrants. However, there is also a 'matriculation minimum' standard⁴¹ that must be met, along with subject-specific requirements for certain courses.

A second key issue to emerge is that of financial support. Results show that financial support plays an important role in student retention – students in receipt of a state maintenance grant display greater progression rates than those not in receipt of such support, all else being equal. This may be due to greater financial security for students in receipt of a grant, their

⁴⁰ Because the Irish system operates on the basis of numerus clausus ('closed number' in Latin), applicants for specific course places are ranked in terms of points (grades) with the highest-ranking candidates offered a college place.

⁴¹ All students wishing to enter a degree course in an NUI Constituent University must meet the Matriculation Requirements of the University. This includes English, Irish, and four other subjects in the Leaving Certificate. A third language must be included among the other subjects for Arts, Human Sciences, Law, Social Science, Commerce, Medicine and Health Sciences and some other degrees.

For Commerce the subjects presented must include Maths, and for courses in the Sciences (i.e. Science and also Agriculture, Architecture, Engineering, Food Science and Technology, Medicine, Dentistry and Health Sciences, Veterinary Medicine) Maths and a Science subject.

reduced reliance on (increasingly difficult to secure) part-time work or simply students ensuring that they fulfil the requirements of their courses to retain grant eligibility (since students who fail their exams and are required to repeat the year lose their eligibility for a grant) (McCoy *et al.*, 2010b). This has important implications in the context of debate around fees and in particular points to the need to ensure any policy changes in this regard are offset by an effective and rigorous system of support for students from disadvantaged backgrounds. Internationally, research shows that financial support plays an important role in reducing dropout (for example, Lassibille and Gomez, 2008 in the Spanish context, and Dynarski, 1999, and Bettinger, 2004, in the US context. In the UK, Yorke (1998) concludes 'scholarships and grants tend to have the greatest beneficial effects on [college] persistence' (p.59).

Finally, institutional and sectoral differences in progression warrant particular attention. While initial results (Mooney et al., 2010) showed large differences across institutions - for example, the percentage of honours degree students not progressing ranged from 3 to 25 per cent across institutions – these were misleading. Further analysis revealed that much of these differences reflected the 'quality' of the student intake. Much of the apparently wide variation in progression rates across institutions is accounted for by 'student quality' measures, particularly prior achievement or academic preparedness. In 2007 the most common range of points attained in the Leaving Certificate examination by new full-time undergraduate entrants to NFQ Level 8 courses of four years' duration was 450-500 in the university sector and 300-350 in the institute of technology sector; the most common points range for Level 6 and 7 courses in the institutes of technology was 250–300. Levels of performance in maths are of particular concern in the institute of technology sector (Figure 3C). For example, of students enrolled in technology courses at Levels 6 and 7, few had achieved high grades in maths on entry to college. These differences are also significant in understanding gender differences in non-progression. While overall males are 1.4 times less likely to progress from first to second year, this is largely a function of the nature of the courses taken by males. Once account is taken of Leaving Certificate attainment, field of study and course level, males are no less likely to progress than their female counterparts.



Figure 3C: Proportion of 2007/08 Undergraduate New Entrants with 60+ Points¹ in Leaving Certificate Mathematics

Source: Mooney et al. (2010), A Study of Progression in Irish Higher Education ¹ Points from 60 upwards refer to those gaining a C3 or better at Higher Level and an A1 at Ordinary Level

However, it is important to bear in mind that rapid expansion in the numbers enrolled in the institutes of technology has played an important role in greater numbers of disadvantaged students and students with lower levels of Leaving Certificate attainment accessing HE (see McCoy and Smyth, 2011, for a fuller discussion). Given strong differentiation in progression according to Leaving Certificate performance, the question can be asked: are significant numbers of students in the institutes of technology struggling to meet the academic demands of their courses? Is it the case, as Smith and Naylor (2001) and Cave *et al.* (1997) maintain, that indicators of non-completion can potentially conflict both with policies of widening access to HE and with the maintenance of academic quality? Further, does the unit cost funding mechanism in operation create an incentive for progression, in the process undermining academic standards in HE institutions? The international move towards the increasing use of performance metrics carries with it the danger of rewarding institutions for student retention, which may be achieved through a lowering of academic standards.

Alongside the issue of academic preparedness, the subjects and programmes students have taken at second-level are important, particularly in terms of exposure to the sciences and higher level maths. Smyth and Hannan (2002) found that a significant minority of students enter Level 6 or 7 engineering and computing courses without prior science experience, while almost half of those entering Level 6 or 7 science have not taken physics or chemistry for the Leaving Certificate. Similarly, the *Task Force on the Physical Sciences Report* (2002) suggests that failure in first year college science exams is correlated with non-take-up of physical science subjects for the Leaving Certificate. Finally, student awareness and understanding of the different choices open to them has also been found to be a significant process in shaping HE decision-making and subsequent success within HE. In some cases at least, non-progression may stem from inappropriate choice of course, which reflects on

second-level guidance support, an issue which has emerged in recent research examining the processes influencing HE entry (McCoy *et al.*, 2010a; Smyth *et al.*, 2011).

Overall, the evidence highlights that all students leaving the second level system enrolling in HE should be fully equipped for doing so – in terms of academic preparedness, knowledge and understanding of course content and the requirements of the course and an understanding of potential career paths (also highlighted by Eivers *et al.*, 2002). Within the HE setting, the evidence points to the value of identifying 'at risk' students and ensuring that they have the academic and social supports and guidance they need to enhance their motivation, engagement and performance early-on in their courses. Furthermore, the issue of 'quality' should not be ignored – both in terms of the standards required to gain entry to HE, but also in terms of the skills and competencies HE students gain over the course of their studies. Finally, some thought should be given to the extent to which individuals at the highest risk of non-completion within HE might be more effectively accommodated within the FE sector.

SECTION 4: MAPPING NEW GRADUATE SUPPLY AGAINST NEW GRADUATE DEMAND

Introduction

This section focuses on assessing the likely flow of new graduates into the labour market over the coming years and the likely demand for these graduates. For new graduate supply, the data and projections are based on the Baseline Model figures for undergraduate entrants discussed in section 1 of the Report. The number of completions consistent with these entrants' projections is derived using recent HEA data on progression rates by year of study. In addition, we extend our model to include postgraduate completions. It is important to note that within our analysis we implicitly assume that education provision will expand in line with projected student demand; this is obviously a strong assumption and will depend on a number of factors, including the state of the nation's finances and the necessary structural change within the HE system occurring. Exactly how and when HE expansion is to be achieved represents a key research question in its own right and is beyond the remit of this study. To estimate new graduate demand, we use total employment projections by sector for the economy out to 2030 and historical data on the proportion of new undergraduates and postgraduates employed in each sector. Various adjustments are made to our initial projections of new graduate labour supply and demand. On the supply side, an adjustment is made for the fact that not all undergraduates enter the labour market upon completing their studies; a significant proportion continues on to postgraduate study. On the demand side, we take account of the fact that not all graduates are employed in graduate level jobs. In addition, we adjust for the fact that some graduates studied part-time while already in full-time employment and so they do not enter new graduate jobs on completion of their studies.

Our projections of graduate supply and the labour market demand for new graduates allow us to investigate the ability of the labour market to absorb graduates and to examine the extent to which there is excess supply or excess demand for graduates. It is important to note that any imbalances between supply and demand create incentives for other actions to occur. For example, relative wages or the level of migration could change in response to imbalances in the labour market.

The estimates for new graduate labour demand are also benchmarked against the projected supply of graduates under the high and low HE participation scenarios considered earlier in the Report. We also perform some sensitivity analysis around graduate labour demand and supply. Specifically, we investigate the supply-demand balance when high-technology sectors increase their demand for new graduates above the levels assumed in the Baseline Model projections. We also examine the supply-demand balance when there is graduate emigration.

In addition to mapping aggregate graduate supply against aggregate graduate labour demand we also consider the most appropriate composition of HE places in terms of subject areas. Graduates from certain subject areas with a high vocational component rely on the availability of professional posts in key sectors. Furthermore, there is a belief in some policy circles of the need to produce more graduates in STEM⁴² subjects and our analysis goes some way towards assessing the relative supply of such graduates and the labour market demand for them. Specifically, we provide detailed projections of the supply of graduates by job specific field of study benchmarked against expected labour demand.

⁴² STEM refers to Science, Technology, Engineering and Mathematics.

Labour Market Supply of New Graduates

Undergraduate Completions

Our projections of undergraduate completions are obtained from applying an overall completion rate to our Baseline Model estimates of undergraduate entrants. Table 4A reports combined progression rates from years 1 to 2, years 2 to 3 and years 3 to 4 for Universities and IOTS in 2007/08 from HEA data.⁴³ We assume an overall pass rate of 97 per cent for an undergraduate qualification resulting in an overall implied completion rate of 74 per cent (i.e. 85% x 93% x 96% x 97% - see Table 4A). We assume that it takes an average of four years to complete an undergraduate qualification. This means that the undergraduate entrants in 2006/07 will complete their studies in 2009/10. Furthermore, we assume that the overall completions in year *t* we apply the overall completion rate of 74 per cent to the projected number of undergraduate entrants in year *t*-4. Finally, we assume that students enter the labour market as soon as they have completed their studies.

Table 4A: Progression Rates for Full-Time Undergraduate New Entrants

	2007/08
Progression Rate from Years 1 to 2	85%
Progression Rate from Years 2 to 3	93%
Progression Rate from Years 3 to 4	96%
Pass Rate	97%
Implied Overall Completion Rate from Year 1 to Year 4	74%

Source: The progression rates for individual years in HE are based on combined progression rates for all new entrants in Universities and IOTS from Mooney *et al.* (2010), *A Study of Progression in Irish Higher Education*.

Postgraduate Completions

The next element of graduate labour supply is postgraduate students. To project postgraduate students we depart from the demographic approach that was used for undergraduate entrants. The reason for this is that postgraduate students are typically in the 22 to 28 year old age group and this age group has a high propensity to migrate⁴⁴ thereby reducing the numbers available for postgraduate study. However, there is considerable uncertainty about how the

⁴³ This measure of progression (and non-progression) is based on the student being present in the same institution a year later. They may have changed course, but as long as they are in the same institution they are recorded as present. Students who transferred to another institution are recorded as not present. Hence, the non-progression rate is an over-estimate of the level of dropout, and the completion rate is an under-estimate of HE completion levels. It should be noted that the progression rates used in the model exclude repeat students.

⁴⁴ The migration weights applied to the various age groups in our demographic model are based on historical data from the CSO.

balance between migration and more intense flows into postgraduate study will evolve over time so we use an alternative approach to estimating postgraduate students.

We project the number of full-time postgraduate students as a proportion of undergraduate completions each year. Specifically, we take the ratio of postgraduate entrants to undergraduate completions in 2010/11, which is 65 per cent, and apply it to the number of undergraduate completions each year out to 2029/30. This yields a projection for new postgraduate entrants. Figure 4A shows the projections for postgraduate entrants together with the projections for undergraduate entrants.

We assume an overall completion rate of 76 per cent (which is slightly higher than the undergraduate rate) to the entrants' projections to estimate total postgraduate completions. We assume that this completion rate remains constant over the projection horizon. The gender breakdown is assumed to be the same as for all postgraduate enrolments in 2010/11, namely 46 per cent are males and 54 per cent are females. We further assume that, on average, postgraduate studies take one year to complete and that postgraduates enter the labour market as soon as they have finished their course.

It is important to note that our Baseline model projections for postgraduate entrants may overestimate the student demand for postgraduate study given recent changes in postgraduate funding. Specifically, the abolition of maintenance grants for postgraduates in 2012 may affect participation from students in lower socio-economic groups.



Figure 4A: Baseline Model Projections of Undergraduate and Postgraduate Entrants

Source: Authors' calculations

Total Full-Time Enrolments

The projections for undergraduate and postgraduate new entrants can be transformed to produce an estimate of total full-time enrolments in HE. To estimate total full-time enrolments we scale up our new entrants projections for undergraduates and postgraduates by a constant amount in each year. The scaling factor for undergraduates (postgraduates) is calculated as the ratio of undergraduate (postgraduate) full-time enrolments in 2010/11 to total full-time undergraduate (postgraduate) entrants in 2010/11. The scaling factors for undergraduates and postgraduates are 3.4 and 1.2 respectively. Table 4B shows the implied total full-time enrolments in HE over the projection period.

Table 4B: Total (Undergraduate and Postgraduate) Full-Time Enrolments in Higher Education

	2010/11	2014/15	2019/20	2024/25	2029/30
Total Full-Time Enrolments	160,972	167,225	175,349	193,782	204,921
Source: Authors' calculations					

Adjustments to New Graduate Labour Supply

Figure 4B shows our Baseline Model projections for undergraduate and postgraduate completions, separately for males and females. The number of graduate completions from Figure 4B yields a first estimate of the potential flow of graduates into the labour market. However, not all undergraduates enter the labour market and so we need to adjust the figures to take account of undergraduates who continue on to postgraduate study. Estimates from the HEA, based on data from the *First Destinations Survey*, indicate that, on average over the period 2000 to 2010, 35 per cent of undergraduates were in further study nine months after graduation, and that most of these were in postgraduate study. We assume that this proportion remains constant out to 2030 and we adjust the potential undergraduate labour supply figures downwards to reflect this.

Figure 4B: Baseline Projections: Undergraduate and Postgraduate Completions



In addition, we assume that postgraduate students who do not successfully complete their studies enter the labour market as undergraduates. Figure 4C shows our estimates of overall new graduate labour supply over the projection horizon when we make these two adjustments. The graph shows a rise in labour supply over the period.



Figure 4C: New Graduate Labour Supply

Sensitivity Analysis on Postgraduate Entrants

As mentioned before, there is considerable uncertainty regarding both the future path of net migration and the interplay between migration and flows into postgraduate study. Therefore, we look at some sensitivity analysis on the number of postgraduate entrants; specifically we examine a demographic based approach to projecting postgraduate students. The details of the approach are given in Appendix 2 and Figure 4D shows the number of postgraduate entrants derived from the demographic based approach. In the demographic based approach we apply historical participation rates to the projected number of individuals in the 22 to 28 year old age groups. As we have assumed there will be continued net emigration to 2020 and this group has a high propensity to emigrate there is a dip in the number of postgraduate entrants over the medium term.



Figure 4D: Postgraduate Entrants - Sensitivity Analysis

Labour Market Demand for New Graduates

The standard approach to skills forecasting is to utilise macroeconomic models which decompose activity in terms of standard industries in order to forecast the change in the relative employment share of the various sectors and the changing employment share of occupations (or education) within each sector. This approach thus generates forecasts of the changing demand for various occupations or education groupings within the aggregate economy. Whilst the underlying macroeconomic model is typically complex, the occupational forecasts are generally derived by extrapolating historical occupational trends by industry, thus the determinants of occupational change are not modelled explicitly (for more detailed discussions see Borghans and Willems (1998), Barnow (2002), Cörvers and Heijke (2003) and Hughes (2003)). However, as we do not have a sufficiently detailed matrix describing the entry rates of new graduates into the labour market over time we have adopted a more simplified approach. On the basis that long-run entry patterns are no longer highly relevant following the onset of the recession in 2008 and ongoing HE expansion, we have concentrated on projecting forward trends in graduate entry rates over more recent years and we subsequently develop sensitivity scenarios around these projections.

The modelling of labour market demand for new graduates comprises two components: (1) projections of overall employment by sector and (2) an analysis of the proportions of new graduates associated with certain sectors of the economy. The analysis is completed at a sectoral level to ensure that the demand projections reflect any structural change within the economy. As with the labour supply projections, our approach focuses on labour demand over the medium to long term and aims to provide a good indication of the future direction of labour demand rather than focussing on shorter time horizons.

Our estimates of total labour demand come from sectoral employment projections produced by the European Centre for the Development of Vocational Training (CEDEFOP) in March 2012.⁴⁵ The CEDEFOP projections go to 2020 and ESRI medium term projections are used to extend the projections to 2030.⁴⁶ Figure 4E shows total employment based on the CEDEFOP and ESRI medium term projections. The graph shows that, even though employment is projected to grow over the medium term, employment is only likely to reach its 2006 level by 2030, highlighting the dramatic fall in employment that has taken place over the period 2008 to 2011. While, these employment projections take account of changes in the sectoral composition of the labour market, they do not account for within industry changes in the utilisation of highly skilled labour. We consider this issue in a scenario later on.



Figure 4E: Total Employment Projections

Figure 4F shows the sectoral distribution of employment underpinning the total employment projections. The projections show some limited sectoral change, with the share of employment in business and other services rising from around 21 per cent in 2010 to 23 per cent in 2030 while the share of overall manufacturing is expected to decline from around 12 per cent in 2010 to around 9 per cent in 2030. Nevertheless, the magnitude of change is moderate.

⁴⁶ These projections are based on the Low Growth Scenario contained in Bergin, A., T. Conefrey, J. Fitz Gerald and I. Kearney, 'Recovery Scenarios for Ireland: An Update' special article in Quarterly Economic

⁴⁵ See: http://www.cedefop.europa.eu/EN/about-cedefop/projects/forecasting-skill-demand-and-supply/skills-forecasts.aspx

Commentary, Summer 2010. The scenario in this publication goes to 2025 and is extended to 2030 by assuming the same annual average employment growth by sector between 2025 and 2030 as between 2020 and 2025.





Source: Based on ESRI and CEDEFOP projections

Table 4C: Share of New Graduates in Each Sector in 2009

	Undergraduate	Postgraduate
Drimony Contor 9 Utilities		
Primary Sector & Otilities	0.68%	0.00%
Manufacturing		
	1.63%	0.35%
Construction		
	1.12%	0.06%
Distribution	2.01%	0.32%
Hotals and Cataring	2.01%	0.22%
Hotels and Catering	2.41%	0.42%
Transport & Telecommunications		
•	1.14%	0.24%
Business & Other Services		
	3.08%	0.71%
Public Admin and Defense	2.400/	0.000/
	2.40%	0.28%
Education	2.00%	2 20%
Health and Social Work	5.03%	2.20%
	3.15%	0.86%

Source: Calculated using QNHS micro data.

To capture how many jobs are likely to go to new graduates in the future we examine historical trends in the share of new undergraduates and new postgraduates in each sector using Quarterly National Household Survey (QNHS) micro data. The QNHS collects information on each individual's highest level of qualification and the year in which it was obtained; thus new graduates are defined as those who obtained their credential within the year preceding the survey date. Table 4C shows the share of new undergraduates and postgraduates in each sector in 2009.⁴⁷ The table shows that sectors like business and other services and education have a high share of new graduates while the primary sector and utilities has a relatively low share of new graduates. The analysis does not distinguish between new and replacement demand; nevertheless, given the modest growth in employment over the projection period relative to the strong employment growth that took place during the Celtic Tiger period, it is expected that the bulk of demand will be replacement in nature. To estimate new undergraduate (postgraduate) labour demand by sector we apply the share of new undergraduates (postgraduates) in each sector in 2009 (from Table 4C) to the projections of total employment in each sector.

Adjustments to New Graduate Demand

The focus of this analysis is on new graduate jobs and an adjustment is made for the fact that not all graduates are employed in graduate level jobs. i.e., there is underutilisation of skills in the labour market. The concept of graduates in non-graduate jobs is generally referred to in the literature as overeducation (McGuinness, 2006). However, in the context of this study we are merely attempting to ensure that we do not over-estimate future graduate labour demand by falsely assuming that all graduates are employed in graduate level jobs. It is not clear to what extent individuals' location in non-graduate employment is due to inadequate labour demand or preferences; however, it is undoubtedly the case that many graduates will ultimately choose to trade-off higher wages for other job attributes and may, consequently, choose to locate in non-graduate occupations (McGuinness & Sloane, 2011). Furthermore, information asymmetries between employers and workers will ensure that at any time a certain number of individuals will always be under-utilised in employment. As a consequence of uncertainty around worker preferences, information asymmetries, demand \ supply imbalances and the effects of migration, a certain level of graduate under-utilisation is to be expected.

Based on data from the European Union, it would appear that under-utilisation a significant feature in the Irish labour market. Figure 4G plots estimates of the under-utilisation rates within the entire workforce using data from the *European Working Conditions Survey* (2010).⁴⁸ It appears that the under-utilisation rates in Ireland are quite high relative to other countries with almost 30 per cent of workers in posts for which they are over-qualified. However, the figure should be treated with caution as it will be prone to the influences of inward migration since 2004, which saw large numbers of graduates from New Member States (NMS) countries taking employment in non-graduate sectors of the economy (Barrett *et al.*, 2012).

⁴⁷ The shares are calculated as the number of people in each sector who have obtained a third-level qualification in the preceding year divided by the total employment in each sector.

⁴⁸ This chart is taken from a presentation by Maurizio Curtarelli (Eurofound) entitled "Skill Mismatch in Europe: Evidence from Eurofound's Survey)" which was delivered at an Cedefop expert workshop entitled "Skill Mismatch and Firm Dynamics: Integrating Skills with the World of Work" held in London on April 27th 2012.



Figure 4G: International Under-utilisation Rates

Source: European Working Conditions Survey (2010)

To adjust for the amount of under-utilisation in the labour market, we use QNHS micro data to estimate the proportion of all graduates that actually are employed in graduate level occupations. We define graduate level occupations (using Standard Occupation Classification (SOC) groups) to be managers and administrators, professionals, associate professional and sales, while non-graduate level occupations comprise clerical and secretarial, craft, personal and protective services and plant and machine operatives. The classification of a graduate occupation in this way is relatively standard and, according to the QNHS, just less than three quarters of Irish graduates are located in our designated professional SOC groups. Conversely, even at a very detailed level of disaggregation, there are very few occupational groupings outside of the professional SOC categories that are readily identifiable as being graduate level. In estimating the proportion of graduates in graduate occupations, we base our calculations on the population of all graduates on the grounds that under-utilisation rates are known to be higher among new graduates; thus using data from the new entrant cohort will overestimate the incidence of under-utilisation (Dolton & Vignoles, 2000). Table 4D presents the shares of all graduates who are in graduate level jobs by sector.⁴⁹ The average rate of under-utilisation is around 27 (100-73) per cent, but there is considerable variation across sectors. For example, 75 per cent of all graduates in business and other services and 93 per cent of graduates in education are employed in graduate level jobs, while the comparable share is only 36 per cent for graduates employed in the hotel and catering sector. To adjust for under-utilisation in the labour market we assume these sectoral under-utilisation rates remain constant over the projection period and these rates are applied to our estimates of new undergraduate and postgraduate labour demand by sector. Thus, for instance, estimated new undergraduate demand within the manufacturing sector will be total employment in year x*0.0163*0.663.

⁴⁹ The under-utilisation rates reported in Table 4D are based on data from the QNHS. The average underutilisation rate is just under 30 per cent and is comparable to that reported in Figure \$G which is based on data from the *European Working Conditions Survey*.

Table 4D: Proportion of All Graduates in Graduate Jobs

	2005
Primary Sector & Utilities	71.5
Manufacturing	66.3
Construction	56.7
Distribution	79.2
Hotels and Catering	36.0
Transport & Telecommunications	59.6
Business & Other Services	74.2
Public Admin and Defence	47.3
Education	92.5
Health and Social Work	82.2
Average Rate	72.6

Source: Calculated using QNHS micro data.

We also draw on data from the QNHS to adjust for the fact that some new graduates were part-time students and already in full-time employment so they are not entering new graduate jobs. Clearly, failure to adjust in this way will tend to overestimate the demand for newly qualified graduates. The QNHS micro data indicate that, on average, between 2004 and 2007 around 36 per cent of new graduates indicated that they had been in work for more than one year prior to obtaining their qualification. However, using the QNHS micro data, we cannot distinguish between those who were in full-time or part-time employment while undertaking their studies but clearly it seems unlikely that all 36 per cent were working full-time. We assume that 25 per cent of graduates were in full-time employment while studying part-time. This is somewhat less than the 36 per cent of graduates who were working either full- or part-time while completing their studies. While this represents a somewhat arbitrary adjustment we, unfortunately, have no precise way of estimating the incidence of degree level attainment among full-time workers. We assume that this rate remains constant over the period and our annual estimates of new graduate labour demand are adjusted downwards by this percentage.

Mapping New Graduate Supply and New Graduate Demand

Benchmarking the estimated annual supply of new graduates against the labour demand estimates provides an indication of the capacity of the labour market to absorb these graduates and ultimately highlights whether there is excess demand or supply for new graduates. Skill shortages in the labour market can be costly for the economy. They can lead to a worsening in competitiveness if wages are bid up in firms where shortages exist and they can also have a negative effect on productivity if firms put lower skilled workers into skilled positions. As mentioned before, our approach focuses on the future direction of labour supply and demand in the medium to long term rather than on single years or shorter time horizons. Figure 4H charts the estimates of new graduate demand and supply. From the figure, we can see that, on average, supply exceeds demand over the projection horizon and that the average surplus is around 10,400 per annum or around 25 per cent of average graduate labour supply over the period. The rate of over-supply lies below the aggregate under-utilisation rate for the economy, more generally, suggesting that a good deal of under-utilisation relates to workers with sub-degree level qualifications. From a policy perspective the level of surplus cannot be assessed as excessive particularly in a context where an estimated 10 per cent of new graduate emigrate while others may find themselves in non-graduate occupations as a consequence of either individual preferences or information asymmetries.⁵⁰ Furthermore, it is likely that the majority of non-national students, which are assumed to account for 7 per cent of undergraduate enrolments in 2030, will emigrate on completion of their studies.



Figure 4H: Mapping Final Graduate Labour Supply against Final Graduate Labour Demand

Figure 4I-1 and 4I-2 separate these estimates into undergraduate and postgraduate labour demand and supply. Approximately 38 per cent of the new graduate labour supply has a postgraduate qualification, while the comparable share of postgraduates in total new graduate labour demand is lower at approximately 20 per cent. It is not clear why undergraduates and postgraduates are not demanded in the same proportions as they are produced in the system but it could be related to the fact that individuals with postgraduate qualifications are more likely to migrate. The chart indicates that there is an average surplus of undergraduates of around 1,375 per annum or around 0.5 per cent of undergraduate labour supply, while there is an excess supply of people with postgraduate qualifications of around 9,000 per annum or approximately 55 per cent of postgraduate so too many postgraduates coming into the labour market as they are very close substitutes and employers will likely substitute one for

⁵⁰ While we have adjusted labour demand estimates for the effects of under-utilisation it is still likely that a certain proportion of graduate supply will become under-utilised as a consequence of either preferences or an inability to find a graduate level job.

the other. Further research is required to understand exactly why we observe relatively small numbers of newly-qualified postgraduates in the labour market.



Figure 4I-1: Mapping Final Undergraduate and Postgraduate Labour Supply against Demand

Figure 4I-2: Mapping Final Undergraduate and Postgraduate Labour Supply against Demand



Scenarios

We next conduct a series of sensitivity tests to see how the balance between labour demand and supply shifts as a consequence of altering assumptions with respect to both

graduate labour supply and demand. Figure 4J shows the annual estimates for new graduate labour demand benchmarked against the projected supply of graduates under the high and low HE participation scenarios considered earlier in the Report. Under the higher participation scenario, the average excess supply of graduates is around 11,500 per annum or 27 per cent of projected graduate labour supply, while in the low participation scenario the average surplus is reduced to approximately 9,200 per annum or 23 per cent of projected graduate labour supply. Thus, in general, changes in the participation rate have a relatively modest impact on the degree of balance within the graduate labour market.

Figure 4J: Graduate Labour Supply and Demand under Baseline, High Participation Growth and Low Participation Growth Scenarios



While our demand estimates account for changes in the sectoral composition of the labour market, they do not account for within industry changes in the utilisation of graduate labour. Theories of Skill Biased Technological Change (SBTC) emphasise that technology favours educated labour and, over time, the employment share of graduate workers is likely to rise particularly within high-tech industries. We thus consider a scenario where there is more structural change in the economy than indicated by the sectoral employment projections used in the Baseline Model and this takes place along the lines predicted under SBTC. Specifically, we examine a scenario where the demand for new under- and postgraduates in high-tech sectors, namely in business and other services and manufacturing, increases by a factor of 1.25 over the Baseline estimates. The impact of this higher rate of structural change is that the surplus of graduates is reduced to an average of around 7,500 over the period (see Figures 4K-1 and 4K-2).

We also consider how the supply\demand balance would be affected by graduate emigration over the period. The historical graduate emigration rate is around 10 per cent (Flannery and O'Donoghue, 2011). This figure applies to domestic students so to take account of the fact that many international students may also leave we examine a scenario of 14 per cent

graduate emigration over the projection period.⁵¹. Exactly how graduate emigration will behave is very difficult to predict as it is endogenous to the processes that we are attempting to model i.e. if there are large surpluses with many graduates unable to find employment then emigration is likely to be high and vice versa. As with many of the other unknowns in our analysis, the best we can do is to assume that recent trends will persist into the future, that is, of course, unless we have good reason to believe that a structural break has occurred The impact of this level of graduate emigration is to more than halve the surplus of graduates from 10,400 per annum to around 4,600 per annum (see Figures 4K-1 and 4K-3

Thus, the analysis indicates that over the projected horizon Ireland is likely to run a surplus in new graduates; however, the country could face skill shortages in specific areas in the event of significant net graduate migration and/or rapid technological change that substantially raises the demand for graduate labour.



Figure 4K-1: Graduate Labour Supply and Demand (Baseline)

⁵¹ This scenario considers a constant 14 per cent graduate emigration rate over the period. As the numbers of international students rise over the projection horizon, this constant assumed rate may overestimate graduate emigration at the beginning of the projection period and underestimate it at the end of the period.



Figure 4K-2: Graduate Labour Supply and Demand (High Demand)

Fig 4K-3 Graduate Labour Supply and Demand (Graduate Emigration)



Mapping New Graduate Supply and New Graduate Demand by Field of Study

Given the debate around STEM subjects we provide some assessment of the adequacy of supply to key areas of provision that can be closely tied to the labour market, i.e., IT, Science, Law and Engineering. For each subject area we map the annual level of labour supply against demand. To estimate the supply of graduates by field of study, HEA data for 2009/10 on total undergraduate and postgraduate enrolments by occupation group are used to approximate the percentage of students in Engineering, IT, Science and Law. The data indicates that Science courses account for over 10 per cent of enrolments for both males and females. Engineering programmes account for approximately 11 per cent of male enrolments but just

approximately 1 per cent of female enrolments (Table 4E). Relative to Engineering, IT courses are slightly less popular and again there appears to be a very low take up among females. Finally Law accounts for between 2 and 4 per cent of enrolments and is more popular among females. We assume that these proportions remain constant over the period to 2030 and multiply them by the projections of undergraduate and postgraduate entrants. To generate the potential supply of graduates in these separate fields, differential progression rates are used for first year undergraduate entrants; thereafter we assume that progression rates are the same as in the Baseline Model.⁵²

On the demand side, we use QNHS data to identify the main occupations where graduates from Engineering, Law, Science and IT are employed (Table 4F).⁵³ Then we identify the average share of total new graduates (undergraduate plus postgraduate) in each of these fields in total employment over the period 2004 to 2009. An attempt was made to calculate the average share of total new graduates in each of these occupations in each sector of the economy. However, the weights were unstable over time so we use the average share of new graduates in total employment over the period 2004 to 2009. These average shares of new graduates in these occupations are then multiplied by overall labour demand to generate a series of new graduate demand in each of these fields.

	Undergraduates, Male	Undergraduates, Female	Postgraduates, Male	Postgraduates, Female
%				
IT	8.4	1.5	11.0	3.1
Science	10.0	9.7	15.6	12.9
Law	2.1	2.7	3.2	4.4
Engineering	11.6	1.0	11.1	2.1
#				
Total Enrolments	64480	69369	10440	11911

Table 4E: Total Enrolments by Field of Study in 2009/10 from HEA

⁵² Progression rates by field of study are only available for undergraduate entrants and are based on combined progression rates for Universities and IoTs from HEA (2010), "A Study of Progression in Irish Higher Education".

⁵³ Under-utilisation is no longer a factor as these all represent graduate professions.

Table 4F: Occupations where Engineering, Law, Science and IT graduates are employed

Engineers	Science	Lawyers	IT Profession
211 Mechanical engineers	200 Chemists	240 Judges	126 Computer systems managers
212 Electrical engineers	201 Biological scientists	241 Barristers & advocates	320 Computer analyst/programmers
213 Electronic engineers	202 Physicists	242 Solicitors	214 Software engineers
216 Design & development engineers	209 Other natural scientists	350 Legal service & related occupations	
217 Production engineers	300 Laboratory technicians		
218 Planning & quality control engineers	309 Other scientific technicians		
219 Other engineers & technologists			
301 Engineering technicians			
302 Electrical/electronic			
215 Chamical anginaara			
210 Civil/mining engineers			
260 Architects			
261 Town planners			
262 Building, mining and			
other surveyors			
planning technicians			
304 Building & civil			
engineering technicians			
310 Draughtspersons			
311 Building inspectors			
312 Quantity surveyors			
313 Marine, insurance &			
other surveyors			

The results from the field of study analysis are presented in Figures 4L to 4O. The analysis shows relatively large surpluses in the area of law, IT and science with between 50 and 80 per cent of graduates failing to enter professions closely associated with these subject areas within a year of graduation. In terms of engineering provision within the higher education system, the analysis suggests that there will be surpluses typically below 30 per cent of total field supply. This would be a cause of concern as existing surpluses may potentially be eroded in the event of significant net graduate migration or rapid technological change that raised the demand for graduate engineers.



Figure 4L: Supply and Demand for New Engineering Graduates

Figure 4M: Supply and Demand for New Science Graduates





Figure 4N: Supply and Demand for New IT Graduates

Figure 40: Supply and Demand for New Law Graduates



SECTION 5: THE WAGE PREMIUM ASSOCIATED WITH A THIRD-LEVEL QUALIFICATION

Our analysis suggests that the labour market for graduates in Ireland does not exhibit surpluses, with the situation likely to remain so over the projection period. Underlying this analysis is an assumption that that rates of return to higher education did not fall back as a consequence of recent expansions and that they are likely to hold up going forward. Obviously, evidence of falling rates of return will put a question mark over our assumed HE participation rates and cast doubt around the extent to which any revised funding system, for instance, based on income contingent loans, is likely to be sustainable.⁵⁴ In order to get some indication of the extent to which rates of return have held up in the face of rising third-level participation, we examine the extent to which the premium to third-level qualifications over no qualifications changed during the 1994 to 2009 period. It should be noted that earnings premiums associated with levels of qualifications do not equate exactly to rates of return; however, it does give an approximate estimate and will provide us with a good assessment of the degree to which rates of return have changed over time.⁵⁵ We estimate premium for the population of working-age⁵⁶ employees in general and also for particular age cohorts on the grounds that apparent stability in the average education premium can potentially mask more volatile movements in the pay-off to particular groupings, in particular, newer entrants.⁵⁷ In addition, we also examine movements in the premium to post-secondary education on the grounds that substantial shifts in the labour market for Further Education (FETAC) qualifications will potentially have implications for Higher Education (HE) demand given that, at least to some degree, both qualification pathways can be considered substitutes. Thus, for instance, falling returns to FETAC qualifications may well result in more students opting for HE programmes and vice versa.

The data for the analysis come from two separate sources and, as such, some caution is required as the datasets will not be directly comparable. Education premiums for the period 1994 to 2001 are estimated using data from the *Living in Ireland Survey* (LII), while the 2004 to 2009 estimates are generated by using data from the Irish *Survey on Income and Living Conditions* (SILC). Due to the use of two different data sources, it is only reasonable to assess the movement in premiums separately over the two distinct time periods as it is not at all clear how well the LII 2001 estimates correspond with the 2004 Irish SILC-based

⁵⁴ Falling rates of return imply that student's discounted income stream will be lower, thus lessening the incentive to participate in HE (Becker, 1964). In addition, falling rates of return imply that fewer graduates will meet the repayments threshold set under any Income Contingent Loan system.

⁵⁵ The traditional notion of the rate of return was developed in a seminal work by Becker (1964); however, the empirical framework was put in place sometime later by Mincer (1974). With respect to "the Mincer equation" within which years of schooling and labour market experience are regressed on earnings, it can be shown that under some simplified assumptions related to time and the opportunity cost of education, the coefficient associated with a year of schooling in the Mincer equation will approximate the rate of return to education (see McGuinness, 2006, for a simple proof). The specification here is estimated using levels, as opposed to years, of education and, as such, is termed a modified Mincer equation. The use of a modified Mincer is preferred on the grounds that (a) this will allow us to isolate the premium (approximate return) to a third-level qualification and (b) it has been shown that the assumption of linearity that underpins the Mincer equation tends to have broken down in recent decades (Heckman, Lochner & Todd, 2003), suggesting that education levels are more appropriate as they will capture non-linear effects.

⁵⁶ Defined as individuals aged 16-64.

⁵⁷ It should also be noted that the third-level premium will also vary by field of study (see Kelly *et al.*, 2009, for an example applied to Irish data). However, as we are only concerned with the trend in the average third-level premium as an indicator of historical imbalances between graduate labour demand and supply imbalances, we do not estimate wage premiums by field of study here.

estimates. The models are estimated separately for each sex and the coefficients relate to the percentage pay premium enjoyed by individuals holding degrees or diplomas relative to persons possessing primary or no formal qualifications. The models also control for a range of other characteristics⁵⁸ that will also influence earnings. It should be borne in mind that rates of pay among the comparison group will have increased rapidly over the time period being analysed, particularly for males, as many will have been employed in the construction sector between 1997 and 2007. Consequently, any decline in the male premium will, to some extent, reflect a failure to keep pace with wage growth among less qualified male workers rather than an actual fall in demand for male graduates.

Tables 5A and 5B document the results for third-level qualifications by gender.⁵⁹ Dealing firstly with males (Table 5A), relative to the comparison group, graduates earned just over 90 per cent more in 1994, with the premium appearing to fall off somewhat during 1997 and 2001. From 2004 to 2009 the Irish SILC-based estimates suggest that the rate of return to a third-level qualification remained relatively constant. Regarding cohort effects, estimates from the LII data for new entrants showed a positive premium in only two of the three years, with some decline evident between 1997 and 2001. In contrast, estimates for new entrant males for the period 2004 to 2009 show a rise in the degree premium between 2004 and 2007. with a more significant rise between 2007 and 2009; this rise partially reflects the fall in incomes of less qualified younger workers following the bursting of the property bubble. Regarding our age cohort analysis, the results show a steady decline in the premium for 31 to 50 year olds under both sets of data. With respect to the 50-65 year old age group, the analysis indicates that wage premiums remained relatively stable over the period. Thus, despite the expansion in rates of HE participation and rising earnings among the lower skilled, with the exception of a marked decline between 1997 and 2001, average premiums within the male labour market generally do not exhibit any trend decline over the period. However, the research indicates that the third-level premium for prime-aged males (31 to 50) may have fallen back somewhat over the period.

	1994	1997	2001	2004	2007	2009
All	91	97	82	77	76	77
≤30	*	79	41	42	69	136
31-50	104	98	92	80	74	67
51-65	95	128	95	85	85	90

Table 5A: The Premium to a Degree 1994 to 2009: Males

* indicates that no statistical effect was found. It may be that the lack of a statistical impact was partially driven by data constraints and, in particular, the relatively small sample sizes of the cohort based regressions.

⁵⁸ In addition to educational attainment, the models control for labour market experience, marital status, nationality and economic sector. Furthermore, the female wage equations include a Heckman selection term to control for possible effects of data truncation.

⁵⁹ Generally the wage equations are well specified with R squared statistics in the range of 0.4 to 0.5. Sample sizes vary from approximately 1130 observations for both females to around 1800 for males in both datasets. Typically, under 30s make up around one third of the samples, individuals aged 31 to 50 accounting for 45 per cent while workers aged 50 and over make up the rest. The relatively small sample sizes associated with the age-specific regressions raise the likelihood of generating statistically insignificant results.

With respect to females (Table 5B), the first thing to note is that the third-level premium for females in Ireland is substantially lower than that for males. The LII data suggests that, similar to the case of males, the payoff to a degree declined between 1997 and 2001, before appearing to stabilise again between 2004 and 2009. However, some caution is required regarding this interpretation, as the 2001 estimate appears to be somewhat of an outlier and ignoring it would suggest a pattern of steady to rising returns for females. On the whole, the data suggest that, unlike males, the female degree premium does not become apparent until after the age of 30, which is likely to be related to the impact of childbirth on earnings.⁶⁰ The LII results indicate that a rapid fall in the degree premium for females aged 31 to 50 took place between 1994 and 2001; however, the Irish SILC results appear to indicate that this pattern reversed itself over the 2004 to 2009 period. The estimated premiums for the oldest cohort (50-65 year olds) look somewhat sporadic under both datasets and no reliable pattern is discernible. Nevertheless, as was the case within the male labour market, there is no evidence of any trend movements in the average wage premium to a third-level qualification.

Finally, Table 5C presents the premiums to post-secondary qualifications over the period. At first glance, for both males and females, the data show that payoff to such qualifications fell over the period 1994 to 2001 before recovering again between 2004 and 2009. However, for both sexes the 2001 figure again looks somewhat of an outlier and should be treated with caution. If we discard the 2001 estimate as unreliable, the results are more suggestive of a pattern of steady to rising premiums to post-secondary qualifications for both sexes.

	1994	1997	2001	2004	2007	2009
All	93	91	56	94	115	105
≤30	150	*	*	*	*	*
31-50	110	88	71	88	90	100
51-65	85	130	77	*	121	*

Table 5B: The Premium to a Degree 1994 to 2009: Females

* indicates that no statistical effect was found. It may be that the lack of a statistical impact was partially driven by data constraints and, in particular, the relatively small sample sizes of the cohort based regressions.

Table 5C: The Premium to Post-secondary Qualifications 1994 to2009

	1994	1997	2001	2004	2007	2009
Males	58	62	45	42	50	57
Females	48	49	28	65	89	78

⁶⁰ This most likely reflects a higher probability that young females will take time out of the labour market for family reasons.

SECTION 6: ASSESSING THE EXTENT OF UNMET DEMAND THROUGH CENTRAL APPLICATIONS OFFICE (CAO) DATA

Our analysis up to this point implies that the vast majority of qualifying students seeking HE places in Ireland will have been successful and that the wage premium to third-level qualifications has generally held up despite rapid expansion of the HE system. Nevertheless, this tells us little about the impact that expansion has had on entry standards and the quality of graduates entering the labour market. We now use CAO data to further explore the extent to which the recent rapid expansion of HE provision has impacted on the profile of HE entrants on the grounds that changes in this area will have implications for future labour market projections. Should demand prove to have been constrained by the lack of available places within Irish HEIs, then our research may be under-estimating potential participation rates and, thus, the future demand for HE places. Conversely, it may be that the supply of HE places has outstripped demand and that expansion has only been facilitated at the cost of lower entry standards within universities and IOTs. This also will have implications for our research, as it may result in falls in future rates of return to HE which then raises questions regarding the sustainability of any funding scheme. An assessment of such issues can be attempted by examining patterns of entry (and rejection) among applicants to Irish HEIs over time. While such information is routinely collected by the CAO, it is only published at the institutional level and, therefore, does not provide a systems-wide perspective.

The ESRI received first preferences and offer files for the years 2000 through to 2011 from the CAO. In theory, these data should allow us to accurately assess the extent to which entry standards have varied with expansion and the extent to which the profile of those not receiving offers have altered. However, unfortunately the data were received in a format not easily accessible for research purposes and, given the amount of time required to transform each dataset into a workable format, we have restricted our analysis to the 2000 and 2011 datasets. While we have endeavoured to ensure the accuracy of our analysis, given the data problems, the results presented here should be treated with caution until such time as a validation process can be fully completed. Furthermore, we have combined the data for the universities and IoT's and although a separate analysis may also have proved insightful it was not possible within the constraints of the current study.

In terms of the data from 2000, we have first preference information for 53,758 Level 8 applications; however, substantial gaps exist within the results file and after merging the data on offers and results to the first preference information, we have complete records for 42,131 (80 per cent) Level 8 applicants. Regarding the 2011 information, first preference applications for Level 8 stood at 67,360, representing a 25 per cent increase since 2000, with data available for 56,979 (85 per cent) of applicants following merging. Tables 6A and 6B detail the points profile of Level 8 applications in 2000 and 2011 respectively. Surprisingly, despite a substantial rise in the number of applications to Level 8 courses, the mean point score of applicants remained almost constant over the period; furthermore, the median point score actually increased. This would suggest that rising participation has not resulted in a decline in the overall points profile of applications, although there has been some widening of the average points range within which the majority of applicants fall, implying that both the lower and upper points range for course applications has widened. The rising numbers of applicants are principally a product of an increasing participation rate. With respect to the points profile of applicants by course of study, the mean scores have remained relatively constant while the median point scores of course applicants have generally risen. The exception relates to applications to study Human Medicine, where both the mean and median

points score of applicants rose considerably over the period. While mean point scores have remained constant by course type, the standard deviation has risen for most areas. It is probable that this effect will be, at least partially, related to IoTs offering Level 8 programmes in many more areas in 2011 than in 2000. Entry requirements to the IoT sector are, on average, lower than for universities; thus, the presence of IoTs within more subject areas over time will tend to extend the lower bound of the application points score distribution. Consistent with this interpretation, the standard deviation of human medicine courses, which remained exclusive to the university sector in 2011, actually fell relative to 2000.

It is somewhat surprising that the apparent quality standard of applicants has not deteriorated in the face of such a rapid expansion, raising some questions regarding the issue of potential grade inflation. O'Grady (2009), in an analysis of Leaving Certificate grades over the period 1992 to 2006, concluded that substantial increases in the proportion of A and B grades awarded constituted evidence of grade inflation. In an earlier more detailed study, Kellaghan and Millar (2003) found an increase in the proportion of high Leaving Certificate grades over the 1990s. However, they concluded that this could not necessarily be taken as evidence of grade inflation but could also be attributed to increased professional development for teachers and/or a greater focus on exam preparation. Furthermore, they noted that variation in grades between subjects in a given year was greater than that between years. The establishment of the State Examinations Commission has also meant that the marking schemes for the Leaving Certificate have become more transparent, potentially facilitating more focused exam preparation on the part of teachers and students. In practice, it is difficult to determine the existence of grade inflation without access to a benchmark external to the exam system. Insights into the potential processes at play can be gained from an exploratory study on mathematical competency among entrants to science and technology courses in a particular university (Faulkner et al., 2010). This study found a decline in the level of maths competency (as measured by a standardised test) over the period 1998 to 2008. This decline was due to a change in the profile of entrants with no significant change in the relationship between test scores and Leaving Certificate Maths grades over time. While potential grade inflation cannot be addressed in the present study, it remains a contentious issue.

While the data are suggestive of a large rise in the demand for higher education over time, it does not necessarily imply that elements of demand have been, or are currently, unmet. The first indication of the extent to which the supply of places has kept pace with demand can be assessed by analysing the average points score of successful applicants. Any substantial rise in the points score of applicants being offered places would be indicative of a rationing in the face of excessive demand. Tables 6C and 6D indicate that the mean points achieved by individuals receiving first round Level 8 offers fell by 5 per cent from 418 in 2000 to 396 in 2011, while the median score fell further, demonstrating that supply had more than kept pace with demand. With regard to the distribution by course type, the data show that the mean points requirement generally fell by between 2 and 8 per cent for most courses, with the movement in the median again somewhat substantial. However, some more exceptional variations were observed in particular areas. The mean requirement for Architecture fell by 25 per cent between 2000 and 2011 which is likely to reflect the bursting of the property bubble.⁶¹ Mean entry points for Law courses fell by 15 per cent over the period, again most likely reflecting the combination of a perceived decline in available jobs and the expansion of provision of courses within this area. Entry requirements for degrees in the area of Other

⁶¹ This would be possible to confirm if the full data set for the period were analysed.

Health Care fell by 40 per cent. It is not clear exactly what has driven this change in the Other Health Care area, but the rapid expansion of places in this category may reflect an increased diversity of course types.⁶² Generally, the data show some fall in mean and median entry requirements and a widening of the point score range for each subject area; however, we suspect that much of these distributional changes are likely to relate to the increased presence of the IoTs within many subject areas over the period. Nevertheless, it is also possible that entry requirements have fallen somewhat and further research is required to determine the exact balance of the two influences.

As stated, at best our data currently only provide a partial snapshot of provision; however, bearing this caveat in mind, we also observe some change in the distribution of provision across the various fields of study over time. The level of provision in most areas appears to have expanded rapidly over the period, with growth particularly pronounced in the areas of the Arts and Social Sciences. Somewhat worryingly, given current policy objectives, the data here indicate that Level 8 provision in STEM (Science, Technology, Engineering and Mathematics) areas actually fell over the period both in absolute terms and as a proportion of total provision. It should be noted here that the categorisation of course types changed between 2000 and 2011 – such that there are 17 categories in 2011 while in 2000 there were only 15 (Tables 6C and 6D).

Finally, we examine the extent to which there has been any shift in the profile of individuals not receiving offers on their first preference applications. For instance, based on Tables 6C and 6D, it is reasonable to assume that 300 points represents a minimum floor for entry to a Level 8 degree programme in either year. Any movement in the points profile of individuals not receiving offers towards, or above, the assumed minimum Level 8 entry threshold would be consistent with a scenario of unmet demand. The points distribution of student not receiving offers on their Level 8 first preferences are presented in Tables 6E and 6F. The analysis is in line with previous results in that it shows that the average Leaving Certificate performance of unsuccessful applicants actually fell marginally over the period from 245 in 2000 to 239 in 2011. The results again support the view that the supply of Level 8 places has expanded in line with demand and there exists no evidence whatsoever that substantial numbers of students qualified for Level 8 courses have been unable to acquire places. However, it is worth noting that the pattern of course preferences means that some unsuccessful candidates will have lower grades than some HE entrants and the points score of unsuccessful entrants to fields such as Pharmacy, Dentistry and Human Medicine increased over the period.

Our limited analysis of the CAO dataset suggests that rising participation rates among students have driven a substantial increase in the demand for HE places over the 2000 to 2011 period and that this has taken place despite substantial falls in the size of the school leaver population. The rapid increase in participation has not been associated with any marked decline in the points profile of applicants to third-level programmes, although the distribution has widened somewhat. The data suggest that the provision of HE places has more than kept pace with rising demand given that we have not observed any increases in either the mean entry requirements for Level 8 courses or mean qualification levels among unsuccessful applicants. In fact, we observe a marginal decline in both average entry levels and the points profile of applicants not receiving an offer, which would tend to indicate that Level 8 provision has been growing at a slightly more rapid pace than the demand for places.

⁶² Tables 7C and 7D suggest that provision in the area increased by over 400 per cent during the period.

	Course Type	Observation	Points	Points	Points
		S	(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	9401	334.14	345.00	106.70
02.	Science/Applied Science	4283	350.67	360.00	109.98
03.	Agriculture/Horticultur e	328	318.29	325.00	94.78
04.	Education	3819	370.65	385.00	91.29
05.	Administration/Busines s	10981	328.92	335.00	111.35
06.	Engineering/Technolog y	7992	311.41	315.00	116.59
07.	Architecture	496	374.22	390.00	112.59
08.	Art and Design	138	298.91	330.00	123.23
09.	Law	1980	410.77	425.00	101.68
10.	Human Medicine	1078	464.54	490.00	108.95
11.	Veterinary Medicine	383	430.98	445.00	104.27
12.	Dentistry	118	477.33	500.00	94.04
13.	Pharmacy	242	488.55	505.00	81.47
14.	Physiotherapy	484	415.65	430.00	96.04
15.	Other Healthcare	408	402.25	420.00	97.37
Tota 1		42131	344.39	345.00	114.17

Table 6A: Points of applicants' first preferences Level 8 courses, by course type, year 2000

Table 6B: Points of applicants' first preferences Level 8 courses, by course type, year 2011

	Course Type	Observation	Points	Points	Points
		S	(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	14794	328.34	385.00	112.55
02.	Science/Applied	7201	344.47		115.80
	Science			415.00	
03.	Agriculture/Horticultur	613	350.55		89.45
	e			435.00	
04.	Education	5045	389.64	480.00	101.27
05.	Administration/Busines	9321	321.56		114.20
	S			370.00	
06.	Engineering/Technolog	5493	314.99		120.59
	у			375.00	
07.	Architecture	555	356.54	380.00	107.46
08.	Art and Design	2106	307.63	365.00	105.20
09.	Law	1885	389.46	460.00	126.38
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10.	Human Medicine	2440	500.39	560.00	91.44
11.	Veterinary Medicine	462	452.81	570.00	99.40
12.	Dentistry	182	457.58	580.00	121.34
13.	Pharmacy	331	468.43	555.00	109.38
14.	Physiotherapy	700	428.86	550.00	106.55
15.	Nursing	4235	304.09	415.00	107.74
16.	Other Health Care	1409	394.59	510.00	119.63
17.	Built Environment	207	270.34	320.00	119.63
Tot		56979	345.64	400.00	120.81
al					

Table 6C: Points of Level 8 courses offered to applicants, by course type, year 2000

	Course Type	Observation	Points	Points	Points
		S	(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	6331	412.04	410.00	61.15
02.	Science/Applied Science	4268	418.78	415.00	67.92
03.	Agriculture/Horticultur e	257	390.02	385.00	54.76
04.	Education	1375	450.08	450.00	49.64
05.	Administration/Busines s	6215	402.41	400.00	72.64
06.	Engineering/Technolog y	4387	404.53	395.00	71.74
07.	Architecture	97	507.42	515.00	43.16
08.	Art and Design	44	388.52	397.50	101.33
09.	Law	658	510.36	505.00	37.82
10.	Human Medicine	254	570.93	570.00	21.13
11.	Veterinary Medicine	44	550.91	560.00	73.61
12.	Dentistry	41	557.32	550.00	20.47
13.	Pharmacy	55	567.45	570.00	40.10
14.	Physiotherapy	86	543.14	540.00	19.60
15.	Other Healthcare	115	517.48	520.00	20.82
Tota l		24227	417.81	410.00	72.34

Table 6D: Points of Level 8 courses offered to applicants, by course type, year 2011

	Course Type	Observatio	Points	Points	Points
		ns	(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	12062	382.78	335.00	90.00
02.	Science/Applied Science	6297	411.55	355.00	90.43
03.	Agriculture/Horticulture	355	420.28	355.00	77.08
04.	Education	2024	456.79	405.00	83.28
05.	Administration/Business	7497	370.47	330.00	92.03
06.	Engineering/Technology	3848	379.44	315.00	97.58
07.	Architecture	475	383.67	360.00	95.18
08.	Art and Design	1127	355.57	310.00	95.90
09.	Law	1258	436.62	410.00	106.63
10.	Human Medicine	673	536.73	525.00	83.17
11.	Veterinary Medicine	78	549.29	470.00	71.44
12.	Dentistry	62	535.89	500.00	127.35
13.	Pharmacy	194	547.55	500.00	50.14
14.	Physiotherapy	173	531.39	455.00	84.59
15.	Nursing	1659	395.47	315.00	94.79
16.	Other Health Care	586	478.23	425.00	91.52
17.	Built Environment	237	316.03	285.00	91.52
Tot al		38605	396.29	350.00	98.40

Table 6E: Points of applicants not offered any Level 8 course, course type broken down by first preference, year 2000

	Course Type	Observation	Points	Points	Points
		S	(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	4304	249.47	260.00	76.50
02.	Science/Applied Science	1560	240.59	250.00	75.96
03.	Agriculture/Horticultur e	145	246.52	265.00	69.49
04.	Education	1168	272.24	290.00	76.34
05.	Administration/Busines s	5265	241.91	250.00	79.25
06.	Engineering/Technolog y	4318	231.14	240.00	79.22
07.	Architecture	190	269.00	280.00	88.67
08.	Art and Design	76	227.96	237.50	105.16
09.	Law	426	272.29	290.00	90.77
10.	Human Medicine	201	307.76	320.00	111.05
11.	Veterinary Medicine	58	265.60	272.50	98.62

12.	Dentistry	12	257.50	267.50	93.09
13.	Pharmacy	11	255.45	260.00	101.01
14.	Physiotherapy	96	277.19	290.00	76.17
15.	Other Healthcare	74	249.86	262.50	79.64
Tota		17904	245.04	260.00	80.19
1					

Table 6F: Points of applicants not offered any Level 8 course, course type broken down by first preference, year 2011

	Course Type	Observations	Points	Points	Points
			(Mean)	(Median)	(St Dev)
01.	Arts/Social Science	4875	230.54	240.00	74.95
02.	Science/Applied	2297	234.89		80.09
	Science			240.00	
03.	Agriculture/Horticulture	218	279.31	277.50	77.40
04.	Education	988	260.72	265.00	89.27
05.	Administration/Business	3111	216.64	225.00	75.17
06.	Engineering/Technology	2196	220.80	225.00	81.01
07.	Architecture	126	241.43	255.00	78.40
08.	Art and Design	839	242.10	245.00	80.08
09.	Law	382	224.75	235.00	91.28
10.	Human Medicine	485	440.95	475.00	125.68
11.	Veterinary Medicine	82	345.49	345.00	113.27
12.	Dentistry	47	348.62	330.00	139.81
13.	Pharmacy	53	306.70	330.00	144.77
14.	Physiotherapy	133	295.23	310.00	108.61
15.	Nursing	2107	243.30	255.00	86.66
16.	Other Health Care	353	261.36	260.00	105.25
17.	Built Environment	82	200.98	200.00	105.25
Total		18374	239.23	240.00	90.56

SECTION 7: OTHER ASPECTS OF SKILL FORMATION

Over the medium- to long-term, the declining slope of the New Entrants projections chart (Figure 1E) suggests that it is likely that Ireland's demographic advantage will unwind and, as is the case in many other developed economies, the task of improving the nation's human capital can no longer be exclusively focused around the production of young graduates. Given the demographic risk and also the possibility that projected surpluses could potentially be substantially reduced through migration shocks or unexpectedly high growth rates, it is arguable that policymakers should begin to give more serious consideration to a range of alternative policy options that will help ensure that economic performance is not constrained as a result of graduate-level skill shortages. A more focused approach to life-long learning should be considered a priority in this respect; however, given the importance of this topic it will be discussed in its own right in Section 9 below. We now consider some alternative sources of skilled labour supply that are likely to become increasingly relevant in the future.

The role of Skilled Inward Migration

Our analysis suggests that it is entirely possible, given both the results of our Baseline Model and the sensitivity tests, that the labour market for new graduates could face lower surpluses and potential shortages towards the end of the projection horizon. A tight graduate labour market is likely to lead to some wage inflation which, in turn, will reduce the propensity to emigrate; however, a certain level of emigration is inevitable. Of course, it could be argued that immigration may also provide a solution in the event of any graduate shortfall and recent years have seen large flows of young persons from new member states (NMS) enter the Irish labour market in response to labour shortages. To date, the evidence suggests that educated immigrants from NMS economies are disproportionately represented in unskilled occupations in Ireland (Barrett *et al.*, 2012). Using data from the 2006 National Employment Survey, Barrett *et al.* (2012) show that immigrants from NMS educated to post-secondary schooling level have a much higher propensity to be employed in plant or elementary occupations relative to both Irish nationals and immigrants from elsewhere (Table 7A).

	Native	UK	EU15	NMS	Non-EU, Eng-spk	Non-EU NEng- spk
Managers & senior officials	11.1	13.3	9	2.2	10.8	3.5
Professional	34.5	32.4	32.1	8.1	39.7	29
Associate professional & technical	12.6	15.2	12.4	3.8	15.1	10.7
Administrative & secretarial	20.6	16.3	26	9.8	18.5	11.7
Skilled trades	5.2	3.6	2.1	14.8	1.2	5.3
Personal service	4.1	3.5	4.2	7.3	2.7	10.9
Sales & customer service	4.1	3.8	2.9	6.2	3.1	4.7
Process, plant & machine operatives	3.4	4.5	2.1	19.3	3.5	6.6
Elementary	4.4	7.4	9.2	28.5	5.4	17.6
Sample Size	25784	863	477	533	259	792

Table 7A: The occupational distribution of immigrants with postsecondary education, 2006

Source: Barrett et al. (2012)

Exactly why NMS university graduates are failing to access professional level positions in Ireland is unclear; however, five potential explanations present themselves:

- 1. NMS immigrants are willing to opt into low-skilled occupations due to the higher relative wage vis à vis their home economy;
- 2. NMS migrants face information barriers with respect to the Irish labour market;
- 3. The education and skills received in NMS universities are not highly transferable⁶³ to the Irish labour market;
- 4. Language barriers may be substantial for some NMS immigrants;

⁶³ Generally referred to as location-specific human capital.

5. Irish employers are not sufficiently informed with regard to the quality of university education within NMS countries and, as such, are reluctant to hire NMS university graduates into professional positions.

Skilled inward migration has certainly the potential to provide a safety valve in a situation where new graduate shortages arise; however, it is clear that substantial barriers exist with respect to access to professional labour market and more research is required in this area if policy is to be properly informed.

Assessing the Scope for Widening Access from the Further Education (FE) Sector

Given the long-term demographic constraint facing Ireland, it is important that all potential sources of student supply are explored. Within many countries, for instance the UK, progression pathways from the Further Education (FE) sector to Higher Education Institutions (HEIs) are well established, with entry-level criteria to UK universities set in terms of both traditional A-level qualifications and the more vocational credentials acquired through FE study. However, within Ireland it is clear that progression routes from FE to HEIs are much less well defined. In 2010, only 5 per cent of HE entrants held FETAC⁶⁴ qualifications, despite this grouping accounting for 15 per cent of applications (Irish Universities Association, 2010). The Irish Universities Association (IUA), in a recently published document, argues that the HEI entrants system should be modified to place less emphasis on Leaving Certificate points in order to facilitate entry from less established routes such as FETAC, HEAR⁶⁵ and DARE.⁶⁶ Similar sentiments were also recently expressed in a joint publication of both the HEA and NCCA⁶⁷ (HEA and NCCA, 2011).

Nevertheless, any attempt to increase participation from the FE sector is likely to face a number of barriers. Firstly, it is likely that individuals acquiring Post-Leaving Certificate (PLC) qualifications within the FE sector are also likely to have, on average, lower Leaving Certificate points relative to direct HEI entrants. Recent research by McCoy and Byrne (2010) demonstrated that the probability that a student would fail to progress within Irish HEI was substantially linked to lower than average Leaving Certificate performance, and also a low level of attainment in Mathematics. Thus, any policy aimed at widening access from the FE sector requires careful thought about the measures necessary to ensure that any benefits from increased FE participation are not offset by high rates of non-progression. Unfortunately, a lack of appropriate data on the FE sector relating to the number of entrants, enrolments, progression rates and the points profile of PLC participants made it impossible for us to provide further insights regarding the extent to which any policy aimed at widening access will ultimately impact the supply of HE graduates to the labour market.

Any strategy aimed at improving access routes from FE to HE should also consider the potential implications in the labour market for vocationally qualified workers. If the labour market for workers with intermediate qualifications is in shortage, then any policy aimed at diverting supply of such workers to the HE sector will tend to exacerbate the problem and drive up wage costs. Ideally, in order to address this issue, we would wish to replicate our earlier analysis to assess the likely extent of any imbalances in the labour market for FE qualifiers over the period; however, the lack of available tracking data on entrants to the FE

⁶⁴ The Further Education and Training Awards Council.

⁶⁵ The Higher Education Access Route.

⁶⁶ The Disability Access Route to Education.

⁶⁷ The National Council for Curriculum and Assessment.

system excludes this as an approach. We again make use of historical Quarterly National Household Survey (QNHS) data and the CEDEFOP/ESRI sectoral estimates to get some sense of recent patterns of labour market demand for PLC qualifiers and the likely future trajectory of this demand. According to data supplied to the ESRI by Department of Education and Skills (DES), there were 38,650 full-time students undertaking PLC programmes within the FE sector in 2010, of which approximately 55 per cent were female. It is unclear exactly what proportion of these students were in the final year of programmes or what the relevant completion rate was; however, Irish HEIs received 10,711 applications from FETAC students in 2010, the bulk of whom were, presumably, studying for PLC qualifications. The demand for new PLC qualifiers is assessed by tracking the number of fulltime employees within the QNHS who are recorded as having achieved a PLC qualification within the year prior to being surveyed. The pattern of demand by sector for the period 2004 to 2011 is reported in Table 7B and although the total number of new entrants to the labour market varies at somewhere between 11,000 and 13,000 annually,⁶⁸ there is some sectoral variation in the data. Employment levels of PLC graduates have been consistently highest in sectors such as Construction, Manufacturing, Business Services and Health & Social Work; however, more recent years have seen some fall off in Construction and Manufacturing employment, which has been offset by increases in demand within the Health & Social Work and Education sectors. Nevertheless, it is difficult to assess the extent to which such movements in the data are driven by short-term business cycle effects or long-term trends; thus, we estimate future demand by applying average sectoral employment shares from 2004 to 2009⁶⁹ to our forecast data from 2012 to 2030. The estimated demand for PLC graduates is presented in Figure 7A: while demand is expected to rise somewhat over the period, the numbers involved remain quite modest, with estimated PLC demand projected to increase from 12,044 in 2012 to 13,873 in 2030 (a growth of 15 per cent).

Thus, while the issue of widening access routes from FE to HE should most certainly be explored, it is not without its challenges. Unless properly targeted, the impact of any increase in FE- based enrolments could be severely undermined by the impacts of lower progression rates. More research is required with respect to the educational profile of PLC students and their performance within the HEI sector if policy is to be properly informed. In addition, wage premium data (Section 5) suggests that there has been a steady demand within the labour market for individuals with PLC qualifications, with our projections indicating that the economy will continue to require workers with intermediary vocational level qualifications into the future. It is important, therefore, that any policy initiative aimed at increasing HE participation does not come at the cost of creating skill shortages for intermediately qualified labour i..e that the growth of the HE sector does not crowd out necessary FE provision.

⁶⁸ 2009 is somewhat exceptional and appears to be driven by larger numbers of entrants Health & Social Work and Business & Other Services.

⁶⁹ We exclude data relating to the worst years of the recession.

Table 7B: The Demand for PLC Qualifiers by Sector 2004 to 2011

	2004	2005	2006	2007	2008	2009	2010	2011
Primary sector & utilities	334	415	39	280	149	586	286	313
Manufacturing	1819	1262	1240	1205	917	1530	611	433
Construction	2494	2981	2634	3176	2300	1669	914	1009
Distribution	2133	2535	1756	1692	2471	2881	1629	2038
Hotels and catering	984	785	856	789	612	1421	946	1204
Transport & telecommunications	386	375	456	186	119	207	291	446
Business & other services	2790	2662	2538	2424	2070	3301	2316	2483
Public Admin and Defense	671	510	483	267	240	461	355	242
Education	739	712	590	418	786	1010	540	1163
Health and social work	996	2099	2139	1393	1656	3153	2770	3793
Total	13348	14336	12732	11830	11320	16219	10658	13123

Source: Quarterly National Household Survey, Q2, 2012

Figure 7A: The Projected Demand for PLC Qualifiers 2012 to 2030



SECTION 8: HIGHER EDUCATION FUNDING AND HIGHER EDUCATION EXPANSION

The system of funding Irish Higher Education (HE) has shifted considerably over the last two decades. Prior to 1996, the majority of students attending Irish HE institutions paid tuition fees which varied according to the course undertaken and the institutions attended (Flannery and O'Donoghue, 2011). In 1995 around 30 per cent of the cost of HE was privately funded, primarily through tuition charges with the state absorbing the remainder of the cost. Tax relief was available on any tuition fees paid at the top marginal rate of income tax; this reduced significantly the cost for middle-class families. In 1996 the government effectively abolished tuition charges with undergraduate students only required to pay a nominal registration fee of 150 punts. As a consequence of this policy change, the private contribution to HE funding fell from 30 per cent in 1995 to 17 per cent in 2008 (Table 8A). While the public share of HE expenditure in Ireland in 2008 was by no means unique within an OECD context and remains well below that of many Nordic countries, it is in stark contrast to countries such as New Zealand, Canada, Australia and the UK which currently implement Income Contingent Loans (ICL) programmes as a means of financing their HE spending.

As a consequence of the fiscal crisis, the situation in Ireland has changed radically in recent years, with the registration fee increasing from \notin 850 per student in 2008/9 to \notin 1,500 in 2010 (Flannery and O'Donoghue, 2011), then to \notin 2000 in 2011 with a further rise to a maximum of \notin 2,250 planned for September 2012 and \notin 3,000 in 2014. As a result of the rapid rise in registration charges, the private contribution to HE funding is likely to have risen substantially since 2008. The increase in this student contribution, together with changes in student numbers and funding from 2007 to 2010, is likely to reduce public funding as a percentage of total HE funding by approximately 5 percentage points by 2012, and by approximately a further four percentage points by 2015.⁷⁰ A major difference between the high registration fee paid now and the tuition fees paid up to 1996 is that the former is identifical for all students on all courses at all instituions while the latter differed by course, being higher for higher cost courses (e.g., medicine).

It should be noted that the registration fee itself is received by the individual colleges. Nevertheless, despite the complexity of the accounting framework, the scale of the registration charge is now more in line with standard tuition fee charges in many other countries. Yet there exists no public funding mechanism in Ireland to accommodate the charge and, therefore, it can no longer be asserted that access to HE in Ireland is free at the point of delivery. Furthermore, as students from lower-income families have access to both maintenance and fee grants, it is likely that financial constraints arising from the policy change will be most heavily felt within households just above the grants threshold. Thus, relative to many other developed countries, a substantial proportion of students in Ireland now face a significant credit constraint that will, arguably, have consequences for HE participation if the situation is not addressed in the near future.

⁷⁰ Source: Higher Education Authority.

	1995	2000	2002	2004	2006	2008		
English-Speaking Countries								
Ireland	69.7	79.2	85.8	82.6	85.1	82.6		
New Zealand			62.5	60.8	63.0	70.4		
Canada	56.6	61.0			53.4	58.7		
Australia	64.8	49.6	48.7	47.2	47.6	44.8		
USA	37.4	31.1	45.1	35.4	34.0	37.4		
UK	80.0	67.7	72.0	69.6	64.8	34.5		
Other OECD Countries								
Norway	93.7	96.3	96.3		97.0	96.9		
Denmark	99.4	97.6	97.9	96.7	96.4	95.5		
Finland	97.8	97.2	96.3	96.3	95.5	95.4		
Belgium		91.5	86.0	90.4	90.6	89.8		
Sweden	93.6	91.3	90.0	88.4	89.1	89.1		
Germany	88.6	88.2	91.6	86.4	85.0	85.4		
Austria	96.1	96.3	91.6	93.7	84.5	84.7		
France		84.4	85.7	83.9	83.7	81.7		
Netherlands	80.6	76.5	78.1	77.6	73.4	72.6		
Italy	82.9	77.5	78.6	69.4	73.0	70.7		
OECD	•	75.1	78.1	75.7	72.6	68.9		

Table 8A: Public HE Funding as a Percentage of Total HE Funding

Source: OECD Education at a Glance (1998, 2005, 2007, 2009, 2011)

In terms of informing the debate around the consequences of moving away from free tuition, it has been demonstrated that the switch to a fee-free system in Ireland has not resulted in increased participation among individuals from more deprived socio-economic backgrounds (O'Connell et al., 2006; McCoy and Smyth, 2011). Rather, it has been suggested that the abolition of fees effectively represented a net transfer to higher earning households (Flannery and O'Donoghue, 2011). In addition, over twice as much is spent on each student in thirdlevel education as on those in primary education (attended by children from all social groups); per capita expenditure on higher education is 1.5 times higher than that on secondlevel education (OECD, 2011), which puts Ireland towards the upper (less equal) end of the European distribution. Thus, from a social policy perspective, there is no strong argument for continued (or future) abolition of tuition fees (registration fees), even in the unlikely event that the country's fiscal difficulties were to radically improve in the short-term. Furthermore, the international evidence suggests that the introduction of an ICL scheme will have few negative consequences for the socio-economic patterns of HE participation (Chapman, 2005). However, there is also some evidence of higher levels of risk aversion among school leavers from lower socio-economic groups (Reay, 2006), suggesting that any change in funding regimes needs to be accompanied by active measures to maintain and improve participation levels among these groups.

With respect to the mechanism through which increased student contributions can be harnessed, the literature generally considers the implications of either an ICL or a graduate tax. A graduate tax refers to a system whereby graduates pay a supplementary tax throughout their working lives. However, on the grounds that such a system has yet to be implemented by any country, it is not considered here as a possible policy option for Ireland (for a full

discussion and analysis, see Flannery and O'Donoghue, 2011). With respect to the ICL, these are characterised by a system whereby graduates begin to repay the loan at a given proportion of taxable income once a set repayment threshold has been reached. The amount to be repaid should, in theory, reflect the risk of default among a given cohort with the interest rate charged, arguably, accounting for the government borrowing costs incurred to finance the ICL system. However, in practice the amount repayable under any ICL system is largely at the discretion of national governments; for instance, both the UK and Australian systems have implemented zero real interest rates in the past. Barr (2005) argues that a successful ICL system should ensure that loans are large enough to cover both tuition fees and living costs in order to ensure that HE is free at the point of consumption. Barr (2005) also argues against a loan system predicated on a zero rate of interest as it will tend to limit the scale of the loans offered which, in turn, may restrict access as the full cost of participating in HE, including living costs, is unlikely to be covered by the loan.

The recent study by Flannery and O'Donoghue (2011) cited above considered the implications of both an ICL and a graduate tax for Ireland.⁷¹ They consider two ICL based scenarios: (a) where a zero rate of interest is charged and (b) where the rate is set at two per cent. The authors also consider the potential impacts of migration on the repayment rates associated with each scenario. The following table (Table 8B) summarises the results from the Flannery and O'Donoghue (2011) analysis and compares the outcomes with those of a selection of other countries also implementing ICL systems. The Flannery and O'Donoghue (2011) work is based on an annual loan of €2500 per annum over four years and, as such, the loan is not assumed to make any contribution towards living costs. Furthermore, Flannery and O'Donoghue (2011) assume that the means-tested grant scheme will continue alongside the ICL scheme.

Ignoring migration, Flannery and O'Donoghue (2011) estimate that 82 per cent of loans will be fully repaid, with the figure falling to 74 per cent when the interest rate rises from zero to 2 per cent. As might be expected, repayment rates are substantially lower for females than males. Furthermore, while it is not included in the Flannery and O'Donoghue (2011) paper, it is likely that repayment rate will also vary by field of study. The average repayment term is approximately 15 years under both interest rate scenarios. In general, the projected repayment rates are similar to those for Australia but below those of the UK. The authors find that the ICL system is generally highly progressive, with graduates in the top three deciles of the income distribution paying back 100 per cent of their loans compared to 50 per cent for those in the bottom two deciles. In terms of the average subsidy per loan by the state, this varies from 29 per cent and 45 per cent for males and females respectively under a zero interest rate to 10 per cent and 27 per cent under a 2 per cent interest rate. These estimates which are generated under the zero interest rate scenario produce quite generous subsidies that are well above those of other comparable countries. The Flannery and O'Donoghue (2011) analysis demonstrates that as the interest rate is increased to 2 per cent, the percentage paying back the full loan falls; furthermore, the average level of subsidy falls considerably. Finally, the authors show that migration reduces the viability of the ICL system irrespective of the interest rate charged. Nevertheless, the assumption of a 20 per cent migration rate seems somewhat extreme given that the historical new graduate migration rate has been closer to 10 per cent.

⁷¹ Given that a graduate tax is unlikely to be considered as a policy option, this analysis will focus on the results from ICL.

	% Repaying in Full	Average Years to Repay	Years to Repay - Males	Years to Repay - Females	% Average Subsidy/Loan
Australia	86%		12	15	
UK (1)			16	22	
UK (2)		14.7	12.7	16.6	21.30%
Ireland (1)	82%	15	14.4	15.9	35%
Ireland (2)	74%	15.7	15.4	16.2	18.60%
Ireland (3)	65%	14.9	14.8	15.1	48.20%
Ireland (4)	60%	15.3	14.4	16.6	33.90%
Ireland (5)	75%	15.1	14.2	16.2	40.10%
Ireland (6)	67%	15.6	15.4	16	25.90%

Table 8B: ICL Estimates on repayment for Ireland¹, UK and Australia

Sources: Australia - Harding (1995), UK (1) - Glennerster *et al.* (1995), UK (2) - Deardon *et al.* (2008), Ireland (1)- (6) - Flannery and O'Donoghue (2011).

¹Ireland (1) - r = 0%, zero emigration; Ireland (2) - r = 2%, zero emigration;

Ireland (3) – r = 0%, emigration and no repayment; Ireland (4) – r = 0%, emigration and some repayment; Ireland (5) – r = 2% emigration and no repayment; Ireland (6) – r = 2% emigration and some repayment.

Ireland (5) - r = 2% emigration and no repayment; Ireland (6) - r = 2% emigration and some repayment

Thus, based on the recent micro-simulation research, it seems that Ireland has the potential to adopt a successful ICL system along the lines of those implemented in other countries. However, implicit within the Flannery and O'Donoghue (2011) analysis is an assumption that rates of return to education will remain unchanged over the period. Should it transpire that the future supply of graduates increasingly outweighs demand, then we would expect that rates of return will fall over time and this, in turn, would put a serious question mark over the repayment schedules outlined in the paper. McGuinness and Bennett (2007) found that rates of return to education for newly qualified entrants to the labour market fell in the UK over the period 1991 to 2002, a phenomenon which they linked to increases in the relative supply of workers with various levels of schooling. Nevertheless, based on the projections included within the current study (detailed in section 1), it seems very unlikely that rates of return to a degree will fall substantially over the medium term, suggesting that the risks to the successful implementation of an ICL system for Ireland are low. Another question that needs to be considered from a policy perspective is whether any ICL scheme should cover tuition fees and living costs or tuition fees only with the current means-tested grant system running in parallel. The introduction of an ICL system will lower the current burden on middle-income families; however, if the current system of maintenance grants are abolished without any future ICL system being of sufficient scope to cover both tuition and living costs, this will place more financial pressure on students from lower income families who will then face a new credit constraint. Furthermore, given the very substantial time lag between the commencement of an ICL system and a repayment revenue flow, the pursuance of such a policy will inevitably have substantial cash flow implications for government. Given the current state of the government finances, cash flow constraints are likely to restrict substantially the number of available options. Furthermore, it is essential to ensure that the costs structures within HE are efficient so that the ICL can be levied at the lowest possible rate. There is a risk that any ICL initiative launched in the absence of required structural reform will tend to reinforce existing inefficiencies.

The design of any funding system and the need for reform is inextricably linked to the cost of HE and to the level of aggregate HE expenditures and the current fiscal position of

government. Consequently, it is useful to assess the cost implications of the projected increase in student numbers over the forecast horizon to 2030. Based on a previous set of projections, the National Strategy for Higher Education to 2030 (known as the Hunt report) estimated that the level of recurrent annual funding would rise from €1.8 billion in 2020 to €2.25 billion⁷² in 2030. The figures in the report appear to be generated by dividing the total number of enrolments⁷³ in 2009/10 into total recurrent expenditure of €1.3bn for that year, which gives an implied recurrent cost per student of $\in 8.319$ and then multiplying this by the projected total number of enrolments in 2020 and 2030. We follow this procedure; however, in order to gross up our new entrants projections to total enrolments, we derive a grossing factor based on the ratio of new entrants to total enrolments in 2009/10.74 Based on our models, we estimate that total enrolments in 2020 and 2030 will stand at 168,439 and 195,971 respectively.⁷⁵ These figures imply a rise in nominal recurrent funding to €1.40 billion in 2020 and €1.63 billion in 2030 which compare to estimates of €1.8bn and €2.25bn in the Hunt report. Recurrent expenditure as a share of nominal GDP is projected to fall slightly from 0.81 per cent in 2009 to 0.59 and 0.50 per cent in 2020 and 2030 respectively. It must be noted that the 2009 cost per student figure was substantially below that of previous years due to funding cuts; furthermore, the analysis does not take any account of future capital expenditures.

SECTION 9: HIGHER EDUCATION AND LIFELONG LEARNING

Introduction

European and national policy has increasingly focused on addressing education and training from the perspective of lifelong learning, looking at interconnections between different levels of the educational system and between full-time and part-time provision. The promotion of lifelong learning policies has been motivated by the desire to provide the workforce with flexible skills but also by the need to respond to unfavourable demographic trends due to the ageing of the population and the lower numbers entering compared with existing employment. As the share of older workers in the labour force rises, human capital adjustments must be increasingly focused on improving the skills of the existing stock of workers rather than relying on the inflow of new workers. The combination of demographic changes and workplace demands that change constantly in the face of technological progress and globalisation, require that education systems should be highly flexible in order to provide firms and workers with access to the necessary skills. Unquestionably, HE provision should be central to any lifelong learning strategy. Analyses in Section 1 have pointed to a recent increase in the number of mature entrants to full-time HE. However, there is a potentially untapped group of adults who do not have third-level qualifications; their profile is discussed in the following subsection. The final subsection looks at the rate of participation in lifelong learning in Ireland in comparison with other countries and draws on international best

⁷² These projections from the *National Strategy for Higher Education to 2030* report are expressed in current or nominal prices.

⁷³ Based on public sources this equated to 156,268.

⁷⁴ Total enrolments in 2009/10 were 156,268 while total new enrolments (undergraduate only) were 40,816 which give an undergraduate grossing factor of 3.828. A different approach is used in section 5, applying an undergraduate-specific grossing factor of 3.4, and a postgraduate-specific grossing factor of 1.2. This yields corresponding total full-time enrolments figures of 167,143 for 2020 and 197,101 for 2030.

⁷⁵ Our undergraduate projections for these years are 44,002 and 51,194.

practice to highlight potential ways in which policy can foster the participation of adult learners in HE⁷⁶.

Profile of adults without third-level qualifications

In this subsection, we use data from the Quarterly National Household Survey (QNHS)⁷⁷ to provide a profile of adults (aged 15 to 64) in Ireland that do not have a third-level qualification contrasting them with those with third-level qualifications in terms of their gender, age, nationality, marital status, family type, educational attainment, economic status and location (both region and urban/rural). In order to identify whether this education group's profile has changed over time, we present information for quarter 2 (April to June) in 1999, 2003, 2007 and 2011.

Before presenting the characteristics of those with and without a third-level education, Table 9A shows the percentage of the population in the two education groups in 1999, 2003, 2007 and 2011. As can be seen from this table, the proportion of individuals with a third-level qualification in Ireland has grown very rapidly , increasing from just less than a fifth in 1999 (18 per cent) to over one-third in 2011 (33 per cent). The corollary of this is that the percentage without a third-level qualification has declined, falling from 82 per cent in 1999 to 67 per cent in 2011.

Table 9A: Percentage of Individuals with and without Third-LevelEducation: 1999, 2003, 2007 and 2011

Overall	1999	2003	2007	2011
Third-level	17.9	23.5	28.1	33.4
No Third-level	82.1	76.5	71.9	66.6

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Since 2007 a slightly higher proportion of those without third-level qualifications are male (Table A1A), with females accounting for a higher share of those with a third-level qualification (Table A1B).

In relation to age, the majority of those without a third-level qualification are aged between 25 and 54, a pattern which has not changed over time. However, there has been a change over time at each end of the age distribution. Specifically, a greater proportion of those without a third-level qualification in 2011 are aged 60 to 64, 9 per cent compared to 6 per cent in 1999, while there has been a decline in the proportions aged between 15 and 24 without a third-level education, decreasing from almost one third in 1999 (28 per cent) to less than a quarter

⁷⁶ Within any lifelong learning framework HE should also focus on services the continued upskilling needs of existing graduates.

⁷⁷ The QNHS is a nationwide survey of households carried out by the Central Statistics Office (CSO). Its primary objective is to provide quarterly labour forces estimates but the micro-data also contain a rich array of information on respondents' socio-demographic characteristics. The data are collected throughout the year with 3,000 households surveyed each week, giving a total of 39,000 households each quarter.

in 2011 (23 per cent). With respect to those with a third-level qualification (Table A1B), most are aged between 20 and 54. There has been a continual rise in the proportion of people in this education group that are aged between 25 and 44, with most of this increase driven by those aged between 35 and 44. On the other hand, there has been a gradual decline in individuals with a third-level qualification that are aged between 20 and 24, which has fallen from 15 per cent in 1999 to 6 per cent in 2011: part of the reason for this decline will be due to the fall in the underlying population structure – the proportion of the population aged between 15 and 24 has been decreasing steadily since 1996⁷⁸. Migration could also be part of the explanation for this decline and/or younger individuals choosing to pursue employment opportunities in the most profitable sectors during the economic boom era (e.g. construction), which did not require third-level qualifications (i.e. Post-Leaving Cert (PLC) courses).

With respect to prior educational attainment, the majority of individuals that do not have third-level have either Higher or Lower Secondary education, a pattern that has remained consistent over time. The proportion of those without a third-level qualification whose highest level of educational attainment is primary or less has fallen considerably over the twelve year period, from 27 per cent in 1999 to 16 per cent in 2011. There has also been a small decline in the proportion of Lower Secondary individuals, while there has been an increase in the Higher Secondary and PLC qualification groupings, particularly for PLCs. In relation to those with a third-level qualification (Table A1B), just over two-thirds of this group have a 'Degree or Higher' qualification with the remainder of this education cohort holding a 'Non-Degree' accreditation: apart from 2007, this pattern has remained stable over time.

Married people are over-represented among those with a third-level qualification. Furthermore, those with a third-level qualification are more likely than those without to fall into the 'couple with children' family category and less likely to be in lone parent households or not in a family unit (Tables A1A and A1B).

Regarding nationality, Irish nationals are somewhat over-represented among those without third-level qualifications (compare Tables A1A and A1B).

Table 9B presents the education profile of the population within each region (see also Tables A1C and A1D). We can see that the proportion of individuals with a third-level qualification has increased over time across every region. However, some regions continue to have a disproportionate percentage of non-third-level individuals; in particular, the Midlands, South-East and Border regions: in 2011, their share of individuals residing in these locations who did not have a third-level qualification is well above the national average (66.6 per cent).

⁷⁸ Based on Census data, the percentage of the population aged between 15 and 24 stood at 17.5 per cent in 1996 and by 2011 had declined to 12.6 per cent (CSO: www.cso.ie).

	1999	2003	2007	2011	
	(Q2)	(Q2)	(Q2)	(Q2)	
Border:					
Third-Level	10.6	17.7	21.1	27.0	
No Third-Level	89.4	82.3	79.0	73.0	
Dublin:					
Third-Level	24.3	31.4	35.4	40.4	
No Third-Level	75.7	68.7	64.6	59.6	
Mid-East:					
Third-Level	19.5	23.7	30.2	35.3	
No Third-Level	80.5	76.3	69.9	64.7	
Midlands:					
Third-Level	10.5	16.4	19.1	24.7	
No Third-Level	89.5	83.6	80.9	75.3	
Mid-West:					
Third-Level	16.3	21.1	24.9	32.6	
No Third-Level	83.7	78.9	75.1	67.4	
South-East:					
Third-Level	13.4	16.4	20.5	26.7	
No Third-Level	86.7	83.6	79.5	73.3	
South-West:					
Third-Level	17.6	21.9	28.3	32.2	
No Third-Level	82.4	78.2	71.7	67.8	
West:					
Third-Level	15.7	22.9	28.2	33.7	
No Third-Level	84.3	77.1	71.8	66.3	

Table 9B: Regional Education Profile: 1999, 2003, 2007 and 2011

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Tables 9C and 9D show the economic status of individuals without and with a third-level qualification. The majority of both education cohorts are in employment, mainly full-time, and this pattern is consistent over the twelve years.. However, reflecting the economic downturn, there has been a decline in the proportions of both education groups that are in full-time employment in 2011. Not surprisingly, the fall in employment rates was particularly marked among those without a third-level qualification.

Table 9C: Economic Status of Individuals without Third-Level Education: 1999, 2003, 2007 and 2011

	1999	2003	2007	2011
	(Q2)	(Q2)	(Q2)	(Q2)
Economic Status:				
FT Employment	47.1	47.9	49.4	35.0
PT Employment	10.8	11.3	13.0	14.2
Unemployed	4.5	3.4	3.9	12.0
Marginally Attached	0.7	0.6	0.4	0.8
Not Economically Active	36.8	36.8	33.3	38.0

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Table 9D: Economic Status of Individuals with Third-Level Education:1999, 2003, 2007 and 2011

	1999	2003	2007	2011
	(Q2)	(Q2)	(Q2)	(Q2)
Economic Status:				
FT Employment	77.5	75.2	75.6	68.0
PT Employment	8.4	9.4	10.3	12.3
Unemployed	2.0	2.4	2.3	6.4
Marginally Attached	0.4	0.2	0.4	0.3

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

This subsection has outlined the main characteristics of those without a third-level qualification. Members of this group are more likely to be male, aged 45 to 64, and less likely to be living as a couple with children. However, it is worth noting that the majority of those without third-level education are living with children, which may raise issues regarding childcare needs if they were to return to education. Some locations are found to have a much higher proportion of adults without third-level education, especially the Midlands, South-East and Border regions. However, a significant proportion (25%) of those nationally in this group is located in Dublin.

In relation to the economic status of individuals without a third-level qualification, the majority are in employment. However, the proportions in employment, in particular full-time employment, are smaller compared to those with a third-level education. In addition, the current recession has had a bigger impact on non-third-level individuals than graduates, with 12 per cent of such individuals being unemployed in 2011 compared to 6 per cent of those with a third-level qualification.

The education profile of the non-third-level group is quite divergent, which suggests that a varied approach will be required to upgrade their qualifications.

Lifelong learning: Ireland in comparative perspective

The European Commission⁷⁹ stresses the importance of attracting a wider cross-section of society into HE and emphasises the need for HEIs to be much more flexible in their approach to education delivery. Its document identifies a number of key policy challenges for HEIs, including increasing progression rates from the vocational education sectors, ensuring financial support for students from disadvantaged backgrounds, adopting a greater variety of study modes (part-time distance and modular learning, adult continuing education programmes, etc) and the increased use of ICT in education (eLearning). A number of European countries, particularly the Nordic countries, have been at the forefront of provision for adult learners. As Table 9E demonstrates, it seems that Ireland is a considerable way behind many of its European counterparts with respect to participation in adult lifelong learning.

	2005	2009	2010
Denmark	27.4	31.6	32.8
Iceland	25.7	25.2	25.1
Sweden	17.4	22.2	24.5
Finland	22.5	22.1	23.0
UK	27.6	20.1	19.4
Norway	17.8	18.1	17.8
Ireland ⁸⁰	7.4	6.3	6.7

Table 9E: Adult Lifelong Learning Participation, ages 25-64

Source: http://ec.europa.eu/education/lifelong-learning-policy/doc/benchmarks10/pg7_en.pdf

Certain OECD countries, most notably, Sweden, Norway, Finland, Denmark, New Zealand and Australia, have been successful not only in facilitating participation in adult education and training in general but also in enhancing access to HE in particular. A number of key features can be identified which appear to promote adult participation in education/training, including HE (OECD, 2000a, 2000b, 2001a, 2001b, 2003, 2005):

- There is a policy emphasis on encouraging adult participation in all levels of education.
 Facilitating access at various levels means adults may be more likely to progress to HE. For HE to be equitable, early childhood education, primary and secondary education must also be equitable (Skilbeck and Connell, 2000).
- There are flexible policies regarding access to third-level courses, including recognition of prior learning and work experience, and open access to courses. Thus prior learning through work experience is taken into account in Sweden, Finland and Norway, while New

⁷⁹ 'Mid-term review of the Lifelong Learning Programme' is available online at: http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0413:FIN:EN:PDF

⁸⁰ There may have been some under-reporting of Irish part-time lifelong learning student numbers prior to 2010 as they did not become fully eligible for inclusion in the determination of recurrent grant allocations before this point and, thus, data collection processes may not have been rigorous.

Zealand has a policy of open access to university courses for adults, irrespective of their initial qualifications.

- Flexible modes of provision are employed, including part-time and distance education, along with flexible ways of combining work and study. In Finland, provision is available through a range of institutions, including continuing education centres, open universities and open polytechnics. In Sweden, a Network University has been established which offers academic courses and degrees by means of distance education. In general, the proportion of adult learners is higher in systems with high levels of part-time provision (OECD, 2011).
- Financial support is available for adult students and options to pursue study leave are provided in cooperation with employers. Gould (2003), for example, highlights the ease of securing study leave from employers in Sweden.
- These aspects of policy are underpinned by a historical tradition of adult education provision. In Denmark, Sweden and Norway, 'folk high schools' which provide adult education have been in place since the nineteenth century.⁸¹

The success of the Nordic model appears to be at least partially predicated on the ability to facilitate the participation of the (initially) less qualified in adult education and training. The OECD report on adult learning (2003) found that the Nordic countries adopted a social model of the distribution of learning opportunities with provision geared towards a larger proportion of adults, a model which results in fewer inequalities in training participation.

This section has placed our analyses of HE provision and participation within the context of the broader issue of lifelong learning. While the rate of entry of adults into full-time higher education has increased in recent years, there is a large untapped group of adults in the Irish population who do not have third-level qualifications. One of the key findings emerging is that adults without third-level qualifications are not a homogenous group. They vary in age, educational background, family circumstances and participation in employment. Therefore, the supports required to facilitate their entry into higher education would need to vary across different groups of adults. Ireland potentially has much to learn from countries which have successfully raised rates of adult participation in learning. Experience in these countries indicates that adult participation in learning, including HE is facilitated by more flexible modes of access and delivery along with financial support and a holistic approach to adult learning, which spans both secondary and tertiary levels.

⁸¹ These are referred to as *Folkehøjskole* in Denmark, *Folkehøgskole* in Norway and *Folkhögskola* in Sweden. Germany also has *Volkshochschule*.

SECTION 10: SUMMARY AND POLICY CONCLUSIONS: SOCIAL INCLUSION, STUDENT CONTRIBUTION AND PROGRESSION ISSUES

This report provides an analysis of the future demand for higher education (HE) in Ireland. The analysis predicts that, on the basis of the current participation rates and known patterns of population growth, the number of entrants to HE institutions is likely to increase from 41,000 in 2010/2011 to 44,000 in 2019/2020 and to just over 51,000 in 2029/2030. Our projected rate of enrolment growth is in line with recent estimates published by the Department of Education and Skills (DES), but substantially below the estimates published in the *National Strategy for Higher Education to 2030* (2011). The research suggests that any policy targets or analysis based around the National Strategy projections should be reassessed. We find that, under our baseline expansion scenario, supply from the HE sector will more than meet labour market demand for graduates over the period. Nevertheless, despite the general positive outlook, some potential risk factors exist that have the capacity to reduce the surplus, namely, a higher than expected rate of graduate emigration and/or a more rapid expansion of graduate labour demand due to accelerated growth within high-tech sectors of the economy.

This report raises important policy issues for the nature of funding of (higher) education, the potential implications of increased student contributions and student non-progression. The central model of how human capital formation is achieved is assessed and a number of additional strategies for meeting the needs of the labour market are considered. Increasing participation in HE along the lines projected in this report requires maintaining the participation of academically-able students from lower income families. However, research clearly shows that these young people are much less likely to complete second-level education, perform at high levels and actually apply to enter higher education. Government spending on primary and second-level education in Ireland continues to be relatively low, a situation much commented upon by the OECD. Hence, the research clearly points to the need for earlier investment, in pre-primary, primary and early second-level education, in order to address broader issues of equity in educational attainment and preparation for higher education across different social groups (McCoy *et al.*, 2010a; Smyth and McCoy, 2009; Levin, 2009).

With respect to funding, the research has emphasised the urgent need for reform given that Ireland currently imposes a registration charge that is in the region of tuition fees in proximate jurisdictions, such as Northern Ireland. Despite this, there exists no publically managed system that enables the financing of this cost. The research here suggests that Ireland is well placed to introduce an Income Contingent Loan (ICL) system; however, how such a funding mechanism requires careful thought in design, planning and implementation. The first issue is the scope of any ICL system and, in particular, the extent to which it is designed to cover both tuition and living costs. In order to prevent the creation of participation disincentive effects, the literature tends to support the view that ICL schemes should cover all costs so that HE is free at the point of consumption.⁸² Nevertheless, such a comprehensive funding programme will be expensive to set up and will involve a substantial time-lag before a pay-back revenue flow is established. As such, an ICL system that covers all costs associated with HE participation may be beyond the reach of the nation given our current fiscal difficulties. Should an all-encompassing ICL system prove unachievable in the

⁸² Even such a system is not without its potential drawbacks as higher levels of risk aversion among students from lower socio-economic backgrounds may still impact participation rates.

short-term, an alternative approach might be to introduce a limited ICL scheme designed to cover tuition costs while maintaining a maintenance grant programme; this could replace the current grants system which was designed in different times. However, a mix of ICL and maintenance grants is not without its drawbacks, as such a system will continue to place substantial pressures on families just above the grant threshold. These are likely to be middle income families. In the long run, a fully encompassing ICL system will prove more cost-effective from the perspective of the tax payer, as all high-earning graduates employed within Ireland will be expected to pay irrespective of their socio-economic status at the point of HE entry. In addition to the exact nature of the funding model to be adopted and the degree to which these might evolve over time, careful consideration should also be given to the interest rate levied on any ICL system to ensure that the risk of default and the cost of raising finance on loan markets are reflected. Finally, in order to minimise the costs to students and prevent structural disincentive effects, it is important to ensure that HE structures are functioning as efficiently as possible before any ICL scheme is launched,

As mentioned above, much attention has been placed on student contributions and the potential re-introduction of 'fees', which are significant issues. While the issues of cost effectiveness and the removal of credit constraints will tend to be at the centre of the policy debate, the equity impacts of any change to the HE funding regime must also be given equal consideration. Any policy change in this regard will need to be carefully designed, and attention will have to be paid to the impact of any changes, particularly in terms of the impact they might have on participation levels of different socio-economic groups, some of whom may emerge as more debt-averse (Reay et al., 2005). However, fees are likely to represent a small part of the total financial burden for higher education students, so of particular significance for lower income families is the value of means-tested maintenance grants to support them. Assuming that an ICL system that covers the cost of tuition charges and living costs is not achievable in the near term, the evidence shows that the proportions of young people in receipt of these grants varies considerably across different socio-economic groups, particularly across employee and self-employed groups, and the value of grant payments has declined over time (McCoy et al., 2010b). The decline in grant eligibility by students from lower non-manual backgrounds, such as personal services, sales and clerical workers, is particularly striking. These groups are also likely to be at the margins of the income thresholds in relation to any fee exemptions. Hence, the system of grant payments much be considered alongside any potential change in 'fees', and the research suggests that thresholds should incorporate a tapering of fee payments rather than a single threshold. The current review of the system of means-testing will hopefully lead to the more effective targeting of maintenance and other supports. These issues are all the more pressing in the current climate as families are struggling to provide financial support to their sons and daughters on entering higher education and young people themselves face difficulties in securing part-time employment to support their studies.

Regarding the general nature of HE policy, the emphasis has been very much focused on ensuring that young people continue to participate in third-level education with relatively little reference to other aspects of skill formation and labour market supply. While Ireland will continue to enjoy a relative demographic advantage in terms of the population share of young people at least to 2030, this is not to say that we should rely exclusively on young graduates as a future source of skilled labour supply. There is a large untapped group of adults in the Irish population who do not have third-level qualifications. Arguably policy should focus more heavily on upskilling such individuals through the more effective delivery of a part-time flexible learning HE system that allows more mature students to combine work and study. We have shown that Ireland has much to do in this respect and have outlined a number of key components associated with successful systems of life-long learning implemented elsewhere. Furthermore, it is apparent that large proportions of migrants, particularly those from New Member State countries, are currently under-utilised within the Irish labour market. Ideally, immigration should act as a labour market buffer that alleviates skill shortages if levels of skilled labour demand exceed supply. It is essential that the barriers to the full labour market integration of skilled migrants are identified and suitable policy initiatives put in place, particularly given the risk factors associated with the labour market for new graduate labour identified within this report, for instance, a growth in the relative demand for new graduates within high-tech sectors of the economy.

Finally, the results highlight the importance of academic preparedness for young people's capacity to succeed within HE. The second-level system has a vital role to play in ensuring that young people are academically prepared, but also in enabling them to have a clear understanding of the content and requirements of the course they wish to pursue. The removal of ex-quota provision for career guidance within second-level schools is particularly significant in this regard, and is likely to impact on more disadvantaged students who do not have other sources of information and advice regarding college choices (Smyth and McCoy, 2011). Given the strong role prior academic performance plays in success within HE, greater attention should be focused on promoting further education for young people performing less well in the Leaving Certificate examination, both as a post-school education choice but also as a means of gaining skills and competencies with a view to progressing on to HE. Finally, the results clearly point to the need for HE institutions to identify students struggling to meet the academic requirements of their courses, with a view to providing additional academic (and social) supports, particularly in the first year of their studies.

	1999	2003	2007	2011	
	(Q2)	(Q2)	(Q2)	(Q2)	
Gender:					
Males	50.2	50.7	52.3	52.1	
Females	49.8	49.4	47.8	47.9	
Age:					
15-19 years	16.7	14.8	13.6	13.8	
20-24 years	11.7	12.3	12.0	9.5	
25-34 years	19.3	18.8	19.7	19.5	
35-44 years	20.4	20.1	19.5	19.1	
45-54 years	18.5	18.9	18.8	20.2	
55-59 years	7.0	8.4	8.9	9.4	
60-64 years	6.3	6.8	7.6	8.7	
65+ years	-	-	-		
Nationality:					
Ireland	97.6	94.6	90.3	90.7	
UK	1.6	2.6	2.3	1.6	
Other EU	0.3	0.6	0.7	0.5	
Non EU-European	0.1	0.8	4.6	5.0	
USA	0.2	0.1	0.1	0.0	
Other country	0.3	1.3	2.1	2.2	
Educational Attainment	t:				
Primary or less	26.8	23.4	21.0	16.3	
Lower Secondary	29.0	28.0	27.5	26.4	
Higher Secondary	32.3	35.1	38.1	39.7	
Post Leaving Cert	11.9	13.5	13.4	17.6	
Marital Status:					
Single	44.5	46.3	47.3	46.7	
Married	49.9	47.8	46.8	46.4	
Widowed	2.0	1.9	1.7	1.7	
Divorced	3.5	4.0	4.3	5.2	
Family Type:					
Couple No Children	-	12.9	13.8	14.6	
Couple Children	-	39.5	38.5	39.5	
Lone Parent	-	12.4	13.2	14.3	
Not Family Unit	-	35.2	34.5	31.6	
Other/Not Stated	-	0.1	-	-	

Table A1A: Demographic Profile of Individuals without Third-LevelEducation: 1999, 2003, 2007 and 2011

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Table A1B: Demographic Profile of Individuals with Third-LevelEducation: 1999, 2003, 2007 and 2011

	1999	2003	2007	2011
	(Q2)	(Q2)	(Q2)	(Q2)
Gender:				
Males	49.7	48.4	45.5	44.7
Females	50.3	51.6	54.5	55.3
Age:				
15-19 years	0.3	0.3	0.2	0.1
20-24 years	14.7	12.4	10.4	6.3
25-34 years	34.7	37.3	38.5	35.9
35-44 years	24.8	25.2	26.0	28.9
45-54 years	16.4	16.1	16.1	18.0
55-59 years	5.4	5.4	5.0	5.9
60-64 years	3.7	3.4	3.8	4.9
65+ years	-	-	-	-
Nationality:				
Ireland	92.7	86.2	82.0	86.2
UK	3.4	4.1	3.4	2.4
Other EU	2.1	2.7	3.0	1.7
Non EU-European	0.2	1.2	5.2	4.4
USA	0.6	0.7	0.5	0.2
Other country	1.0	5.1	5.9	5.0
Educational Attainment:				
	22.2	22.5	24.2	
Third-level Non-Degree	38.2	38.6	34.2	38.4
Third-level Degree or	61.9	61.4	65.8	61.6
nigner				
Marital Status:	42.4	447	44.0	20.2
Single	43.4	44.7	44.9	38.2
Married	52.9	51.8	51.2	57.5
Widowed	1.1	0.9	0.8	0.8
Divorced	2.7	2.6	3.2	3.4
Family Type:		47.5	40.0	
Couple No Children	-	17.5	18.9	20.0
Couple Children	-	41.1	41.1	47.2
Lone Parent	-	6.5	6.8	7.0
Not Family Unit	-	35.1	33.1	25.7
Other/Not Stated	-	0.0	-	-

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Table A1C: Geographic Profile of Individuals without Third-LevelEducation: 1999, 2003, 2007 and 2011

	1999	2003	2007	2011
	(Q2)	(Q2)	(Q2)	(Q2)
Region:				
Border	11.7	11.5	11.8	11.9
Dublin	27.6	26.3	26.0	24.6
Mid-East	10.1	10.7	10.9	12.0
Midlands	6.1	6.2	6.6	6.8
Mid-West	8.8	8.9	8.7	8.4
South-East	11.2	11.7	11.9	12.1
South-West	15.0	15.1	14.6	14.8
West	9.4	9.7	9.6	9.5
Location:				
Urban	59.0	61.7	59.2	56.9
Rural	41.0	38.3	40.8	43.1

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office).

Table A1D: Geographic Profile of Individuals with Third-LevelEducation: 1999, 2003, 2007 and 2011

	1999	2003	2007	2011
	(Q2)	(Q2)	(Q2)	(Q2)
Region:				
Border	6.3	8.0	8.0	8.8
Dublin	40.6	39.0	36.5	33.2
Mid-East	11.2	10.8	12.0	13.0
Midlands	3.3	4.0	3.9	4.4
Mid-West	7.9	7.7	7.4	8.1
South-East	7.9	7.5	7.8	8.8
South-West	14.8	13.7	14.7	14.0
West	8.1	9.3	9.6	9.6
Location:				
Urban	72.7	71.9	68.1	65.7
Rural	27.3	28.1	31.9	34.3

Source: Constructed with data from the Quarterly National Household Survey (QNHS), (Central Statistics Office)

APPENDIX 2: DEMOGRAPHIC-BASED ASSESSMENT OF POSTGRADUATE DEMAND

In this appendix, we provide the details of a demographic-based approach to projecting postgraduate entrants. It is similar to the methodology used for estimating undergraduate entrants. The projections are used in a sensitivity analysis in Section 5.

There is no data available on new entrants to full-time postgraduate education but there is data on total full-time enrolments for PhD, Masters and Postgraduate Certificate/Diploma by gender from the HEA.

The following assumptions are made to estimate postgraduate entrants:

- 1. Masters and Postgraduate Certificate/Diplomas take, on average, one year to complete. Therefore the total enrolments of students at these levels can be used to approximate the number of entrants.
- 2. Masters and Postgraduate Certificate/Diploma students are concentrated in the 22 to 24 year old age group.
- 3. PhDs take, on average, four years to complete.
- 4. One third of all PhD enrolments are in year one and we apply this figure to total PhD enrolments to approximate the number of entrants.
- 5. PhD students are concentrated in the 25 to 28 year old age group.

These assumptions allow us to calculate participation rates defined in terms of percentages of the relevant age groups for different types of postgraduate students. Table A2A shows the estimated participation rates for postgraduate entrants for recent years. As with undergraduates, there has been a rise in participation rates since the beginning of the recession in the economy.

	2007/08	2008/09	2009/10
Males, PhD	0.5	0.7	0.8
Females, PhD	0.5	0.6	0.8
Male, Masters	4.2	4.9	6.3
Female, Masters	4.6	5.3	6.2
Males, Postgraduate Certificate/Diploma	1.1	1.3	1.6
Females, Postgraduate Certificate/Diploma	2.8	3.1	2.9

Table A2A: Participation Rates for Full-Time Postgraduate Entrants

Source: Estimated using HEA data on total enrolments in postgraduate education.

In terms of projecting forward the number of postgraduate completions we index the number of historical new entrants to the rate of population growth of the relevant age groups from the demographic model described in the section on our Baseline model. We assume unchanged gender-specific participation rates and assume overall completion rates of 80 per cent for Masters and Postgraduate Certificate and Diplomas and 70 per cent for PhDs.

APPENDIX 3: CALL FOR TENDER FOR DATA REVIEW REPORT ON FUTURE DEMAND FOR HIGHER EDUCATION

HEA

Higher Education Authority An tÚdarás um Ard-Oideachas

AN TÚDARÁS UM ARD OIDEACHAS HIGHER EDUCATION AUTHORITY

DATA REVIEW ON FUTURE DEMAND FOR HIGHER EDUCATION – META ANALYSIS OF EXISTING REPORTS

Request for Proposals

Awarding Authority:

The Higher Education Authority (HEA),

Brook lawn House, Crampton Avenue, Shelbourne Road, Dublin 4.

Telephone Number: Fax Number: E-mail address: Web site (01) 2317100 (01) 2317172 <u>info@hea.ie</u> <u>www.hea.ie</u>

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1. Introduction

1.1 Purpose of Tender Documentation

The purpose of this document is to assist tenderers in preparing proposals for a *data review report on future demand for higher education through a meta-analysis of existing reports, data analysis, projections and assumptions.*

This document remains the property of the Awarding Authorities and is issued only to assist you in submitting a detailed response to the requirements specified. The information contained herein is to be treated as confidential and must not be disclosed to any third party without prior written consent from the Higher Education Authority.

All queries with respect to the Tender Documentation and requests for additional information should be made to:

Mary Armstrong National Strategy Implementation Unit HEA, Brooklawn House, Crampton Avenue, Shelbourne Road, Dublin 4. Telephone: (01) 2317100 Fax (01) 2317172

E-mail marmstrong@hea.ie

1.2 Awarding Authority

The awarding authority is The Higher Education Authority.

1.3 Taxation obligations

It will be a condition of the award of any contracts that the tenderer will be required to produce a valid tax clearance certificate from the Irish Revenue Commissioners. In the case of a non-resident tenderer, a statement of suitability on tax grounds from the Revenue Commissioners will be required. Professional Services Withholding Tax (PSWT) will be deducted from certain payments for audit services provided by the successful tenderer. It shall be the responsibility of tenderers themselves to obtain all necessary documentation and to ensure that they comply with all relevant Irish taxation requirements.

1.4 Overview of Contents

The Tender Documentation contains four sections as outlined below. Section 4 requires specific proposal responses.

Section 1 Explains the purpose of the document, provides general

instruction on the preparation of proposals and gives guidance on how they will be evaluated;

Section 2 **Provides background information on the Authority.**

Section 3 Gives details of the requirements;

Section 4 Provides a template for Tenderer responses.

1.5 Instructions to Tenderers

- Tenderers must provide all the information requested in Section 4.
- All reasonable requests for additional information will be addressed and such information will be made available to all other tenderers in all cases.
- Tenderers must submit four 'hard' copies of their proposals. The proposals must be enclosed in a sealed envelope marked "Data Review Report on Future Demand" and addressed to

Ms Mary Armstrong, National Strategy Implementation Unit Higher Education Authority Brooklawn House Crampton Avenue Shelbourne Road Dublin 4.

Closing date for receipt of hard copy tenders is **Friday 30 March 2012**. No late applications will be considered.

The Awarding Authorities will not be liable for any costs incurred by proposers in the preparation and submission of response(s), including any work, effort or expenses required to complete the proposal. Any materials submitted as part of the proposal shall not be returned save where there is an expressed request for same and any expense incurred for such return shall be borne by the proposer.

The Awarding Authorities reserves the right to amend or alter any information contained in these documents at any time. Participating proposers will be informed of any amendments or alterations.

Unwarranted or inappropriate attempts (including canvassing) to influence the decision of the Awarding Authorities by a proposer, or by any party acting on behalf of a proposer will automatically disqualify the proposer.

During the evaluation process, the Tenderer may be required to give formal presentations of their proposals to representatives of the Awarding Authorities.

Information provided in proposals and in subsequent discussions and written communications, prices, availability dates and services offered by the Tenderers will be considered to form part of the basis of any contractual arrangements in the event of a proposal or proposals being accepted by the Awarding Authority.

The following will form part of the contract document for the proposed services:

This TENDER DOCUMENTATION and

Tenderer responses to the Request for Tender Modifications and amendments to the above documents formally agreed between the parties to the contract The final terms and conditions agreed between the parties to the contract.

The official order for the services issued by the Awarding Authorities.

1.6 Qualification process and main award criteria

Any contract (s) that may be awarded will be awarded on the basis of a number of criteria.

- The most economically advantageous tender based on Costs (exclusive of Value Added Tax)
- The capability of the tenderer to satisfy the requirements specified in this document based on the most relevant expertise and experience. Proposers may be required to provide evidence of competence and experience of providing similar studies by providing details of reference studies.
- Technical and management competence
- Capability to meet proposed deadlines and schedules.
- The quality and completeness of the response provided and compliance with any specified numbering and format.
- Satisfactory references

Cost shall not be the sole determining factor.

Tenderers should cover the cost of tendering

2 Background to HEA

The Higher Education Authority is the planning and development body for higher education in Ireland. It was set up on an ad hoc basis in 1968, and was given statutory powers in the Higher Education Authority Act 1971, which were amended in the Universities Act 1997 and the Institutes of Technology Act 2006.

The principal functions of the HEA are:

- to further the development of higher education
- to maintain a continuous review of the demand and need for higher education.
- to assist in the co-ordination of state investment in higher education and to prepare proposals for such investment.
- to allocate among universities and designated institutions the grants voted by the Oireachtas
- to promote the attainment of equality of opportunity in higher education and democratisation of higher education.
- assist the universities and institutes of technology in achieving objectives and review and report on their strategic development plans, policies on access and equality
- determine the amount of money to be allocated to a university or Institute of Technology, receive its budget and be informed of any likely expenditure in excess of budget by it
- approve the form in which university and institute of technology accounts may be kept and determine the form of an annual report by institutes of technology
- agree frameworks under which remuneration may be paid by a university which departs from otherwise approved levels, under which remuneration may be paid to university employees by a university trading, research or other corporation, under which a university or institute of technology may borrow or guarantee or underwrite a loan; make arrangements under which remuneration made be paid to staff of an Institute of Technology by an Institute of Technology company or undertaking,
- review the fees charged by universities and advise the universities on fees which should be charged
- approve pension schemes, with the consent of the Ministers for Education and Skills and Finance and make determinations subject to the agreement of the Ministers for Education and Skills and Finance in relation to disputes on claims to or amounts of pensions

In addition the National Strategy for Higher Education envisages a more strategic role for the HEA in the further development of the higher education system, including monitoring the performance of higher education institutions and providing accountability to the Minister in respect of performance outcomes for the sector. The HEA is required to ensure an appropriate balance between demand and supply with due regard to the maintenance and enhancement of quality.

A full outline of the role proposed for the HEA in the National Strategy is at Appendix 1.

The HEA has wide advisory powers throughout the whole of the third-level education sector. In addition it is the funding agency for the universities, the institutes of technology and a number of designated institutions of education

The Authority periodically sets up task forces to examine particular matters before the Authority. The task forces report back to the Authority.

The Authority is also the Irish contact point for a number of EU programmes e.g. Socrates/Erasmus, Tempus and Minerva.

The Authority also oversees the budgeting, accounting and financial reporting of universities, institutes of technology and designated institutions.

The National Office for Equity of Access to higher Education is located at the HEA. Its main purpose is to boost participation in higher Education from designated under represented groups.

The Authority manages a number of research funding programmes and advises on coordination of state investment in research in higher education.

Further details on the HEA may be got from the HEA website - www.hea.ie

The HEA also acts as the administrative agency for the Research Council which funds individual researchers.

3. Requirements

A National Strategy for Higher Education to 2030 was published by the Department of Education and Skills in 2011. The National Strategy suggests that while the Irish higher education system has been excellent in delivering very significant increases in participation over the last decades, and in building research infrastructure, it is relatively uncoordinated. In a context of increasing resource constraints and international competitiveness there is a need for the system to become more coordinated, to improve quality and efficiency, to protect diversity of mission and to enable the achievement of the many objectives for higher education set out in the national strategy. As part of the process to achieve greater co-ordination and coherence within the higher education system, the HEA will publish an outline structure by the end of 2012 setting out numbers, types and locations and agreed missions of the higher education institutions that comprise the overall system. This outline structure will be informed by the proposals of the HEIs themselves (based on their own strategic plans and on submissions received in response to the attached letter and framework document "Towards a Future Landscape for Higher Education" that issued to all higher education institutions in February 2012), the views of the executive and Board of the HEA, by a process of discussion with the HEIs on their proposals, and by the findings of a study by international higher education experts who will set out from an objective basis the elements of such a coherent system. The international expert study however, will be informed in the first instance by the report which is the subject of this tender as set out at 3.1 below.

The international expert study will involve a review of coherent higher education systems in other relevant countries, identifying best practice and risk factors, a review of the current Irish position by reference to the strategic plans and profiles of the Irish higher education institutions, and advice on international trends in the configuration of higher education systems.

The output from the overall process (data review, international expert study, proposals from and discussions with HEIs) will be a model of the Irish higher education system that identifies -

- an optimal configuration of institution types, including the number of institutions, the role of each institution and the appropriate set of interrelationships between them;
- opportunities for rationalisation/consolidation of existing institutions, and
- the structures and processes required to create and sustain a coherent system of institutions.

3.1 The Brief for the Report which is the Subject of this Tender

The HEA, through this tender, requests proposals from interested parties to provide a comprehensive report which would constitute an environmental analysis of the demand for higher education, arising from stated policy objectives and demographic, economic and social demand. The report should review the evidence base for the drivers of change in Irish higher education and provide advice on the likely scale of the system over the next 10-20 years based on expected demand and available funding under two funding scenarios – one scenario based on no change in current or announced levels of available funding and one based on growth in funding from non-state sources to meet projected increases in demand at current system average levels of unit cost. The expected approach to the review is through a meta-analysis of existing reports and research, and the study should

- review the national and regional demographic projections and the assumptions underlying national and regional demand for higher and further education;
- review current national, EU and international skills forecasts for both medium term and longer term 21st century skills requirements, by analysis of existing national reports and advice from bodies such as Forfas, Expert Group on Future Skills Needs, IDA, EI and others, and advice on the relevance of international skills forecasts to and likely impact on future demand for higher education in Ireland;
- review student demand for higher education taking account of academic preparedness of students and taking account of the availability and appropriateness of alternative forms of post-secondary education and training
- provide analysis of current levels of educational attainment of the national population by region and identify areas of significant demand, short term and long term, by full time students and for part-time, adult, continuing and flexibly provided higher education;
- provide analysis of demand for conduct of research by Irish higher education institutions taking account of existing policies and reports such as 'Report of the Research Prioritisation Steering Group 2012', 'Innovation Ireland – the report of the innovation task force 2010', 'Strategy for Science Technology and Innovation 2006-2013', 'Playing to our Strengths – the role of Arts, Humanities and Social Sciences and Implications for Public Policy 2010' and other relevant reports
- provide analysis of demand for access to higher education by under-represented groups taking account of policies and national targets in this regard
- provide analysis of demand for increased internationalisation of the student body taking account of policies and targets in this regard

The successful research consultancy will be awarded the contract to prepare a report which would be available by end June 2012 and would be used to inform the second stage study by international higher education consultants.

Your tender must show in the submission how your company would deal with client's requirements from the point of view of the management of the working relationship, and that you would be able to commence work on this project by early April 2012.

Please submit a list of current clients, details of any awards won, and some samples of previous work.
4. Instructions to Tenderers

4.1 Proposed format

The tenderer's submission should be structured as follows;

- (1) Management summary
- 1.1 Proposed overview
- 1.2 Service summary costs

1.3 Delivery approach and timescale

- (2) Tenderer profile
- (3) References
- (4) Additional information and appendices

4.2 Management Summary

4.2.1 Proposal Overview

Provide an overview of the structure of the proposal, and a statement that it conforms to the specified format. Outline the key features of the approach to the report, as well as any other relevant information.

4.2.2 Service Summary costs

Provide summary details of costs, (including Value Added Tax as appropriate)

4.2.3 Delivery timescale

A description of the delivery timescale to complete the report.

4.3 Tenderer staff

Tenderers must identify by name those people who will be assigned to this project should they be successful.

4.4 References

List three references including a contact name. Examples of previous work should be provided.

4.5 Contractual Arrangements

The Tenderer must provide a copy of any proposed terms and conditions for the contract with their tenders. This should include the provision of appropriate working papers and files being made available to the Authority, if requested. It should also outline a proposed process to arbitration in the case of disputes or other difficulties that may arise.

Tenderers may provide a proposed payment schedule based on projected costs.

4.6 Additional information and appendices

Tenderers may provide additional information and appendices as they consider appropriate.

Appendix 1

Responsibilities assigned to the HEA by the National Strategy for Higher Education

The HEA is required to provide strong central oversight in the operational delivery of the strategic agenda – the Department is to remove itself from an operational role.

The role of the HEA is to be revised, governance structures revised, with clearer definition of key operation and implementation functions, and clearer definition of its relationship with the HEIs and its role in achieving and maintaining the necessary balance between institutional autonomy and accountability to the State.

The HEA is to be accountable to the Minister for Education and Skills in respect of delivery on agreed performance indicators for the sector.

The HEA will have an inter-agency co-ordinating role in support of the Department implementation oversight group.

The HEA is required to lead the process of change in the system architecture.

The HEA is required to collect and analyse data from the sector to better inform and advise the Minister and to create a fully comparable system database to underpin a new accountability framework to strengthen system governance.

The HEA must lead the implementation of revised funding arrangements to align public investments with strategic objectives, and maintain quality through sustainable growth. Long-term revisions identified for the funding model include:

Revisions to Recurrent Grant Allocation Model to facilitate Access and Life Long learning

Restructuring of overall funding system to incorporate wider base of funding sources including private contributions with due regard to reforms of the student grants system as determined by DES.

Move to a system of Service Level Agreements with the HEIs as part of a broader Strategic Dialogue – including

A performance incentive system

Dedicated funding to promote performance on key national priorities As part of the Strategic Dialogue, which is to be a key HEA responsibility and a key instrument for delivering the National Strategy, the HEA must engage in strategic dialogue with the HEIs and the sector to align the strategies of individual institutions with national priorities. The strategy is very specific on what the dialogue must cover including: How national priorities are to be implemented and the coherence of the HEI strategic plans with those national priorities The development and agreement of performance outcomes and the assessment of performance against them The sharing and mainstreaming of good practice The review of overall system coherence and balance of diversity

The HEA is required to lead the process of forecasting demand for higher education taking account of labour market skills needs

The HEA is required to ensure an appropriate balance between demand and supply with due regard to the maintenance and enhancement of quality

The HEA is required to analyse and fund capital infrastructural requirements

The HEA is required to co-operate and engage with international counterparts and in particular with higher education in Northern Ireland

REFERENCES

- Adelman, C., 1999. 'Answers in the tool box: Academic intensity, attendance patterns and bachelor's degree attainment.' Washington DC: US Government Printing Office.
- Arum, R., Gamoran, A. & Y. Shavit, 2007. 'More Inclusion than Diversion: Expansion, Differentiation and Market Structure in Higher Education.' In Y. Shavit, R. Arum & A. Gamoran (Eds.), Stratification in Higher Education: a Comparative Study (pp. 1-35). California: Stanford University Press.
- Bachmann, R., Bauer, T. & P. David, 2010. 'Labour Market Entry Conditions, Wages and Job Mobility,' IZA Paper 4965.
- Baker, G., M. Gibbs, and B. Holmstrom, 1994. 'The Wage Policy of a Firm,' Quarterly Journal of Economics, Vol. 109, 881–919.
- Banks, J., Byrne, D., McCoy, S., & E. Smyth, 2010. 'Engaging Young People? Student Experiences of the Leaving Certificate Applied.' Dublin: ESRI.
- Barnow, B.S., 2002. 'Occupations and Skills in the United States: Projection Methods and Results Through 2008', in M. Neugart & K. Schoman (Eds.), 'Forecasting Labour Markets in OECD Countries, Measuring and Tackling Mismatches', Cheltenham, UK: Edward Elgar.
- Barrett, A., McGuinness, S., O'Brien, M. And P.J. O'Connell, 2012. 'Immigrants and Employer-provided Training,', Journal of Labor Research, online publication DOI 10.1007/s12122-012-9148-7
- Becker, G., 1964. 'Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education.' New York: Columbia University Press.
- Bergin, A., T. Conefrey, J. Fitz Gerald and I. Kearney, 2010. 'Recovery Scenarios for Ireland: An Update,' special article in Quarterly Economic Commentary.
- Bettinger, E., 2004. 'How Financial Aid Affects Persistence,' NBER Working Paper, Cambridge, MA: National Bureau of Economic Research.
- Bloom, D.E., Freeman, R.B., and S. Korenman, 1987. 'The Labour Market Consequences of Generational Crowding,' European Journal of Population, 3, 131–176.
- Borghans, L. & E. Willems, 1998. 'Interpreting Gaps in Manpower Forecasting Models,' Labour Vol. 12, No. 4. pp. 633-641.
- Byrne, D. & E. Smyth, 2010. 'No Way Back? The Dynamics of Early School Leaving.' Dublin: Liffey Press/ESRI.
- Byrne, D. & S. McCoy, 2012 (forthcoming). 'Identifying and Explaining Hidden Disadvantage in Higher Education Access,' Comparative Social Research, Vol. 30 (2012/2013).
- Cave, M., S. Hanney, M. Henkel & M. Kogan, 1997. 'The Use of Performance Indicators in Higher Education: The Challenge of the Quality Movement.' Higher Education Policy Series No. 3, London: Jessica Kingsley.
- Central Statistics Office, 2008. 'Population and Labour Force Projections, 2011-2041.' 30th April.
- Chapman, B., 2005. 'Income Contingent Loands for Higher Education: International Reform,', Centre for Economic Performance Discussion Paper No. 491.
- Coleman, R. & B. Bekhradnia, 2011. 'Higher Education Supply and Demand to 2020," available at: <u>http://www.hepi.ac.uk/files/1.2010%20demand%20report%20master.pdf</u>
- Cörvers, F., H. Heijke, 2003. 'Forecasting the Labour Market by Occupation and Education: Some Key Issues.' Paper presented at the conference 'Modelling Labour Market: Realities and Prospects,' in Athens.

- Department of Education and Science, 2005. 'DEIS: Delivering Equality of Opportunity in Schools An Action Plan for Educational Inclusion,' Dublin: Department of Education and Science.
- Department of Education and Skills, 2011. 'National Strategy for Higher Education to 2030 Report of the Strategy Group.' Dublin: Department of Education and Skills.
- Dynarski, S.M., 1999. 'Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion,' Working Paper 7422, Cambridge MA: National Bureau of Economic Research.
- Dolton, P. & Vignoles, A., (2000). "The Incidence and Effects of Overeducation in the UK Graduate Labour Market," Economics of Education Review, Vol. 19, No. 2, pp. 179-198.
- Eivers, E., R. Flanagan & M. Morgan, 2002. 'Non-Completion in Institutes of Technology: An Investigation of Preparation, Attitudes and Behaviours Among First Year Students.' Dublin: Educational Research Centre.
- Flannery, D. & C. O'Donoghue, 2011. 'The Life-Cycle Impact of Alternative Higher Education Finance Systems in Ireland,' The Economic and Social Review, Vol. 42, No.3, pp. 237-270.
- Faulkner, F., Hannigan, A., and O. Gill, 2010. 'Trends in the Mathematical Competency of University Entrants in Ireland by Leaving Certificate Mathematics Grade,' Teaching Mathematics and its Applications, Vol. 29, No. 2, pp. 76-93.
- Gould, A., 2003. 'Study Leave in Sweden,' Studies in the Education of Adults, Vol. 35, No. 1, pp. 68-84.
- Hango, D. and P. de Broucker, 2007. 'Postsecondary Enrolment Trends to 2031: Three Scenarios,' Research Paper, Culture, Tourism and the Centre for Education Statistics Division, Statistics Canada, available at: <u>http://www.statcan.gc.ca/pub/81-595-m/81-595-m2007058-eng.pdf</u>
- Heckman, J., L. Lochner and P. Todd, 2003. 'Fifty Years of Mincer Earnings Regressions,' NBER Working Paper 9732.
- Higher Education Authority, 2012. '10/11 Higher Education Key Facts and Figures,' available at: http://www.hea.ie/
- Hughes, G., 2003. 'Manpower Forecasting: A Review of Methods and Practice in Some OECD Countries,' FAS/ESRI Manpower Forecasting Studies, Report No. 1.
- Hussar, W.J., and T.M. Bailey, 2009. 'Projections of Education Statistics to 2018 (NCES 2009-062),' National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC, available at: http://www.edpubs.gov/document/ed004842p.pdf?ck=1
- Jackson, M., Erikson, R., Goldthorpe, J.H., & M. Yaish, 2007. 'Primary and secondary effects in class differentials in educational attainment,' Acta Sociologica, Vol. 50, No. 3, pp. 211-229.
- Kellaghan, T. and D. Millar, 2003. 'Grading in the Leaving Certificate Examination,' Dublin: Educational Research Centre.
- Kinsella, E., J. Roe & T. O'Connor, 2006. 'Completion Rates for Students Taking Full-Time Programmes of Study in Institutes of Technology: A Study Carried Out for the Council of Directors of Institutes of Technology and the Dublin Institute of Technology.' Dublin: The Circa Group.
- Lassibille, G. & L.N. Gomez, 2008. 'Why Do Higher Education Students Drop Out? Evidence from Spain,' Education Economics, Vol 16, No. 1, pp. 89-105.
- Lucas, S., 2001. 'Effectively Maintained Inequality: Education Transition, Track Mobility and Social Background Effects,' American Journal of Sociology, Vol. 106, No. 6, pp. 1642-1690.

- McCoy, S., Byrne, D., O'Connell, P.J., Kelly, E. & C. Doherty, 2010a. 'Hidden Disadvantage? A Study of the Low Participation in Higher Education by the Non Manual Group.' Dublin: HEA.
- McCoy, S., E. Calvert, E. Smyth & M. Darmody, 2010b. 'Study on the costs of participation in higher education.' Dublin: Higher Education Authority.
- McCoy, S. & D. Byrne, 2010. 'Non-Progression Among Higher Education New Entrants: A Multivariate Analysis,' in Mooney, O., V. Patterson, M. O'Connor and A. Chantler (Eds.), A Study of Progression in Irish Higher Education, Dublin: HEA.
- McCoy, S. & D. Byrne, 2011. 'The Sooner the Better I Could Get Out of There: Barriers to higher Education Access in Ireland,' Irish Educational Studies, Vol. 30, No. 2, pp. 141-157.
- McCoy, S. & E. Smyth, 2011. 'Higher Education Expansion and Differentiation in the Republic of Ireland,' Higher Education, Special Issue on 'Differentiation in Higher Education', Vol. 61, No. 3, pp. 243-260.
- McGuinness, S., 2006. 'Overeducation in the Labour Market,' Journal of Economic Surveys, Vol. 20, No. 3, pp. 387-418.
- McGuinness, S. & J. Bennett. 2007. 'Overeducation and the Graduate Labour Market: A Quantile Regression Approach,' Economics of Education Review, Vol. 6, No.5, pp. 521-531.
- McGuinness, S. & P. Sloane, 2011. 'Labour Market Mismatch Among UK Graduates: An Analysis Using REFLEX Data,' Economics of Education Review, Vol. 30, No. 1, pp. 130-145.
- Mincer, J., 1974. 'Schooling, Experience and Earnings,' New York: Columbia University Press.
- Mooney, O., Patterson, V., O'Connor, M., & A. Chantler, 2010. 'A Study of Progression in Irish Higher Education,' Higher Education Authority, October.
- Morgan, M., R. Flanagan & T. Kellaghan, 2001. 'A Study of Non-Completion in Undergraduate University Courses.' Dublin: Higher Education Authority.
- O'Connell, P.J., McCoy, S. & Clancy, D. 2006. 'Who Went to College? Socio-Economic Inequality in Entry to Higher Education in the Republic of Ireland in 2004,' Higher Education Quarterly, Vol. 60, No.4, pp. 312-332.
- O'Grady, M., 2009. 'Grade Inflation in the Leaving Certificate Examination 1992-2006,' Network for Irish Educational Standards, Paper 7.
- OECD, 1997. 'Thematic Review of the First Years of Tertiary Education. Country Note: New Zealand.' Paris: OECD.
- OECD, 1998. 'Education at a Glance 1998.' Paris: OECD.
- OECD, 2000a. 'Thematic Review on Adult Learning: Norway Background Report.' Paris: OECD.
- OECD, 2000b. 'Thematic Review on Adult Learning: Sweden Background Report.' Paris: OECD.
- OECD, 2001a. 'Thematic Review on Adult Learning: Denmark Background Report.' Paris: OECD.
- OECD, 2001b. 'Thematic Review on Adult Learning: Finland Background Report.' Paris: OECD.
- OECD, 2002. 'Thematic Review on Adult Learning: Canada Background Report.' Paris: OECD.
- OECD, 2003. 'Beyond Rhetoric: Adult Learning Policies and Practices.' Paris: OECD.
- OECD, 2005. 'Education at a Glance 2005.' Paris: OECD.
- OECD, 2005. 'Promoting Adult Learning.' Paris: OECD.
- OECD, 2007. 'Education at a Glance 2007.' Paris: OECD.

- OECD, 2008. 'Education at a Glance 2008.' Paris: OECD.
- OECD, 2009. 'Education at a Glance 2009.' Paris: OECD.
- OECD, 2011. 'Education at a Glance 2011.' Paris: OECD.
- Oreopoulos P., von Wachter, T. and A. Heisz, 2006. 'The Short- and Long-Term Career Effects of Graduating in a Recession: Hysteresis and Heterogeneity in the Market for College Graduates,' NBER WP No. 12159, April 2006.
- Porter, A.M., 1990. 'Undergraduate Completion and Persistence at Four-Year Colleges and Universities,' Washington D.C.: National Institute of Independent Colleges and Universities.
- Raftery, A.E. & M. Hout, 1993. 'Maximally Maintained Inequality: Expansion, Reform and Opportunity in Irish Education, 1921-75. Sociology of Education, Vol. 66, pp. 41-62.
- Raaum, O. & K. Roed, 2006. 'Do Business Cycle Conditions at the Time of Labour Market Entry Affect Future Employment Prospects?,' Review of Economics and Statistics, Vol. 88, No. 2, pp. 193-210.
- Reay, D., David, M.E. & S. Ball, 2005. 'Degrees of Choice: Class, Race, Gender and Higher Education.' Stoke on Trent: Trentham.
- Shin, D., 1994. 'Cyclicality of Real Wages among Young Men,' Economics Letters, Vol. 46, No. 2, pp. 137–142.
- Skilbeck, M. & H. Connell, 2000. 'Meeting the Equity Challenge in Higher Education: A Review of International Experience.' Dublin: Higher Education Authority.
- Smith, P. & R.A. Naylor, 2001. 'Dropping Out of University: A Statistical Analysis of the Probability of Withdrawal for U.K. Students,' Journal of the Royal Statistical Society Vol. 164, No. 2, pp.389-405.
- Smyth, E. 1999. 'Do Schools Differ?' Dublin: Oak Tree Press/ESRI.
- Smyth, E. & C. Hannan, 2002. 'Who Chooses Science? Subject Take-up in Second-Level Schools.' Dublin: ESRI.
- Smyth, E. & C. Hannan, 2007. 'School Processes and the Transition to Higher Education,' Oxford Review of Education, Vol. 33, No. 2, pp. 175-194.
- Smyth, E., Dunne, A., Darmody, M., & S. McCoy, 2008. 'Gearing Up for the Exam? The Experiences of Junior Certificate Students.' Dublin: Liffey Press/ESRI.
- Smyth, E. & S. McCoy, 2009. 'Investing in Education: Combating Educational Disadvantage.' Dublin: Barnardos/ESRI.
- Smyth, E., J. Banks & E. Calvert, 2011. 'From Leaving Certificate to Leaving School.' Dublin: ESRI.
- Smyth, E. & E. Calvert, 2011. 'Choices and Challenges: Moving from Junior Cycle to Senior Cycle Education.' Dublin: Liffey Press.
- Smyth, E. & S. McCoy, 2011. 'Improving Second-Level Education: Using Evidence for Policy Development.' ESRI Renewal Series Paper No. 5, Dublin.
- Smyth, E. & J. Banks, 2012. 'There Was Never Really Any Question of Anything Else: Young People's Agency, Institutional Habitus and the Transition to Higher Education,' British Journal of Sociology of Education, Vol. 33, No. 2, pp. 263-281.
- Stevens, K., 2007. 'Adverse Economic Conditions at Labour Market Entry: Permanent Scars or Rapid Catch-up,' Job Market Paper.
- Task Force on the Physical Sciences, 2002. 'Report and Recommendations.' Dublin: Department of Education and Science.
- Thomas, L., 2002. 'Student Retention in Higher Education: The Role of Institutional Habitus,' Journal of Education Policy, Vol. 17 No. 4, pp. 423-432.
- Van Stolk, C., Tiessen, J. Clift, J. & R. Levitt, 2007. 'Student Retention in Higher Education Courses: International Comparison.' Rand.

- Watson, D. & E. Smyth, 2003. 'Cost and Revenue Implications of Options for a More Equitable Distribution of Supports to Post-Secondary Students.' ESRI: Report to the Department of Education and Science.
- Welch, F., 1979. 'The Effect of Cohort Size on Earnings: The Baby Boom Babies' Financial Bust,' Journal of Political Economy, Vol. 87, No. 5, pp. 65-97.
- Yorke, M., 1998. 'Undergraduate Non-Completion in England: Some Implications for the Higher Education System and Its Institutions,' Tertiary Education and Management, Vol. 4, No. 1, pp.59–70.



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