



NUI Galway  
OÉ Gaillimh



Whitaker  
Institute

# Education Sectoral Overview

**Galway City and County Economic  
and Industrial Baseline Study**



# **EDUCATION SECTORAL OVERVIEW**

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## Our Approach<sup>1</sup>

Our approach in undertaking this overview of the education sector was to take a global and national perspective before focusing on the regional and local level. One of the main limitations we faced preparing this sector review is the lack of quality and reliable data at the local level. The framing of the global and national level overviews against available publicly available local data provides a basis and context to consider the future of Galway City and County.

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<sup>1</sup> The information contained in this overview has been compiled from many sources that are not all controlled by the Whitaker Institute. While all reasonable care has been taken in the compilation and publication of the contents of this resource, Whitaker Institute makes no representations or warranties, whether express or implied, as to the accuracy or suitability of the information or materials contained in this resource.

## Executive Summary Overview of the Education Sector

### Global Overview

- Each \$1 spent on education gives rise to between \$10 and \$15 in economic growth over a person's lifetime in the form of higher earnings and wages.
- Global education expenditure is \$4,450.9 billion. It has a compound annual growth rate of 7% between 2012 and 2017.
- Some \$2,227 billion was spent on primary school education (K-12) globally which is the highest percentage of global education expenditure.
- There are 608.1 million potential students worldwide of age for third level education.
- Western Europe has 24.9 million students of age for primary education, 33.8 million for secondary and 25.5 million potential students of age for third level education.
- An average of 82% of students within OECD countries completes secondary education over their lifetime.
- Only nine of the top global universities are not located within the United States and only three within the top 20.
- The largest university in the world according to enrolment is the Allama Iqbal Open University in Pakistan, with 1.9 million student enrolments.
- E-learning is worth \$56.2 billion with corporations considering it to be the second most valuable training method.
- International student growth grew at a rate of 6.6% per annum between 2009 and 2011 to 3.04 million.
- China aims to host 500,000 international students by 2020, up from the current level of 260,000.

### National Overview

- Approximately 40 higher education institutions cater for a student population of 200,175, which is forecasted to rise to over 250,000 by 2020.
- There are 3,300 primary schools that cater for 520,444 students and 700 secondary schools that cater for 360,567.
- The strongest growth in the sector was among primary and nursery school teachers where the number increased by 9,115 to 39,998 (2006-2011).

- Secondary school teachers account for 31,829, up by 2,178 and Third level teaching staff increased from 10,831 in 2006 to 12,729 in 2011.
- The number of caretakers, labourers and clerks all decreased, with the number of filing and other clerks decreasing by 38%.
- International student numbers in third-level colleges grew by 2% to 32,000 in 2012.
- International education is valued at €1 billion to the Irish economy.
- Ireland has a goal to raise the number of international students to 52,000 by 2015 and English language students to 125,000.
- Expenditure per student in Ireland increased to €6,272 (16.4%) per student over the period 2003-2012.
- Expenditure per student in secondary schools has increased by 11.6% over the period 2003-2012.
- In reading literacy, Ireland had the second highest score in 2012 among participating EU countries.
- Ireland had the 8th highest mathematical literacy for 15 year old students in secondary schools, among participating EU countries in 2012.
- Ireland ranked sixth highest among EU countries for scientific literacy with a score of 522.
- The proportion of students aged 18-24 who left school with, at most, lower secondary education in Ireland was 9.7% in 2012.
- In relation to third-level students, there was a decrease of 20.1% in expenditure per student over the period 2003 to 2012.
- The number of full-time third-level students increased by 24.1% between 2003 and 2012, while the number of part-time students increased slightly by 0.3%.
- There are 45,373 pupils attending Irish-medium schools outside of the Gaeltacht.
- A reform of the Junior Certificate seeks to promote active learning, creativity and innovation.
- By 2016, full equality of provision and support will have been achieved in higher education for all learners.

## Regional and Local Overview

- 25% of Galway City's population are students indicating a high level of education.
- There are 10,741 individuals employed within the education sector of Galway.

- Galway has a population of 62,389 people with a third level qualification which means that a quarter of Galway's population has a third level education qualification.
- In Galway, 57% of third level students were in University, which is 4.6% higher than the national average.
- NUIG had 16,542 students including 2,060 international students from 92 countries, with 2,002 staff of which 86% are full-time Academic Staff with PhD qualification.
- NUIG was the only Irish university to have increased its position in the QS World University Rankings 2014/2015, rising four places to 280<sup>th</sup>.
- Some 87% of staff employed in GMIT are full-time Academic Staff with Masters or higher, while some 20% are with PhD qualifications.
- Coláiste na Coiribe is currently under construction with a total investment of €16 million.
- The largest vocational school in Galway City is Galway Technical Institute (GTI) which has 1,175 pupils.
- Yeats College was recently ranked as Ireland's highest achieving school, sending 100% of pupils to third level courses.
- NUIG has in excess of 2000 international students, accounting for 15% of the student population which is the highest number of international students out of all Irish Universities.
- In Galway County the number of secondary school pupils has decreased by 162 during the period 2007 to 2014.
- Galway City had an early school leaver percentage of 3.6% compared to 2.2% in Galway County.
- Galway City has 287 primary school teachers with an average class size of 24.1 pupils and Galway County has 902 teachers teaching an average class size of 23 pupils.
- Since the establishment of DEIS literacy and numeracy rates in primary schools have been improving steadily and secondary attainment levels are improving as well as increasing attendance, participation and retention levels.
- There are four multi-denominational schools in Galway.
- Some 22% of primary school students in Galway attend a Gaelscoileanna.
- There are 9 special schools in Galway, with Rosedale School being the largest, catering for 67 pupils.

# Global Overview of the Agriculture Sector

## Global Overview

### Introduction

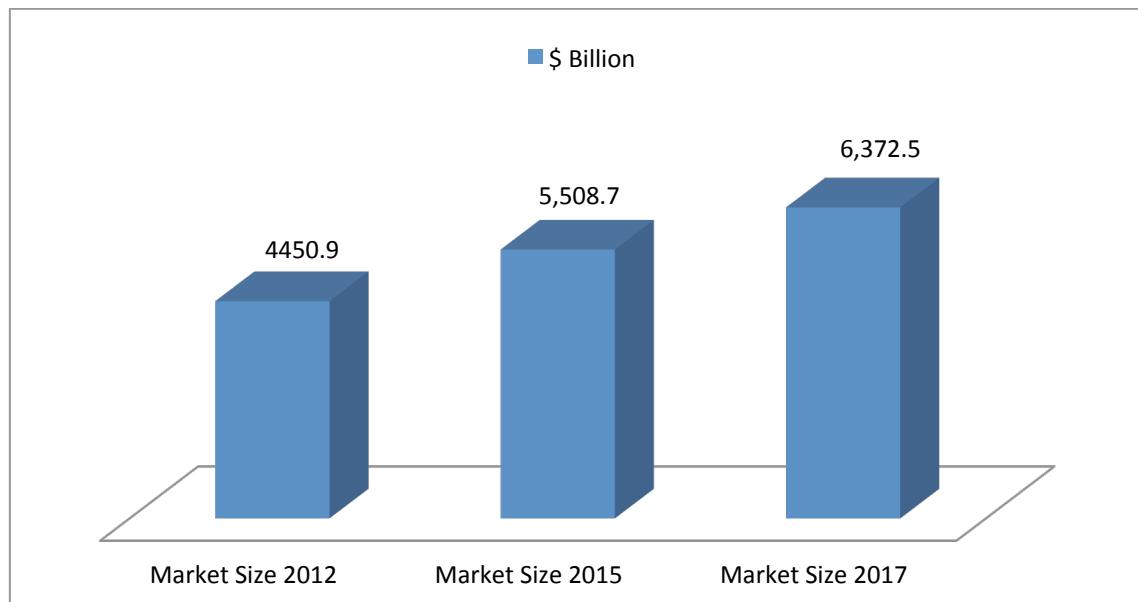
Education is a foundational component of human development as well as being a key enabler of social progress. Education has been proven to directly impact an individual's earnings, labour productivity and national economic output or GDP. Each \$1 spent on education gives rise to between \$10 and \$15 in economic growth over a person's lifetime in the form of higher earnings and wages (Winthrop et al., 2013).

## Global Overview

### 1.1 Market Size

Global education expenditure is \$4,450.9 billion. It has a compound annual growth rate of 7% between 2012 and 2017. Figure 1 illustrates global education expenditure between 2012 and 2017.

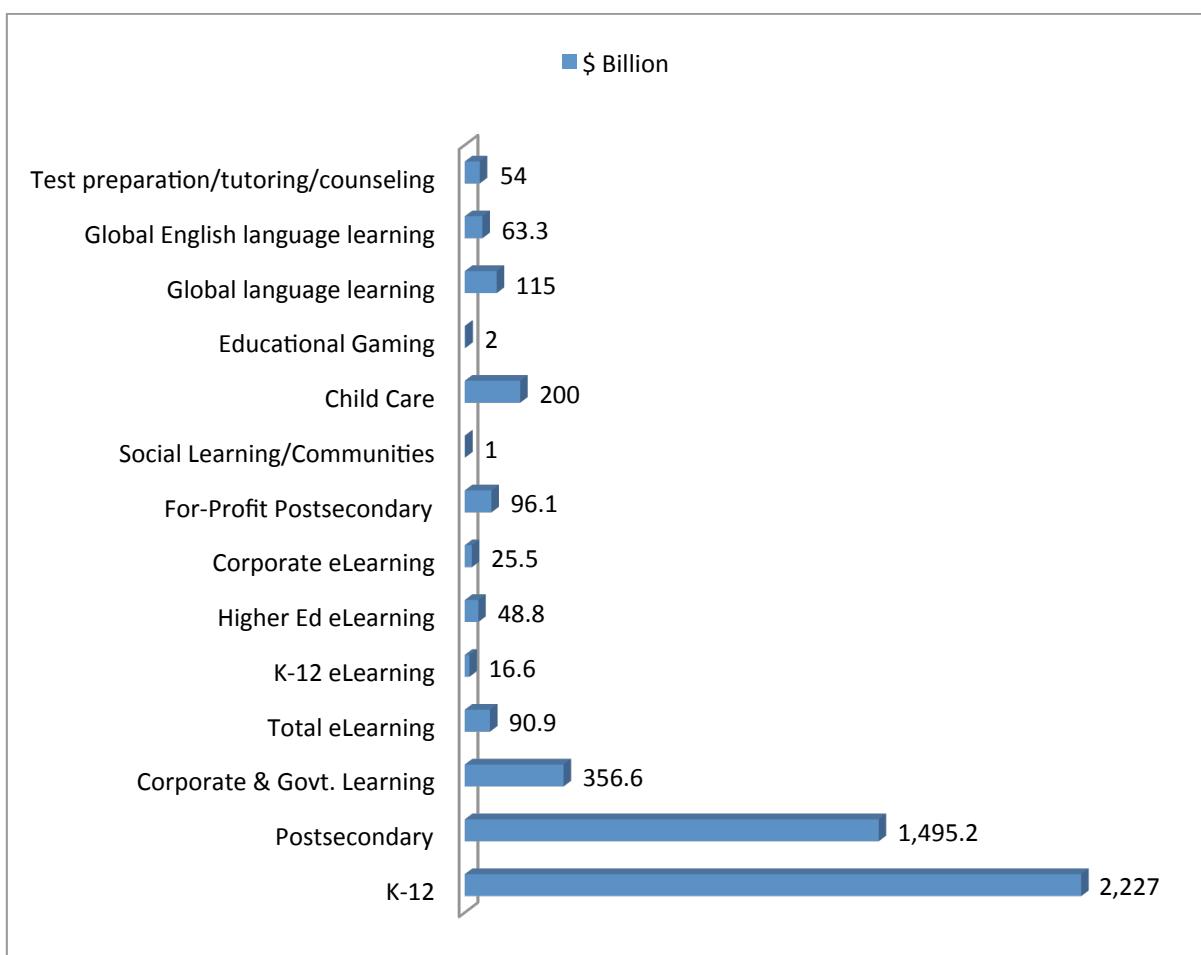
**Figure 1:**  
Global Education Expenditure, 2012-2017



(Adapted from GSV EDU, 2012).

The majority of revenue within the education sector comes from tuition or program fees. Gross profit ranges from 60%-90% depending on the location and the course. Figure 2 itemises the global education expenditure as of 2012. Some \$2,227 billion was spent on primary school education (K-12) globally which is the highest percentage of global education expenditure. Globally, 570 million children were enrolled at this level in 2012. The next highest amount of expenditure is at third level or post-secondary education amounting to \$1495.2 billion followed by corporate and government learning amounting to \$356.6 billion (GSV EDU, 2012). Economically well-developed countries account for a higher duration of compulsory education and a higher ending age of compulsory education.

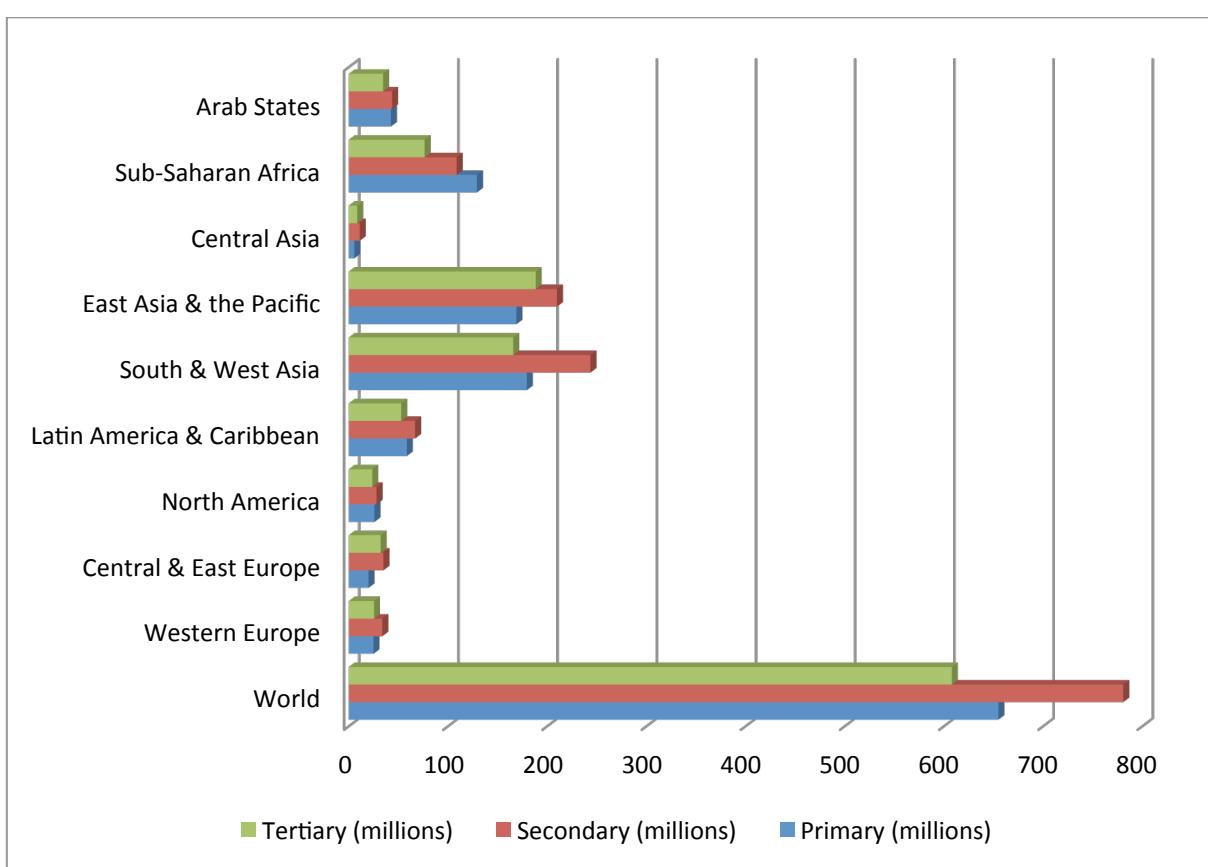
**Figure 2:**  
Itemised Global Education Expenditure, 2012



(Adapted from GSV EDU, 2012).

Figure 3 illustrates the number of potential students of school age for primary, secondary and third-level education. There are 608.1 million potential students worldwide of age for third level education. The two largest nations in the world, China and India face the task of educating approximately 747 million students, accounting for 37% of the world's student population. Western Europe has 24.9 million students of age for primary education, 33.8 million for secondary and 25.5 million potential students of age for third level education. North America in comparison has 25.9 million for primary school, 28 million for secondary and 23.7 million for third level (GSV EDU, 2012).

**Figure 3:**  
Primary, Secondary and Tertiary School Age Population

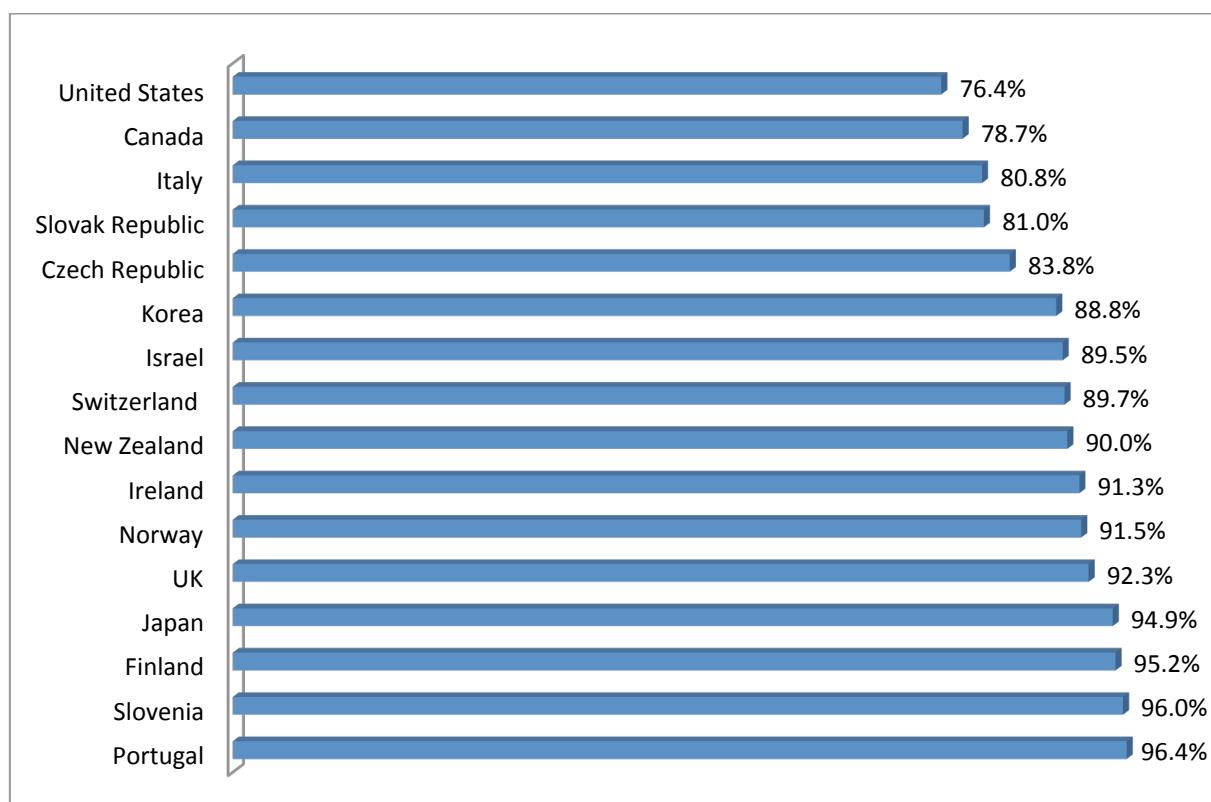


(Adapted from GSV EDU, 2012).

## 1.2 Global Secondary Education

An average of 82% of students within OECD countries completes secondary education over their lifetime. In Finland, Ireland, Japan, New Zealand, Norway, Portugal, Slovenia, Switzerland and the United Kingdom graduation rates equal or exceed 90%. Some 75% of students within G20 countries in comparison complete secondary education. Figure 4 illustrates the percentage rate of students that complete secondary education. The United States is ranked 21st for secondary graduation rate, which is 6% below the OECD average (GSV EDU, 2012).

**Figure 4:**  
Primary, Secondary and Tertiary School Age Population



(Adapted from GSV EDU, 2012).

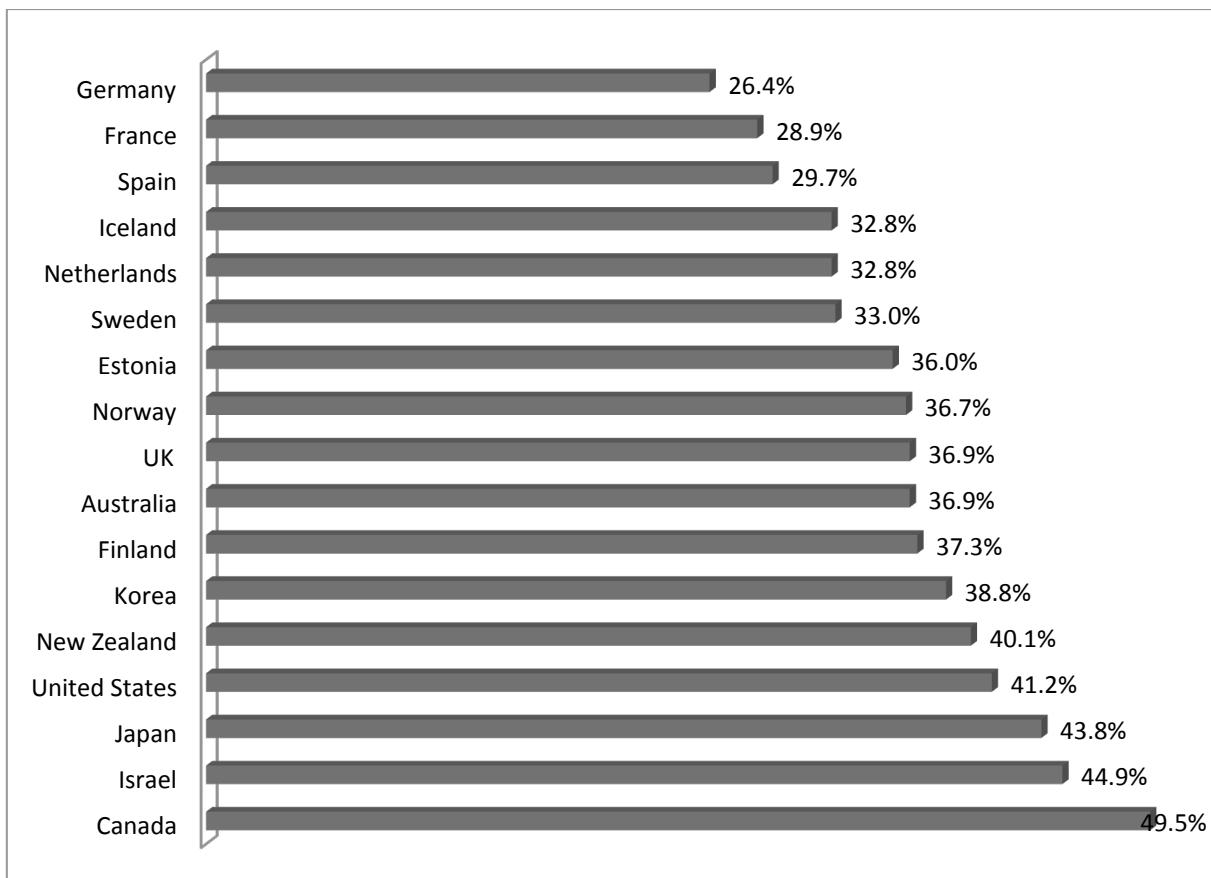
## 1.3 Tertiary Education

If the current tertiary rates continue among 25-34 year olds, then France, Ireland, Japan and Korea's tertiary education will grow more than that of other OECD countries while Austria, Brazil and Germany will fall behind other OECD countries (GSV EDU, 2012). More than 255 million people worldwide have third level education. China has 12% of all tertiary graduates, compared

to Japan with 11% and The United States with 26%. Figure 5 illustrates the tertiary education completion rate as a percentage of the 25-64 age population.

**Figure 5:**

The Tertiary Education Completion Rate as a Percentage of the 25-64 Age Population



(Adapted from GSV EDU, 2012).

## 1.4 Top 20 Global Universities

Only nine of the top global universities are not located within the United States and only three within the top 20 (GSV EDU, 2012). Table 1 displays the top 20 global universities.

**Table 1:**  
Top 20 Global Universities

Rank	University	Rank	University
1	Massachusetts Institute of Tech. (USA)	11	Columbia University, NY (USA)
2	Stanford University(USA)	12	University of Wisconsin-Madison (USA)
3	Harvard University (USA)	13	University of Minnesota (USA)
4	University of California, Berkeley (USA)	14	University of California, Los Angeles (USA)
5	The University of Texas at Austin (USA)	15	Universidad Nacional Autónoma de México
6	Cornell University (USA)	16	Yale University (USA)
7	University of Michigan (USA)	17	Purdue University (USA)
8	University of Pennsylvania (USA)	18	University of Cambridge (UK)
9	University of Washington (USA)	19	University of Oxford (UK)
10	Penn State University (USA)	20	Carnegie Mellon University (USA)

(Adapted from GSV EDU, 2012).

There are several different international rankings of universities and colleges including Times Higher and QS Rankings. These rankings are crucial to building a university's national and international reputation.

The Times Higher Education World University Rankings lists the best global universities and are the only international university performance tables to judge world class universities across all of their core missions including teaching, research, knowledge transfer and international outlook (THE, 2015). The Times Higher Education World University Rankings methodology includes the use of 13 calibrated performance indicators which are grouped into five areas; teaching (worth 30%), research (30%), citations (30%), industry income (2.5%) and international outlook (7.5%). Universities that do not teach undergraduates or have a research output of less than 200 a year are excluded from the ranking. The Times Higher Education World University Rankings lists California Institute of Technology as number one with a score of 94.3, followed by Harvard University, University of Oxford, Stanford and University of Cambridge. Trinity is ranked at number 138 with a score of 51.2, University College Dublin is ranked between 226-250 while National University of Ireland, Galway is ranked between 251-275 (THE, 2015).

The QS World University Rankings has rankings by subject and faculty as well as by region. The QS World University Rankings by Subject identifies the top 200 world's strongest universities in 30 individual subject areas using data on reputation and research citations. For example New York University is ranked number one for Philosophy, followed by University of Oxford. Harvard University is rated number one for law, while University of California, Davis is ranked number one for agriculture and forestry (QS Top Universities, 2015).

The QS World University Rankings by Faculty uses four performance indicators to rank the world's top 400 universities in five faculty areas: arts & humanities, engineering & technology, life sciences & medicine, natural sciences, and social sciences & management. Harvard University ranks first for Arts and Humanities, while Massachusetts Institute of Technology (MIT) ranks first for Engineering and Technology (QS Top Universities, 2015).

The Centre for World University Rankings (CWUR) publishes the only global university ranking that measures the quality of education and training of students as well as the prestige of the faculty members and the quality of their research without relying on surveys and university data submissions. In order to rank the world's top 1000 universities CWUR uses eight indicators; Quality of Education (25%); Alumni employment (25%); Quality of Faculty (25%); Publication (5%); Influence (5%); Citations (5%); Broad Impact (5%) and Patents (5%). Harvard University is ranked number one with a score of 100, followed by Stanford University and MIT (CWUR, 2014).

## 1.5 Largest University System by Enrolment

The largest university in the world according to enrolment is the Allama Iqbal Open University in Pakistan, with 1.9 million student enrolments. India's Indira Gandhi National Open University has 1.8 million student enrolments and Iran's Islamic Azad University has 1.3 million (see Table 2).

**Table 2:**  
Top 10 Largest University Systems by Enrolment

Rank	Institution	Location	Ownership	Enrolment
1	Allama Iqbal Open University	Islamabad, Pakistan	Public	1.9 million
2	Indira Gandhi National Open University	New Delhi, India	Public	1.8 million
3	Islamic Azad University	Tehran, Iran	Private	1.3 million
4	Anadolu University	Eskişehir, Turkey	Public	884,081
5	Bangladesh National University	Gazipur, Bangladesh	Public	800,000
6	Bangladesh Open University	Gazipur, Bangladesh	Public	600,000
7	University System of Ohio	Ohio, United States	Public	478,000
8	Dr. Babasaheb Ambedkar Open University	Andhra Pradesh, India	Public	450,000
9	State University of New York	United States	Public	418,000
10	California State University	United States	Public	417,000

(Adapted from GSV EDU, 2012).

## 1.6 The Future of the Global Education Sector

### 1.6.1 The Democratisation of Knowledge

The democratisation of knowledge and access has changed. Traditionally, knowledge was created, stored and shared in university libraries, faculty domains and research institutions and access was dominated by a small proportion of society within developed economies. Access is now expanding worldwide, with China's tertiary education participation rate trebling to 25.9% in the first decade of this century and is estimated to double within the next decade (Ernst & Young, 2012).

### 1.6.2 Digital Technologies

All industries and sectors have been impacted by digital technologies. Online education has accelerated over the last 3 three years and digital technologies are and will, transform how education is delivered and supported (Ernst & Young, 2012). E-learning is worth \$56.2 billion with corporations considering it to be the second most valuable training method. E-learning can

cut instruction time by up to 60% as well as saving the business over 50% in expenses. It is estimated that approximately 46% of college students are taking at least one online course. Malaysia and Vietnam are the most rapidly growing e-learning markets (Pappas, 2014).

Massive Open Online Courses (MOOCs) are free online courses taught by professors in relevant fields that provide high-quality higher education. They have become increasingly popular; offering a large number of students the opportunity to study high quality courses online with prestigious universities. Classes relating to technology and engineering dominate the MOOC world like the Artificial Intelligence course taught by a Stanford professor and Google engineer that had nearly 200,000 students registered from 190 different countries (Mandler, 2015). Although ideal for independent study, MOOCs do not always lead to formal recognised qualifications.

Trinity University recently launched its first MOOC; 'Irish Lives in War and Revolution: Exploring Ireland's History 1912-1923'. It provides access to Trinity's quality education to students worldwide, increasing Trinity's global reach (TCD, 2015). National University of Ireland, Galway offers such courses as 'An Introduction to Irish Studies – history and archaeology', 'Planning Change and Innovation', 'Legal Capacity Law and Policy' and 'Big Linked Data Analytics' (NUI Galway, 2015).

### **1.6.3 Global Mobility**

Global mobility will continue to grow with the international student market growing globally. International student growth grew at a rate of 6.6% per annum between 2009 and 2011 to 3.04 million (THE, 2015b). The number of international mobile students is expected to double to almost 8 million by 2025. The structure is also changing with China, Malaysia and South Korea becoming global-scale destinations for international students. This in turn will diffuse the sources of academic talent as academics from emerging economies become more mobile and in demand. Singapore, Malaysia, Jordan and China strive to become destinations themselves. China aims to host 500,000 international students by 2020, up from the current level of 260,000. The Brazilian Government has implemented a 'Science Without Borders' scheme to finance 101,000 students to study abroad, on the condition that they return to Brazil (THE, 2015b). The global mobility of academic brands is also growing in importance with predictions of there being a small number of elite, truly global university brands, including Ivy League and Oxbridge institutions (Ernst & Young, 2012).

#### **1.6.4 Integration with Industry**

The collaboration between industry and education is deepening. Industry is acting as customer, partner and competitor of higher educational institutions. Industry based learning and internships will become increasingly critical as a source of competitive advantage for universities with industry partners (Ernst & Young, 2012).

## National Overview of the Education Sector

### National Overview

#### Introduction

Education is highly regarded in the economic, social and cultural development of Irish society. It is viewed as being strategically interlinked with national planning. Domestic as well as international employers affirm the quality of graduates from the Irish education system (Education, 2002).

## 2 National Overview

### 2.1 National Market Size

Approximately 40 higher education institutions cater for a student population of 200,175, which is forecasted to rise to over 250,000 by 2020. There are 3,300 primary schools that cater for 520,444 students and 700 secondary schools that cater for 360, 567 (see Table 3).

**Table 3:**  
Student Numbers by Level

Year	Primary	Secondary	Third (full-time)	Third (part-time)
2003	444,644	338,679	133,887	34,000
2004	447,337	336,775	133,691	34,509
2005	452,734	334,060	136,719	31,354
2006	463,341	332,929	138,362	31,014
2007	477,489	334,277	139,134	33,883
2008	491,432	337,599	146,068	33,027
2009	501,748	345,062	156,973	32,665
2010	507,460	352,855	160,765	32,761
2011	512,375	357,283	164,239	33,252
2012	520,444	360,567	166,088	34,087

(Adapted from CSO, 2011).

According to the most recent data, there are 36,000 more people at work in the education sector in 2011 compared to 2006, accounting for a rise of 28%.

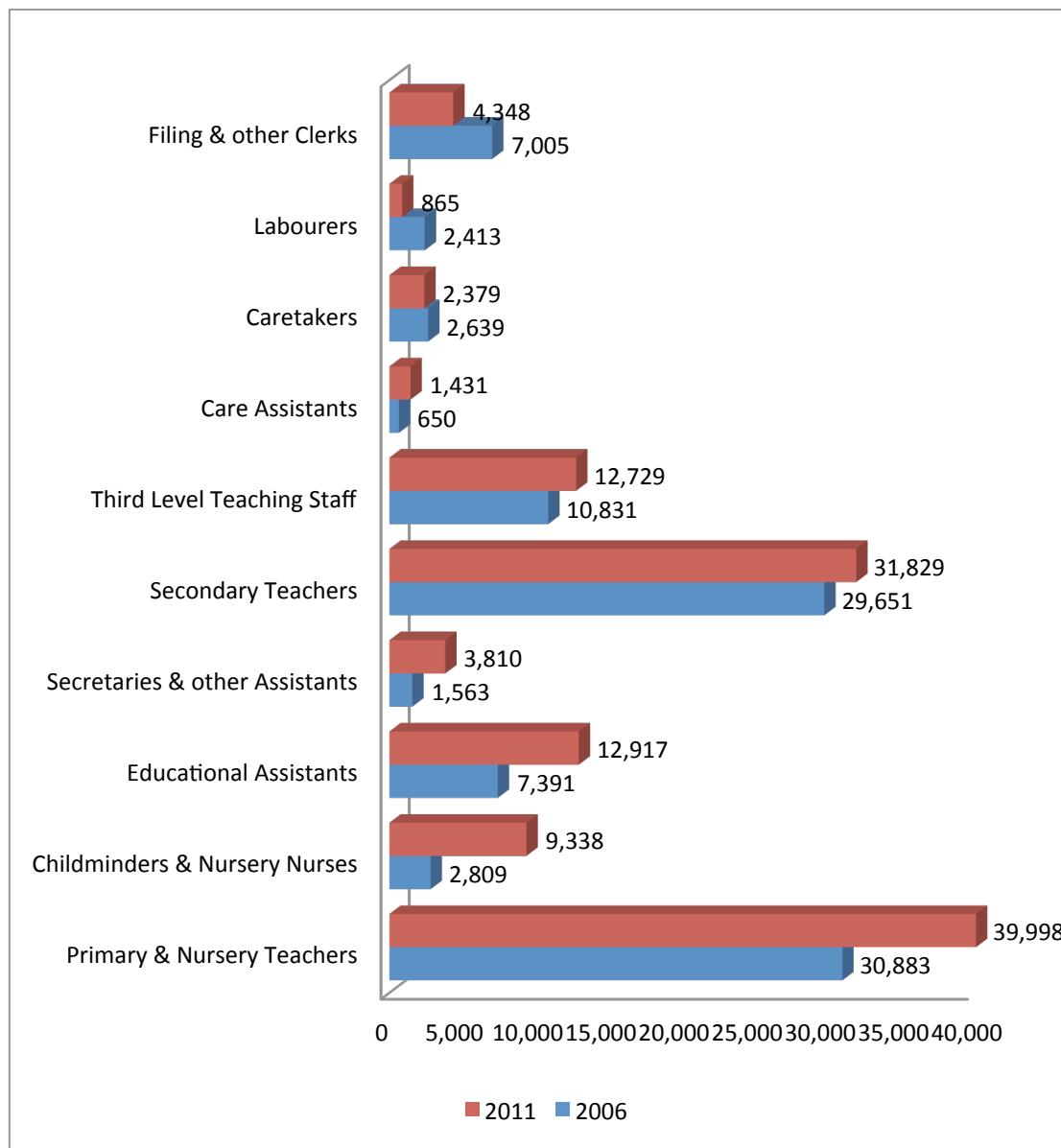
The strongest growth in the sector was among primary and nursery school teachers where the number increased by 9,115 to 39,998. The next fastest growing occupation within the education sector was child minding and nursery nurses in crèches, up 6,529 persons at work.

Secondary school teachers are also of high numbers, accounting for 31,829, up by 2,178.

Third level teaching staff increased from 10,831 in 2006 to 12,729 in 2011 (CSO, 2011).

In contrast the number of caretakers, labourers and clerks all decreased, with the number of filing and other clerks decreasing by 38% (see Figure 6) (CSO, 2011).

**Figure 6:**  
Persons at work in the Education Sector



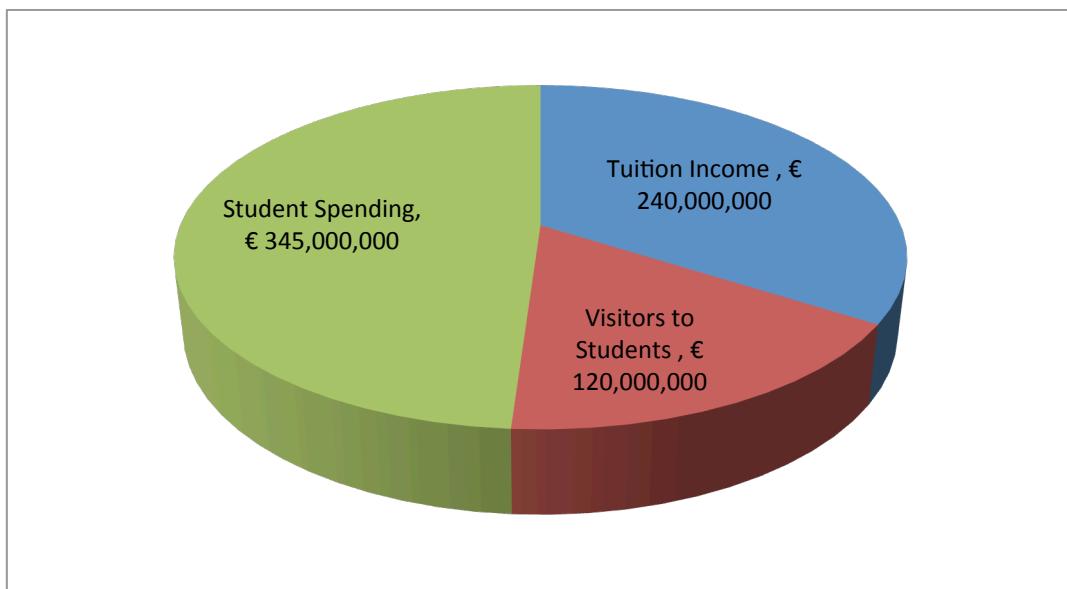
(Adapted from CSO, 2011).

## 2.2 International Student Market

International student numbers in third-level colleges grew by 2% to 32,000 in 2012. International education is valued at €1 billion to the Irish economy. Foreign students in higher education account for €700 million while English language students generate €300 million. Ireland has a goal to raise the number of international students to 52,000 by 2015 and English language students to 125,000. It is estimated that for every 100 additional international

students who come to Ireland, it creates 15 local jobs, through spending on tuition, accommodation and other living expenses. Figure 7 illustrates the income generated by international students in higher education (ICEF Monitor, 2013).

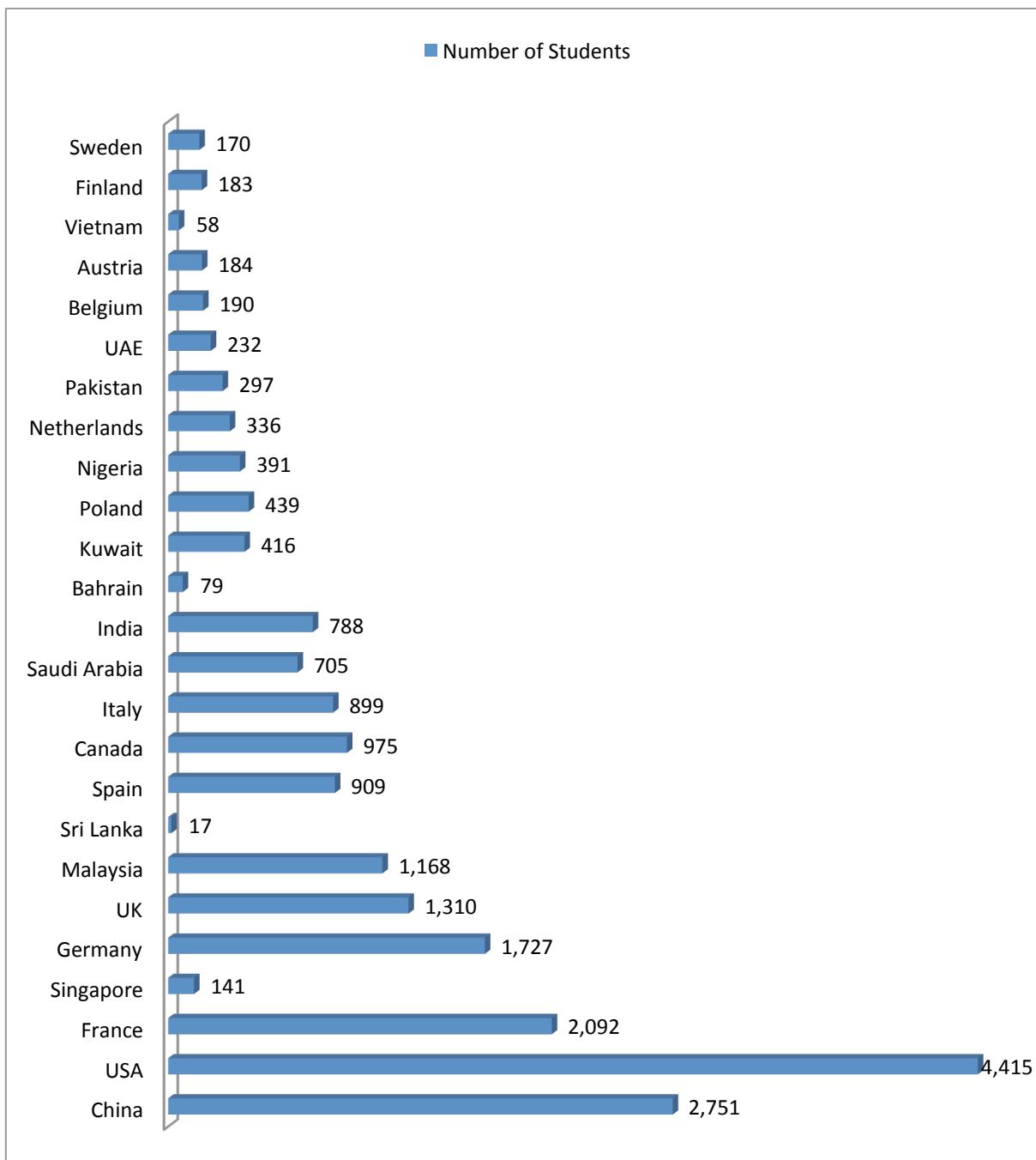
**Figure 7:**  
Income Generated by International Students in Higher Education



(Adapted from ICEF Monitor, 2013).

Figure 8 illustrates the number of international students coming into Ireland and their origins. As can be seen from the graph, most international students are from the USA, accounting for 4,415, followed by China accounting for 2,751 and then France with 2,092 international students (ICEF Monitor, 2013).

**Figure 8:**  
International Students by Country of Origin, 2012



(Adapted from ICEF Monitor, 2013).

Universities in Ireland have experienced an 8% growth in their student numbers since 2012, accounting for 70% of the 32,000 international students registered in Irish higher education institutions. There has been a 6% increase in full-time degree student numbers. The number of

international students completing a PhD has increased by 35%, accounting for 20% of Ireland's international students. Ireland is performing above international norms (see Table 4).

**Table 4:**  
Top 10 Countries of Origin and Filed of Study for International PhD Students in Ireland

Rank	Country of Origin	Field of Study
1	Italy (384)	Science (860)
2	China (308)	Humanities Related (651)
3	UK (244)	Computing/IT (402)
4	Germany (234)	Engineering (398)
5	USA (213)	Medicine (272)
6	India (200)	Other Health & Vet (146)
7	Poland (152)	Social / Behavioural Science (132)
8	Spain (147)	Law (113)
9	Malaysia (122)	Business & Administration (96)
10	France (111)	Agriculture & Related (33)

(Adapted from ICEF Monitor, 2013).

The Institutes of Technology host 4,885 international students, which is a decrease of 19.5% from the previous year. A further decrease in international students was found within the private college sector, which hosts 3,207, accounting for a decrease of 22%. Due to the decreases in international students, the Institutes of Technology saw reduced incomes of €2million and the private colleges saw an income decrease of €4 million (ICEF Monitor, 2013).

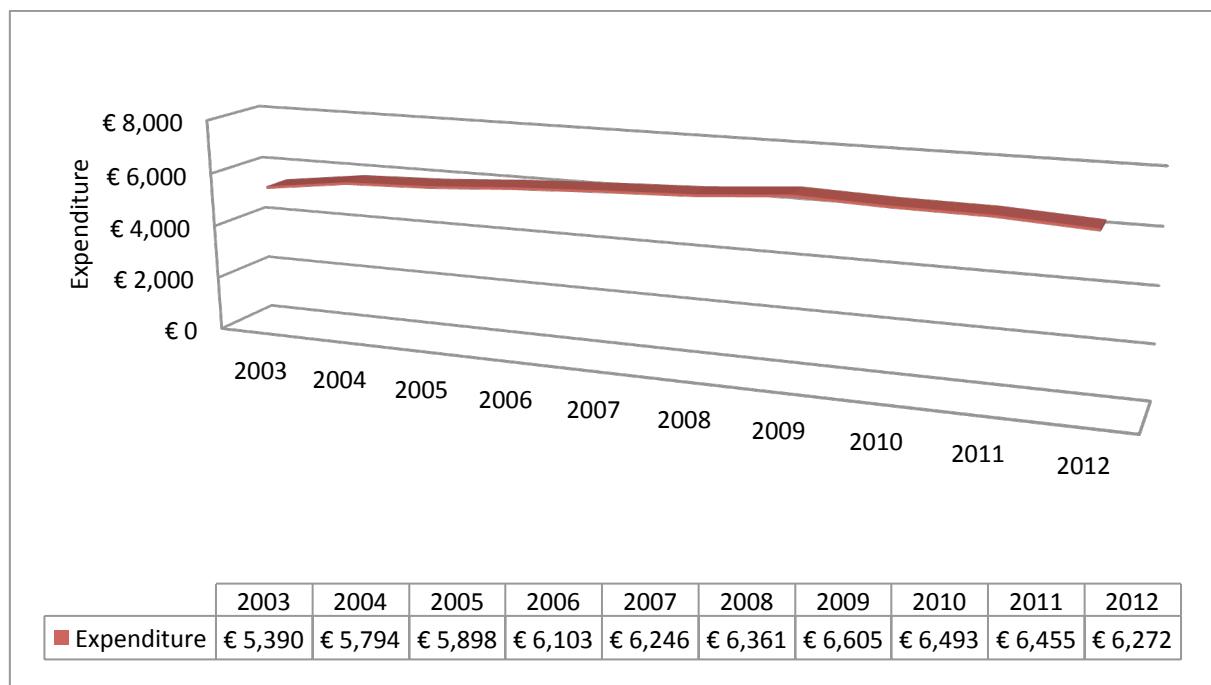
The current €2,250 student contribution for third-level education is well below the actual cost of funding a year's college education, which is on average €7,000. The re-introduction of these fees however has been ruled out until at least 2015 (ICEF Monitor, 2013).

### 2.3 National Primary Schools

Expenditure per student in Ireland increased to €6,272 (16.4%) per student over the period 2003-2012. Figure 9 illustrates the 16.4% increase in primary school expenditure per pupil (CSO, 2012). Expenditure per student in 2012 at primary level was three-quarters that at third-

level. Primary school expenditure increased by 22.5 % during the period 2003 to 2009 but then decreased by €333 by 2012 (CSO, 2012).

**Figure 9:**  
Student Expenditure on Primary School Education, 2003-2012

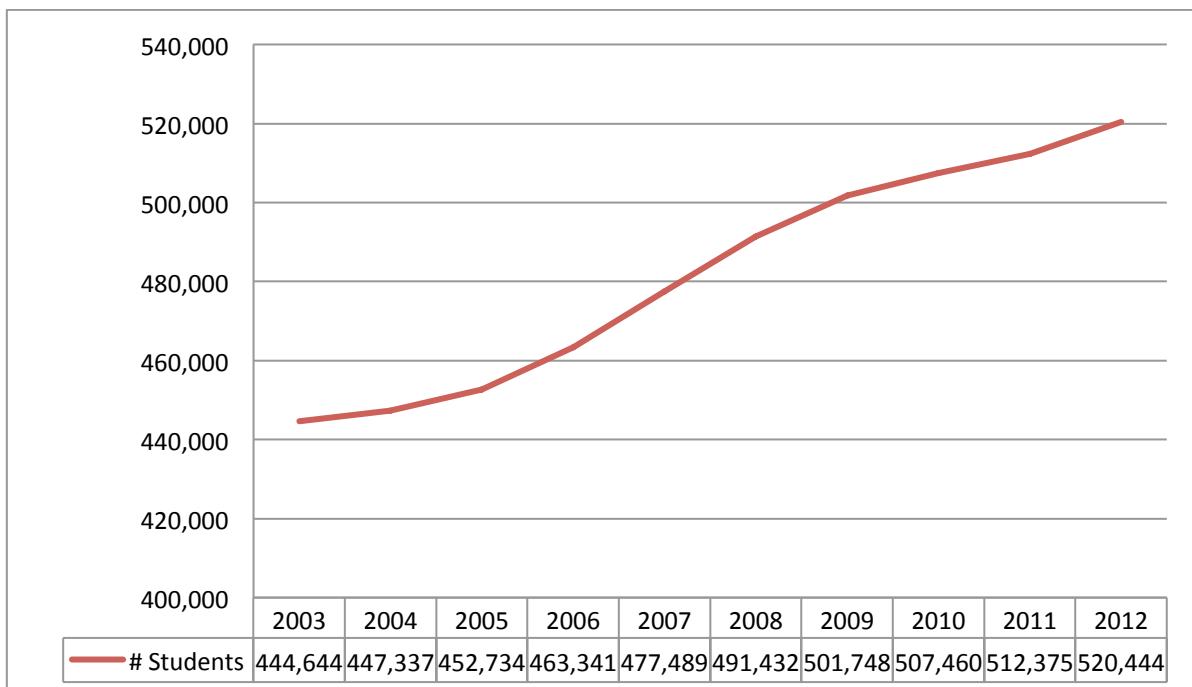


(Adapted from CSO, 2012).

Irish primary school teachers' salaries, after 15 years of experience, amounts to €55,148, while the OECD average is €39,024 (Department of Education and Skills, 2014).

Figure 10 illustrates the accumulating number of primary school pupils in Ireland. Student numbers have increased by 17% between 2003 and 2012, increasing from 444,644 to 520,444. The largest year-on-year increase in student numbers in primary school was between 2006 and 2007 with an increase of 14,148 students. The smallest year-on-year increase in numbers was between 2003 and 2004 with an increase of 2,693 students (CSO, 2012).

**Figure 10:**  
Number of Primary School Pupils in Ireland, 2003-2012



(Adapted from CSO, 2012).

Ireland has a current student to teacher ratio of 16.3 in primary schools, which has slightly increased since 2010. The lowest ratio in the last five years was in 2011 accounting for a ratio of 15.7 (see Table 5).

**Table 5:**  
Ratio of Primary School Teachers to Pupils

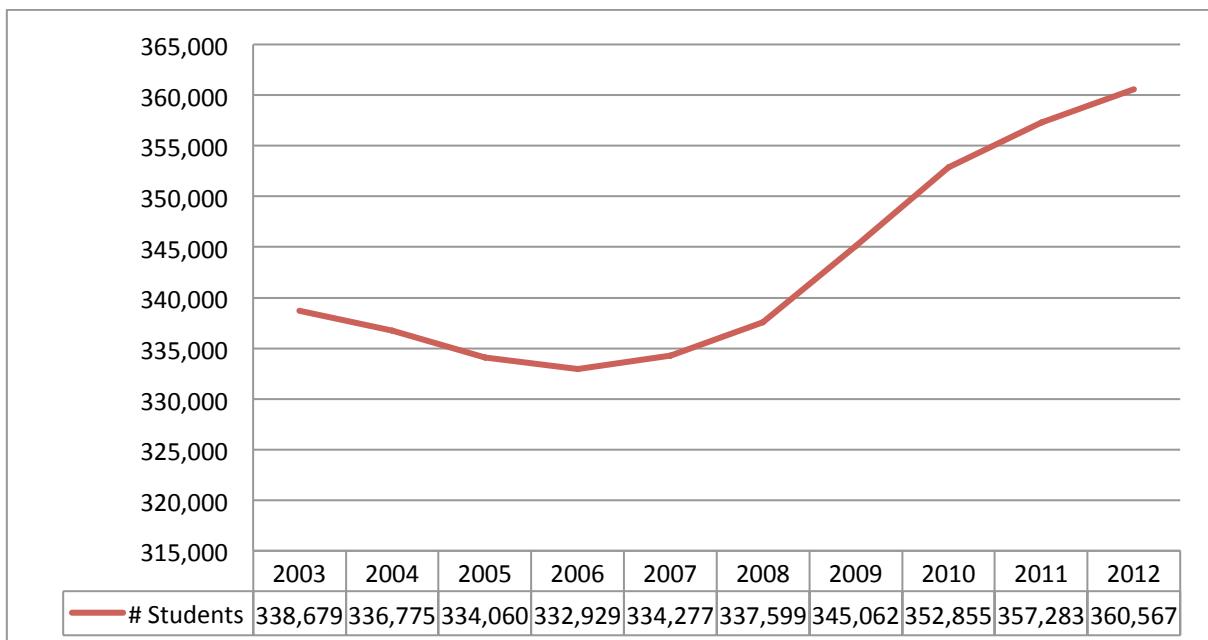
2010	2011	2012	2013	2014
16.0	15.7	16.2	16.4	16.3

(Adapted from Department of Education and Skills, 2014)

## 2.4 National Secondary Schools

Expenditure per student in secondary schools has increased by 11.6% over the period 2003-2012. In 2003 secondary school expenditure per student was three-quarters that at third-level, but by 2012, at €8,735, it was just ahead of third-level which stood at €8,417 (CSO, 2012). Figure 11 illustrates secondary school expenditure between 2003 and 2012.

**Figure 11:**  
Student Expenditure on Secondary School Education, 2003-2012



(Adapted from CSO, 2012).

Between 2003 and 2006 the number of secondary school pupils dropped from 338,679 to 332,929, but the number increased over the next six years to stand at 360,567 in 2012, which is an increase of 6.5% (see Figure 12).

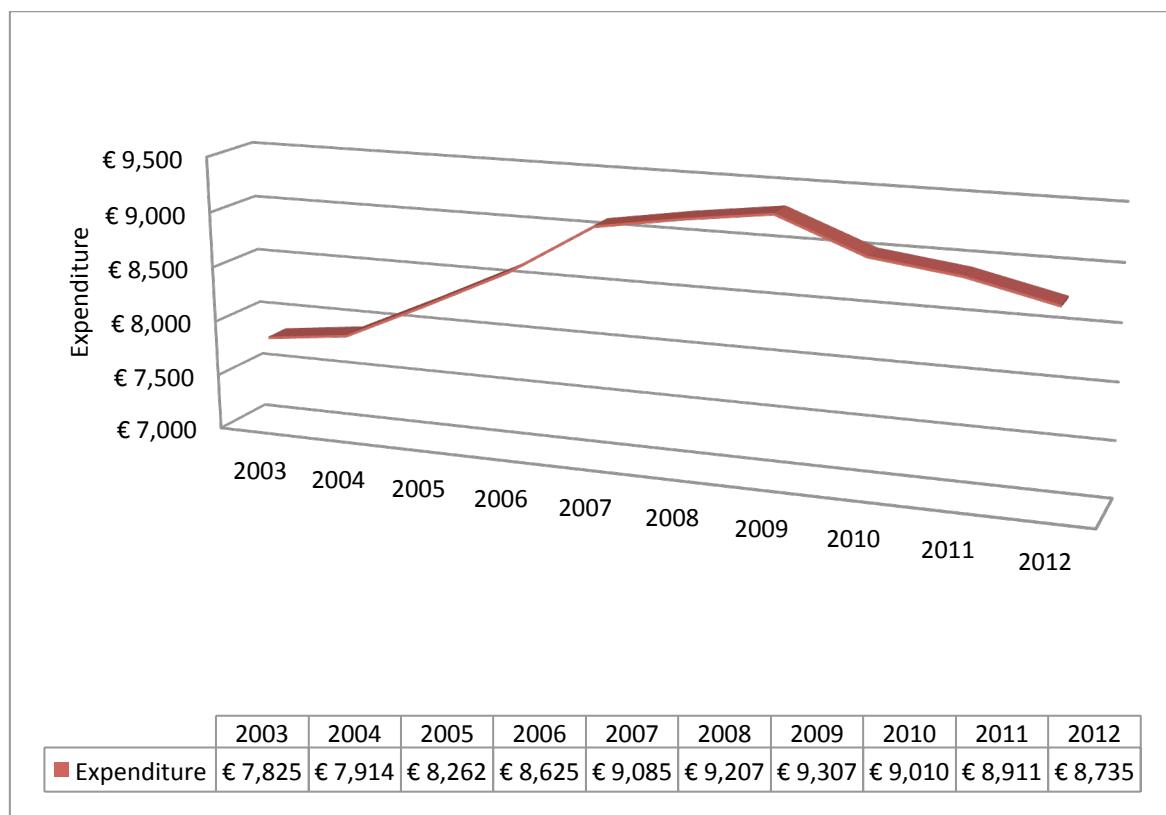
The proportion of persons aged 18-24 who left school with, at most, lower secondary education in Ireland was 9.7% in 2012. The proportion of males aged 18-24 who left school early is higher than females in all EU countries with the sole exception of Bulgaria (CSO, 2012). Turkey had the highest proportion of persons aged 18-24 who left school with; at 39.6%, followed by Spain at 24.9% and Malta at 22.6%.

Ireland had the 8th highest mathematical literacy for 15 year old students in secondary schools, among participating EU countries in 2012. Ireland's students gained an average score of 501 which is above the OECD average of 494. The highest scores in the EU were in the Netherlands, Estonia and Finland (CSO, 2012).

In reading literacy, Ireland had the second highest score in 2012 among participating EU countries. Irish students gained an average score of 523 which was well above the OECD average of 496. The highest score in the EU was in Finland at 524 (CSO, 2012).

Ireland ranked sixth highest among EU countries for scientific literacy with a score of 522. The OECD average was 501 for this subject. Finland, Estonia and Poland had the highest scores in the EU for scientific literacy (CSO, 2012).

**Figure 12:**  
Number of Secondary School Pupils in Ireland, 2012



(Adapted from CSO, 2012).

Ireland has a current student to teacher ratio of 14.3 in secondary schools, which has increased since 2010. The lowest ratio in the last five years was in 2010 and 2011 accounting for a ratio of 13.6 (see Table 6).

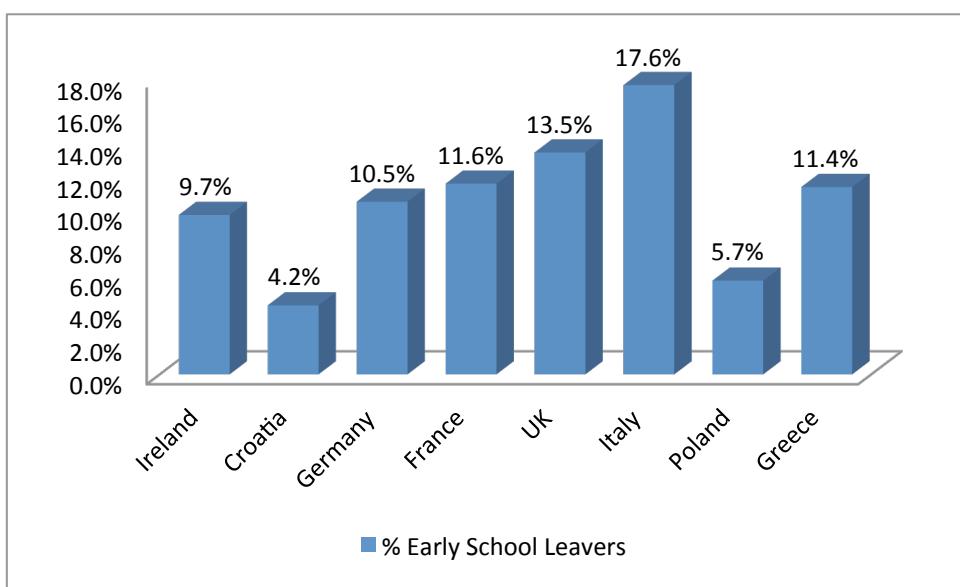
**Table 6:**  
Ratio of Secondary School Teachers to Pupils

2010	2011	2012	2013	2014
13.6	13.6	13.9	14.3	14.3

(Adapted from Department of Education and Skills, 2014).

The proportion of students aged 18-24 who left school with, at most, lower secondary education in Ireland was 9.7% in 2012. The EU average rate was 12.8% and varied from 4.2% in Croatia to 39.6% in Turkey. The proportion of males who left school early is higher than females in all EU countries except Bulgaria (see Figure 13).

**Figure 13:**  
Early School Leavers, 2012

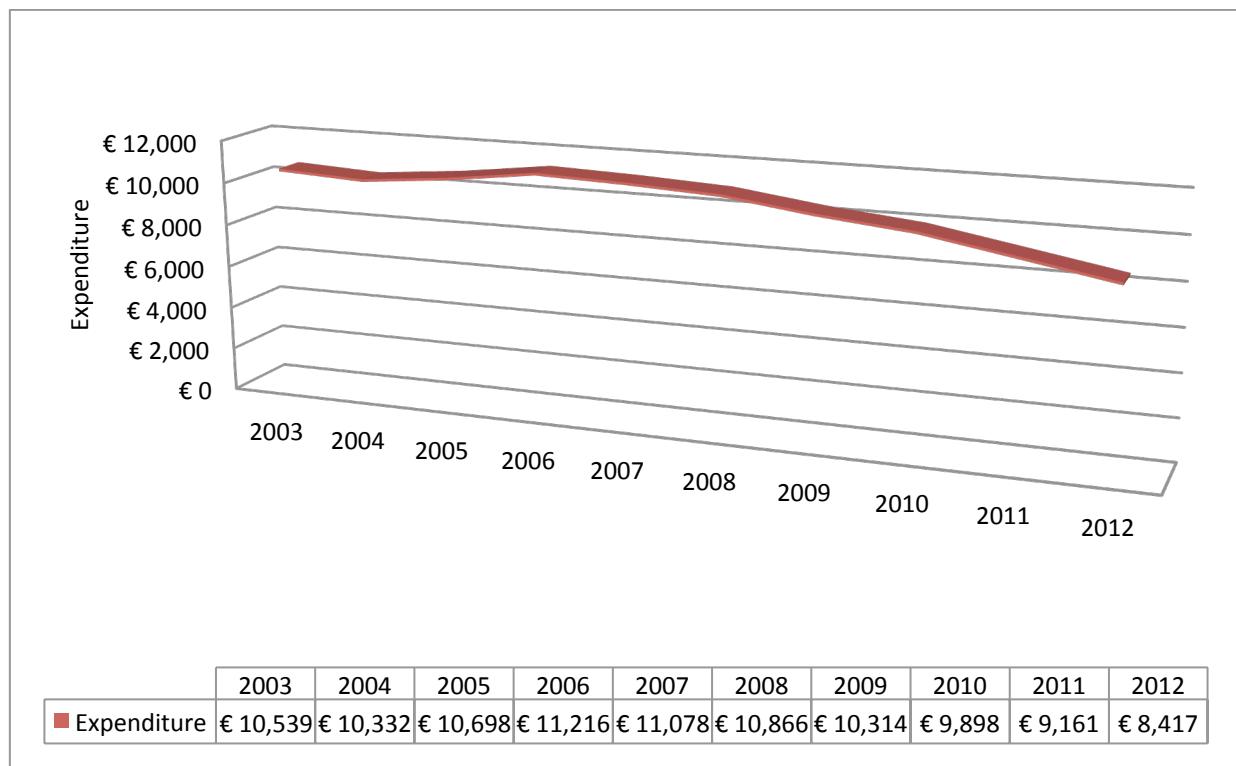


(Adapted from CSO, 2012b).

## 2.5 National Third-Level Institutions

In relation to third-level students, there was a decrease of 20.1% in expenditure per student over the period 2003 to 2012. Figure 14 illustrates third-level student expenditure between 2003 and 2012.

**Figure 14:**  
Third-Level Student Expenditure, 2003-2012

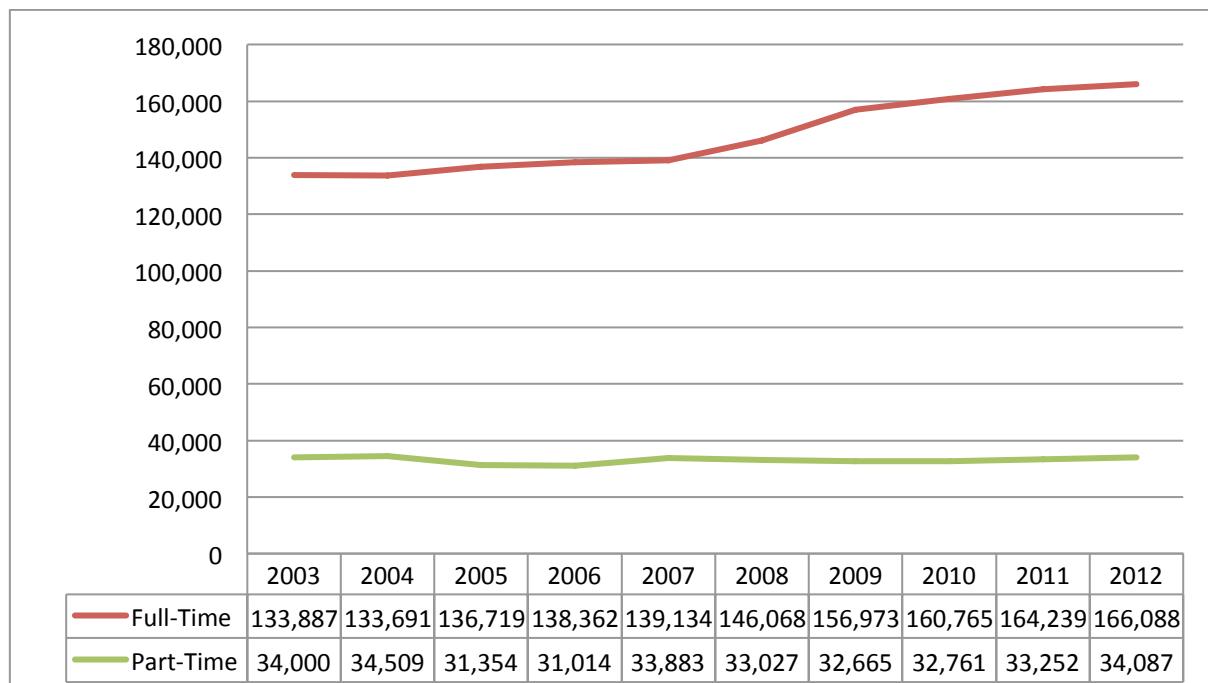


(Adapted from CSO, 2012).

Third-level education in Ireland is provided mainly by seven universities, 14 Institutes of Technology and seven colleges of Education. The Universities Act, 1997 sets out the objects and functions of a university, the structure and role of governing bodies, staffing arrangements, composition and role of academic councils and sections relating to property, finance and reporting. The Institutes of Technology Act, 2006, creates a similar relationship between the institutes. The National Strategy for Higher Education to 2030, which was launched in 2011, will see the transformation of Ireland's higher education sector over the next two decades. Such improvements include a more flexible system, improvements in the quality of the student experience and the collaboration with industry (Department of Education and Skills, 2014).

Figure 15 illustrates the number of full-time as well as part-time students in third-level education in Ireland. The number of full-time third-level students increased by 24.1% between 2003 and 2012, while the number of part-time students increased slightly by 0.3%.

**Figure 15:**  
Number of Third-Level Full-Time and Part-Time Students, 2003-2012



(Adapted from CSO, 2012).

In order to meet the economic and social needs of Ireland; the Government plans to create an export-driven knowledge economy. In support of this strategy the HEA has recommended a system of collaborative, autonomous and accountable higher education institutions that are internationally benchmarked and globally competitive (HEA, 2013).

Spending on higher education institutions is being acknowledged as a high return on investment. Investment maintains and improves the performance and international reputation of the institution. Higher education institutions require greater autonomy, but must also retain appropriate levels of accountability to ensure that public investment is being efficiently used (HEA, 2013).

It has been envisioned that the education system will comprise of a smaller number of larger autonomous institutions and that institutions will participate in regional clusters that will enhance their collective strengths. Consolidation will be encouraged, where smaller publicly-funded institutions will align institutions of sufficient scale (HEA, 2013).

The Higher Education Authority of Ireland has proposed the establishment of several regional clusters. The clusters in the West and Mid-West have an existing linkage through the alliance

between National University of Ireland, Galway and University of Limerick. The Dublin / Leinster region has been divided into two *pillars* in order to handle the large number of institutions, each of which will operate separately (see Table 7).

**Table 7:**  
Proposed Regional Clusters

Region	Member Institutions
South	University College Cork, Cork IT, IT Tralee, Waterford IT, IT Carlow
Mid-West	University of Limerick, Mary Immaculate College, Limerick IT
West	Galway-Mayo IT, IT Sligo, Letterkenny IT, NUI Galway (St Angela's / Shannon College incorporated into NUI Galway)
Dublin/Leinster <i>Pillar I</i>	University College Dublin / Trinity College Dublin / National College of Art and Design / Marino Institute of Education / Dún Laoghaire Institute of Art, Design and Technology
Dublin/Leinster <i>Pillar I</i>	Dublin Institute of Technology / IT Tallaght / IT Blanchardstown / Dublin City University (and incorporating linked colleges) National College of Ireland / Dundalk IT / NUI Maynooth / Athlone IT / Royal College of Surgeons in Ireland

(Adapted from HEA, 2013).

The third level sector in Ireland caters for a broad range of subject choices (see Table 8) for students' first choices between 2009 and 2014. Arts and Social Sciences accounted for 15,044 in 2014, followed by Business and Administration at 9,702, followed by Science and Applied Science at 8,524.

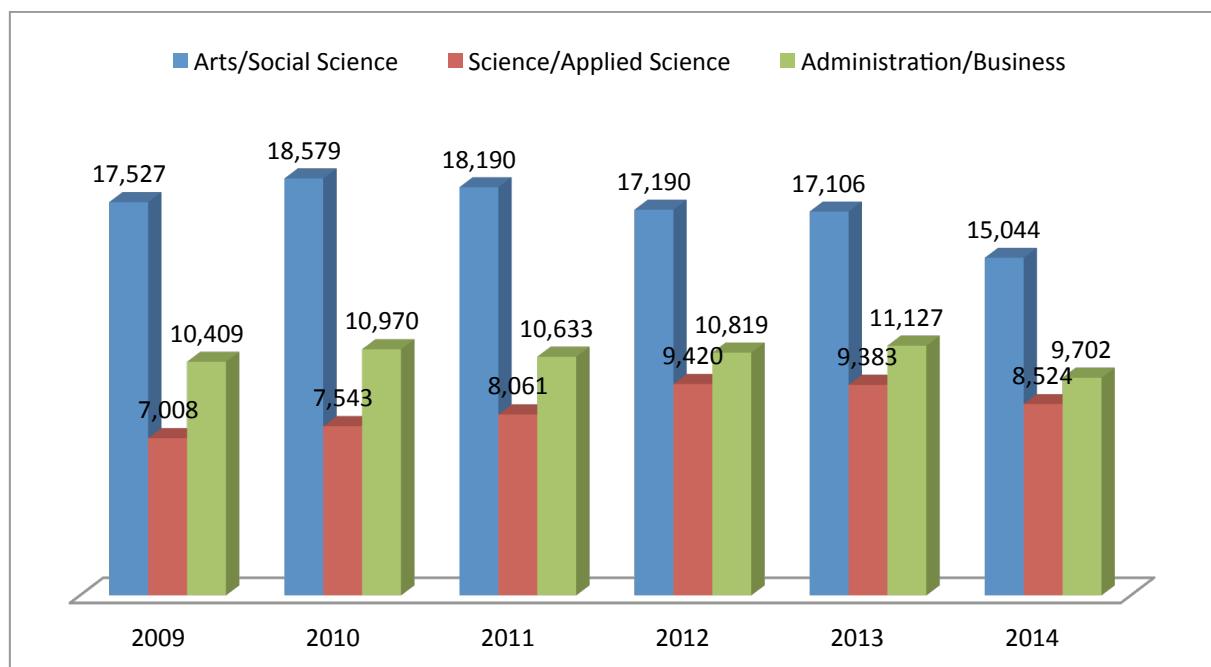
**Table 8:**  
First Preference Applications by Subject Area (Level 8)

Subject	2009	2010	2011	2012	2013	2014
Arts/Social Science	17,527	18,579	18,190	17,190	17,106	15,044
Science/Applied Science	7,008	7,543	8,061	9,420	9,383	8,524
Agriculture/Horticulture	539	526	666	700	941	734
Education	5,632	5,525	5,217	5,101	4,635	4,658
Administration/Business	10,409	10,970	10,633	10,819	11,127	9,702
Engineering/Technology	6,080	6,371	6,315	6,374	6,734	5,840
Architecture	732	753	659	530	557	539
Art & Design	2,623	2,567	2,626	2,469	2,409	2,247
Law	2,400	2,297	2,181	2,179	2,154	2,076
Human Medicine	3,094	3,420	3,233	3,073	3,105	3,277
Veterinary medicine	537	544	563	650	614	618
Dentistry	322	365	303	342	320	282
Pharmacy	377	293	369	464	390	352
Physiotherapy	617	744	759	754	725	807
Nursing	5,416	5,640	5,746	5,961	5,828	5,490
Other health Care	1,366	1,721	1,596	1,442	1,502	1,843
Built Environment	406	316	243	216	199	312

(Adapted from CSO, 2014).

Figure 16 illustrates the fluctuating student course choices out of the top three courses between 2009 and 2014. As can be seen from Figure 16, the top three first preference student course choices have all decreased since 2013. Arts and Social Science decreased by 12%, Science and Applied Science decreased by 9.1% and Administration and Business decreased by 12.8% between 2013 and 2014 (see Figure 16).

**Figure 16:**  
Top Three Fluctuating Student Course Choices, 2009-2014

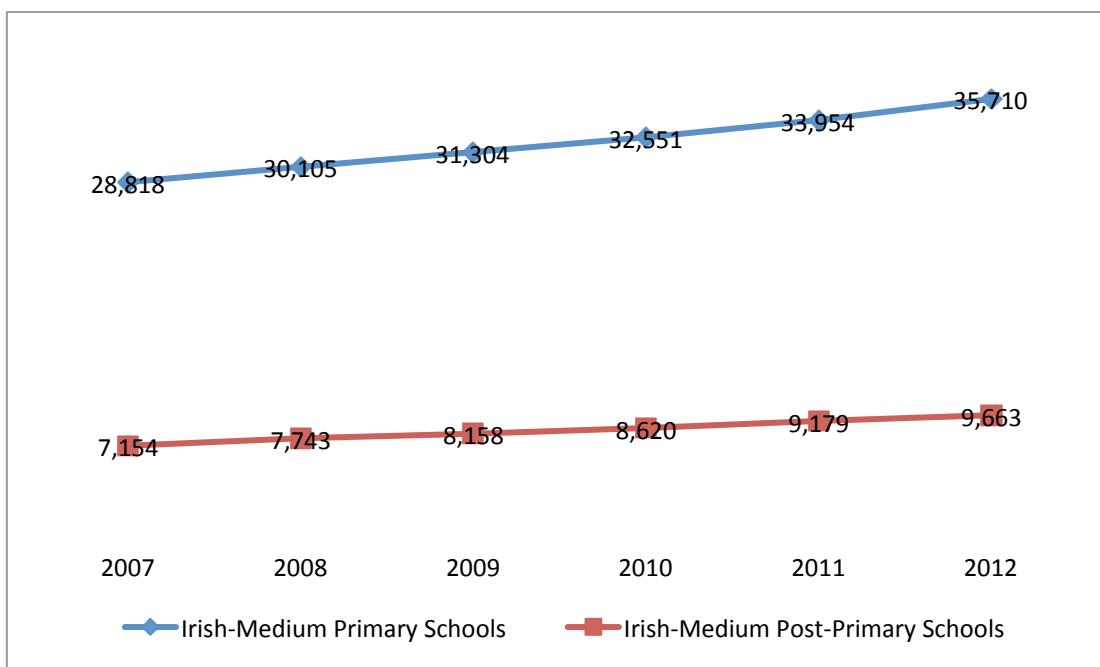


(Adapted from CAO, 2013).

## 2.6 National Irish-Medium Schools

There are 45,373 pupils attending Irish-medium schools outside of the Gaeltacht. Some 35,710 of these are primary pupils while 9,663 are post-primary pupils. There are a total of 177 Irish-medium primary schools and 40 post-primary schools. The Irish-medium education sector is growing year on year. Figure 17 illustrates the growth of the Irish-medium education sector (Gaelscoileanna, 2013).

**Figure 17:**  
Growth of the Irish-Medium Education Sector



(Adapted from Gaeilgeanna, 2013).

## 2.1 National Education Policy Objectives

A notable policy agenda, developed through the 1990's has seen the publication of Green and White Papers, a forum on early childhood education, the University Act 1997 and the Education Act 1998 as well as the national qualifications framework (Quinn, 2012).

### 2.1.1 National Primary School Policy Objectives

Under the Education Act, 1998, the Boards of Management of primary schools are elected on a four year term and has the responsibility of managing the school on behalf of the Patron and the Minister. The Board must uphold the ethos of the school while the Principle is responsible for the day-to-day management of the school. All Boards of Management of primary schools are required to adhere to the provisions of the Constitution of Boards and Rules of Procedure 2011. The Board typically prepares the school plan, implements efficient on-going self-evaluation, ensures that an appropriate education is provided to all of the school's pupils, manages the efficient use of resources as well as having the responsibility for school policies such as enrolment policy, Child Protection Policy, Code of Behaviour and Anti-bullying policy,

Complaints Procedures, School Attendance Strategy, Health and Safety statement (Department of Education and Skills, 2011).

The publication of Aistear in 2009, the Curriculum Framework for Early Years outlines the need to review the infant curriculum. Curriculum clarity is necessary in order to highlight the skills that pupils are expected to acquire, such as literacy and numeracy, using a balanced range of assessment techniques. Also, parents need to be kept informed about their children's progress as the home has an ongoing role in monitoring literacy and numeracy (Quinn, 2012).

The Educate Together ethos is equality-based and centres on the four principles of multi-denominational, co-educational, and child-centred in the approach to education and being democratically run with active participation by parents (Educate Together, 2011).

#### **2.1.1.1 Challenges to Government of New Primary School Model**

There are many challenges to this model, including: The challenge to develop and articulate an ethos for schools that recognises the core values for the human person and is respectful and inclusive of difference; and the challenge to include Instruction in Religious Belief and formation in Religious Faith in the timetable of the school according to the parents' wishes delivered by teachers who are qualified in the faith of the child and approved by the Competent Religious Authority.

#### **2.1.1.2 Recommendations to the Governance of Primary Schools**

It is recommended by the Irish primary Principles Network (IPPN) that there be greater role clarity between the governance of Boards of Management and management role of the principle. It is suggested in order to clarify the difference that Boards of Management should be referred to as Boards of Governors. Due to the greater level of diversity within the education sector and the need for inclusion a review of governance structures is recommended.

A model of governance that supersedes all existing structures while still acknowledging individual traditions is required due to an increasingly fragmented system influenced by a variety of differing school patrons.

It is further recommended that the Education Training Boards of Ireland (ETBI) deliver additional supports, such as technical, financial, legal, HR and construction services to primary schools in order to support the functioning of Boards of Management (IPPN, 2014).

## 2.1.2 National Secondary School Policy Objectives

The mode of governance varies across different types of secondary schools, with voluntary secondary schools increasingly being governed by lay School Trusts; community schools under the joint trusteeship of religious orders and the state while vocational schools are under the trusteeship of the state. The three schools are also financed through different mechanisms. Voluntary secondary schools receive per capita grants for their students from the Department of Education and Skills. Vocational schools receive State funding in the form of a 'block grant' which is allocated to Educational Training Boards while community schools negotiate a budget with the Department of Education on an annual basis (Darmody & Smyth, 2013).

A reform of the Junior Certificate seeks to promote active learning, creativity and innovation. There is a goal to make the learning experiences more student-centred. Parents will receive a broader picture of their children's educational development based on standardised tests in core areas like literacy and numeracy, state examinations and other school assessment.

The Leaving Certificate curriculum is considered satisfactory, but it has been suggested that there should be a greater emphasis on improving students' critical thinking, problem solving skills and the creation of self-confidence (Quinn, 2012).

## 2.1.3 School Investment Programmes

It was announced in December 2014 that 70 new schools are to be built in 2015. A €2.2 billion five-year capital investment programme launched in March 2012 gave details of 275 new building projects to take place during 2012-2015. In 2013, details of a further 28 major school projects were announced as well as an announcement in December 2014 that included a further 16 school projects to replace and upgrade educational infrastructure.

The Irish Government has committed to the rollout of 100Mbs connectivity to all post-primary schools. This major ICT investment includes the commitment by the Government to incorporate the integration of ICT in teaching and learning across the curriculum and to invest in broadband development to ensure that schools have access to modern high-speed networks (Department of Communications, Energy and Natural Resources, 2015).

#### **2.1.4 National Higher Education Policy Objectives**

By 2016, full equality of provision and support will have been achieved in higher education for all learners (HEA; 2012), to put in place coherent pathways from second level education as well as from other non-traditional entry routes to higher education (HEA, 2014b).

An accessible, co-ordinated applications system is to be developed for all students in higher education (HEA; 2012).

The Higher Education System Performance Report highlights a rise in non-progression rates for students from target socio-economic groups. These rates are to be reduced (HEA, 2014b).

Specific proposals are to be developed to ensure people with disabilities can participate equally in higher education (HEA; 2012).

Proposals are to be developed to provide financial support for under-represented students who wish to participate in higher education on a part-time/flexible basis (HEA; 2012).

As part of development of the HEA funding model, equal access funding is adapted to support the entry and participation of all participating students in higher education (HEA; 2012).

Staff-Student ratios in higher education in Ireland are currently out of line with international norms illustrating the need for a new funding model for higher education. A recent HEA report indicates that staff-student ratios had increased from 1:15 in 2007 to 1:19 in 2014 with a projection to rise to 1:20 by 2016. In comparison the OECD norm is 1:16. Furthermore, Institute of Technology lecturers are teaching 8-20 hours per week in contrast with the international norm of 10-12 hours, outlining the damaging effects that cutbacks are having on the quality of experience for students (NPCPP, 2014).

#### **2.1.5 National Vocational Education**

In 2010, the Government agreed a restructuring of the Vocational Education Committee system, involving the merger of VECs resulting in the reduction in the numbers of VEC's from 33 to 16. Educational and Training Boards (ETBs) have taken over the work of the VECs and have an expanded role, underpinned by the Education and Training Boards Bill (2012), in delivery of education and training across the country (ESRI, 2013).

## Regional and Local Overview of the Education Sector

### Regional and Local Overview

#### Introduction

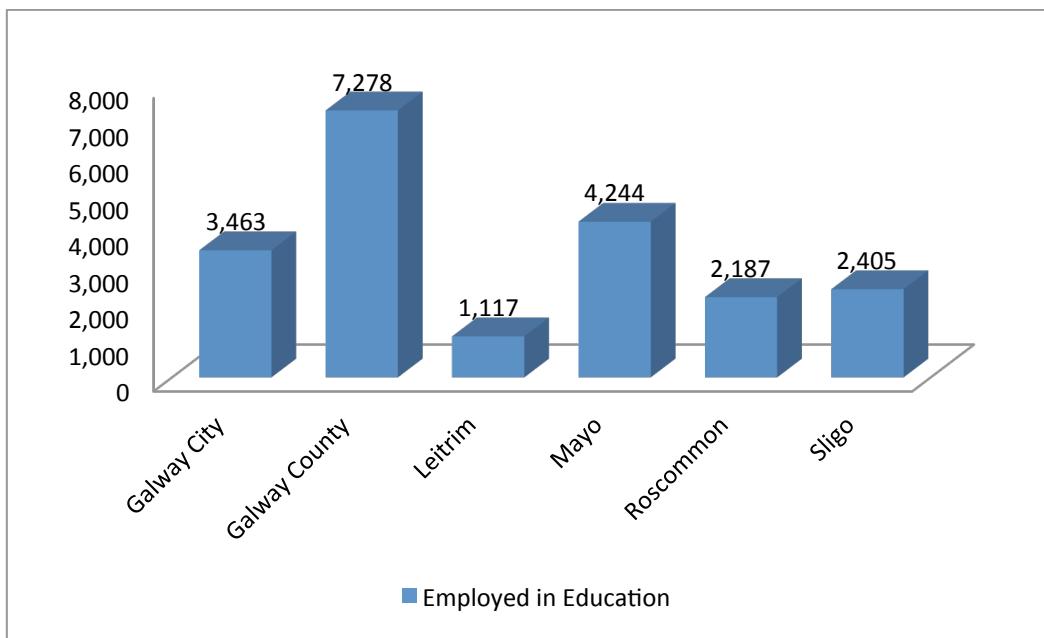
Galway is a hub for many indigenous and multinational industries particularly in the software and medical device sectors. The National University of Ireland, Galway (NUIG) and the Galway Mayo Institute of Technology (GMIT) are Galway's most important educational and research resources. Both the University and the Institute have close links with these industry sectors and play a significant role in the development of the City and County (Údarás, 2014). There has been a stable improvement over the last 20 years in the level of education amongst the adult population in County Galway. Between 2006 and 2011 the adult population with primary school education only has dropped from 42.5% in 1991 to 17.9% in 2011. Third-level education rates has more than doubled over the last two decades with the proportion of County Galway's population with third-level education growing from 11.1% in 1991 to 30% in 2011 (Engling & Haase, 2013).

## 3 Regional and Local Overview

### 3.1 Local Market Size

There are 12 primary schools with a total of 7,197 pupils in primary school in Galway City and 70 primary schools with a total of 21,595 pupils in Galway County. There are 8 secondary schools with a total of 4,294 pupils in Galway City and 16 secondary schools with a total of 7,587 pupils in Galway County (Department of Education and Skills, 2014). Some 25% of Galway City's population are students indicating a high level of education within the inhabitants (City of Galway, 2013). According to the most recent data source there are 10,741 individuals employed within the education sector of Galway. There are 3,463 individuals employed in Galway City and 7,278 employed in Galway County. Mayo in comparison employs 4,244 in this sector while Sligo employs 2,405 (see Figure 18).

**Figure 18:**  
Number of People Employed in Education Sector

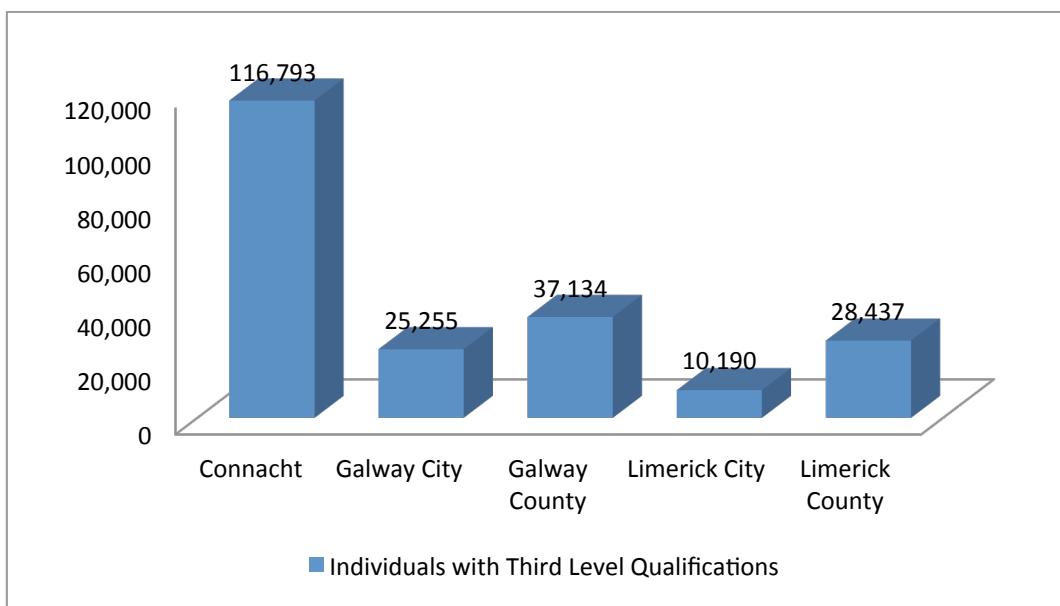


(Adapted from CSO, 2012a).

### 3.2 Regional and Local Third-Level

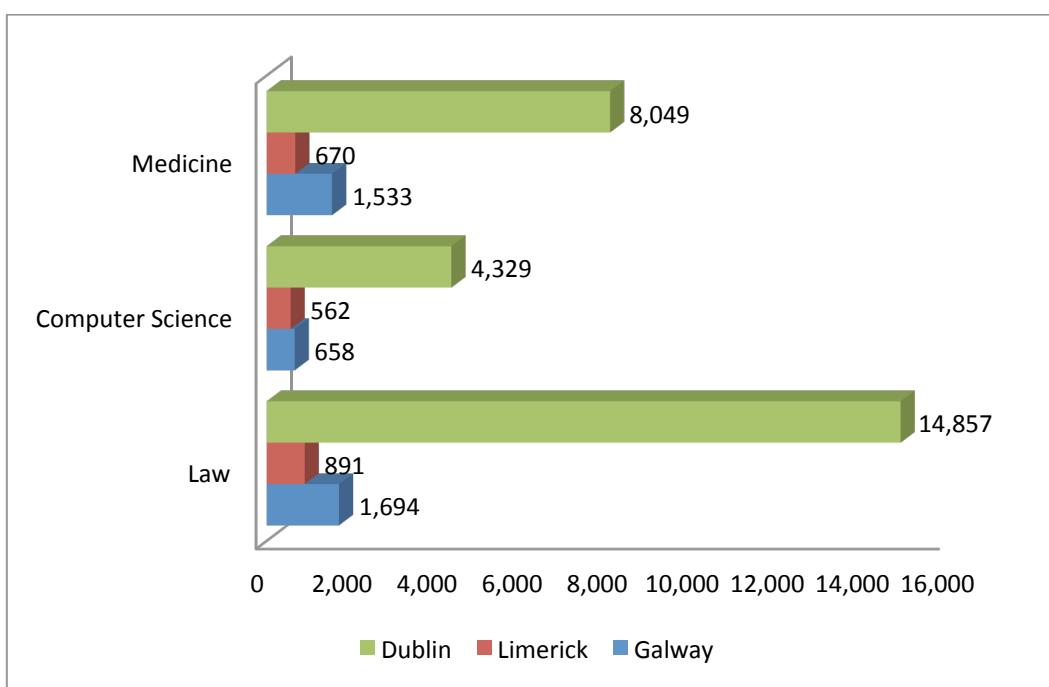
Galway has a population of 62,389 people with a third level qualification. With a total population of 250,653, this means that a quarter of Galway's population has a third level education qualification. Dublin in comparison has a population of 1,273,069 with a third level qualification population of 356,239 indicating a percentage of 28%. Limerick has a 20% population with a third level qualification (CSO, 2011a; CSO, 2011b). Figure 19 illustrates the third level qualification populations of Galway compared to Limerick. Figure 20 illustrates the third level qualification populations with a law, medicine or computer science qualification in Limerick, Galway and Dublin.

**Figure 19:**  
Third-Level Qualification Population of Galway and Limerick, 2011



(Adapted from CSO, 2011a).

**Figure 20:**  
Population with Third-Level Law, Computer Science or Medicine Qualifications, 2011



(Adapted from CSO, 2011a).

In 2012, 52.4% of third level students in Ireland were in Universities, while 40.4% were in Institutes of Technology (ITs). In Galway, 57% of third level students were in University, which is 4.6% higher than the national average. Some 37.9% of third level students in Galway were in Institutes of Technology while 558 students were in other types of third level institutes. The highest percentages of third level students attending University were from Cork at 61.9%, followed by Kildare at 58% and Clare at 57.1%. The highest percentage of students attending ITs was from Waterford at 60%, followed by Donegal at 57.1%. Limerick had the highest percentage of students attending other colleges at 11.1% which is 3.9% above the national average (see Table 9).

**Table 9:**  
Third Level Students by Type of College

County	Universities	ITs	Other	Students
Galway	57.0%	37.9%	5.1%	10,950
Dublin	56.1%	33.8%	10.2%	38,275
Cork	61.9%	34.3%	3.8%	18,596
Kerry	49.3%	44.6%	6.0%	5,678
Limerick	55.8%	33.0%	11.1%	7,028
Clare	57.1%	32.9%	10.0%	4,510
Waterford	36.3%	60.0%	3.7%	4,388
Donegal	37.6%	57.1%	5.3%	4,720
Sligo	43.2%	51.2%	5.6%	2,642
State	52.4%	40.4%	7.2%	153,984

(Adapted from CSO, 2013).

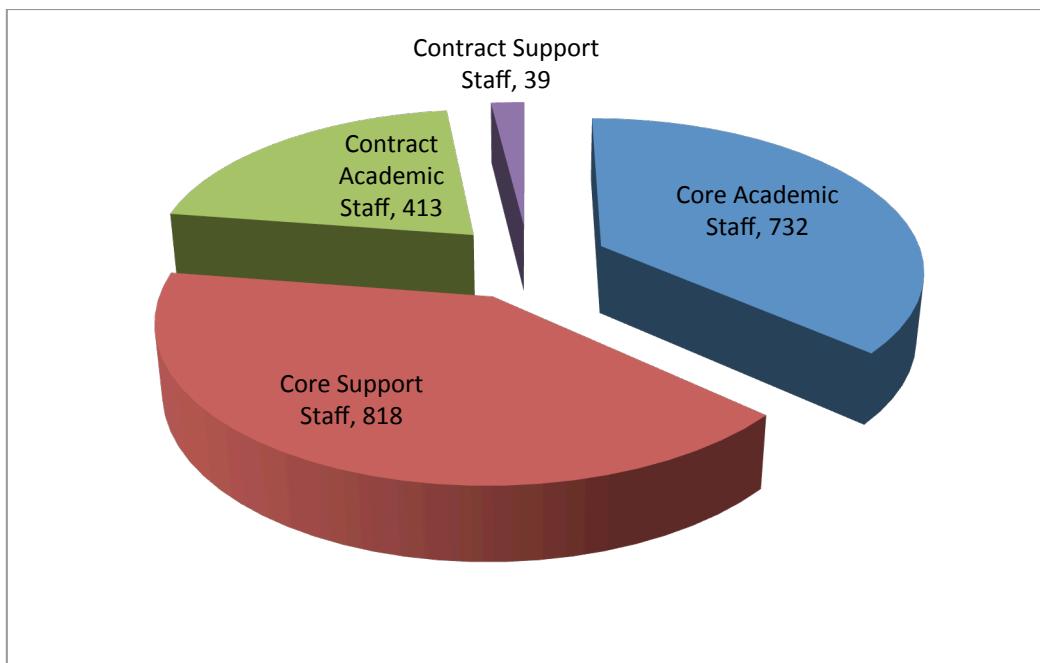
There are three third-level educational institutions in Galway. These are National University of Ireland, Galway (NUIG), Galway Technical Institute (G.T.I) and Galway Mayo Institute of Technology (GMIT).

### 3.2.1 National University Ireland, Galway (NUIG)

NUIG has 16,542 students including 2,060 international students from 92 countries, with 2,002 staff of which 86% are full-time Academic Staff with PhD qualification (HEA, 2014c). There is

732 core academic staff, with 818 core support staff as well 452 contract research and specialist staff employed in NUIG (see Figure 21).

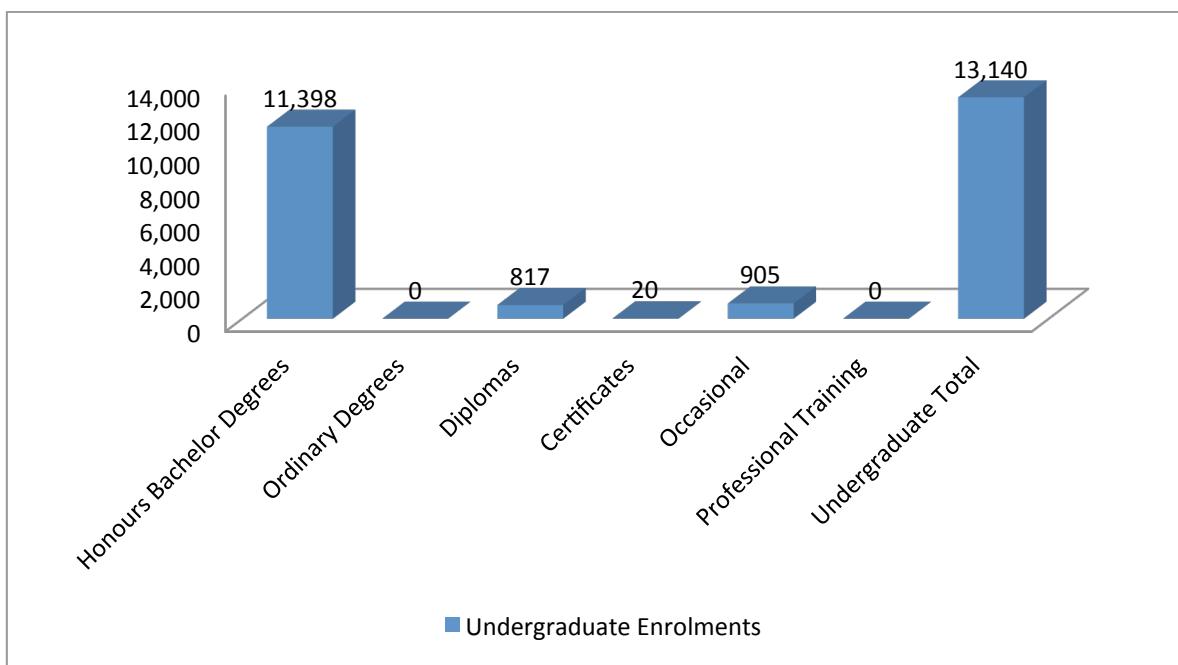
**Figure 21:**  
Staff Employed in NUIG



(Adapted from HEA, 2014c).

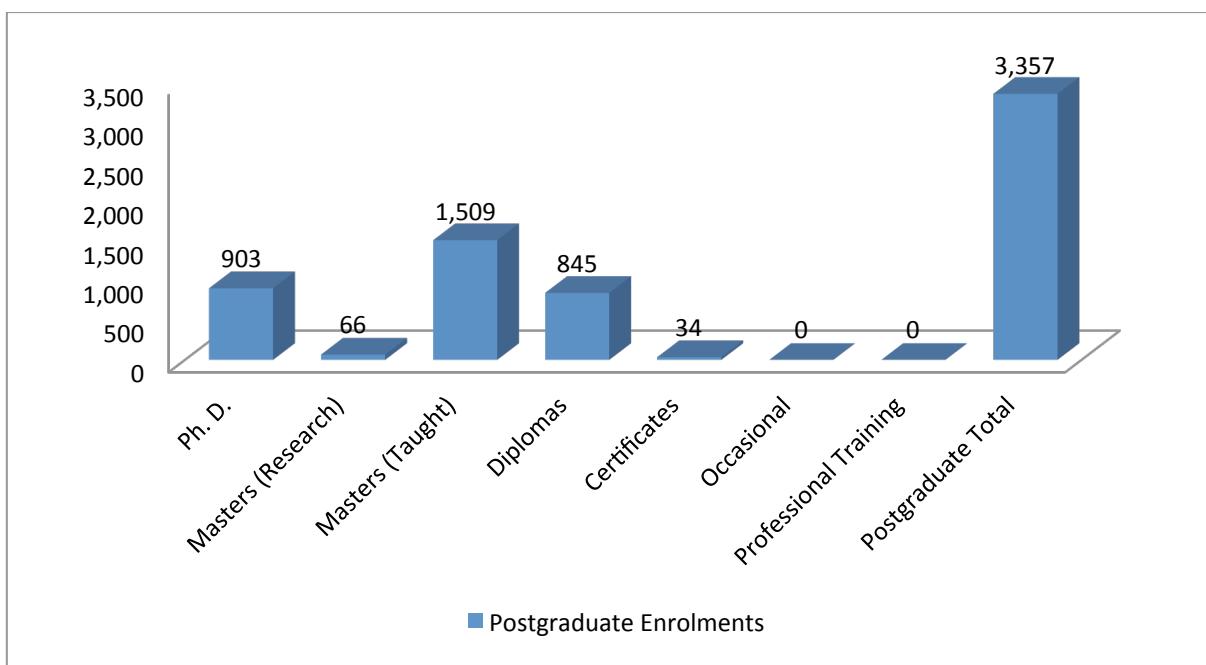
Figure 22 illustrates the number of undergraduate enrolments in NUIG in 2014, with a total of 13,140. Figure 22.1 illustrates the number of postgraduate enrolments in NUIG in 2014, with a total of 3,357. NUIG was the only Irish university to have increased its position in the QS World University Rankings 2014/2015, rising four places to 280<sup>th</sup>. It ranked 287<sup>th</sup> in 2012 with a score of 39.85; 284<sup>th</sup> in 2013 with a score of 41.5 and 208<sup>th</sup> in 2014 with a score of 43.6 (QS Top Universities, 2015). It also ranks 151<sup>st</sup> in University Subject Rankings in 2014/2015 for Agriculture & Forestry, Pharmacy & Pharmacology, Accounting & Finance, Law, Sociology and English Language and literature (QS Top Universities, 2015).

**Figure 22:**  
Full Time, Part-Time and Remote Undergraduate Enrolments in NUIG, 2014



(Adapted from HEA, 2013).

**Figure 22:**  
Full-Time, Part-Time and Remote Postgraduate Enrolments in NUIG, 2014

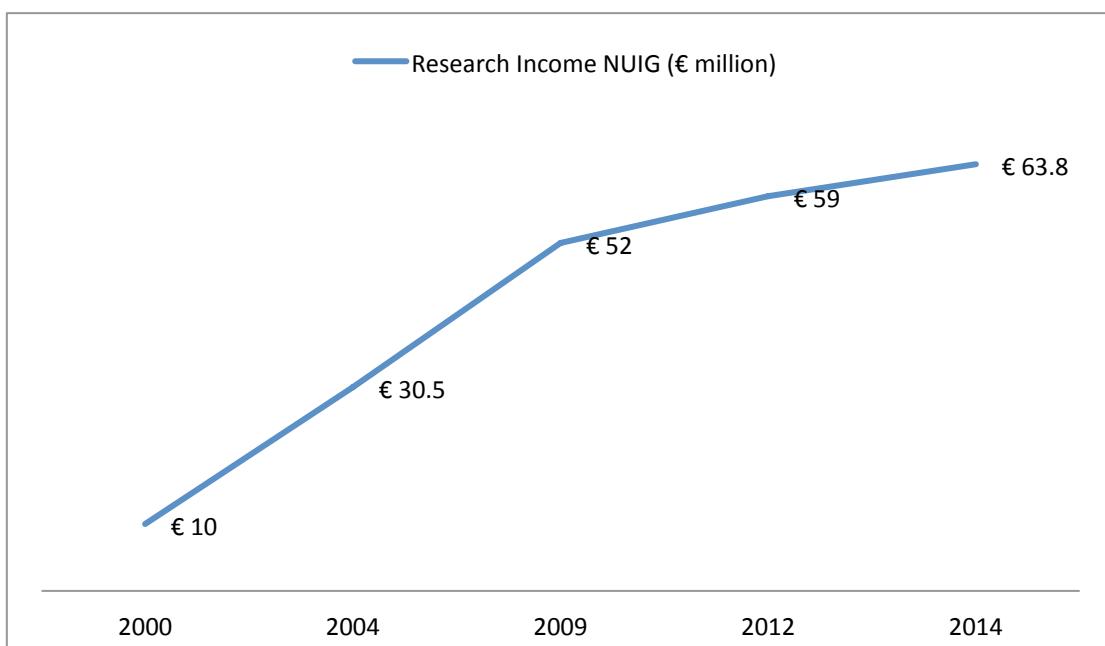


(Adapted from HEA, 2013).

### 3.2.1.1 Research Income NUIG

Research income in NUI Galway currently represents over 25% of total University income (NUIG, 2014). Funding for NUI Galway research has increased substantially over the last 15 years. Annual direct research income has increased from less than €10 million in the year 2000, to €62.8 million in 2014 accounting for an increase of €53.8 million (see Figure 23). This funding has been received across a range of dynamic, innovative research projects. Securing research funding has been a key success factor implemented by increasingly looking to EU and other international sources of funding, as well as partnerships with business and industry (NUIG, 2014).

**Figure 23:**  
Research Income NUIG 2000-2012



(Adapted from NUIG, 2014).

### 3.2.1.2 Priority Research Areas NUIG

The five thematic research priorities of NUI Galway currently are: (1) Biomedical Science and Engineering; (2) Informatics, Physical and Computational Sciences; (3) Environment, Marine and Energy; (4) Applied Social Sciences and Public Policy and (5) Humanities and Context (NUIG, 2014).

Biomedical Science and Engineering has been a major research priority since the late 1990s. The Biomedical Science and Engineering strategy is to deliver innovative research programmes in biomedical science and engineering and to establish a collaborative infrastructure for research, clinical translation, education and technology transfer. NUI Galway's biomedical research is integrated by the National Centre for Biomedical Engineering Science (NCBES). The aim of the NCBES is to contribute to the transformation of medicine through the development of novel treatments and minimally-invasive approaches (NUIG, 2012).

The overall objective of Informatics, Physical and Computational Sciences is to nurture research in mathematics and the fundamental physical sciences that underpin the knowledge-based economy. Through the Digital Enterprise Research Institute, NUI Galway improves how people and businesses communicate through the development of the next generation internet and semantic web technologies. In the Physical Sciences applied optics, bio-photonics and imaging are used to address major medical issues. In Computational Sciences, NUI Galway utilises its competency in computational analysis, while enhancing the national computational infrastructure (NUIG, 2012).

The objectives of the Environment, Marine and Energy thematic area are to consolidate and coordinate research on the impacts of natural and anthropogenic pressures on biodiversity and the environment; to reduce environmental stress by developing impact-free aquaculture and to develop sustainable energy research priorities (NUIG, 2012).

The Institute for Business, Social Sciences and Public Policy (IBSSPP) is an acting hub for research in Applied Social Sciences and Public Policy. The overall goal of the IBSSPP is to build international research eminence (NUIG, 2012).

The Moore Institute for Humanities and Social Studies leads in linking humanities with the knowledge society nationally and internationally, through research in digital humanities and by developing strong relationships with the creative and cultural industries (NUIG, 2012).

### **3.2.1.3 Technology Transfer NUIG**

The Ignite Technology Transfer Office (Ignite TTO) explores and facilitates commercial opportunities at NUI Galway and facilitates industry partnership. Ignite assists in the knowledge transfer process for industry and investors providing expertise and guidance to researchers, businesses and entrepreneurs in the western region of Ireland. Its primary focus is to encourage industry to access and commercialise the outputs of research conducted at NUI Galway and to translate this into products, processes and jobs.

The office encourages and supports the creation of sustainable start-up companies. It effectively transfers consortium technologies into existing and new companies. It establishes partnerships with industry as well as manages the campus company incubation (Knowledge Transfer Ireland, 2015).

### **3.2.1.4 Spin Out Companies, NUIG**

Embo Medical, based in NUI Galway's Business Innovation Centre, develops solutions to clinical needs. The company outsources manufacturing, packaging and sterilisation to med-tech companies based primarily in the West of Ireland (KTI, 2015).

NUIG's spin-out Orbsen Therapeutics has been recently nominated for the Spin-out Company Impact Award. The KTI Awards acknowledge cases where knowledge transfer activities have a significant impact on wider society and the economy. Orbsen Therapeutics is Ireland's leading cell therapy bio-technology company based on the NUI Galway campus. The company has developed and patented a method for purifying a novel stromal cell from adult human tissues. NUI Galway has supported the company from the beginning by assisting in the development of its technology while providing expertise and facilities. Ignite TTO helped to develop a rapid Intellectual Property protection strategy allowing the company to begin the clinical trial process. NUI Galway also aided in connecting Orbsen with a network of EU collaborators (NUIG, 2015).

Another NUI Galway spin-out company of NUI Galway's Digital Enterprise Research Institute is Peracton Ltd. The company developed the MAARS product which is a platform that provides complex analytics decision support for most common equities selection, audit and compliance as well as forensic capabilities (DERI, 2011).

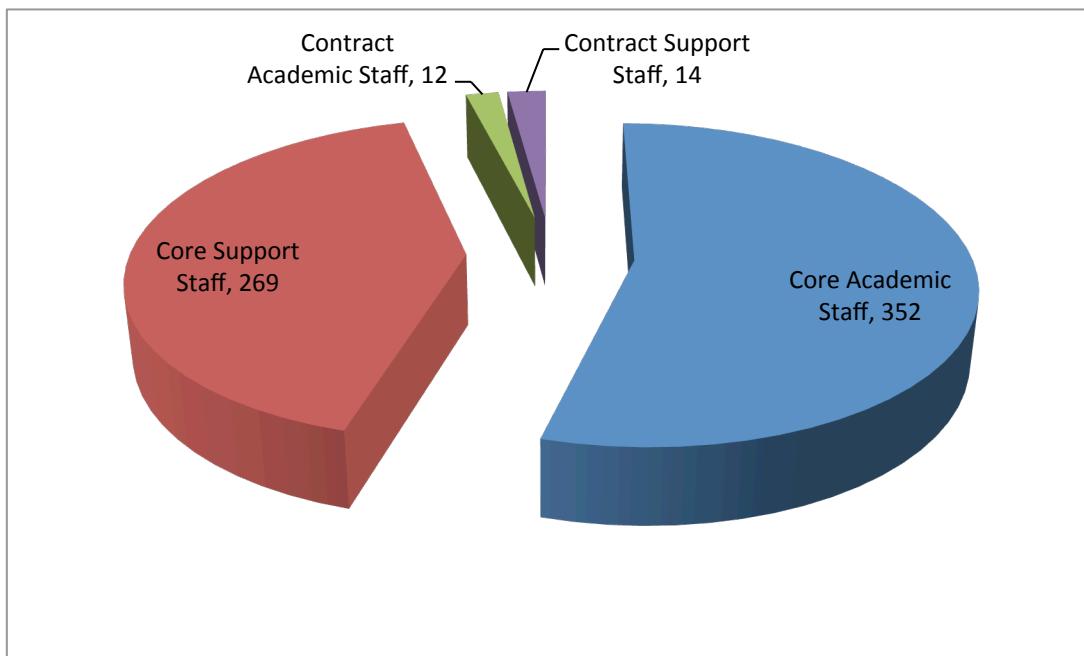
Analyze IQ Limited was established in 2008 as a spin-out company from NUI Galway. It develops and sells an innovative, patent-protected software suite for analysis of the composition of mixtures, based on molecular spectroscopy data. The company continues to retain strong links with NUI Galway for research and development and technology transfer (Analyzeiq, 2015).

### **3.2.2 Galway-Mayo Institute of Technology (GMIT)**

GMIT has a student population of 6,413 students, including 98 full time international students (HEA, 2014c). There are 621 Core Staff employed in GMIT as well as 26 Contract Research

Specialist Staff (see Figure 23). Some 87% of staff employed in GMIT are full-time Academic Staff with Masters or higher, while some 20% are with PhD qualifications.

**Figure 23:**  
Staff Employed in GMIT

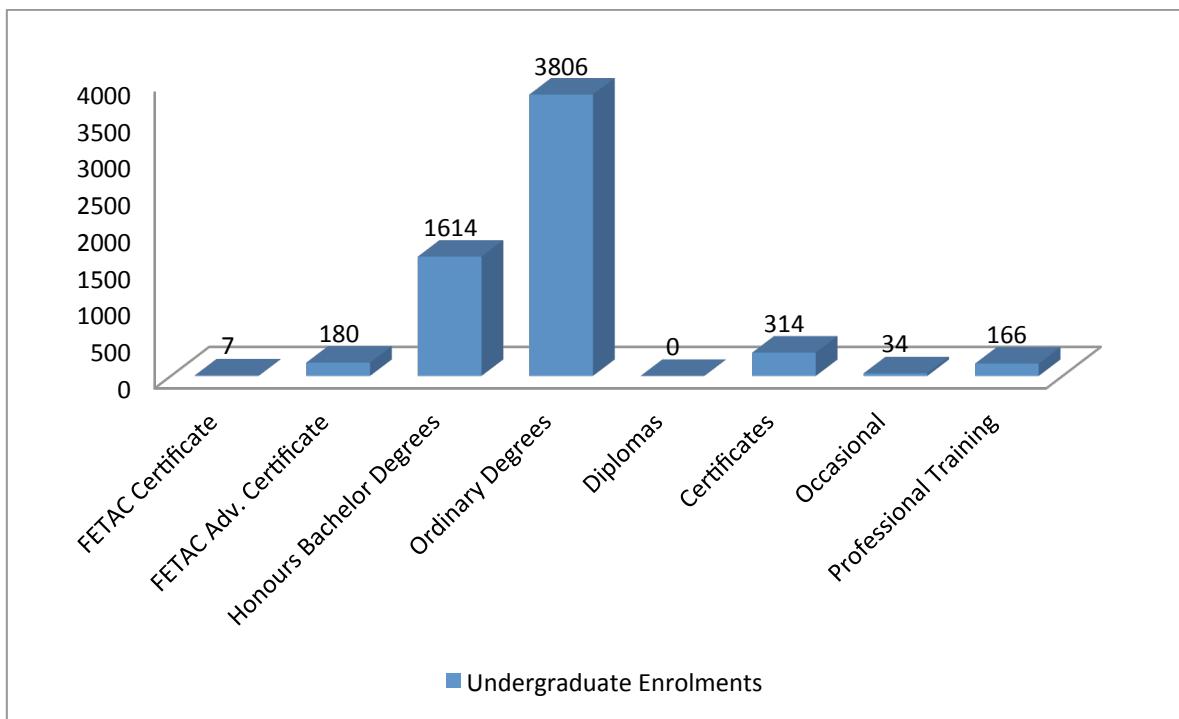


(Adapted from HEA, 2014c).

Due to student and industry demand, the number of honours degree programmes offered by GMIT has increased by 50% since 2013. First preference honours degree programmes have risen 10%, with the overall number of applicants for honours degree up 13% (GMIT, 2015).

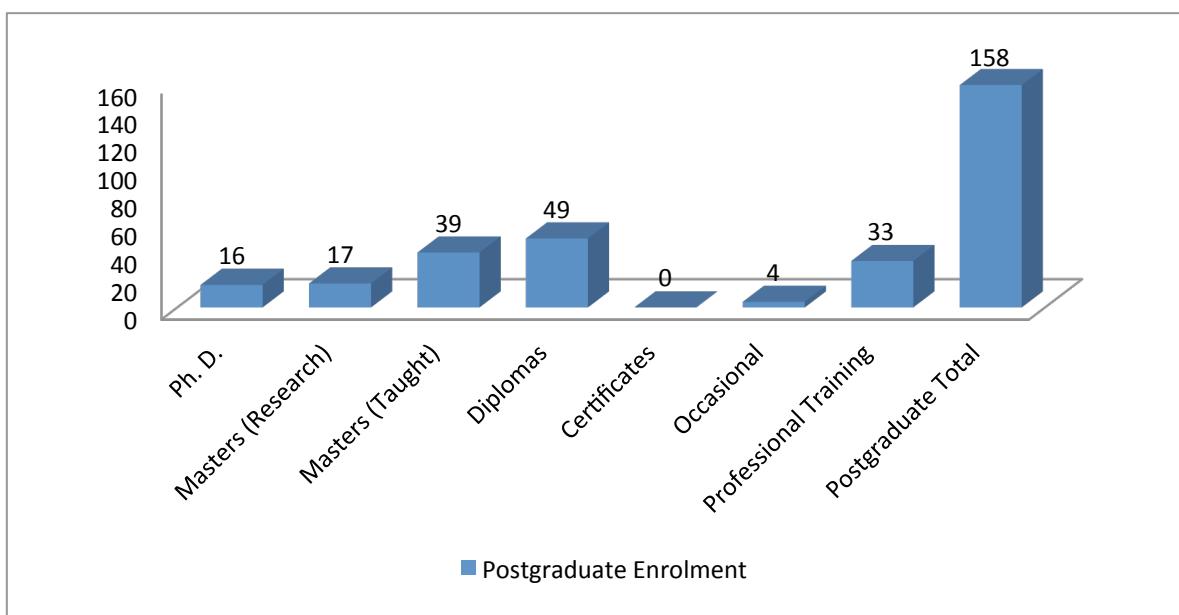
Figure 24 illustrates the number of undergraduate enrolments in GMIT in 2013, with a total of 5,934 as well as 187 FETAC Apprenticeships. Figure 24.1 illustrates the number of postgraduate enrolments in GMIT in 2013, with a total of 158.

**Figure 24:**  
Full Time, Part-Time and Remote Postgraduate Enrolments in GMIT, 2013



(Adapted from HEA, 2013).

**Figure 24.1:**  
Full-Time, Part-Time and Remote Postgraduate Enrolments in GMIT, 2013



(Adapted from HEA, 2013).

In 1987, GMIT began offering furniture courses in Letterfrack in partnership with Connemara West and has now been designated as a National Centre of Excellence in Furniture Design and Technology, with many of its students regularly winning national awards (GMIT, 2015). GMIT Letterfrack employs 25 staff and it caters for 250 students and offers honours degree programmes in Furniture Design, Furniture Technology and Teacher Training for post-primary teachers of technology-based subjects (Gallagher, 2012). The estimated direct expenditure from the students of GMIT Letterfrack is €891,872 (Heane et al., 2010).

### 3.2.2.1 Research Income GMIT

Galway Mayo Institute of Technology received €2.5 million in research income in 2011. Athlone Institute of Technology in comparison received €3.5 million, Sligo Institute of Technology received €2.2 and Dublin Institute Technology received €15.2 (see table 10).

**Table 10:**  
Research Income GMIT Compared to Other Institutes of Technology, 2011

Institute of Technology	Research Income €'m	Total Income €'m
GMIT	2.5	60.4
AIT	3.5	47.55
ITB	0.56	20.91
ITC	1.3	34.56
CIT	14	92.14
IADT	1.1	22.68
DKIT	5.8	50.77
DIT	15.2	185.39
LYIT	1.2	30.65
LIT	3.4	46.97
ITS	2.2	43.34
IT-TAL	2	36.61
IT-TRAL	1.9	32.77
WIT	21.1	89.65

(Adapted from Grant Thornton, 2013).

### **3.2.2.2 Priority Research Areas GMIT**

GMIT prioritises its research in order to make the most efficient use of its resources and align its competencies with the external environment and regional aspirations. GMIT has three main research centres: Marine and Freshwater Research Centre (MFRC), Galway Medical Device Technology Centre (GmedTech), Centre for the Integration of Sustainable Energy Technologies (CiSET).

The MFRC recently received an investment of €1.5 million from the Higher Education Authority of Ireland. A team of students, researchers and scientists conduct postgraduate research, carry out research projects in co-operation with agencies and industry and provide expertise and advice to national and international bodies (GMIT, 2015d).

The GmedTech centre has a capacity for designing and developing advanced in vitro simulators replicating various parts of the human anatomy. GmedTech researchers focus on Abdominal Aortic Aneurysm, Cranial Aneurysms, Coronary Artery Disease, Venous System, Musculoskeletal system, Pulmonary and Gastrointestinal (GMIT, 2015e).

The CiSET centre was established in 2007 in order to address the concern of rising energy costs, climate change and the need to secure Ireland's future energy supply. It conducts applied research to design, integrate and demonstrate the potential of optimised sustainable energy solutions for the delivery of cost effective and reliable energy in cool-marine climate regions (GMIT, 2015f).

### **3.2.2.3 Technology Transfer GMIT**

The GMIT Technology Transfer Office (TTO) is responsible for the transfer of knowledge generated by the institute to industry in support of economic development. The office provides a best practice intellectual property (IP) and contractual framework to enable professional industry-academic engagements. It provides commercial, technical, financial and IP due diligence and innovation audits of projects with commercial potential. It also organises IP training and awareness seminars and workshops for students, staff and industry. A further service of GMIT's TTO is commercial income generation including contract research and consultancy supporting further research, development and education in the institute (Kennedy, 2015).

### 3.2.2.4 Spin-Out Companies, GMIT

Together with the Business Innovation Centres in Galway and Castlebar, GMIT has helped bring research projects to become commercially viable and successful businesses. The two centres have created over 170 jobs and 14 High Potential Start Up companies, and there have been 28 successful spin-outs.

The Innovation in Business Centre (IIBC) at GMIT Galway campus was established in 2006 and has proven to be a highly successful enterprise involved in the incubation of new start-up companies. It provides incubation space and business development support for the nurturing of new ideas and the commercialisation of applied research (Forfas, 2007).

ATFM Solutions Ltd was founded in 2006 based in the IIBC in Galway GMIT. The company's core skills are in JavaEE, e-forms and e-document delivery and processing, providing high quality customer focused solutions (ATFM Solutions, 2015).

App Sandwich was founded in 2011 and is now an award-winning app development company. Founded in IIBC Galway, it has since won Best Developer at The Appys 2011, has been nominated for Best Music App and won Best Mobile Application for EirText at the 2010 Irish Web Awards (App Sandwich, 2014).

**Table 11:**  
Spin-Out Companies IIBC GMIT

Spin-Out Company	Spin-Out Company
ATFM Solutions Ltd	Grab Radio World
App Sandwich	Freeze Protection Ltd.
Active Mind Technology	Global Internet Radio Technologies (GIRT)
CeBec	One Touch Automation
Careerbud	Seniors at Home
Marvao Medical	Hillwalk Tours
Ikon Semiconductor	Jabbers Ireland
CGA Software	UK School Trips
Xyea Ltd.	Grab Radio World

(Adapted from GMIT, 2015c).

### 3.2.3 Vocational Education Centres

The Vocational Education Committee operates thirteen Vocational Schools in the county administrative area with six in the Gaeltacht area and a further three in Galway City (County Galway VEC, 2012). The largest vocational school in Galway City is Coláiste na Coiribe with 450 students (see Table 12). Coláiste na Coiribe is currently under construction with a total investment of €16 million. The new school, to be completed by August 2015, will accommodate 720 pupils with 60 permanent teaching and support positions (Coláiste na Coirib, 2015).

**Table 12:**  
Vocational Schools in Galway City

Vocational School	Location	No. of Student
Coláiste na Coiribe	Bothar Thuama Gaillimh ,Galway City	450
Community National School	Knocknacarra, Galway City	259
Merlin College	Doughiska Road, Galway City	69

(Adapted from CGVEEC, 2013).

The largest vocational school in Galway County is St Brigid's Vocational School in Loughrea, County Galway with 623 pupils and employing 43 staff, followed by Athenry Vocational School with 547 pupils and 55 staff. The vocational school with the smallest number of pupils is Coláiste Naomh Eoin on Inis Meáin, Co. Galway with 16 pupils. In total there are 2,421 pupils attending vocational schools in County Galway (see Table 13).

**Table 13:**  
Vocational Schools in Galway County

Vocational School	Location	No. of Students
Athenry Vocational School	Athenry, Co. Galway	547
Gairmscoil Éinne	Cill Rónáin, Co. Galway	66
Coláiste an Eachréidh	Athenry, Co. Galway	98
Coláiste Naomh Feichín	Corr na Móna, Co. Galway	95
Coláiste Cholmcille	Indreabhán, Co. Galway	279
Coláiste Naomh Eoin	Inis Meáin, Co. Galway	16
Coláiste Ghobnait	Inis Oírr, Co. Galway	28
St Brigid's Vocational School	Loughrea, Co. Galway	623
Coláiste an Chreagáin, Mountbellew	Ballinasloe, Co. Galway	73
St Killian's Vocational School, New Inn	Ballinasloe, Co. Galway	133
Gairmscoil na bPiarsach	Ros Muc, Co. Galway	98
Archbishop McHale College	Tuam, Co. Galway	203
Claregalway College	Claregalway, Co. Galway	162

(Adapted from County Galway VEC, 2012).

### 3.2.4 Private Sector Third Level Institutions

There are a number of private, or independent, colleges offering courses through the CAO as well as programmes that students can apply directly to. Courses available through the CAO are accredited by Quality and Qualifications Ireland as opposed to Higher Education and Training Awards Council (HECA, 2015).

The largest vocational school in Galway City is Galway Technical Institute (GTI) which has 1,175 pupils. GTI offers further education courses in Applied Health & Social Sciences, Art & Design, Business, Computing & Engineering, Fashion, Hairdressing & Beauty, Media and Sports & Recreation (GTI, 2015).

Galway Business School, located in Salthill, Galway is another example of a private college. The college is attended by 3,000 students from around the world each year. The college offers such undergraduate courses as Bachelor of Business (HETAC level 7), BA in Business

Management (Level 8) and Diploma in Marketing, Advertising and Public Relations (Level 6) as well as a postgraduate diploma in Management (Galway Business School, 2015).

Galway Community College is a co-educational school located in Galway City. The main school building is divided into two sections: one for Post Leaving Certificate provision and the other for mainstream second-level provision. The school participates in the School Completion Programme (SCP) and in DEIS (Delivering Equality of Opportunity in Schools). A range of services are provided for students, through DEIS, to support their welfare and engagement with the school (Department of Education and Skills, 2014).

Mountbellew Agricultural College is a private college but joins with Teagasc, GMIT, VEC and FAS in delivering courses. The college, owned and managed by the Franciscan Brothers provides Agricultural Education to over 350 students. The college has a language resource as well as a 200 ha farm (Teagasc, 2015). Mountbellew students can enter a three-year course with the option of an add-on of one-year to progress to an honours degree at level 8 (Teagasc, 2015).

Yeats College in Galway City is a private co-educational day school. It caters specifically for students with high Leaving Certificate expectations. In 2010, 21 students received an offer for medicine, in 2011, 32% scored higher than 500 points, while in 2012, 43% scored over 500 and 19% achieved 550 points or over. Yeats College was recently ranked as Ireland's highest achieving school, sending 100% of pupils to third level courses. Some 85% of Yeats College students accepted offers from courses at the seven Irish Universities, teacher training colleges and the Royal College of Surgeons Ireland. Of the 172 students who sat the Leaving Certificate in 2011, 84 students went on to study in NUIG, 21 students chose UCD, 14 chose Trinity Dublin, 10 went to University Limerick and 12 went to teacher training colleges (Yeats College, 2015).

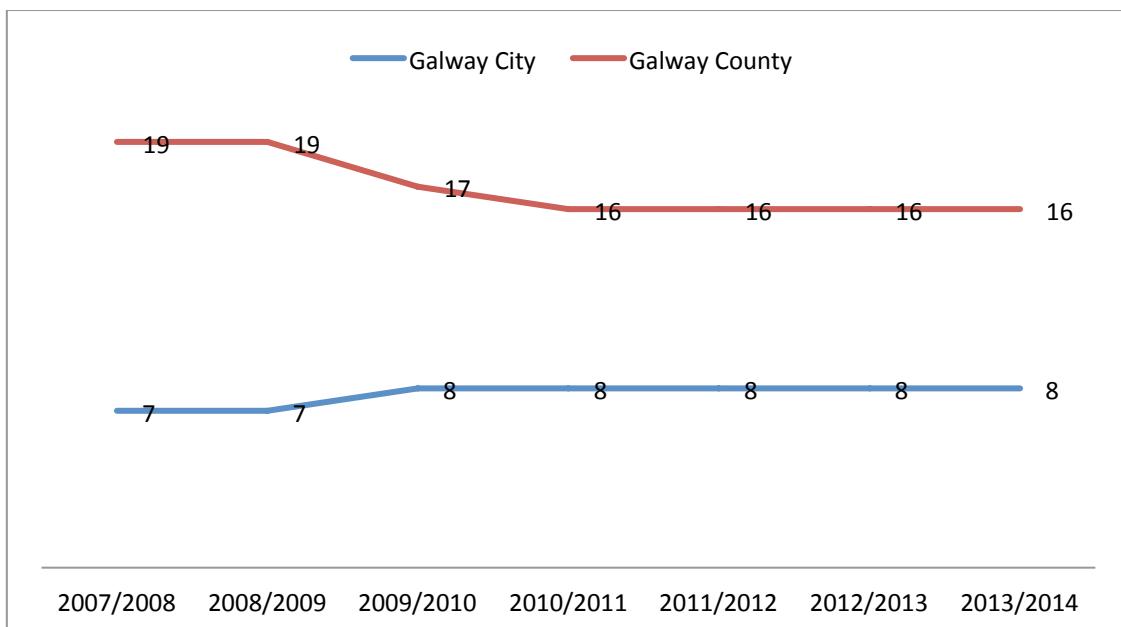
### **3.3 Regional and Local International Student Market**

Galway attracts a large number of overseas students. NUIG has in excess of 2000 international students, accounting for 15% of the student population. This is the highest number of international students of the Irish universities (HEA, 2014). International students coming from the USA generate large amounts of income for the university as well as for the economy of Galway. The approximate tuition cost is €13,250 per year, with a further €6,000 for room and board.

### 3.4 Local Secondary Schools

There are currently 16 secondary schools in County Galway (County Galway Guide, 2007). There are 8 secondary schools in Galway City (Department of Education and Skills, 2014). Figure 17 illustrates the number of secondary schools in Galway from 2007 to 2014. The number of secondary schools in Galway County has decreased from 19 in 2007 to 16 in 2014. The number of schools in the city however has increased by one since 2007 (see Figure 25).

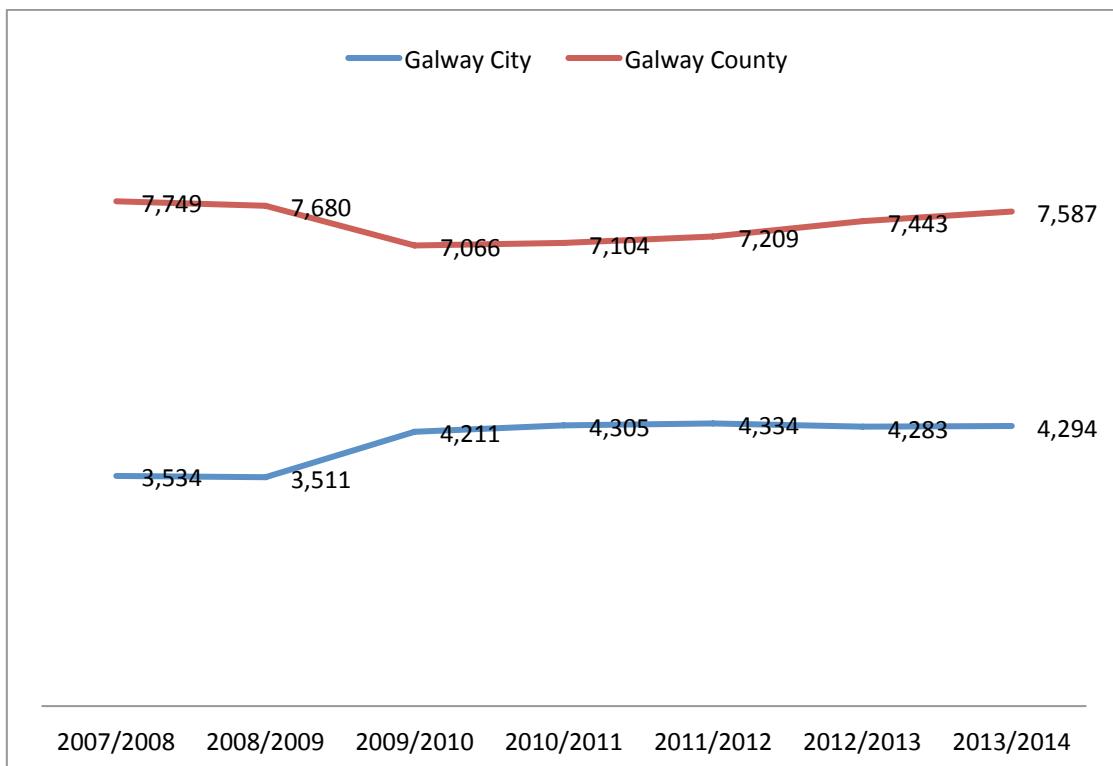
**Figure 25:**  
The Number of Secondary Schools in Galway, 2007-2014



(Adapted from Department of Education and Skills, 2014).

Figure 26 shows the fluctuating number of pupils within the secondary schools in Galway between 2007 and 2014. In Galway County the number of secondary school pupils has decreased by 162 during the period 2007 to 2014. The largest drop in student numbers occurred between 2008/2009 and 2009/2010 with a drop of 614 students resulting in the closure of two secondary schools. The student numbers in Galway County have been slowly increasing since then to stand at 7,587 in 2014. The secondary school student numbers with Galway city however, has increased by 21% during the period between 2007 and 2014 explaining the opening of the extra secondary school (see Figure 26).

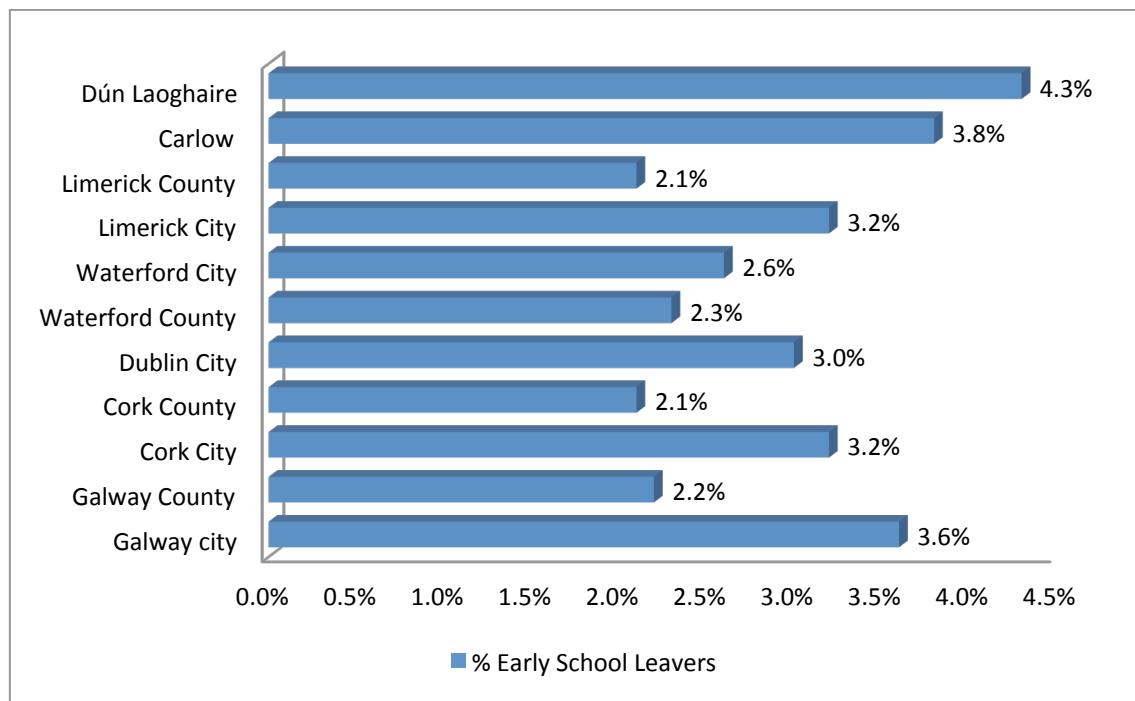
**Figure 26:**  
Number of Pupils in Secondary Schools in Galway, 2007-2014



(Adapted from Department of Education and Skills, 2014).

The highest percentage of early school leavers was in Dún Laoghaire at 4.3%, followed by Carlow at 3.8% and then Galway City at 3.6%. County Clare had the lowest percentage of 1.5%. There were a higher percentage of early school leavers in each of the cities compared to the counties. Galway City had an early school leaver percentage of 3.6% compared to 2.2% in Galway County (see Figure 27).

**Figure 27:**  
Percentage of Early School Leavers



(Adapted from Department of Education and Skills, 2013d).

Youthreach is a programme that targets unqualified early school leavers, generally between the ages of 15-20. The programme seeks to increase self-esteem as well as to provide social and personal development for early school leavers and to improve vocational skills and communications skills. Youthreach promotes independence, personal autonomy and helps the individual to integrate into further education and training opportunities and into the labour market (CGVEC, 2014).

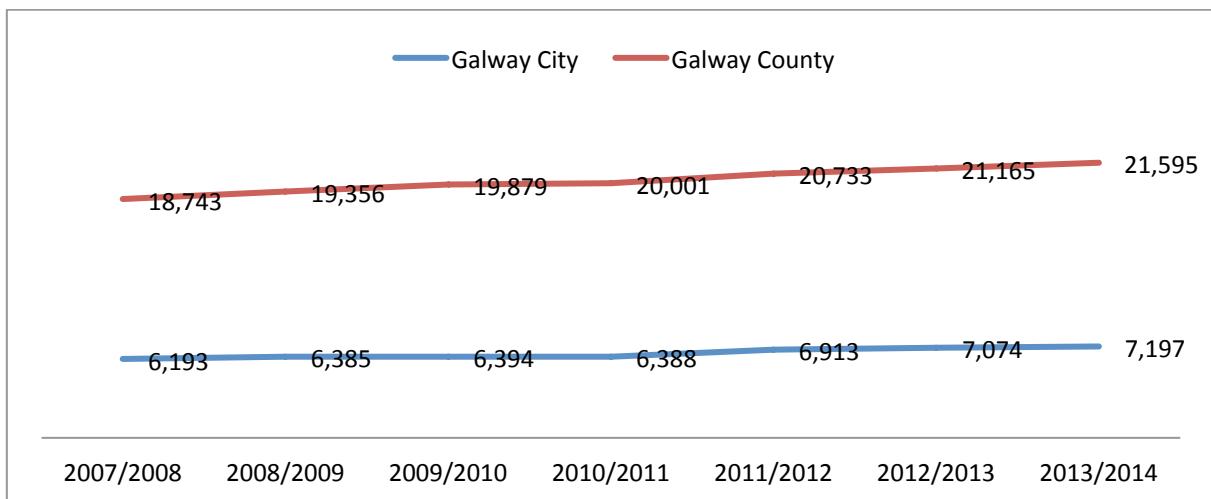
There are six Youthreach centres in Galway. Youthreach Ballinasloe, City of Galway Youthreach, Youthreach Teaghmhaile na nO in Leitir Moir, Youthreach Centre of Education in Letterfrack, Connemara, Youthreach Portumna as well as Youthreach Tuam (Youthreach, 2014).

### 3.5 Regional Primary Schools

According to the Department of Education Records, there are 157 primary schools in County Galway, with 55 schools in Galway's West County and 102 in Galway's East County (School Days, 2014b; School Days, 2014c). There are 31 primary schools in Galway City. The largest is Scoil Naisiunta Iognaid, with 571 pupils, followed by Tirellan Heights National School, with

488 pupils (schooldays, 2014). There are 21,595 pupils in primary school in Galway County and 7,197 pupils in Galway city. Figure 28 illustrates the number of primary school pupils in Galway between 2007 and 2014.

**Figure 28:**  
Number of Primary School Pupils in Galway, 2007-2014



(Adapted from Department of Education and Skills, 2014).

According to the most recent data Galway City has 287 primary school teachers with an average class size of 24.1 pupils and Galway County has 902 teachers teaching an average class size of 23 pupils. Both of these average class sizes are below the national average which is 24.4 pupils (see Table 14). The West region of Ireland as of 2012 had the smallest schools on average in Ireland, while the Dublin region had the largest. Four counties had a pupil to school ratio of less than 100: Roscommon at 76.6, Mayo at 84.4, Leitrim at 86.6 and Galway County at 99.7. Three counties in comparison had a ratio above 300: Fingal at 353.3, South Dublin at 332.3 and Waterford City at 315.6 (CSO, 2013).

The number of schools in towns within County Galway is illustrated in Table 13. Ballinasloe has 16 schools, while Tuam has 13 and Loughrea has 10.

**Table 14:**  
Number of Primary and Secondary Schools in Towns within County Galway

Town	Number of Schools	Town	Number of Schools
Tuam	13	Ballinasloe	16
Oranmore	5	Dunmore	3
Cummer	2	Barna	2
Aughrim	1	Loughrea	10
Claregalway	5	Milltown	3
Gort	8	Oughterard	3
Ahascragh	2	Kilkerrin	1

(Adapted from Irelands Directory, 2015)

### 3.5.1 Ballinasloe

Enrolments in Ballinasloe have fallen from 1,125 pupils in 2001 to a total of 1,120 in 2011/2012. Data from the Department of Social Protection indicates that there will be a decrease in the number of five year olds from 106 in September 2012 to 103 in 2015. An analysis of the 2011 census indicates that the number of children aged 0 to 12 years old living within the town boundary is 1,231 while there are 512 children aged 1 to 5 years old and 435 children aged 8 to 12 years old which indicates a slightly increasing school going population.

There are 3 primary schools within the town of Ballinasloe and a further 6 more within a 5km radius of the town. Seven of the nine schools are Catholic English speaking with a total enrolment of 941 pupils which is 85% of the total primary school pupils in Ballinasloe. There is one Church of Ireland School representing less than 1% of total pupils and one Catholic gaelscoil with approximately 159 pupils (Department of Education and Skills, 2013).

### 3.5.2 Loughrea

Enrolments in Loughrea have increased over the last decade from 832 pupils in 2001 to a total of 1,060 pupils in 2011/2012. Data from the Department of Social Protection indicated that the number of five year olds in Loughrea would grow from 87 in 2012 to 109 in 2015. An analysis of the 2011 census indicates that the number of children aged 0 to 12 years old living within the

town boundary is 912 while there are 418 children aged 1 to 5 years old and 299 children aged 8 to 12 years old which indicates an increasing school going population.

There are currently 3 schools within the town and 3 more within a 5km radius. Five out of the six schools are Catholic English speaking schools, enrolling 86% of the pupils while one multi-denominational gaelscoil enrol the remaining 14% of Loughrea's primary school pupils (Department of Education and Skills, 2013).

### 3.5.3 Tuam

Enrolments in Tuam over the last decade have increased from 1,104 pupils in 2001 to a total of 1,452 in 2011/2012. Data from the Department of Social Protection indicates that there will be an increase of 125 five year olds as of September 2012 to 178 by 2015. An analysis of the 2011 census indicates that the number of children aged 0 to 12 years old living within the town boundary is 1,255 while there are 550 children aged 1 to 5 years old and 375 children aged 8 to 12 years old which indicates a slightly increasing school going population.

There are currently 4 primary schools within the town of Tuam and a further 6 more within a 5km range of the town. Some 88% of the total primary school enrolment in Tuam is in Catholic English speaking schools accounting for 1,255 pupils, with the remaining 12% enrolled in a Catholic gaelscoil accounting for approximately 168 pupils (Department of Education and Skills, 2013).

**Table 15:**  
Number of Teachers in Primary Schools

County	Teachers	Avg. Class Size	Pupils/School
Galway City	287	24.1	288.0
Galway County	902	23.0	99.7
Dublin City	1,800	23.0	219.0
Limerick City	288	23.0	213.6
Limerick County	288	24.9	130.5
Cork City	575	23.2	261.5
Cork County	1,730	25.0	146.3
State	20,716	24.4	160.2

(Adapted from CSO, 2013)

### 3.5.4 Post Leaving Certificate Courses

The Post Leaving Certificate (PLC) programme was introduced in 1985 in order to provide a bridge between the gap between school, third level and employment. PLC courses are the fastest growing sector in Irish education. It allows students to access third level education via a FETAC qualification irrespective of Leaving Certificate results. Galway provides Vocational School Athenry PLC Courses, Loughrea Vocational School PLC Courses, Mountbellew PLC Courses, New Inn Vocational School PLC Courses and Archbishop McHale College Tuam PLC Courses (County Galway VEC, 2012).

### 3.5.5 DEIS Schools

Delivering Equality of Opportunity in Schools (DEIS) was launched in May 2005 and addresses educational disadvantage. It focuses on addressing and prioritising the educational needs of pupils from disadvantaged communities from pre-school through to secondary school. A standardised system exists for identifying schools at both primary and secondary level for the purpose of qualifying for both human and financial resources according to the degree of disadvantage experienced (Department of Education and Skills, 2014e).

Since the establishment of DEIS literacy and numeracy rates in primary schools have been improving steadily and secondary attainment levels are improving as well as increasing attendance, participation and retention levels (Department of Education and Skills, 2014f).

For pupils who entered secondary school in 2007, there is a 3.5% difference in the Junior Certificate rate between DEIS and non-DEIS schools. The Leaving Certificate retention rate for the same period in DEIS schools is just over 80%, which is approximately 10% lower than the national average rate. In 2010, some 24% of school completers in DEIS schools went onto higher education compared to 49% overall from non-DEIS schools (Department of Education and Skills, 2014f).

There are currently 852 DEIS schools in Ireland, with 166,000 enrolled in the School Support Programme. There are 658 DEIS primary schools, with 336 in urban/town areas and 321 in rural areas. There are 53 in Galway, with 14 schools in urban areas and 38 schools in rural areas.

The cost to the Department of Education and Skills of the DEIS programme in 2013 was €96.4 million, including some €16 million in additional grants to DEIS schools.

There are 9 DEIS secondary schools in Galway with 194 in the State. Cork has 19 schools, Donegal has 12, Dublin has 59 while Limerick has 9 schools and Sligo has 3 schools (Department of Education and Skills, 2014e).

### 3.5.6 Multi-denominational Schools

Some 96% of primary schools are being run by the Catholic Church. One in every 50 primary schools in Ireland offers a non-denominational education for primary school children, among them ‘Educate Together’, which has 74 primary schools and 3 secondary schools nationwide. There are five multi-denominational schools in Galway (see Table 16) (IrelandStats, 2015). The largest school is Galway Educate Together NS with 293 pupils. There are 8 multi-denominational schools in Cork, 2 in Limerick, one in Mayo, one in Kerry as well as 4 in Waterford.

**Table 16:**  
Multi-denominational Schools in Galway

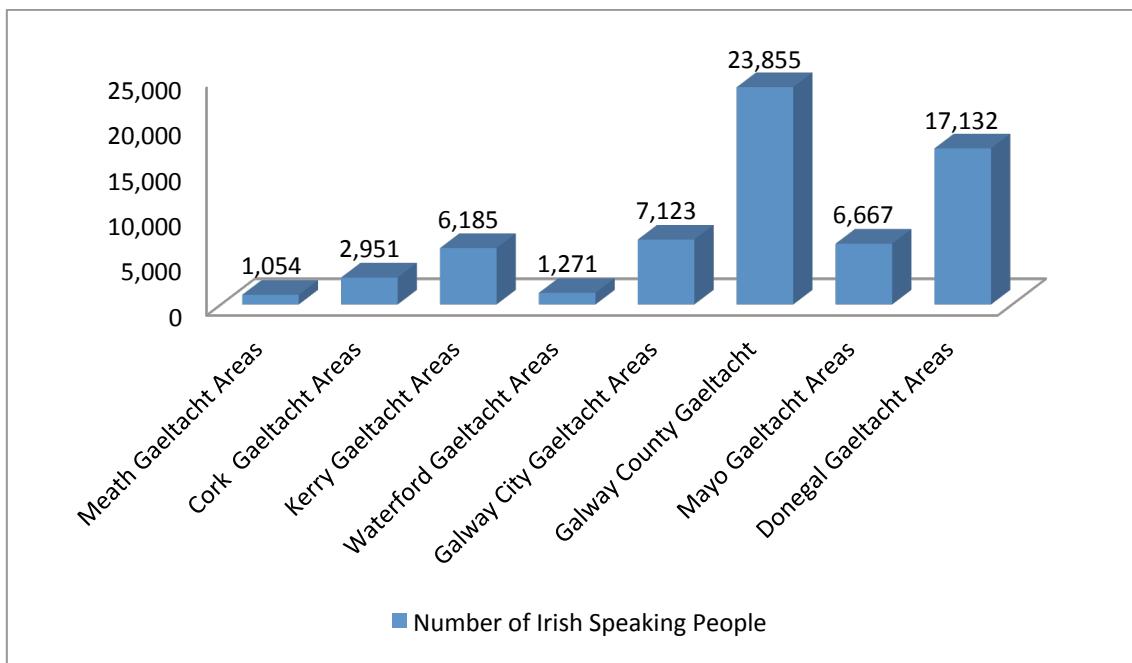
School	Location	Pupils	Pupil teacher Ratio
Claregalway Educate Together NS	Claregalway, Galway.	120	17.1
Galway Educate Together NS	Newcastle, Galway	293	17.6
Kilcolgan Educate Together NS	Kilcolgan, Galway.	178	19.8
Gaelscoil Na Bhfilí	Gort	69	24.7
Gaelscoil Riabhach	Loughrea	178	17.8

(Adapted from IrelandStats, 2015)

### 3.5.7 Gaelscoileanna

Some 22% of primary school students in Galway attend a Gaelscoileanna. There are currently 10 Gaelscoileanna primary schools in Galway City and County, including Gaelscoil Mhic Amhláigh in Cnoc na Cathrach, which is situated in the Gaeltacht region of Galway city. The Galway county Gaeltacht area has the largest Irish speaking population in Ireland accounting for 23,855. The next largest number of Irish speakers within a Gaeltacht area is in Donegal Gaeltacht followed by Galway City Gaeltacht area (see Figure 29).

**Figure 29:**  
Number of Irish Speaking People within Various Gaeltacht Regions, 2011



(Adapted from CSO, 2011c).

### 3.6 Regional and Local Irish-Medium Schools

There are a total of 11 Irish-medium primary schools in Co. Galway outside of the Gaeltacht with 2,776 pupils and 133 teachers. There are 3 Irish-medium post-Primary schools with 590 pupils and 51 teachers (Gaelscoileanna, 2013). Some 133 pupils out of 203 progress from Irish-medium primary school to Irish-medium post-Primary school, accounting for a 66% progression rate.

There are 11 primary schools in Irish-medium education outside of the Gaeltacht in Galway, with 2,776 pupils and 155 teaching staff. There are 177 primary schools in total with 35,710 pupils and 1,940 teaching staff (see Table 17).

**Table 17:**  
Comparison of Irish-Medium Schools (Primary)

County	No. Schools	No. Pupils	Full Time Teachers	Part Time Teachers
Galway	11	2,776	133	22
Dublin	32	8,299	425	30
Sligo	1	185	10	0
Limerick	6	1,631	84	3
Kerry	4	800	41	4
Cork	21	5,297	273	14
State	177	35,710	1808	132

(Adapted from Gaelscoileanna, 2015).

There are 3 secondary schools in Irish-medium education outside of the Gaeltacht with 590 pupils and 57 teaching staff. Dublin in comparison has 8 schools with 3,102 pupils and 222 teaching staff. County Sligo has no secondary schools while Kerry has 2 and Limerick has 3 (see Table 18).

**Table 18:**  
Comparison of Irish-Medium Schools (Secondary)

County	No. Schools	No. Pupils	Full Time Teachers	Part Time Teachers
Galway	3	590	51	6
Dublin	8	3,102	185	37
Sligo	0	0	0	0
Limerick	3	900	56	13
Kerry	2	390	20	10
Cork	6	1,681	150	35
State	40	9,663	666	152

(Adapted from Gaelscoileanna, 2015).

### 3.7 Special Schools

There are a total of 546 special schools in Ireland, including 239 catering for students with mild general learning disabilities, 45 cater for students with specific speech and language disorder, 38 schools cater for students on the Autistic spectrum as well as 11 schools that cater for students with severe or profound learning disabilities. There are 9 special schools in Galway, with Rosedale School being the largest, catering for 67 pupils, followed by Saint Joseph's Special School catering for 57 pupils (see Table 19).

**Table 19:**  
Special Schools in Galway

School	Location	Pupils
St. Joseph's Special School	Newcastle, Co. Galway	57
Rosedale School	Galway City	67
Scoil Aine	Galway City	8
Ábalta Special School	Galway City	18
Holy Family School	Galway City	39
St. Oliver 's Child Education & Development	Tuam	18
St. Teresa's Special School	Ballinasloe	24
Tigh Nan Dooley	Galway West County	9
Lake View School	Galway City	36

(Adapted from IrelandStats, 2015).

### 3.8 Local School Investment Programmes

As part of a €2.2 billion five-year capital investment programme launched in 2012 by the Department of Education and Skills, Galway will see the construction of 5 new schools as well as a school extension (see Table 20). The investment will see four new primary schools, one new post primary school as well as an extension onto a primary school.

Table 21 displays six completed projects in Galway as part of the five-year capital investment programme. Three new primary schools were completed in 2014, a new post primary as well as a primary school extension and a post primary extension (Department of Education and Skills, 2015).

**Table 20:**  
Schools Projects in Galway for 2015

School	Location	Type	Brief
SN Creachmhaoil,	Craughwell	Primary	Extension
SN Na Bhforbacha	Spiddal	Primary	New School
Gaelscoil Mhic Amhlaigh	Knocknacurra,	Primary	New School
Gaelscoil Riabhach,	Loughrea	Primary	New School
Claregalway ETNS,	Claregalway	Post Primary	New School
Claregalway Community College	Claregalway	Primary	New School

(Adapted from Department of Education and Skills, 2015).

**Table 21:**  
Completed Schools Projects in Galway 2014

School	Location	Type	Brief
Scoil Bhride,	Menlo, Castlegar	Primary	New School
Tirellan Heights NS	Headford Road, Galway	Primary	Extension
Gaelscoil de hÍde	Oranmore	Primary	New School
Merlin Woods	Doughiska	Primary	New School
Coláiste Iognáid	Bothar na Mara	Post Primary	Extension
Merlin College	Doughiska	Post Primary	New School

(Adapted from Department of Education and Skills, 2015).

There are also six school projects progressing through architectural planning which are not included on the five-year capital investment programme. Three new primary schools are to be built, a new special school as well as 2 primary school extension/refurbishments (see Table 22).

**Table 22:**  
Projects in Architectural Planning not on the 5 Year Programme, 2015

School	Location	Type	Brief
SN Bhride	Turloughmore	Primary	Extension/refurbishment
SN Cathair Gael	Cahergal	Primary	New School
Scoil An Chroi Naofa	Ballinasloe	Primary	New School
SN Seosamh Naofa	Carrabane	Primary	New School
SN Muine Mhea	Athenry	Primary	Extension/refurbishment
Rosedale Special School	Rosedale	Special School	New School

(Adapted from Department of Education and Skills, 2015).

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