

**UNIREG REGIONAL CASE STUDY REPORT**  
**THE SHANNON REGION**

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May 2000

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## **1. Introduction to the Shannon Regional Report**

This report on the Shannon region and the role of the University of Limerick within the region with respect to eight cross-sectional areas of the university is intended to be a 'stand-alone' case study. However, the Shannon report is perhaps best read in the light of its (literally speaking) larger companion - the Dublin regional report - which sets the comparative context from which to better appreciate the role of the University of Limerick in the Shannon Region.

One of the main conclusions of the Dublin regional report concerns the relative lack of formal institutional linkages and networks between the three Dublin universities and external actors in the Dublin region. By contrast, the Shannon regional report emphasises the relative multitude of formal institutional linkages and the density of the actor network which appears to exist between the University of Limerick and external regional actors in the public, private, third level and community spheres among others.

A second more tentative conclusion of the Dublin report suggests that the continued socio-economic development of 'Dublin' may be better achieved through a regional political authority with significant devolved powers and/or a regional development agency with a broad remit such as a Dublin Development Authority. With respect to the former, the local and regional political authorities in the Shannon region have as little devolved powers as the political authorities in the rest of the country. However, in terms of the latter, the Shannon region is quite distinctive compared to all others in the Republic of Ireland in that its own regional development company called Shannon Development. Importantly, Shannon Development also has been provided with a broad remit 'to initiate, participate in and support integrated development that will achieve sustained economic growth in and throughout the Shannon Region' (1999b: 1).

Shannon Development has been one of the main drivers of development in the Shannon region since its foundation as Shannon Free Area Development Company in 1959 'to promote Shannon International Airport in the post-jet era' (ibid). In particular, Shannon

Development participated in the successful Mid-West initiative to establish a regional university with a technological bias' in Limerick (Nathaniel Lichfield 1969: 1), opened to students as the National Institute of Higher Education or NIHE Limerick in 1972. Significantly, both the NIHE (or the University of Limerick from 1989) and Shannon Development stress the importance of fostering partnerships, linkages and networks with actors across the region in their institutional ethos' and everyday practices. Thus, UL and Shannon Development have over time created inter-institutional linkages and an actor network, whose institutional expression is perhaps best exemplified by their partnership in the National Technological Park (or NTP) for science and technology companies on the University of Limerick's campus.

This common institutional emphasis on creating regional partnerships, linkages and networks appears to be an integral component of the regional development strategy for the Shannon region, devised in part to overcome 'market failure' and other disadvantages of peripherality within Ireland and the European Union (1996b). As a result, the Shannon region may be characterised as an emerging 'learning region' in which innovations are nurtured (for example, in knowledge based companies at the NTP) and then spread throughout the region via the regional institutional linkages and actor network. In this way, the University of Limerick and Shannon Development are but two - albeit very important - institutional actors in the Shannon region's developmental strategy.

From Shannon Development's perspective, the NIHE/University of Limerick itself has also been an essential component in the development of the Shannon region since the early 1970's, adding an important third level educational driver to the company's package of regional development policies. In fact, the apparent success of UL as an educational driver in Limerick has led the company to export the 'UL model' to other sub-regional areas within the Shannon region. Specifically, Shannon Development has transferred the UL model to the Institute of Technology Tralee and the Kerry Technology Park in north Kerry as well as to the newly founded Tipperary Rural and Business Development Institute (TRBDI) in north Tipperary (Shannon Development 2000: 9-10).

An added dimension to this exportation of the UL model to sub-regional areas within the Shannon region is the company's goal of 'establishing a network of 'technology nodes' throughout the region linked to the third level educational sector to cater for the specific needs of knowledge intensive enterprise' (3). Interestingly, the lack of a university or third level educational driver for regional development has been recently cited in the south-east of the country with respect to the Waterford Institute of Technology (Healy February 29 2000) and Wexford county (Dooley April 5 2000) respectively, suggesting a broader - but apparently unintentional - exportation of the UL model to other parts of Ireland for the purposes of regional development outside of Dublin.

Shannon Development and the University of Limerick have also been proactive in facilitating linkages and building a network between institutional actors throughout the 'west' of Ireland broadly understood. Thus, both regional institutions (as well as Enterprise Ireland at the national level) have been involved in forming an 'Atlantic University Alliance' between UL, NUI Galway and University College Cork 'to take an integrated approach to the economies of the western, mid-western and southern regions' (Siggins June 1 1999).

Further, the influence of Shannon Development in particular is apparent in the 'master plan' being finalised by the Western Development Commission for the 'economic regeneration of the seven western counties under its remit' (O'Brien April 11 2000). This master plan leapfrogs the government's self-imposed two-year delay in identifying regional areas for the National Development Plan's spatial development strategy (Siggins April 10 2000) by specifying '10 locations for overseas investment' including the Ennis/Shannon area in the Shannon Region (O'Brien April 11 2000). The master plan also details a Shannon Development type strategy to develop these locations beginning with a resource and labour skills audits (ibid), while focusing on 'UL model' third level educational drivers for two of these areas: the Institutes of Technologies in Sligo and Letterkenny (Judge November 26 1999).

This expanding and thickening web of regional linkages bound into an actor network certainly sets the Shannon region apart from the Dublin region with respect to the role of universities in regional development. Yet Dublin's rapid development over the course of the 1990's appears to have continued merrily onwards without a thick web of regional formal institutional linkages tied into a dense actor network including the three Dublin universities. There may be a case to be made, however, for the importance of informal linkages among Dublin's main institutional actors in terms of contributing to Dublin's regional development. It also appears that main drivers of Dublin's rapid development have been for the most part national, European and global actors instead of regional or local ones, although Dublin's third level institutions have contributed primarily through the education of skilled graduates.

These points concerning Dublin's recent development raise a few questions about the Shannon region's development strategy. For instance, does the Shannon region need a web of formal linkages between regional institutional actors in order to continue developing the region? And is the UL model of a third level educational driver really necessary to the region's development? We will return to these questions in the next sections of the report in the context of discussing the development of the Shannon region in more detail and the role of the University of Limerick in the region's development.

The ten single, structured qualitative interviews which form the basis for the eight thematic sections of the report were conducted between January 31, 1999 and February 4, 2000. The sampling choice of single or at most two 'elite' interviews for each theme will tend to reduce the reliability of the overall results by the necessity of depending on the interview responses of an individual or two. Any misquotes, misuse of facts or misinterpretations, though, are solely the fault of the researcher. Mea Culpa!

## **2. Overview of the Shannon Region**

### **The uses and limits of the term `Shannon region`**

The use of the term `Shannon region` in this report is based on the current geographical remit of Shannon Development. The company's geographical remit includes Limerick City and all of Counties Limerick and Clare, Tipperary North Riding or North Tipperary County, North County Kerry and South-West County Offaly. The company's original geographical brief in 1959 as the Shannon Free Airport Development Company or SFADCo extended only to the limits of Shannon International Airport in County Clare including the Shannon duty free zone (Shannon Development 1996: 3).

In 1968, the company's functional and geographical remit was substantially broadened to `assume responsibility for industrial development and inward investment in the Shannon Region' (7). At this time, the Shannon region defined a geographical area co-terminous with the border of the then recently formed Mid-West region which encompassed Limerick County and City, County Clare and Tipperary North Riding. Over the course of the 1980's the company's geographical brief was further extended by the Irish state to incorporate South-West Offaly in 1980 and North Kerry in 1989 (ibid), defining the present limit of the `Shannon region' with respect to Shannon Development. In this current geographical shape, the Shannon region spans an area of about 10,000 square kilometres and approximately 407,000 people (Shannon Development 1998).

Since these areas all border the Shannon river at some point – providing the name for the region – one could extend the meaning of the Shannon region to those other areas which border the Shannon river including parts of the West, Midlands and Border regions. In this way, as suggested by one of those interviewed for this report, the meaning of the term `Shannon region' becomes less concerned with the territory of a specific `region' and more focused on the metaphorical uses of the river as a connector of peoples and a potent unifying force – at least at the symbolic level.

For statistical purposes, however, the Shannon region is best measured in the reduced terms of the Mid-West administrative region for which basic statistics have been collected at least since its establishment following the Local Government (Planning and Development) Act, 1963 (Roche 1982: 66). This newly formed Mid-West region of Limerick County and City, County Clare and Tipperary North Riding has been subsequently used by a number of Irish national and regional level organisations including a Regional Development Organisation (and the Mid-West Regional Authority in 1994), Industrial Development Authority or the IDA, Bord Failte or the Irish Tourist Board and the Health Services among others (66-68).

As such, one could argue that the term `Shannon region` is more likely to refer to the area encompassing the Mid-West region with respect to the institutional practices of in the practice of many national and regional organisations. While this use of the term Shannon region is more appropriate to a basic statistical analysis of the `region`, it does not capture the importance of Shannon Development to the regional development of the `Shannon` area extending beyond the Mid-West region. Thus, the next part of this section will analyse the Shannon region primarily in terms of the Mid-West region for statistical purposes while using the term `Shannon` to refer to broader issues of development for the region. To facilitate a comparison to the Dublin region, the statistical description of the Mid-West region will include similar figures for Dublin over the same time periods.

### **Basic statistical description and analysis of the region's recent development**

The Mid-West region's net population steadily increased by over 50,000 between 1961 and 1996 (see table 1). However, the region's share of the total national population gradually decreased at the same time from 9.3 per cent in 1961 to 8.8 per cent in 1996. This decline of 1.5 per cent in the Mid-West region's national population share compares unfavourably to the 3.7 increase for the Dublin region over the same period. The differences between the two regions may be partly explained by higher rates of regional emigration from the Mid-West region as well as higher rates of internal migration to the Dublin region from the Mid-West.

**Table 1. Population by Region (000's) and Regional Share in Ireland (%), 1971-96**

Region	1961	1971	1981	1991	1996
DUBLIN					
Population	<b>719.0</b>	<b>852.0</b>	<b>1003.2</b>	<b>1025.3</b>	<b>1056.7</b>
Share	<b>25.5</b>	<b>28.6</b>	<b>29.1</b>	<b>29.1</b>	<b>29.2</b>
MID-WEST					
Population	<b>260.7</b>	<b>269.8</b>	<b>308.2</b>	<b>310.7</b>	<b>316.9</b>
Share	<b>9.3</b>	<b>9.1</b>	<b>8.9</b>	<b>8.9</b>	<b>8.8</b>
STATE					
Population	<b>2818.3</b>	<b>2978.2</b>	<b>3443.4</b>	<b>3524.7</b>	<b>3621.0</b>
Share	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(Source: Drudy and Punch 1999: 34)

**Table 2. Labour Force by Region (000's) and Regional Share (%), 1971-97**

	Labour Force				% Share		% Change
	1971	1981	1991	1997	1971	1997	1971-97
Dublin	<b>330.4</b>	<b>398.9</b>	<b>436.0</b>	<b>482.0</b>	<b>29.5</b>	<b>31.7</b>	<b>45.9</b>
Mid-West	<b>99.5</b>	<b>111.0</b>	<b>119.9</b>	<b>125.1</b>	<b>8.9</b>	<b>8.2</b>	<b>25.7</b>
State	<b>1119.5</b>	<b>1271.1</b>	<b>1382.9</b>	<b>1517.3</b>	<b>100.0</b>	<b>100.0</b>	<b>35.5</b>

(Source: Drudy and Punch 1999: 34)

**Table 3. Agricultural Employment by Region, 1971-97 (000's)**

Region	1971	1981	1991	1997	% Change 1971-1997
Dublin	<b>4.6</b>	<b>3.4</b>	<b>4.2</b>	<b>3.3</b>	<b>-28.3</b>
Mid-West	<b>32.1</b>	<b>22.9</b>	<b>19.0</b>	<b>15.0</b>	<b>-53.3</b>
State	<b>273.1</b>	<b>188.6</b>	<b>158.2</b>	<b>134.2</b>	<b>-50.9</b>

(Source: Drudy and Punch 1999: 34)

**Table 4. Industrial Employment by Region, 1971-1997 (000's)**

Region	1971	1981	1991	1997	% Change 1971-1997
Dublin	<b>122.0</b>	<b>113.3</b>	<b>88.5</b>	<b>92.8</b>	<b>-23.9</b>
Mid-West	<b>25.6</b>	<b>33.4</b>	<b>29.1</b>	<b>36.4</b>	<b>42.2</b>
State	<b>322.8</b>	<b>365.9</b>	<b>313.3</b>	<b>386.4</b>	<b>19.7</b>

(Source: Drudy and Punch 1999: 34)

**Table 5. Service Employment by Region, 1971-1997 (000's)**

Region	1971	1981	1991	1997	% Change 1971-1997
Dublin	<b>187.8</b>	<b>242.9</b>	<b>265.7</b>	<b>324.0</b>	<b>72.5</b>
Mid-West	<b>35.4</b>	<b>44.0</b>	<b>52.5</b>	<b>58.8</b>	<b>66.1</b>
State	<b>459.1</b>	<b>583.3</b>	<b>677.6</b>	<b>817.7</b>	<b>78.2</b>

(Source: Drudy and Punch 1999: 35)

**Table 6. Regional and National Sectoral Employment (%), 1991-1997**

Region	1971			1997		
	Agricultural	Industrial	Service	Agricultural	Industrial	Service
Dublin	<b>1.4</b>	<b>36.9</b>	<b>56.8</b>	<b>0.7</b>	<b>19.3</b>	<b>67.2</b>
Mid-West	<b>32.3</b>	<b>25.7</b>	<b>35.6</b>	<b>11.9</b>	<b>29.1</b>	<b>47.0</b>
State	<b>24.4</b>	<b>28.8</b>	<b>41</b>	<b>8.8</b>	<b>25.5</b>	<b>53.9</b>

**Table 7. Number (000's) and Rates (%) of Unemployed by Region, 1971-1997**

Region	1971	1981	1991	1997	% Change 1971-1997
DUBLIN	<b>15.9</b>	<b>39.3</b>	<b>77.7</b>	<b>61.9</b>	<b>286.9</b>
Rate (%)	<b>4.8</b>	<b>9.9</b>	<b>17.8</b>	<b>12.8</b>	
MID-WEST	<b>6.4</b>	<b>10.7</b>	<b>19.2</b>	<b>14.9</b>	<b>132.8</b>
Rate (%)	<b>6.5</b>	<b>9.7</b>	<b>16.0</b>	<b>11.9</b>	
STATE	<b>64.5</b>	<b>133.3</b>	<b>233.8</b>	<b>178.8</b>	<b>199.2</b>
Rate (%)	<b>5.8</b>	<b>10.5</b>	<b>16.9</b>	<b>11.8</b>	

The labour force figures reinforce those for the regional population shares between the Mid-West and the Dublin regions (see table 2). Thus, while the Mid-West's labour force rose by 25 per cent from 1971 to 1997, the corresponding rise for the Dublin region is almost 46 per cent. As a result, the Mid-West's share of the national labour force decreased by 0.6 per cent from 8.8 per cent in 1971 to 8.2 per cent in 1997 relative to Dublin's increase of 2.2 per cent from 29.5 per cent to 31.7 per cent of the national labour force over the same period. Again, the comparatively larger increase in Dublin's labour force and share of the national total may be partly accounted for by internal migration to Dublin from other regions such as the Mid-West.

In terms of sectoral employment by region, the figures indicate a more complex comparison between the Mid-West and the Dublin regions between 1971 and 1997 (see tables 3-6). While the numbers in agricultural employment have decreased in both regions, the decline in Dublin is from a very low base reflecting the city's position as the major urban area in Ireland. On the other hand, the Mid-West region has experienced a fairly rapid decline of over 50 per cent in agricultural employment - slightly above the national average for the 1971-1997 period (see table 3). This rapid decline in the numbers of those employed in agriculture is mirrored in the significant decrease in the agricultural sector's share of employment in the Mid-West region from 32.3 per cent in 1971 to 11.9 per cent in 1997 (see table 6). Yet both of these figures are above the national agricultural employment rates of 24.4 per cent in 1971 and 8.8 per cent in 1997, suggesting that the Mid-West region remains more dependent on the agricultural sector relative both to Dublin and the national average.

With respect to industrial employment, however, the situation between the regions is almost reversed. In this case, the Dublin region has experienced a rapid decline in its share of industrial employment from 36.9 per cent in 1971 to 19.3 per cent in 1997 (see tables 4 and 6). On the other hand, the Mid-West region has experienced an overall increase from 25.7 per cent in 1971 to 29.1 per cent in 1997 (masking a more mixed

experience of a rise to 30 per cent in its share of regional industrial employment in 1981 and a fall to 24.3 per cent in 1991). If compared to the national sectoral figures of 28.8 per cent industrial employment in 1971 and 25.5 per cent in 1997, the figures show that the Dublin region has moved from a position well above to one well below the national percentage for industrial employment, while the Mid-West region has moved from a position below to one above the national average. In this sense, one could argue that Dublin has been relatively de-industrialised at the same time that the Mid-West region has become more industrialised than the Dublin region at least in terms of regional shares of industrial employment.

With regard to service sector employment, the situation between the two regions again differs (see tables 5 and 6). While both the Mid-West and the Dublin region have greatly increased the numbers in service employment between 1971 and 1997, the overall percentage change in Dublin of 72.5 per cent is above the figure of 66.1 per cent for the Mid-West region. More significantly, the steady rise in service sector employment in Dublin is from a base in 1971 of 56.8 per cent of the regional labour force, almost 16 per cent above the national average of 41 per cent and over 21 per cent over the Mid-West figure of 35.6 per cent. Similarly, Dublin's service sector employment in 1997 represents 67.2 per cent of the regional labour force, a figure 13 per cent above the national average of 53.9 per cent and a full 20 per cent above the Mid-West proportion of 47 per cent. As such, one could argue that the Mid-West region has become more of a service sector based region in terms of employment from 1971 to 1997, yet remains well behind the Dublin region with respect to developing a service sector based regional economy.

In terms of unemployment, the two regions have experienced a broadly similar pattern tracking the national average of increasing unemployment between 1971 and 1981, rapidly increasing unemployment to 1991 followed by a decline after 1994 due in part to the so-called Celtic Tiger economy (see table 7). For Dublin, the main differences are that its 4.8 per cent rate of unemployment in 1971 began below the national average of 5.8 per cent and climbed to above the national average by 1991 largely reflecting the region's de-

industrialisation process. This is most clearly indicated in Dublin's 286.9 per cent change in unemployment between 1971 and 1997 compared to national average of 199.2 per cent and the Mid-West change of 132.8 per cent.

On the other hand, the Mid-West region's 6.5 rate of unemployment in 1971 began above the national average, falling below the national rate (of 10.5 compared to 9.7 per cent) by 1981. This relative improvement in the Mid-West region's rate of unemployment with respect to the national average may be partly explained by the fairly rapid decline in agrarian employment leading to rural depopulation, internal migration and emigration from the region. In both cases, though, the fast downward trend has continued beyond 1997 reflecting the on-going national economic boom. Thus, the Mid-West regional rate fell quickly from 11.8 per cent in 1997 (see table 6) to 6 per cent by the fourth quarter of 1998, while the Dublin rates fell from 12.3 per cent to 5.7 per cent in the same period (CSO 1998).

Overall, this statistical description and analysis suggests that the Mid-West region has largely completed a transition from an agrarian to a post-agricultural regional economy based on a mixture of industry and services, while the Dublin region has at the same time completed a transition to a post-industrial service sector based regional economy. In this way, both regions have experienced fairly substantial development over the period from 1971 to 1997, yet there still clearly exists a 'development gap' (Dineen 1995: 43) between the Dublin and the Mid-West region as we enter the 21<sup>st</sup> century.

To a large extent, this statistical description and analysis of the Mid-West/Shannon region's development is complemented by other more qualitative analyses of the region's recent development. Two analyses will be briefly discussed here, both of which originate from institutional actors in the Shannon region. The first is an analysis conducted by regional institutional actors for the EU funded Shannon Regional Information Society Strategy and Action Plan (1998; see section 8). The strategy and action plan has been devised by the Shannon Information Society Partnership Programme (ShIPP) whose

Steering Committee is composed of twenty-six representatives from the main political, economic, social and educational bodies in the region including Shannon Development and the University of Limerick among others (86).

In analysing the Shannon region's recent development, the action plan identifies the region's key weaknesses. According to the plan, 'a key weakness of the region...is that it suffers as a peripheral location within a country that is itself on the periphery of Europe' (15). Another weakness is that 'the Irish Regional system is exhibiting unbalanced growth, with an increasing polarisation that is favouring the Dublin East Region' (ibid). The plan also notes that the Shannon region suffers from the 'phenomenon of rural depopulation' accompanied by 'low incomes, severe under-employment and rapidly declining opportunities' (16). While the region's industrialisation has to a certain extent offset the decline in the rural agrarian areas, 'the large industry sector is dominated by overseas companies, which account for 56% of total employment' (19). Further, the relative regional dominance of the larger, more innovative and export oriented overseas firms compared to the smaller, less innovative and domestic market based Irish firms leads the authors of the plan to identify a 'dual economy' in the region (18).

The second analysis of the Shannon region's recent development is offered by Donal Dineen, the Head of the University of Limerick's Economics Department (1995). In a journal article, Dineen describes 'the Limerick/Shannon area' as being located on 'the periphery of the periphery' in European terms (142). The problems of peripherality in the Shannon case include emigration and 'the internal migration pull to the capital city' as well as 'the traditional dependence in these parts on agriculture as a source of income and employment' (143). While the region has been undergoing a 'transformation process managed by key local actors', Dineen argues that 'its transition from an agrarian to a modern developed economy...is still incomplete' (142). For example, the Shannon region remains 'very dependent on foreign-owned plants as an employment generator' (143). At the same time, most indigenous companies are too 'concentrated in traditional sectors of

the economy (food, clothing, wood and furniture) or in a mixture of traditional and modern sectors (engineering, electronics)' (ibid).

To address these regional weaknesses, both Dineen and the authors of the action plan offer strategies to further the Shannon region's development away from the periphery of the periphery while 'closing the development gap' (143) with Dublin as well as other more developed European regions. For the authors of the action plan, the ShIPP strategy forms part of a wider regional innovation strategy for the Shannon region (9). This regional strategy in turn requires a more 'explicit' EU and national 'regional dimension that would seek to strengthen existing centres outside of Dublin in order to ease pressures on the capital's growth' (1998: 14). Anticipating the language used in the Irish government's National Development Plan for 2000-6 (2000), the ShIPP report proposes support for the development of a Shannon regional 'cluster' around Limerick, Ennis and Shannon as well as a broader 'Atlantic Corridor' cluster composed of Cork, Limerick and Galway (14-15). With respect to the latter, the authors view the emergence of the Atlantic University Alliance (see section 8) of the University of Limerick, NUI Galway and the UC Cork as 'excellent first step in this regard' (15).

To close the regional development gap, the authors of the plan conclude that 'a key economic development strategy in the Shannon Region must be to raise the levels of adoption and usage of Information Society Technologies (IST) by foreign and indigenous industry' (21). This will serve to increase the Shannon region's 'competitiveness' and 'attract new investment and generate additional employment in the global economy'(ibid). Further, an 'essential component' in implementing the ShIPP strategy concerns 'building strong and sustainable partnerships' between 'educational institutions and industry', large industry and SME's', 'industry and the public sector' as well as 'within industry' (ibid). The ShIPP strategy, then, for the Shannon region's future development involves fostering a network of intra-regional and inter-regional 'Atlantic corridor' institutional partnerships (including third level institutions) to increase the adoption and usage of new IST technologies among overseas and domestic companies to

attract new foreign investment and create higher skilled employment in the region. In this way, the Shannon/Mid-West region may continue its transition from a post-agricultural to a post-industrial region in Ireland, moving from the periphery while bridging the development gap with Dublin.

Dineen's strategy for the Shannon region focuses on the important yet circumscribed role of third level institutions - specifically the University of Limerick – can play in the region's development. Thus, for Dineen, the 'University of Limerick represents a significant (if limited) resource which assists the development process through its graduate output, research and development activities, and institutional creations which interface with the economic life of the region' (1995: 147). In general, the university can assist the region's 'development strategy' and help close the 'technological gap' through 'the links developed between the university and the development agencies and the orientation of [its] study programmes' as well as by 'adding value to the human resources in the region through its third-level educational institutions' (ibid). More specifically, the 'University of Limerick is an important actor and catalyst' in 'closing the development gap...through the transfer or acquisition of modern competitive technologies and/or the generation of these through the appropriate mobilization of indigenous resources' (143).

In these ways, the University of Limerick has become an integral part of the Shannon region's overall development strategy. The regional importance of the University of Limerick to the Shannon region leads Dineen to identify what he refers to as the 'Limerick model'. The model in this case 'involves a greenfield site whereby a university was introduced to a predominantly rural area struggling to attract foreign investment as part of a strategy to accelerate economic development' (140). In implementing this strategy, the university 'from the outset...saw its mission as one which embraced strong links with the local and regional economy' (141). On the other hand, given the limited success of the model with respect to the Shannon region's development, Dineen adds later that 'it would be naïve to conclude that university-related developments in the Shannon region have solved the underlying economic problems' (147).

A similar conclusion could be reached regarding the success of the Shannon region's development strategy over the period from early 1970's to the late 1990's based in no small part on the fostering of strong regional institutional partnerships and linkages through a dense network of key actors in the region's main political, economic, social and educational organisations. Based on the statistical description and analysis of the region's development, one could argue that this Shannon regional partnership model has been relatively successful in managing the region's transition from a predominantly agrarian to a mixed post-agrarian region in Ireland. However, one would also have to add that the Shannon regional partnership model has not yet been as successful in generating the further transition from a post-agricultural to a post-industrial region. Further, the partnership model has not enabled the Shannon region to close the new development gap which has emerged over the past three decades between the post-agricultural Shannon and the post-industrial Dublin region.

### **3. Description and Character of the University of Limerick**

The University of Limerick began its institutional life as the National Institute for Higher Education, Limerick (or NIHE Limerick) in 1972, the first year students were admitted to the institution (Coolahan 1981: 250-1). In 1989, NIHE Limerick was legally transformed into the University of Limerick by the state's enactment of the University of Limerick Act, 1989 as further confirmed and amended by the Universities Act, 1997.

However, beneath this simple account of UL's legal institutional life lies a more complex and interesting story of the Mid-West/Shannon region's 'energetic campaign waged over twenty years to secure a university in the area' (O'Buachalla 1976: 31). In particular, the Limerick University Project Committee – composed of regional institutional representatives - struggled against the state's reluctance in the 1960's to establish another university in Ireland as well as its desire to create only a second tier of regional technical colleges across the country to meet the expected demand for skilled, third level graduates (Nathaniel Lichfield 1969: 3-6).

Partly in response to the Project Committee's campaign, the Commission on Higher Education in 1968 recommended the establishment of a 'new college' at Limerick with a status below a university and above a regional technical college (7). While the Higher Education Authority (or HEA) supported the Commission's recommendation that there was 'no national need at present for another university college', the authority cited 'another national need' for higher 'technological education' whose 'primary purpose is the application of scientific knowledge and method' (Clancy in Mulcahy and O'Sullivan 1989: 121).

The Limerick University Project Committee accepted the central importance of applied technological higher education for the new college at Limerick (Nathaniel Lichfield 1969: 43-8). On the other hand, the Committee argued for a single campus 'university with a strong technological bias' (Nathaniel Lichfield 1969: 28) which 'should be a leading organisation in stimulating regional growth' (41) through its faculties, courses, research

and regional linkages (40-1). At the same time, the Committee suggested that this institution 'called The University of Limerick' (40) should be 'a university of Ireland, not of the Region only' (42).

The resulting NIHE Limerick represented an amalgam of these elements and more. Thus, the institute's 'regional and national character' were 'explicitly expressed in its educational objectives which define the institution's role as providing higher education locally for the region, complementing existing institutions and offering specialisations which may not be found elsewhere in the country's third level institutions' (O'Buachalla 1976: 15). While a national institute, then, NIHE Limerick 'would also play a leading role in the development and expansion of the region', being 'conscious of its regional identity' and promoting 'the mutual interaction of region and institute' (19). Yet, the institute viewed itself in European and North American terms too, adopting European Studies as one of its five original degree programmes (17) as well as an American style system of modules and credits (16).

With respect to the technological and applied roles of the institution, these were acknowledged in the institute's 'special emphasis on applied knowledge' and 'special concern for the technological needs of industry, agriculture, commerce, public administration and the professions' (15). Further, the applied knowledge role of NIHE Limerick was strengthened by an explicitly vocational aspect to the education in the form of the Cooperative Education Programme which introduced 'periods of off-campus work experience as an integral part of the academic programme' (16). In these ways, NIHE Limerick developed as a national regional institute with international dimensions offering a technological vocational higher education - along lines similar to those later adopted by the second NIHE in Dublin (see the Dublin regional report).

Like the Dublin institute too, NIHE Limerick straddled the line between direct state control of the regional technical colleges and the relative institutional autonomy of the Irish universities. Thus, the Irish state through the Minister of Education could exercise

direct control over the institutes by appointing 'the majority of the members of their governing bodies' as well as subjecting the governing bodies 'to ministerial approval of all decisions except in relation to some narrowly defined functions' (Clancy in Mulcahy and O'Sullivan 1989: 111).

Yet the NIHE Limerick in particular became well known in Ireland in part for the American influenced 'presidential' managerial style (Dineen 1995: 141) of Ed Walsh, the institute's head from its founding until 1998. According to Clancy, Walsh like his counterpart at the time, Danny O'Hare, at NIHE Dublin/DCU used their notoriety to become 'forceful spokespersons for the technological reorientation of Irish higher education' in public as well as in discussions with the institutions of the Irish state (in Mulcahy and O'Sullivan 1989: 121).

At NIHE Limerick/UL, this mixture of state control and presidentialism has been further complemented by an 'innovative/entrepreneurial' organisational ethos of 'getting things done in a fashion and with a speed which contrasts with that of the more traditional universities on the island' (Dineen 1995: 142). Partly as a result of this organisational ethos, representatives from the institution tend to view the present university as entrepreneurial relative to the state and innovative compared to the older Irish universities, a position made more tenable with the relative institutional autonomy granted to the institute in 1989 when it officially became the University of Limerick.

Over the years, the five degree programmes and 113 students of 1972 have grown to 20 academic departments in six colleges with almost 8,000 students by 1998 (O'Buachalla 1976: 55; Dineen 1995: 142; UL 1999a). The growth of the university has also led to a better balance between the business, science and humanities students based in part on the institution's 1991 and 1994 absorptions of the Thomond College of Education and Mary Immaculate College of Education respectively (interview notes). As such, the 23 per cent of the students in 1972 who undertook degrees in the social sciences and humanities (European Studies) had increased to 37 per cent by 1998 (in Education and the

Humanities) (UL 1999a). The remainder of the distribution of graduates by degree programme in 1998 was as follows: Business (20 per cent); Engineering (12 per cent); Informatics and Electronics (17 per cent); and Science (14 per cent).

In this way, the proposed university with a strong technological bias has retained its technological emphasis while expanding the institution's arts and humanities as well as its social science components. At the same time, the university has also maintained its vocational emphasis through its Cooperative Education programme encompassing almost 2000 undergraduates and a 'network of over 1200 employers' (ibid). Further, the role of the university's applied knowledge orientation is evidenced in the relatively greater importance of research income (21 per cent in 1998) to total income (see table 9) compared to the traditional universities of University College Dublin (12.1 per cent) as well as Trinity College Dublin (18.4 per cent). Yet, UL's percentage of research to total income in 1998 was below that for the other former NIHE or Dublin City University (27.4 per cent), reflecting the relative importance of a research orientation to these two new universities and suggesting a level of inter-institutional competition between them.

Finally, the university has preserved its role with respect to regional development in the transition from the old NIHE to the new University of Limerick (see section 2). In the process, UL's development role in the Shannon region has become more firmly embedded through the continuation of long-standing regional partnerships, institutional linkages and key actor networks such as those with Shannon Development. These regional partnerships and linkages may also be reconfigured as in the Steering Committee of the ShIPP partnership, adapting to changes in the regional development process entailed by new factors such as the introduction of Information Society Technologies (IST's) into regional development strategies.

**Table 7. University of Limerick Student Numbers 1997/98**

	Full-Time Students	Part-Time Students	Grand Total
Undergraduate Degree	<b>5944</b>	<b>60</b>	<b>6004</b>
Postgraduate Degree	<b>456</b>	<b>270</b>	<b>726</b>
Undergraduate Diploma	<b>200</b>	<b>214</b>	<b>414</b>
Postgraduate Diploma	<b>363</b>	<b>47</b>	<b>410</b>
Undergraduate Certificate	<b>0</b>	<b>0</b>	<b>0</b>
Postgraduate Certificate	<b>0</b>	<b>0</b>	<b>0</b>
Occasional Undergraduate	<b>0</b>	<b>237</b>	<b>237</b>
Occasional Postgraduate	<b>0</b>	<b>0</b>	<b>0</b>
Less Those In More Than One Category	<b>0</b>	<b>0</b>	<b>0</b>
Total	<b>6963</b>	<b>828</b>	<b>7791</b>

**Table 8. UL Recurrent Income 1997/98**

	IR£000	%
State Grant	<b>17002</b>	<b>50</b>
Fee Income	<b>15789</b>	<b>46.4</b>
Other Income	<b>1220</b>	<b>3.6</b>
Research Income	<b>0</b>	<b>0</b>
Total Recurrent Income	<b>34011</b>	<b>100</b>
State Grant + Half Of Fee Income	<b>24896.5</b>	<b>73.2</b>

**Table 9. UL Total Income 1997/98**

	IR£000	%
State Grant	<b>17002</b>	<b>39.5</b>
Fee Income	<b>15789</b>	<b>36.7</b>
Other Income	<b>1220</b>	<b>2.8</b>
Research Income	<b>8993</b>	<b>21</b>
Total Income	<b>43004</b>	<b>100</b>
State Grant + Half of Fee Income	<b>24896.5</b>	<b>57.9</b>

#### **4. Mapping of the University onto Scales of Governance and Community**

As discussed above, NIHE Limerick/UL has developed over time an extensive web of linkages with key actors in regional institutions (Dineen 1995) including those at the political and community levels. For O’Buachalla in the mid-1970’s, this ‘mutual interaction of region and institute’ included ‘close contact with the schools in the region’; an ‘integrated campus’ which ‘provided a centre of community activities for the region’; ‘links with leaders of professional, industrial and political agencies in the region’; ‘research and consultancy’ work ‘applied to a number of spheres of regional activity’; and the Cooperative Education programme (1976: 20). With respect to governance linkages, O’Buachalla specifically noted that ‘through the regional membership of its Governing Body, the NIHE has established links with...local authorities, regional development organisations, industrial, economic and agricultural organisations, management and trade union bodies and other groups concerned with specific infrastructural sectors of the region’ (ibid).

Almost twenty-five years later, this extensive web of regional linkages between the university with key actors in governance and community institutions continues to be built and reinforced. Thus, the Universities Act, 1997 mandates that the thirty-four members of UL’s Governing Body must include the Mayor of Limerick as well as ‘the chairperson of the council of the administrative county of Limerick or a person nominated by him or her’ (16). According to one of those interviewed at UL, the university is currently involved in cross-representational linkages with a number of regional organisations including a town/gown committee, the City Enterprise Board, the Grants Committee and the Hunt Museum in Limerick City (interview notes).

These cross-representational links with regional organisations supplement the university’s ‘always strong linkages’ with Shannon Development – which is in many ways UL’s main regional partner in terms of the Shannon region’s development (see introduction). In this instance, one person interviewed noted a number of direct linkages between UL and Shannon Development. These include the fact that, Paul Quigley, the former Chief

Executive of Shannon Development was both a 'member of the NIHE planning board' and a NIHE/UL board member for 'ten to fifteen years' (interview notes). This same person remarked that the executives of the university and Shannon Development 'used to hold regular meetings together' (ibid). Finally, this individual traced how these institutional linkages created a 'synergy' between the two organisations, leading to their successful partnership in the establishment of the National Technological Park on UL's campus in 1984 (ibid).

These and other governance and community linkages between UL and regional bodies will be discussed in more detail in the eight thematic sections below.

## **5. Universities and the Governance of Regions**

### **Institutional Plans**

There is a 'high priority' attached to the region in the institutional plans of the university from the level of governance to day-to-day activities, according to one of those interviewed for this theme. The university's institutional plans often institutionalise the informal linkages which have developed between university and external actors in the region into more formal linkages such as cross-representation. Two of the examples cited by one those interviewed involved strong cross-representation on the boards of the Innovation Centre and the National Technological Park on UL's campus.

### **Local and Regional Interface**

At present, UL's Vice President (who is also the Dean of the College of Business) retains final responsibility for all external linkages including those with respect to the Shannon region. As such, the Vice President is the position within UL's organisational structure which ultimately handles the interface with the local and regional area. This also means that there is no position within the organisational structure with the sole remit of handling the university's interface with the local and regional area.

### **Local Area Representation**

As discussed above in section 4, the University of Limerick's governing authority has thirty-three members appointed according to the Universities Act of 1997. In accordance with the Act, the Mayor of Limerick and the Chair of the Limerick County Council are members of UL's governing authority. Other forms of local area representation at the university or university-local area cross-representation include a town/gown committee, the Hunt Museum and the Limerick City Enterprise Board among others.

### **Knowledge Transfer Arrangements**

There are extensive knowledge transfer arrangements which exist with local development agencies. However, this question is best addressed in section 7 of this report on the role of universities in regional innovation strategies.

### **Regional Knowledge Networks**

One of the interviewed detailed a series of policy initiatives from the mid-1980's to the present intended in part to create a better framework condition for the integration of the university into regional knowledge networks. These initiatives include: the reorganisation of the 'park' into the National Technological Park; the establishment of an Innovation Board and an Innovation Centre; the creation of industrial liaison as well as technology and enterprise development units; the founding of a technological mentoring programme (mostly for smaller indigenous enterprises); participation in a CEO's forum (focusing on ninety regional local area companies); UL's involvement in the production of a regional innovation strategy (encouraged by Shannon Development); membership on 'all sorts of SFADCo [Shannon Development] committees'; and linkages with a number of Institutes of Technology, including transfer of credit agreements for students who want to complete degrees at UL.

### **Continuity in the Regional Relationship**

The simple answer to this question is: 'Yes', there is continuity over time in the regional relationship between the university and local actors. There have been some changes, though, in the nature of these regional relationships. Specifically, the earlier relationships tended to be based on more simple linkages which were often formalised into official representation. As the relationships have evolved, however, the linkages have become more functional in order to resolve common, complex problems. In this way, another evolution has been a move from more competitive to more cooperative regional relationships.

### **Perception of Local Actors**

One of those interviewed suggested that the perception of local actors could be understood in terms of a 'stratification of awareness' varying by degree of sophistication depending on the local actor. With respect to the business community, those larger companies with a higher level of organisational and technological sophistication tend to be the ones who are not the only most aware of UL but also linked to the university at least through the cooperative education programme of work placements. On the other hand, smaller companies with a lower level of organisational and technological sophistication tend to be less aware of UL and have no linkages with the university. In political circles, UL is generally seen as a very important actor in the region in political as well as economic terms. One of those interviewed even suggested, half-jokingly, that 'UL is the most important factory the region has ever had'.

### **Regional Universities Association**

There is a newly formed regional universities association called the Atlantic University Alliance (AUA) whose current members are UL, National University of Ireland Galway (NUIG) and University College Cork (UCC). The association also has some linkages with the Waterford Institute of Technology (which is supposed to become a university). According to a written reply, the rationale of the alliance is to complement the strengths of the universities in a broad range of science, technology and business skills. The alliance's mission is to create structures and appropriate interventions to support the continued economic development of the AUA regions via commercialisation and technology transfer between industries and the universities. The mission of the alliance is intended to be operationalised through a number of structures. One of these is the Institute of Technology Management whose first major programme is a technology transfer initiative (TTI) to develop an inter-regional clustering programme focused on indigenous industry which includes cooperative links between the cluster elements and the universities. This TTI is part funded by Enterprise Ireland and involves close collaboration with the national and regional agencies.

## **6. Management of Universities**

### **Structures for Regional Engagement**

As stated in section 5 above, the Vice President is responsible for regional engagement at the University of Limerick. The only additional information added by the person interviewed for this theme concerned the fact that the position of Vice president is a fairly recent one having been created by the President 'in the last few years'.

### **Special Units for Regional Development**

There are no special units or posts to promote regional development beyond the office of Vice President. There are, however, a number of individuals at UL involved in 'a multidisciplinary way' in regional development projects or forums. Two of these specifically cited by the person interviewed were the Enterprise Forum and the Quality Research Institute.

### **Regional Engagement of Departments and Faculties**

In a written reply to the question of which aspects of regional engagement are formally addressed within departmental and faculty planning processes, a high level academic administrator at UL stated that there was nothing of a formal nature in this regard (written reply). However, this person then wrote in some detail about the recent activities of the Government and Society department at UL. These activities include on-going 'good' relationships with Shannon Development, two of whose staff are established visiting lecturers on the programme (ibid). The Shannon Development linkages were also involved (along with those with Limerick Corporation) in forming a Mid-West consortium between 1993/94 to engage in EU sponsored action orientated regional development research projects with regions in Denmark, Hungary and Portugal (ibid). The Shannon Development linkage is being further engaged in the proposed establishment of a Centre for Regional and Local Studies co-sponsored by the department and Shannon Development (ibid). Beyond the Shannon Development linkages, this person writes about the involvement of several faculty members in the department with

the PAUL partnership to support the socially disadvantaged in Limerick through job training (ibid). There is also some discussion about creating a more formal institutional basis to the UL-PAUL relationships (ibid). Outside of the department of Government and Society, this individual wrote that several faculty members in the college have worked with agencies such as the Mid-Western Health Board, ADAPT and FOCUS Ireland largely with respect to social inclusion issues and projects (ibid).

### **Promotions and Staff Development**

There are no staff development programmes at the University of Limerick aimed at supporting regional engagement. One of those interviewed, though, discussed the need to create staff development procedures, specifically mentioning UL's recruitment of a professional Human Resource Management administrator in this regard. This same person remarked that the university has been very 'good at buildings and growing numbers', but, that as the university continues to increase in size and complexity, there is more need for human resource management in order 'to communicate with staff'.

## **7. The Role of Universities in Regional Innovation Strategies**

### **Regional Dimension in University's Research and Technology Transfer Strategy**

As with most of the University of Limerick's external relation, the regional dimension is an integral part of the university's research and technology transfer strategy. While UL has a number of programmes which directly relate the regional to its research policy, the role of the regional dimension in UL's research and technology transfer strategy is perhaps best exemplified in institutional form through The National Technological Park or NTP. Part of this discussion is informed by a written reply to some of these questions by a high level administrator in The National Technological Park.

The NTP was founded in 1984 as 'the country's first science/technology park' ([www.ul.ie](http://www.ul.ie)) through 'a joint partnership between Shannon Development, local agencies and the University of Limerick (written reply). The structure of the NTP board 'works together around linkages between academia and enterprise' with 'Shannon Development representing the University of Limerick and other development agencies' (ibid). Specifically, 'a central activity of for the Park's management is to ensure optimum usage of University facilities and services by client companies, for example, use of University library facilities, participation in Co-Operative Education Programmes and links to university research activity' ([www.ul.ie](http://www.ul.ie)).

The Park itself is 'managed by the National Technological Park Plassey Ltd., a wholly-owned subsidiary company of Shannon Development' (ibd). Besides being a science and technology park, the NTP 'has just become Ireland's first Digital Park and will be known as E-Park.' (ibid). In practice, this means that NTP companies 'will have access...to a wide range of broadband telecommunications services...through a fibre optic network', including 'integrated voice, data, internet and video conferencing facilities' (ibid). Currently, 'The Park is home to more than 90 separate organisations in a balanced blend of multinational subsidiaries, Irish technology companies, R&D entities and support

services employing over 3,000 people and occupying more than 25 separate buildings with a floor area in excess of 130,000 square metres' (ibid).

The NTP's 'balanced blend' of overseas and indigenous science and technology companies suggests that the Park provides more than simply a regional dimension to UL's research and technology transfer strategy. This balance reflects the university's overall research policy (as well as institutional ethos) which incorporates local, regional, national, European and global dimensions ideally for the benefit of the region. Thus, the NTP is the home to 'overseas companies that use the National Technology Park as their European base' as well as a 'vibrant [indigenous] sub-supply sector and a concentration of new, Irish high-technology companies' (ibid). While linking these overseas and indigenous companies together, 'the whole thrust of the Park's development has been to harness the technology resources on the site - and particularly those at the University of Limerick campus - towards the needs of enterprise and economic development' (ibid).

### **University Involvement in Regional Partnerships for Business Innovation**

Again, UL has a number of programmes which could be included in a discussion of the university's regional or local partnerships to support innovation in business. One of these is the Innovation Board. According to the written reply, the Innovation Board 'is a joint Shannon Development/University of Limerick initiative...which deals with knowledge commercialisation' and 'deals with everything from campus companies, technology mentoring and enterprise forums' (written reply). The Board is chaired by the Chief Executive of the NTP and UL's Associated Vice President of Research and Graduate Studies (ibid). Board members also 'include Heads of Departments, Deans, Head of Technology Centres at UL, and people from the industrial and enterprise side of Shannon Development (ibid). While the remit of the Board extends beyond regional partnerships for business innovation, its functions related to technology mentoring and enterprise forums at least would include local and regional dimensions with respect to disseminating business innovations to companies.

In the wider regional context, UL has been involved in a Shannon regional partnership for the past twelve to eighteen months to develop a Regional Innovation Strategy or RIS through an EU funded regional innovations programme (ibid). The partnership is chaired by the Chief Executive of Tellabs Shannon with the university represented by the Associate Vice President of Research and Graduate Studies (ibid). At present, 'the group is producing a report setting out a regional innovation strategy for the Shannon region and they are [also] working through a series of pilot regional innovation projects' involving UL among others on 'the original steering group' (ibid). This Shannon Regional Innovation Strategy or SRIS is an ERDF Measure 10 Regional Innovation Strategy project that is running in parallel to the Shannon Information Society Partnership Programme or ShIPP (see section 8 below) and incorporates a 'similar Steering Committee/Management Unit methodology' (Shannon Development 1998: 102)

### **Mechanisms for Collaborative Research with Local Firms**

The University of Limerick's 'mechanisms' to encourage collaborative research with locally based firms exists on many levels including those of the NTP and the Innovation Board discussed above. At a more basic level, local firms can initiate contact with UL through, for example, the Business & Technical Information Services (BTiS) which is 'widely used by companies in accessing patent information, technical standards data and published corporate information' (www.ul.ie). Other avenues of initial contact include UL's Cooperative Education programme of work placement for undergraduates or careers services in terms of 'hiring' graduates. Whether these contacts lead to collaborative research between local firms and UL is a moot point. The more important point from the university's perspective is to establish the initial linkage to the local company which opens the possibility of deepening the roots of the linkage into, for instance, the form of collaborative research.

### **Measuring the Commercialisation of Technology for Local Impact**

There do not appear to be any UL programmes or projects which directly measure the commercialisation of technology for local impact. According to the written reply, though,

the university and the NTP `are undertaking a detailed technology audit of the park companies' in order to better `show how companies can be linked to UL both for research and lifelong learning' (written reply).

### **Local Technology Transfer and Knowledge Exchange through Staff and Students**

As should be obvious from the above discussion, UL encourages staff and students to participate in technology transfer and knowledge exchange, if appropriate, with locally based businesses as part of the university's overall research strategy. With respect to students, the best institutional expression of this general strategy is the Cooperative Education programme in which over 2,000 undergraduates are placed in six to nine month work placements through a network of over 1,200 employers in industry, commerce and the professions at the local, regional, national and European levels. While knowledge exchange largely from employers to students is clearly an intended goal of this programme, local technology transfer is more of an indirect outcome (for example, resulting in collaborative research) depending on the relationship between the student, local employer and the university.

### **University Policy on Spin-Off Firms and Any Significant Successes**

Of UL's extensive range of research programmes, the one which most directly relates to the university's policy on spin-off firms is the Innovation Centre located at the National Technological Park and `run by Shannon Development' (written reply). The remit of the Centre is `to provide an integrated system for incubating and growing knowledge-based high potential companies as well as support services' ([www.ul.ie](http://www.ul.ie)), functioning in a sense as `the incubator on the park' (written reply). The Centre `works closely with the University on campus enterprise and spin out campus companies' (ibid). Further, the Innovation Centre `spins out' two to three companies `from the University systems every year' working in conjunction with UL's Technology and Enterprise Development Unit or TEDU (which is itself led by a former Shannon Development employee).

Besides these programmes to incubate campus and spin-off companies, UL is also home to five Irish government P.A.T's or Programmes in Advanced Technology, which could be described as a form of national campus company. The name and type of the five P.A.T's on UL's campus are: AMT Ireland (Advanced Manufacturing Technology); Materials Ireland (Ceramics and Polymer Composites); PEI Technologies (Power & Analogue Electronics); Into White (Software); and TELTEC Ireland (Telecommunications). No information was provided in the interviews or in the written replies with respect to any significant campus company spin-offs in the local area.

### **University Information Society Initiatives with Local External Agencies**

The question of whether the university engages in any Information Society initiatives with external agencies in the local area will be discussed in detail below in section 8 on the role of universities in information society initiatives.

## **8. The Role of Universities in Information Society Initiatives**

### **National Information Strategy/Major Priorities**

There is a national information strategy in Ireland whose goals and priorities have been described in detail in the corresponding section of the Dublin regional report. Basically, the main goal of Ireland's national information strategy entails transforming the country into a leading global and European e-commerce centre. There are a number of components to this strategy including infrastructural development projects and a range of legal and regulatory issues which need to be addressed for the strategy to succeed. As part of the national strategy, the government established an advisory Information Society Commission in 1997 which is divided into six groups: awareness, infrastructure, learning, enterprise, legal issues and government services & social inclusion (Information Society Ireland 1999: 54-7). The Commission's remit encompasses the devising, shaping, implementing, benchmarking, monitoring and recommending programmes to further develop the information society in Ireland.

### **Regional Information Strategy**

There is a comprehensive regional information strategy called the Shannon Regional Information Society Strategy and Action Plan developed by the Shannon Information Society Partnership Programme or ShIPP (Shannon Development 1998). The Shannon strategy is one of twenty two regional information society strategies funded by the ERDF and ESF's Regional Information Society Initiative or RISI (101).

The twenty-six partners on the ShIPP Steering Committee (including UL) agreed that the mission statement for the Shannon RISI would be: 'to proactively promote, adapt and implement the Information Society in the Shannon Region, so that it will make a distinctive and innovative contribution to increasing growth potential and maximising good quality sustainable employment and improving the quality of life for all of Shannon's citizens' (4).

The six aims of the Shannon RISI basically follow the structure of the six groups in Ireland's Information Society Commission. Thus, the six aims of the ShIPP are grouped under the categories of awareness, infrastructure, learning, enterprise, community and public services. The main difference here is that the Shannon RISI does not have a legal aim (since laws are enacted by the Irish national government). Instead, the Shannon RISI has a community aim whose objective include 'to sustain Shannon's Rural and Urban Communities' as well as 'to provide positive inter-Regional impacts, fostering development of the Atlantic seaboard and promoting balanced regional development in Ireland' (5). The other more minor difference is that the Shannon RISI collapses the government services & social inclusion group of the Information Society Commission into its public services aim.

The objectives for each of these six aims lead to forty-three separate initiatives in the Shannon RISI action plan, each of which 'has an identifiable...unit of work that will address specific ShiPP objectives, is led by a named organisation, has a defined implementation plan and measurable outputs, and has its own source of funding' (6). Of these initiatives, four have been deemed 'flagship projects' and are to be used 'as references and demonstration models for the other initiatives in the Region' (33). These flagship projects are: The Ennis Information Age Town; the Shannon Digital Parks beginning with the NTP E-Park on UL's campus; the Tipperary Rural and Business Development Institute; and TITAN, 'a collaboration between neighbouring Regions and the ShIPP and STAND [the Southwest Telematic Area Network Development or the Southwest of Ireland RISI] Steering Committees, and European partners' (ibid). The estimated cost of fully implementing the Shannon RISI action plan is 66 million Irish pounds involving a mixture of EU, Irish state and private funds from 1999 to 2002 (7).

### **Public Access and Usage of the Internet**

ShIPP conducted a baseline households survey to complement the Information Society Commission's November 1998 national survey. However, the ShIPP survey of 500 randomly selected households had a participation rate of only 38 per cent which

overrepresented certain social groups, specifically the younger, 'more affluent and IST-aware citizens in the Region' (24-5). The fairly low response rate and overrepresentation of these groups leads SHiPP to talk about the results of the survey in terms of 'interested participants'. Of these interested participants, '11 per cent have their own access to the Internet, though 37 per cent use the internet' (25). These Shannon regional figures compare to the more 'representative' national Information society survey percentages of 16 per cent for internet access and 11 per cent for usage (Information Society Ireland 1998: 3).

### **Companies Internet Access and Usage of Advanced IS Services**

The SHiPP households survey was accompanied by a statistically representative baseline companies survey of 500 companies in the Shannon Region (Shannon Development 1998: 24). Of the companies responding to the survey, 13 per cent reported that they 'are connected to the Internet, mainly through dial-up' (ibid). In terms of these companies usage of advanced IS services, 9 per cent 'use email frequently mainly to communicate with customers more efficiently', 6 per cent 'have Web sites that they mainly use for advertising/marketing' and 1 per cent 'make on-line sales on the Internet' (ibid).

While the questions seem to vary between the surveys, these Shannon regional figures appear to be low compared to the national percentages for the business community. Thus, the Information Society's national survey for the same period found that: 75 per cent of the responding companies have Internet access; 67 per cent of the companies with a Web site use it for advertising and marketing purposes; and that 17 per cent of the companies with Internet access are 'making sales on-line' (Information Society Ireland 1998: 5, 10).

### **University Internet Access for Staff and Administrative Personnel**

According to the person interviewed for this theme, the University of Limerick provided universal internet access to all staff and administrative personnel about five years ago. This individual also noted that UL was one of original seven institutions in the Higher Education Authority's internet project: HEAnet.

### **University IS Services and Tools**

The respondent in the university's Information Systems & Services Division suggested that tele-working is provided for staff on an ad hoc, individual basis for 'those who really need it and are at the forefront of technology'. With respect to tele-education, this person stated that 'there is web-based commercial 'courseware' for internet use' in the National Technological Park. Further, the ShIPP report indicates that university has initiated or participates in a number of tele-education programmes (Shannon Development 1998). Thus, UL has established a Centre for Lifelong Learning, participates in DCU's National Centre for Distance Education as well as the Neptuno EU Socrates Project which aims 'to develop Web based teaching material in each partner site' and has 'links to the Santander Group of Universities working group on the "Virtual University"' (44-7). Finally, in terms of tele-medicine, the respondent added that UL does not offer tele-medicine services largely due to the fact that the university has no medical faculty.

### **Role of the University in Regional Information Society**

The University of Limerick has a direct role in the Shannon Regional Information Society Strategy and Action Plan from membership on the Steering Committee to the Infrastructure and Learning areas of Action Plan. In terms of infrastructure, UL's role includes participation through the digital E-Park at the National Technological Park and the proposed 'innovation nodes' or the linking of the digital parks in towns within the Shannon region to higher education institutions such as UL (38-9). With respect to the learning area of the action plan, UL's role includes involvement in the EU's Neptuno project described above (45), the Flexible Learning Partnership programme for employee up-skilling funded by the Higher Education Authority (46), and the Atlantic University Alliance with National University Ireland Galway and University College Cork (46-7).

### **Formal Education about a Regional Information Society**

The person interviewed for this theme suggested that formal education concerning the information society at UL would be offered at the departmental level, although this individual is not aware that any such courses are currently offered.

### **Provider of Services**

According to the person interviewed, the Information Systems & Services Division at UL offers introductory and advanced IT courses to staff and students alongside existing courses for students in the colleges and departments such as the college of informatics and electronics as well as the college of business.

### **New Services for Networks of Companies**

The university provides both IT and IS services to the various companies at the National Technological Park as well those at other sites on the UL campus. The person interviewed stated that these companies often use UL's IS 'help' service as well as the UL network including e-mail and the internet. However, this individual emphasised that these campus companies often 'did not pay' for any of these IS/IT services provided by the university.

### **Advisory Role to the Regional Authority**

To the extent that UL plays an advisory role to the Mid-West Regional Authority with respect to the Information society, it would be as a partner in the ShIPP.

### **A More Active Role for the University in the Regional Information Society**

The person interviewed suggested that the university could play a more active role in the regional information society by implementing the actions stated in the ShIPP strategy and plan and by integrating the actions which already exist at the University of Limerick.

## **9. Student Migratory Flows and Local Labour Market Dynamics**

### **Students' Origins and Social Class Background**

The social origins and class background of students at the University of Limerick may be analysed using tables supplied by the Higher Education Authority for all full-time enrolled for the 1997/98 academic year. The data for the socio-economic background (a proxy for social class) of UL's full-time students for this specific academic year is presented below in Table 4. The figures indicate that: over one-fifth of UL students for the 1997/98 academic year are from farm owning backgrounds (22.6 per cent); roughly one-third from the professional and employer/managerial 'upper middle class' (33.8 per cent); another one-fifth or so from the non-manual or white collar 'middle and lower middle class' (21.8 per cent); and over one-sixth from the 'working class' (16 per cent).

In comparison to the three Dublin universities, these figures show that: the percentage of UL full-time students from farming backgrounds are three times higher than for TCD (7.4 per cent) and almost two times that for UCD (12.3 per cent); that UL's percentage of upper middle class students are almost ten percent less than for DCU (41.9 per cent) and roughly fifteen percent less than for the TCD (48 per cent) and UCD (48.6 per cent) respectively; that UL's percentage of students from non-manual 'white collar' middle and lower middle class backgrounds are between three and five percent higher than the Dublin universities (15.6 per cent at UCD and 18.4 per cent at TCD); and that the percentage of UL students from manual working class backgrounds are almost five percent higher than at DCU (11.5 per cent) and roughly double that at both UCD (8.2 per cent) and Trinity College (8.4 per cent).

Overall, these figures suggest that UL's students are far more agriculturally based than those for the Dublin universities while at the same time being more equally distributed across the middle and working classes. With respect to the latter classes, the main difference between UL and the Dublin universities seems to be that UL has less students from professional, managerial and employer backgrounds and, correspondingly, more students from salaried, non-manual and manual backgrounds. Yet, while UL has more

students from a manual background, these students tend to be overwhelmingly from skilled instead of semi-skilled or unskilled manual backgrounds - reflecting a general tendency in the Dublin as well as in all seven Irish universities.

**Table 10. UL's Socio-Economic Background of Full-Time Students in 1997/98**

Social Group	Males (000's)	Males (%)	Females (000's)	Females (%)	M + F (%)
Farmers	<b>808</b>	<b>20.8</b>	<b>767</b>	<b>24.9</b>	<b>22.6</b>
Agricultural Workers	<b>38</b>	<b>1.0</b>	<b>27</b>	<b>0.9</b>	<b>0.9</b>
Higher Professionals	<b>330</b>	<b>8.5</b>	<b>259</b>	<b>8.4</b>	<b>8.4</b>
Lower Professionals	<b>473</b>	<b>12.2</b>	<b>361</b>	<b>11.7</b>	<b>12</b>
Employers and Managers	<b>516</b>	<b>13.3</b>	<b>420</b>	<b>13.6</b>	<b>13.4</b>
Salaried	<b>319</b>	<b>8.2</b>	<b>238</b>	<b>7.7</b>	<b>8</b>
Intermediate Non-Manual	<b>287</b>	<b>7.4</b>	<b>186</b>	<b>6.0</b>	<b>6.8</b>
Other Non-Manual	<b>267</b>	<b>6.9</b>	<b>219</b>	<b>7.1</b>	<b>7</b>
Skilled Manual	<b>497</b>	<b>12.8</b>	<b>379</b>	<b>12.3</b>	<b>12.6</b>
Semi-Skilled Manual	<b>111</b>	<b>2.9</b>	<b>74</b>	<b>2.4</b>	<b>2.7</b>
Unskilled Manual	<b>23</b>	<b>0.6</b>	<b>23</b>	<b>0.8</b>	<b>0.7</b>
Unknown	<b>210</b>	<b>5.4</b>	<b>131</b>	<b>4.2</b>	<b>4.9</b>
Totals	<b>3879</b>	<b>100</b>	<b>3084</b>	<b>100</b>	<b>100</b>

The social origins of UL's students may be analysed using HEA figures on the county of permanent residence of full-time students for the 1997/98 academic year. These figures show that the origins of over one-fifth of UL students are from Limerick City and County (21.4 per cent) with about a tenth each from Counties Clare (10.3 per cent) and Tipperary (9.4). These figures suggest that up to forty per cent UL's full-time students are from the Mid-West administrative region (allowing for fact that the figures for County Tipperary include students from Tipperary North Riding in the Mid-West region as well as those from Tipperary South Riding in the South-East region).

Further, if one adds the figures for the origins of students from all of Counties Kerry (8.2 per cent) and Offaly (1.5 per cent), then up to one-half of UL's students have their origins in the Shannon Region (50.8) - subject to the similar proviso of including students from the Midland region for central and north Offaly as well as the South-West region for south Kerry. Perhaps more interestingly, the HEA figures show that more students in 1997/98 attended UL from County Cork (12.9 per cent) than from County Clare and that the percentage of students from Galway City and County (7.4 per cent) far outnumbered those from Offaly and were not that far behind those from Kerry. These figures suggest that UL's participation in the Atlantic Alliance with NUI Galway and UC Cork has a student basis in the relatively dispersed spread of the social origins of UL's students across the 'west' of Ireland.

### **Changing Patterns of Graduate Employment in the Shannon Region**

According to one of those interviewed, the changing patterns of employment of graduates in the Shannon region 'reflects national patterns' not Shannon regional ones. These patterns include a national sectoral shift from industry to services and in terms of employers from 'larger traditional to newer high tech companies' such as those in software. At the university level, the national patterns are reflected in the recent change in the main sector of employment of UL graduates from industry and commerce to services. Thus, the individual interviewed noted that UL 'always had the highest percentage of its graduates in industry and commerce'. However, the employment of UL graduates in

services in 1998 for the first time overtook the employment of the university's graduates in industry and commerce - 41 per cent to 40 per cent respectively.

While this shift in service employment of UL graduates is in part due to 'rising salaries', this factor is itself a part of the sectoral shift to services associated with the 'Celtic Tiger' national economy and the resulting 'skills shortages' for knowledge workers in the knowledge based economy. These skills shortages have contributed to other changes in the pattern of graduate employment: employers are 'now fighting' for graduates while students are both 'more selective' in their choice of employer and 'more demanding' of that employer in terms of salary, benefits and working conditions. In particular, this person noted the increasing use of share options by newer high tech companies in order to 'recruit and retain the best' graduates in a new labour market in which 'ownership is an issue' and students want to know from employers 'what is in it for me?'

A final pattern in the employment of UL graduates is regional in nature, reflecting in this case the predominance of the Dublin as opposed to the Shannon region in the national economy of the Celtic Tiger. As discussed in more detail below, the individual interviewed cited university figures given to the HEA which show that 45 per cent of 1997 UL graduates in 1998 were employed in the Dublin (East) region, 26 per cent in the Shannon (Mid-West) region and 9 per cent overseas. These figures represent a fairly significant change from 1988 when 30 per cent of UL graduates were employed in the Dublin region, 44 per cent in the Shannon region and 28 per cent overseas.

To explain the Irish regional difference in the graduate employment of UL students, this person mentioned a general number of factors such as the rise of the Celtic Tiger and the shift to high tech services discussed above. Further, this individual cited a number of more specific factors such as: 'graduate flows reflect the structure of industry'; 'graduates move to where the jobs are'; and 'Dublin will attract the highest percentage of graduates because of its industry and financial services'. This suggests that many of the 'national

patterns' discussed by this individual with respect to UL graduate employment are to a certain extent regionalised to the comparative advantage of the Dublin region.

Yet, the Dublin attraction effect for UL graduates often varies by degree course or field of study, reflecting Shannon regional strengths in terms of the region's economic structure, firm clusters and employment opportunities. For example, this person noted differences in UL graduate employment for students from electronic engineering, business studies and computer systems related to the specifics of the Shannon regional economy. Thus, a total of 54 per cent of 1997 UL graduates from both business studies and computer systems were working in the Dublin region in 1998 - figures almost ten per cent above those for the UL average. The Dublin attraction effect in these cases seems to be related to Dublin's comparative advantage in financial services as well as in the computer industry and services.

On the other hand, a full 48 per cent of 1997 UL graduates in electronic engineering remained in the Mid-West region in 1998 with only 30 per cent working in the Dublin region - a figure almost fifteen per cent below the UL average. The difference here is partly explained by the 'Shannon specialty' in the electronic engineering industry with its own cluster in the Shannon region. To a lesser extent, the Shannon region is developing a computer based cluster around the software industry (see section 10) which may in part account for the six per cent difference in the graduates in computer systems who remained in the Shannon region as opposed to those who graduated in business studies - 32 per cent to 26 per cent respectively. In these ways, the Dublin attraction effect for UL graduates can be partly offset by an internal Shannon effect focused on areas of Shannon regional comparative advantage or emerging specialties.

### **Post-Recruitment and Career Trajectories of UL Graduates**

The official Higher Education Authority figures for 1998 support the more specific analysis of the UL graduates above. HEA figures for the distribution of 1997 UL graduates in employment in Ireland and overseas by region in 1998 show that 86.2 per

cent and 13.8 per cent of the graduates were employed in Ireland and overseas respectively. Of this total, almost four out of ten or 38.5 per cent of the total (and 44.7 per cent of those working in Ireland) found employment in the East Region centred on Dublin. On the other hand, the HEA figures indicate that only 23.2 percent of the total working overseas and in Ireland found employment in the Mid-West region (or 26.9 per cent of those working in Ireland). More positively, if one adds the percentages of the total from the South-West (11.6 per cent) and the West (4.6 per cent) to those from the Mid-West, then almost four tenths of UL's 1997 employed graduates (or 45.8 per cent of those employed in Ireland) were working in the Atlantic Alliance corridor.

Overall, these figures suggest that there is relative 'brain drain' of UL graduates to the greater Dublin region with respect to employment at least in the first year after graduation. As a result, one could argue that UL's regional mission is to a certain extent not being fulfilled in terms of retaining the university's graduates in the Shannon region. Yet, these figures also suggest a weaker but still significant counter-trend of UL graduates remaining in the Shannon region as well as more broadly in the west of Ireland. Nonetheless, the results are an indicator of the comparative regional advantage of Dublin within Ireland with respect in this case to attracting university graduates from other Irish regions. This Dublin attraction effect within Ireland occurs in spite of concerted efforts in the Shannon region by actors such as UL and Shannon Development among others.

### **Employers' Processes and Mechanisms for Graduate Recruitment**

As with the Dublin universities, there are a range of processes and mechanisms by which employers formally recruit graduates. These include the collection and sending of c.v.'s by careers services to employers, web-site job listings and e-mail applications as well as company c.v.'s and campus interviews among others. Of these processes and mechanisms, the use of common (university standardised) c.v.'s and application forms as well as web-based recruiting with e-mail c.v.'s and application forms reduces the workload for careers services, but does not 'cut out interactions with firms' or the development and nurturing of 'personal relationships' with individuals in firms.

For UL (like DCU), many of these university-employer relationships with respect to graduate recruitment evolve out of earlier relationships developed through the cooperative education programme or 'coop'. In fact, one of the people interviewed for this theme stated that 'about two-thirds of the graduate employers are involved in coop', suggesting a very high overlap between the coop work placement and the graduate employment services. In UL's case, this extension of the university-employer relationship is facilitated by the institutional 'overlap of administrative functions' in that the cooperative education programme and careers service are part of an integrated university 'one-stop shop for employers and students'.

This overlap also extends to the location and type of employers who take UL students for the coop placement and then recruit graduates from UL. Thus, one of those interviewed noted that the 'highest concentration' of coop firms is in Dublin followed by companies in Limerick, Cork and Galway respectively. Similarly, the firms which tend to recruit at UL are 'mostly national' with those located in Dublin being 'the single most important of these' followed by a 'smattering' of firms in Limerick, Cork and Galway. Further, national and overseas firms located in Dublin have become increasingly important over the course of the 1990's 'when employers in Dublin started to employ UL graduates'.

In particular, certain overseas computer companies located in Dublin like Intel and Hewlett-Packard had developed special relationships with UL in terms of coop and graduate recruitment. Specifically, this person noted that fifty students from UL are on coop at Intel and that the company is 'one of the largest employers of UL graduates' who collectively represent the 'highest percentage of their graduate intake'. One could argue that in these ways UL actually facilitates the 'brain drain' of UL graduates from the Shannon to the Dublin region. One of those interviewed suggested, though, that UL's 'role is not purely regional, but national too' and that these type of university-employer relationships which appear to benefit the Dublin region reflect instead UL's 'strong regional presence with a national and international perspective'.

### **Skills Sought by Regional Employers When Recruiting Graduates**

The person interviewed had developed a detailed presentation of the kinds of skills and attributes sought by employers when recruiting graduates. Since most of the employers who recruit at UL are national level firms many of which are also overseas companies, the skills and attributes sought by these employers are not specifically regional in nature.

In terms of employer requirements, the 'Top 10' ranking of skills for graduates based on the presentation are as follows: interpersonal skills; flexibility; communication skills; ability to learn and apply new knowledge; team-working; self confidence; computer literacy; initiative/independence; creativity; and commitment to the organisation.

Another part of the presentation outlines a 'new careers vocabulary' emphasising the changes entailed in the movement from the older to the newer type of graduate career in the contemporary labour market. These changes include: moving from 'ladders' up a company to 'bridges' across companies; from being a 'specialist' to a 'multi-skilled' employee; from having a 'secure job' to creating 'employability'; from focusing on the 'employer' to the 'customer'; from remaining in a 'single career' to developing a 'portfolio' of jobs; and from earning an 'education' to continuously participating in 'lifelong learning'.

Finally, a third part of the presentation examines shifts in the 'continuum of skills' sought by employers. As described by the person interviewed, employers in the past looked for graduates who could adapt themselves to the firm, then they sought graduates who could be flexible as firms changed, and now they want graduates who can transform themselves - leading changes in the firm instead of responding to these changes.

### **Forms of Communications between Universities and Employers**

In response to this question, the individual interviewed for this theme stressed that the university's 'relationship with employers extends beyond coop and careers services'

while at the same time building on the relationships developed through the cooperative education and careers programmes. As an example, this person cited the fact that students are often 'visited by lectures in firms while in placement' which in turn could lead to the intensification of the university-employer relationship ranging from 'a final year thesis, postgraduate research work or even company spin-offs'.

### **Regionally Oriented Career Development Initiatives**

There are no Shannon region career development initiatives. Instead, one of those interviewed reported that the 'careers network is national' organised through AGSCI or The Association of Graduate Careers Services in Ireland. As noted in the Dublin report, AGSCI is itself a member of the UK's Association of Graduate Careers Advisory Services or AGCAS in which the island of Ireland is treated for the association's purposes as 'one region'. The person interviewed indicated that, since the Irish association is 'too small of a grouping to have regional sub-groups anyway', AGSCI's 'sub-groups are task related' not regionally divided. At present, this person's participation in AGSCI requires travelling 'to Dublin one to three times a month' for various meetings of the association. The only regional dimension within this national framework mentioned by this individual involved inviting students from regional third level institutions such as Mary Immaculate College and the Limerick Institute of Technology to national career and postgraduate study fairs.

## **10. The Social Shaping of Knowledge Workers**

### **Accountants**

#### **Types, Numbers, Changes in Numbers and Proportions of Accountants**

The University of Limerick trains students in accountancy at the undergraduate level within the Bachelor of Business Studies degree and to a lesser extent through the Bachelor of Arts in Law and Accounting degree. For the former degree, students do not elect to specialise in accountancy until after the first two common years of the Business Studies programme. The Department of Accounting and Finance in the College of Business is the university unit primarily responsible for the education of students in accountancy for these two degree programmes (the B.A. is jointly administered with the College of Humanities).

Since most of those educated at UL in accountancy are enumerated in official HEA figures as Business Studies students, departmental figures or estimates for the types, numbers and changes in numbers and proportions of accountancy students will be used here. According to one of those interviewed, the department currently 'takes in' about 400 students of whom between 330 to 350 usually graduate with a degree. Of these students, there will be around 130 to 160 who will normally specialise in accountancy or become 'potential accountants' as suggested by an interviewee. Of these graduates, roughly 10 to 15 per cent will 'fall off' after the degree and not become accountants for various reasons including the 3 to 4 percent who 'drop out' of accountancy altogether. The UL students with the B.BS. degree are normally exempt from half of the 15 to 16 exams given by the main professional bodies. Of the 110 to 115 UL B.BS. accountancy students who eventually become professional accountants certified by one of the professional bodies, roughly 50 per cent will become Chartered Accountants, 25 per cent Cost and Management Accountants and 25 per cent Management Accountants.

Due to pressure by the government, the number of students in the department (including all of the B.BS. students) has increased by 35 to 40 per cent in recent years with a 14 to

15 per cent in the last three years alone. Nonetheless, the numbers of graduates in accountancy has remained relatively steady at about 40 per cent of the total number of those with Business Studies degrees. Overall, though, the graduates in accountancy within the B.BS. programme would account for between 1 and 2 per cent of UL's total number of undergraduates degrees conferred.

### **Relative Occupational and Economic Importance of Accountants in the Region**

Those interviewed stressed that the occupational and economic importance of accountants is 'very significant' to the Shannon region. The importance derives in large measure from the 'fundamental' role of accountants in the 'statutory, regulatory and information needs of business' in the region. Further, one of those interviewed suggested that many of those accountants who 'come from the region tend to stay in the region'. This person cited figures indicating that between 35 and 40 per cent of accountancy graduates in 1997 stayed in the western seaboard area from Donegal to Kerry in 1998 and that 35 per cent remained in Mid-West and West regions in the same year.

### **Designing the Curricula for Accountants in the University**

The curricula for accountants is designed by the faculty in the department. Major curricular changes such as 'new programmes of study or modifications of existing programmes' must follow a rigorous university process established in the 'Procedures For Processing of Academic Degree Proposals' (UL 1999). These procedures detail a clear yet long process including at an institutional a Course Team, the Dean's Office, Academic Programme Review Committee, Academic Council, the relevant Departments and Faculty Boards of the Colleges, the Registrar's Office and an Evaluation Panel (ibid). In the course of this process, one of those interviewed noted that curricular changes are 'assessed by an external peer review group' in the form of the evaluation panel. Further, curricular changes in accountancy are designed 'in recognition of exemptions by the professional bodies'. Since UL does not 'have a pure accountancy degree', however, 'there is less of a bias' towards the requirements of the professional bodies than might be the case in designing curricula for a pure accountancy degree.

### **Recent Changes in the Curricula for Accountancy Students**

One of those interviewed stated that the content of the curricula is 'constantly updated' with 'significant reviews' every four years and major reviews every fifth or tenth year including peer reviews. The most recent changes to the curricula involve modifications to the structure, content and teaching of the B.BS. degree designed by about 100 faculty members from five disciplines in the College of Business including the departments of economics and marketing. These changes include: 'broadening the foundation' of the modules in the first year and focusing on 'functional areas' in the second year; reducing the coop component of the degree from two six month to one eight month period; introducing e-commerce and ICT's into the degree; and emphasising more critical and analytical thinking as well as creativity in the teaching of the modules in the programme.

### **Institutional Processes for Curricular Change in Accountancy**

The institutional processes for curricular design in accountancy are the same as those which apply to all of the university as established in the 'Procedures For Processing Of Academic Programme Proposals' (see above).

### **University Support Structures for Curricular Development and Design**

In response to this question, one of those interviewed mentioned again the 'standard structure' set out by official university procedures for academic proposals, adding that the 'need for external peer review is mandatory'. Further, this individual noted that there is 'no formal teaching support' offered at present in the university.

### **Other Actors' Involvement in Curricular Design for Accountancy Students**

There are no formal institutional procedures for the involvement of other key political, economic or social actors in the curricular design process. The one possible formal link in this case would be the inclusion of key actors in these areas on the evaluation panel for academic programme proposals.

However, there is a certain level of informal involvement of other actors in the curricular design process for accountancy involving the professional bodies, graduates and liaison or focus groups. Specifically, the 'accountancy bodies evaluate the programmes after the designing process' which may include site visits and discussions with faculty members. As suggested above, faculty members are also 'aware of the bodies' requirements' when designing the curricula. Further, the department has 'a semi-formal process of involving graduates from business', an ad hoc process of consulting an industry/academic liaison group about the needs of industry and a very informal process of discussions with key actors 'in a personal capacity' within organisations like IDA Ireland or the local councils.

## Computer Science Graduates

### **Types, Numbers and Proportions of Computer Science Graduates**

Computer Science students are primarily educated at UL in the College of Informatics and Electronics through the Departments of Computer Science & Information Systems and to a lesser extent the Department of Electronic and Computer Engineering (with its Computer Engineering undergraduate degree). For our purposes, we will focus on the former department which usually educates students in the 'software' side of the occupation as opposed to the latter department which normally trains students in the 'hardware' side of the emerging profession.

In the Department of Computer Science and Information Systems, the main undergraduate programme is a four year B.Sc. Degree in Computer Systems. This 'basic' computer systems programme has been supplemented recently by a newer course of study integrating Language and Computing. The Department also offers a number of older and newer postgraduate courses including the 21 year old Graduate Diploma in Computing, a Graduate Diploma and a Masters Degree in Software Localisation, a Masters in Software Engineering (currently not running), and newer Master level courses in Interactive Media and in Music Technology.

The HEA figures on full-time undergraduates for the 1997/98 academic year report 385 students enrolled in the B.Sc. Degree in Computer Systems and a further 52 in the Language and Computing offshoot. (The figures also show 169 students on the Computer Engineering degree, 105 students taking Applied Maths and Computing as well as 280 students studying Information Technology). In percentage terms, the B.Sc. students represent 6.3 per cent of the total, 7.1 per cent with the addition of the Language and Computing students, 11.6 per cent including the Computer Engineering and Applied Maths students and 16.1 per cent if one adds the IT students. The HEA figures also show 242 post-graduate postgraduate students in Informatics and Electronics for the same academic year or 29.5 per cent of all UL postgraduates. For all full-time students, the

HEA combined category of 'computing and IT' represents 17.7 per cent of UL students for the 1997/98 academic year - by far the highest percentage compared to the Dublin universities with DCU at 13.1 coming closest to the UL figure.

According to the Department, there are about 60 students enrolled on the Graduate Diploma in Computing course for the 1999/2000 academic year, 60 more on Graduate Diploma and Masters in Software Localisation, 14 students on the Masters in Interactive Media and 12 students on the Masters in Music Technology course.

At the undergraduate level, the Department reports that the numbers have been 'gradually increasing' for the past few years with an annual intake now of about 220 students rising from around 60 a year in 1991. There are, however, fairly high drop-out rates in computing and IT ranging from 25 to 30 per cent nationally with a recent 'blip year' at UL recording a 50 per cent drop-out rate. Of the roughly 220 students in new class, the department expects that between 160 and 180 will graduate. The reasons cited by one of those interviewed for the relatively high drop-out rates in computing and IT in general are that there is no leaving certificate exam on the subject and that students register for a computing degree either because of potential job prospects or because 'their parents tell them to' - 'getting caught over their head' in both cases.

### **Regional Importance of Computer Science Graduates and Software Industry**

The regional importance of computer science graduates has been discussed above in section 9 with respect to differences by field of study in UL graduate migration to the Dublin region. Based on that discussion (and from the figures cited for accountants above in this theme), a graduate retention level in the region above one-third compared to the UL average of about one-quarter appears to be considered successful in the present context of the Celtic Tiger economy and the Dublin attraction effect. From this perspective, the regional retention rate of 32 per cent for computer systems graduates just about qualifies as a success for UL and the Shannon region.

Part of this relative success may be due to the efforts of key regional institutions like Shannon Development and UL to foster a high tech, computing and IT based cluster in the region in the context of developing a regional information society and innovation system (Shannon Development 1998). The establishment of the National Technological Park on UL's campus is one example of this regional strategy (ibid). The foundation of ShannonSoft is another example. This 'informal club' with 50 organisational members at present functions as a regional network 'for organisations that rely on software technology and, more importantly on software practitioners, to meet their business objectives' with respect to 'the application of software technology to one of more facet of an organisation's business operations' ([www.shannonsoft.ie](http://www.shannonsoft.ie)).

While not strictly speaking a regional network solely for software companies, the members of ShannonSoft include a large number of both indigenous and overseas computer companies, one of the most important of which is probably Dell Computers or Dell Products (Europe). This American 'hardware' company currently employs about 4,500 people in three manufacturing plants in Limerick (Mulqueen May 13 2000). The inclusion of Dell, though, in a discussion of a Shannon regional software network hints at the present limits of the regional strategy since Dell is neither really a Shannon regional nor a software company, mostly hiring people in the region for the basic personal computer assembly work for export to the European market. One of those interviewed also discussed limits to the regional software industry, noting that the 'number of software houses is substantial' in the UL/Limerick area but not in the rest of the Shannon region. This same person further mentioned that 'software' in the Shannon region (as well as Ireland in general) 'usually meant repackaging and labelling' software products for the European market: a form of unskilled software assembly job.

### **Designing the Computing and IT Curricula in the Universities**

According to one of those interviewed, the curricula for computer science students is 'designed in-house' within the department or college following the standard university procedures discussed above. At the same time, this person stated that 'the assumption

here is that we will consult externally'. This consultation is fairly extensive including 'communications within the university' and with 'other academics in Ireland or abroad', 'sister institutes' as well as 'people who are working or have worked in industry'. By the end of this consultation process, 'the problem' for the department 'is to decide what not to include' in the curricula.

### **Recent Changes in the Computing and IT Curricula**

In reply to this question, one of the persons interviewed for this theme noted that 'courses change informally all the time in lecturing' and that these changes are 'codified every 5 years'. With respect to more substantial changes, this same person discussed some of the present proposals to restructure the department's computer science courses. Part of the discussion here involved preserving the UL ethos in the programme in terms of the 'industrial relevance' of and 'commercial basis' to the courses, while at the same time 'moving towards a model of a strong computer science core based around theory'. This theoretical computer science core would be supplemented by a 'stream' of more practically based electives possibly including courses on information systems and software engineering. Many in the department seemed to believe that the move towards 'a theoretical approach' would be better for the increasing number of students entering the department as well as help to reduce the rates of failure.

### **Institutional Processes for Curricular Change in Computing and IT**

The official institutional processes for curricular change are those established in the 'Procedures For Processing Of Academic Programme Proposals' (UL 1999) discussed above with respect to accountancy.

### **University Support Structures for Curricular Development and Design**

There are currently no formal support structures at the University of Limerick for curricular development and design outside of the review procedures for processing academic programme proposals.

### **Other Actors' Involvement in Computing and IT Curricular Design**

As suggested above, the department has developed a rather extensive yet informal consultation process with respect to curricular design which includes key actors from the computing industry among others. At a formal level, the evaluation panel mandated in the review procedures normally includes representatives from industry as well as 'people from the wider community' according to one of those interviewed. In terms of industry involvement in curricular design, this same person noted that the university-industry relationship tends to be a two-way and interactive. In particular, this individual noted that 'industry often does not know what it wants' and if it knows, then the academics often 'need to find out if what it wants can translated academically' into course material.

Finally, this person raised the issue of the possible accreditation of computing and IT courses in Ireland. Apparently, there is much discussion among Irish academics in computing and IT, certain state actors in organisations like Enterprise Ireland and professional bodies such as the Irish Computer Society (ICS) and the Institution of Engineers in Ireland (IEI) about the need for accreditation. The specific proposal mentioned involved the IEI 'approving all computer science/software courses in the country'. According to this individual, there are a number of factors driving this accreditation movement. One of these factors is 'the general feeling is that there may be legislation on industrial requirements for professional bodies' in order to increase the safety and reliability of products such as hardware and software as well as to reduce potential liability and insurance claims. As such, third level membership in the professional bodies would be required for accreditation of courses in computing and IT, certified by a 'Chartered Accountant' who would, for example, 'sign off on the software'. In this way, the knowledge of the accountant meets the knowledge of the computer scientist in the form of a professional seal of approval.

## **11. Universities and Sustainable Regional Development**

### **SRD in the University's Activities and Strategic Planning**

The University of Limerick signed the European level University Charter for Sustainable Development promoted by the CRE through its Copernicus Programme in 1993. By signing this charter, 'universities are urged to make every effort to subscribe to and implement...ten principles of action' (photocopy). These actions encompass the categories of: institutional commitment; environmental ethics; education of university employees; programmes in environmental education; interdisciplinarity; dissemination of knowledge; networking; partnerships; continuing education programmes; and technology transfer' (ibidi). The person interviewed for this theme believes that UL is still the only university in Ireland which has officially endorsed the Charter, suggesting the university may be an 'exemplar' with respect to SRD in Irish universities.

In terms of implementing some of the Charter's principles of action, UL has established a university-wide Environment Committee whose members are appointed by the President of the university. The Environment Committee has issued a number of research reports concerning SRD on the campus, specifically about physical management issues such as waste, heating, buildings, transport and recycling.

With respect to educational programmes, UL offers a B.Sc. in Environmental Science. The major focus of this degree is environmental management and technology. The degree also involves an eight month work placement (as part of UL's cooperative education programmes) in industry, state bodies or local authorities in the region or at the national level. At present, the degree programme accepts around thirty new students a year.

### **University Contributions to SRD Goals in Regional Communities**

The individual interviewed mentioned a number of university initiatives which contribute to the achievement of SRD goals in the Shannon region. In terms of contributing to SRD goals in the region, one of the most significant of these initiatives concerns UL's

nomination of a representative to the Strategic Policy Committee (SPC) on the environment as well as one to its successor on the County/City Development Boards (Department of the Environment 1999). The former SPC's and the newer Development Boards are designed to coordinate the efforts of local government, local development bodies, state agencies and the social partners in local economic and social development (7). In particular, the new County/City Development Boards (CDB's) should include around 25 representatives from these four sectors whose 'primary functions...will be to draw up a Comprehensive Strategy for Economic, Social and Cultural Development within the county/city, and to oversee the implementation of this Strategy' (7).

As a staff member at UL, the individual interviewed also cited a number of university supported initiatives with respect to the contributing to the achievement of SRD goals in the region. The most interesting of these involves this person's supervision of a research project to ascertain sustainability indicators for the Mid-West region. The project is funded by the Mid-West regional authority, the local county and city councils and the Department of the Environment who have all 'chipped in cash' for the project. The interesting element of this project is its 'interactive science' component in which the sustainability indicators are to be generated by the communities involved in the study in consultation with the scientists.

### **University SRD Management Mechanisms**

In spite of UL's commitment to the University Charter for Sustainable Development, there are at present no university wide management mechanisms to ensure a confluence of interests and responsibilities across disciplines with respect to SRD policies.

### **University Participation in Regional SRD Forums**

The University of Limerick participates in periodic regional SRD forums when they are organised. For example, the person interviewed cited a regional forum on SRD a few years ago organised on behalf of the European Union. In terms of on-going regional SRD forums, the former SPC's and the new City/County Development Board would come

closest to meeting this need. Further, this individual stressed that UL `proactively encourages contact with local authorities, maintaining `close links' with local and regional authorities about SRD issues. Specifically, this person emphasised that the university `could have nominated anybody to the Limerick Development Board, yet chose an environmentalist'.

### **University SRD Links with Grass-Roots Groups and NGO's**

As a general policy, the university will try to help any organisation which contacts it concerning SRD related issues, no matter if the organisation is public, private or community sector such as grass-roots groups or NGO's. In this way, the university would like to avoid becoming `identified with any particular pressure group' in terms of sustainable regional development. In pragmatic terms, then, the university policy in this area can be characterised as `attempting to cherish academic independence, while trying to be an even-handed broker'

### **University Mechanisms to Ensure SRD Objectives Are Acknowledged**

Depending on the issue, there are some mechanisms in place within the university to ensure that the objectives of SRD are acknowledged in product and process innovation, hi-tech business growth, IT networks, support for SME's, community regeneration or widening educational opportunities. For example, the person interviewed noted that a lot of UL's research on the environment is technology based and that there are a number of `linkages' between the university and industry involving process innovation. While there are no formal processes in place to help SME's, the university will respond to request for help from SME's with respect to SRD. In terms of the widening educational opportunities and community generation, this person mentioned that UL runs an evening course on topics related to SRD such as farming in the Burren in County Clare

### **University Balance between Bottom-Up and Top-Down SRD Involvement**

In reply to this question, the individual interviewed reiterated the importance of the university's role as an even-handed broker with regards to all organisations involved in sustainable regional development.

## **12. Universities and Regional Culture**

### **University Cultural Activities and Services for Students**

The University of Limerick offers a range of cultural activities and services for their students involving general services, 75 university supported student societies and sports clubs as well as academic courses. The general services include restaurant and sports facilities, campus residences in Plassey and Kilmurry village as well as a students' pub, a book store, bank and a newsagents (among others) located in 'the Stables' on the campus. Of these general services, UL's sports facilities appear to be the most developed compared to other Irish universities (outside of UCD). In particular, 'A Message From The Sports Manager' on UL's web-site brags that 'a massive 20 million [Irish pound] is being invested in state of the art sports facilities that includes Ireland's first 50m Swimming Pool' with the result that 'very shortly the University of Limerick will boast the most extensive range of sports facilities anywhere in Ireland and beyond'.

What is most interesting about UL in this case is that the extensive sports facilities (some of which are still being built) do not simply serve as a form of compensation for the relative lack of other 'cultural' facilities as is partly the case for UCD and to a lesser extent for DCU in the Dublin region. Since the early 1990's, UL has strategically developed a distinctive university - and regional - cultural profile (see below) through a number of initiatives such as: the opening of a 1000 seat University Concert Hall in 1993; the foundation of the Irish World Music Centre in 1994; the public display of its growing art collections; and the establishment of the impressive Hunt Museum (along with Shannon Development) in the Georgian Custom's House in Limerick City. Further, UL has recently recruited an Arts Officer to facilitate and foster 'the arts within the university and the wider community' (Irish Times advertisement).

In this way, UL has rapidly transformed itself over the course of the 1990's from a situation - not unlike DCU today - in which students often view life on the city outskirts' campus as being boring to one in which not only students but also people from the

regional community and beyond are attracted to UL for its cultural life. Not surprisingly, DCU seems to be drawing directly from this 'UL cultural model' for its own planned cultural renaissance incorporating the student centre, the new academy for the performing arts (linked with UL's Irish World Music Centre) and the university arts centre.

With respect to UL's cultural transformation, one area in which in this change can be seen is in the university's academic programmes. Thus, the older 'arts' undergraduate programmes in the College of Humanities tend to be more vocationalist or technological in emphasis such as the B.A. in Applied Languages or the B.A. in Languages with Computing (the exception here being the B.A. in Languages and Cultural Studies). On the other hand, many of the newer Master of Arts programmes offered by the Irish World Music Centre are fairly 'multicultural' if not 'exotic' such as the M.A.'s in Ethnochoreology, Ethnomusicology, Chant Performance and Music Therapy ([www.ul.ie](http://www.ul.ie)).

It is relevant to note here that UL's move towards the arts largely followed the university's decision to accept the government's request to integrate the Thomond College of Education with its arts degrees into UL in 1990/91. Along with UL's integration of Mary Immaculate College of Education, this meant that the university had a fairly high proportion of students in arts degree programmes. As a result, the university created a new B.A. in Liberal Arts in 1994. With the integration of these colleges into UL and the creation of the liberal arts degree, the proportion of students in the humanities and education (51%) has recently passed those in engineering and business (49%) according to one of those interviewed in the administration.

### **The Role of the University as a Regional Cultural Institution**

UL's decision to become a regional cultural institution functions on a number of levels. At the formal institutional level, UL's heightened regional cultural role raises the public's awareness of the university in the region and hopefully to the rest of the country, if not the European Union and - through World music - perhaps even globally. In this sense,

UL's new cultural policy has become yet another thread in its web of linkages and networks exported throughout the Shannon region and beyond.

In a more direct sense, UL's newfound status as a regional cultural institution not only raises awareness of the university but attracts people from within and without the region to UL. Thus, the person interviewed for this theme emphasised how the University Concert Hall 'brings people from Limerick' as well as from 'Cork, Galway and Kerry' extending UL's 'cultural' web to the west and the south.

Further, this same individual stressed that UL's cultural role also extends into local communities by intentionally 'trying to take the arts out of the ivory tower into the community'. As examples, this person cited a number of UL cultural projects such as: 'one-off events' like the 'Day of the Feet' and the 'Day of the Song'; the Blas International Summer School of Traditional Irish Music and Dance; the publication of a community arts handbook (with Shannon Development) of community artists in the Shannon region; the promotion of Irish language singers in the Gaeltacht areas of the west of Ireland; linkages with the Limerick City and County Arts Officers to arrange concerts in the city and in the towns of the county; and the playing of music by UL students in local prisons and hospitals.

Finally, on the level of imagery, UL's role as a cultural institution in the Shannon region and beyond became linked for this person to the course of the river Shannon, specifically the local people's 'strong mythological connection to the river' as a carrier of people and ideas as well as source of creativity weaving them into one.

### **The University and the Regional Cultural Labour Market**

The person interviewed for this theme cited the role of the Master of Arts programmes in the Irish World Music Centre in 'training' graduates for the regional labour market in areas such as tourism, performance, music and teaching. This person also noted the importance of programmes such as the M.A's in Music Therapy and in Community

Music for `creating new types of jobs' in the region for music therapists and music facilitators in communities respectively.

### **University Spin-Offs to the Regional Cultural Sector**

No direct cultural spin-offs were mentioned by the one person interviewed for this theme. Additional interviews may have revealed university spin-offs to the regional cultural sector, although the relatively short period since UL's cultural transformation perhaps limits the potential for cultural spin-offs at least at the present time.

## **Conclusion**

The discussion of the eight cross-sectional themes show quite clearly that in most cases the University of Limerick is actively engaged in Shannon regional partnerships, linkages and key actor networks whether the area concerned is governance, the community, industry or the arts. Further, many of these intra-regional partnerships and linkages have been expanded at the inter-regional level in the Atlantic Alliance corridor of Cork, Limerick and Galway or the broader west of Ireland.

With respect to regional development, a number of the cross-sectional themes also show the significant role that UL plays in the regional strategy led for the most part by Shannon Development. In this way, the themes highlight the extent to which the 'UL model' shapes the regional perspective of key actors in regional institutions. Specifically, UL is perceived by regional actors as being more than simply a university located in Limerick. Instead, the university is often portrayed as an educational driver for development in the Shannon region and as a model to be exported to other Irish regions.

This perception of key regional actors raises the question as to what extent the UL model can be shown to be successful in promoting development in the Shannon region? The most striking empirical evidence in this regard involves the figures for graduate retention which show that a fairly high proportion of UL graduates still migrate to the Dublin region for jobs depending on the sector concerned. This latter qualification is significant in that a lower proportion of UL engineering graduates remain in the Shannon region, being employed in the region's industrial cluster of electronic engineering firms.

From this perspective, the UL model seems less important at face value than Shannon Development's role in fostering and retaining a cluster of engineering firms in the Shannon region to hire graduates education by UL. To some extent, though, this is a classical 'chicken and egg' dilemma: do the engineering firms come and stay in the Shannon region because UL's skilled graduates are there or do UL's engineering graduates stay in the Shannon region because the engineering jobs are there?

This suggests that one should also examine the relative success of the UL model with respect to its role in the wider regional development strategy guided by Shannon Development and the success of that strategy to develop the Shannon region. In terms of the latter, the statistical description and analysis of the region's development from the 1970's indicates that the region's development strategy has been successful in managing the transition from an agrarian to a post-agrarian region but less successful in fostering the conditions for the further transition to a post-industrial service based region. One result is that the nature of the Shannon region's development gap with the Dublin region has altered from one based largely on an agrarian/industrial divide to one based primarily on a mixed economy/post-industrial divide. In this way, the nature of the development gap between the Shannon and the Dublin regions has changed while at the same time that the development gap has not been closed and in some ways may have even widened.

There is some evidence for this new development gap between the Shannon and the Dublin region in the thematic discussions of the retention of software graduates and the emergence of a software industry in the Shannon region. In both cases, the Shannon region trails behind 'Dublin' in terms of UL software graduates migrating to the East region as well as greater extent of the emerging software cluster in the Dublin compared to the Shannon region. Yet the key Shannon regional actors (including Shannon Development and UL) are all too well aware of the need to overcome this new development gap. Drawing on the extensive resources of the Shannon region partnership model, these actors have revised the region's development strategy in response as evidenced, for example, in the Shannon Regional Information Society Strategy and Action Plan.

At the national level, this revised Shannon regional development strategy may also benefit from the Industrial Development Authority's (or IDA's) new policy on the regions as well as the proposed regional development strategy in Ireland's National Development Plan for 2000 to 2006, both of which intend to shift development from the Dublin to

other Irish regions. According to Denis Hanrahan, the IDA's Chief Executive, 'Last year the IDA fully committed itself to the regional distribution objective and set a new structure and focus in place to deliver the required results over three years' ([www.idaireland.com/yframes/nepry106](http://www.idaireland.com/yframes/nepry106)). On the other hand, this strategy 'to spread inward investment into the regions – particularly the Objective One regions...is not proving easy in part because of limitations of infrastructure such as roads, electricity and telecommunications in certain areas' (ibid).

For the Shannon region, these infrastructural issues are further compounded by the region's loss of Objective One status for the purposes of EU funding after 2000. Thus, the Mid-West/Shannon region remains outside the newly created Border, Midland and Western Objective One region which will qualify for the 40 per cent regional aid limit (Government of Ireland 2000: 293). Instead, the Shannon region will qualify for a 20 per cent regional aid limit, a figure which is only 2.5 per cent higher than that for the Dublin region and 2 per cent that above that for the Mid-East region around Dublin (ibid). However, this comparative loss of regional aid could be offset if the government actually devises and implements its proposed regional development strategy based on development gateways such as the Limerick/Shannon regional gateway (42-3). This is a big 'if' though given the relative failure of the Irish state's other regional development strategies from the 1960's to the 1980's (Shannon Development 1996b: 57-73).

Of further concern is the market reality that many overseas companies in the high-tech, high-skill and high-value added sectors such as the computer industry still prefer to locate in the Dublin region in spite of the state's economic disincentives and developmental bottlenecks like traffic jams and outrageous property prices. Thus, in late June 2000 alone, Intel announced a 'commitment to invest up to £2 billion [Irish pounds] and create 1,000 new jobs by 2004 at its Leixlip facility' in greater Dublin (Lyons June 20 2000), while less than a week later Microsoft announced plans 'to locate all of its electronic commerce hosting facilities for Europe, the Middle East and Africa in Dublin' (Lyons June 26 2000).

While there are other examples of stated investment by overseas firms in the regions outside greater Dublin, the Intel and Microsoft examples illustrate the extent to which the market drives the economic development process in general and, in particular, the continued extent to which foreign (mostly American) high-tech firms drive Irish national as well as regional development. In this sense, the most significant regional development issue for the Shannon region is how to slow down the market driver to the Dublin region through a combination of Irish state, regional partnership and educational drivers. From this point of view, determining the relative success of the UL model in the Shannon region's development should include an analysis of the interrelationship between the market, state, regional and educational drivers. This type of analysis would help to contextualise (as well as not overstate) what a single university can be realistically expected to contribute to its region's development.

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