

## **Celtic Tiger and Celtic Cat**

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### **Abstract**

In the last few years many studies have been carried out on the Celtic Tiger miracle, i.e., on the spectacular economic growth Ireland experienced between 1995 and 2007. All the studies agree on the key factors that explain this progress, including the commitment to specialized training designed to guarantee the competitiveness of its companies on an international level, in particular in the technology, chemical/pharmaceutical and food and agricultural sectors. Given the limitations of its domestic market, all entrepreneurial initiatives linked to these areas have targeted export markets, and these efforts have received government support and been reinforced by a close collaboration between universities and the business world. Within this context, business schools have played a crucial role given their close ties to business, not only as far as supplying skilled labour, but also by providing business advice as well as a space that serves as a meeting point for entrepreneurs. This situation has fostered the development of a modern, dynamic and, above all, enterprising entrepreneurial culture.

The close links between Ireland and Galicia are due to geographical, historical and cultural factors; however, this is not the case in terms of their evolution over the last few decades. This paper aims to contribute to a better understanding of the Celtic Tiger miracle through a study of Irish business schools that analyses their efficiency and compares this to that of their counterparts in Galicia during the 1997-2002 period in order to determine if, as in the case of their economies, there are any significant competitive differences.

Keywords: higher education, efficiency.

## **1 Introduction**

The Irish miracle ended abruptly in 2008 when the global crises erupted leading to a sharp recession and a significant increase in unemployment. More than a decade of spectacular progress and economic growth during which the Celtic Tiger had roared louder than ever was

gone. This golden age of the Irish economy was driven by the simultaneous occurrence of several factors. On the one hand, Ireland chose to join the euro which encouraged certain US based companies with close ties to the island to set up business in Ireland instead of the UK to avoid exchange risks when operating inside the eurozone. The presence of large multinationals was further favoured by the low fiscal pressure applied in the case of these corporations and the unconditional support of institutions of higher education which not only served as a source of highly qualified workers, but which also became enterprise partners and consultants for these large corporations. This synchronization of educational and economic development has been particularly important in the areas linked to the activity of the multinationals that set up business in Ireland, such as the computer and pharmaceutical industries. Irish business schools have played a key role in this development as the fundamental support reinforcing the links between multinationals, the Irish economy and the rest of Europe. In addition to these circumstances, in the last few years this economic boom took place along with an unprecedented growth in the real estate market.

This is directly in line with the role Europe has assigned to higher education in the XXI century. Higher Education has evolved from being important to playing a crucial role once Europe adopted the objective of designing a *Europe of Knowledge*<sup>1</sup> where higher education becomes a strategic element in gaining a competitive edge for economies in the 21<sup>st</sup> century; at the same time, this would allow social and economic standards obtained in the last century to continue and improve. In its 2004 report on the financing of higher education the European Research Associates recognises increasing efficiency as one of the five objectives that the new measures adopted by the Members must try to achieve. These targets are, namely: increase absolute levels of funding, diversify the sources of revenue at the university's disposal, provide additional funds to guarantee excellence in research and education and increase its appeal abroad, increase the amount of financial assistance provided to students, and increase efficiency.

## **2 Efficiency and competition in higher education**

Although it is generally accepted that the market alone does not yield globally desirable social outcomes, it seems that public provision of free higher education does not succeed in accomplishing this goal either. Research by several authors indicates that free higher education is neither efficient, as it leads to a situation characterised by an oversupply, nor equitable. According to Franck and Schönfelder (2000), the majority of analysts consider this indisputable. These authors maintain that the greater part of the problems the university system faces would be resolved by increasing competition among universities and allowing less regulation of the

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<sup>1</sup> European Commission (2003).

higher education market so that it could behave more like a free market: less regulation and greater autonomy would increase competition at the university level which, in turn, would increase efficiency. However, competition increases efficiency only if certain conditions apply. The authors affirm that competition is positive only if the university is able to inform its potential clients regarding its level of quality. But providing information on the level of quality is a difficult issue: all the university can do is provide indirect or symbolic indicators of this quality, in other words, it can offer signals of quality. A well-established ranking of universities is indispensable so that those in the top positions can use symbols that indicate their quality. This ranking does not only depend on the intellectual quality of the universities, but also on their wealth. If the market for higher education is indeed hierarchical as Winston (1999) maintains, then competition will allow universities in the top positions to use signals of quality; if it were not this type of market, quality could not be an indicator and the market would fail.

As previously mentioned, Irish universities have accepted the challenge and taken on the role Europe has awarded them in the new century. Despite their public character, which makes them dependent on government funding to a large extent, in recent years universities and business schools in particular have opted to compete not only on the national level, but also internationally. The legislation regulating universities grants them a great deal of autonomy which they have taken advantage of in order to expand their horizons and find additional funds, whether this be through European research funding, collaboration agreements with companies, or efforts to draw students from outside the EU, especially from Asia, as in these cases university fees are significantly higher than those of students from within the EU. In addition to increasing and diversifying funds, promoting excellence in research and efficient management of resources have also proved fundamental. In fact, in the last few years a more professionalized model of management based on results has been instated in which decentralisation and cost – consciousness have been key factors. Business schools in particular have made an important effort to obtain international accreditation used as a mark of quality worldwide. In contrast, Spanish universities have maintained their chronic resistance to change showing no clear signs of opening up or improving management due in part to the lack of incentives for facing new challenges available within the existing excessively bureaucratic model. Given this climate, in 2001 new legislation regulating universities was passed (for the first time since 1983) which was modified in 2004 and designed to change the university model in place to make Spanish universities more competitive in the 21<sup>st</sup> century.

### 3 The analysis of Irish and Galician business schools

This work analyzes technical efficiency in three public business schools during the 1997- 2002 period, one in Ireland and two in Spain. In addition to being public institutions, they also share a similar system of financing, but operate within a notably different regulatory framework (in Spain university legislation is much more exhaustive and interventionist than in Ireland) as discussed by Fernandez (2010). Moreover, the cost per student in Ireland and Spain is also very similar. The Council for University Coordination (CCU, “Consejo de Coordinación Universitaria”) reports that, in the year 2003, the cost of higher education in Spain for each student was 0,181 euros, and 10,634 in Ireland.

The Irish business school presented in our case study is the largest and best ranked internationally. Located in Dublin, it is the only business school in Ireland to hold the “triple crown” of accreditation by EQUIS, AACSB International and AMBA. EQUIS (the European Quality Improvement System) is the most important accreditation awarded by the associations of management and business in Europe. AACSB (the Association to Advance Collegiate Schools of Business) is the American accreditation awarded to business schools such as Harvard, Cornell, Columbia and Stanford. The AMBA (the Association of MBAs) accreditation is the global standard for all MBA programmes. The two Spanish business schools this work examines are two faculties of Economics and Business Sciences in Galicia<sup>2</sup> that have not been awarded the accreditations cited above. This indicates little interest on the part of these institutions in participating in the international rankings that would allow them to compete in the international market.

The analysis focuses on the loss of efficiency in two equivalent degree programmes<sup>3</sup> taught at the institutions referred to above: the Irish Bachelor of Commerce degree and the Spanish degree in Business Administration and Management (“Licenciado en Administración y Dirección de Empresas”). In addition to the Bachelor of Commerce programme in Spain, its international version is also included in this case study.

In this work we consider that there is one single output: graduates. Rao and Tikkiwal (1966) propose an efficiency indicator for courses, programmes and degrees offered by educational institutions based on the estimate of the wastage of efficiency during and after the

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<sup>2</sup> In Galicia there are three public universities, each of which includes a Faculty of Economics and Sciences. However in 1997 only two universities offered the five-year degree in Business Administration and Management (“Licenciado en Administración y Dirección de Empresas”).

<sup>3</sup> The Bachelor of Commerce degree and the “Licenciado en Administración y Dirección de Empresas” degree are considered equivalent on the basis of the recognitions that the Spanish Ministry of Education has awarded to the Bachelor of Commerce graduates in the last ten years.

educational process which is considered to focus on the production of a single output: the student who completes the programme under examination. The most important difficulty in elaborating this indicator is that it requires having access to very specific data about the cohorts, which are understood to be the group of students that begin the programme of study to be analysed at the same time. Needless to say, the analysis must be carried out once students have completed the programme. According to the Rao-Tikkiwal indicator, the efficiency of a programme, course or degree would be inversely proportional to the wastage of efficiency incurred; wastages may take place during the period of study (wastage of internal or primary efficiency) or afterwards (wastage of external or secondary efficiency):

- *Internal efficiency* would be the measure of the proportion of students who complete the coursework and the time it takes to do so.
- *External efficiency* would be derived from the evidence that the skills and knowledge acquired as a result of their education and training serve to enter the labour market and obtain a position in line with their educational background or serve as a springboard to higher levels of education.
- *Wastage of internal efficiency* is due to desertions during the period of study, which refers to students who leave before completing the programme, and stagnation, which is produced when students take longer to complete their studies than the period of time stipulated.
- *Wastage of external efficiency* refers to the extent to which graduates are not able to embark on postgraduate study or are unable to join the profession their training has prepared them for.

As Ortiz (2003) explains, in various countries students frequently take significantly longer to complete certain degree programmes than what is theoretically stipulated. This implies not only an inefficient use of both human and material resources and, consequently, economic, but in terms of our analysis leads to the existence of members of the cohort who are still in the programme at the same time as the analysis is being carried out. The author introduces a new category for those students who are still in the programme at the time the analysis is begun. This group would be included as part of the total number of students whose progress is characterised as stagnant, along with those who take longer to complete the course than the expected number of years. According to Rao and Tikkiwal (1966) and Ortiz (2003) the measures of the different types of wastage would be defined as follows:

$$W_d = \frac{U_1}{U}$$

$$W_s = \frac{U_2 + U_4}{U}$$

$$W_{fs} = W_d + W_s$$

$$W_{ss} = \frac{U_3}{U}$$

$$W_t = W_{fs} + W_{ss}$$

Where:

$W_d$  = measure of wastage due to dropouts.

$W_s$  = measure of wastage due to stagnation.

$W_{fs}$  = measure of wastage at the first stage (internal inefficiency).

$W_{ss}$  = measure of wastage at the second stage (external inefficiency).

$W_t$  = measure of total efficiency wastage.

$$U_1 = \sum_{i=1}^k iN_{3i} =$$

total number of years spent by the members, out of  $N$ , who drop out of the course up to the period  $k$

$$U_2 = \sum_{i=1}^{k-d} iN_{2i} = \text{total number of additional years in the course by delayed successful members.}$$

$$U_3 = M \times d$$

$U_4 = k \times N_4 = \text{total number of years in the course by members who are still in the course in } k \geq d.$

$$U = k \times N_4 + d(N_1 + N_2) + \sum_{i=1}^k i(N_{2i} + N_{3i}) =$$

the total number of years spent in the course by the  $N$  members of the cohort, where each  $N$  member is observed for a period  $k (\geq d)$  and where  $N_{2i} = 0$  for  $k-d < i \leq k$ .

$d$  = minimum duration (years) for finishing studies.

$k (\geq d)$  = date of analysis.

$N_1$  = number of members of the cohort who complete the course in  $d$  years.

$N_{2i}$  = number of members who complete the course in  $d+i$  years, where  $i = 1, 2, \dots, k-d$ .

$N_2 = \sum_{i=1}^{k-d} N_{2i}$  = number of members who complete the course in  $d+i$  years, for all  $i \geq 1$ .

$N_{3i}$  = number of members who drop out of the course after  $i$  years in it, where  $i = 1, 2, \dots, k$ .

$N_3 = \sum_{i=1}^k N_{3i}$  = total number of members who drop out of the course without completing it.

$N_4$  = number of members who are still in the course in  $k \geq d$ .

$M$  = number of members, out of  $(N_1+N_2)$ , who are unable to join the profession requiring the course or to study postgraduate studies.

$N = N_1 + N_2 + N_3 + N_4$  = number of members in the cohort.

#### 4 Results

Using the data directly provided by the Irish and Galician universities on student cohorts that began the Irish Bachelor of Commerce (IU1), the Bachelor of Commerce International (IU2) and the Spanish Business Administration and Management (GU1 and GU2) in 1997 1998, 1999, 2000 and 2001 the results shown in Tables 1 and 2 were obtained.

**Table 1: Indicator Calculations**

	IU1 Cohorts					IU2 Cohorts				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
$K$	10	9	8	7	6	10	9	8	7	6
$d$	3	3	3	3	3	4	4	4	4	4
$N$	292	271	264	272	284	100	100	97	102	82
$N_1$	230	205	227	199	216	72	76	77	85	59
$N_2$	44	41	27	52	42	12	7	7	5	14
$N_3$	18	25	9	21	26	16	17	13	12	8
$N_4$	0	0	1	0	0	0	0	0	0	1
$M$	0	0	0	0	0	0	0	0	0	0
$U_1$	53	80	21	61	86	23	31	22	20	32
$U_2$	53	50	33	61	50	13	7	8	5	18
$U_3$	0	0	0	0	0	0	0	0	0	0
$U_4$	0	0	8	0	0	0	0	0	0	6
$U$	928	868	824	875	910	372	370	366	385	348
$W_d$	0.057	0.092	0.025	0.070	0.095	0.062	0.084	0.060	0.052	0.092
$W_s$	0.057	0.058	0.050	0.070	0.055	0.035	0.019	0.022	0.013	0.069
$W_t$	0.114	0.150	0.075	0.139	0.149	0.097	0.103	0.082	0.065	0.161

**Table 2: Indicator Calculations**

	GU1 Cohorts					GU2 Cohorts				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
$K$	10	9	8	7	6	10	9	8	7	6
$d$	5	5	5	5	5	5	5	5	5	5
$N$	406	406	390	411	392	337	368	366	297	178
$N_1$	51	55	41	48	35	32	36	32	44	14
$N_2$	149	147	141	80	36	107	106	82	36	13
$N_3$	173	163	128	175	167	171	191	198	158	93
$N_4$	33	41	80	108	154	27	35	54	59	58
$M$	0	0	0	0	0	0	0	0	0	0
$U_1$	554	423	208	401	351	542	572	528	413	243
$U_2$	337	314	270	128	36	272	240	156	56	13
$U_3$	0	0	0	0	0	0	0	0	0	0
$U_4$	330	369	640	756	924	270	315	432	413	348
$U$	2221	2116	2028	1925	1666	1779	1837	1686	1282	739
$W_d$	0.249	0.200	0.103	0.208	0.211	0.305	0.311	0.313	0.322	0.329
$W_s$	0.300	0.323	0.449	0.459	0.576	0.305	0.302	0.349	0.366	0.488
$W_t$	0.550	0.523	0.551	0.668	0.787	0.609	0.614	0.662	0.688	0.817

The results indicate significant differences in efficiency between Irish programs (Table 1) and Galician programmes (Table 2). In the first case, the loss of efficiency ( $W_t$ ) only exceeds 0.15 for one of the cohorts in one of the programmes. However, in the second case, the loss of efficiency is systematically higher than 0.5; in some cases even rising above 0.8. These differences are the result of loss of efficiency due to students who drop out ( $W_d$ ) as well as due to stagnation ( $W_s$ ). This reflects the lower motivation of students attending the Galician universities in the study. This lack of motivation may be explained by the lower opportunity cost incurred by Galician students (since both job opportunities and salaries are lower in this region than in Ireland). Another reason for this lack of motivation could be that stagnation is culturally more acceptable in the Spanish context. The similar results obtained in the case of the two Irish programmes (IU1 and IU2) and by the two Galician programmes (GU1 and GU2) are certainly worth noting. This parallelism, which to a certain point was to be expected, further reinforces the validity of the results obtained.

The study focuses on internal efficiency since the Galician government only provides aggregated data on external efficiency for the three public universities in Galicia. The 2008 report by ACSUG (the Agency for Quality Assurance in the Galician University System) estimates that the percentage of graduates in 2004 in the area of Business (which encompasses degrees in Business Administration, Economics, and the diploma in Management Science) from the Galician universities who find a job in the first three months after graduation is approximately 57%; 80% do so within the first six months, and 92% in the first year. According

to the data provided by The Higher Education Authority reported in HEA (2009), only 2% of the graduates from the Irish institution were looking for employment nine months after completing their degrees. Although it is true that the data employed are not homogeneous, and, consequently, this makes it difficult to compare the data, it is equally true that nothing indicates that the loss of external efficiency in the Galician institutions is less than for the Irish, where it is practically nonexistent.

## **5 Conclusions**

The results obtained clearly indicate that the two Irish programmes have similar values in terms of loss of efficiency as do the two Galician institutions when compared with each other. However, the Irish programmes are evidently more efficient than those taught in Galician institutions. The high efficiency of Irish programmes allows these to supply the business sector with the highly skilled labour force it demands by adhering to international standards of quality with hardly any loss of efficiency due to stagnation or drop outs. These results in an effective use of the resources invested in the entire educational process. The fast rate at which highly qualified graduates are generated and the fact that these graduates are prepared for either entry into the labour market or post graduate study is a clear sign that the dynamic and competitive nature of the Irish business environment is reflected in Ireland's higher education system. One reason for the lack of competitiveness in business schools in Galicia may be the system of financing where, to this day, negotiation with government authorities (closely linked to inputs) continues to be more important than financing tied to objectives (linked to the outputs generated). This, along with exhaustive regulation, where bureaucratic and administrative aspects remain an important part of the process while the evaluation of results is avoided, is also part of the problem. The fact that the present labour market in Galicia is not as promising for university students as it is in Ireland may also contribute to this situation.

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