

A study of County Mayo



The Economy of the Atlantic Economic Corridor

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March 2019

Preface and Acknowledgements

In 2015 Chambers of Commerce and a group of Action Oriented Partners from nine western counties (Donegal, Sligo, Leitrim, Roscommon, Mayo, Galway, Clare, Limerick, Kerry) signed up to a Charter to develop the Atlantic Economic Corridor (AEC). Almost three thousand businesses employing more than 80,000 people operate within the AEC. The goal of developing a 'city of scale effect' will enable the AEC to present opportunities for investment and job creation, bringing wealth and population growth to the region and resulting in a more balanced economy in the island as a whole.

The *AEC Business Forum* believes that a structured approach must be taken to underpin investments in infrastructure, strategic sectors in the region and in skills and capabilities of people to deliver a more diverse and strengthened economy and much higher living standards for the whole population within the corridor.

Any business, small or large, will have rolling multi-year strategic plans in place. Such plans will ensure that it plays to its strengths, is viable in the short term and has a growth plan requiring investments and deliverables, fully explained and agreed with stakeholders. Businesses are very much part of the fabric of the communities where they operate. There is an interdependence between community, business and the state where all three must work in partnership for the mutual benefit of each other and the region as a whole. There is now an opportunity, indeed an obligation, on business and business leaders to bring their planning expertise to the fore, engage more actively, and take a lead in regional and national economic planning for the benefit of future generations

Towards this end the *AEC Business Forum* is sponsoring this study of the economy of the Atlantic Economic Corridor in partnership with Local Authorities, State Agencies, and Business/Community Groups in the corridor. The study will cover the whole AEC region, with the initial focus of this report on the economy of County Mayo.

Whether large or small, manufacturing or services, private or public, indigenous or foreign, we are deeply appreciative of the contribution that all businesses make to the economic and social wellbeing of the county and region. More specifically, we are indebted to a broad range of businesses, institutions and individuals who contributed to the preparation of this report. We thank the selected sample of business leaders who allowed us visit their facilities to better understand the drivers of the economy of the county. Their case studies are in the body of the report and we are indebted to: Sean Noone (Westire), Rory Casey (Fibre Pulse), Dermot Madigan (Mulranny Park Hotel), Joe Queenan (Foxford Woollen Mills), Harry Hughes (Portwest), Donal Byrne (Big Red Barn), Tommy Griffith (PEL), Sean Corcoran (Electric Skyline), Aiden Corcoran (Cosmetic Creations)and Anthony Murphy (CPCNS).

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Members of the *AEC Business Forum Executive*: Mike Devane, David Kiely, Sean Keenan, Kevin Thompstone, Frank Dawson, Pat Morris, John Caulfield.

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This report presents a factual, data driven assessment of the evolution and current state of the economy of Mayo in the context of the AEC region. Based on such information, the report highlights areas for future focus so that the county can grow and develop economically and socially. Strategies

to build on our strengths, address our weaknesses, capitalise on our opportunities and overcome our threats, are outlined. We must now move to the next phase and engage collaboratively with all stakeholders in the county to develop and deliver plans and initiatives which will continue the strong economic and social development of Mayo and the AEC for future generations.

Finally we wish to acknowledge the dedication of two people, without whose time, commitment, expertise and tenacity, the report would not have been possible.

John Caulfield co-ordinated all the stakeholder engagement aspects of the report. He is a native of Breaffy Castlebar. He spent his main working career with Baxter Inc., a Global Healthcare company, where over a 39 year period he held a variety of leadership positions in Operations and Human Resources Management at national and international level. In recent years he has held interim Leadership positions with the Road Safety Authority, Norbrook Laboratories, Cellnovo Limited, in addition to a range of business coaching and mentoring assignments. Although John spent half of his career working internationally, he continued to live with his family in his native Mayo. He had the opportunity to lead many projects which had a sustained positive impact on the social and economic development of communities in his region. He is currently a key contributor to the development of the AEC region.

Professor John Bradley, the author of the report, is an economist, formerly Research Professor at the ESRI, thereafter an international research consultant in economic development. He has specialised on the island economy of Ireland, EU cohesion policy, industrial strategy and economic modelling. In the late 1980s he pioneered techniques to evaluate the impacts of EU Structural Funds on the Irish economy and worked with the European Commission to apply these to Greece, Portugal, Spain, the East German regions and the Italian Mezzogiorno. After the 2004 and subsequent EU enlargements he led international projects for the European Commission (DG Regional Policy) to evaluate the impact of Structural Funds in promoting regeneration and the objectives of cohesion in the new member states of the former Communist Bloc.

From the early 1990s he worked on North-South economic and business relations on the island of Ireland and in 1996 presented a report to the Forum for Peace and Reconciliation (*An island economy: exploring long-term*

economic and social consequences of peace and reconciliation in the island of Ireland). In 2012 he co-authored (with Michael Best) a study for the Centre for Cross-Border Studies entitled *Cross-Border Economic Renewal: Rethinking Regional Policy in Ireland*. He acknowledges deep intellectual debts to Professor Michael Best, whose book *How Growth Really Happens* was awarded the Joseph Schumpeter Prize in 2018 and to Dr Micheál MacGréil, S.J., whose tireless work on rural development and on the restoration of the Western Rail Corridor serves as an object lesson in dedication and persistence.

The usual disclaimer applies. The views and opinions expressed in this report, as well as any conclusions drawn, are the sole responsibility of the author.

March 8th, 2019

A note on data

In constructing the data used in this report we have had to draw on many sources, CSO and others, that were published at different dates. Consequently, there may be some inconsistencies in the data as sources of different vintages were combined.

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Executive Summary

The purpose of this research is to initiate an examination of the economy of the Atlantic Economic Corridor (or AEC). The AEC consists of nine counties on the western seaboard, extending from Kerry in the south to Donegal in the north. We start this research with a study of the economy of County Mayo, located in the middle of the AEC, but with the intention of building on the Mayo methodology to widen the analysis to cover all AEC counties. Our focus is primarily on regional enterprise and economic development rather than on spatial planning or rural renewal. The latter two topics are covered fairly extensively in the recently published *Project Ireland 2040* and in the *Draft Regional Economic and Spatial Strategy for the N&W Regional Assembly*, but the former two are not. We believe that in the absence of a solidly based economic development and enterprise dimension, sustainable spatial and rural renewal objectives are likely to prove very difficult to achieve.

In **Section 2** we review previous Irish regional development planning efforts and their outcomes. A disturbing finding that emerges is that successive regional strategies almost never attempted to evaluate the effectiveness of the previous strategies and generally ignored any lessons, positive or negative, that could have been learned from them. Even during the period from the late 1980s to the early 2000s, when Ireland was in receipt of large-scale EU Structural Funds, there did not appear to be any clear regional development strategy in place that addressed the escalating developmental imbalance between the east and south coast regions, centred on Dublin and Cork, and the rest of the country, particularly the north-west region. This ambiguity appears to have been carried forward to the latest national and regional planning initiatives.

In **Section 3** we examine the structure and performance of the national economy and of its constituent regions and how these interact with each other. It makes sense to study initially a wider, more encompassing area than an individual county. A wider area is more likely to have greater business and economic "weight" and many more distinctive traits than smaller and more economically open county units whose structure and performance are likely to be closely related to and influenced by adjoining

counties and/or cities. The dominance of the two big city regions (Dublin and Cork) is very obvious in this regional analysis, together with a mixture of both inter-regional heterogeneity and homogeneity with respect to the remaining regions.

Having examined regions, in **Section 4** we move down to the county level and examine the economy of Mayo. We explore how the characteristics and performance of the encompassing West regional area (consisting of Galway, Mayo and Roscommon) influence the performance of the Mayo economy. When regional characteristics are shared across all constituent counties of the West region, policy initiatives need to be designed, at least to some extent, at the higher regional level and not purely within and differentiated between counties. But when characteristics and performance of Mayo differ from those of its encompassing region, then one needs to identify the specific strengths, weaknesses, opportunities and threats relevant to Mayo and design both Mayo-specific as well as wider region-specific policy initiatives. Both phenomena emerge from the data analysis which introduces a degree of complexity into Mayo development strategy that has not received much attention in the national planning process.

Having looked at the regional and county level, in **Section 5** we further narrow the focus within Mayo to the individual enterprises that make up its business sector. Within the business sector we draw a distinction between enterprises that produce goods and/or services purely for sale in the local county market or in markets in immediately adjoining areas ("non-traded"), and enterprises that succeed in selling outside their county base to wider regional, national and international markets ("traded").

Two approaches to exploring the Mayo enterprise sector are used. First, we use various databases to search for any clusters of similar or complementary enterprises in specific sectors. Second, based on publicly available information and drawing on a series of personal interviews conducted between October and December, 2018, we describe a small sample of individual enterprises that operate in Mayo. We found that at the county level, no comprehensive database exists covering the entire Mayo enterprise sector. Our company interviews were intended to compensate for the absence of useful enterprise-level databases and permitted us to view development from the perspective of individual companies. The variety of successful, dynamic and entrepreneurial enterprises that we visited was impressive and pointed to the potential for even greater success in the future.

In **Section 6** we summarise our analysis of the Mayo economy using the SWOT (Strengths, Weaknesses, Opportunities and Threats) framework,

focusing on a very narrow range of major strategic issues that can be unpacked later into greater detail if required. The findings are summarised in four tables, with greater detail and explanations provided in the main text.

	Strengths
1	Significant base of foreign multinationals
2	Robust, modern indigenous manufacturing sector
3	Adequate physical infrastructure, but needs upgrading
4	Fast broadband in most big towns but not in hinterlands
5	Rapidly improving social living environment

	Weaknesses
1	Second lowest population density of Irish counties
2	Small, dispersed towns with poor linking infrastructure
3	Serious north-south divide in development pattern
4	Weaknesses in Third Level institution in GMIT-Castlebar
5	Difficulty in making transition from non-traded to traded manufacturing/service activities
6	High dependence on social transfers to sustain income

	Opportunities
1	Ability to attract inward migration to drive non-traded activity
2	Better roads and the availability of the Western Rail Corridor to link north and south of county
3	Availability of Ireland West Airport Knock as future enterprise hub
4	Option to scale up and re-focus GMIT-Castlebar
5	Opportunity to exploit county-specific sectors (energy, marine, eco-tourism)

	Threats
1	Policies in NDP & Project Ireland 2040 may be too weak to reverse agglomeration processes in the "five" cities
2	N&W Regional Assembly may be too weak to build a strong regional economic consensus
3	Third level N&W educational institutions not sufficiently focused on regional development
4	Top-down broadband strategy may be too blunt for specific needs of county like Mayo
5	Negative impacts of a messy BREXIT

In **Section 7** we review the implications for regional strategy that emerge from our empirical analysis. The first relates to the need for a two-track approach: top-down at the national level and bottom-up at the regional/county level. Our interpretation of the current planning approach is that the former completely dominates the latter. The second relates to the nature of enterprise strategy and the desired behaviour of firms. For example, the internal business strategies being pursued by firms need to be consistent with the wider county and national environment of technology and cost competitiveness. Also, the evolution of clusters of networked firms is essential if one desires a rapid expansion of the county enterprise sector. Finally, the question of county-level "governance" has to be addressed and this is likely to fall to the County Council as the only organisation with the necessary skills and resources. We conclude this section with four policy case studies that serve to illustrate how ambitious strategic regional development aims have confronted the realities faced in a peripheral county as it works to engage with and benefit from national prosperity.

In our final **Section 8** we address the question of how a county-level spatial and economic strategy might be shaped to present the outline of a development programme that is informed by a detailed understanding of how the county economy actually operates. We suggest that three elements need to be addressed. The first is an understanding of the various sectors of the county enterprise economy, identifying those parts where growth is not constrained by the low population density of the county. The second is the identification of the "enablers" of Mayo enterprise development. These are made up of modes of "connectivity" linking the Mayo towns into networks that would permit them to take on many of the properties of larger "virtual" towns. They include the question of "facilities", where advance preparation is required if opportunities are to be seized quickly when they arise. They also include the skills and capabilities of the workforce and how these can be improved using a re-focused GMIT-Castlebar establishment. The third, and perhaps most important, element is the issue of county-level co-ordination and governance which needs to be addressed and organised if the complex range of required strategic actions is to have any chance of being successful.

"It is well known that a vital ingredient of success is not knowing that what you're attempting can't be done"

Terry Pratchett

[1] Introduction and purpose of the Mayo study

The publication of *Project Ireland 2040, National Development Plan 2018-2027* and *Draft Regional Economic and Spatial Strategy for the N&W Regional Assembly* has generated renewed interest in regional development in Ireland. Although Ireland is among the smallest states of the European Union and one of the least densely populated (at 65 people/sq km, ranking 23rd in terms of population density), the distribution of population between its five largest urban centres is among the more skewed of all member states.¹ Ireland's largest city, Dublin, has a population of about 1.3 million. This is over six times larger than the second city, Cork (209 thousand); over 13 times larger than the third, Limerick (94 thousand); almost 16 times larger than fourth, Galway (80 thousand); and 24 times larger than the fifth, Waterford (54 thousand).²

At the risk of over simplifying what is a complex and ambitious national economic and spatial strategy, the outcome by the year 2040 envisaged in *Project Ireland 2040* is one where the greater Dublin area will contain the only city on the island with a population of over one million, which is probably at the lower end of a size capable of sustaining stand-alone competitive growth and development in a free trading EU and world economy. The ratios of the populations of the other four cities to that of Dublin are likely to remain broadly similar, even if, as envisaged in the strategy, half of the anticipated population increase of about one million will occur outside of these five cities. The main thrust of infrastructure investment envisaged in the NDP for the next decade could be broadly characterised as consolidating the links, in a kind of hub and spoke system, between Dublin and the next four cities in size (Cork, Limerick, Galway and Waterford). Modest improvements will be made in the AEC region to the mainly east-west links between the cities and the smaller towns and some consideration will be paid to the north-south links along the Atlantic coast.

From the perspective of the Atlantic Economic Corridor, and specifically from the narrower perspective of a constituent county like Mayo, development challenges in the context of any such urban "hub and spoke" strategy are

¹ The most densely populated EU state is the tiny island state of Malta (1260 people per sq km). Second is The Netherlands (393). The UK is fourth (267).

² The populations of the three largest towns in the North and West NUTS 2 region (Athlone, Letterkenny and Sligo), excluding Galway, are all approximately 20,000, i.e., 65 times smaller than Dublin.

very daunting. This is particularly the case when we are confronted with long-term demographic and economic processes which, in the absence of appropriate countervailing policies, are likely to bring about an even greater degree of polarisation between the eastern and the western regions of this island by mid 21st century. It is important to try to understand the driving forces that are behind this spatial polarisation and their implications as well as the extent that these forces can be, or should be, modified or reversed by appropriate regional and sub-regional policies.

Perhaps the most compelling spatial polarising force is the widely held belief that large urban centres of population are both the main drivers of modern economic development as well as the generators of feed-back mechanisms that further reinforce such development.³ If this is the case, then regions lacking in significant urban population centres, even those of the relatively modest size of Limerick, Galway and Waterford, are likely to be at a serious disadvantage. Consequently, the development options and processes appropriate in "peripheral" regions that are distant from large population centres, such as the Irish Northern and Western (N&W) planning region and many of the counties that make up the Atlantic Economic Corridor, will need to be very different from development processes in "core" regions that contain such centres. Successful development options in the periphery are very unlikely to be merely scaled down versions of development options available to core regions. Furthermore, the initiatives for what is termed "rural renewal" (i.e., making rural towns more pleasant places in which to live), however admirable in themselves, should not be confused with, or taken for "rural development" (i.e., building a more dynamic enterprise culture in or near small towns).

The biggest challenge facing regional development strategists and planners in Ireland is the need to evolve a development model that is appropriate for groupings of small towns in a low population density region like that of the AEC. As noted above, conventional economic policy wisdom suggests that innovation and enterprise will only operate efficiently in very large towns or in cities.⁴ Historically, this was true. With the arrival of the industrial revolution and the mechanisation of agriculture in the 19th century, the large population living in rural areas which had previously supported itself mainly from farming activities, was no longer needed and people flocked to the cities where new factories now demanded a city-based labour force. But

³ The role played by urban centres in spatial development is explored by Jane Jacobs in her classic 1985 study *Cities and the Wealth of Nations*. For a recent analysis of the issues, see *The Netherlands of 2040*, (<https://www.cpb.nl/sites/default/files/publicaties/download/netherlands-2040.pdf>)

⁴ For the "conventional" new spatial economics treatment of the role of cities in modern development, see Paul Krugman, *The Development, Geography and Economic Theory*, MIT Press, 1997.

today the agricultural labour force has now shrunk to a small fraction of its previous size and rapid advances in technology and communications have made it both feasible and efficient to operate enterprises at a smaller scale and in units that no longer need to be in one physical location. This has opened up new opportunities for small towns in rural areas where, if the initial facilities are available, many firms can operate at lower costs than in big cities with their inflated land prices and office rents, and where the workforce can enjoy a higher quality life-style in the absence of high rents, unaffordable house prices and time-wasting commuting.⁵ Our study sets out to explore these ideas as a basis for regional policy making in Ireland.

1.1 The structure of the study

The purpose of this report is to examine regional development issues in the context of a study of the economy of County Mayo, but with the intention of extending it to the encompassing region of the Atlantic Economic Corridor.⁶ Our aim is to examine the past and the present so as to be better informed as we look to the future. Our analysis is structured as follows.

In Section 2 we take a look backwards in time to review previous Irish regional development planning efforts and their outcomes. This can be irritating to current policy makers who are impatient to move forward and to embrace the bright future that is promised by their current visions and their proposed actions. But we are guided by two pieces of advice attributed to the scientist Albert Einstein. In the first he said that: "We cannot solve our problems with the same thinking we used when we created them". In the second said that: "The definition of insanity is doing the same thing over and over again, but expecting different results". The fact that each successive Irish regional strategy seldom evaluated the effectiveness of the previous strategy and generally ignored any lessons to be learned from it, is all the more reason to review past performance, however briefly, even as we face into the implementation of what is claimed to be a "new regional strategy.

Our review covers the period starting from the early 1960s, when the first really serious and systematic focus was given to regional development strategy as distinct from national development strategy in Ireland. We conclude in the early years of the present century, when the massive regional investment expenditures co-financed under the EU Structural Fund and Cohesion Fund programmes came to an end. Future investment,

⁵ For a details of the kinds of development possibilities available to smaller cities and towns in an era of advances in ICT, see

<https://www.cpb.nl/sites/default/files/publicaties/download/netherlands-2040.pdf>

⁶ Working from South to North, the Atlantic Economic Corridor consists of the following counties: Kerry, Limerick, Clare, Galway, Mayo, Roscommon, Sligo, Leitrim and Donegal.

including those set out in *NDP 2018-2027*, will have to be funded mainly out of domestic resources, so it will be even more vital to draw on previous experience and to evaluate outcomes in order to maximise its beneficial impact on future regional development objectives.

In Section 3 we review the structure and performance of the national economy and of its constituent regions and how these interact with each other. For historical, political and economic reasons the economy of this island prior to 1922, and the economy of Ireland after independence, evolved into a series of fairly distinct sub-regions. As a preamble to the study of all of the individual counties in the AEC region, the analysis in this section focuses on groupings of counties rather than on individual counties themselves.

There are many compelling reasons why some analysis of regions needs to be carried out prior to going down to the detail of county level. For example, although each county forms a distinct administrative unit and has its own administrative authority (the County Council), it makes more sense to study first a wider encompassing area that is more likely to have greater business and economic "weight" and many distinctive region-wide traits than to study the smaller and more economically open county units where structure and performance are likely to be closely related to and influenced by the structure and performance of adjoining counties. Counties embedded in a specific regional grouping (e.g., like Mayo in the "West" region) are very likely to share many common traits (such as population density, level of urbanisation, quality of infrastructure, etc.).⁷ When we subsequently go down to the county level, it will be easier to identify aspects that are specific to a county and that serve to differentiate its performance from other counties in the same encompassing region. In other words, in addition to studying individual counties in detail, it can be informative to follow the causal chain that runs from the national economy, to the regional economies, and finally to the county economies.

A second reason for this approach is that the CSO regional accounts for Ireland are articulated at the level of regions, but not at the level of counties. In the past, the very detailed Annual Census of Industrial Production (CIP) used contain data on manufacturing down to the individual county level. However, from the year 2009 to 2012, county level data were restricted.⁸ Between 2012 and 2018, data were no longer published for counties and

⁷ In Section 3 we will describe the current regional structure used by planners and the CSO. The "West" is a NUTS 3 region that includes Mayo, Galway and Roscommon.

⁸ For example, for the years prior to 2009, some data on Mayo are published in the annual CIP. From 2009 to 2012, Mayo was combined with Roscommon. After 2012, data for Mayo were buried in the West NUTS 3 region and not separately identified.

only presented at the level of regions. However, new CIP data at the level of individual counties were again published in December, 2018, with revisions taken back to 2008.

A third reason for treating regions prior to examining their constituent counties derives from our wider aim of studying the economy of the Atlantic Economic Corridor. The origins of the AEC concept arose from the need to draw attention to the East-West divide on this island and to examine how this divide might be reduced by appropriate policy actions.⁹ There is a degree of institutional representation of the interests of the counties that make up the AEC in two of the three newly constituted Regional Assemblies (i.e., in the Northern & Western and the Southern regions). These Assemblies are required to prepare region-specific *Regional Spatial and Economic Strategies (RSES)*, but there does not appear to be any clear and compelling *institutional* policy expression for the Atlantic Economic Corridor itself within the present complex regional planning structures.

In Section 4 we move down to the county level and examine the economy of Mayo in more detail. Here it is still more illuminating to present Mayo in a comparative context rather than in isolation, drawing on the previous regional analysis of Section 3. Thus, we explore how the characteristics and performance of the encompassing West regional area are likely to influence the performance of the Mayo economy. Where the wider regional characteristics are shared across all constituent counties (in the case of the West region, this includes Galway, Mayo and Roscommon), then an argument can be made that policy initiatives need to be designed, at least to some extent, at a higher regional level and not be developed purely within and differentiated between counties. But when some regional characteristics are not shared by the constituent counties, e.g., where the characteristics and performance of Mayo differ from those of its encompassing regions, then one needs to identify the specific strengths and weaknesses, opportunities and threats of the county and design both county-specific as well as region-specific policy initiatives.

In Section 5 we narrow the focus within county Mayo to the individual enterprises that make up its business sector. By this we mean the enterprises that are located in and operate in the county in the sectors and sub-sectors of agriculture, manufacturing, building and construction, market services and non-market (or public) services. Within these sectors it is essential to draw a very important distinction between two kinds of enterprises. The first are enterprises that produce goods and/or services

⁹ See <http://www.sligochamber.ie/wp-content/uploads/2019/02/8920-AEC-Infrastructure-03-Apr-2017-ilovepdf-compressed.pdf> for the report on infrastructure needs of the Atlantic Economic Corridor.

purely for sale in the local county market or markets in immediately adjoining areas of neighbouring counties. Using shorthand, we will refer to these enterprises as producing "non-traded" goods and services. The second are enterprises that succeed in selling outside their county base to wider regional, national and international markets. In shorthand, we will refer to these enterprises as producing "traded" goods and services.¹⁰ This distinction between "traded" and "non-traded" goods and services becomes very relevant in small regions and in their constituent counties that have a low population density and a scattered urban settlement pattern. The main reason is that enterprises producing "non-traded" goods or services will be constrained by the very small size of their local market since this is made up mainly of the local population and numbers are small.¹¹ On the other hand, enterprises that produce potentially "tradable" goods and services are not as constrained by the size of the local population base, provided, of course, that their goods or services are competitive in wider and more demanding regional, national and international markets.

It is important to stress that the focus we direct on enterprises producing tradable goods and services is not intended to downplay the importance of enterprises operating within any county that produce what we characterise as "non-tradable" goods and services. In fact the bulk of enterprises in any region, large or small, core or periphery, are always going to be in the "non-tradable" category. For example, the huge market services sector made up of retail and wholesale distribution, personal and public services and - to a large extent - hotels and restaurants, fall into this category and are very labour intensive. However, the size and growth of the "non-traded" sector in any region will almost always be severely constrained by the size of the local market. In a region or county that has a low population density, there is likely to be an upper limit to the expansion of "non-traded" enterprises. The fact that Mayo has the second lowest population density of all Irish counties means that its "non-traded" enterprise sector may find it difficult or impossible to take on a role as a key driver of county development.¹² In most circumstances the "non-traded" sector will expand in line with overall population growth in the county, the main drivers of which must be sought elsewhere, most often in the expansionary activities of the "traded" sector.

¹⁰ The "traded" vs. "non-traded" terminology derives from the economic literature at a national level and is not quite accurate when used at a county or regional level. But it is a useful shorthand for distinguishing between goods and services only sold locally and those also sold outside the immediate locality.

¹¹ In counties that have a vibrant tourism sector, the local population will be augmented by incoming tourists. But these are likely to affect a fairly narrow range of mainly retail-related service activities.

¹² The relocation of public services out of Dublin to the regions during the early 2000s is an exception, where the injection of public sector employment did provide an externally generated regional stimulus from the service sector to the wider regional economy.

In exceptional cases an enterprise can make a transition from "non-traded" to "traded" status as it improves its product or service quality and succeeds in attracting customers from outside its local region. Such transformations tend to be rare, but need to be encouraged.¹³

Two important aspects of the county Mayo enterprise sector are treated in Section 5. First, we use various databases to search for any clusters of similar or complementary enterprises in specific sectors in the county.¹⁴ The presence of such clusters is often interpreted as a sign that a process of self-sustaining growth is under way, where successful enterprises give rise to further successful enterprises in a kind of virtuous circle of growth.¹⁵ Famous examples of this at an international level would include Route 128 in Massachusetts and Silicon Valley in California. Irish examples would include the software sector in Dublin; the pharmaceutical sector in Cork; and the medical device sector in Galway. Second, based on a series of personal interviews conducted during October and November, 2018, we describe a small sample of individual enterprises that operate in Mayo. Here we targeted a selection of mainly manufacturing enterprises within each of the main towns in county Mayo in order to gain a better understanding of the manufacturing and business 'culture' of those towns and the wider county. As is often the case when one speaks to business people operating within a region, the messages that come back are not always what one was expecting and serve to focus attention on specific aspects of the regional development policy agenda. The bottom-up view from the business community is a very useful addition to the top-down view articulated in national planning documentation and obtained from official data sources.

In Section 6 we pull together our analysis of the economy of county Mayo using the SWOT framework (Strengths, Weaknesses, Opportunities, Threats) of the Boston Consulting Group.¹⁶ The core assumption here is that the internal positive and negative attributes of the economy of a county or region can be distinguished from factors that characterise its external environment. The *internal* analysis serves to pinpoint important strengths and weaknesses of the county economy and wider society. The *external* analysis serves to identify strategic opportunities and threats. Implicit in the

¹³ An example of a shift from non-traded to traded status is Kelly's Butchers, Newport: www.kellysbutchers.com.

¹⁴ Although the CSO gathers data at the level of individual firms, for confidentiality reasons it only publishes very aggregate data at the level of counties (e.g. the aggregate manufacturing sector). So one has to fall back on other official and commercial databases. In Section 5 we describe the range of enterprise databases that we used.

¹⁵ See Best, M., *How Growth Really Happens*, Princeton University Press, 2018, for an analysis of cluster dynamics and its role in generating dynamic growth.

¹⁶ For explanations of SWOT, see <https://rapidbi.com/swotanalysis/>.

SWOT framework is that the policy makers at the county or regional level have at least some power to influence its internal performance, but have extremely limited power over the nature and behaviour of its external environment. The external environment is largely set by the national planners in the context of the global economy. There is an understandable temptation to overload any SWOT analysis with too many disparate and unconnected issues. To avoid this, we initially focus on a very narrow range of major strategic issues that can always be unpacked into greater detail at a later operational stage of regional policy design and implementation.

In Section 7 we review the implications for regional strategy that emerge from our empirical analysis. The first relates to the need for a two-track approach: top-down at the national level and bottom-up at the regional/county level. The second relates to the nature of enterprise strategy and the desired behaviour of firms. In the third, the question of county-level "governance" is addressed. We conclude this section with three real life policy case studies that serve to illustrate how ambitious strategic regional development aims have confronted the realities faced in a peripheral county as it works to engage with and benefit from national prosperity. The experience of IRD Kiltimagh over the period 1989 to the present provides one such case study. The development and expansion of Ireland West Airport Knock provides a second. The planning of the county road infrastructure provides a third and the restoration of the Western Rail Corridor (as yet incomplete) provides a fourth.

In our final Section 8 we address the question of how a county-level spatial and economic strategy might be shaped to present the outline of a development programme that is informed by a detailed understanding of how the county economy actually operates. We examine this in terms of four components: the various sectors of the county enterprise economy, identifying those parts where growth is not constrained by the low population density of the county; the identification of the "enablers" of Mayo enterprise development; the skills and capabilities of the workforce and how these can be improved; and the kind of county-level co-ordination and governance needed if a complex range of strategic actions is to have any chance of being successful.

A short description of some of the main policy frameworks widely used in regional development planning is included in Annex 1. These frameworks are drawn on throughout the paper and give coherence and logic to regional analysis and help identify policy linkages and opportunities that might otherwise be missed. In light of the vital importance of broadband access as a key facilitator of regional development, Annex 2 contains the extended

version of the Croagh Patrick Community Network Society case study. The case study - *IRD Kiltimagh* - is presented in [Annex 3](#) and illustrates the complexity of turning around the fortunes of a declining town located in a declining county on the relatively poor western periphery of Ireland. The case study - *Ireland West Airport Knock* - is presented in [Annex 4](#) and illustrates how top-down policy makers, operating at the national level, can miss the need for strategic initiatives whose justification is only visible from a bottom-up, local perspective. The intra and inter-county road infrastructure planning is presented in [Annex 5](#). The case study - the *Western Rail Corridor* - is presented in [Annex 6](#) and illustrates how difficult it is to change strategic planning mind-sets even when changes in circumstances render past regional experience a bad predictor of future regional potential.

"We have made mistakes in the past and we have allowed the country to sprawl and develop without a coherent plan, and to the detriment of many of our places and our people"

Leo Varadkar, *Project Ireland 2040*

[2] Irish regional policy: origins and achievements

2.1 Background history

History has always been an important factor in Irish economic development. Union with Britain during most of the 19th century, at a time when Britain was the dominant world economic superpower, had considerable economic benefits for Ireland at that time.¹⁷ However, a form of economic partition of the island had already emerged almost 70 years before political partition occurred in 1922, driven by the conjunction of the Great Famine and the dramatic industrialisation of the north-east region centred on Belfast during the latter half of the 19th century.¹⁸

Political partition after 1920 left the newly constituted Irish Free State with very little by way of non-food and beverages manufacturing, and the inter-war period (1922-1939) was not the most propitious time during which to try build an industrial base from such very modest beginnings. The approach adopted from 1932 onwards, namely restrictions on foreign ownership of enterprises and the erection of high tariff barriers in an attempt to promote import substitution, was a world-wide phenomenon during this fraught period in world history.¹⁹ The long overdue switch to an outward orientation from the 1960s was an equally enlightened, if somewhat delayed, Irish response to changes in the post World War II global economy.

A case can be made that two of the main legacies of the relationship between Ireland and Britain was an inferior level of Irish national development and economic performance as a whole, combined with the isolation of large areas of the western coastal regions from even the limited industrialisation of the eastern and southern regions. These legacies have had a very long tail and the Irish economy continued to under-perform relative to European standards in small states until well into the 1980s.²⁰

¹⁷ See Ó Gráda, C. (1994). *Ireland: A New Economic History 1780-1939*, Oxford: Clarendon Press.

¹⁸ See Bardon, J. (1982). *Belfast: An Illustrated History*, Belfast: The Blackstaff Press.

¹⁹ In his Finlay lecture given in Dublin in 1933, John Maynard Keynes praised the Irish government actions (see Keynes, J.M. (1933). "National Self Sufficiency", *Studies*, 22, 177-193).

²⁰ See Mjøset, L., *The Irish Economy in a Comparative Institutional Perspective*, 1992, NESC Report No. 93, Dublin.

The usual explanations that were advanced stressed factors that appeared to be internal to Ireland (e.g., a lack of entrepreneurial spirit, parochialism, the small size of domestic markets, a tradition of out-migration, civil unrest in the North, etc).²¹ In truth, some of these factors were related to a mainly economic divide of the island that predated political partition. Many of the key characteristics of Ireland's regional economies in the late 20th and early 21st centuries were already clearly discernible as early as the middle of the 19th century. Ireland's misfortune was that when the second industrial revolution arrived in the middle of the 19th century, it was largely confined to the north-east corner of the island, centred on Belfast. The subsequent sundering of the engineering/industrial north from the mainly agricultural/food processing south destroyed any possibility of building intra-island synergies that might have produced faster modernisation, deeper development and greater regional equity in an island that was not partitioned.

Having succeeded in constructing an indigenous manufacturing base - albeit not a very competitive one - behind protective tariff barriers in the period from 1932 to the early 1960s, the Irish economy faced serious challenges in coping with and adjusting to rapid change in the external environment during the second half of the 20th century. In an era of free trade there could be little shelter or protection for small and peripheral nations or for their regions from the competitive forces generated by larger more powerful economies in a world of rapid technological progress, increasingly integrated global markets and shifts in the international division of labour. Small economies needed to perform to the very best international standards and exploit fully all their limited domestic advantages if they were to share the high standard of living enjoyed, for example, by the USA and the more advanced EU member states or by the more developed regions of these states.

An overriding priority for Ireland was the modernisation of the inefficient, largely uncompetitive, slow-growing, inward-oriented manufacturing sector that had been protected behind high tariff barriers since the early 1930s, and its re-orientation towards export markets and higher quality products.²² This already complex and challenging set of restructuring problems was exacerbated by the eruption of violence in the North in the late 1960s. An immediate economic casualty was tourism, which was then (and remains) heavily dependent on the British market. The numbers of British visitors to

²¹ See Lee, J. (1989). *Ireland 1912-1985: Politics and Society*, Cambridge: Cambridge University Press.

²² The urgency of the need for change was communicated to the government of the day by the Department of Finance in the seminal document *Economic Development*, 1956 and policy was developed in a series of *Programmes for Economic Expansion* during the 1960s and early 1970s.

Ireland collapsed and the real level of earnings from tourism in 1968 was not to be reached again for more than twenty years. However, as traditional Irish indigenous industries struggled and many declined, the ability grew to attract a high proportion of the available global inward investment, in particular from the United States.

The crucial policy changes made in the 1950s that were brought together in the strategy of *Economic Development* in 1956 were a heady and novel mix of a commitment to trade liberalisation, a range of direct and indirect grant aid to private firms, and the singular incentive of a zero rate corporation profits tax on exports.²³ This policy mix was precisely what was needed to ride the future wave of American foreign direct investment, in contrast to the declared policy aim of emulating a country like Denmark by growing on the back of an expanding indigenous agri-industrial base. The policy thrust was uniquely appropriate to Ireland's development challenge, but the outcome eventually produced by these policies turned out to be very different from that originally envisaged by the policy makers.

2.2 Internationalisation and foreign direct investment

The 1960s represented a watershed for the Irish economy. Policy changes made from the late 1950s and early 1960s onwards launched the economy on a development path that differed radically from that pursued before and after independence. The central policy dilemma was not whether the Irish economy should be open to trade and investment flows with the wider world economy, since Ireland already had a relatively open economy when compared to the other small European countries in the late 1950s. Rather, the issue was the nature of this involvement and whether there was to be a break with an almost total dependence on the British market as the destination for exports of a very restricted variety of mainly agricultural products that had to be sold at low prices under the then prevailing British "cheap food" policy.

The failure of the policy of industrialisation behind protective tariff barriers that was pursued from 1930 to the 1960s, became inescapable during the economic crises of the 1950s.²⁴ Although a case can be made that union within the United Kingdom had been economically beneficial to Ireland during most of the 19th century, except for the period of the Great Famine of 1847-49 and its immediate aftermath, the problems that beset the much

²³ The original idea of the zero rate was to encourage indigenous firms to export. In fact, it acted as a major incentive for foreign firms to locate in Ireland and supply their export markets from an Irish production base. After entry into the then EEC, the zero rate was changed to, and remains, at the low rate of 12.5% on all corporation profits.

²⁴ See Kennedy, Giblin and McHugh, 1988. *The Economic Development of Ireland in the Twentieth Century*, London: Routledge.

weakened UK economy in the straitened circumstances that followed World War II, the birth of the European community with the signing of the Treaty of Rome in 1956, as well as the fact that the United States was the new hegemonic economic power, were factors that influenced the formulation of Irish strategic development policy.

The Irish economy emerged in the late 1950s from a heavily protectionist regime but the switch to openness was more dramatic than in the other European states and was implemented in terms of the abandonment of all former restrictions on "foreign" ownership of Irish-based enterprises, a vigorous industrial incentive package consisting of a very low corporate tax regime, generous capital and training grants and a "one-stop-shop" enterprise development agency in the form of the IDA.²⁵ After a slow start in the 1960s, the foreign manufacturing sector grew very rapidly during the 1980s and by the late 1990s accounted for about one half of Irish manufacturing employment and over two-thirds of gross manufacturing output.²⁶ Directly as well as indirectly, FDI now affects every corner of the Irish economy.

FDI inflows into Ireland did not go primarily into the more traditional sectors in which the economy then had a comparative advantage (e.g., food processing, clothing, footwear) mainly because many indigenous manufacturing sectors were largely non-tradeable (i.e., directed mainly at serving the small local market), and the substantial high technology FDI inflows that came to Ireland turned out not to depend on local comparative advantage. Although the outward orientation occurred at a time when the concept of growth poles was universally popular as a spur to development (an issue taken up below), the normal processes of clustering and regional concentration in Ireland were impeded both by the branch-plant nature of the investment and by a public policy that encouraged geographical dispersal almost certainly at some expense to strict economic efficiency criteria. However, after more than six decades of exposure to foreign direct investment, Ireland eventually succeeded in attracting sufficient firms in the computer, instrument engineering, pharmaceutical and chemical, and software sectors to merit the description of sectoral "agglomerations" or "clusters", albeit not of a very deep or structural kind.

The long overdue switch to an outward orientation from the 1960s was an enlightened response to changes in the world economy. The initial engine of

²⁵ Bradley, J., 'Committing to Growth in a Small European Economy', in *New Wealth for Old Nations: Scotland's Economic Prospects*, 2004, (eds.) W. Alexander, B. Ashcroft and D. Coyle, Princeton University Press.

²⁶ See Barry, F. and J. Bradley, 1997. "FDI and trade: the Irish host-country experience", *Economic Journal*, 107 (445), 1798-1811

subsequent Irish growth was the manufacturing sector, and the engine of the manufacturing sector was the foreign-owned multinational subsector. But the eventual dominance of the Irish manufacturing sector by foreign multinationals was unexpected and quite unique by OECD experience. With falling transportation and telecommunication costs, national economies were becoming increasingly interdependent, and in the words of President Clinton's former Labour Secretary, Robert Reich:

"the real economic challenge ... [of a country or region] ... is to increase the potential value of what its citizens can add to the global economy, by enhancing their skills and capacities and by improving their means of linking those skills and capacities to the world market."²⁷

2.3 Determinants of dispersal of manufacturing to Irish regions

Present day industrial strategy in Ireland could be broadly characterised as a process whereby the key national development agency, the IDA, using a wide range of incentives, bids for sub-contracting roles from mainly global multinational firms, and only then attempts to influence the allocation of these activities across the regions in order to satisfy conflicting mixtures of economic, social and political requirements. In the late 1980s a first comprehensive strategic framework was developed within which the sources of national and regional competitive advantage could be placed - the so-called Porter 'diamond' (details in Annex 1). Porter asked how a nation or region could seek to achieve international success in any particular industry or in groups of industries. Porter's answers identified four broad attributes (the competitiveness 'diamond') that he believed shaped the environment in which firms compete: factor conditions; demand conditions; related and supporting industries; and firm strategy, structure, and rivalry. Porter's main contribution to deepening understanding of national and regional competitive advantage lay in the emphasis he placed on the interactions between these four attributes and the detailed study of successful nations, regions and industries that illustrate these interactions at work.

However, the Irish economy is mainly relevant to strategic planning of US-based rather than indigenous Irish firms as a profitable location for production of products (and increasingly, services) mainly designed and developed elsewhere, a location where an educated labour force as well as adequate infrastructure are available at reasonable cost, and with easy access to the large EU Single Market. Until recently the branch plant nature of foreign firms located in Ireland tended not to encourage the building of strong national or regional performance on the lines of the Porter 'diamond'. It is well known that dependence purely on external investment makes it

²⁷ Reich R., *The Work of Nations: A Blueprint for the Future*, 1993, Simon and Schuster.

difficult to generate cumulative self-sustaining growth. However, although they initially developed only limited linkages with the rest of the economy, they displayed a long-term commitment to the country because of the fiscal and other advantages offered.²⁸

When one examines how the Irish national and regional economies have developed over time and over space, there are three characteristic features:

- a) Economic activity tends not to be spread uniformly over space or over sectors, but tends to cluster or concentrate;
- b) Such clustering is clear evidence of some kind of increasing returns (i.e. doubling inputs more than doubles outputs) and this should be exploited by policy makers;
- c) 'Growth centres' in specific locations (usually, but not always, around cities of above a certain size) will tend to interact with each other over space to form corridors, or elongated growth centres.

As a description of the dynamics of growth, the above three features have wide application. The first element simply describes the physical realities of the cities, towns, villages and less populated hinterlands to be found in any country or region. The second element provides an economic explanation for why clustering occurs, and has been a very active area of research in industrial economics over recent decades (i.e., the 'new' growth and trade theories). The third element is a logical consequence of the first two and merely describes the interaction of two or more contiguous growth poles as their areas of influence begin to overlap.

The debate on growth centres versus dispersal first flourished in Ireland during the early to mid 1960s, a time when major national strategic policy changes were being considered, culminating with the commissioning of the UN-financed Buchanan Report in 1968.²⁹ After extensive review of past performance and analysis of options, Buchanan proposed a new policy orientation in which the growth centre idea was dominant; namely that 75 per cent of new industrial employment over a twenty year period should be concentrated into a limited number of urban areas (see Figure 2.1). In particular, the development of two national growth centres in Cork and Limerick would enable them to attain a sufficient size to compete effectively with Dublin. Six smaller regional growth centres and four local centres were to receive preferential treatment.

²⁸ See E. O'Malley, *Industry and Economic Development: The Challenge for the Latecomer*, Dublin: Gill and Macmillan 1989, pp. 177-181.

²⁹ See Buchanan & Partners, *Regional Studies in Ireland*, Dublin: An Foras Forbartha, 1968.

Buchanan's proposals generated a vigorous and often acrimonious debate. Indeed, no single development problem in Ireland generated so much controversy and emotion as the concept of spatially polarised growth.³⁰ It continues to be interesting to note the disadvantages of regional dispersal and the advantages of concentration that were made in the early 1960s since similar objections continue to be advanced today, but would be expressed in more nuanced and politically correct language.³¹

(a) The disadvantages of dispersal

- The lack of essential technical services and the larger stocks of spare parts which must be carried by industry in the smaller towns and villages.
- The limited range of educational facilities available and the lack of training facilities.
- The extra costs involved in transporting the labour force to the town or village from outlying areas.
- The higher labour turnover which may be associated with an un-balanced sex ratio if undertakings employ only workers of one sex.
- The delays which may occur in transporting the industry's output because of the lack of frequent transport services.
- The demand which would be made by industry on scarce Central Government Funds for the development of infrastructural services required in a large number of locations.

(b) The advantages of concentration

- The economies of scale in the provision of technical services, transport facilities and labour training.
- The establishment of an industrial tradition in an area and the creation of a body of skilled labour.
- The lower cost of providing the necessary infrastructure in a few centres.
- The attraction which an established industrial centre will have for new industry coming into the country and the possibility of creating self-generating growth in these centres. In this ideal situation there would no longer be any need for Government incentives to industry.

The government of the day was reluctant to implement Buchanan, opting essentially for a continuation of the previous pragmatic policy of dispersal. The formal rejection of Buchanan's recommendations on concentration was eventually embodied in the first five-year plan of the Industrial Development Authority (IDA) published in 1972 and any lingering official embrace of a growth centre policy was quietly dropped in favour of an approach that tried

³⁰ See P. N. O'Farrell (1971). "The regional problem in Ireland: Some reflections upon development strategy", *Economic & Social Review*, 2(4).

³¹ See *Regional Policy in Ireland: A Review*, National Economic and Social Council, Report No. 4, 1974.

to reconcile the possibly conflicting aims of the narrow economic efficiency of growth poles and the wider social equity of dispersal. While the inherent benefits of larger centres of growth were recognised, policy makers continued to encourage the spread of growth among the regions.

A major economic argument against the promotion of growth poles made by the IDA was that improvements in transport and communications – even in the 1960s - had greatly increased the locational flexibility of industry, and that this was reflected in the ability of the weaker regions, outside the proposed Buchanan growth centres, to attract and support foreign direct investment. IDA policy was formulated in terms of systematic regional dispersal, accompanied by a comprehensive programme of fully serviced industrial sites and advance factories and greater locational variability in grants.³² That policy continues, with necessary modifications, to the present day.

To the extent that IDA policy was indeed targeted at a redistribution of manufacturing employment more evenly throughout the country, it was relatively successful. The less advantaged regions were not entirely excluded from the benefits of industrial development, although the major population centres attracted the largest number and the most advanced firms that needed to be located in large urban centres close to third level educational establishments, sophisticated support services and communication hubs.

The relatively equitable regional outcome that emerged might suggest that concentration was not necessary to ensure both strong national and regional growth. However, a different, less benign interpretation can be made based on specific features of the Irish experience of foreign direct investment, which was the main source of post-1960 industrial growth. The early foreign-owned industries locating in Ireland were originally, and largely remained, branch plants that seldom became involved in the core stages of product design and development, these activities remaining with the foreign parent company. Rather, they were involved initially in sometimes relatively routine assembly and manufacturing processes, often at the standardised (or mature) stage of the product cycle.³³ Later, of course, firms using more complex manufacturing processes located in Ireland, of which Intel was an early example in 1989. However, branch plants are better than no plants. Most small nations start by importing their technology and a popular way to do this is to encourage foreign direct investment and to train the labour force in the servicing of this investment, simultaneously working to try to increase the level of indigenous competence.

³² The firm Cosmetic Creations reviewed in Section 5.3 is located in an IDA advance factory.

³³ See Annex 1 for details of Raymond Vernon's "product life-cycle" hypothesis.

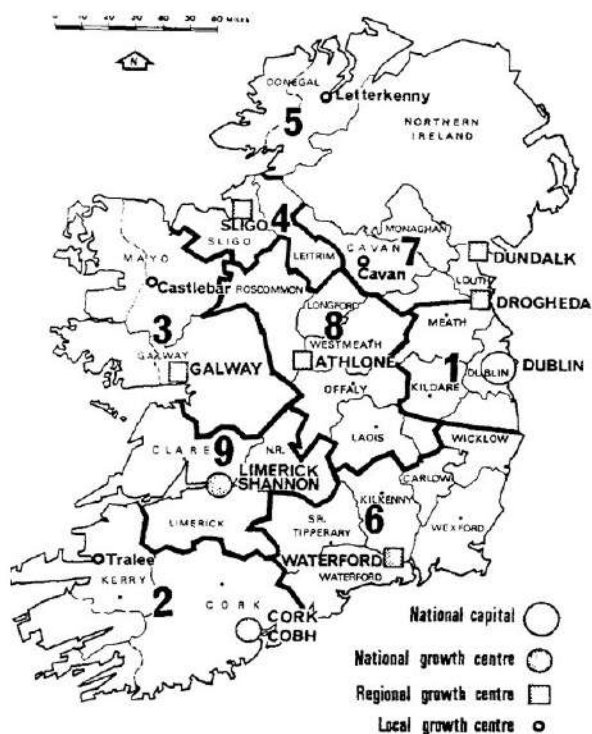


Figure 2.1: Buchanan Report: recommended policy for Irish growth centres

It is difficult to make an absolutely convincing case that the policy of dispersal of multinational branch plants definitely did impede the development of synergies between foreign and indigenous firms. With a few notable exceptions, the Irish industrial strategy was to attract firms in areas where there were economies of scale at the industry level, but not at the plant level.³⁴ However, there are many direct and indirect indications that what synergies did come about were at best weak. For example, although industrial output and exports grew rapidly in the key areas where foreign-owned multinational firms dominated (e.g., chemicals, pharmaceuticals, computers, instrument engineering), the employment response was initially slower both in these key sectors themselves and in the industrial and service

³⁴ For example, the minimum efficient size of a steel mill or a motor manufacturing plant would be much too big for the Irish economy. In such industries, the economies of scale are at the level of the plant. However, a plant engaged in the computer or pharmaceutical sector can be quite efficient even with a few hundred employees, since economies of scale are at the level of the wider industry and not at the level of the individual plant.

sectors that would be expected to benefit from synergies. Furthermore, IDA work on targeting foreign-indigenous synergies (e.g. through the National Linkage Programme) was designed to strengthen what are admitted to be weak linkages. Although there were big gains in manufacturing employment during the 1990s, even bigger gains were registered in service sectors that both supplied the multinationals (producer services) and eventually supplied the consumer demand spillovers (consumer services).³⁵

Geographical dispersal to the Irish regions was obviously not the only issue at the root of the problem of weak foreign-indigenous synergies. In addition, the gulf that existed between the new high technology, foreign-owned firms and existing often more traditional indigenous industries was probably too large to bridge satisfactorily during the early decades of the export-led growth strategy. However, although the inter-firm synergies may have been weak, there were large direct benefits to the national and regional economies in terms of conventional income multiplier effects. A further important benefit came through human capital and labour market externalities, as the expansion of the Irish education system after the mid-1960s interacted with the demand of the foreign sector for an increasingly skilled labour force. After six decades of large-scale inward investment, by the new millennium the structure and performance of the Irish economy was transformed.

2.4 Regional policy since Buchanan: Success or failure?

Because of the small size of the Irish economy and the highly centralised nature of its public administration, internal regional development is already addressed to a very large degree by the policy decisions taken at the national level. For example, “national” or “sectoral” Operational Programmes (OPs) of the first two EU-assisted National Development Plans (NDPs) that were implemented between 1989 and 1999 had very limited regional input. Only during NDP 2000-2006 was a modest effort made to put in place regional planning organisations.

For NDP 2000-2006, two Regional Operational Programmes (ROPs) were designed, along-side the dominant national and sectoral Operational Programmes. The effect was to designate the poorer of the two regions (so called, Border, Midland, West or BMW) as Objective 1 while the more developed region (so called Southern and Eastern or S&E, focused on Dublin

³⁵ At present the Irish agglomerations and clusters are of a rather weak variety and are quite unlike the dynamic clusters in regions like Baden-Wurttemberg in Germany, Silicon Valley and Route 128 in the US, and the M4 Corridor in the UK. Nevertheless, the levels of skills involved are being constantly upgraded and Ireland has become an attractive location for certain high technology activities simply because of the presence of other similar industries, with their labour market externalities.

and Cork) was eligible only for a lower rate of transitional aid. The nature of the division was partially based on economic criteria but also on pragmatic political grounds. A key recommendation of a preliminary investigation of investment priorities was the urgent need for a strategic spatial planning framework, since investment needs are not independent of the spatial pattern of development, and public investment in itself is a crucially important regional policy tool.³⁶

Following a process of consultation and research, the Government published the *National Spatial Strategy 2002-2020* (NSS) in 2002, which was both a statement of Government policy intentions and a blueprint for the spatial aspects of development in Ireland. During the era of large-scale EU Structural Funds (1989-2014), Irish internal regional problems tended to be addressed to a very large degree by the “national” or “sectoral” OPs of NDP 2000-2006, which are now funded mainly out of national financial sources. However, the special problems of the poorer western and northern Irish region (which retained Objective 1 status), that were addressed by a specific ROP, were probably regarded as “second order” policy targets, more akin to the internal problems of a specific sub-region than to the inter-regional problems of national cohesion. There was possibly a strong belief that devolving policy too much to the regional level in Ireland would run the risk making national policy incoherent and confused. On the other hand, retaining a top-down policy stance at the national level risked making regional outcomes inefficient and ineffective. This dilemma remains today and has not been resolved satisfactorily.

The strategic orientation of Irish national economic policy making over the past four decades has, with few exceptions, always emphasised the need to face the consequences of the extreme openness of the economy, to encourage export orientation towards fast growing markets and products, and to align the economy with all major European initiatives. Four broad domestic policy strategies accompanied the external re-orientation of the economy. Of primary importance was the pursuit of policies designed to bring about a steady build-up of the quality and quantity of education and training of the workforce. Next in importance was the need for major improvements in the quality of the economy’s physical infrastructure, although freedom of action here prior to the arrival of EU Structural Fund assistance was severely constrained by lack of finance. The next barrier to development was a pervasive lack of competitiveness, and called for the facilitation of the growth of a competitive Irish business sector through

³⁶ See FitzGerald J., et al, *National Investment Priorities for the Period 2000-2006*, ESRI Policy Research Paper No. 33, 1999.

improved management, quality marketing, better services, lower costs of utilities, and more systematic linkages with other complementary activities (or clustering). Finally, as it emerged from behind protective tariff barriers in the early 1960s, there was a need for a more stable domestic macroeconomic policy environment, where “stop-go” budgetary changes did not disrupt long-term public sector and business planning.

Although these policy strategies were pursued, in one form or the other, since the late 1950s, the pace of policy design and implementation accelerated after 1989, with the advent of EU development aid and multi-year investment planning. EU-aided NDPs in Ireland permitted greater focus and intensification of previous policy efforts, rather than requiring a completely new approach to economic and regional development. During the eighteen-year period of the first three major EU-assisted NDPs, the Irish economic policy-making environment can be characterised as having shifted from one appropriate to a state on the periphery of Britain to that of a region more fully integrated into an encompassing European economy.

Paul Krugman has described the Irish development experience in the following terms.³⁷ There was an initial clustering of similar industries (mainly foreign owned and in the areas of computer equipment and pharmaceuticals) supported by local suppliers of specialised inputs subject to economies of scale. These clusters generated a local labour market for skilled workers which further facilitated the growth of the cluster. The human resource policies of the EU Structural Funds were crucial at this stage. Then spillovers of information further encouraged growth in the electronics and pharmaceutical sectors and provided the basis for additional clustering effects, often in traditional areas that benefited from new technologies (e.g., food processing, engineering). To facilitate this stage, the improvements in physical infrastructure and in the productive environment supported by the EU were crucial. Finally, a form of social partnership was put in place to ensure that there were as few losers as possible in the economic restructuring that accompanied such a virtuous circle, with the result that growth was less likely to be choked off by industrial unrest.

However, Krugman draws attention to some of the risks to which a country like Ireland is exposed. First, the dynamic foreign manufacturing base is concentrated on a narrow range of technologies that can fast move towards maturity. Second, the policy initiatives that ensured an advantageous “first mover” status in the early 1960s may not be sufficient to facilitate the

³⁷ P. Krugman, “Good News from Ireland: A Geographical Perspective”, in A. Gray (ed.), *International Perspectives on the Irish Economy*, Dublin: Indecon Economic Consultants.

inevitable switches to newer technologies since other countries and regions have been learning by watching Ireland doing.

The challenge facing regional policy makers is to understand how national policies can have both positive and negative regionally asymmetric impacts, while acknowledging both the necessity for, and extremely constrained scope of designing off-setting region-specific policies within the context of the nation state. One possible reaction is for regional policy-making to become inward-looking and to focus on intra-regional distributional issues. A much healthier reaction is for regions to become more outward looking and to engage with the more complex, political and fluid rules of the global marketplace as they seek to optimise gains from local policy initiatives. The most recent development strategy claims to point in that direction.

2.5 Regional Policy aspects of *Project Ireland 2040*

The document that sets out the national and regional development strategy for the next quarter century is entitled *Project Ireland 2040*. It claims to be different from previous approaches, integrating strategic objectives for rural, regional and urban development as well as integrating the efforts of the entire scope of the public sector.

Regional aspects of development planning are undertaken by dividing Ireland into three "super regions": Northern & Western; Southern; and Eastern & Midlands, where each has a Regional Assembly that is charged with drawing up strategies for their areas and for ensuring that they are co-ordinated with the national top-down strategies.³⁸ National strategy is based on a projection of an increase in population of about one million that will take place by 2040, assumed to be divided equally between the five large cities (Dublin, Cork, Limerick, Galway and Waterford), on the one hand, and the rest of the other towns, villages and rural areas, on the other. In terms of the non-city areas, the kind of population development envisaged will be "compact" (i.e., mainly concentrated in existing towns and villages), with enhanced regional accessibility, stronger rural economies, together with a wide range of desirable social and environmental strategic outcomes. Certain of the larger towns are selected for special attention and are intended to play a leading role in their catchment areas. This, it is claimed, is to be inclusive development, unlike the previous 2002 *National Spatial Strategy* which, by making choices, gave rise to the unpopular reality of there being regional winners and losers. The ambitious aim in *Project Ireland 2040* is to "disrupt trends that have been apparent for the last fifty years and have accelerated over the past twenty".

³⁸ The precise composition of the three NUTS 2 super regions will be examined in the next Section.

It might seem churlish to criticise a development plan that sets such a wide range of ambitious and seemingly regionally inclusive goals. But there are many aspects of the plan that are worrying and that continue to embody the kind of thinking that lay behind the previous regional strategies discussed above.

To start with, after a glancing dismissal of the previous *National Spatial Strategy* of 2002, there is no review of how regional development strategy has been formulated, implemented, evaluated and evolved in the 50-year period since the seminal Buchanan Report of 1968. The assertion is made that "this time it will be different", but with no examination of how the previous policies performed in terms of regional development goals or how the proposed new strategy differs from past strategies. Unlike the situation in, say, the devolved government of Scotland, there appears to have been only a limited research effort to gather detailed and systematic data about the performance of the Irish economy on a regional basis, and no effort to identify and demarcate the kinds of regional divisions that would be appropriate to form the basis of a sound regional development strategy.³⁹

The emergence of the three super regions as the sub-national basis for regional development is presented as a *fait accompli* and no compelling justification for this choice is offered. However, this choice of super regions creates many problems and not only splits the Atlantic Economic Corridor between two different Regional Assemblies (the Northern & Western and the Southern), but includes two non-AEC counties in the N&W region (Cavan and Monaghan) that more logically belong to the catchment area of the east coast, centred on Dublin and Belfast. In addition, it combines into the Northern & Western super region the counties that share a border with Northern Ireland (Donegal, Leitrim, Cavan, Monaghan) and the counties that do not (Sligo, Roscommon, Mayo and Galway), making it difficult to distinguish the "peripheral" and the "border" barriers to development.⁴⁰ On balance, one might say that while the N&W super-region is a collection of eight separate counties, in no sense is it a region defined by a common set of barriers to growth and development.

There are about ten references to the Atlantic Economic Corridor in *Project Ireland 2040*, but the only substantive one (on page 41) is reproduced below. This is the only time in *Project Ireland 2040* where there is any reference to a modestly deeper analysis of how to identify and designate different regional

³⁹ The only research explicitly quoted in *Project Ireland 2040* was a series of population and employment projections to 2040 carried out by the ESRI (see Morgenroth, E., *Prospects for Irish Regions and Counties: Scenarios and Implications*, ESRI Research Series No. 70, 2018)

⁴⁰ See Bradley J. and M. Best, *Cross-Border Economic Renewal: Rethinking Regional Policy in Ireland*, 2012, Centre for Cross-Border Studies.

spaces that share a range of common developmental challenges. Hence, it is difficult to understand why planning responsibility for the AEC is split up between two Regional Assemblies that share the challenges of peripheral underdevelopment as well as having many heterogeneous internal characteristics. All of the other references to the AEC in *Project Ireland 2040* tend to be as geographical shorthand (for the west coast) rather than as spatial development characteristics.

Atlantic Economic Corridor

The Atlantic Economic Corridor (AEC) is the term applied to a linear network along the Western seaboard, stretching from Kerry to Donegal, which has the potential to act as a key enabler for the regional growth objectives of the National Planning Framework.

The corridor straddles parts of both the Northern and Western Region and the Southern Regions, with the potential to further extend its scope by building on the cross-Border relationship between Letterkenny and Northern Ireland, and into Cork City and County to the south.

The overarching objective of the AEC initiative is to maximise the Infrastructure, talent and enterprise assets along the western seaboard and to combine the economic hubs, clusters and catchments of the area to attract investment, improve competitiveness, support

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job creation and contribute to an improved quality of life for the people who live there. The lack of high-quality connectivity between the regions within the AEC has been a major impediment to its development as a counter-balance to Dublin and the East coast.

The improvement of regional connectivity along the Western seaboard, linking together the major urban areas to allow the AEC achieve its potential, is a major priority.

The AEC is a collaborative initiative, driven by business representatives and communities and supported by national and local government, State agencies and Third Level Institutions. The Government recognises the contribution which the AEC initiative can make to achieving the objectives of the NPF and will continue to support the development of this initiative.

What is most surprising in *Project Ireland 2040* is the absence of any significant examination of the nature of the enterprise sector that has evolved in the non-urban, peripheral counties of Ireland. Such considerations are, of course, central to the remit of the Department of Business, Enterprise and Innovation (DBEI), and may have influenced the evolution of *Project Ireland 2040*.⁴¹ But the analysis remains well hidden to the reader. This is a rather serious matter. While it is laudable to make plans of an environmental, social and cultural nature, the well-being of a peripheral region will stand or fall on the number and quality of the business enterprises that decide to locate in the region and provide gainful employment opportunities.

A key factor in encouraging people to locate in peripheral regions is the availability of good quality jobs in the regions. By promoting the growth of enterprises in a region, one is providing the underpinnings for the growth of the region's population. That is the main direction of causality. But enterprise development models that succeed in an urban setting are unlikely to succeed in a non-urban setting. Aside from Limerick and Galway, none of the other seven counties making up the AEC have any towns with a population greater than about 25,000. In Mayo, the largest town, Castlebar, has a population of only 12,500. The remainder of the AEC population

⁴¹ For information of regional aspects of Irish enterprise policy, see *Enterprise 2025 - Ireland's National Enterprise Policy 2015-2025*, <https://dbei.gov.ie/en/Publications/Enterprise-2025.html>

outside the city areas of Limerick and Galway is scattered among a series of even smaller towns and villages which often have poor road links, non-existent rail links and inadequate broadband facilities. The top-down nature of enterprise policy making in the two key agencies, the IDA and Enterprise Ireland, it is less likely that they will promote the emergence of "place-specific" enterprise strategies. Unless such policies emerge, the centripetal forces that have distorted spatial growth in Ireland are likely to continue to operate.

The research to be described in this report had its origins in a perceived lack of analysis of the enterprise sectors in the counties making up the AEC region. The various national agencies - the IDA, Enterprise Ireland and Údaras na Gaeltachta, together with the county-based Local Enterprise Offices (LEOs) - all have a bit of the overall picture in terms of their lists of client companies. But these different sources of information have not been properly combined with data on non-agency enterprises (possibly the majority) so as to provide a solid and comprehensive basis for planning regional futures starting from the regional present.

One is reluctantly drawn to the conclusion that *Project Ireland 2040*, in spite of its claims to be a radical departure from the approaches used in the past, represents in many ways a direct continuation of the rather weak and permissive regional policies of the past that eventually led to the present serious spatial distortions in the Irish economy. The evidence base for the proposed policy initiatives is worryingly weak, particularly in terms of the absence of strategic thinking about how to break away from the earlier models of focus on a few selected large urban agglomerations. In addition, there is a confusing conflation of spatial planning (towns, roads, amenities, etc.) with economic development planning (enterprises, jobs, business-related infrastructure, etc.), with much more attention given to the former than to the latter.

Project Ireland 2040, although presented as an initiative of the national government, was actually prepared mainly within the Department of Housing, Planning and Local Government (DHPLG), who are more concerned with spatial planning issues. Enterprise strategy, on the other hand, is the responsibility of the Department of Business, Enterprise and Innovation (DBEI). The general absence of any detailed treatment of regional enterprise policy within *Project Ireland 2040* suggests that the two departments were not communicating well during its preparation or perhaps that they may not have believed that such co-operation was necessary.

In defence of *Project Ireland 2040*, it may be that the intra-regional analysis that is missing in the national document will be provided by the deliberations of the three Regional Assemblies. Each regional assembly will consist of

county councillors nominated from the constituent counties and will have a small administrative secretariat. Initial background papers have been emerging as each Regional Assembly works to prepare inputs into its own *Regional Economic and Spatial Strategy (RSES)*.⁴² However, it remains to be seen if the largely aspirational *Project Ireland 2040* can be translated into a successful series of concrete and specific public policy actions that will succeed in rebalancing the serious spatial distortions in the development of the Irish economy.

⁴² A draft *Regional Economic and Spatial Strategy for the N&W Regional Assembly* was issued in late November, 2018 and is out for consultation. It will be examined in the concluding section of this paper. The Southern and the Eastern and Midlands Regional Assemblies have also issued draft *RSESs*.

"As in the past, so today: the real boundaries in Europe are not between countries but between prosperous urban centres and a neglected and impoverished rural hinterland."

Tony Judt, *Post War: A History of Europe Since 1945*

[3] The national economy and the regional divide

3.1 The Irish regional economies

Different and often confusing systems of regional classification have been used in Ireland over the years. In this study we use the latest system, based on EU nomenclature. The broadest current Irish regional/spatial classification is into three NUTS 2 super regions: "Northern & Western" (N&W, which includes Galway city); "Southern" (S, which includes Limerick, Cork and Waterford cities); and "Eastern & Midland" (E&M, which includes Dublin city).⁴³ These are illustrated in Table 3.1 and Figure 3.1(a). Under the 2015 legislation, three Regional Assemblies were established to draw up and oversee those parts of the then evolving national development strategy that affected their regions. In October 2017 the Regional Assemblies were directed to prepare *Regional Spatial and Economic Strategies (RSEs)* as a replacement for the previous Regional Planning Guidelines 2010-2022. At the time of writing, these RSEs are out for public consultation. When they are finalised, they are intended to provide the framework and guidelines for the regional aspects of the implementation of *Project Ireland 2040* and the investment proposals contained in *National Development Plan 2018-2027*.⁴⁴

Mayo is part of the N&W super region, together with seven other counties. Six of the eight N&W counties are in the AEC.⁴⁵ The remaining 18 Irish counties, many of which are in the more densely populated regions clustering around Dublin, Cork and Limerick, are part of the S and the E&M NUTS 2 regions which are administered by their own Regional Assemblies.⁴⁶

⁴³ NUTS stands for "Nomenclature of Territorial Units for Statistics" and is the EU standard for referencing the subdivisions of EU member states for statistical purposes.

⁴⁴ For the draft N&W RSEs, see <https://www.nwra.ie/rses/>. For the draft S RSEs, see <http://www.southernassembly.ie/regional-planning/regional-spatial-and-economic-strategy>. For the draft E&M RSEs, see <https://emra.ie/draft-rses-public-consultation/>

⁴⁵ The six AEC counties in the eight-county N&W NUTS 2 region are Donegal, Sligo, Leitrim, Mayo, Roscommon and Galway. The two non-AEC counties are Cavan and Monaghan.

⁴⁶ The South NUTS 2 region contains the three AEC counties (Kerry, Limerick and Clare) that lie outside the N&W NUTS 2 region.

A more detailed regional classification is used to identify eight smaller sub-regions and is called the NUTS 3 level. These are illustrated in Table 3.1 and Figure 3.1(b). These eight sub-regions are: Border, Midland, West, Dublin, Mid-East, Mid-West, South-East and South-West. Mayo is part of the "West" NUTS 3 region, together with Galway and Roscommon. The NUTS 3 sub-regional classification is the most detailed for which regional economic accounts are published by the CSO. Although many socio-economic indicators are published at the individual county level, official information of an economic and enterprise nature is harder to find below the NUTS 3 level of regional disaggregation (e.g., at the county or town level).

Our objective in this section is to describe some of the main characteristics of the Irish national and regional economies at the NUTS 3 level and to examine the ways in which the regions differ from each other and from the national economy. Although much is known about Irish economic activity at the aggregate or national level, rather less is known about the nature, causes, consequences and prospects of the spatial distribution of activity throughout the Irish regions. The shift after the year 2000 from designating the whole country as Objective 1 (i.e., a country whose entire economy was lagging within the EU) to a two-region division for the purposes of retaining EU Structural Fund aid for the less developed so-called BMW region meant that regional development designation and mechanisms began to attract increased and more systematic attention than they had in the past.

In Ireland, as in all other countries, population and economic activity are not spread evenly over space. Although the country can be divided into quite distinct economic regions, it should be noted that these may not always correspond to the existing administrative regions that are used for the purposes of governance and official data collection. The traditional Irish administrative units are the counties, but as we saw above, for current Irish regional strategy purposes the counties have been grouped into three NUTS 2 super regions and eight NUTS 3 sub-regions, using the EU nomenclature (see Table 3.1 and Figures 3.1 (a), (b) and (c)).

Since the NUTS 2 regions are both large and internally heterogeneous, in what follows we focus on the smaller and more homogeneous NUTS 3 regions. In practice, the function of the Regional Assemblies should be to collate inputs from the individual counties that make up the super-region. The NUTS 3 sub-regions, although likely to be more internally homogeneous than the NUTS 2 super-regions, have no official administrative governance function, even though they form a more logical basis for regional development planning because of their greater degree of internal homogeneity. Since our research is being carried out as a study of Mayo in

the context of the AEC, particular attention will be given to the "West" NUTS 3 region which includes Galway, Mayo and Roscommon. The details of the Mayo economy will be taken up in following sections.

3.2 Main characteristics of NUTS 3 regions

Before examining regional performance it is essential to have an overview of national economic performance. Much of what happens at the national level will influence, indeed may even determine what happens in the regions. If the national economy is growing strongly, we would expect the regional economies to be growing as well, although some might grow faster than others. The same applies to periods of recession. A recession at a national level is likely to be mirrored in regional recessions. The national growth and recession periods that occurred between 2000 and 2018 are illustrated in Figure 3.2(a)-(d) in terms of (a) population growth; (b) employment growth; (c) the rate of unemployment; and (d) the growth rate of Gross National Income (GNI).⁴⁷

The main features of the recent national picture can be summarised as follows. The population of the state grew rapidly, particularly after the EU accession of the former Communist countries of Central Europe in 2004. Annual population growth peaked at over 3% in 2007, the year prior to the recession. Pre-recession employment growth was also strong, also averaging about 3% per year prior to 2007. The rate of unemployment remained low at about 4% of the labour force.

Ominously, in light of what was to happen after 2007, the unemployment rate was already drifting upwards to reach 7% immediately before the recession. Meanwhile, the growth rate of real gross national income (GNI) remained at about 5%, but growth began to slow in the two years prior to the onset of recession in 2008.

⁴⁷ Like gross domestic product (GDP), gross national income (GNI) is a measure of a country's income. For most nations there is little difference between GDP and GNI, since the difference between income received by the country and payments made to the rest of the world tends not to be significant. However, GNI can be much lower if foreigners control a large proportion of a country's production, as is the case with Ireland.

Table 3.1: Irish NUTS 2 and NUTS 3 Regions

NUTS2 Code	NUTS 2 Name	NUTS3 Code	NUTS 3 Name	County
IE04	Northern & Western	IE041	Border	Donegal
				Sligo
				Leitrim
				Cavan
		IE042	West	Monaghan
				Galway
IE05	Southern	IE051	Mid-west	Mayo
				Roscommon
				Clare
		IE052	South East	Tipperary
				Limerick
				Waterford
				Kilkenny
		IE053	South-West	Carlow
				Wexford
IE06	Eastern & Midland	IE061	Dublin	Cork
				Kerry
				Dublin
		IE062	Mid-East	Wicklow
				Kildare
				Meath
				Louth
		IE063	Midlands	Longford
				Westmeath
				Offaly
				Laois

Figure 3.1(a): Irish NUTS 2 Regions

Figure 3.1(b) Irish NUTS 3 Regions



Figure 3.1(c): Regional Assembly Map

Configuration of the Regional Assemblies in Ireland



Figure 3.2: National economic performance - 2000 - 2018

Figure 3.2(a): Population growth rate

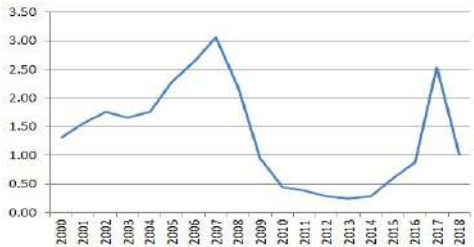


Figure 3.2(b): Total employment growth rate

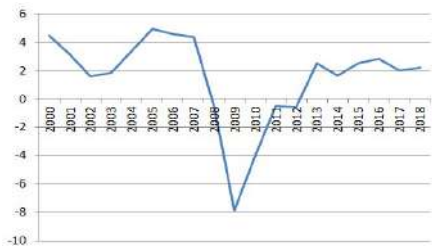


Figure 3.2(c): Unemployment rate

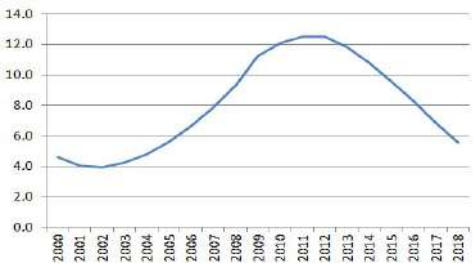


Figure 3.2(d): Real gross national income growth rate⁴⁸



⁴⁸ The distorted GNI growth rate of 16% in 2015 is caused by the activities of multinationals and has little or nothing to do with underlying real growth. The employment growth gives a more accurate and reliable picture of recession and recovery.

In terms of contraction of national employment, the recession lasted until 2013. Similar behaviour is seen in the rapid rise of the rate of unemployment (peaking at almost 13% in 2012) and the period of negative and very low GNI growth. By 2018, employment growth had recovered to an average of 2%, the rate of unemployment was back to the low pre-recession level, and growth of real national income was very strong. However, as noted in footnote 48, the data for Gross National Income (GNI), as well as for Gross Value Added (GVA) to be used below as regional output measures, are seriously distorted by the large presence and behaviour of foreign multinationals.

Tables 3.2(a)-(d) set out some of the main characteristics of the national economy and of its eight NUTS 3 regions where the data shown are for the years 2000, 2007, 2009 and 2015, the latest available at the time of writing. These years are selected in the light of the national performance shown in Figure 3.2 in order to examine an initial year (2000), which represented the peak growth of the early, sustainable Celtic Tiger period (1989-2000), and the end year of the later, unsustainable Celtic Tiger period (2007). This was followed by a serious national and global recession which was at its most serious in 2009. The year 2015 is the most recent for which CSO regional accounts data are available and is fairly representative of the current recovery situation in 2018.

The data in the NUTS 3 tables are very broad measures, but they serve to identify some of the similarities and differences of the regions that need to be explored. The seven measures shown in Tables 3.2(a)-(d) are as follows:

- Index of GVA per person: This is an approximate measure of how productive the region is in terms of gross value added per inhabitant of the region. However, it suffers from the distortions of GVA when there are many foreign multinationals present in the region.⁴⁹
- Index of GVA per worker: This is a more accurate measure of labour productivity, but suffers from the same distortions of GVA.
- Population: This is given in absolute terms as well as in regional shares.
- Population density: This is a crucial measure and is expressed in terms of the number of people per square kilometre. Population density is a key driver of non-traded enterprise activity in the region and influences traded enterprise location decisions.

⁴⁹ GVA stands for Gross Value Added. $GVA + \text{taxes on products} - \text{subsidies on products} = \text{GDP}$ (Gross Domestic Product). As the total aggregates of taxes on products and subsidies on products are only available at whole economy level, gross value added is used for measuring gross regional domestic product and other measures of the output of entities smaller than a whole economy.

- Unemployment rate: Regional unemployment rates will be heavily influenced by the national unemployment rate. Regional differences in the rate of unemployment are influenced by demand factors (e.g., hiring by regional enterprises) as well as by supply factors (e.g., age profile and skill/education levels of the regional population).
- Persons at work: This is given in absolute terms as well as in regional shares.
- Degree of urbanisation: This is measured in terms of the percentage of the regional population in settlements that have a population of more than 10,000. Pending the availability of data, the value for 2009 is used for all for years. Although the degree of urbanisation has been slowly changing over the period 2000-2015, the 2009 figures are broadly representative for the whole period.

GVA per person

Taking the base year, 2000, there are substantial differences between the regions with respect to GVA per person and GVA per worker. The Dublin region stands out from the other regions with a GVA of 142% of the national average. The South West (which includes Cork) is the only other region with above national average GVA (110%). In contrast, the Border, the Midlands and the West regions have substantially lower than average GVA. The lowest are the Midlands and the Border regions (at 63%), followed by the West (at 74%). The remaining regions range between 80% to 90% of the national average.

Although there is a significant difference between the Midlands (63% of the national average) and Dublin (142%), this does not accurately reflect differences in incomes of people living and working in both regions. For example, output is measured in the region in which it is produced rather than where all of the benefits accrue as income. A large number of individuals commute to work from the Mid East to the Dublin region thereby contributing to the output in the Dublin region. For this reason the two regions should probably be viewed as one, with the resulting GVA still substantially above average. A further major caveat is that these GVA figures are susceptible to distortions due to transfer pricing/profit shifting by foreign multinationals as a consequence of the favourable national tax regime in Ireland. It is therefore not surprising that the two regions with the highest index of GVA per person (Dublin and the South-West) also have the highest concentration of foreign firms.

For the subsequent years 2007, 2009 and 2015, the same broad pattern of GVA per head is maintained. However, the index for the Dublin and South-West regions increases modestly, even for the recession year 2009, while the index for the Border and West regions suggests a delayed recession effect by

2015, where the Border fell from a 2007 peak of 68% to 36%, and the West fell from a peak of 71% to 57%. Broadly, the data suggest that all of the regions except Dublin and the South-West suffered long-term effects of the recession, as measured by the index of GVA per head. In other words, Dublin and the South-West displayed strength and resilience due to the presence of a high concentration of export-oriented foreign firms, while the other regions were more vulnerable because of their greater reliance on smaller indigenous enterprises and consumer services whose main markets were local.

GVA per worker

The index of GVA per person (above) is constructed by dividing the regional GVA by the regional population. But it is workers who actually produce the GVA, so we constructed a second index of GVA per employed worker. The effect can be illustrated using the Dublin region. In all four sample years the index of GVA per person is slightly higher than the index of GVA per worker (for 2015, the former is 145.2% and the latter is 132.5%). A possible explanation might be that workers commute into the Dublin region for work, but reside outside the region. In the Mid-West region, whose southern border is close to Cork and Waterford cities, the pattern is the opposite (for 2015, the former is 72.6% and the latter is 78.6%). Here, it may be the case that workers commute out of the Mid-West to work, but reside in the Mid-West. In the case of the West region, both indices are roughly the same, suggesting that commuting flows may take place within the West region, but not out of it.

Population

In terms of population, Dublin is distinct among all regions in that it contains almost 30% of Ireland's total population while all of the other regions (with one exception) contain between 8.5% and 11% of the population. The exception with regard to population is the Midlands region which only contains 6% of the national population. This comparison however does not reflect the relative size in terms of land area of the regions. But it does give some idea of the size of the regional population base that would sustain the regional "non-traded" sector.

The population growth data also show an interesting pattern (Table 3.3). Although Dublin is a centre for production activities, its population growth over the period 2000-2015 is the second lowest (17.2%; the lowest being the Mid-West at 16.1%). The two regions with highest population growth are the Mid-East (38%) and the Midlands (31.9%). These are the main regions from which workers commute into the Dublin region. Even the Border

region, which contains no large city, experienced population growth bigger than Dublin. In the case of the West region, the population growth of 24% is dominated by Galway city.

Table 3.2(a): Main characteristics of the Irish national and NUTS 3 regional economies

Region	Index of GVA per person (State=100) 2000	Index of GVA per worker (State=100) 2000	Population ('000s) 2000	Pop. density (pers. per km ²)	Unemployment rate (2000,1 Q4)	Persons at work ('000s)	Degree of urbanisation (% in settlements > 10,000
Border	63.3	72.3	420 (11.1%)	36.5	4.3	166 (9.9%)	20.9
West	74.3	79.2	363 (9.6%)	25.4	4.1	155 (9.2%)	16.6
Mid West	88.2	90.0	330 (8.7%)	31.4	4.8	145 (8.6%)	30.5
South East	78.9	83.6	409 (10.8%)	56.9	4.0	172 (10.2%)	27.8
South West	109.6	112.2	565 (14.9%)	45.9	4.1	245 (14.5%)	38.7
Dublin	141.7	128.6	1097 (29%)	1189.8	2.7	532 (31.6%)	93.6
Mid East	84.9	81.4	389 (10.3%)	56.5	4.0	180 (10.7%)	29.9
Midlands	62.7	68.9	216 (5.7%)	32.5	5.0	89 (5.3%)	18.4
State	100	100	3790 (100%)	53.9	3.8	1684 (100%)	46.7

Source: CSO Regional Accounts, 2000.

Table 3.2(b): Main characteristics of the Irish national and NUTS 3 regional economies

Region	Index of GVA per person (State=100) 2007	Index of GVA per worker (State=100) 2007	Population ('000s) 2007	Pop. density (pers. per km ²)	Unemployment rate (2007, Q4)	Persons at work ('000s)	Degree of urbanisation (% in settlements > 10,000
Border	68.1	73.5	484 (11.1%)	42.0	5.0	222 (10.4%)	20.9
West	71.3	73.8	422 (9.6%)	29.5	4.2	203 (9.5%)	16.6
Mid West	87.3	89.6	368 (8.4%)	35.0	6.6	175 (8.2%)	30.5
South East	75.6	79.6	476 (10.9%)	66.2	4.5	224 (10.5%)	27.8
South West	116.5	117.3	638 (14.6%)	51.8	4.9	309 (14.5%)	38.7
Dublin	140.8	133.1	1230 (28.1%)	1334.1	4.7	629 (29.5%)	93.6
Mid East	84.0	80.7	495 (11.3%)	71.8	4.6	251 (11.7%)	29.9
Midlands	65.5	69.0	262 (6.0%)	39.4	6.1	124 (5.8%)	18.4
State	100	100	4376 (100%)	62.3	4.9	2136 (100%)	46.7

Source: CSO Regional Accounts, 2007.

Table 3.2(c): Main characteristics of the Irish national and NUTS 3 regional economies

Region	Index of GVA per person (State=100) 2009	Index of GVA per worker (State=100) 2009	Population ('000s) 2009	Pop. density (pers. per km ²)	Unemployment rate (2009, Q4)	Persons at work ('000s)	Degree of urbanisation (% in settlements > 10,000
Border	67.8	77.2	507 (11.2%)	44.0	11.4	197 (10.0%)	20.9
West	72.7	72.4	436 (9.6%)	30.5	13.7	195 (9.9%)	16.6
Mid West	83.0	87.4	378 (8.3%)	36.0	17.9	158 (8.0%)	30.5
South East	69.5	74.7	495 (10.9%)	68.8	14.0	204 (10.3%)	27.8
South West	120.0	118.3	659 (14.5%)	53.5	12.7	290 (14.7%)	38.7
Dublin	146.2	135.4	1263 (27.9%)	1369.8	11.3	587 (29.7%)	93.6
Mid East	78.7	76.1	519 (11.5%)	75.3	14.1	233 (11.8%)	29.9
Midlands	61.0	67.3	275 (6.1%)	41.3	17.9	111 (5.6%)	18.4
State	100	100	4533 (100%)	64.5	13.3	1974 (100%)	46.7

Source: CSO Regional Accounts, 2009.

Table 3.2(d): Main characteristics of the Irish national and NUTS 3 regional economies

Region	Index of GVA per person (State=100) 2015	Index of GVA per worker (State=100) 2015	Population (‘000s) 2015	Pop. density (pers. per km ²)	Unemployment rate (2015, Q4)	Persons at work (‘000s)	Degree of urbanisation (% in settlements > 10,000)
Border	36.3	42.0	520 (11.2%)	45.2	8.3	193 (9.9%)	20.9
West	56.6	60.9	450 (9.7%)	31.5	11.1	179 (9.2%)	16.6
Mid West	72.6	78.6	383 (8.3%)	36.4	10.7	152 (7.8%)	30.5
South East	63.0	65.5	503 (10.8%)	69.9	10.4	205 (10.5%)	27.8
South West	120.0	120.8	671 (14.5%)	54.5	8.0	281 (14.4%)	38.7
Dublin	145.2	132.5	1286 (27.7%)	1394.8	7.7	594 (30.4%)	93.6
Mid East	68.8	67.2	537 (11.6%)	77.9	8.8	232 (11.9%)	29.9
Midlands	42.5	44.5	285 (6.2%)	42.8	12.8	117 (6.0%)	18.4
State	100	100	(100%)	66.0		(100%)	46.7

Source: CSO Regional Accounts, 2015.

Table 3.3: Regional population increases: 2000-2015

Region	% pop change 2000-2015
Border	23.8
West	24.0
Mid-West	16.1
South-East	23.0
South-West	18.8
Dublin	17.2
Mid-East	38.0
Midlands	31.9
State	22.3

Source: CSO - Census of Population

These regional population growth data suggest that the manner in which *Project Ireland 2040* divides population growth over the period 2018 to 2040 as between the five large cities and the rest of the country is more complex than simply an urban-rural population divide.

Population density

From a regional economic development point of view, population density (i.e., numbers per km²) is more informative than absolute population

numbers and using this measure, three groups of regions can be identified.⁵⁰ In the year 2015 Dublin had by far the highest population density (1395 persons per km²); the next group, with an intermediate density of 54.5 to 78 persons per km² consists of the South-East, South-West and Mid-East; finally, the Border, West, Mid-West and Midlands regions have lower densities of between 31.5 and 45.2 persons per km². In all eight regions the population density has been increasing. The largest absolute increase was in the Mid-East region, where the density rose from 56.5 persons per km² in 2000 to 77.9 persons per km² in 2015 as housing shortages and high rents drove people out of Dublin to adjoining regions where they lived, and from which they commuted to work in Dublin. Once again, this poses specific challenges for the population issues set out in *Project Ireland 2040*.

Unemployment

Movements in the rate of unemployment in all regions mirror those of the national rate. In the year 2000, at the height of the first, sustainable, Celtic Tiger period, the unemployment rate in Dublin fell to 2.75% while it averaged around 4% in other regions. As with the national rate, it drifted up to between 5% and 6% in 2007, the year before the onset of recession. In all regions the rate rose rapidly as the recession hit and by 2009 a serious regional gap had opened up. Dublin had the lowest rate (11.3%), with the Midlands and the Mid-West the highest rates (17.9%). By the year 2015 the rate was falling in all regions and the inter-regional gap had closed somewhat, with the lowest rate of 7.7% in Dublin and the highest of 12.8% in the Midlands.

To understand better how regional unemployment rates react to a recessionary shock and a post-recession recovery we would need to examine the internal economic structure of each region. One possible interpretation of the higher rise in the unemployment rate in certain regions might be that the 2008-2009 recession affected "non-trading" businesses more than "trading" businesses as public expenditure was drastically cut by the government and taxes were raised, thereby reducing personal disposable income. Regions with strong, export-oriented manufacturing and service sectors would be able to cushion the fall in consumer demand and better sustain employment in the labour intensive service sector where most jobs are located. Hence, in terms of unemployment rates, Dublin and, to a lesser extent, the South-West region centred on Cork, had shallower recessions and recovered more rapidly than regions that were not as well cushioned by their export-oriented enterprises.

⁵⁰ Within a region, population densities will change. A town or city region will have a high density. A mountainous region will have a very low (even zero) density. The regional density is an average.

Persons at work

The data on persons at work by region largely mirror that regional population data. Comparing population and employment numbers expressed as a share of the national totals shows that the persons at work share in the Dublin region in 2015 (30.4%) is greater than the share of population (27.7%), once again illustrating the large commuter flows between Dublin and adjoining regions.

Degree of urbanisation

The final column in Table 2.1 shows the degree of urbanisation as measured by the population living in settlements of more than 10,000 inhabitants. The Border, the Midlands and the West regions are clearly the least urbanised and these also have the lowest GVA per capita. This link between urban development and productivity is reflected by a strong positive correlation between the degree of urbanisation and GVA.⁵¹

3.3 Sectoral activities in NUTS 3 regions

In Table 3.4(a) and (b) we show the regional distribution of GVA disaggregated into three main production sectors: agriculture, industry and service activities. At the time of writing, regional GVA data at the NUTS 3 level were only available up to the year 2009, so we show data for the two years 2000 and 2009.

In terms of national GVA produced, agriculture, forestry and fishing are of relatively small importance, with shares of 3.7% in 2000, falling to 1.7% by 2009. In Dublin, the share is effectively zero. Manufacturing, building and construction and services account for the for the bulk of GVA. However, the sectors are not of equal importance in all regions, with the substantial regional variation reflecting differences in industrial structure.

Manufacturing is the most important sector in the South-West region (centred on Cork). Manufacturing accounts for a much smaller share of GVA in the Dublin region, where services are particularly important, reflecting the fact that the Dublin region contains the national capital. Services are least important in the South-West and West regions (about 50% in 2009). The main difference between the structure of the economies of Dublin and the South-West is that while both regions have advanced manufacturing sectors, Dublin also has an advanced services sector (software, etc.) as well as a large administration and banking services sector. The share of GVA in services in

⁵¹ Excluding the Dublin region, the correlation coefficient between the index of per capita GVA and urbanisation is 0.94. Furthermore there is strong evidence for the presence of scale effects since, when one redefines the degree of urbanisation to include the population of towns of over 1500 inhabitants, this correlation declines to only 0.78.

Dublin is 76%. In all of the other regions the service sectors are smaller than in Dublin (averaging between 45% and 63% of GVA) with manufacturing making up the rest. However, this aggregate analysis tells us very little. To understand the details of regional productive structure we have to delve deeper.

Table 3.4(a): Regional distribution of GVA by branch, 2000

Region	Agriculture forestry and fishing	Manufacturing, build. and constr.	Market and non-market services	Total GVA
Border	8.9	33.4	57.8	100
West	7.4	38.2	54.5	100
Mid West	5.3	41.2	53.5	100
South East	7.3	41.4	51.3	100
South West	4.5	50.6	44.9	100
Dublin	0.3	24.1	75.7	100
Mid East	4.0	46.0	50.0	100
Midlands	8.5	28.9	62.6	100
State	3.7	35.0	61.3	100

Source: CSO Regional Accounts, 2000.

Table 3.4(b): Regional distribution of GVA by branch, 2009

Region	Agriculture forestry and fishing	Manufacturing, build. and constr.	Market and non-market services	Total GVA
Border	6.2	22.4	71.4	100
West	4.0	45.2	50.8	100
Mid West	3.0	43.4	53.6	100
South East	4.4	31.3	64.3	100
South West	3.1	47.5	49.4	100
Dublin	0.1	17.1	82.8	100
Mid East	2.2	40.2	57.6	100
Midlands	5.1	30.9	64.1	100
State	1.7	41.1	57.2	100

Source: CSO Regional Accounts, 2009.

Using employment data, we can get a more up to date picture of sectoral activities in the regions. For the second quarter of the year 2018, in Tables 3.5 (a)-(b) we show a more detailed sectoral breakdown by region, but using sectoral employment data rather than GVA. Employment data are published more widely than GVA data and can be used to examine regional sub-sector structure. The advantage of using employment data is that we are able to split off construction from manufacturing and we can examine the large

service sector in detail, distinguishing public sector services from private sector services. In addition, the employment data is not distorted by the FDI-related factors that make GVA an unreliable measure of regional welfare, as we discussed above.

Table 3.5(a) gives the employment numbers while Table 3.5(b) calculates sub-sectoral employment shares for each individual region. Working with the sectoral shares from Table 3.5(b) data, we see that the national employment share for agriculture, forestry and fishing (AFF, at 4.7%) is considerably larger than the national GVA share (1.7% in 2009, but probably smaller by 2018). Moving across the regions, the AFF employment share averages at between 7% and 8%, except for the South-West (5.1%), the Mid-East (4.1%), and Dublin (essentially zero).

Turning to industry, the construction employment shares for all regions average about 7%, except for Dublin, where it is lower (4.5%). For industry there are small variations in the regional employment shares which, except for the Dublin region, range from a low of 11.9 % (Mid-East) to a high of 17.3% (West). Dublin has a very low share of 6.8%, mainly due to its very high service employment share.

The national average share of services employment is 76.2%. The regional shares, excluding Dublin and the Mid-East, cluster around an average of about 70%. Dublin has the highest share (87.7%), followed by the Mid-East (76.4%). The sub-sector shares for services are fairly similar for most regions, with the exception of information and communication (J), financial, insurance and real estate (K-L) and professional, scientific and technical (M). For these three sub-sectors Dublin has a much higher share than the other regions. For example, for information and communication the State share is 5.1%; the West share is 3.9%; and the Dublin share is 9%. For financial, insurance and real estate, the respective shares are 4.9%; 2.1%; and 8.3%. And for professional, scientific and technical, the shares are 6.3%; 4.2%; and 8.5%. Finally, it of interest to note that the employment shares of three service sectors that are heavily influenced by public policy (namely, public administration, education and health and social work) are almost the same across all regions.

Table 3.5(a): Persons aged 15 and over in employment (thousands) Q2 2018

		State	Border	West	Mid West	South East	South West	Dublin	Mid East
A	Agriculture, forestry and fishing	106.5	14.2	15	16.7	17.3	16.6	0	13.3
B-F	Industry and Construction	420.4	39.6	48.6	50.9	39.9	71.8	78.6	62.8
B-E	Industry	274.7	27.1	35.1	36.7	25	46.9	47.1	38.9
F	Construction	145.7	12.5	13.5	14.2	15	25	31.4	23.9
G-U	Services	1718.3	118.9	138.3	146.1	133.2	237.4	609.6	250.6
G	Wholesale and retail trade, repair of motor vehicles	298.1	20.9	27.5	25.7	24.6	44.6	92	44.4
H	Transportation and storage	97.4	5.7	5.7	9.5	6	12	38.4	14.5
I	Accommodation and food service activities	177.1	16.6	18.3	16	18.3	27.4	50.7	20.8
J	Information and communication	115.3	0	7.9	4.4	0	11.5	62.7	17.2
K-L	Financial, insurance and real estate activities	110.7	5.9	4.2	5.3	6	10.9	58	18.4
M	Professional, scientific and technical activities	141.2	9.1	8.5	11.8	9.3	22.2	58.8	17
N	Administrative and support service activities	103.7	5.3	7.7	9.9	7	18	38.3	13.2
O	Public administration and defence, social security	105.6	9.3	8.6	9.8	8.2	9.9	37.1	17.2
P	Education	166.6	13.1	13.2	17.1	15.7	25.6	47.2	25.8
Q	Human health and social work activities	286	22.1	25.4	26.3	25.3	42.7	87	40.8
R-U	Other NACE activities	116.6	7.2	11.3	10.2	8.7	12.6	39.3	21.4
NS	Not stated	9.8	0	0	0	0	0	0	0
Total	All NACE economic sectors	2255	173.9	203	214.2	190.5	327.1	695.1	327.8

Source: CSO Database

Table 3.5(b): Persons aged 15 and over in employment (regional shares) Q2 2018

		State	Border	West	Mid West	South East	South West	Dublin	Mid East	Midlands
A	Agriculture, forestry and fishing	4.7	8.2	7.4	7.8	9.1	5.1	0.0	4.1	8.5
B-F	Industry and Construction	18.6	22.8	23.9	23.8	20.9	22.0	11.3	19.2	22.8
B-E	Industry	12.2	15.6	17.3	17.1	13.1	14.3	6.8	11.9	14.4
F	Construction	6.5	7.2	6.7	6.6	7.9	7.6	4.5	7.3	8.3
G-U	Services	76.2	68.4	68.1	68.2	69.9	72.6	87.7	76.4	68.2
G	Wholesale and retail trade, repair of motor vehicles	13.2	12.0	13.5	12.0	12.9	13.6	13.2	13.5	14.9
H	Transportation and storage	4.3	3.3	2.8	4.4	3.1	3.7	5.5	4.4	4.6
I	Accommodation and food service activities	7.9	9.5	9.0	7.5	9.6	8.4	7.3	6.3	7.4
J	Information and communication	5.1	0.0	3.9	2.1	0.0	3.5	9.0	5.2	0.0
K-L	Financial, insurance and real estate activities	4.9	3.4	2.1	2.5	3.1	3.3	8.3	5.6	0.0
M	Professional, scientific and technical activities	6.3	5.2	4.2	5.5	4.9	6.8	8.5	5.2	3.6
N	Administrative and support service activities	4.6	3.0	3.8	4.6	3.7	5.5	5.5	4.0	0.0
O	Public administration and defence, social security	4.7	5.3	4.2	4.6	4.3	3.0	5.3	5.2	4.5
P	Education	7.4	7.5	6.5	8.0	8.2	7.8	6.8	7.9	7.4
Q	Human health and social work activities	12.7	12.7	12.5	12.3	13.3	13.1	12.5	12.4	13.1
R-U	Other NACE activities	5.2	4.1	5.6	4.8	4.6	3.9	5.7	6.5	4.8
NS	Not stated	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	All NACE economic sectors	100	100	100	100	100	100	100	100	100

Source: CSO Database

3.4 Production and income in NUTS 3 regions

One of the roles of a national government is to promote spatial equity through the redistribution of income from the more prosperous to the less prosperous regions. In Table 3.6(a), (b) and (c) we show for the years 2007, 2009 and 2015 the impacts of these redistribution policies, where the large disparity in GVA per head (a production-based measure) is greatly attenuated when expressed in terms of personal disposable income per head. In addition, the ranking of the regions changes.

Thus, for the year 2015 while the Midlands region has an index of about 43 of GVA per head (relative to the state at 100), its index of personal disposable income per head is almost 88. The GVA per head indices range from a low of 43 (Midlands) to a high of 145 (Dublin). However, the index of personal disposable income per head ranges more narrowly from 88 (Midlands) to 115 (Dublin).

What Table 3.6 shows is that while there are large differences between the NUTS 3 regions in terms of GVA per person, the differences between the regions in terms of personal disposable income (PDI) per person, while they are significant, are much smaller. An important element of the explanation of the different regional pattern of GVA per person and PDI per person is the large presence of foreign multinational firms in Ireland, and the high concentration of these firms in certain regions, mainly Dublin, the South-West (centred on Cork), and the Mid-West (centred on Limerick). The high profits generated by foreign multinationals are seldom distributed within Ireland and so, do not form part of national or regional income. On the other hand, the wages paid to their Irish labour force do enter into regional income, and these wages are subject to income and other taxes. So personal disposable income will be higher in regions like Dublin and the South-West and is a better measure of regional welfare than the more erratic GVA per person.

What these data show is that there are significant differences between the NUTS 3 regions and that one might conclude that these regions are distinct economies. However, as already mentioned in the context of the Dublin and Mid East regions, the proper definition of economic-regional boundaries is complex due to extreme openness of small areas and the high level of business transactions and commuting between them. Thus, the commuting patterns suggest that Dublin, Mid East, plus parts of Midlands might be characterised as forming a single functional economic region (Greater Dublin) as defined by a travel to work area or local labour market. By "functional region" we mean one which is homogenous with regard to particular characteristics (especially socio-economic characteristics), which is

territorially contiguous, where much of the activities and inter-relationships occur within the boundaries of the region, and which possesses a central focal point, usually a dominant city or large town around which the region is organised.⁵² This functional concept of a region contrasts sharply with one that merely defines a region by an arbitrary administrative boundary.

Table 3.6(a): GVA (2007) and Personal Disposable Income (2007) by region

Region	Index of GVA per head (State = 100)	Index of PDI per head (State = 100)
Border	68.1	90.8
West	71.3	92.8
Mid West	87.3	97.2
South East	75.6	98.3
South West	116.5	96.9
Dublin	140.8	109.3
Mid East	84.0	104.1
Midlands	65.5	91.9
State	100	100

Table 3.6(b): GVA (2009) and Personal Disposable Income (2009) by region

Region	Index of GVA per head (State = 100)	Index of PDI per head (State = 100)
Border	68.9	91.1
West	74.4	96.6
Mid West	83.9	100.6
South East	70.7	95.5
South West	119.5	97.9
Dublin	144.6	109.5
Mid East	78.5	100.1
Midlands	62.4	90.6
State	100	100

⁵² This definition of a region encompasses a wider range of socio-economic variables rather than merely the commuting pattern. This is important since the urban system is not well developed in some parts of the country and consequently only low levels of commuting occur. Nevertheless, the commuting pattern would be a critical variable for the identification of a functional region using our definition wherever substantial numbers of workers commute.

Table 3.6(c): GVA (2015) and Personal Disposable Income (2015) by region

Region	Index of GVA per head (State = 100)	Index of PDI per head (State = 100)
Border	36.9	86.5
West	57.5	89.2
Mid West	74.0	100.0
South East	63.4	95.6
South West	120.0	97.2
Dublin	145.2	114.9
Mid East	68.9	100.6
Midlands	43.3	87.6
State	100	100

Source: Based on CSO Quarterly Household Budget Survey, 2007, 2009 and 2015
(average annual disposable income)

While the Dublin, Mid-East and Midland regions separately do not make up functional regions, the Greater Dublin region defined above is a functional region on the basis of travel to work. It is also questionable whether the existing regional boundaries for the remainder of the country define functional regions. However, defining these is difficult, particularly since it requires data on the destination of commuters. Nevertheless, potential travel-to-work areas can be identified through travel time calculations and these have been produced for selected centres.⁵³ Of course, other economic variables need also be taken into account when defining functional economic regions.

3.5 NUTS 3 regional characteristics of manufacturing

In our examination of the regional and sub-regional characteristics of manufacturing we are restricted to a review of characteristics apparent in the most recent complete Census of Industrial Production data for the year 2009 where regional data are provided.⁵⁴ Using these data we are able to disaggregate each regional manufacturing sector into three classes: low and medium-low technology (L&ML); medium-high technology (MH); and high

⁵³ See Fitzgerald et. al. 1999. *National Investment Priorities for the Period 2000-2006*, ESRI Policy Research Paper No. 33, p.118-119.

⁵⁴ As this study was being completed, further CIP data at regional and county level were issued by the CSO. These new data will be incorporated into the reports on the remaining eight AEC counties.

technology (H).⁵⁵ These data are presented in Table 3.7(a) in terms of numbers and levels and in Table 3.7(b) in terms of regional shares.

Starting with the situation in the State as a whole, we extract the shares in Table 3.8. In terms of the four measures of number of firms, employment numbers, net output and gross earnings (all expressed as shares of the state total, the characteristics of the three technological classes differ dramatically. As might be expected, the majority (77.2%) of firms are in the **L&ML** category. Typical sectors here would include food products, wood products, clothing, etc. Their employment share (52.8%) is lower; the net output is lower still (24.3%); and the share of gross earnings is 46.4%. The large number of firms (77.2% of the total) and the lower share of employment (52.8%) suggest that they are mainly SMEs. The **L&ML** firms are probably mostly indigenous, but we cannot be certain, based on the limited aggregate data available. While they only produce about a quarter of total state manufacturing output, they employ nearly half of the manufacturing labour force and about the same fraction of gross earnings in manufacturing.

Turning to the high technology (**H**) category, typical sectors here would include pharmaceuticals, electronics, medical supplies. These only make up 6.2% of firms; employ 32.3% of the manufacturing labour force; generate an astonishing 70.1% of net output; and 39% of gross earnings. Many of these firms are likely to be foreign multinationals, but not all. The small number of firms (6.2% of the total), the large share of employment (32.3%) suggest that they are mainly large firms.

Finally, the **MH** category forms an intermediate case, including electrical goods, machinery and equipment, metal products, etc. They have some of the characteristics of the **L&ML** category. Many of these are also likely to be indigenous firms.

Using the patterns found in the State as a benchmark, we can examine the regional patterns and identify cases where the region differs significantly from the state. For all eight regions the share of the number of **L&ML** technology firms clusters around a narrow range of 72% (Mid-West) to 82% (Midlands). But the shares of employment differ dramatically. The West region has the lowest employment share (37.9%) and the Border region the highest share (71.4). The Border region has the highest dependence on **L&ML** firms for both output (79.5%) as well as Gross earnings (68.7%). The

⁵⁵ The definitions in terms of NACE codes are as follows: low and medium-low technology (10 to 19,22 to 25,-254,31 to 32,-325); medium-high technology (20,254,27 to 30,-303,33); high technology (21,26,303,325). For a dictionary of NACE code numbers see: <https://www.cso.ie/px/u/NACECoder/Index.asp>

South-West region has the lowest dependence with output (13.2%) as well as Gross earnings (35.8%).

At the other extreme, for the high technology (**H**) category, regional differences are very pronounced, but not in a pattern that one might have expected. The West region has the highest share of **H** firms (10.1%), the highest share of employment (49.5%), and the highest share of gross earnings (53.2%). In terms of the share of firms, the Border (3.7%) and the Mid-East (4.0%) are lowest. But while the Border region has extremely low shares of **H**-category employment, net output and gross earnings (all around 11%), the Mid-East region has very high shares in these variables.

The picture that emerges from Table 3.7 is complex and difficult to interpret using only the fairly aggregate data available in the rather old (2009) edition of the Census of Industrial Production that contains data at a NUTS 3 regional level. On the one hand, it serves to dispel the belief that Dublin and the South-West regions have an ultra modern form of manufacturing and most of the other regions have a mainly traditional manufacturing sector. But because of its large population base and the facilities of a sophisticated urban environment, Dublin can operate a dual economy, i.e., a mixture of high and low technology. At the opposite extreme to Dublin and the South-West, the Border region has ended up with a largely low technology manufacturing sector. The West region has managed to construct a manufacturing base that has many of the characteristics of high technology, but suffers from the absence of clustering and agglomeration benefits because of the low total number of enterprises and its low population density.

Unfortunately, we do not have access to the kind of data that would permit us to explore the driving forces of regional technology. The only data that we could find on regional expenditure on R&D is for the old, two-region BMW and S&E regions. Table 3.9(b) shows that in the year 2007, expenditure on R&D as a percentage of GVA was 0.92% in both BMW and S&E regions. But by the year 2015 the BMW share had increased to 1.3% of GVA while the S&E share had fallen slightly to 0.87% of GVA. However, it is difficult to judge the accuracy and utility of this data and the different ways that foreign and indigenous firms might classify R&D expenditures.

3.6 Summary

Using the limited range of data that is available, we found that the Northern & Western super-region is very heterogeneous. This heterogeneity comes from the diversity of the two NUTS 3 regions that make up the N&W super-region, i.e., the West and the Border sub-regions. Undoubtedly, this will

make it challenging to address development strategy in the N&W region using region-wide policies. In addition, preliminary review of county data suggest that Cavan and Monaghan are more related to the Eastern & Midlands (E&M) super-region than to either the “West” region or to Donegal, Sligo and Leitrim in the Border region. The “West” region has the lowest rate of urbanisation (16.6%) and lowest population density (31.5%) of all eight NUTS 3 regions. This fact alone makes it a special case in the context of regional development challenges.

While there are very large differences between the NUTS 3 regions in terms of GVA/head and GVA/employee, this is, to a considerable extent, a measure of the presence or absence of foreign multinationals in a region rather than a reliable measure of regional welfare. Regional distribution of GVA/head is seriously distorted by multinationals. Distribution of Personal Disposable Income (PDI) per head is more even than GVA/head and provides a better and less distorted measure of average regional welfare.

The regional distribution of sectoral employment over all NUTS 3 regions is not as distorted as GVA. We found that the “West” share of high, medium-high and medium-low technology manufacturing is comparable to that of the State as a whole. This indicated that the regions can often have a reasonable share of modern manufacturing and are no longer dominated by more traditional, labour intensive firms. Finally, there was some indication that R&D expenditure as share of GVA in the older BMW region is similar to that in the older E&S regions.

Table 3.7(a): Regional distribution of manufacturing classified by technology: 2009

	Border	West	Mid West	South East	South West	Dublin	Mid East	Midlands	State
Low and medium-low technology									
Manufacturing Local Units (Number)	520	316	318	481	535	776	384	246	3576
Person Engaged in Manufacturing Local Units (Number)	14948	7590	8601	10990	13023	19734	10423	6537	91846
Net Output in Manufacturing Local Units (Euro K)	3133853	1694458	674302	867948	3204215	2237348	1109794	437159	13359087
Gross Earnings in Manufacturing Local Units (Euro K)	459149	238600	311566	361020	469124	793687	356245	199209	3188599
Medium-high technology									
Manufacturing Local Units (Number)	98	66	84	109	132	148	94	38	769
Person Engaged in Manufacturing Local Units (Number)	3810	2509	3952	3781	5172	3268	2580	932	26004
Net Output in Manufacturing Local Units (Euro K)	382079	730551	268969	671489	471519	253312	219332	64182	3061433
Gross Earnings in Manufacturing Local Units (Euro K)	126041	92805	159756	144772	208016	139381	95019	30782	996571
High technology									
Manufacturing Local Units (Number)	24	43	37	28	49	69	20	16	286
Person Engaged in Manufacturing Local Units (Number)	2180	9917	6857	7777	11364	8359	7197	2493	56144
Net Output in Manufacturing Local Units (Euro K)	424917	1495625	1908803	3038929	20579240	8308192	2443995	364268	38563970
Gross Earnings in Manufacturing Local Units (Euro K)	83493	377443	342862	321154	634873	438513	403620	78131	2680088
All manufacturing industries									
Manufacturing Local Units (Number)	642	425	439	618	716	993	498	300	4631
Person Engaged in Manufacturing Local Units (Number)	20938	20016	19410	22548	29559	31361	20200	9962	173994
Net Output in Manufacturing Local Units (Euro K)	3940859	3920634	2852074	4578366	24254974	10798853	3773121	865610	54984490

Table 3.7(b): Regional distribution of manufacturing classified by technology - shares: 2009

	Border	West	Mid West	South East	South West	Dublin	Mid East	Midlands	State
Low and medium-low technology									
Manufacturing Local Units (Number)	81.0	74.4	72.4	77.8	74.7	78.1	77.1	82.0	77.2
Person Engaged in Manufacturing Local Units (Number)	71.4	37.9	44.3	48.7	44.1	62.9	51.6	65.6	52.8
Net Output in Manufacturing Local Units (Euro K)	79.5	43.2	23.6	19.0	13.2	20.7	29.4	50.5	24.3
Gross Earnings in Manufacturing Local Units (Euro K)	68.7	33.7	38.3	43.7	35.8	57.9	41.7	64.7	46.4
Medium-high technology									
Manufacturing Local Units (Number)	15.3	15.5	19.1	17.6	18.4	14.9	18.9	12.7	16.6
Person Engaged in Manufacturing Local Units (Number)	18.2	12.5	20.4	16.8	17.5	10.4	12.8	9.4	14.9
Net Output in Manufacturing Local Units (Euro K)	9.7	18.6	9.4	14.7	1.9	2.3	5.8	7.4	5.6
Gross Earnings in Manufacturing Local Units (Euro K)	18.8	13.1	19.6	17.5	15.9	10.2	11.1	10.0	14.5
High technology									
Manufacturing Local Units (Number)	3.7	10.1	8.4	4.5	6.8	6.9	4.0	5.3	6.2
Person Engaged in Manufacturing Local Units (Number)	10.4	49.5	35.3	34.5	38.4	26.7	35.6	25.0	32.3
Net Output in Manufacturing Local Units (Euro K)	10.8	38.1	66.9	66.4	84.8	76.9	64.8	42.1	70.1
Gross Earnings in Manufacturing Local Units (Euro K)	12.5	53.2	42.1	38.8	48.4	32.0	47.2	25.4	39.0
Manufacturing industries									
Manufacturing Local Units (Number)	100	100	100	100	100	100	100	100	100
Person Engaged in Manufacturing Local Units (Number)	100	100	100	100	100	100	100	100	100
Net Output in Manufacturing Local Units (Euro K)	100	100	100	100	100	100	100	100	100
Gross Earnings in Manufacturing Local Units (Euro K)	100	100	100	100	100	100	100	100	100

Source: CSO Database

Table 3.8: Manufacturing shares classified by technology: State

	L&ML	MH	H
Local units	77.2	16.6	6.2
Employment	52.8	14.9	32.3
Net output	24.3	5.6	70.1
Gross earnings	46.4	14.5	39

Source: CSO Database

Table 3.9(a): Expenditure on R&D by region (€K)

Total expenditure on R&D	2007	2015
Border, Midland and Western	298,972	384,112
Southern and Eastern	1,304,213	1,848,945
State	1,603,185	2,233,057

Source: CSO Database

Table 3.9(b): Expenditure on R&D by region (percentage of GVA)

R&D as % of GVA	2007	2015
Border, Midland and Western	0.94	1.30
Southern and Eastern	0.92	0.87
State	0.92	0.92

Source: CSO Database

“Ár n-aithreacha bhíodh,
Is a n-aithreacha siúd,
In achrann leis an saol
Ag coraíocht leis an gcarraig
loim”.

Máirtín Ó Direáin (Stoite)

[4] County economies: the case of Mayo

4.1 Introduction

In the previous section we examined the economic structure of the Irish regional economies at the level of the eight NUTS 3 regions. NUTS 3 is the most detailed spatial level for which the CSO publishes regional economic accounts, i.e., data of a kind that permit fairly detailed economic research into the structure and performance of the region. Below the NUTS 3 level are the individual counties which, unlike the NUTS 3 regions, have their own local governance institutions in the form of County Councils.

Counties might be expected to be more internally homogeneous than their encompassing NUTS 3 regions, but still have internal structural differences. For example, the West region consists of Mayo together with Galway and Roscommon. The largest element of heterogeneity in the West region arises from the presence of the city of Galway, with its population of about 80,000, its two large third level education institutions (NUIG and GMIT), its direct motorway link to Dublin, and with its modern port facilities. In Mayo, on the other hand, the largest town - Castlebar (population 12,068) - is more than six times smaller than Galway and the other Mayo towns are distributed all over what is the third largest Irish county. Mayo has a campus of GMIT located in Castlebar, but with a limited range of faculties. Although Mayo has an extensive coastline, it has no working harbour with modern facilities. Roscommon, on the other hand, is land-locked and its largest town - Athlone - with its population of 21,000 is located on the extreme east side of the county and partially located in Westmeath.⁵⁶ Athlone hosts an Institute of Technology, also located in Westmeath. The town is linked to Dublin by the Galway-Dublin motorway, and travel time to Dublin (distance 125 km) is only slightly more than one hour.

For the purposes of regional development planning, this suggests that there is merit in examining the structure of the county economies and identifying their special structural features before moving up to the NUTS 3 regional level. Even more importantly, the economies of the NUTS 3 regions, with all

⁵⁶ The regions on the west bank of the river Shannon that enclose Athlone are designated as part of County Westmeath, in order to preserve the integrity of the town.

their internal heterogeneity, need to be understood before moving further up to the NUTS 2 super-regional administrative level where the regional elements of *Project Ireland 2040* are being examined and debated.

Given the data limitations, our analysis at the county level is more restricted than even at the NUTS 3 level. In section 4.2 we examine Mayo in the context of the other two constituent counties in the West region, i.e., Galway and Roscommon. In section 4.3 we examine the structure of the aggregate manufacturing sectors of the three West region counties. In section 4.4 we make use of the Annual Employment Survey (AES) database maintained by the Department of Employment, Business and Innovation (DBEI) which permits one to disaggregate manufacturing employment at a county level into its main NACE subsectors. Section 4.5 concludes.

4.2 Mayo in its national and regional contexts

Perhaps the key defining feature of the Mayo economy is its very low population density. Table 4.1 shows Mayo in the context of the AEC, the Northern & Western planning super-region and the three-county NUTS 3 region. When evaluating these data it is useful to keep in mind that the overall national population density is 70 persons/km² and the population density of the Dublin region is 1459 persons/km².

In the context of the West region, Mayo and Roscommon have similar population densities (about 25/km²) compared to Galway's 42/km². However, Galway, although the second largest county in Ireland, benefits from having a more concentrated population, with about a quarter of the total county population residing in Galway city. Turning to the Northern & Western planning super-region, Leitrim, Mayo and Roscommon are the low density counties. Population densities in Galway, Monaghan and Cavan are almost twice as high. Finally, in the context of the more extensive AEC, Leitrim, Mayo and Roscommon are again the low density counties while Limerick (70.8/km²) and Galway (42/km²) are the high density counties.

In these comparisons the situation in Mayo is probably more challenging than the county-wide population densities suggest. Population in Galway and in Limerick is concentrated into the two large cities with the rest of the county having a lower population density. But in the cases of Mayo, Roscommon and Leitrim, the population is scattered throughout the entire county space with only towns of modest size. For Mayo, Roscommon and Leitrim, respectively, the largest towns have populations of 12,068 (Castlebar), 21,349 (Athlone) and 4,062 (Carrick-on-Shannon).

Table 4.1: County population densities - AEC, N&W and W

AEC Counties	Population	Population Density
Kerry	147554	30.7
Limerick	195175	70.8
Clare	118817	34.4
Galway	258552	42.0
Mayo	130425	23.3
Roscommon	64436	25.3
Sligo	65357	35.5
Leitrim	31972	20.1
Donegal	158756	32.6

N&W Region Counties	Population	Population Density
Galway	258552	42.0
Mayo	130425	23.3
Roscommon	64436	25.3
Sligo	65357	35.5
Leitrim	31972	20.1
Donegal	158756	32.6
Cavan	76092	39.3
Monaghan	61273	47.3

West Region Counties	Population	Population Density
Galway	258552	42.0
Mayo	130425	23.3
Roscommon	64436	25.3

Source: CSO Database

In the case of Mayo, this creates a potential risk that planning at the N&W super-region level will bypass the Mayo towns in favour of slightly larger towns in other N&W counties (e.g., Sligo, Letterkenny and Athlone). An alternative approach that took these specific Mayo demographic features into account would be to examine how the populations of Mayo towns have grown and how they could be linked to form more effective joined-up urban centres. For example, the towns of Castlebar and Westport are very close to each other and are about to be linked by an improved road. They already have a rail link. Their combined population (as a kind of "twin" town) is 18,266, which is almost the same as the population of Sligo (19,199). With

the exception of Galway city, excessive focus on individual slightly larger towns like Sligo, Letterkenny and Athlone, rather than focusing on how slightly smaller towns can be better connected, risks distorting regional planning in the N&W super-region (see Table 4.2).

Table 4.2: Largest towns in N&W NUTS 2 region

County	Largest town	Population
Donegal	Letterkenny	19,274
Sligo	Sligo	19,199
Cavan	Cavan	10,914
Monaghan	Monaghan	7,678
Leitrim	Carrick on Shannon	4,062
Mayo	Castlebar	12,068
Roscommon	Athlone	21,349
Galway	Galway	79,934

Source: CSO Database

Table 4.3 shows the populations of the main towns in Mayo, where the cut-off point was set at 1,000. This cut-off is quite arbitrary since towns with populations below the 1,000 threshold can be hosts to some remarkably innovative manufacturing and service activities.⁵⁷ Table 4.3 serves to emphasise the fact that Mayo towns are widely distributed over the whole (large) county and that although their populations have grown between the Census of Population results for 1996 and 2016, the population growth is shared over most of the towns rather than being concentrated in one or a few. But on closer inspection, an indication of a disturbing pattern is apparent. The towns to the centre and south of the county (Castlebar, Westport, Claremorris, Ballinrobe and Ballyhaunis) all display above average growth while towns lying to the north of the county display below average growth. One northern town, Crossmolina, actually suffered a population decline of 13% between the 1991 and 2016 censuses.

There are probably many factors explaining this pattern of asymmetric spatial population growth. For example, the towns lying in to centre and to the south of the county have good rail and transport links to Dublin. Indeed,

⁵⁷ For example, *PEL* is based in Balla, population 769, and develops and manufactures highly innovative and versatile refuse compacting machinery that it exports to the UK, the EU and the USA. *Westire Technology* is based in Belmullet, whose population of 1019 has only recently crossed the 1,000 threshold, and designs and manufactures sophisticated electronic switching devices that are exported all over the world.

one enterprise located in Claremorris (Cosmetic Creations: see Section 5.3 below) during an interview stressed the importance of having easy access to the Galway-Dublin motorway to facilitate interaction with its customer base outside Mayo. A second factor is likely to be the fact that the town of Sligo is simply too small to act as an urban "attractor" for businesses located in north Mayo in the way that Galway acts for businesses in central and particularly in south Mayo.

4.3 The economy of Mayo

Having examined the singular pattern of urban population in Mayo, we turn now to examine how the Mayo economy functions and how it provides employment and income for its inhabitants. The extent of our examination is very limited by the paucity of economic data at a county level in CSO databanks. But an area where detailed county data are made available is the national Household Budget Survey (HBS).

The HBS is taken annually and used to determine in detail the pattern of household expenditure in order to update the weighting basis of the Consumer Price Index. Data are collected on household expenditure and income as well as a number of household characteristics, e.g. household composition, household tenure, accommodation type, household facilities and appliances. The national survey sample for 2015-2016 was 6,839 households.

Summary results from the 2015 HBS are illustrated in Figure 4.1. Mayo and Roscommon fall into the category of having household disposable income per person about 10% lower than the national average. In the entire N&W planning super-region, only Galway and Sligo counties reach a level of 5% below the national average. In the wider AEC region, only Limerick exceeds the national average by between zero and 5%.

Table 4.3: Population of Mayo towns 1991-2016

Town	Population 1991	Population 2016	% change 1991- 2016
Castlebar	7648	12068	57.8
Ballina	8167	10171	24.5
Westport	3688	6198	68.1
Claremorris	1907	3687	93.3
Ballinrobe	1229	2786	126.7
Ballyhaunis	1282	2366	84.6
Swinford	1216	1394	14.6
Foxford	974	1315	35.0
Kiltimagh	952	1069	12.3
Crossmolina	1202	1044	-13.1
Charlestown	712	1033	45.1
Belmullet	986	1019	3.3
Mayo urban population	29963	44150	47.3
Mayo total	110713	130507	17.9
Roscommon	51897	64544	24.4
Galway	180364	258058	43.1
West	342974	453109	32.1
State	3525719	4761865	35.1

Source: CSO Database

In Tables 4.4(a) and (b) we examine the sources of household income in Mayo, and include Galway and Roscommon for comparison purposes. The absolute numbers are given in Table 4.4(a), while the shares relative to the state average for sources of income per person are given in Table 4.4(b). In terms of primary income per person, Galway is highest at 90% of the state level; Mayo is second (78%) and Roscommon is third at 76%. In terms of the social transfer element of personal income per person, Mayo is highest at 110% of the state average while Roscommon and Galway are at the state average. After the deduction of taxes, in the ranking of personal disposable income per person Galway is highest, at 94% of the state average, while Mayo and Roscommon are ranked at 89% and 84%, respectively. This suggests the households in Mayo are slightly more dependent on social transfers than the other two counties in the West region. Assuming that the HBS sample was large enough to produce a reliable estimate at county level, the causes and robustness of this difference will need to be further investigated.

Figure 4.1: Household disposable income per person 2015

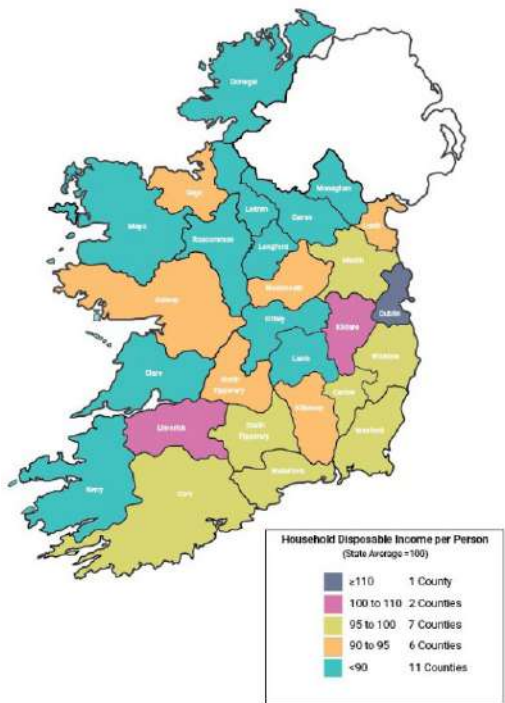


Table 4.4(a): Sources of county income in 2015

2015	State	West	Mayo	Roscommon	Galway
Primary income €m	99371	8028	2137	1022	4870
Social transfers €m	24507	2385	736	333	1316
Total household income €m	123757	10404	2870	1353	6180
Taxes €m	29500	2226	575	280	1371
Disposable household income €m	94207	8177	2295	1073	4809
Disposable income per person €	20334	18174	17390	16582	18991

Table 4.4(b): Sources of county income per person in 2015 relative to State

2015	State	West	Mayo	Roscommon	Galway
Primary income	100	85	78	76	90
Social transfers	100	102	110	100	99
Total household income	100	88	85	81	92
Taxes	100	79	71	70	86
Disposable household income	100	91	89	84	94

Source: CSO Database

Our county income analysis suggests that Mayo has a slightly higher dependence on social transfers (i.e., income support) per head than is the case in Galway and Roscommon. However, this dependence needs to be set against the contribution that is made to the national exchequer by the enterprises operating in Mayo. This consists mainly of income tax and PRSI paid by employees, the employer's contribution to PRSI, and corporation tax receipts from enterprises. Own estimates based on the approximate employment count of just the three largest multinationals operating in Mayo (Allergan (1,300), Baxter (1,200) and Coca Cola (500)) and the profits that they generate suggests that the net contribution of these three enterprises alone could amount to almost €170 million. This is more than twice the excess of total social transfer payments in Mayo associated with the higher per capita average compared to the state per capita average.

Drawing on the recently published Censuses of Industrial Production (CIPs) that included data at the county level for the years 2008 to 2015, Tables 4.5(a) and (b) examine the structure of the aggregate Mayo industrial sector. This shows that in the year 2015 there were 1751 local units in the industrial sector of the West region. Of these, 967 were in Galway, 545 in Mayo and 239 in Roscommon. Combining the number of firms (local units) with the

employment data, we find that the average Galway firm employs 11.9 people while those in Mayo and Roscommon employ 13.4 and 8.3, respectively. So the firms tend on average to be slightly bigger in Mayo compared to the other two counties in the West region.

Turning to industrial output, it is very surprising to find that the values for Mayo and Galway are very different (€6,447 billion and €3,092 billion, respectively), even though the Galway manufacturing sector employs almost twice as many people as the Mayo manufacturing sector. The fact that the wages and salaries as a percentage of net output in Mayo (at 5.5%) is almost five times smaller than the share in Galway (at 26%) suggests that the Mayo sector is dominated by a few very large multinationals that are highly profitable. The obvious companies would include Coca Cola Concentrates in Ballina (which employs about 500 people); Allergan Pharmaceuticals in Westport (which employs about 1,300 people); and Baxter in Castlebar and Swinford (which employs about 1,200). The data could also be distorted by a very large firm like Portwest which, although indigenous to Mayo, produces its products abroad but registers its income locally. Once again, this reinforces the point that output-based measures of manufacturing activity provide a distorted measure of the benefits that are generated in or retained within a county. Local employment and wage income-based measures are more useful.⁵⁸

The size distribution of all enterprises in Mayo, Galway and Roscommon are shown in Table 4.6(a) and (b). Galway has the highest percentage of small enterprises employing under 10 people (58%) and these employ the same percentage of the labour force. In Mayo, the shares are about 30%, and in Roscommon 13%. At the other extreme, in firms employing 250 and over, the Galway share is 75% and the Mayo share is 25%. This is puzzling in light of Table 4.5, which showed that the Mayo industrial sector generated about the same net output as the much larger Galway sector. However, it could be explained by the specific characteristics of a small number of the Mayo-based multi-nationals or large indigenous firms who produce abroad.

⁵⁸ In Section 5.3 below we list all of the multinationals located in Mayo.

Table 4.5(a): Census of Industrial Production - West NUTS 3 Region

		2008	2009	2010	2011	2012	2013	2014	2015
West	Industrial Local Units (Number)	1,745	1,744	1,735	1,725	1,720	1,737	1,711	1,751
	Persons engaged - Total (Number)	25,078	20,894	20,278	20,239	20,270	20,494	21,792	20,784
	Industrial output - Gross output (Euro Thousand)	6,300,997	5,395,914	8,493,307	8,150,472	8,689,991	7,277,009	9,256,126	9,941,514
	Net output (Euro Thousand)	4,163,364	3,460,329	6,285,364	5,954,378	6,458,667	4,507,129	5,748,129	6,925,734
	Wages and salaries - Total (Euro Thousand)	935,719	751,083	693,908	704,160	758,937	767,437	901,921	827,356
	Net output less wages and salaries (Euro Thousand)	3,227,645	2,709,246	5,591,456	5,250,218	5,699,730	3,739,692	4,846,208	6,098,378

Source: CSO Census of Industrial Production

Table 4.5(b): Census of Industrial Production - Galway, Mayo and Roscommon

		2008	2009	2010	2011	2012	2013	2014	2015
Galway	Industrial Local Units (Number)	964	982	982	961	966	965	938	967
	Persons engaged - Total (Number)	16,787	13,218	12,550	12,052	12,204	12,318	13,292	11,486
	Industrial output - Gross output (Euro Thousand)	2,973,050	2,155,847	2,705,440	2,389,647	2,342,210	2,484,720	3,386,119	3,092,109
	All industrial inputs (Euro Thousand)	1,147,952	1,154,726	1,214,324	1,076,133	1,091,731	1,196,798	1,563,735	1,234,951
	Net output (Euro Thousand)	1,825,098	1,001,121	1,491,116	1,313,514	1,250,479	1,287,922	1,822,384	1,857,158
	Wages and salaries - Total (Euro Thousand)	614,206	465,700	406,645	418,431	453,169	448,555	558,734	483,699
Mayo	Net output less wages and salaries (Euro Thousand)	1,210,892	535,421	1,084,471	895,083	797,310	839,367	1,263,650	1,373,459
	Industrial Local Units (Number)	538	513	na	na	na	526	537	545
	Persons engaged - Total (Number)	6,427	6,037	na	na	na	6,359	6,535	7,306
	Industrial output - Gross output (Euro Thousand)	2,724,514	2,884,620	na	na	na	4,406,741	5,447,839	6,447,211
	All industrial inputs (Euro Thousand)	532,886	529,120	na	na	na	1,320,979	1,661,242	1,506,772
	Net output (Euro Thousand)	2,191,628	2,355,500	na	na	na	3,085,762	3,786,597	4,938,439
Roscommon	Wages and salaries - Total (Euro Thousand)	256,562	228,514	na	na	na	260,294	279,164	272,569
	Net output less wages and salaries (Euro Thousand)	1,935,066	2,128,986	na	na	na	2,825,468	3,507,433	4,665,870
	Industrial Local Units (Number)	243	249	na	na	na	246	236	239
	Persons engaged - Total (Number)	1,864	1,639	na	na	na	1,777	1,965	1,952
	Industrial output - Gross output (Euro Thousand)	603,433	355,447	na	na	na	385,548	422,168	402,194
	All industrial inputs (Euro Thousand)	456,795	251,739	na	na	na	252,103	283,020	272,057
	Net output (Euro Thousand)	146,638	103,708	na	na	na	133,445	139,148	130,137
	Wages and salaries - Total (Euro Thousand)	64,951	58,859	na	na	na	58,588	64,023	71,088
	Net output less wages and salaries (Euro Thousand)	81,687	44,839	na	na	na	74,857	75,125	59,049
	Net output less wages and salaries (Euro Thousand)			na	na	na			

Source: CSO Census of Industrial Production

Table 4.6(a): Size distribution of enterprises: State, West and counties - 2016

Persons engaged		Total	Under 10	10 to 19	20 to 49	50 to 249	250 and over
All Counties	Active Enterprises	250033	229534	10748	6166	3003	582
	Persons Engaged	1478236	392829	143842	183730	290604	467231
West	Active Enterprises	23539	21846	913	503	249	28
	Persons Engaged	104459	36782	12367	14920	23220	17170
Mayo	Active Enterprises	6890	6388	283	156	56	7
	Persons Engaged	29064	11009	3774	4632	4845	4804
Roscommon	Active Enterprises	2979	2818	87	46	28	0
	Persons Engaged	10261	4739	1198	1417	2907	0
Galway	Active Enterprises	13670	12640	543	301	165	21
	Persons Engaged	65134	21034	7395	8871	15468	12366

Table 4.6(b): Size distribution of enterprises: State, West and counties-2016

Persons engaged		Total	Under 10	10 to 19	20 to 49	50 to 249	250 and over
State	Active Enterprises	250,033	229,534	10,748	6,166	3,003	582
	Persons Engaged	1,478,236	392,829	143,842	183,730	290,604	467,231
West	Active Enterprises	23,539	21,846	913	503	249	28
	Persons Engaged	104,459	36,782	12,367	14,920	23,220	17,170
Mayo (% of West)	Active Enterprises	29.3	29.2	31.0	31.0	22.5	25.0
	Persons Engaged	27.8	29.9	30.5	31.0	20.9	28.0
Roscommon (% of West)	Active Enterprises	12.7	12.9	9.5	9.1	11.2	0.0
	Persons Engaged	9.8	12.9	9.7	9.5	12.5	0.0
Galway (% of West)	Active Enterprises	58.1	57.9	59.5	59.8	66.3	75.0
	Persons Engaged	62.4	57.2	59.8	59.5	66.6	72.0

Source: CSO database (accessed November 18th, 2018)

The only source of data on the sub-sector composition of county manufacturing and service sectors is the Annual Economic Survey (AES) of data for combined client companies of the IDA, Enterprise Ireland and Udaras na Gaeltachta maintained by the Department of Business, Enterprise and Innovation (DBEI). This is an annual survey of employment numbers of the agencies client bases where the activities of the individual enterprises are classified by a four-digit NACE code, so that we can allocate them to fairly precise sub-sectors. To preserve their confidentiality, the firms are allocated anonymised labels by the DBEI. Public access to the database is permitted, but disclosure of results are restricted to sectors that contain a minimum number of firms to prevent revealing information on individual firms. In addition, it is not permitted to disclose the agency assisting the individual enterprises. Although this database only contains a fraction of the entire manufacturing and service sectors, nevertheless it may serve to give us a pattern that is representative of the whole sector. Table 4.7 shows these data for the combined IDA, EI and UnaG agency client bases in Mayo.

In terms of employment shares, two sub-sectors of Mayo manufacturing stand out: Chemical Products & Pharmaceuticals (employment share of 36.8%) and Food & Beverages (employment share of 24.8%). Together, these two sub-sectors make up almost two-thirds of total agency client employment in Mayo. The other sub-sectors have much smaller employment shares. The agencies mainly support manufacturing firms, but also target a small range of business services. The total share of supported service employment is 12.7%, split between a range of computer consultancy, facilities management and programming activities and a group of business, financial and other services.

Data from the Mayo Local Enterprise Office (LEO) are available for total employment of their client firms. Their manufacturing portfolio includes very small food and beverage producers (brewers, distillers, jam makers, breads, chutneys, cheese, etc.); furniture and kitchen makers; small engineering companies (from providing specialist supports to the multinational sector to making farm gates, etc.); technology businesses; some professional services; and some Internationally trading services businesses. A common characteristic is that the portfolio of companies is comprised of businesses with fewer than 10 employees, and an annual turnover of less than €2 million. The employment totals are set out in Table 4.8.

Table 4.7: Mayo: IDA, EI and UnaG client company employment
Classified by NACE sector: 2017

Sector	Numbers employed	Shares of total
Agriculture, Fishing and Forestry	223	2.4
Mining and Quarrying	112	1.2
Food, beverages, tobacco	2325	24.8
Clothing & footwear	157	1.7
Wood & wood products	139	1.5
Coke & refined petroleum	0	0.0
Chemicals & chemical products and pharmaceuticals	3455	36.8
Rubber, plastic & non-metallic products	138	1.5
Basic metals and metal products	255	2.7
Computer, optical and electronic, and electrical equipment	136	1.5
Machinery & equipment	517	5.5
Transport equipment	0	0.0
Other manufacturing and repairs	43	0.5
Electricity & gas supply, water, sewerage, waste and construction	340	3.6
Paper & printing	231	2.5
Textiles	110	1.2
<i>Total manufacturing</i>	<i>8181</i>	<i>87.3</i>
Computer consultancy and related	693	7.4
Business, financial & other services	502	5.4
<i>Total business services</i>	<i>1195</i>	<i>12.7</i>
Total manufacturing & business services	9376	100

Source: DBEI anonymised agency database (accessed November 19th, 2018)

Table 4.8: Employment total for Mayo LEO client companies

Year	Total employment
2013	1,051
2014	818
2015	882
2016	973
2017	933

Source: Mayo LEO

The numbers in Table 4.8 are continuing LEO clients plus any new clients who were approved for grant aid during each year. Hence, the total gives an insight into the accumulating stock of micro enterprises. The drop in figures between 2013 and 2014 occurred as there was a cleanse of the portfolio of client companies during the transition between County Enterprise Boards and Local Enterprise Offices. According to the LEO, there does not appear to be any available data source that encompasses all businesses in the County. The LEO has a database of some hundreds of businesses that they will have financially supported or engaged with in various ways. But this would only cover a small fraction of the total number of enterprises operating in Mayo. As indicated in Table 4.6(a) above, in the year 2016 there were 6,890 enterprises of all sizes in Mayo, employing 29,064 people. So the combination of employment in all of the agency client companies (i.e., the IDA, EI, ÚnaG and the LEO) only covers about one third of the total county employment.

4.4 Summary

Using the limited range of data available at a county level, we are able to analyse some aspects of the Mayo economy and compare it to adjoining counties. In the case of Mayo, we use Galway and Roscommon as comparators since these three counties make up the West region for which there is a range of national accounting data available.

Population growth in Mayo over the period 1991-2016 was the lowest of the three West region counties. Galway population grew by 43.1%; Roscommon by 24.4%; and Mayo by 17.9%). Within Mayo, we found that population growth between 1991 and 2016 was highest in central and southern Mayo towns and was lower in northern towns. It is not possible to state what were the causes of this difference in growth rates, but the role of Galway as an "attractor" in the south of the county, combined with the better communication infrastructure in the south than in the north of the county are probably the main explanations. In addition, the fact that Mayo has no very large, dominant town in terms of population was probably a negative factor in terms of overall growth performance, in light of the generally poor road, rail and broadband infrastructure and the absence of any "attractor" town to the north of the county that might have played a similar role to that of Galway in the centre and south of the county.

At the county level we have reasonably good data on income generation from the annual household budget survey (HBS). This showed that in Mayo income per head was lower than in Galway (by 9%), but higher than in

Roscommon (by 2.6%). However, closer examination of the components of household income showed that there was a slightly higher contribution from Social Transfers in Mayo than in either Galway or Roscommon.

Using the CSO Annual Employment Survey (AES) we were able to examine the size distribution of enterprises at a county level. The size distributions over the three West region counties were rather similar. However, the CSO Census of Industrial Production (CIP) data for the years 2008-2015 (the latest available at the time of writing) shows that for manufacturing enterprises, the Mayo manufacturing sector, although only half the size of the Galway manufacturing sector, produced about the same gross value added (GVA). Finally, using the anonymised agency client company database maintained by the Department of Business, Enterprise and Innovation (DBEI), we were able to identify the pharmaceutical and the food sectors as the dominant ones in Mayo, and how agency client companies were distributed over a range of other sub-sectors.

Systematic knowledge of the current state of county and regional economies is essential in guiding planning authorities as they mitigate external threats and seek to benefit from external opportunities from which they may be currently partially excluded. Here, the activities of the county-based Local Enterprise Offices (LEO) plays a vital role in assisting in the emergence of local, "traded" micro businesses by leveraging their local knowledge and resources in seeking out and promoting entrepreneurship in the county with a range of direct and indirect aids and with two-way links to the national development agencies such as the IDA, Enterprise Ireland and Udarás na Gaeltachta.

"An economy that contains few different sorts of niches for people's differing skills, interests and imaginations is not efficient"

Jane Jacobs, *Cities and the Wealth of Nations*

[5] Mayo enterprises - firms and case studies

5.1 Introduction

In the previous section we explored the structure of an individual county as the unit of analysis (Mayo) and the structure of its enterprise sector. At this level of analysis, and using only officially published data sources, we were able to examine broad features of production, and of manufacturing in particular. Using the DBEI anonymised database it was possible to go down to the NACE two-digit sub-sector level for manufacturing and a limited number of business service sub-sectors, but only for the IDA, Enterprise Ireland and Údaras na Gaeltachta client companies. But even here there were some issues of confidentiality that required sub-sectors with a small number of firms to be amalgamated with larger sub-sectors. All that we were able to do with officially available data sources is study the broad sectoral characteristics of aggregate manufacturing and some sub-sectors of market services. Analysis is mainly in terms of employment, and some other structural characteristics such as the distribution of firm sizes and the share of the wage bill in GVA (a measure of the degree of sophistication and modernity of the sector).⁵⁹

Because of the relatively low population density of Mayo and the absence of any large urban centres with third level education establishments, many business activities in the county (but not all) are small in scale and up to recently were often found in the more 'traditional' areas of production (e.g. food and beverages, clothing, footwear, furniture, basic metalworking, etc.).⁶⁰ When there are sectors in what are commonly regarded as 'modern' or 'high technology' areas, such as electronics, computers and pharmaceuticals, these may be producing products near the start of their product life-cycle or products that are at the older stages of the product life-cycle.⁶¹ Ideally, one would like to know how many of them are mainly engaged in the older and/or more routine stages of production or assembly,

⁵⁹ Modern, high technology firms tend to be less labour intensive than older, more traditional firms. Consequently, the wage bill as a share of added value tends to be smaller in modern firms.

⁶⁰ A branch of Galway-Mayo Institute of Technology (GMIT) is located in Castlebar. But it has a restricted set of courses and cannot yet be classified as an independent third-level establishment along the lines of GMIT in Galway and National University of Ireland Galway.

⁶¹ The product life-cycle is described in Annex 1 in connection with industrial policy frameworks.

where skill requirements can be modest and innovation largely absent. In more remote geographical areas production units may fall below the threshold of conventionally defined small and medium sized enterprises (or SMEs).⁶² Many businesses are micro-enterprises with under 10 employees (bakeries, other food products, guest houses, trades of various kinds, craft enterprises, etc.).

It is difficult to overcome these data challenges in the absence of officially published data. The most appropriate database that is accessible for the purposes of county-level research, the anonymised agency client list, risks providing only a partial, and possibly skewed picture of the complete body of county enterprises. For example, it might be the case that the agencies like the IDA and Enterprise Ireland select the better and more promising firms for assistance, passing over the less promising, thus introducing a selection bias to the client list. Furthermore, although one has access to some data for each individual client company and potentially information down to the four-digit NACE classification code, one cannot disclose such information under the DBEI confidentiality rules.

There is a range of commercially available proprietary databases of information on individual business units that can be pressed into service in the absence of accessible and disclosable "official" data. Two examples are FAME and Kompass.⁶³ Their use can be augmented by field work designed to provide additional qualitative information on businesses located in Mayo. This is an area where we try to break some new ground in research on the economy of Irish county economies. But it is very time consuming and demands systematic and sustained work.⁶⁴

Micro-enterprises and a regional micro-enterprise 'culture' are likely to be an essential part of the stimulation of economic activity in a "peripheral" county like Mayo and – more generally – in rural areas throughout the AEC region. Such micro-enterprises tend not to initiate innovative activities in isolation. Rather, they often benefit from and feed off the growth of larger scale activities that are usually located in or near the urban population concentrations as well as benefits from the skills that local entrepreneurs acquire there in the early stages of their careers. In this context, the

⁶² Enterprise Ireland defines a 'small' enterprise as one that has fewer than 50 employees and has either an annual turnover and/or an annual balance sheet total not exceeding €10m. A 'medium' enterprise is defined as an enterprise that has between 50 and 249 employees and has either an annual turnover not exceeding €50m or an annual balance sheet total not exceeding €43m.

⁶³ For FAME, see <http://fame.bvdep.com/version-2011421/cgi/template.dll?product=1>. For KOMPASS, see <http://ie.kompass.com/>.

⁶⁴ The present study merely scratches the surface of research into the county enterprise sector, but may assist in identifying a massive gap in the kind of knowledge needed as an input into regional policy development.

peripheral and sparsely populated nature of Mayo imposes special challenges to the growth of locally based micro enterprises which have the potential to develop new products or services that can be sold into external markets.

Our research approach is anchored at the level of individual enterprises and on interviews with a carefully selected set of local Mayo business people. We focus on the special characteristics of the people involved in such enterprises, and the support facilities that they require to succeed, in the context of an understanding of the specific characteristics of the Mayo and wider "West" region. Our aim is to look at a small sample of individual businesses and their immediate business environment in order to find out how small business activities in Mayo start up, operate and eventually may expand by exploiting increased access to larger regional, national and international markets.

Many small enterprises are likely to be in what we earlier defined as the "non-traded" sector. These are firms who see their target market as the local town or the county. Their customers and client base will tend to be consumers and other businesses in their near neighbourhood. The low population density in Mayo (23 /km²) will impose a natural barrier to expansion of these kinds of enterprises beyond the demands of that local market and will only expand beyond that barrier if the local population increases and/or other businesses locate in the area that attract commuters and increase business demand. Such enterprises will find it hard to attract agency support, since assistance to a "non-traded" firm is likely to displace other "non-traded" firms who are competing for the same narrow, local market. These "non-traded" firms will always make up the bulk of employment in any county, but are not usually regarded as being in the vanguard of regional enterprise development. Rather, it is the class of what we termed "traded" firms that are regarded as the drivers of regional development and will pull the "non-traded" sector along in their train. Consequently, our small series of interviews with Mayo-based enterprises focused mainly on "traded" firms.

However, such investigations need to go beyond an exclusive focus on small enterprises, since Mayo and its encompassing West region is characterised by a range of different types of enterprises. Close to Mayo towns such as Castlebar, Ballina and Westport there are modest groups of large and medium-sized foreign and indigenous enterprises, attracted by the availability of a skilled and well educated workforce within easy commuting reach. In addition, in some of the smaller Mayo towns one also finds the phenomenon of the "one industry town" where one firm (often, but not

always, a foreign owned branch plant) dominates that town's economy and introduces the risk of instability should that firm contract or close down. Finally, one finds a range of enterprises whose characteristics are often determined either by the presence of a local entrepreneur/manager or by links to larger firms in the area. While we do not have the resources to carry out a comprehensive, region-wide survey, we identify and interview some typical examples of these categories and try to draw region-wide conclusions.

Our interviews were conducted with senior management, usually the owner of the firm. We sought to be conducted through the plants in order to be able to evaluate details of the production technology; the level of senior staff expertise; the broad strategy of the firm; how its management viewed its competitive advantage in their sector; and the kinds of collaborative networks in which the firms may be embedded. We tried to analyse smaller enterprises within populations of companies, some of which may have the potential to become growth poles or magnets. Local education and other business support institutions are clearly critical factors to setting local growth in motion. County Mayo may not be as well endowed with higher education institutions as are the larger centres of population in Ireland, but an understanding of what is there and the identification of local business and education leaders is vital to success.

This chapter is structured along the following lines. In Section 5.2 we describe the FAME database of individual firms in Ireland and the UK and show how it can potentially be used to examine the structure of enterprises in a county like Mayo. This takes the more aggregate production analysis of our earlier work to a far more detailed, enterprise-focused stage. In other words, in theory, using such a database, we should be able to examine the configuration of production units in the country in a way that helps us understand why the aggregate performance at the national level – as published, for example, in the *Census of Industrial Production* – can differ significantly from county to county. We should also ideally be able to identify degrees of county-level specialisation that will assist us later, when we select a small sample of individual firms for more detailed investigation.

In Section 5.3 we describe how we conducted a small-scale audit of business organizations within Mayo, based on a series of factory visits to a representative sample of firms covering a range of sectoral activities. The visits to firms were organized so as to obtain the often 'hidden' history of how firms were founded and how they are progressing with a view to searching out policies that could enhance the business environment. We embarked on these firm visits with open minds but with a detailed set of

questions, in order to elicit certain basic facts. We wished to explore company directors' general views on the current conditions facing the company (strengths, weaknesses, opportunities and threats) and strategy to improve performance. This included the directors' views of the distinctive capability or 'concept' of the company that would be the source of the company's profitability in the future. Also, which companies set the 'standard' in the company's industry, from which others learn in order to compete.

Section 5.4 summarises and draws some initial enterprise-based conclusions relevant to the regional policy agenda for the county. Given its many disadvantageous regional characteristics – peripherality, absence of any large, internal city "attractor", low population density, limited production base, limited higher educational establishments, small entrepreneurial class – there is a temptation to paint an excessively pessimistic picture of a county whose economy would appear to be uniquely disadvantaged in terms of peripherality and inadequate infrastructure. What we show is that this is not at all the case. Many examples of industrial dynamism exist in Mayo and the pockets of highly creative entrepreneurial activity, although few, can serve as a basis for the future development of a county that is rapidly emerging into the mainstream of Irish economic life.

5.2 Detailed manufacturing activities in Mayo

As discussed in earlier chapters, we can use the Irish Census of Industrial Production (CIP) and other available data to examine the broad productive structure of Mayo. But we cannot go into more detail – in terms of the structure of manufacturing sub-sectors or in terms of sub-regions of a county. To obtain such data we must first look to commercial data sources.

There are many proprietary databases that provide information on individual businesses or on selected groups of related businesses. However, only two databases provide anything like what is required to examine the structure of the enterprise sector at a full level of sectoral and spatial disaggregation: the KOMPASS database and the FAME database. The KOMPASS database is designed more for marketing mail-shot use than for business research. The FAME database is set up to provide detailed data, admittedly of varying quality and completeness, on the activities of every business registered in the UK and Ireland. For this reason, we chose to use FAME.

In principle, FAME contains the following kind of company data for companies registered at the Companies Registration Office:⁶⁵

- Basic descriptive information: Company name, previous company name(s), registered number, registered office address, phone, web address, primary and trading addresses and phone numbers; company type, date of incorporation, filing changes, accounting reference date, company status
- Product information: Trade description, primary and secondary SIC codes (UK2003 and UK2007), brand names and major sectors, US SIC, NAICS and NACE codes, standard peer group
- Quantitative information: Annual turnover, number of employees, etc.
- Audit information: Bankers, auditors, previous auditors, audit details including indicators of qualified/unqualified accounts, a post balance sheet event, audit exemption and contingent liabilities.

Although FAME lists all enterprises, including manufacturing, services, agriculture, construction, and utilities, we are primarily interested in the manufacturing sector. In this section we do not use the full level of SIC (2003) disaggregation.⁶⁶ Rather we use a division of manufacturing into 22 sub-sectors, listed in Table 5.1 below.⁶⁷

⁶⁵ The Companies Registration Office (CRO) is the central repository of public statutory information on Irish companies and business names. The CRO operates under the aegis of the Department of Business, Enterprise and Innovation (DBEI).

⁶⁶ The Standard Industrial Classification System of Economic Activities, SIC (2003), is used in the UK instead of the EU-based NACE system. See <https://siccode.com/en/siccode/list/directory>. SIC (2007) revised these codes.

⁶⁷ See https://en.wikipedia.org/wiki/Standard_Industrial_Classification for the complete disaggregation available in SIC(2003).

Table 5.1: SIC (2003) broad sub-sectors of manufacturing

SIC(2003) Code	Description of Activity
15-16	Food Products, Beverages, Tobacco
17	Textiles
18	Clothing
19	Leather & Leather Products
20	Wood & Wood Products (except Furniture)
21	Pulp, Paper & Paper Products
22	Publishing & Printing
23	Coke & Refined Petroleum
24	Chemicals & Chemical Products
25	Rubber & Plastic Products
26	Other Non-metallic Mineral Products
27	Basic Metals
28	Fabricated Metal Products, except Machinery & Equipment
29	Machinery & Equipment, <i>nec</i>
30	Office Machinery & Computers
31	Electrical Machinery & Apparatus <i>nec</i>
32	Radio, Television & Communication Equipment
33	Medical, Precision & Optical Instruments, Clocks
34	Motor Vehicles, Trailers & Semi-trailers
35	Other Transport Equipment
36	Furniture & Manufacturing <i>nec</i>
37	Recycling

An initial examination of the Mayo data in FAME was very disappointing and suggested that data for all potential FAME variables were seldom if ever actually available in the Irish element of the database. Fields were often left blank: for example, data on annual turnover and numbers employed.⁶⁸ In view of the limitations of the coverage, we opted to extract a small subset of all possible variables, and these are listed in Table 5.2 below. However, we were usually disappointed with the poor quality of the data.

⁶⁸ The problem of missing company data also affects the DBEI database of agency client companies, as discussed in the previous section. In the case of FAME and KOMPASS, the missing data problem is more serious for small companies.

1. Company Name
2. Turnover (GBP), last available year
3. Number of Employees, last available year
4. All UK SIC (2003) Codes
5. Incorporation Date
6. Trade Description
7. Web Site
8. R/O Address
9. R/O Post Town
10. R/O Full Postcode
11. R/O Phone Number
12. Ultimate Holding Name
13. Holding Country
14. Registered Number
15. Last Year

Table 5.2: List of company variables extracted from FAME for Mayo

5.2.1 Manufacturing enterprises in Mayo

Before presenting our analysis of these data, we need to stress that the Irish 'county' is not always a very logical unit of spatial analysis. For example, there may be a small county that has a low rate of urbanisation. If this is isolated from other, larger, more urbanised counties, it is likely to display certain characteristics associated with its peripherality. But if it adjoins such a county, its characteristics are likely to mirror or resemble many of those in the adjoining county, particularly if there are good communication links between them. Although counties do not always have distinctive economies, the unit of county is still useful when studying larger regions, since it permits us to focus in on separate parts of any of the super-regions that appear to have rather special structural economic characteristics.

A second issue concerns the fact that, using FAME, we can at best examine the number of individual manufacturing companies in any specific region and identify fairly precisely the type of product manufactured by that company. However, the firm could be big or small, in the sense of having a large annual turnover and/or a large number of employees. Unfortunately, the turnover and employment data are missing from most of the smaller firms in the FAME database. So we are constrained to use just the number of firms. It should also be realised that some companies could be classified under a

series of different SIC codes.⁶⁹ Consequently, our analysis needs to be interpreted with care.

5.2.2 The structure of Mayo manufacturing

Table 5.1 shows the total number of enterprises listed in FAME that are operating in Mayo, listed by SIC codes. Table 5.2 shows the distribution of enterprises within Mayo manufacturing, listed by SIC code, where we have added the seven enterprises in the energy sector. Unfortunately, employment and/or output data were almost never available for these enterprises in FAME.

In all, 77 manufacturing enterprises were listed in FAME. This is broadly in line with the DBEI database, which might suggest that most of the manufacturing enterprises in Mayo are client companies of one of the three main agencies: the IDA, Enterprise Ireland or Údaras na Gaeltachta.⁷⁰ In line with other counties, most enterprises are in the services sector (671 out of a total of 958).

Table 5.2 breaks down the 77 manufacturing enterprises into broad SIC sub-sectors. Only three sub-sectors have any significant numbers: food (12); fabricated metal products (10); machinery & equipment (11). The poor quality of the data in FAME, and the absence of any better sources that can be used without violating confidentiality restrictions in official databases, make it difficult to draw any detailed conclusions from Table 5.2. With such small numbers, it is unlikely that there are any clustering effects due to enterprises in the same, or closely related, sub-sectors interacting with each other and permitting specialisation.

Two further lists of enterprises located in Mayo are available from the IDA and from Enterprise Ireland. The IDA web site provides lists of all of their client companies by their county of location. Table 5.3 lists those located in Mayo. There are thirteen enterprises in total. Of these, three are in the sector of Bio-Pharmaceuticals; six are in the sector Medical Technology; One is in Financial Services; Two are in Consumer Goods; and one is in Engineering.

The only detailed information on Enterprise Ireland client companies relates to payments made to individual enterprises broken down by county. Attempts to find information on the nature of these companies in FAME and KOMPAS produced very little, and although these companies are included in

⁶⁹ For example, Bose (Ireland), located in Carrickmacross was listed under electronic audio equipment, its main business, and furniture, since it makes its own wooden cabinets in a sophisticated side activity.

⁷⁰ Data provided by Enterprise Ireland showed that in 2017, about 30 Mayo manufacturing enterprises were assisted by financial grants and support.

the DBEI anonymised database, it is not possible to identify them individually in that database to determine employment totals or any other information. The total Enterprise Ireland payments made to firms in the AEC for the years 2013 to 2017 are shown in Table 5.4.

Over the years 2013-2017, as pressure eased on the public finances, the total Enterprise Ireland payments to enterprises increased steadily. The AEC share averaged 18.3% over the five year period, somewhat lower than the AEC percentage of total Irish population (25%).

Table 5.1: FAME Database: Mayo enterprise sector by SIC (2007) group

SIC code	Description	No. of enterprises
01 to 03	Agriculture, forestry & fishing	35
05 to 09	Mining & quarrying	5
10 to 33	Manufacturing	77
35	Electricity & gas	7
36 to 39	Water, sewerage & waste management	6
41 to 43	Construction	157
45 to 47	Wholesale, retail & motor repairs	129
49 to 53	Transportation & storage	27
55 to 56	Accommodation & food services	38
58 to 63	Information & communication services	41
64 to 66	Finance & insurance	8
68	Real estate	89
69 to 75	Professional, scientific & technical activities	101
77 to 82	Administration and support services	82
84	Public administration and defence	4
85	Education	5
86 to 88	Health & social work	38
90 to 93	Arts, entertainment & recreation	35
94 to 96	Other service activities	74
	Total all SIC codes	958

Table 5.2: FAME database - Mayo manufacturing by SIC (2007) sub-group

SIC code	Description	No. of enterprises
10	Food products	12
11	Beverages	2
12	Tobacco	0
13	Textiles	3
14	Wearing apparel	1
15	Leather & related products	1
16	Wood & wood products except furniture	3
17	Paper & paper products	0
18	Printing & reproduction of recorded media	2
19	Coke & refined petroleum	0
20	Chemicals & chemical products	1
21	Basic pharmaceuticals	1
22	Rubber & plastic	1
23	Other non-metallic mineral products	7
24	Basic metals	0
25	Fabricated metal products except machinery & equipment	10
26	Computer, electronic & optical products	3
27	Electrical equipment	6
28	Machinery & equipment n.e.c.	11
29	Motor vehicles & trailers	1
30	Other transport equipment	0
31	Furniture	5
32	Other manufacturing	7
33	Repair & installation of equipment	0
35	Electricity & gas	7
	Total codes 10-33 plus 35	84

Table 5.3: IDA Client Companies located in Mayo

COMPANY	SECTOR(S)	PRODUCT	NATIONALITY	ADDRESS
Allergan Pharmaceuticals Ireland Phone:+353 98 25222 www.allergan.ie	Bio Pharmaceuticals	Ophthalmic Drugs	United States of America	Castlebar Road, Westport, County Mayo, Ireland, F28 AW83
Ballina Beverages Phone:+353 96 74200 www.coke.com	Bio Pharmaceuticals	Concentrate Manufacture	United States of America	Killala Road, Ballina, County Mayo, Ireland, F26 FA37
Baxter Healthcare SA Phone:+353 94 9022244 www.baxter.com	Medical Technology	Renal care products	United States of America	Moneen Road, Castlebar, County Mayo, Ireland, F23 XR63
Baxter Healthcare SA Phone:+353 949022244 www.baxter.com	Medical Technology	Medical accessories for use in renal therapy, ambulatory medical care and vein access.	United States of America	Breafty Road, Castlebar, County Mayo, Ireland, F23 XR63
Charles River Laboratories Preclinical Services Ireland Limited Phone:+353 9620800 www.criver.com	Bio Pharmaceuticals	Contract Laboratory Testing	United States of America	Carrentilla, Ballina, County Mayo, Ireland, F26 Y286
Decare Operations Ireland Limited Phone:+353 94 9372251 www.decare.com	Financial Services	Dental health claims processing	United States of America	IDA Business Park, Claremorris, County Mayo, Ireland, F12 KD85
Fort Wayne Metals Ireland Limited Phone:+353 94 9043500 www.fortwaynemetals.com	Medical Technology	Precision Wire for Medical Industry	United States of America	Castlebar Technology Park, Moneen Road, Castlebar, County Mayo, Ireland, F23 CK27

Hollister UIC Phone:+353 96 22066 www.hollister.com	Medical Technology	Ostomy Pouches	United States of America	Rehins, Ballina, County Mayo, Ireland, F26 F3X5
J&J Vision Phone:+353 98 51000 www.jnjvc.com	Medical Technology	Shared Financial Services Centre	United States of America	Lodge Rd, Westport, County Mayo, Ireland, F28 A9R9
Lionbridge Technologies Ireland Phone:+353 9673700	Consumer Goods	European Software Test Centre, Testing and Certification Services	United States of America	Emmet Street, Ballina, County Mayo, Ireland, F26 TC53
Multi Packaging Solutions (Mayo) Phone:+353 98 28500 www.multipkg.com	Consumer Goods	Leaflets, Labels and booklets	United States of America	Golf Course Road, Westport, County Mayo, Ireland,
Schuetz (Ireland) Limited Phone:+353 96 33044 www.schuetz.net	Engineering	Supplier of Intermediate Bulk Containers (IBC's) & PE Drums	Germany	Townamore, Killalla, County Mayo, Ireland, F26 XY18
Synergy Health Westport Phone:+353 98 50920 www.synergyhealthplc.com/us/contact-us/westport-ireland?region=1400&country=IE	Medical Technology	Gamma Sterilisation	United States of America	Carrowbeg Ind. Estate, Westport, County Mayo, Ireland, F28 AF54

Table 5.4: Total EI Payments to enterprises in the AEC (€)

	2013	2014	2015	2016	2017
Kerry	161,180	1,348,072	2,416,403	3,169,474	2,648,738
Limerick	740,343	2,493,494	2,285,073	3,329,039	3,329,861
Clare	261,667	1,109,268	2,196,883	1,759,802	3,648,578
Galway	1,180,322	3,274,122	3,259,000	4,392,982	4,657,983
Roscommon	226,379	124,585	415,076	840,906	1,519,142
Mayo	650,576	1,183,998	1,204,945	1,680,354	5,011,580
Sligo	426,550	522,644	661,924	1,006,288	974,839
Leitrim	403,401	624,291	643,172	325,884	140,569
Donegal	485,243	785,725	2,080,968	539,654	1,533,295
AEC Total	4,535,661	11,466,199	15,163,444	17,044,383	23,464,585
Irish Total	27,026,061	60,292,958	95,426,530	99,767,624	102,191,289
AEC as % of Irish Total	16.8	19.0	15.9	17.1	23.0

5.3: Enterprise case studies

With our limited resources and tight time schedule, the task of setting up a series of visits to selected firms in Mayo was daunting. Based on previous experience, we realised that postal surveys were likely to produce a very low response. We designed an advance notice to alert the firms that we wanted to delve fairly deeply into the nature of the business enterprise and its strategic setting. An example of this notice is shown below (Figure 5.1: Sample interview guide for firms).

Given the limited time and resources, we targeted indigenous firms rather than multinational branch plants. We fully understood that foreign branch plants play a vital role in directly generating jobs and indirectly sustaining activity in the Mayo. Indeed, for many small Irish towns the multinational enterprise is the largest, or sometimes the only, significant manufacturing employer. But such plants can resemble what Jane Jacobs referred to as ‘castles in the desert’, having very limited organic links with other businesses other than through their direct and indirect spillover impacts. However, when we visited locally owned firms it was usually very clear that success was always traceable to gifted individuals who founded and developed dynamic business ventures and leveraged local resources. In most cases the

official development agencies played a crucial supportive role. But in others the firms seemed to value their independence and did not wish to bend their plans to the necessarily rigid rules and regulations of the agencies. Some owners had had early experience working for Mayo firms, both foreign and indigenous. The diversity of experience was surprising.

Figure 5.1: Sample interview guide for firms

Electric Skyline - Issue Guide

[1] The historical background to Electric Skyline

Origins in 2007. Influences on founders from previous work experience. Coping with the recession after start-up.

[2] The evolution of Electric Skyline 2007-2018

Company evolution since 2007. The emergence of the Electric Skyline brand/activity range. The identification of different services (public lighting; sports; retail; commercial, school/vehicle activated signs; solar power; domestic; utility). Co-operation with other firms for supply of inputs. Local or external?

[4] After any obvious historical reasons, were there economic/business advantages to basing Electric Skyline HQ in Claremorris/Mayo compared to elsewhere

Local assistance (MCC/AEO). State agencies (EI). Finance. Attracting, training and keeping skilled design and installation staff.

[5] What aspects of the wide product range are researched, designed and sourced in Claremorris/Mayo?

Structure of Electric Skyline activities into R&D, Design, Manufacturing, Installation, Testing. How much of Electric Skyline products are produced in Claremorris? Elsewhere in Ireland? Abroad?

[6] How important are the technology/customisation/design/problem-solving aspects of Electric Skyline's operations?

Is Electric Skyline constantly evolving new products/services? Customised products. Small vs. large projects. Design flexibility.

[7] How does Electric Skyline access/penetrate external markets?

Market research? How important is the local market? The wider Irish market? Export markets? How does the promotion/exporting process operate? How do your customers find you?

[8] Does Electric Skyline interact with or cooperate with other local firms (professional services, sub-suppliers, etc.)

Is Electric Skyline a vertically integrated company or does it subcontract out elements of its activities to other local or national firms.

[9] How are the activities of Electric Skyline affected by the present state of infrastructure in Mayo? Is it disadvantaged by the "peripherality" of Mayo within Ireland and internationally?

(a) Broadband (b) Road/Rail (c) Air (d) Human capital and training (e.g. GMT/NUIG) (e) Other issues

[10] What does the future hold for Electric Skyline?

Future of local base in Claremorris. New product ranges? Growth and enlargement? Networking links with other companies?

[11] What does the future hold for innovative and competitive manufacturing and business services in Mayo and the AEC region?

Specialisation; business networks; Partnering opportunities. Encouraging entrepreneurship. The future of the AEC region in the context of the NDP?

5.3.1 Portwest⁷¹

Portwest has its origins in earlier enterprises that were set up during the period shortly before and after independence, when Irish enterprises were protect by high tariff barriers. The origins of Portwest began in 1904 when Charles Hughes commenced his business as a small retail shop in Westport, Co. Mayo. Pdraig Hughes, nephew of Charles Hughes, took over the running of the company from 1949 until his retirement in 1988. For 52 years he oversaw the development of the wholesale business and the development of *Westport Clothing Company*, now known as *Portwest*.

When Irish wage costs rose rapidly during the 1990s, Portwest restructured and ceased manufacturing activities in Ireland. Based on that strategic decision, Portwest has grown into a global business with overall management continuing at its base in Westport, production activities relocated to Asia, warehouse locations in Ireland, the UK, USA, Australia, New Zealand, UAE, Panama, and Poland, sales offices in Ireland, the UK, USA, Australia, UAE, and Poland and customer service staff in over 120 countries.

The transition made by Portwest is an interesting example of how a traditional indigenous manufacturing enterprise can be retained in Ireland even when the production element becomes unsustainable due to high wage costs. After Ireland joined the EEC in 1972, the cost structure in the clothing and textiles sector became too high to sustain local production. Many firms simply closed-down. However, Portwest switched production to lower cost locations and now manufactures its large range of advanced protective work clothing in China, Bangladesh and Myanmar. Their designs are highly innovative and the firm maintains a dedicated design team of about 25 people located in Westport and Manchester, a region of the UK that specialises in this area. With manufacturing facilities in lower cost Asian countries, global distribution from Irish and international locations, and customer support staff in over 120 countries, Portwest was able to deliver productivity and quality improvements and cost reductions at every stage of its production and distribution chain. In October, 2017, Harry Hughes, CEO of Portwest, was named EY Entrepreneur of the Year and the company won Irish Exporter of the year in 2018.

⁷¹ <https://www.portwest.com/about-portwest/>



The firm is managed from its Westport HQ and continuously improves its range by designing and using new materials as well as developing function in their products. Their extensive collection of workwear, safety footwear and personal protection equipment is used all over the world in industries such as oil and gas, welding, mining, agriculture, transport, chemical, construction, warehousing, manufacturing, etc. They are specialists in hazard protection including flame, electric arc, chemical, molten metal, heat, cold, visibility, rain and ESD.

5.3.2 Cosmetic Creations⁷²

Cosmetic Creations (MD Aiden Corcoran) is a contract formulator, contract manufacturer and product developer within the Cosmetic, Animal Welfare, Food supplement and Medical/Pharma sectors.

Its core business is in development and manufacture of skin and Hair care cosmetics, Colour and Body care cosmetics , Manufacturing in the IDA Business Park, Claremorris for nearly 40 years and have developed the expertise to manufacture a wide range personal care products in natural and organic formulations including organic seaweed and peat ranges. They also have the ability to adapt most natural resources for use in cosmetics, including minerals, plant extracts and natural or organic ingredients.



They also have experience in developing and formulating new products together with improvements and changes throughout their product ranges. Their customers are drawn from local and national operators and multinational companies, whom they assist in exporting to more than fourteen countries worldwide.

The site operates to ISO22716 GMP standard the international best practice standard. Adherence to good manufacturing practices and quality assurance specifications are essential in this sector for all stages of their operations,

⁷² <http://www.cosmeticsireland.com/>

from customer and supplier communications, vendor approval, in-process controls, through manufacture, filling and quality control, on to final inspection, microbiological testing and release of the finished product. The manufacturing process is managed and overseen by a team of chemists, production engineers and quality managers.

The R&D capabilities include formulation of cosmetics, toiletries, topical nutraceuticals (i.e., pharmaceutical-grade and standardized nutrients, regulated as dietary supplements and food additives by the FDA in the USA) and natural products based on new ingredients that meet customer's requirements for product innovation, performance attributes, and cost.

Cosmetic Creations is a sophisticated manufacturing operation that benefits from its easy access to Galway and to the Dublin-Galway and Galway-Limerick motorways to facilitate interactions with clients and the availability of high-speed broadband in Claremorris.

5.3.3 Electric Skyline⁷³

Electric Skyline was established in 2007 with its headquarters in Claremorris, Co Mayo, with one lighting contract. They have evolved into a successful organisation and one of the main lighting specialists in Ireland. Today they employ over 40 local highly qualified professionals.

Their customer base has grown steadily since 2007 making them one of the leading sporting, public, commercial and retail lighting specialists in Ireland. Their projects are all specific and customised to individual needs.



Their areas of expertise are in the public sector, commercial, medical, retail, industrial and infrastructure projects as well as educational and residential. They also engage in bespoke specialised projects. The firm is fully ISO certified.

Electric Skyline have eight main areas of specialisation. In the area of public lighting, they deliver high quality public lighting projects and provide solutions for amenity park walkways to motorways. In the area of sports lighting, they provide the highly specialised forms of lighting required in football and other stadiums, with a focus on economy and the multiple uses that are made of such venues. They design and install retail and commercial LED lighting systems, customised to make optimal use of large retail and office premises. They specialise in the design, supply, installation and

⁷³ <https://electricskyline.ie/>

maintenance of School Flashing Amber Lights (SFAL) and Vehicle Activated Signs (VAS). They can provide solar powered LED lighting, in particular solar powered LED street lighting for situations where the provision of a power supply may be an issue or where the cost of civil works may be excessive.

Electric Skyline is a good example of an enterprise that operates in the area of technical services. In other words, it does not manufacture its products. Rather it sources them elsewhere and provides a sophisticated analysis, design, installation and maintenance service. Since it trades all over Ireland, it is an example of what we referred to earlier as a "traded" enterprise, whose growth is not constrained by the small size of the local Mayo market for lighting solutions.

5.3.4 PEL Waste Reduction Equipment⁷⁴

PEL, based in Balla, Co. Mayo, designs and manufactures sophisticated refuse compacting systems for public and private use. It has broken into highly competitive export markets for these products in the EU and USA with its innovative and robust designs. PEL manufactures and supplies a range of waste glass bottle crushers, cardboard and plastic vertical balers, and refuse bin compactors which reduce waste volumes by up to 90 per cent. This, in turn, greatly reduces the costs of waste disposal.

PEL was established by its owner, Tommy Griffith, in 2005 after a conversation with a nightclub owner had led him to identify an opportunity for a waste glass bottle crusher capable of reducing the volume of the large quantities of glass bottles produced by the hospitality industry. In that sector glass bottle waste was creating serious storage problems for centre-city establishments, where space was expensive and had more important commercial uses. Mr Griffith had previously worked in McHale Engineering, Ballinrobe, who design, manufacture and export world wide a range of specialist farm machinery focusing on mechanical rakes, mowers, balers and handling equipment.



In 2008 PEL won the First Flight Export Award, sponsored by Enterprise Ireland, which recognises the achievements of companies that are successful in entering an export market for the first time. In 2009 Tommy Griffith was nominated for the Ernst & Young Entrepreneur of the Year 2009 in the "emerging business" category. As production expanded and exports to the UK increased, PEL UK Rentals was established in 2011 with a manager of UK Sales.

⁷⁴ <https://www.pelmfg.com/>

Further innovation in 2014 produced the world's only small scale, under-the-counter glass bottle crusher, 'Baby Jaws'. In 2016 PEL launched a Solar Bin Compactor range, which was recognised as the Best Environmental Sustainability Initiative at the Gulfood 2016 show in Dubai UAE. The solar powered IoT SolarStreetBin™ followed in 2017. Their latest product development is a Solar powered IoT 'Smart' Litter Bin which saves councils, local authorities, private companies etc. on the total cost of their litter bin collection service.

PEL provides an example of a modern and sophisticated mechanical engineering enterprise that built on links with agriculture, benefited from the existence of similar enterprises in the county, had access to sub-suppliers in the metal fabrication and electronic areas, and was located in a region of South Mayo with easy access to transport links to the rest of the island.

5.3.5 Big Red Barn⁷⁵

Big Red Barn, based in Swinford, Co. Mayo, is an example of a company in the building and construction sector that has managed to break out of the constrained local low population density market for construction products by designing and producing innovative products with characteristics that permit it to trade all over Ireland, in the UK and where it is currently negotiating a partnership with a US enterprise.

The Big Red Barn enterprise, founded by Dónal Byrne in 2014, was inspired by serious disruptions and problems caused by bad weather and strong winds that he encountered with a large number of canvas marquee structures when he managed the common domain area in the Olympic Park during the 2012 Olympic Games that were held in London. On his return to Ireland after the Games, he designed and built the Big Red Barn, a rigid and easily erected modular building that would replace a marquee and be considerably more robust during bad weather. After a test period in 2013, the company was formed in March 2014.



Big Red Barn Ltd now designs and manufactures a wide range of modular structures from temporary storage units to smoking shelters and office units. It also specializes in event structures that come complete with bar, stage, flooring, furniture, and lighting and other accessories required for any event. It can even provide a bar licence if required, represent their client in court to seek bar or occasional dance licence and organize the full running of the actual event including promotional work, securing of entertainment and security services.

The iconic Big Red Barn is 18.2m x 19.4m in size and can be made bigger or smaller by 4.8m bays. The Barn is fully compliant with all fire regulations; emergency lighting, fire extinguishers and all timbers are treated with fire

⁷⁵ <https://bigredbarn.ie/>

retardant paint. The complete structure can be delivered to any designated venue site on a flat-bed trailer and can be erected by a team of professionals in one day. The barn can accommodate up to 2,000 people depending on the type of event. They have recently designed and built Europe's first two-story, modular event structure to withstand all weather conditions. At the other end of the scale, their "Little White Chapel" unit caters for non-church weddings and smaller events.

Drawing on its innovative modular design and construction skills, Big Red Barn has expanded into the design and construction of modular homes, built around a robust steel frame and easily customisable to suit different accommodation requirements. Big Red Barn is an example of an enterprise that has broken out of the constraint facing many construction enterprises: namely, its predominantly "non-traded" character that restricts it to local markets.

5.3.6 Foxford Woollen Mills⁷⁶

Foxford Woollen Mills was set up originally in 1892 by the Irish Sisters of Charity, with the assistance of financial support, in the form of a loan, from the Congested Districts Board. The Mill thrived, but was burned down in a fire in the year 1908. However, it was reconstructed and grew to employ about 220 local craftspeople, playing a big role in providing much needed employment at a time of high emigration from the area.



As with many other enterprises engaged in the Irish clothing and textiles sector, activity in the Foxford Woollen Mills was seriously impacted when trade barriers were removed during the 1960s and by the rise in competition from clothing producers in low wage economies in Asia and elsewhere. The business declined and it was taken into receivership in 1987. However, a local initiative was mounted to keep the business trading, the Mill was saved from closure, and its fortunes revived under new management and a new business strategic plan.

While retaining the traditional speciality of woven rugs and "throws", with the help of a new design team and the Irish designer Helen McAlinden, the Foxford range of products sold in its shops was greatly extended to embrace contemporary home ware alongside the traditional classic weaves.

⁷⁶ <https://www.foxfordwoollenmills.com/>

Today, Foxford Woollen Mills continues weaving and finishing but the brand has evolved over the last ten years into a modern home wares offering to include bed linen, filled product, throws, blankets and cushions.

The business model of Foxford Woollen Mills is another example (together with Portwest) of how a long established Irish firm can evolve in a way that addresses modern global competitive challenges. In the case of the Mill, it retains its traditional high quality weaving activity, but augments it by providing outlets for a wide range of other quality Irish goods in its HQ, its shops and by international mail-order.

5.3.7 WESTIRE Technology⁷⁷

WESTIRE Technology Limited, originally known as SELC IRELAND LIMITED, was established in 1982 by Seán Noone, an electronic engineer and successful inventor, who was inspired to develop the light sensor device now used on street lights around the world after visiting an electricity supply board and seeing the high rate of inefficient, failing street lights around the country. The company's founders have served the street lighting industry since 1982, bringing 35 years of experience in the design and manufacture of photocells and other outdoor lighting control technology. They have an installed base on over 4 million streetlights across Europe, North and South America, and South Africa. WESTIRE has unrivalled experience in street lighting control products, and unparalleled knowledge of the street lighting industry. WESTIRE's headquarters and home to its factory and R&D facilities is located near Belmullet, County Mayo in the North West of Ireland. It currently employs 39 people across its areas of design, production, testing and administration.

Soon after setting up the company, it developed the first ever Silicon Eye ambient light sensor, which has now become the industry standard globally as it is for the first time in outdoor lighting history that street lights are switched "on" and "off" accurately, saving energy and reducing maintenance by over 70%.



WESTIRE are committed to R&D and have built a creative and diverse global team to continue sell and market its products. Under Seán Noone's leadership, they continue to provide customers with innovative energy efficient green technologies and world class street and area lighting controls. They pioneered the change to silicon eye response ambient light detection in photocells and pay more attention than any other photocell designer to the sky's blue and red zones to ensure negligible sensitivity to infra-red and ultra-

⁷⁷ For further information, see <http://WESTIRE.com/about/>

violet radiation.

WESTIRE brought a new meaning to outdoor lighting controls by developing industry changing technologies such as the Silicon Eye Response Ambient Light Detectors, their patented Relay Assisted Triac (RAT) Switching, Smart HID Ballasts, Dimmable Electronic Ballasts, Astro Time Clocks and Long Life Photocontrols. WESTIRE set new standards in the field of quality street and area lighting controls. Their attention to long-term photocell accuracy and ambient light sensor selection guarantees peace of mind to their customers. Rigorous testing by a burn-in of each photocell for an intensive 48hour period simulates years of use and eliminates infant photocell mortality after manufacturing and before their products are shipped.

WESTIRE has invented a next generation, smart photocell. The smart photocell, which WESTIRE has branded the Closed Camera Photocell (CCPC), is an IoT device that is easy to deploy, providing the optimal path to roll out Smart City technology on streetlights everywhere.

5.3.8 Fibrepulse⁷⁸

Fibrepulse was a spin-off from earlier enterprise - Volex - that focused on copper wire connections. It produces advanced fibre optic connections to very high and demanding technical standards (for the aerospace and other sectors). It has a quick design facility and fast turnaround on orders.



Fibrepulse is a Castlebar-based company that designs and builds high-performance fibre optic interconnections for the global market. They have a wide range of customers ranging from the European Space Agency to individual telecom installers, which they with high-quality fibre optic patchcords, to whatever customised configuration they need, and to the very short lead times that is required.

The business grew out of a large enterprise previously based in Castlebar - Volex - that specialised in manufacturing moulded computer cables. The customers of Volex were the large multinational computer and telecom firms (Nortel, Erikson, Hewlet-Packhard, Dell, etc.). On the other hand, Fibreplus, founded in 1998, specialised in the newer technology of fibre-optical cables which were gradually replacing the earlier copper wire cables.

Employment grew to a peak of about 25. Its strengths included an experienced management team originating from the Volex operation, which closed in the period after the recession of 2008-2009. Fibrepulse were able to provide bespoke engineering solutions, the high quality demanded of the customer base, and technical support. However, over time the ability of the

⁷⁸ <http://www.fibrepulse.com/>

firm to compete with suppliers producing in the Far East, and the increasing competitiveness that was not always quality-related, has eroded the firm's ability to trade profitably based on its quick turnaround ability.

The main product has now become a smaller niche market. One of the owners is currently engaged in R&D for an alternative high technology venture.

5.3.9 The Gourmet Greenway⁷⁹

The Mayo Gourmet Greenway is administered by Mulranny Park Hotel. It is a grouping of about twenty high quality artisan food producers and outlets, unified by identification with a very successful tourist facility, the Greenway cycle route linking the towns and villages that circle Clew Bay: Westport, Newport, Mulranny and Achill Sound. Individually the constituent enterprises range from small to tiny, but one – Kelly's Butchers in Newport – already employs about 25 people. The linkages within the Gourmet Greenway system relate to engaging retail outlets, restaurants and hotels in the area to highlight the range of products, which include the following: high quality meat products, smoked salmon, organically sea-farmed salmon, honey, pure sea salt, chocolates, homemade jams, chutneys, relish and sauces, Clew Bay native oysters, mussels and clams, and organic apples and apple juices. The outlets include the Mulranny Park Hotel (which features the products of the Gourmet Greenway in special events at the hotel and through organising tourist visits to the producers), together with a range of high quality cafes and restaurants in the Clew Bay area and its environs.



The Gourmet Greenway provides an ideal way of highlighting the producers in the system and linking them to consumers through the Mulranny Park Hotel and through the range of quality retail outlets. This is important for the producers, since it gives them a visibility greater than they could achieve in isolation, and for the region as it seeks to strengthen and deepen its high quality tourist base. Public sector support for the Gourmet Greenway is associated with tourism (Bórd Fáilte), regional development (Leader) and the Local Enterprise Office. With very limited resources and enthusiastic administration and promotion by Mulranny Park Hotel, this is a model that

⁷⁹ <https://www.mulrannyparkhotel.ie/gourmet-greenway.html>

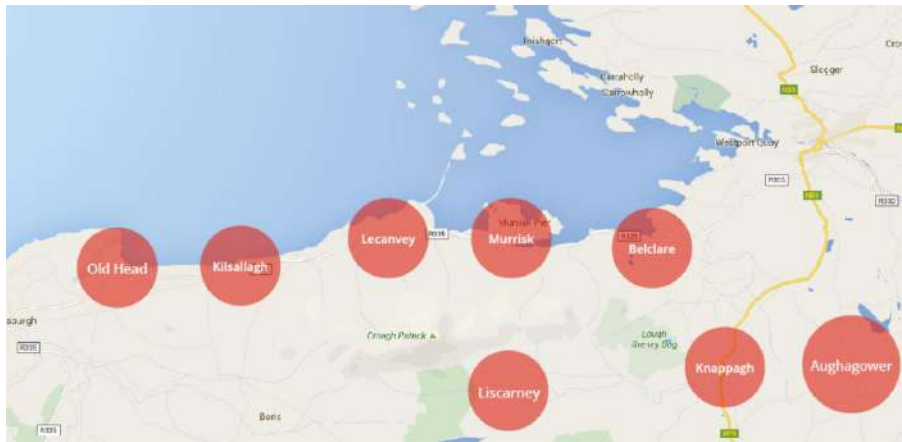
has generated success and would serve as an exemplar in other craft sectors consisting of small-scale enterprises at start-up and at later stages of their evolution.



The Gourmet Greenway was listed as a finalist in the Irish Tourism Industry Awards 2019 for Best Wild Atlantic Way Experience, which was a great recognition of the initiative's success.

5.3.10 Rural Broadband: Croagh Patrick Community Network Society⁸⁰

The area covered by the CPCNS broadband network lies along the south shore of Clew Bay. At its east end lies the town of Westport (population 6,198), where fast broadband coverage has been available for some time. At its west end (beyond the current coverage of the CPCNS) lies the village of Louisburgh (population 434), where the availability of a reliable and low cost broadband service continues to be problematic.



Prior to the network setup in 2004, only slow dial-up access to broadband was available along the south shore of Clew Bay, from Westport to Louisburgh. The network started development in 2004 and obtained a grant of 50% from the Dept. of Communications, Marine and Natural Resources. The network went live in 2006 having connected its projected 40 members and by the end of that year had over 70 members. Since the initial project team had the necessary expertise, the equipment installation and functioning of the network were very successful.

CPCNS for many years offered a speed of connection faster than commercial providers. Originally the only alternative was dial-up over a copper wire connection. WestNet began to expand its commercial WiFi network and this constrained the expansion of the network. It was always assumed that at some time CPCNS would become redundant when commercially provided

⁸⁰ Since the issue of rural broadband is of vital importance to a county like Mayo that has a low population density, small towns and dispersed habitations, we include a more detailed account of the CPCNS operation in Annex 2.

broadband of an adequate speed and reasonable cost would become available in this region.

However, in the last census, over 400 homes in the area from Westport to Leenane and west to the sea, stated they had no, or very poor, broadband. The reason they are not currently connected is that it is too expensive for a community network like CPCNS to connect to the closest fibre and to construct a wireless network that will reach them. The commercial networks, who have the resources to establish such links, do not see a viable financial return in such a network. The price they would have to charge for it to be commercially viable is more than the homes could afford.

5.4: Preliminary conclusions from enterprise case studies

Given the relatively small size of the enterprise sector in Mayo, it was not surprising that there do not appear to be any significant or strong clusters of inter-related manufacturing activity in the county. What was surprising was that there were a series of highly innovative firms that had set up and operated in relative isolation from any supportive cluster of other enterprises. Enterprises are distributed over the whole county, but a greater tendency to locate in the centre and south of the county rather than in the north was apparent. Inter-firm links tended to be in terms of purchased inputs rather than collaborative activities in sub-supply. For example, PEL in Balla sourced metal cabinets and certain electronic equipment from suppliers in the general region.

Enterprise interviews suggest a high level of acquired skills and entrepreneurship in Mayo, driven by skills/expertise gained in foreign and indigenous firms in the West region and elsewhere. The "learning by doing" role played by multinationals and other large indigenous firms was very apparent.

Poor (but improving) road/rail/air/broadband infrastructure was noted by many interviewed firms. But these were not make-or-break issues and work-around solutions were used. However, infrastructural deficits may obviously have been a major barrier to other manufacturing plant location decisions which opted for better served regions and were not available to be interviewed.

Micro start-ups are obviously important in a county like Mayo, with its low population density and very dispersed and relatively small towns. On an individual basis, advice and assistance was available from Enterprise Ireland (for larger firms) and from the LEO (for smaller firms). But in the case of enterprises in the artisan food producer area, additional assistance was needed in the form of a supportive network that gave the producers a visibility greater than would be possible with their own efforts and linked the producers at an early stage in production to appropriate outlets using a branding association. The Gourmet Greenway was a good example of such a supportive network that appeared to be entirely complementary to the actions of the LEO and provided marketing and cluster strengthening.

We decided to set up visits to a range of individual enterprises for many reasons, but one of them was a sense of frustration with the lack of readily available detailed knowledge of the nature of the business sector at the county level. Official statistics tended to be bland and uninformative, when they even existed. And not much existed. Ultimately, knowledge lies with

the people who run the businesses. The small number of interviews that we were able to carry out were extraordinarily interesting, informative and thought provoking, and the senior managers who met us gave generously of their time and their expertise in a very friendly and open way. Not only did we learn much about a range of individual firms, but we also came to interpret the role of public policy in a new and illuminating way.

For example, the insights arising from our discussions with Harry Hughes of Portwest related mainly to the question of how a firm in a very traditional manufacturing sector (clothing) can transform itself and survive in a sector that was severely constrained by competition from low cost producers in Asia and elsewhere. There is a tendency to regard this sector as a lost cause and to want to move on to high-tech sectors that appeared to offer more promise. The phenomenal success of Portwest showed us how short-sighted and flawed this view was.

Our discussions with Tommy Griffith, CEO in PEL, Balla, gave valuable insights into how a sophisticated, modern firm engaged in the production of a range of complex machinery and equipment products could evolve in a rural area and thrive in highly competitive international export market. It also illustrated how a firm can start by manufacturing simple products destined for local markets, but can grow to become a large and sophisticated exporter.

However, there were much deeper insights to be obtained, drawing on the industrial strategy frameworks outlined in Annex 1. We will return to these in our concluding chapter.

The key lesson that emerged from our interviews with a small sample of firms operating in Mayo sent us back to the role that entrepreneurial firms play in discovering, identifying and understanding a region's legacy skills and capabilities which in turn can form the basis for unlocking a region's dynamic growth potential. It is the firms that do the innovating, not governments. But local governments have the potential to be creative in discovering and crafting policy instruments in the form of extra-firm, enabling "infrastructures" that target the productive structures that foster the upgrading and diffusion of best practices. Productive structures may be in the form of world class principles of production and organization, but they may also be other barriers that must be addressed first or as well. Examples might include access to patient finance or engineering expertise that constrain otherwise well-run firms from investing in new product development.

It is for these reasons that local economic policymaking in Mayo as well as in the wider Atlantic Economic Corridor is operating blindfolded if it does not carry out what one might term "due diligence" with respect to the SMEs that are innovating despite the lack of enabling institutions that can be drawn upon in large cities like Dublin and Cork, let alone the enabling institutions available to SMEs in Germany where local governments operate with keen eyesight that is guided by much better sources of data and information than are available to the Irish regional strategists.

Such "extra-firm infrastructures" in Ireland, to the extent that they exist, are mainly centralized in Dublin and do not always easily reach out into small local or regional economies. They are therefore fairly irrelevant to the capability development processes of SMEs operating in local and regional economies. Local authorities are seldom in the position to act in ways that could transform the regional economy. But it is important to ensure that if such opportunities do arise, for whatever reasons, that local authorities can anticipate and move on the opportunities when they are identified. This will mean working in partnership with enterprises in the region to act quickly to devise strategies to take advantage of openings and opportunities. Without a regional SWOT type of audit already in place, the likelihood of successful regional policymaking will be limited. We turn to this topic in the next section.

"Facts are stubborn things; and whatever may be our wishes, our inclinations, or the dictates of our passions, they cannot alter the state of facts and evidence"

John Adams, 2nd President of the USA

[6] The Mayo economy - a SWOT summary

6.1 Introduction

In an ideal world, regional planners would have access to the kind of data that facilitated the building up of a comprehensive picture of the properties and performance of the appropriate regions of their national economy. One would expect them to have detailed and comprehensive data on the national economy; similar, but perhaps less detailed data on the NUTS 2 super-regions; basic, but adequate data at the sub-regional NUTS 3 level; and very specific information at the county level and of the towns located in each county. Armed with such data, the state and regional planning agencies together with the enterprise sector and civil society would be guided by a clear picture of where policy changes were needed to assist any lagging regions and would have the ability to monitor and evaluate the impacts of past and current policy initiatives.

Unfortunately, the situation in Ireland is very far from this ideal. Regional strategy formulation in Ireland appears to take place in a fog of indifference to the appropriate designation of regional spaces and general lack of accurate knowledge of what is actually going on inside the super-regions and their smaller sub-regions and counties. In our earlier discussion about "functional" regions we highlighted the fact that the currently designated super-regions do not constitute distinct economies in any useful strategic sense. They are merely geographical labels. In addition, as we discussed in Sections 3 to 5 above, regional data are scarce and patchy, even at the level of super NUTS 2 regions where policy needs to be designed, operationalised and coordinated with national policy. At the more disaggregated NUTS 3 sub-regional level, the data situation is worse. For example, the CSO ceased to publish the comprehensive results of the Annual Census of Industrial Production (CIP) at the county level in 2009.⁸¹ In addition, some NUTS 3 regional data need to be interpreted with caution since, due to the relatively

⁸¹ As this report was being completed, the CSO issued revised CIP data down to the county level for the years 2008-2015. The cessation of the publication of county-level CIP data after 2009 was caused by funding cut-backs and lack of resources in the CSO.

small number of manufacturing plants in some counties, individual firms can substantially distort the overall figures for an individual county.

However, one must work with the limited data that are available and attempt to pull together, as best one can, the insights that these data give on the economic issues facing a county economy like Mayo. This is what we started to do in Sections 3 to 5. In addition to data from the CSO, we have drawn on a database of the activities of the main development agencies, the IDA, Enterprise Ireland and Údaras na Gaeltachta which is maintained by the Department of Business, Enterprise and Innovation (DBEI). Aggregate employment data from the Local Enterprise Office (LEO) in Mayo were also available to us. Finally, the FAME and KOMPASS commercial databases of enterprises were used, but proved to be patchy and unreliable. The data situation at the county level is disturbingly unsatisfactory, but it is all that we currently have.

In this section we try to bring together an overview of the state of the Mayo economy in the form of a SWOT analysis. As mentioned in our introduction in Section 1, the core assumption here is that the internal positive and negative attributes of the economy of Mayo can be distinguished from factors that characterise its external environment. The *internal* analysis serves to pinpoint important strengths and weaknesses of the county economy and wider county-level society. The *external* analysis serves to identify strategic opportunities and threats that the county economy has to deal with. Implicit in the SWOT framework is that the policy makers at the county or super-regional level have at least some ability to influence the internal performance of the county economy, but have extremely limited power over the nature and behaviour of its external environment, which is largely set by the national planners in the context of the global economy.⁸²

There is an understandable temptation to overload any SWOT analysis with too many disparate and often unconnected issues. To simplify the analysis and to try to identify a small range of really important economic and business issues that are at the core of regional strategy formulation at a county level, our initial focus is on a narrow range of issues that can always be unpacked into greater detail at a later stage of regional policy design and implementation. These are the kind of issues that the county administrations should focus on when engaging with their super-region Assembly.

In addition, we acknowledge that social and environmental issues of the kind involved in rural regeneration are also important in regional strategy. But

⁸² There are governance institutions at the county level and at the NUTS 2 super-regional level. However, the more useful and homogeneous NUTS 3 level is only used to gather and present data and has no governance structures.

these issues are not our main concern in our initial economic and enterprise analysis since we wish to focus on and clarify the range of mainly economic and enterprise issues. A healthy county economy and a vibrant modern enterprise sector can act as a support for rural regeneration by providing good jobs and increased revenue to fund enhanced social and environmental advances of a sustainable kind.

6.2 Internal strengths

The strengths are summarised in Table 6.1. First, the fact that there is a significant base of modern foreign multinational enterprises operating in the county is a sign that the business environment can attract and retain modern and sophisticated industrial operations. In our interviews with indigenous enterprises, we found cases where the owners had worked for these firms and where they often acted as incubators of skills and expertise. Second, the existing indigenous manufacturing base in Mayo was found to be fairly robust and sectorally diversified. Its sectoral coverage ranged over low, medium and high technology as well as over small, medium and large firms in terms of employment. This diversity could be accommodated in terms of the required skilled labour force and the supply of professional and technical inputs.

Third, although the question of inadequate infrastructure was raised in our interviews with firms, it did not appear to be an existential, make-or-break issue for existing firms in the county. Firms located in the southern part of Mayo benefitted from easier access to the Dublin-Galway motorway. However, firms located in the northern part of Mayo did not have these benefits. Fourth, since most enterprises were located in or near towns, there was access to broadband. In the case of the major towns (Castlebar, Ballina, Westport, Claremorris, etc.), high speed broadband was available. Fifth, although our focus is primarily on the role of the enterprise sector in regional development, it was clear that the possibilities of a higher quality of life in regions of Mayo, with improved social amenities did act as an "attractor" and is likely to continue into the future.⁸³

⁸³ See *Galway-Mayo Relocation Survey 2018*, Collins McNicholas Recruitment and HR Service Group, prepared jointly by Mayo and Galway County Councils.

Table 6.1: SWOT analysis - Strengths

	Strengths
1	Significant base of foreign multinationals
2	Robust, modern indigenous manufacturing sector
3	Adequate physical infrastructure, but needs upgrading
4	Fast broadband in most big towns but not in hinterlands
5	Rapidly improving social living environment

6.3 Internal weaknesses

The weaknesses are summarised in Table 6.2. The first and most important is the low population density in Mayo (second lowest in Ireland). This is exacerbated by the second factor, namely the dispersed pattern of small towns with poor linking infrastructure joining them to each other as well as to the more developed business and population centres in the eastern and southern regions. Clearly, the poor quality of physical infrastructure is related to the dispersed pattern of urbanisation and the low population density. All of these weaknesses have deep historical roots and Irish governments after independence in 1922 appear to have had limited success in remedying them. But given the right regional development strategy, there are no reasons why this division need endure into the future.

The third weakness is a pronounced north-south divide in the county. The towns to the north have had much slower rates of population growth than the towns in the centre and south. Both the centre and the south of the county have much better road and rail links to Galway, Limerick and Dublin. The towns to the north have poorer quality links and lack a large "attractor" city like Galway. Ideally, Sligo should play this role but it is too small and its population appears to be growing rather slowly. Letterkenny/Derry and Athlone, the other two population centres identified in the N&WRA *RSES* are too far away.

The fourth weakness is the lack of a strong 3rd level education presence in the county. The GMIT campus located in Castlebar could fill that role, but is currently too small and appears to lack any strong focus on the enterprise needs of the Mayo economy. The fifth weakness relates to the mechanisms through which small, start-up firms initially serve the local market and then grow and progress to external and export sales. The size of the local Mayo market, even when parts of adjoining counties are included, is simply too small to act as a Porter-like incubator of entrepreneurial firms.⁸⁴ There are,

⁸⁴ See Annex for a description of the Porter "diamond of competitive advantage.

of course, exceptions that prove the rule, but they are few. In many more cases it is the multinational firms located in Mayo and adjoining regions that play the incubator role.

Finally, the sixth weakness relates to the slightly larger than average dependence on social income transfers to boost personal disposable income in Mayo. Further investigation may shed light on the causes of this dependence. For example, the relatively isolated northern part of the county may lack the employment opportunities available in the better connected and more dynamic middle and southern parts.

Table 6.2: SWOT analysis - Weaknesses

	Weaknesses
1	Second lowest population density of Irish counties
2	Small, dispersed towns with poor linking infrastructure
3	Serious north-south divide in development pattern
4	Weaknesses in Third Level institution in GMIT-Castlebar
5	Difficulty in making transition from non-traded to traded manufacturing/service activities
6	High dependence on social transfers to sustain income

6.4 External opportunities

The opportunities are summarised in Table 6.3. We refer to these as "opportunities", although they could also be called "as yet unrealised strengths". The first addresses what is probably the main constraint to faster development of the Mayo economy, namely the low population density. Democratic governments cannot oblige their citizens to move from densely populated and congested regions to low density and empty regions. Perhaps the decentralisation of elements of the civil service from Dublin to the regions was the only opportunity to achieve such a transfer of population, but even this met with fierce objections at the time it was instigated. With hindsight, it can now be seen as an enlightened initiative that has brought a greater degree of prosperity to many rural towns that had suffered badly from population loss though under development and out-migration. Future opportunities to attract people to settle in counties like Mayo will undoubtedly arise from the higher quality of life on offer in the context of attractive job opportunities.⁸⁵ If recent media reports are to be believed, this attraction process is already under way.

⁸⁵ See *Galway-Mayo Relocation Survey 2018*, *op. cit.*

The second opportunity relates to the possibility of improving the inter and intra county road network and examining the feasibility of restoring the Western Rail Corridor from Limerick to Sligo, and even further north.⁸⁶ Before it was run down and effectively mothballed from the mid-1970s, this rail system linked the small cities and towns along the western seaboard, and interfaced with the radial rail system emanating from Dublin (with links to Limerick, Galway, Westport, Ballina and Sligo), which survived the closures. Today, with the exception of the restored rail link between Ennis, Limerick, Athenry and Galway, we are left with only the radial system. To get from Westport to Galway by train, one has first to travel to Athlone. To get from Westport to Maynooth by train, one has to travel to Dublin and then take the Sligo-bound train back to Maynooth. Objections to the restoration of the Western Rail Corridor tend to boil down to the claim that rail only works for linking densely populated regions. But less densely populated regions will remain weak and sparsely populated if they have only limited transport links to adjoining regions. Even the present links in the transport system are poorly organised. For example, the bus terminus in Westport is in the town, a distance from the railway station, and buses are not co-ordinated with the train times. Imagination is called for to grasp the opportunity to link the smaller Mayo towns by an efficient and effective public transport system, thereby permitting them to take on many of the attributes of larger towns, which the county lacks.

The third opportunity relates to the presence of Ireland West Airport Knock (IWAK) in the centre of the West region. Many of the enterprises we interviewed stressed how important it was to have easily accessible air links to the UK and mainland Europe. In addition, as the enterprise sector expands and develops in Mayo, air freight could give added inducements to locate modern plants near the airport, in much the same way that the SFADCO initiative of the 1960s was a major boost to the development of the Limerick region near Shannon Airport. The role of IWAK in boosting tourism in the Wild Atlantic Way is obvious and would be greatly enhanced if there was a rail link from the airport to a restored Western Rail Corridor.

The fourth opportunity relates to the possibility of expanding GMIT-Castlebar by developing an in-depth focus on the education and skill needs of a resurgence of manufacturing and exportable services in the county. An example of such focus is the GMIT campus located in Letterfrack in Galway which specialises in high quality furniture design and wood technology and has a European-wide high reputation. It is unfortunate that this has not yet

⁸⁶ See Annex 5 for details of current and projected road improvements and Annex 6 for information on the Western Rail Corridor.

served to generate a related modern, high technology furniture design and manufacturing sector in Galway/Mayo.

The fifth opportunity relates to the possibility of exploiting county-specific sectors of a sustainable kind in the areas of energy, marine resources and eco-tourism. This is an opportunity that tends to form part of every SWOT constructed for almost every region in Ireland and elsewhere. But what is needed to make it a real opportunity for Mayo and the wider N&W super-region is an immediate commitment to in-depth analysis and research into how these activities can be identified and operationalised in the county.⁸⁷

Table 6.3: SWOT analysis - Opportunities

	Opportunities
1	Ability to attract inward migration to drive non-traded activity
2	Better roads and the availability of the Western Rail Corridor to link north and south of county
3	Availability of Ireland West Airport Knock as future enterprise hub
4	Option to scale up and re-focus GMIT-Castlebar
5	Opportunity to exploit county-specific sectors (energy, marine, eco-tourism)

6.5 External threats

Finally, the threats are summarised in Table 6.4. Threats have a kind of dual existence. Looked at one way, they are a problem. Looked at another way, they could be turned into a challenge and a call to arms. The first threat relates to the fact that we have highlighted the possible weakness of *Project Ireland 2040* and *NDP 2018-2027* as galvanising forces for faster and more equitable development in a county like Mayo. This unfortunately implies that we take a negative view of their likely ability to alter radically the developmental imbalance that afflicts Ireland. The reasons behind our pessimism were set out in Section 2.5. These included the failure to subject previous strategies to any form of evaluation; the poor quality of the available regional economic and business data; the very limited research backing to the strategy (probably due in part to the poor data availability); the selection of three super-regions to design regional strategies for approval at the centre, but with no justification or logic for the choices made; the weak references to the AEC, which actually does have very clear regional

⁸⁷ An example of a region that has committed to such in-depth analysis and research is the Scottish Highlands and Islands region. See <http://www.hie.co.uk/> for a wide range of enterprise-focused research.

underpinning; and the lack of any in-depth treatment of the characteristics of the regional enterprise sectors.

The second, and closely related threat relates to the likely weaknesses in the national strategic planning as reflected in the Regional Assemblies and regional administration that will oversee regional aspects of the national strategy. It is possible that some of the deficiencies in the top-down national strategy can be overcome at the level of the super-regions, and in the concluding section we will examine this issue. For the present, we list as a possible threat the weakness of the regional administration as it tackles a serious challenge to make a step change in a regional strategy that will affect the constituent counties in many different and contrasting ways.

As a third threat, we point to the third level education institutions (Universities and Institutes of Technology) and the fact that they although have the resources and potential to play a vital role in regional development, they do not appear to be structured and co-ordinated to do so. The N&W super-region contains four Institutes of Technology - Letterkenny, Sligo, Galway/Mayo and Athlone - and one university - NUIG. During the 1980s and 1990s the third level sector was dramatically expanded, using EU Structural Funds as support. This expansion was essential in providing a labour force with scientific, technical and other skills to the burgeoning foreign enterprise sector. A similar kind of radical policy initiative is now needed to boost regional strategy, but the required focus remains weak and fragmented, lacking in any sense of urgency.

The fourth threat concerns a specific element of infrastructure, namely broadband. This is rapidly becoming an essential (indeed, an existential) element of business infrastructure. The fact that the proposed government Rural Broadband scheme has run into many delays and difficulties is a serious threat. The nature of this threat is that the government scheme will be further delayed and, even if eventually delivered, could well prove to be too inflexible and too expensive for small business users in a county with a low population density and a very dispersed settlement pattern. Our case study of the CPCNS broadband community network illustrates how lower cost, more flexible solutions to rural broadband can succeed and need to be investigated.

Finally, the fifth threat relates to BREXIT and is likely to affect mainly indigenous firms whose export markets are dominated by Britain and Northern Ireland. The potential for the disruption of these markets will affect indigenous firms more than foreign multinationals, so the enterprise sector in a county like Mayo may be seriously impacted.

Table 6.4: SWOT analysis - Threats

	Threats
1	Policies in NDP & Project Ireland 2040 may be too weak to reverse agglomeration processes in the "five" cities
2	N&W Regional Assembly may be too weak to build a strong regional economic consensus
3	Third level N&W educational institutions not sufficiently focused on regional development
4	Top-down broadband strategy may be too blunt for specific needs of county like Mayo
5	Negative impacts of a messy BREXIT

6.6 Summary and conclusions on SWOT

Our analysis at this stage is pessimistic in that the Mayo economy is seen to face more threats, and to suffer more internal structural and organisational weaknesses than it enjoys by way of opportunities and internal strengths. In many Irish regions in the past, spatial strategy has been subjected to the normal political push and pull that abounds in a political system characterised curiously by both a top-down bias and a disturbingly high degree of localism and clientelism. A politically neutral separate space needs to be created where detailed spatial analysis can be carried out in an impartial and detailed way and attempts be made to reconcile the top-down national development strategies with the bottom-up desire of regional authorities and local communities to have a greater say in determining their own destiny.

It is essential to examine enterprise structure and behaviour in a way that is relevant to the specific features of the Mayo economy and the wider West region and the N&W encompassing super-region. Given the known characteristics of the county – small towns, mainly rural, with a very low population density - this requires special attention to the small and micro-firm levels, where self-employment and small firm activity in the production of goods and services tend to be more dominant than in more centrally located regions with their large, urban-based population agglomerations.⁸⁸ Of particular interest is the extent to which such activities can sometimes draw inspiration and support from the special characteristics and

⁸⁸ For example, a recent IBEC study showed that the role of county-level Local Enterprise Offices (LEO) in supporting the emergence of small enterprises was much more important in low population density and peripheral counties than is the case in more centralised counties (<https://www.ibec.ie>).

circumstances of the county and wider West region, i.e. a relatively pristine environment, lack of congestion, and improving transport and communication links to external markets. Of course, it also requires us to explore links between larger firms, both indigenous and multinational, and smaller local firms, even in cases where the larger firms may lie outside the county. The enterprise sector needs to be at the core of regional development. Unfortunately, in current regional strategy proposals it is conspicuous by its absence.

"Three flaws of policy intervention:
thinking in statics not dynamics; thinking in
low, not high dimensions; thinking in terms
of actions, never interactions"

Nassim Taleb, *Skin In The Game*

[7] Implications for regional policy formulation

7.1 Top-down vs. bottom-up approaches to strategy

One can approach national and regional development strategy and planning in two different ways. The first, a top-down approach, starts with an examination of the development challenges faced by the state as a whole, e.g., increased global competition, education and skill needs, the increased pace of technological change, etc. It articulates a grand strategic vision for the state that will address these challenges and then looks to how this vision might play out and be achieved across the national and regional economies.⁸⁹

The second, a bottom-up approach, should ideally start in each of the sub-regions (e.g., towns, cities, counties) with an examination of their more specific local challenges, e.g., population and the degree of urbanisation, transport infrastructure links to other regions, local development potential, etc. One then needs to reconcile sub-regional strategies at a super-regional, and ultimately, at the national level.

In the case of Ireland, the obvious national sub-regions are the counties and the five cities. However, the current planning frameworks use three super-regions: the Northern & Western, the Southern and the Eastern & Midlands).⁹⁰ In the second - bottom-up - approach, the national strategic outcome is simply the sum of the reconciled regional outcomes. During most of the 19th century industrial revolution the geographical region rather than the nation was the natural unit of economic activity and analysis. The nation's economy was simply the sum of its parts and national economic development was only marginally controlled by central political authorities.⁹¹

⁸⁹ In *Project Ireland 2040*, the national "vision" is expressed in terms of ten National Strategic Outcomes, ranging from compact growth to access to quality childcare, education and health services (PI-2040, page 13-15) .

⁹⁰ The strategic vision in the N&WRA RSES is stated as follows: "Play a leading role in the transformation of this region into a vibrant, connected, natural, smart and a great place to live". However, it does not appear to have been designed from a bottom-up framework.

⁹¹ For example, the growth of Belfast during the second half of the 19th century was an example of such a semi-autonomous process (Bardon, op. cit., 1982).

However, by the mid 20th century regions had become much less important as a focus of economic activity. Top-down planning came to dominate and it has dominated ever since.

In practice, both approaches - top-down and bottom-up - tend to be pursued at the same time, with interchanges and close coordination between the participating parties to ensure consistency and control. In both approaches there is a need for appropriate information about the state of the nation and of its regions at the time when the strategy is being formulated and implemented. *Project Ireland 2040* and the three *Regional Spatial and Economic Strategy* reports being currently finalised by the N&W, S and E&M Regional Assemblies provide us with an opportunity to see how this system might work in practice.

In a previous section (Section 2.5) we identified some deficiencies within the national strategic approach. These related to the failure to examine how previous development strategies had performed and what lessons should have been learned; the limited amount of research that was available to guide the planners; the absence of any compelling justification for selecting the three designated super-regions as the basis for the regionalisation of the national strategy; a failure to integrate the strategy tightly into the concept of the Atlantic Economic Corridor, which does have a logical and very strong regional and integrative developmental basis; the absence of any in-depth treatment of the nature, structure and performance of the regional enterprise sectors, made more serious by the absence of comprehensive regional enterprise databases; and a rigid, highly selective and unimaginative designation and treatment of smaller, but potentially dynamic, peripheral urban settlements.

Our conclusion in Section 2 was that *Project Ireland 2040*, in spite of its claims to be a radical departure from the approaches used in the past, represented in many ways a continuation of these same weak and permissive regional policies that eventually led to the present serious east-west spatial distortions in the Irish economy. The evidence base for the proposed policy initiatives is worryingly weak, particularly in terms of the absence of strategic thinking about how to break away from the older models of focus on a few selected urban agglomerations. In addition, there is a confusing conflation of spatial planning (towns, roads, amenities, etc.) with economic development planning (enterprises, jobs, business-related infrastructure, etc.). Indeed, some might even view *Project Ireland 2040* as a mainly spatial planning strategy with the economic dimension to be handled elsewhere.

Examination of the most recent drafts of the *Regional Spatial and Economic Strategy* prepared by the Northern & Western Regional Assembly and the Southern Assembly indicates that many of the flaws of the national strategy - *Project Ireland 2040* - are repeated in the *RSEs*.⁹² Some of the explanations for this arise from the nature of the national-regional process of coordination, where the state holds much of the power and the development agencies like the IDA and Enterprise Ireland operate at the state level with weaker regional functionality. Other explanations arise due to intra-regional problems generated by the fairly arbitrary designation of the three super-regions as the basis of the regionalisation of the national strategy. The main reason for undertaking the present AEC economic research project was to revisit regional strategy from a more bottom-up perspective and to work up from the county level to the super-regional level in a way that originates with and is based on the strategic concept of the AEC.

In the remainder of this section we discuss some important aspects of regional development and enterprise policy that need to be brought back into the process of regional development, but which appear to have been ignored. In the concluding Section 8 of the report we address the question of how to design a *County Spatial and Economic Strategy* for Mayo, illustrating how the missing bottom-up analysis might place the regionalisation of *Project Ireland 2040* on a much sounder basis.

7.2 Development policy, enterprises and local governance

One might characterize a key challenge of economic development policy-making in any county or small region as that of blending the techniques and insights of a predominantly economic analysis of what one might call the 'outer' business environment with those of a business analysis of the 'middle' ground of strategy. The characteristics of the outer business environment in any state or region are largely determined by the long-term planning of governments. For example, Ireland's membership of the European Union determines many international aspects of this "outer" business environment, just as the government's *Project Ireland 2040* strategy determines many national aspects.

The "middle" ground of strategy is occupied by business planning rather than by state planning. However much they might like state planning to bend to their preferences, in effect they take the "outer" business environment as

⁹² For the N&WRA RSEs, see <https://www.nwra.ie/rses/>.

For the Southern RSEs, see <http://www.southernassembly.ie/regional-planning/regional-spatial-and-economic-strategy>.

given and design and implement business strategies to maximise the benefits to their own enterprises. These two areas are often separated. Seldom are the two different perspectives ("outer" and "middle") looked at as being entirely complementary and mutually supportive. Seldom are they both invoked to guide policy makers.

At the level of the individual enterprise, strategy is usually formulated in a context where government policies are largely externally determined and firms address the challenges of assessing their business portfolio and identifying strategic goals. The crucial role of management is to formulate a corporate strategy that aligns with the nation's or region's development strategy. So, this issue is usually examined largely from the point of view of domestic or regional companies adjusting to national or regional strategy.

In Ireland and its regions, however, causality as often as not runs in the opposite direction. In other words, the Irish industrial development agencies constantly scan the world for inward investment in high technology sectors. Even when the domestic environment is not sufficiently attractive to persuade leading-edge firms to locate here, information on firms' expressed needs were fed back to the government by the IDA and Enterprise Ireland, and major policy changes can be executed.

A case of information feedback was the transformation of the higher education system in the mid-1970s, where massive resources were put into the enhancement of electronic engineering and chemistry to create a skilled labour force for potential inward investors. A more recent example from the 1990s was the provision of generous resources to the university and Institute of Technology system to fund basic research in the areas of electronics and biotechnology, when a lack of such skills was identified as a potential bottleneck to future investment opportunities. Thus, the national and regional development strategy often needs to adapt to the requirements of firms in the global corporate environment, and not the other way around. Like firms, small regions know that they must survive in a turbulent economic environment. Like firms, they must accommodate volatility through flexibility. For regions, flexibility requires facilitating the recombination of resources among companies, so that the latter may re-deploy them internally. And as with firms, many regions renovate themselves only with the greatest difficulty.

A 1996 report of the Northern Ireland Economic Council (NIEC) examined the political and economic governance of four European regions: Jutland, Rhone-

Alpes, Saarland and Abruzzo.⁹³ It concluded that the most active regional governments are to be found in the most economically successful regions, and that their ability to exercise a high degree of pro-activity is predicated upon their location within national states characterised by decentralised systems of governance. Successful regions tend to be characterised by distinctive forms of local regulation and governance. They also have systems of governance which embrace enabling and facilitating institutions within the local state and civil society, as well as bridging the permeable boundaries between them and adjoining regions and states. Part of the problem of less successful regions is that they often remain locked into institutional structures that were relevant to an earlier phase of economic development but which now constitute a barrier to moving onto a new development trajectory that is a better fit to the way that Irish regional economies actually function. This, essentially, is the dilemma that faces attempts to renew Irish regional development strategy. Examination of the process that is summarised in *Project Ireland 2040* suggests that these lessons have not been learned.

7.3 Entrepreneurial firms and cluster growth dynamics

To understand the industrial growth of a region, one needs to focus on entrepreneurial firms as the engines of growth. Two inter-related issues arise: where do new entrepreneurial firms come from, and where do new groups, sectors or clusters of firms come from? These are inter-related questions because each depends on the other: entrepreneurial firms drive clusters and clusters create opportunities for entrepreneurial firms, both existing firms and new entrants.

The first step in the process of addressing these two issues is to identify firms that have successfully constructed a niche in the global production system. The key to success is to develop a distinctive, hard to imitate, capability by which a firm meets customer needs. The second step is to compile and scan the data on companies to search for sector concentrations within counties. The purpose is to identify groups of firms that may exhibit ongoing or incipient cluster evolutionary processes. This includes searching for the appearance of new sub-sectors. The idea here is that clusters can be the handmaiden for new entrepreneurial firms, which in turn foster the creation and growth of new sectors.

⁹³ See Dunford, M. and Hudson, R. (1996) *Successful European Regions: Northern Ireland Learning From Others*, Research Monograph 3, Belfast: Northern Ireland Economic Council.

7.3.1 Entrepreneurial firms

Firm strategy is important and a variety of strategies usually exist in any region. One can have high volume production within single production units. Many of the Mayo-based multinationals fall into this category. Nevertheless, scale economies alone were rarely the sources of competitive advantage. Flexible specialisation is usually a more common generic strategy. The most successful companies in Mayo pursued a strategy of developing a distinctive product/service and constructed the production capability to deliver it. A number can be characterized as mid-size, indigenous multinational companies. Here we discovered an unexpected lesson: these companies have often radically reinvented themselves at least once as if they became a new firm. In fact, we might say that new firms were created out of previous incarnations of the same firm. Portwest, based in Westport, together with Foxford Woollen Mills were classic examples of this evolution.

One can find examples of "system integration" strategies or a process of enterprise reinvention. In these cases the new management leveraged legacy skills and capabilities, but within the context of re-engineering the core production system, in order to take full advantage of new technologies and market opportunities. Often this was precipitated by the transition to the second and third generation of family leadership. Once again, Portwest moved along this path, with global distribution from bases in the UK, Ireland, Poland, Dubai, Australia and the USA; manufacturing facilities in Bangladesh, Myanmar and China; customer support staff in over 120 countries; and its advanced design team based in Westport and Manchester. The strategic management of the company is based in the Portwest head quarters in Westport.

7.3.2 Cluster dynamics

There are serious challenges to be addressed if one wishes to generate cluster dynamics and self-sustaining regional development processes in Mayo. We start with four observations on links between entrepreneurial firms and the evolution of clusters:

- a) Firms seldom compete alone in the global marketplace but as members of networked groups of firms. For this reason one needs to examine network alliances and other forms of inter-firm relationships.
- b) Firms compete in the global marketplace by leveraging the skills, capabilities and knowledge bases of the regions in which they are embedded.
- c) Innovative firms make more than products: they advance the skills, capabilities and knowledge base of the region in which they conduct

business. Moreover, the process by which innovative firms develop specific capabilities in pursuit of new market opportunities itself creates opportunities for other firms. In fact, even the failure to pursue emergent market opportunities by one firm may give rise to the establishment of a new firm.

- d) The inter-firm processes by which skills, capabilities and knowledge are deepened within a region can trigger the emergence of new sub-sector growth opportunities. In this way, a region's production base can be enhanced by transition from declining to growing sectors.

In its present state, the manufacturing sector in Mayo appears to be too small for clusters of this kind to emerge. But even in the environments of Ireland's five larger cities, such clusters are rare due to the dominance of multinational firms and the nature of branch plants.⁹⁴ Dynamic growth of indigenous firms is unlikely to happen without policies that foster these processes.

7.4 Cluster dynamics, emerging technologies and governance

The evolution of clusters is about the cumulative and collective advance in skills, capabilities and knowledge base that accrue to a region by the ongoing processes of production and new product development conducted by its enterprises. Successful firms, in turn, leverage these skills, capabilities and knowledge resources, but within a process of enterprise reinvention to take advantage of new technologies and market opportunities. Dynamic and sustainable industrial growth is not likely to happen in the absence of policies that foster these processes.

Institutional innovations and changes will be needed to identify and promote the kinds of co-operative policy frameworks and actions that will be needed at a county level it is to have a greater prospect of participating in island-wide prosperity. Failures here arise for many different reasons. For example, they may be a result of knowledge deficits, e.g., imperfect understanding of the structure of small county or regional economy. There may be institutional jurisdictional issues, e.g., imperfect co-operation between 'national' and county-based development agencies. There may be policy and administrative gaps, e.g., small and under-resourced local government development functions and capacities. There may be a lack of regional development focus by the higher educational establishments and an inability to achieve close synthesis between them. There may be weaknesses in non-governmental socio-economic agencies, e.g., Chambers

⁹⁴ See Chris Van Egeraat and David Jacobson, "Geography of Production Linkages in the Irish and Scottish Microcomputer Industry: The Role of Logistics", *Economic Geography*, 2005.

of Commerce, IBEC, ICTU, etc. Unfortunately, all of these reasons usually co-exist and compound each other and blame gets passed around.

Faced with a failure to co-operate, the objective should not be to design new institutions from scratch, since except in exceptional cases, the lack of resources and the absence of political will often delay or even prevent such a root and branch approach. Rather, one needs to direct attention to ways that elements of the existing institutional policy framework can be improved and refocused in order to overcome the weaknesses caused by coordination failure.

Local authorities in the Irish counties have the possibility to drive economic development more than they or others suspect, but only if they pro-actively use the powers, funds and leadership role they have in their territories. With a coherent county plan, good county-level enterprise data, capitalising on their existing networks and initiatives, they can make substantial progress themselves in identified growth areas. Although the resources available to county administrations are very limited, both in terms of staff and financial resources, the local councils do have one special strength: the power to convene. By this we mean that they have the depth of local knowledge and the facilities to act in a coordinating role in a county where there is unlikely to be any other organisation better positioned to play this role.

Many of the problems that we have identified in *Project Ireland 2040* and the draft *Regional Spatial and Economic Strategies* could be addressed if the individual counties were required as part of the super-region planning process to study their economies along the lines that we have described and to use that information to develop *County Spatial and Economic Strategies*. If it is found that certain characteristics and performance at the county level differ from those of its encompassing region, then one needs to identify the specific strengths and weaknesses, opportunities and threats of the county and propose county-specific policy initiatives.

But where the wider regional characteristics are shared across all constituent counties, then policy initiatives need to be designed, to a large extent, at the higher regional level and not be developed purely within and differentiated between counties. This distinction is crucial. If the county analysis and inputs are weak or absent, then many development opportunities at the county and town level are likely to be missed because the knowledge needed to design and implement county-level initiatives will be lacking. In our concluding Section we turn to how the design of such a *County Spatial and Economic Strategy* might be approached.

7.5 Four Mayo strategic development case studies

In Section 8 following we will set out a range of different perspectives on how one might conceptualise and implement a *County Spatial and Economic Strategy (CSES)*. We will also identify the kinds of issues that need to be taken into account if the implementation of the strategy is to have a high probability of success, both at the county level and as an input to higher level regional planning. Many of these issues will be rather obvious and are enumerated in all strategic planning documents. Such documents invariably contain long lists of worthy decisions and actions that might look like a strategy, but often lack the kind of dynamic, high dimensional and interactive thinking and analysis that would transform a shopping list of actions into a real, coherent strategy.⁹⁵

Prior to outlining the essential elements of a *CSES*, it may be useful to present some case studies where these issues were addressed and where experience was developed in recognising and overcoming the many anticipated and unanticipated barriers and difficulties that arise in the real world of policy design and implementation. The experience of IRD Kiltimagh over the period 1989 to the present provides one such case study. The development and expansion of Ireland West Airport Knock provides a second. The present and projected road development programme is a third. And the restoration of the Western Rail Corridor (as yet incomplete) provides a fourth.

These four case studies are presented in narrative form and illuminate the kind of framework that Nassim Taleb asserts is necessary when planning and implementing any strategy. Static thinking plans the first step, but dynamic thinking looks to the future. First steps are fine, but real life happens to have second, third, fourth, *n*th steps. Low dimension thinking falls into the trap of believing that complex systems can be treated with one-dimensional, separable, cause-and-effect mechanisms. In many cases, actions are proposed where there is limited or no understanding of interactions.⁹⁶

The first case study - *IRD Kiltimagh* - is presented in Annex 3 and illustrates the complexity of turning around the fortunes of a declining town located in a declining county on the relatively poor western periphery of Ireland. The second case study - *Ireland West Airport Knock* - is presented in Annex 4 and illustrates how top-down policy makers, operating at the national level, can miss the need for strategic initiatives whose justification is only visible from a

⁹⁵ *Project Ireland 2040* contains eighty eight National Policy Objectives, many of which have multiple parts. The *Draft RSES* of the N&W Regional Assembly adopts the same general objectives and focuses on their regional application.

⁹⁶ See *Skin in the Game: Hidden Asymmetries in Daily Life* by Nassim Taleb (published by Allen Lane, 2018).

bottom-up, local perspective. The third study, presented in Annex 5, is a statement of existing road development plans and illustrates the complexity of marrying a national roads strategy to the more specific needs of a county road strategy. The fourth case study - the *Western Rail Corridor* - is presented in Annex 6 and illustrates how difficult it is to change mind-sets even when changes in circumstances render past regional experience a bad predictor of future regional potential.

[8] Towards a County Spatial & Economic Strategy

8.1 Mayo's economic future in context

Mayo is a large, sparsely populated county (in area, the third largest in Ireland), with dispersed small to mid-sized towns that have a very high level of mutual interaction and interdependence. There has been significant population growth in many Mayo towns over the period 1990 to 2016, even if it was lower than the uncontrolled growth in the commuter belt of the counties surrounding the city of Dublin.

Over the next two decades, leading to the terminal date of *Project Ireland 2040*, the population dynamic of Mayo will be very different from that of the 1950s to 1970s. Population loss during those years was associated to a large extent with the agriculture sector, where mechanisation and productivity increases released surplus labour from farms. Since the small towns in Mayo did not sustain enough jobs in services and manufacturing at that time, the county as a whole lost population. Much the same negative population dynamic was playing out in the other eight counties that make up the AEC region.

However, now that the agricultural labour force is a small fraction of what it was in the 1960s, the future population dynamic of Mayo will be driven mainly by the behaviour of its urban population and by the performance of sectors other than agriculture. People will continue to be attracted to and remain in a county like Mayo if they have long-term prospects of earning a good living there and if the environment is one that promises a good quality of family life. These are the two essential strategic goals, usually designated as "economic" and "spatial", respectively. But in the words of the popular song: "You can't have one without the other".

Our previous analysis showed that today the enterprise sectors of the Mayo economy display a relatively high level of entrepreneurship and operate at the mid to high end of the spectrum in terms of advanced engineering, science and technology. In spite of its peripherality and low population density, the county sustains a range of dynamic foreign multi-national enterprises and indigenous firms that produce advanced products for distribution to world markets. Such firms support employment, directly and indirectly, and make a significant financial contribution to the state in terms of corporation and personal tax revenue.

Turning from manufacturing and traded services (using the terminology that we developed in earlier sections), the opportunity to grow the large, labour intensive and mainly non-traded sector of the county economy is closely linked to the underlying overall population growth of the county, making it essential to have a well thought out and robust enterprise development strategy that will induce faster population growth and increases in population inflows.

Looking at the *Project Ireland 2040* and the *RSES* strategies and processes from the view-point of a county, a series of critical observations can be made that are relevant to Mayo as well as to all of the other counties in the AEC area:

- a) Both *PI-2040* and the *N&WRA RSES* are excessively focused on spatial planning, with very little emphasis on the real drivers of an enterprise led economy.
- b) Both strategies project considerable increases in population at the county, region and AEC levels without any well thought out policies or investments to “incentivise” the envisaged internal growth and migration movements.
- c) On the basis of the policies advanced in the two strategies, it remains a strong possibility that development in Mayo, in the West NUTS 3 region, in the N&W NUTS 2 super-region and in the wider AEC region will continue to lag behind that of the Dublin-centred Eastern & Midlands region and the areas close to the other four cities (Cork, Limerick, Galway and Waterford).

The smallest and most logical building blocks upon which to design and anchor any Irish regional development strategy are the individual counties. These have the advantage of having a much higher degree of internal economic and social homogeneity than the three designated super-regions and have long-established local governance institutions in the form of the County Councils and City Councils. Our previous analysis showed that it is possible to study the economy of a county to a relatively high level of detail, even if the publicly available sources of data and other information leave a lot to be desired. A planning system where each county formulated a *County Spatial and Economic Strategy* (CSES) and fed these up to super-regional Assemblies that consisted of a group of counties that had a wide range of shared development challenges, would appear to be more logical than the present largely top-down arrangement.

In this concluding section we address the following question: what kind of issues arise if one tries to outline a bottom-up analysis of development opportunities and identify investment priorities in a county like Mayo, consolidated into a *County Spatial and Economic Strategy*, or *CSES*? Once that is achieved, then one can move on to examine how the *CSES* can be reconciled with, and serve to reinforce, the development opportunities and investment priorities of the *Regional Spatial and Economic Strategy*, or *RSES* within the wider area encompassing the county. We address this challenge using a broad brush, indicative approach rather than by any very detailed micro-planning or by formulating long lists of bullet-pointed strategic objectives. The overall logic of how a *CSES* might be drawn up is possibly as important as, or even more important than the micro detail.

An initial step needs to be the identification of the key strategic elements of a *CSES* against which the detailed micro planning and implementation can subsequently take place. The first, and probably most important strategic issue of any *CSES* is to understand the likely evolution of the enterprise sector in the county, drawing on what our earlier analysis of the past and the present has told us. In the absence of a thriving, enterprise-driven economy, the county will become ever more dependent on state aid.⁹⁷ The second strategic component is the identification of the enablers of social and enterprise development. A final strategic component is to ensure that the kind of direction, governance and partnership that is needed to achieve development goals is put in place where much of it will have to operate on the ground at the county level.

We conclude our analysis with three real life policy case studies that serve to illustrate how ambitious strategic aims have confronted the realities faced in a peripheral county as it works to engage with and benefit from national prosperity.

8.2 The future of enterprise in Mayo

There is an old economic saying that \$100 bills are never left for long lying on the side-walk. Somebody soon picks them up. The same logic applies to any assertions made in the absence of much analysis that there are easily realisable opportunities for developing and transforming the enterprise sector in a county like Mayo. If development was so easy, why would it not have been done before now? What has changed? How credible is the extreme optimism of the state planning approaches and visions? A more prosaic, down to earth and realistic approach is to examine what has worked

⁹⁷ The kind of semi-permanent dependency into which failed regions can fall has come to be called the *Mezzogiorno* problem, after the southern regions of Italy where fifty decades of massive state and EU aid has not succeeded in building a successful enterprise sector that could lift it out of a cycle of decline.

in the past; what continues to work in the present; and how one might put in place policy actions to progress the Mayo enterprise sector from the present situation to a much better outcome.

From an enterprise perspective one can structure the existing and any future Mayo economy along the following lines:

- a) First, there is the public sector where employment numbers tend to mirror the county population size. In other words, there tends to be a relationship between the size of the county public sector and the size of the county population. If some national public services are re-located to Mayo through a decentralisation programme, this relationship can change. But it is never likely to deviate by much from a national average since all other peripheral counties also have their claims.
- b) Second, the private services sector is always going to remain the largest employer in the county, just as it is even in a large urban agglomeration like Dublin city (see Table 3.5b).⁹⁸ We showed that almost 45 per cent of employment in the West NUTS 3 region (Mayo, Galway and Roscommon) is in private services. Adding public services brings the total for services to just under 70 per cent. In Mayo, many of these services are directed at the local population and the size of this element of employment will tend to rise or fall as the county population rises or falls. These are what we described earlier as "non-traded" activities, where demand is local. Government policies of any kind are likely to have only a very limited impact on employment in the non-traded service sector, other than through activities involving training, retraining and skill development as older service activities are displaced by new activities.⁹⁹
- c) Third, the segment of market services that is traded (i.e., where services are sold either outside the county or to people who do not live in the county) provides a way of growing the sector beyond the natural limits imposed on further growth of non traded activities by Mayo's existing low population density. The most obvious example of such a segment relates to tourism, where services in retail, culture, entertainment, restaurants, hotels, transport, etc., are effectively "exported" to visitors. This part of the county service sector can grow if visitor numbers grow and is not constrained by the county population base. In addition, even in the small sample of ten Mayo enterprises that we interviewed (see Section 5), four could be classified in large part as producing tradable services. The success of two (Foxford Woollen Mills and The Gourmet

⁹⁸ The sectoral breakdown by employment is published at the NUTS 3 level, but not at the county level.

⁹⁹ An example of displacement would be the substitution of electronic check-out for manual checkout in retail establishments.

Greenway) derives from a synthesis of small scale manufacturing and distribution facilitated by the rapidly expanding Mayo tourism sector. Two others (Big Red Barn and Electric Skyline) are highly skilled operations that market a service output based on construction and electronics, respectively.

- d) Fourth, the manufacturing sector probably provides the most robust way of expanding the Mayo enterprise sector as a whole since in almost all cases firms produce goods (including any associated services) that are traded outside the local county market and make use of manufacturing and service inputs that can also be sourced locally. Using economic terminology, such firms are described as having large "multiplier" impacts, i.e., any increase in manufacturing activity in the county sets off secondary impacts as sub-suppliers also benefit. Indigenous firms are found to have higher multiplier impacts than foreign multinational firms since the former tend to source more inputs from the local market than the latter. Of course, both types of firm generate secondary income effects as their employees purchase goods and services produced locally and imported.¹⁰⁰
- e) Finally, the fact that we have left the agriculture sector to the end is a measure of how its share of the Mayo economy has declined since the 1950s. For example, the estimated value of Mayo's farm output today is about €250 million. The value of net output in 2015 from Mayo industry is almost €5 billion (Table 4.5). However, these stark numbers conceal the potential that this sector might come to play in a much wider role in the Mayo economy, both through expanded farming activity and through activities that could both increase the incomes of farmers and land owners and facilitate ancillary activities that are land based.¹⁰¹

At the county level there is much policy activity directed at assisting the different enterprise sectors. These tend to operate independently from each other and by doing so, they may miss opportunities to promote and benefit inter-sectoral linkages and clusters. Rapid advances in communication and manufacturing technology have led to a blurring of the old boundaries between previously stand-alone sectors and activities. The notion that manufacturing activities need assistance but that service activities (particularly in their non traded phase) can be largely left to fend for themselves, continues to influence much thinking in the state enterprise

¹⁰⁰ A note of caution concerning positive spillover impacts is needed. The positive "multiplier" and other indirect spillovers from enterprise growth can quickly reverse and generate negative spillovers if the sector contracts. This is what happened during the 2008-2010 recession, as discussed in Section 3.

¹⁰¹ See *A Sustainable Agricultural Strategy for Mayo*, Mayo County Council, November 2018, page 2.

agencies. Any CSES needs to treat the whole Mayo enterprise sector in a holistic way when it deliberates on how policies can act as enablers for county development.

A complex range of factors arise when considering the future of the Mayo enterprise sector. These include:

- a) The strong foreign multinational base in the county needs to be nurtured and retained. Proactive monitoring of their continued success is desirable since early warning about any adverse changes (e.g., maturing of the company's products that affect its sustainable cost competitiveness), would permit better advance planning in towns where the dependence on a single firm is very high.
- b) While most of the larger Mayo-based multinationals are in the medical-technology area, with independent single supply global brands, nevertheless their manufacturing processes, workforce skills and capabilities have much in common.¹⁰²
- c) The Mayo-based SME sector is innovative and often built off capabilities emerging from larger enterprises (both multi-nationals and the larger indigenous SMEs).
- d) Leadership within Mayo-based SME's tends to be local, i.e., owners who started up and developed the business and/or returned from abroad to set up a business.
- e) Although the Mayo-based manufacturing sector today is still too small to generate and benefit much from clusters of interacting and co-operating enterprises, there is a possible cluster around back office processing/call centres and potential for other clusters.
- f) The small artisan food producer sector in Mayo has become very active in recent years. Promoting small start-ups in this sector will require innovative and imaginative support mechanisms. An example treated in Section 5.3.9 is the micro food cluster built around the concept of the Gourmet Greenway, linking it to one of Mayo's most successful tourist attractions.
- g) Closely related to the above, the recently published *Sustainable Agricultural Strategy for Mayo* contains proposals additional to mainstream beef, sheep, dairy and forestry that link to many other local

¹⁰² See Section 5.2 for a list of the Mayo-based multinationals.

sectors, e.g., high nature value farming, renewable energy and agri-tourism.¹⁰³

- h) The importance of the retail and wholesale elements of the service sector is apparent in terms of its labour intensity. Current changes in all aspects of this sector caused by disruptive technologies and the spread of e-commerce will require careful ex-ante analysis of the likely consequences and feasible countervailing policy initiatives. There is a temptation to leave these consequences to be dealt with by state agencies, operating at a national level. However, the consequences are likely to play out over a county like Mayo in a very different way than in, say, the five cities.
- i) A review of the issue of “displacement” is desirable insofar as it may constrain Enterprise Ireland, Údaras na Gaeltachta and the Local Enterprise Office in their programmes of assisting SMEs and micro-business start-ups. Micro and SME businesses almost always start up by trading initially in their local market but could have the potential to become traded (i.e., selling outside the county, within Ireland and internationally). The very small size of the local county market suggests that such a change in the rules governing “displacement” is necessary.

These issues point to the characteristics and “needs” of the Mayo enterprise sector if it is to develop and expand. The real challenge at a county level is to move beyond simply maintaining the status quo, replacing declining and exiting enterprises with new substitutes. Rather, it is to aim at greatly expanding the size of the enterprise sector in a development model that uniquely suits the spatial and economic characteristics of Mayo and the N&W super region in which it is embedded. Most current policy is designed to grant aid enterprises at the start-up and expansion stages. But the design and implementation of policy at the county level requires focus on more specific, policy-related, enablers, to which we now turn.

8.3 Enablers of Mayo enterprise development

The kernel of development models designed for large urban agglomerations like Dublin, Cork and Belfast is that with everyone essentially located in the one small space, communication and connectivity problems either do not arise, or are easy to handle. This is usually contrasted with the challenges facing development in (say) the N&W region and a county like Mayo, where population density is low, small towns are geographically scattered, and communication channels do not always work seamlessly. However, these attitudes have begun to change as cities experience a toxic combination of

¹⁰³ See *A Sustainable Agricultural Strategy for Mayo*, Mayo County Council, November 2018, page 28-45.

high house prices, congestion, pollution and onerous commuting times and when improvements in communication technologies produce, if not the "death of distance", then at least a rapid diminution of the costs of distance.¹⁰⁴

The most important enabler of development in Mayo concerns "connectivity", within which we embrace roads, rail, airports, sea ports and digital connectivity. The next concerns "facilities", by which we mean the advance preparation of a welcoming environment for new enterprises. The third concerns "skills and capabilities", to ensure that enterprises can attract a work force appropriate for their activities. Although the three kinds of enablers are usually treated separately, they must work in a fully integrated way if development opportunities are to be realised.

8.3.1 Connectivity

Access and connectivity are vital in a county where towns are relatively small and are dispersed over the whole geographical area of the county. It is essential to connect groups of adjacent towns in a way that encourages them to become more interdependent, giving more efficient access for people, products and services to internal and external markets. The focus here should be on the continual renewal of road, rail, airport and digital infrastructure. But it would also embrace the more efficient and effective organisation of the public transport system (i.e., road and rail). These kinds of improvements will require imaginative and flexible policies and are likely to be relatively low cost when compared to the construction costs of motorways.

With the above kinds of marginal improvements to communication and transport infrastructure and services, it will be possible to create competitive and collaborative centres of scale such as Castlebar/Westport in the centre of the county; Kiltimagh/Claremorris/Balla/Ballinrobe/Ballyhaunis and environs in the east and south-east; and Ballina/Killala/Belmullet/Crossmolina/Foxford/Swinford/Charlestown and environs in the north and north-west of the county. The point here is that the best way to encourage the evolution of a new enterprise sector in Mayo is to link its smaller towns in such a way that the grouping takes on some of the functional characteristics of larger "virtual" towns.¹⁰⁵

¹⁰⁴ See <https://www.brookings.edu/research/countering-the-geography-of-discontent-strategies-for-left-behind-places/>

¹⁰⁵ As pointed out in Section 4, treating Castlebar and Westport as a "twin" town gives it an effective population about equal to that of Sligo (18,266 vs. 19,199 in 2016). Furthermore, the population growth rate between 1996 and 2016 for Sligo, Castlebar and Westport were, respectively, 3.7%, 41.1% and 37.1%. This strongly suggests that the Castlebar-Westport twin-town complex is a dynamic growth centre and has

The current plans for improving the Mayo road network are illustrated in a map taken from *National Development Plan 2018-2027* (page 43). The blue lines denote work still at the early pre-appraisal stage; the red lines denote work at planning, design and construction stage. This suggests that a lower priority has been assigned to addressing deficiencies in the north-south links in Mayo in favour of focus on east-west links.



The Mayo road network requires integrated “catch up” investment so that the key towns of Westport, Castlebar, and Ballina are connected via upgraded national primary arteries serving the county. (N5, N26/N58). Upgrading two national secondary routes (the N60 and N84) will bring the towns of Claremorris and Ballinrobe into a comprehensive county network. Both of these approaches will facilitate east-west links (via the N5 and M17/M6) and north-south via the N17/M17)

The N59 Wild Atlantic Way route connecting Sligo to Clifden via the Mayo coastal region also requires upgrading. Finally a number of regional roads linking smaller towns to their adjacent urban areas require investment, such as Belmullet to Castlebar (R312), Kiltimagh to Ballyhaunis via Knock (R323), Louisburgh to Westport (R335) and Ballinrobe to Headford/Kilmaine/Shrule to Tuam motorway (R334 and R322). See Annex 5 for details.

Currently, the rail system in Mayo consists of the radial connection with Dublin. When it enters Mayo, it links a series of towns: Ballyhaunis-Claremorris, and branching at Manulla, it serves Foxford-Ballina and Castlebar-Westport. The case for restoration of the north-south Western Rail Corridor from Athenry into Mayo and Sligo is a complex one that demands

the potential, together with its rail and air links, to act as a wider population and enterprise "attractor" for the whole central region of Mayo.

very detailed strategic analysis. The issues are explored in the case study in Annex 6.¹⁰⁶

The third transport mode is the airport at Knock which provides direct air links to the UK and the European mainland. The details of the history and development of this transport resource are also treated in a case study at the end of this section. At present it caters for passenger transport and numbers using it have been increasing dramatically over recent years. Its further development will provide the N&W region with a strategic resource that will enhance the ability of the region to attract and retain enterprises who value easy links to external markets.

With respect to sea ports, Mayo is unusual in that although it has a very extensive Atlantic coastline, it has no fully operational commercial harbour (such as Galway to the south and Killibegs in Donegal to the north). One can see on the web site of the NUIG-based Socio-Economic Marine Research Unit the kind of in-depth work that is going on in matters related to inland and sea angling and associated tourist activities as well as the more industrial fishing activities and energy-related activities of interest to the Marine Institute in Galway. Clearly Galway takes the lead in this area, and is well placed to develop it further.

However, the Scottish Government Highlands & Islands (H&I) region points to a possible way ahead for Mayo. One aspect of "marine potential" in the H&I region concerns the leisure sector of marine-based tourism.¹⁰⁷ The Mayo coast has the best sailing attractions in all of Ireland, perhaps even in all of these islands, yet there has never been much of an effort to market it and make it attractive to visitors. While the construction of expensive marinas tends to be more appropriate to regions close to large urban centres or to areas that already have large fleets of leisure boats, the kind of attractive packaging of what is there already, integrating it with other tourism activities, would be an initial direction to go. In other words, one could do for Mayo marine-related tourism what the *Wild Atlantic Way* has done for Mayo land-based tourism. Given the lack of any major harbour on the Mayo coast, sailing, sea angling, fish-farming and tourism in the off-shore islands are the kind of marine activities that match the Mayo facilities, rather than developing a fishing industry that needs big harbour and processing facilities that do not exist.

A Mayo-based initiative like the Scottish Highlands & Islands "Awaking the Giant" would suit the coastal conditions and serve to bring a better focus on

¹⁰⁶ We note that a commitment to carry out an evaluation of the restoration of the WRC link from Athenry to Claremorris was contained in *National Development Plan 2018-2027* (page 42).

¹⁰⁷ See <https://scottishtourismalliance.co.uk/page/marine/>

marine-based activities in tourism, fish farming, sea-angling, sailing, water-based sports, etc. The *Wild Atlantic Way* showed how better "framing" can produce extraordinary results without extraordinary expenditure. Greater attention needs to be directed at the development of within-county expertise in evaluating the potential for key sectors such as renewable energy, eco-tourism, agri-business, marine, etc. (sectors that are uniquely suited to Mayo), building on the services sector cluster which is already in place.¹⁰⁸

Concerning digital connectivity, our investigations showed that adequate broadband facilities were available in many of Mayo towns. But connection speeds varied from an exceptional 1GB in towns like Claremorris and Kiltimagh to about 20MB in small towns like Louisburgh. Outside the main urban areas, coverage was patchy or was not accessible at reasonable cost. The example of a Community-based broadband system is presented in Section 5.3.10 and in Annex 2. The dispersed nature of urban settlements in Mayo, as well as the low population density, suggest that a one-size-fits-all national broadband scheme would be inappropriate and a tailored scheme would be cheaper and far more appropriate.

The four "connectivity" issues that we have listed fall under the general heading of physical infrastructure. Other infrastructural needs also arise, associated with aspects such as the capacity of the electricity grid and the availability of water resources. These too can present barriers to the growth of enterprises and the ability of regional towns to expand. However, they are aspects that would be better pursued after the wider outlines of a *CSES* are agreed.

8.3.2 Facilities

There is a range of other capacity and capability development enablers that should form part of any Mayo *CSES* and can be classified under the heading of "facilities". These would embrace the proactive development of state owned lands to full Planning level for industrial enterprises and maintenance of a database of enterprise-ready buildings for the county. They would also include the development of fit-for-purpose, right-sized community enterprise units and/or digital hubs in county centres of population. The case study presented at the end of this section describes the experience of IRD Kiltimagh, where a mixture of community enterprise centres directed at small start-ups is combined with a larger and more sophisticated facility (The

¹⁰⁸ Examples of the kind of analysis needed in regional development can be seen on the web site of Highlands and Islands Enterprise (<http://www.hie.co.uk/>), the Scottish Government's economic and community development agency for a diverse region which is home to around 450,000 people and shares many of the development needs of the Irish AEC region.

Cairn International Trade Centre) directed at attracting established trading service sector enterprises

In the context of towns that are better linked to each other, there is greater potential to encourage business clustering to enable complementary businesses to start up and progress to making the move from non-traded to traded activities by facilitating cooperation, specialisation, marketing, distribution and sales. If this kind of evolution is to have any chance of happening and a development model based on clusters of small towns is to be established, the connectivity issues discussed above will need to be tightly focused on facilitating the delivery of the new development model.

8.3.3 Skills and capabilities

Modern means of transport and communication have produced a very attractive working environment in a county like Mayo and our brief examination of the county manufacturing and service sectors show that advanced, competitive and highly productive enterprises can locate in the county, even if a range of larger science and technology-driven enterprises sometimes need a more complex and sophisticated urban environment like that in Dublin, Cork, Limerick or Galway.

Deeper consideration needs to be given to ways of retaining existing young people in the county; to attracting returning Mayo people to live and work in the county; to provide facilities for migrants and facilitate the growth of a more diverse population. Although the decentralisation of elements of the public sector to regions outside the capital city attracted political controversy when it occurred in the early years of the new century, the relocated functions have now stabilised and perform as efficiently as before, while simultaneously giving a huge boost to the growth of the non-traded sectors in the new locations. There would appear to be no reason on economic efficiency grounds why that de-centralisation process should not be revisited if further efficiencies can be realised.

The Third Level sector within Mayo is represented by the GMIT campus located in Castlebar. This campus, together with others in the wider AEC region, would appear to be ideally suited to provide education and training services that are better targeted at an emerging new enterprise sector in Mayo and in the wider N&W region. However, they need to be more integrated and aligned to business needs; they would need to rationalise their offerings of courses by focusing on region-specific specialisations; and need to promote the better understanding of entrepreneurship as a core business skill.

In the case of GMIT-Castlebar, an opportunity exists to combine its current range of more general social and business courses with a strong focus on more specific skills development and entrepreneurship that would address the current and future needs of the region's enterprise sector. For example, GMIT-Letterfrack is the National Centre for Excellence in Furniture Design and Technology.¹⁰⁹ Over the years it has built up a European-wide reputation and is focused on the role it can play in revitalising the furniture design and manufacturing sector. The future role of GMIT-Castlebar would be enhanced if it evolved a similar degree of focus on aspects of enterprise that fitted the evolving profile of manufacturing and advanced services in Mayo.

The Mayo business environment could also be greatly enhanced by deepening the existing engagement of the business community in high level, experienced, pro-active business mentorship programmes. It is possible to identify the kinds of innovations that would serve to drive the new enterprise culture in Mayo. The skills and capabilities in the existing base of foreign multinationals as well as in the larger indigenous firms represent an asset to the companies themselves as well as an asset to the county. It would be to great advantage if this expertise and these skills could be drawn on to foster entrepreneurship and induce a higher rate of enterprise start-ups. As we found in our interviews with a range of Mayo enterprises, this process already operates, but needs to be strengthened.

8.4 County-level co-ordination

For a country that in the near future will have a population of more than five million and rising, the Irish governance system is extraordinarily centralised. Almost all important aspects of policy are designed and implemented in a top-down fashion. The major state agencies that play roles in economic and business development are organised in a centralised way, with limited scope given to regional out-offices. For example, Enterprise Ireland not only carries out its mandate of assisting Irish businesses in all regions of the country, but also exerts elements of control over the budgets and freedom of action of the county-level Local Enterprise Offices (LEOs). Local Authorities have a degree of freedom to draw up road construction and improvement strategies, but budgets are allocated centrally and the implementation of vital regional schemes are often delayed for decades.

If the centralised process of policy formulation in Ireland were responsive to regional needs, and if effective mechanisms existed for those identified needs to find their way into regional policy formation at early stages, the

¹⁰⁹ See <https://www.gmit.ie/national-centre-excellence-furniture-design-and-technology/gmit-letterfrack>

situation would not be so serious. But the manner in which the three Regional Assemblies are transmitting national policy (as set out in *Project Ireland 2040*) to regional policy (as set out in the draft *Regional Spatial and Economic Strategies*) suggests that the heterogeneity of counties and their unique potential for growth under new regional thinking are being neglected.

In such a centralised policy context it is difficult to see a way towards effective co-ordination mechanisms at the county level that could work to maximise their growth opportunities. Even the *RSES* consultation process is being run from the Regional Assembly and involves eight separate counties that have no formal, transparent mechanism to facilitate intra-county consultation and reconciliation as a prerequisite of policy formation at the super regional level. Rather, interested parties in each of the constituent counties are asked to submit comments on the draft *RSES* separately and in isolation.

An obvious (perhaps the only) intra-county co-ordinating body is the County Council. It has a democratic mandate and the administrative ability to draw together a coherent development strategy at a county level and to participate in the debate that will be needed as the separate county strategies are reconciled. This super-regional reconciliation would take the form of identifying measures that are common to a group of counties as well as identifying measures that are county specific. With a coherent county plan, good county-level data, capitalising on their existing networks and initiatives, they could make substantial progress themselves in realising the full potential of the county economy within the wider super region.

Annex 1

Regional policy enterprise frameworks

Annex 2

Rural Broadband - Croagh Patrick Community Network

Annex 3

IRD Kiltimagh

Annex 4

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Annex 5

Mayo Road Infrastructure - Primary Upgrades

Annex 6

The Western Rail Corridor

Annex 1: Regional policy enterprise frameworks

A1.1 Introduction

Systematic policy frameworks can help small nations and their regions to be smart with limited resources. They are essential in order to bring focus and synergy to the disparate policies that make up any modern national or regional development strategy. However, the experience in Ireland has been that such frameworks at best will emerge as *ex-post* explanations of policy outcomes that were designed (or which emerged) *ex-ante* in a less formal, eclectic fashion. This is not an ideal situation, but is probably no less desirable than a slavish adherence to a rigid and prescriptive strategy that might turn out *ex-post* to be completely inappropriate. So strategic frameworks have an important role to play, particularly when they assist in explaining particular regional outcomes, in identifying potential barriers to development, or in distilling the lessons of development experience in nations and regions that may share some common characteristics.

The early Irish experience of foreign direct investment (FDI) in the 1960s and 1970s was a classic example of the role played by the so-called Product Life Cycle (PLC) framework, although there does not appear to have been any explicit reference to the pioneering work of Vernon in this area (Bradley, 2001). In addition, the industrial strategy planners in the Irish development agencies (such as the IDA) did not wake up in the year 1990 - when Michael Porter published his seminal *Competitive Advantage of Nations* - and simply design and implement a policy based on Porter's diamond of competitive advantage (see below). Rather, they came to realize that their own policy experimentation of the previous three decades could be interpreted and codified as a practical realization of many of Porter's recommendations, and that Porter's analytical framework pointed to possible consequences of current policy trends for the future. The more recent framework of Best (2001 and 2018) addresses many of the preoccupations of Irish policy-makers today as they come to realise the limitations of Porter's policy framework in an economy that is dominated by foreign direct investment and is concerned with developing a deep-rooted culture of product and process innovation.

In this Annex we describe briefly some key frameworks that help us understand how development policy operates at the level of the Irish regions. The first is a macro-regional framework which is a common feature of regional development planning in other EU states, but has been under-utilized in the island of Ireland. The second, Vernon's product life-cycle (PLC) framework of FDI-led industrialization, emerges out of macro-regional thinking and is particularly important in the case of Ireland and its regions.

The third, Porter's diamond framework of national and regional competitive advantage, is then discussed briefly, with an emphasis on the dynamic stages of development. The fourth framework, designed by Michael Best, is positioned to build on and extend Porter's seminal framework and is particularly useful when one examines business strategy at the level of individual small firms and clusters of firms. The final framework, due to Jane Jacobs, moves beyond a focus on economics and business, is ambitious and wide reaching, and explores the crucial relationship between city economies and their hinterland regional economies (Jacobs, 1986). It stands above the previous frameworks, which are more narrowly focused on manufacturing activities and the characteristics of the firms that make up the manufacturing sectors in regions.

A1.2 Macro-regional policy frameworks

There have been two broad approaches to macro-regional analysis. The first can be described as a descriptive approach, which is based on the narrative history of regions, their geographical features, the quality of their physical infrastructure, the characteristics and standards of their human resources (or 'human capital'), the nature of their main economic activities, their socio-demographic features and often includes identification of regional 'aspirations'. The second can be described as an analytical approach, is usually based on an explicit economic framework, and makes use of systematic data and modelling to examine the underlying economic mechanisms of the regions.

One possible way of looking at regional economies is to regard them as scaled down versions of the national economy, which have at least some local policy autonomy.¹¹⁰ At the other extreme, one might regard regional economies as isolated production units (or export bases) with little or no internal structure or policy autonomy. If that were the case, then the internal economics of the regions would not be of much interest. National business and policy decisions and performance would dominate, and be transmitted directly into the regions. The convergence prospects of a lagging region are limited, and depend almost completely on how national policy towards the regions is designed and executed. A lagging region risks being trapped semi-permanently in dependency, a situation that is often referred to as the '*Mezzogiorno* problem', after the region of Southern Italy whose name has become synonymous with persistent under-development and dependency.

¹¹⁰ Regions can have 'soft' policy autonomy, in terms of internal development strategies, the power to convene and influence over the behaviour and participation of social partners.

Another way in which regional economies tend to differ from national economies is that their labour markets are usually much more open to migration flows. Labour tends to flow from regions that have high unemployment and/or low wage rates to regions that have lower rates of unemployment and/or higher wage rates. This process can also take place even if rates of unemployment are similar across regions, since some regions generate more jobs than others, and these job opportunities can be exploited by well qualified inward migrants as well as by local residents.

A1.3 Vernon's product life cycle framework (PLC)

A powerful concept in business analysis is the product life cycle which captures the notion that new products are designed, come into existence, change in character as they mature, and eventually either become altered out of all recognition or vanish into obsolescence. Not all products follow a rigid path of birth, growth, maturity and decline. Nevertheless, the product life cycle (PLC) – in spite of all its vagaries and imperfections – has served as an anchor for much subsequent work on industrial policy making.

The seminal research on the role of the PLC in explaining international investment and trade is Vernon (1966). Vernon wrote his paper at a time in the post-war era, when American investment into Europe was so dynamic and threatening that it presented the major European economies with serious challenges. The best explanation for the rise of American inward investment into Europe, and eventually into Ireland and the Irish regions, was provided in Vernon. Vernon realized that the US home market played a dual role: it was the source of stimulus for the innovating firm as well as the preferred location for the actual development of the innovation. At the early stage of the product life cycle, producers need great freedom and flexibility to modify, improve and test new processes at a time when the preferred production technology has not yet stabilized. Also, demand for innovative products tends to be relatively insensitive to price, so there is less pressure to seek lowest cost production locations. Finally, communications between producers, suppliers and final customers must be facilitated, and this argues for a home location.

As the product matures, a certain degree of standardization takes place, and this has locational implications. The need for production flexibility declines and there is now a greater concern for lower costs. Also demand from abroad increases. However, as long as the marginal production cost plus the transport costs of shipping from the US to the foreign market is lower than the average cost of prospective production in the market of import, there will be no pressure to invest in foreign production capacity. But as economic and political pressures build up, eventually some production moves abroad,

initially into the larger more developed economies like the UK, France and Germany, but soon even to smaller and less developed economies like Ireland. Eventually, as the product fully matures and perhaps enters a declining phase, low cost considerations become paramount, production ceases in the US, declines in other developed economies, and concentrates in low cost developing economies.

Today, of course, the world economy is not dominated to the same extent by the US as it was in the 1950s and 1960s. However, the Irish economy is still dominated by US branch plants. While products can still be developed initially in home markets (e.g., consumer electronics in Japan), it is more common now for product development and launches to aim at global market coverage from the start, and for elements of the value chain also to be produced abroad from the start. Nevertheless, the product life cycle still provides very useful insights into the reasons why certain types of foreign direct investment locate in the island of Ireland.

Vernon suggests that multi-national enterprises need to be classified into at least two different ideal types. First, 'global scanners' innovate and transfer technology instantaneously and costlessly between any parts of the globe, and there is little or no explanatory role for a product cycle hypothesis. But, of course, the acquisition and dissemination of technology is not costless. Second, 'global standardisers' consist of firms that develop and produce a line of standardized products which respond to a homogeneous world demand rather than to the distinctive needs of individual markets. This obviously includes such commodities as oil, chemicals and crude metals, but has also come to include transport equipment, computers and pharmaceuticals. Such firms can save on the costs of segmented market research, and benefit from economies of scale in global production.

The type of FDI that has located in Ireland consists predominantly of 'global standardisers' in the fields of computers, related software, pharmaceuticals and chemicals (Microsoft, Dell, Hewlett Packard, Dupont, etc). Success in attracting these firms to Ireland came primarily from the fact that they were initially targeted by the Industrial Development Agency (IDA) at a very early stage in their (technological) life cycle. For example, the IDA was among the first such national agencies to lobby the Apple computer company to produce outside their US home base, and to come to Ireland as early as 1979 (MacSharry and White, 2000, pp.202-203). The subsequent systematic targeting of the makers of each individual component of computers – keyboards, hard disks, cables, mice, printers – as well as software, meant that the rapid growth of the modern manufacturing sector was heavily

concentrated on a narrow range of technologies. In this sense, the process represented a classic example of the PLC model of FDI.

A1.4 Porter’s diamond of competitiveness framework

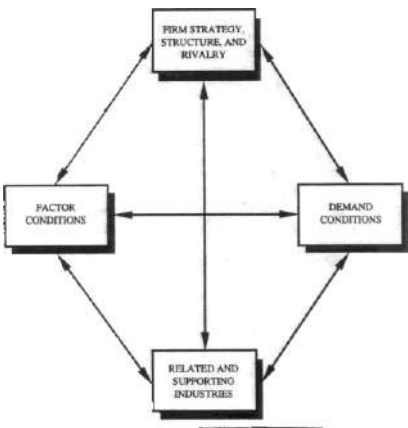
Vernon had set out to explain why the US was a leader in so many advanced goods. His PLC framework provided a dynamic theory of trade and outward FDI in a context where the US dominated the design of advanced products. His simple framework still tells us much about the process of modernisation of manufacturing in Ireland.

Michael Porter set out to answer a series of wider questions:

Why (do) firms from a particular nation establish leadership in particular new industries? What happens when demand originates simultaneously in different nations ... ? Why is innovation continuous in many national industries and not a once-and-for-all event followed by inevitable standardization of technology as the product cycle theory implies? ... How can we explain why some nations’ firms are able to sustain advantage in an industry and others are not? (Porter, 1990, p.17)

The analytical work of Porter on competitive advantage has been highly influential in the recent reformulations of Irish industrial strategies (Porter, 1990; Culliton, 1992). Porter asks how a nation can achieve international success in any particular industry or in groups of industries. His answers identify four broad attributes (the so called competitiveness ‘diamond’) that shape the environment in which national firms compete (Figure A1.1):

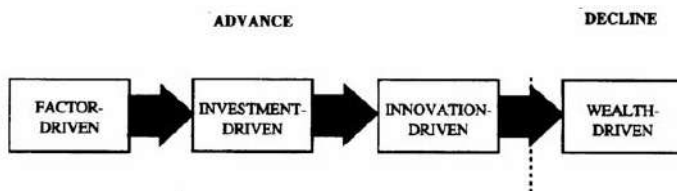
Figure A1.1: Porter’s diamond of competitive advantage



- (a) Factor conditions: the availability and quality of the factors of production such as skilled labour, infrastructure etc.
- (b) Demand conditions: the nature of local and external demand for the industry's product or service, where local demand can play a vital role in encouraging product innovation and improvement.
- (c) Related and supporting industries: the presence or absence of supplier industries and related industries that are also internationally competitive.
- (d) Firm strategy, structure and rivalry: the national conditions governing how companies are created, organized, and managed.

Although the diamond itself is not a dynamic system, Porter suggests that there are different stages of competitive development during which different elements of the diamond come into play (Figure A1.2). At the early stages of development, in states and regions that have poor infrastructure and little by way of human capital, competitive development is driven by factor conditions and draws on low cost labour and/or abundant natural resources. The next stage is investment driven, and draws from factor conditions (e.g., human capital and skills, infrastructure, etc.), demand conditions, as well as firm strategy, structure and rivalry (i.e., from three of the four diamond elements). In the next stage, competitiveness is innovation driven, and draws from the entire diamond.

Figure A1.2: Porter’s stages of competitive development



Porter's main contribution to explaining the nature of competitive advantage lies in the emphasis he places on the interactions between these four attributes and the detailed study of individual successful nations, regions and industries that illustrate these interactions at work. In particular, his approach has strong implications for the design and execution of national and regional industrial policy (Porter, 1990, chapter 12), and provides a

useful checklist of what types of policy intervention are likely to improve the individual elements of the diamond as well as their interaction.¹¹¹

Despite the prominence given to Porter's work, it can be argued that his analysis, and more especially the policy implications that flow from it, have yet to be fully and systematically applied to the Irish economies, national and regional. Of particular interest in the context of small economies such as Ireland is the fact that Porter assigns special significance to indigenous firms and local markets. More ominously, he asserts that:

A development strategy based solely on foreign multinationals may doom a nation to remaining a factor-driven economy (Porter, 1990, p.679).

Debate on the wisdom and sustainability of the Irish strategy has raged over this important issue. In its crudest interpretation, Porter is simply re-stating the implication of Vernon's early work on the PLC. In other words, there was a risk that Ireland would find it difficult to escape dependence on low costs in producing mature products. But the wide availability of high technology and the availability of a well educated and skilled labour force has assisted in the process of upgrading Irish manufacturing.

A1.5 Best's capability triad

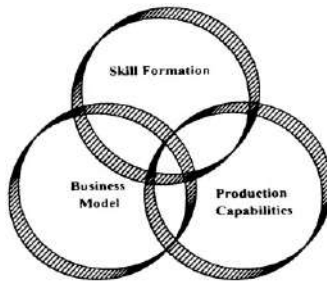
Another framework to emerge from a business research perspective is the 'Capability Triad' of Michael Best (Best, 1990, 2001 and 2018). The capability triad contains probably the most synergistic combination of insights drawn from the economic theory of the firm and the detailed history of the structural evolution of business practices. What Best offers in his Capability Triad is a new and sophisticated strategic framework for the development of industrial policy, particularly as it applies to regions.

The Capability Triad contains a synergistic combination of insights drawn from the economic theory of the firm and the historical evolution of business structures and practices, based on the interaction of three distinct but interrelated elements: a business model, production capabilities and skill formation (Figure A1.3). The *business model* element of the triad describes how entrepreneurial firms can grow, based on the creation of new firms through technology diversification, inter-firm networks within open systems, and regional specialization based on technological capabilities. The *production capabilities* element of the triad integrates ideas from operations

¹¹¹ This approach was used to great advantage by the Industrial Policy Review Group in Ireland (Culliton, 1992).

management and strategy into a logical system of production models that drives home the lesson that competitive strategy and productive systems are bound together. The *skill formation* element of the triad provides a vital input to innovation and serves to facilitate the synergistic interaction and reinforcement of all three elements. Finally, an important implication to emerge from Best's analysis is that any overall programmes in the area of industrial strategy require the close integration over time and space of the change programmes that need to take place within each of the elements of the triad.

Figure A1.3: Best's Capability Triad



The most crucial policy implication to emerge from Best's framework is that any overall programmes of change in the area of industrial policy require the close integration of the change programmes in each of the elements of the triad:

Rapid growth involves coordinated organizational changes in each of three domains: the business model, production capabilities, and skill formation. ... The three domains are not separable and additive components of growth, but mutually interdependent sub-systems of a single developmental process. ... No one of the three elements of the Capability Triad can contribute to growth independently of mutual adjustment processes involving all three elements (Best, 2000, p.2).

In a sense, this is a model that requires a type of 'critical mass' of change in each element of the triad before growth can take off. Porter, on the other hand, suggested that the elements of his diamond could be picked off one by one, leading to a sequential process of growth, as illustrated in Figure A1.3 earlier. Although Best's framework requires a degree of sophistication and co-ordination for producers, workers and policy makers that is more demanding than Porter's framework, it appears to be more soundly based on a close integration of insights from economics and business.

A daunting aspect of the capability triad is that it treats the scope for public policy as being almost completely and seamlessly blended into the detailed mechanics of change processes that occur within private firms. In this framework, as well as in Porter's diamond, public policy and private entrepreneurial actions do not operate in isolation from each other, but become mutually reinforcing. Only in one element of the Capability Triad - skill formation - is there some scope for a separable and transparent role for public policy: namely, to ensure that the right mix of education and skills is produced to accommodate the changing demands of the economy as it develops.

An obvious question to ask of the Capability Triad is the extent to which it explains why there has been phenomenal growth in some regions (Silicon Valley, Route 128, Emilia-Romagna, etc.), but less in others, such as the Italian *Mezzogiorno*. On the one hand, how much is due to domestic policy initiatives, where there may be some degrees of freedom and scope for action? On the other hand, how much is due to autonomous localised systems that operate within the private sector (operations systems, entrepreneurial skills, social capital), which are less amenable to direct policy influence, particularly in the short term? An initial fear might be that the Capability Triad acts as a closed system that can 'explain' success or failure, but – rather like meteorology and the weather– does not permit one to have much influence over the outcome.

Best's earlier work contained in *The New Competition* (1990) dwelt at length on the phenomenal success of the northern Italian regions – centred on Emilia-Romagna – in contrast to the very poor performance of the southern region of the *Mezzogiorno*. What he illustrated is that it is almost impossible to explain away inter-regional differences in economic performance simply in terms of differences in fiscal, monetary, or other conventional state-wide policies.¹¹² History plays a role, as does geography, and conventional policy can act as a compensating mechanism. But it requires a framework like the capability triad to get to root causes of regional success and to suggest systematic remedies for failure. Best's analysis suggests that regional development is most successful where two conditions hold:

- i. A sufficient degree of policy autonomy is available that permits freedom of action to address local problems, and this policy autonomy is actually used;

¹¹² Inappropriate and disruptive fiscal and monetary policies can, of course, destroy a stable and productive economy. So they are a necessary condition for productive success, but not a sufficient condition.

- ii. Economic and business policies are designed and implemented in tandem: the first to design an attractive environment in which business can flourish; the second to recognize and exploit profitable opportunities where they exist, and to feed back information to policy-makers where problems and obstacles are identified.

Best's proposals do not resemble the usual detailed shopping list of very specific policy recommendations that tend to dominate orthodox policy documents. For example, how helpful is it to be exhorted to 'concentrate on entrepreneurial firms'? In isolation, such a recommendation is only a worthy aspiration. But in the context of the matrix of proposals focused on the three interacting elements of the Capability Triad, this recommendation opens the floodgates for detailed policy work on how it can and should be implemented in practice.

A1.6 Jane Jacobs on cities and their regional economies

The first four policy analysis frameworks were analytical to varying degrees. The most analytical – the macro-regional framework – is normally incorporated into formal computer models that can be used to carry out national and regional forecasting and policy impact analysis. The Vernon PLC framework is narrowly focused on the nature of inward direct investment and draws its origins from formal trade theory. The Porter and Best frameworks are more like systematic taxonomies that provide ways of organising facts into sequences that are easier to link together in a policy-useful way.

The final framework, the work of Jane Jacobs, is very different and was published in the form of two books that commanded a much wider readership than is common for books on economic topics. The first, *The Economy of Cities*, was published in 1970. The second, *Cities and the Wealth of Nations*, was published in 1986.

In her two books, Jacobs's principal theme is the part played by cities and towns in economic achievement. She sees the population agglomerations of cities and towns as the engines of economic advance, providing markets, jobs, capital, and technology for themselves, the regions around them, and other cities and towns as well. Cities do this, she believes, only when business people in them engage in what she calls 'import-substitution', that is, "replacing goods that they once imported with goods that they make themselves." Because, she argues, "an import-replacing city does not, upon replacing former imports, import less than it otherwise would, but shifts to other purchases in lieu of what it no longer needs from outside," the import-

replacing activity of the city is “at the root of all economic expansion.” According to Jacobs, when a city develops, it creates five forms of growth which transform its immediate region or hinterland:

- a) Abruptly enlarged city markets for new and different imports consisting largely of rural goods and of innovations being produced in other cities;
- b) Abruptly increased numbers and kinds of jobs in the import-replacing city;
- c) Increased transplants of city work into non-urban locations as older enterprises are crowded out;
- d) New uses for technology, particularly to increase rural production and productivity; and
- e) Growth of city-generated capital.

However, when the economic forces created by a city’s growth spread beyond a city’s region, they are usually not in reasonable balance with one another: “The various strands—markets, jobs, technology, transplants and capital—separate from the mesh and take off by themselves” and create “stunted and bizarre economies in distant regions.” An example is what she refers to as a ‘supply region’, i.e., a region that supplies distant markets but lacks an import-replacing city of its own.

The approach of Jane Jacobs does not provide a direct link to the formulation of policy. But it does serve to condition and influence the way that one should examine the economies of regions. She warns against the practice of economists of concentrating on nation-states, since it causes them misleadingly to group together rich regions and poor ones within the same nation. However, the officially published economic data tends to be most comprehensive for the nation state; less comprehensive for regions; and almost non-existent for cities. This has undoubtedly deflected attention away from what Jacobs correctly regards as the true engines of regional growth: namely, dynamic and vibrant cities and towns.

A1.7 Summary

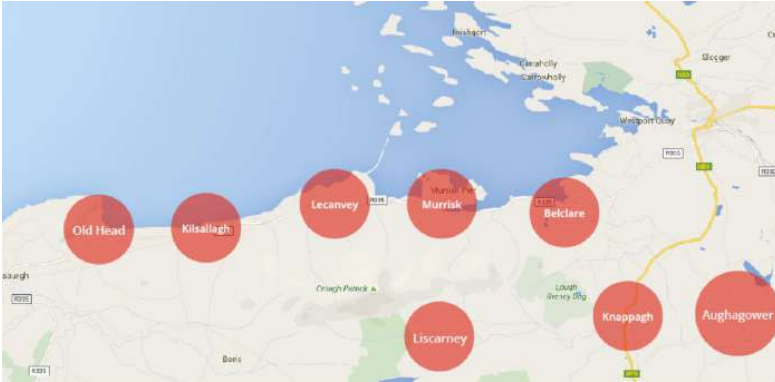
It appears to be a fact of life that the rich tapestry of economic and business research is usually far too complicated to be applied directly to practical policy making other than in the form of simplifying explanatory frameworks. Such frameworks usually take the form of taxonomies of useful and revealing facts and insights. We have examined five influential examples:

1. A formalised macro-regional policy framework to be used in association with national macro policy frameworks;
2. Vernon's PLC framework to explain the sequential nature of the different stages of industrialization, trade and foreign direct investment;
3. Porter's diamond of the competitive advantage, which provides a systematic check-list showing how policy can be used to create national advantage even in situations where initial factor and other endowments are unfavourable;
4. Best's Capability Triad, which emphasizes the need for synchronized advances on many fronts if dynamic growth is to occur;
5. Jacob's study of the interactions between city economies and their regional hinterlands.

One must approach these frameworks with an understanding of their historical origins and their necessary simplifications. These five frameworks simply look at regional economics and industrial development issues from different perspectives, and place emphasis on different factors. The macro-regional framework applies a variation of standard, national macroeconomic policy to regions, suitably adapted for the special features of regions. The PLC stresses the primacy of the country that provides the source of FDI, and the dependency of the host countries. This had more universal acceptance in the 1950s and 1960s than it does today, but it continues to apply to small open economies like Ireland, as well as the new EU member states of Central and Eastern Europe. The Porter *diamond* explains the development process in a world that consists of many relatively large and developed economies, and takes up where the PLC leaves off. But it continues to insist that development is crucially dependent on the domestic market, and cannot be based simply on supply chain linkages to the global economy. Best's *Capability Triad* selects a very different set of factors that are the primary causes of development, focuses on how businesses actually operate and further insists that development requires simultaneous advances in all three. Finally, Jacobs stresses the symbiotic relationship between the dynamism of city economies and the challenges of ensuring that their regional hinterlands do not lose out

Annex 2: Rural Broadband - Croagh Patrick Community Network

The area covered by the CPCNS broadband network lies along the south shore of Clew Bay. At its east end lies the town of Westport (population 6,198), where fast broadband coverage has been available for some time. At its west end (beyond the current coverage of the CPCNS) lies the village of Louisburgh (population 434), where the availability of a reliable and low cost broadband service continues to be problematic.¹¹³



Prior to the network setup in 2004, only slow dial-up access to broadband was available along the south shore of Clew bay, from Westport to Louisburgh. Most people would have been lucky to get 56kbps.

The network started development in 2004 and obtained a grant of 50% from the Dept. of Communications, Marine and Natural Resources. The CPCNS (a “Friendly Society” in which every member has a share) plan was for a spend of approximately €45,000 and grant of €22,500. The network went live in 2006 having connected its projected 40 members and by the end of that year had over 70 members. The financial gap in the set-up funding was filled by a combination of members’ funds (up front €200 subscription), €16,000 in member’s loans and a Credit Union loan.

Since the initial project team had the necessary expertise, the equipment installation and functioning of the network were very successful. The initial connection was a backhaul of 256kbps contended 4:1 from the Mayo supplier WestNet. This delivered a connection to the member of 256k, upload and download, contended 40:1. It was very reliable and faster than what was locally available.

¹¹³ For further information on CPCNS, see <http://croaghpatrickbroadband.net/>

Connection to the network cost €200 (€1 of which purchased a share in the society), with a continuing monthly fee of €30. The network depended on community members allowing equipment to be placed on their house, building or in their field – for no fee. However, households willing to host necessary network equipment did receive a discounted subscription rate of €15 per month.

For many years the network was run entirely on a voluntary basis and could not have functioned if this was not the case. Even when a Network Manager began to get paid, the “wage” was not really commensurate with the experience needed and the hours at which work had to be undertaken to ensure the network stayed functioned at all times. Being on the western seaboard, the “moisture” environment was very challenging especially when battered by storm force winds.

The CPCNS network

CPCNS operates a wireless (WiFi) broadband scheme. It uses unlicensed radio wave spectrum. Certain wavelengths are licensed to control their use. We take a supply from WestNet (which takes its supply from fibre) on a hill near Westport and broadcast it in a tight focused beam to our “access points” on strategic high points along the south shore of Clew Bay. These then broadcast the signal in a wide beam to the members’ houses.

On the house of each member of the network there is a weatherproof box that has a receiver (to take the signal) and a transmitter (to return the signal). Each house then has an electronic device that routes the internet signal to their computer devices (i.e., Ethernet connected desktop/laptop or wireless connected tablet).

The flow of traffic is managed by the Network Manager using the appropriate software. This is used to ensure that the (currently) 300Mbps uncontended broadband is equitably distributed to each access point relative to the number of subscribers connected to each. The flow from each access point is then equitably distributed to each subscriber. It is essential to ensure that each subscriber has an opportunity to receive the nominal 5Mbps service provided.

Individual connection speeds can be affected by the clarity of the “line of site” to the access point. This can be obscured by angle of view, distance, foliage (trees), weather conditions etc. The primary benefit, for rural areas, of this WiFi type network is the minimal infrastructure required to bring a signal to dispersed houses.

The evolution of the CPCNS over the years since start-up

CPCNS for many years offered a speed of connection faster than commercial providers. Originally the only alternative was dial-up over a copper wire connection. WestNet began to expand its commercial WiFi network and this constrained the expansion of the network and it was always assumed that at some time CPCNS would become redundant when commercially provided broadband of an adequate speed and reasonable cost would become available in our region.

However, our membership has grown from the initial 40 to a current 260 households. There is a combination of full time and holiday home users producing an income of €77,000 in 2017. Operating costs consist of employees, wholesale broadband, etc., and the network has broken even in most years, and even generated a small surplus. Accounts are audited and presented at the AGM of the CPCNS.

The commercial activation of a fibre network had been expected to be a serious challenge to CPCNS. The initial areas easily serviced by our WiFi network, such as Murrisk, have access to FTTH (fibre to the home). We have lost a small number of members who require higher broadband speeds than CPCNS can currently supply, either for business or for family reasons (use of the connection for gaming, multiple devices connecting at the same time for different streaming services). However, the majority of members find our current offering of a nominal 5Mbps sufficient for their needs and priced at a rate they can afford.

It is clear that the network would not have survived if it did not have access to a dedicated and skilled Network Manager who was prepared to work for relatively little pay. In the year 2016 CPCNS took on a part time employee to undertake customer facing operations and to promote (or at the very least maintain) its customer base.

The primary challenge is the need to provide on-going skilled management as well as administration functions in a situation where the volunteer base is diminished. Accountancy is now provided by a professional company (at a much reduced rate reflecting our “not for profit” basis) and we will soon be required to pay for secretarial/account management services. These all increase the cost base at a time when we are only maintaining our revenue base.

Decisions on broadband speed offered

In theory there is no limitation to the speed. In practical terms it is the cost of the equipment. A licensed link can have the same high speed as fibre but the capital cost for each connection would be impractical. In reality the

limitation is the closeness of the direct link to fibre and the number of connections serviced by each access point.

CPCNS spread its supply in such a way that those at the periphery of the network have the same speed as those close to the main distribution point. This means that everyone gets a minimum of 5Mbps. This level has been reached in reaction to the increasing internet usage in homes and the ability of CPCNS to purchase supply from commercial operators.

CPCNS can supply a higher speed to some of its members ,but not to all due to its spread. More access to fibre, which is expensive, would allow the network to increase speeds to all.

The current situation with CPCNS

It was envisaged that, at some time in the future, commercial providers should be able to connect all households and enterprises in our rural area who wanted to be connected. But that future has not yet arrived. In theory the National Broadband Plan (NBP), launched in 2012 would mean that there would be no need for our service. However, we are currently assisting Louisburgh Community Futures (LCF), who have established that there is a need for a WiFi network in their community for a service to outlying houses. With LCF we held a public meeting in April this year in Louisburgh. Over 30 people attended and it was clear that they did not expect that the NBP would supply a connection to them anytime soon. We currently have 30 names for connection in the LCF area if we can overcome some technical difficulties.

In the last census over 400 homes, in the area from Westport to Leenane and west to the sea, stated they had no, or very poor, broadband. The reason they are not currently connected is that it is too expensive for a community network like ours to connect to the closest fibre and to construct a wireless network that will reach them. The commercial networks, who have the resources to establish such links, do not see a viable financial return in such a network. The price they would have to charge for it to be commercially viable is more than the homes could afford.

It appears that many rural homes find a price point above €35 per month as the maximum they are able to pay for broadband. Some of this is probably connected with the age structure of the rural population. Many rural households have a modest bandwidth requirement due to their (at least initially) lower level of internet use. Many that have access to FTTH are not taking up the connection because the monthly fee is €45 or higher and they see no real use for the high broadband speed. The majority of WestNet customers are paying €35 for a 1 to 2Mbps connection.

CPCNS would hope to move to 10Mbps if it could afford the cost. Other community networks would be possible if access to wholesale fibre was cheaper; there was grant funding for the capital equipment and network build; and, most importantly, there was access to a central service provider that would provide network management, customer account management, financial control, administration and legal services.

CPCNS provides a reliable, low cost, flexible broadband service to a sparsely populated rural area. But it is a struggle to pay its employees commercial wages. If provision were available to enhance the network, it is feasible to manage remotely a number of dispersed networks and thereby spread the cost.

Business use of CPCNS system

With respect to business-related usage of our network, there are people who need to use the internet for work and others that could. Local IFA meetings have discussed the need for proper broadband for farmers (who are businesses) to be able to submit returns and documentation to the Department of Dept. of Agriculture, Food and the Marine as well as to other government departments.

CPCNS has members who sell products via the internet and prospective customers who need proper broadband to promote their business. The network also has people who conduct remote working in a number of formats. Some use Voice over Internet Protocol (VoIP), video conferencing, scheduling and direct services over the network. As more businesses offer the option for existing service staff, and even offer new job opportunities, to work remotely, it is clear that appropriate strength broadband can sustain and increase employment in rural areas.

Both existing and potential rural residents can find employment in a modern society that looks for flexible employment practices - provided they can have access to good broadband. That does not need to be as fast (and expensive) as 100-200 Mbps. It can operate effectively with speeds in the range 5, 10 or 15Mbps, but with low contention (i.e., no serious speed lost if heavily used).

Annex 3: IRD Kiltimagh

In some ways, the 1980s were an even worse time for small towns in rural Ireland than the 1950s had been. The growth that had taken place during the 1960s and 1970s in the aftermath of the successive *Programmes for Economic Expansion* and the arrival of inward investment had given people some hope. However, the Irish recession of the 1980s, precipitated by a global recession but seriously exacerbated by a domestic fiscal crisis, had dashed that hope. Mass emigration started up again and towns like Kiltimagh in Mayo were hollowed out and devastated. A minor difference this time was that the young people left on buses and planes rather than on trains and boats, since the train line that ran through Mayo from Athenry to Sligo had closed in 1976.

Kiltimagh was dying and its plight was described forcefully in articles by Caroline Walsh published in the Irish Times in 1989 ("The Town They Left Behind"). These articles echoed a previous narrative written by John Healy in 1968 that had highlighted the decline of nearby Charlestown (*The Death of an Irish Town*). There appeared to be little future for small Irish rural towns whose previous role as market centres was being destroyed by the decline of agricultural activity, emigration and further eroded by increases in private car ownership.

The location of Kiltimagh added to the serious challenges that it already faced. In some ways it resembled regions in the USA located between the east and west coast prosperous cities and referred to somewhat dismissively as "flyover" states. One could travel from Dublin to Castlebar and never pass through Kiltimagh, since it is located off the two main east-west national routes (the N5 and the N60).

In such a situation, it is an unfortunate characteristic of Irish regional policy that the support given to peripheral towns and regions tends to be at its least parsimonious in good times when the state coffers are full. But when recession hits, assistance to these vulnerable regions is among the first to be cut back. As in the case of hypothermia, when the nation's extremities start to shiver, resources retreat to preserve the core. So, in order to survive, the periphery must initially look to its own resources.

The recovery process that started up in Kiltimagh in the late 1980s provides a stunning example of what can be achieved if a community stands firm, self-organises, owns the challenge and acts decisively. The challenges facing Kiltimagh had no obvious quick-fix, short-term solution. Indeed, things were likely to get worse before they could start to get better. Building on earlier work of the Mayo County Development Team in the mid-1980s ("The Moy

Catchment's Future"), a start was made on a recovery plan, funded initially by voluntary contributions of £2 per week from town wage earners for a period of four years in order to build up resources that could be used to initiate actions and eventually attract co-finance from the hard-pressed state agencies and reluctant-to-lend banks. An early decision was made to establish and staff a small office to work on the development of concrete initiatives and co-ordinate the volunteers when they tackled the many tasks facing Kiltimagh as it fought back and tried to turn around its fortunes.

The initial plan covered the years 1990-1994, and the focus was on immediate job creation in the town. The challenges were daunting: small farms, poor quality land, little by way of industry, limited tourism potential, town buildings in a state of dereliction and decay. Working jointly with the Mayo County Development Team, a successful action was mounted to renovate the town, restore decayed buildings and find new uses for them. The early activity of IRD in procuring and repurposing derelict buildings served as an example to the private sector, which developed a renewed interest or confidence and followed suit, with similar investments in some of those properties that previously had been a blight on the townscape. An early lucky break was that EU Structural Funds started to flow in the early 1990s as Ireland faced into the challenges of the establishment of the Single European Market in 1992. So increased State assistance for Ireland's least developed regions started to become available.

The transformation of the town was dramatic, perhaps best illustrated by the example of the then newly located HQ of IRD Kiltimagh, a company with charitable status set up in 1989 with the mission "to develop Kiltimagh to its fullest and in a way which benefits all in the Community".¹¹⁴

The wide range and success of town enhancement programmes, new facilities for the town's children, activities in the areas of arts and culture, housing provision, tourism initiatives and the support that led to the establishment of a large new hotel and the renovation of an existing hotel, are described more fully in *IRD Kiltimagh - A Success Story: Against the Tide 1998-2008*.¹¹⁵

¹¹⁴ For full details of Kiltimagh IRD, see <http://www.ird-kiltimagh.ie/>.

¹¹⁵ For the full background story of Kiltimagh IRD, see <http://www.ird-kiltimagh.ie/about/background---history/>.



Enterprise House 1991



Enterprise House 1995

But while the renovation of the physical fabric of the town is the most visible manifestation of the success of IRD Kiltimagh, there was always a realisation by its Directors that in the absence of local employment opportunities, the town would continue to struggle to survive. So one of the first significant projects carried out by the IRD was the provision of enterprise workspace. This was developed initially in Enterprise House in the very centre of the town, where Phase 1 provided 3,000 sq. ft. and Phase 2 a further 7,000 sq. ft., financed by IRD own resources and by the IDA and FAS.¹¹⁶ A further Phase saw the purchase and refurbishment of 30,000 sq. ft. of the former Irish Spinners factory which had closed about 1981 with the loss of 160 jobs. An early success story related to CMS Peripherals, a small UK company specialising in the application of IT products for businesses, which started up in the Enterprise Centre in 1992 but by the year 2000 had outgrown available space and relocated to a larger premises on the outskirts of the town.¹¹⁷

Today over 90 people are employed directly in or by projects located in the initial phases of IRD workspace totalling 40,000 sq. ft. This figure does not include those projects like CMS Peripherals, which incubated in IRD workspace and relocated to various locations in or about Kiltimagh. The projects currently in IRD workspace range from office based administrative and consultancy companies to food companies, crafts manufacture, distribution and retailing. Projects in these workspaces have access to the back-up and expertise of the employees of IRD with respect to business advice, grant applications, marketing advice, etc. IRD Kiltimagh also extends this advice, guidance and support to all of those establishing or developing a business in the Kiltimagh area.

¹¹⁶ An indication of the resolve and dedication of the IRD was that bank loans obtained to finance the new enterprise centres required personal guarantees from some of the founding IRD Directors.

¹¹⁷ CMS Peripherals was founded in the UK by Frank Salmon, from Knock (about 9 km from Kiltimagh).

CMS employs 350 people across twelve sites in the UK, Ireland, Netherlands, Sweden, Spain, Australia, China and the US. About 70 are located in Kiltimagh. For further information, see <https://www.cmsdistribution.com/>.

Probably the single biggest step forward in recent years has been the advent of Broadband facilities in the Kiltimagh area. IRD lobbied strongly to have Kiltimagh included in the Department of Communication, Marine and Natural Resources programme to roll-out broadband into the regions of Ireland. Mayo County Council responded and included Kiltimagh as one of two locations for the Mayo Broadband Network. In the summer of 2003, the fibre-optic Metropolitan Area Network (MAN) was laid in Kiltimagh. In another innovative approach, IRD joined forces with Rural Broadband Ltd. and provided satellite based broadband in the area in February 2004. This filled the void until Eircom provided ADSL in April 2006. In 2008, IRD partnered with Westnet, Mayo County Council and other bodies to ensure that the MAN was “lit” and rendered fully operational. Kiltimagh now boasts broadband infrastructure and fibre connectivity which is world class and can be used as a springboard for business development.

Having initiated employment creation using its Enterprise Centres, which were located in restored and converted buildings in the town, and where the focus was on smaller, often local enterprises, the most ambitious enterprise initiative was the planning and completion of the town's Cairn International Trade Centre.¹¹⁸ The Cairn Trade Centre is a very highly specified modern office building covering 34,000 sq. ft. with a further 8,000 sq. ft. of underground car parking in addition to the on-site car-parking and with access to the very latest in communications technology. The building contains 15 self contained office suites that range from 1,000 to 3,000 sq. ft. Each Office suite has access to Fibre Based Broadband with 1 Gbit service available on demand. The Broadband service is uncontended and has a resilient back-up link so it ensures a top quality service with no congestion and a very low risk of an outage. Current tenants range over a diverse selection of sectors, but mainly professional and business services. These include: civil engineering, medical imaging and dental equipment, electrical power solutions, technology-driven sustainable energy, water and waste water treatment, fire security, agricultural equipment. Collectively, these businesses now employ nearly 80 people in the Cairn building, a figure that is expected to double in the coming years.

¹¹⁸ The Cairn Centre is named after Sliabh Cairn, a 260 metre hill overlooking Kiltimagh. See <http://www.ird-kiltimagh.ie/enterprise/cairn-intl-trade-ctr/>.



In other words, the Centre has targeted projects that can ‘decentralise’ in whole or in part to the West of Ireland. A typical example might include the accounts section of a firm which can operate remotely from a city-based headquarters. The Cairn Centre is designed to accommodate any office-based clients to a high standard, including but not restricted to companies or company departments in the activity areas of insurance, banking, investments, engineering, consultancy, human resources, marketing, accounts, etc.

The biggest challenge faced by organisations like IRD Kiltimagh was the need to evolve a development model that is appropriate for small towns, or more generally, groupings of small towns in a peripheral environment like County Mayo. Conventional economic policy wisdom suggested that innovation and enterprise would only operate efficiently in large towns or in cities. Historically, this was true. With the arrival of the industrial revolution and the mechanisation of agriculture in the 19th century, the large population living in rural areas who had previously supported itself from farming, were no longer needed and flocked to the cities where massive factories now demanded a city-based labour force. But now that the agricultural labour force has shrunk to a small fraction of its previous size, and advances in technology and communications have made it efficient to operate enterprises at a smaller scale and in units that no longer need to be in one location, it has opened up opportunities for towns like Kiltimagh. If the initial facilities are available, firms can operate at lower costs than in big cities with their inflated land prices and office rents, and where the workforce can enjoy

a higher quality life-style in the absence of high rents, unaffordable house prices and time-wasting commuting.¹¹⁹

Regional development strategies in Ireland have often operated with a disconnect between spatial and enterprise/economic development strategy. The success of the IRD Kiltimagh was due mainly to the fact that its Directors realised that if they "owned" amenity planning and town renewal, they also needed to "own" enterprise/economic development planning. Both of these sides of regional development were symbiotically connected. Attractive towns that offered no accessible employment opportunities for its people would fail. And enterprises were less likely to locate in unattractive towns that offered no business-friendly supports or a family-friendly environment.

The IRD Kiltimagh experience has some interesting connections to the recent rethinking of regional development policy that is taking place in the USA. There, it was the negative side effects of globalisation on the smaller US cities and towns of middle America, that had previously focused on traditional manufacturing, that were suffering as these jobs migrated to Mexico and China. Once again, conventional economic wisdom asserted that these areas had no future; that innovation and jobs would cluster in a few mega cities; and that the rest were doomed to decline. For similar reasons to those discussed above, this is now beginning to change.¹²⁰ But to succeed, a very careful blend of social and business initiatives are needed, and there must be intensive cooperation between local community groups, local government and national government agencies.¹²¹

The history described in the document "IRD Kiltimagh - A Success Story: Against the Tide 1998-2008" is a fascinating early Irish example of what the neglected/declining US cities are only now doing. As the Kauffman Foundation people say: "Each community must craft its own unique and vibrant start-up community; its own entrepreneurial ecosystem." Obviously, the scale in the US is much larger than in Ireland, but the process is probably broadly the same, namely initial local mobilization and self help; then working in close contact with regional and national public agencies and civil society in order to reverse decline and stimulate growth and development.

¹¹⁹ For a details of the kinds of development possibilities available to smaller cities and towns in an era of advances in ICT, see

<https://www.cpb.nl/sites/default/files/publicaties/download/netherlands-2040.pdf>

¹²⁰ See <https://www.brookings.edu/research/countering-the-geography-of-discontent-strategies-for-left-behind-places/>

¹²¹ See <https://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/how-to-cook-up-a-vibrant-entrepreneurial-ecosystem>



Annex 4: Ireland West Airport Knock

As aviation developed during the 1960s and 1970s, travel into and out of this island by plane gradually replaced travel by boat as Ireland ceased to be a somewhat remote place that was difficult to access. That is, of course, if you happened to live near the three largest Irish cities: Dublin, Cork and Limerick, with their well-established airports and good rail and road connections. But for the large numbers of people from the NW region of the country, and from Mayo in particular, who were obliged to seek work abroad, and in particular in Britain, access for family visits remained problematic. One could fly into Dublin, but it was difficult and time consuming to travel onwards to the west by train. The initial opposition of mainly Dublin-based politicians to any state involvement in the development of an airport near Knock suggested that these travel logistics were not understood, and their social consequences were downplayed. The origins and development of Ireland West Airport Knock (IWAK) provide a cautionary tale of regional policy in action in Ireland and how outcomes can confound prior expectations.

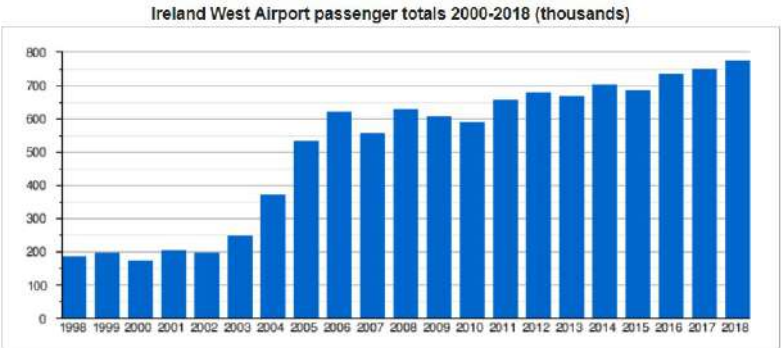
It is a fact universally acknowledged that IWAK did not come about in the time honoured fashion of initial committees of inquiry into infrastructural needs in the NW, detailed consultancy studies, cost-benefit analysis, followed by government decisions, state backing and massive investment. Rather, it came about through the singular vision of Monsignor James Horan and his energetic work in mobilising local support and extracting modest state contributions from governments who would probably have preferred to kill it off or let it die from neglect.

Monsignor James Horan and first Aer Lingus flight to IWAK



Jumping forward more than 30 years, we can now better appreciate the role being played by IWAK as a crucial lynchpin in the renewal and strategic

development of the NW region of Ireland. It has helped to open up new development possibilities for our island other than further intensive and congestive growth in the urban agglomerations of the East and SW coasts. The growth of passenger numbers tells its own story: the modest numbers in the early years as the technical resources of the fledgling airport were gradually developed to the highest international standards; the rapid take-off during the 2000-2006 years of heady national growth; absorbing the consequences of the recession of 2007-2015; and the steady climb in numbers when national recovery belatedly took hold.



The success of IWAK can only be understood when one considers it in the context of the spatially distorted development of the island of Ireland. Setting aside the east coast Dublin-Belfast "corridor", the rise of the five cities (Dublin, Waterford, Cork, Limerick and Galway) has threatened to "anchor" development south of a line drawn from Dublin to Galway. In the absence of any appropriate countervailing policies, this distortion will continue to deepen, driven by conventional economic policy wisdom which asserts that innovation and enterprise only operate efficiently in large towns or in cities. In such a strategy, smaller population centres can at best hold their own, but will probably decline further.

However, advances in technology and communications have now made it efficient to operate enterprises at a smaller scale and in units that no longer need to be in one location. This opens up development opportunities for the NW region, with its scattered small towns and low population density. But the essential requirement is that some very basic infrastructure and supportive facilities are available in the region where modern enterprises can operate at lower costs than in big cities and their workforce can enjoy a higher quality life-style.

US Vice President Joe Biden and US Air Force C17 at IWAK, June 2016



Road, rail and broadband links play their part. But in a world where globalisation, although currently under threat, is unlikely to reverse, easy access to international markets for travel and freight will be essential if the NW region is to be able to develop a successful strategy based on interacting and co-operating small towns specialising in different aspects of modern, small-scale manufacturing and business services that are internationally tradable. To future proof the role of IWAK, lands adjoining the airport have been designated as a Strategic Development Zone when eventually the need to cater for enterprise growth and easier access to airfreight services will arise. One would like to believe that Monsignor Horan foresaw all of this, but kept it to himself because he considered that we were not yet ready to believe that such a future was completely credible.

Annex 5: Mayo Road Infrastructure - Primary Upgrades¹²²

Road classification in Ireland is based on the strategic nature and function of the road and is broken down as follows:

- a) National Primary Roads – providing linkages between our main cities and towns
- b) National Secondary Road – linking the major towns in each county
- c) Regional and Local Roads – providing a sustainable link between our smaller towns, villages and rural areas/hinterlands

Overall, National Roads comprise approximately 6% of the total road network in the country but carry 45% of all traffic. This demonstrates the strategic importance of the National Road Network in providing road linkages between our cities and towns, to drive economic development using a high quality and safe road network. Regional Roads comprise about 13% of the network and carry 30% of all traffic which demonstrates their importance in a county perspective, providing connectivity between our towns and villages and linkages to the National Road Network.

For Mayo, provision of a high quality National Primary Road Network is one of the key drivers of economic development by providing the connectivity between our major towns of Castlebar, Westport and Ballina but also by providing the essential high-quality linkages with the cities and growth centres in the Western Seaboard and the East-West link along the N5 to Dublin.

Improvements in the National Road infrastructure have stalled in the last decade and at this stage, strategic improvements have been identified which can be the enabler for development in Mayo and the Atlantic Economic Corridor (AEC) region and enhance the overall connectivity of Mayo.

¹²² The material in this Annex was supplied by Mayo County Council.

potential to create a collaborative growth centre, effectively uniting the two towns in a single growth centre having a critical mass of population on a par with Sligo.



N5 - Westport-Turlough

[2] N5 Frenchpark–Scramoge

This project is within the AEC region but in County Roscommon. It recently received Compulsory Purchase Order (CPO) approval from An Bord Pleanála and is now to proceed to Detailed Design & Contract Document Stage. It is of significant strategic importance to Mayo and the North West in general, as it eliminates the currently completely sub-standard and unsafe section of the N5 through Roscommon and will provide an all-important improved N5 for the East-West Dublin to Mayo Route.

[3] N17 Knock-Collooney

The N17 Knock-Collooney scheme is listed in the National Development Plan 2018-2027 as a Major Improvement Scheme. This scheme is currently being progressed through Route Selection and Planning Stage. This scheme, along with the addition of the N17 Claremorris-Tuam Scheme, will provide the strategic North-South link though Mayo providing access to Sligo in the North and Galway, Limerick and Cork in the South. This will form the backbone of the Atlantic Economic Corridor as an enterprise region.

[4] N26 Ballina-Swinford with N58 link to Ballyvary

The N26 scheme is referenced for improvement in the National Development Plan 2018-2027 but not as a major scheme. The N26 Improvement Scheme at Cloongullane Bridge recently received approval from An Bord Pleanála.

Completion of this scheme will improve the essential East-West connectivity for Ballina and North Mayo to the N5 at Swinford. In addition, the N58 link from Foxford to the N5 at Ballyvary will provide for the all important connectivity between Ballina and the proposed Castlebar/Westport collaborative growth centre and this scheme needs to be advanced as a major scheme.

[5] N60 Castlebar–Claremorris

The N60 link between the N5 at Castlebar and the N17 at Claremorris will provide a high quality linkage between the potential Castlebar/Westport collaborative growth centre and Galway-Limerick-Cork via the N17/M17/M18. This N60 connectivity is currently being delivered by a number of minor improvement schemes along the N60.



N60 Lagnamuck

In addition to investment in the National Road Network in Mayo to drive economic development, targeted Regional Road investment is also essential. Mayo County Council has developed a programme of Regional Roads for investment, to enhance the connectivity between our towns and the National Road Network (see below).

The key Regional Road targeted for investment is the R332 from Kilmaine to Tuam. Improvements to this route will provide enhanced access from South Mayo to the M17 at Tuam providing the connectivity to Galway and Dublin.

These strategic national and regional road improvements have the potential to create the required level of internal and national connectivity required for Mayo to progress as a hub of economic development on the Western

Seaboard. They will provide the strategic North/South and East/West connectivity for Mayo through the N17 and N5 respectively. They will also provide the all-important linkage between Ballina in North Mayo and Castlebar/Westport so that the three major towns in Mayo have the connectivity required to nurture and generate economic development. They are the essential catalyst for further transportation improvements to the National Secondary Network throughout the County and the driver for improvements to rail connections to Mayo which would further advance the connectivity of the county.



N59 Kilmeena

Mayo regional and local roads - routes for investment

- R332 Kilmaine – Tuam (*Foxhall*)
- R346 Cong – Cross (*including Cong Relief Road*)
- R312 Castlebar – Glenisland – Bellacorick
- R314 Ballina – Killala (*including Killala Relief Road Phase 2*)
- R311 Castlebar – Cuilmore – Newport
- R334 Ballinrobe – Headford (*Mayo Border at Moyne*)
- R335 Bundorragh – N59 Junction
- R294 Ballina – Bonnicolton – Co. Boundary
- R310 Ballina – Pontoon – Castlebar
- R330 Westport – Knockrooskey
- R294 Link to Attymass Road, Ballina
- LP112/
LS5514 Link with N59 Ballina

Annex 6: The Western Rail Corridor

The first canals in Ireland started operation in the late 18th century. By the middle of the 19th century, only fifty years later, they had been largely displaced by railways. By the mid-20th century, with more widespread access to cars and lorries, and as a result of declining population and low economic growth, rail was itself significantly displaced by road transport. This mainly affected rural lines serving regions that had been devastated by a flood of emigration that reached its peak in the 1950s. But in an action of incredible short-sightedness, it also led to the closure of Dublin suburban rail links such as the Harcourt Street line in what is today a heavily populated area now served by the new Luas metro system operating on the restored track.

The case for rail today is easiest to make for intra-city rapid transit (DART and Luas in Dublin) and for inter-city express rail services linking the five Irish cities and Belfast, but with Dublin links to Westport, Ballina and Sligo as afterthoughts. So the challenge is to make a modern case for rail links in regions that today have a low (but increasing) population density and where towns are small in size relative to the five cities and spread over a wide area.

If one were planning with a short-term time horizon (say, five years), such a case would be difficult to justify. However, *NDP 2018-2027* is the stage of the wider *Project Ireland 2040* strategic planning framework where funds are being allocated to projects that will implement the first ten years of a strategy that will shape Irish regional development for a further thirteen years. In other words, it will shape the Ireland in which students born this year will be seeking employment when they graduate from universities and Institutes of Technology in 2040.

In such a long-term planning horizon, a restored north-south rail link along the Atlantic coast (the so-called Western Rail Corridor, or WRC) needs to be viewed as an additional strategic transport conduit for linking Ireland's two smaller western cities (Limerick and Galway) and a large number of west coast towns that find it difficult to stand alone and grow autonomously as Dublin, Cork and Belfast do. However, with appropriate institutions and infrastructure, a collection of co-operating smaller cities and towns can grow dynamically and take on many of the beneficial competitiveness characteristics of a larger city.

The demise of the WRC

The First Programme for Economic Expansion, 1958-1963, charged the then national transport company, CIE, with "providing reasonable, efficient and economical transport services", as well as "the encouragement of national economic development". A cost-cutting programme of railway closures was announced soon afterwards, leading to the loss of 11 railway stations in County Mayo. But the most significant and far reaching decision taken was to close the 140 mile long railway linking Sligo, via Mayo, Galway and Clare to Limerick. By 1976 all scheduled passenger and freight trains had disappeared off the route and major towns such as Ennis, Gort, Tuam, Kiltimagh, Swinford, Charlestown and Tubbercurry were removed from the national railway network. Ballina-Foynes freight continued until 1999.

Railway sidings at Tuam Sugar factory on the WRC



Before it was run down and effectively mothballed from the mid-1970s, the rail system had linked the small cities and towns along the western seaboard and interfaced with the radial rail system emanating from Dublin, which had survived the closures.¹²³ Today, with the exception of Waterford-Limerick Junction and the Limerick-Athenry routes, only the radial system emanating out of Dublin remains in passenger operation.

¹²³ In the case of the rail link to Ballina and to Castlebar/Westport, the battle to maintain the rail system was a very close call.

Steam trains at Claremorris: junction between Dublin-Mayo and Limerick-Sligo routes



Focus on transport by car, bus and carriage of freight on heavy lorries has certain advantages and apparent flexibility over rail. But constructing high quality roads is very expensive and environmentally damaging. Increasing road traffic damages the environment and when it comes to transporting very heavy bulk goods (e.g., timber), road-based transport is particularly damaging. As vehicle numbers operating on the weak road system build up, serious congestion and delays occur regularly even in the smaller cities of Limerick and Galway. In the absence of more and better transport links in the AEC region, it will become more difficult, if not impossible, to build the scale, specialisation and productivity benefits that a closely interlinked system of small towns could generate.

A more inclusive regional development model

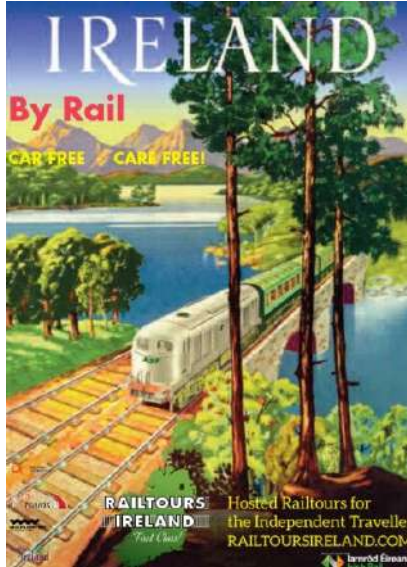
After the Act of Union in 1801, the achievement of the full potential of the island economy was systematically distorted by a narrow focus on the north-east, east and south coasts and neglect of the west coast. Together with improved roads and broadband, the WRC provides an historical opportunity to re-integrate the island, including the isolated north-west corner that contains the island's most isolated county (Donegal) and towns (Letterkenny/Derry). The WRC, if fully restored, will form an integrating system whose full network benefits cannot be realised if only a small element of the network (e.g., Limerick-Galway) has been restored. Although rail works best in densely populated regions, regions will remain weak and sparsely populated if they have only a limited range of public transport links to adjoining regions.

Connectivity and linking to regional cities are key elements of *Project Ireland 2040*. The next phase of the WRC restoration between Galway and Mayo - the 53 km link via Tuam from Athenry to Claremorris - would facilitate Galway-Westport train services, serving major towns such as Oranmore, Athenry, Tuam, Claremorris, Castlebar, and Ballina.



In addition to the domestic and commercial demand, a new Mayo-Galway rail service would provide a valuable additional access route for overseas visitors to extend their itineraries north of Galway to high profile Mayo Wild Atlantic Way destinations.

Railtours Ireland: A rail-based tourism initiative



Rail Freight

Mayo is today the destination and source of all inter-modal (shipping container) and bulk pulpwood rail freight in Ireland. Approximately one thousand trains operate annually between Mayo and Waterford/Dublin Port. These trains carry 500,000 tonnes and generate a gross profit for Iarnród Éireann. The trains currently receive no state subsidy, in stark contrast to rail freight elsewhere in the EU, and have to pay the highest rail access charges in Europe.

By taking over 18,000 long distance lorries generating 5 million truck kilometres off the road annually, a significant carbon saving already accrues to the state. A 2015 study by the Western Development Commission concluded there was the potential to quadruple the volume of rail freight in the region.¹²⁴ The extension of the Western Rail Corridor from Galway to Mayo would increase access to and from the Ports, including the Tier 1 EU

¹²⁴ See *Rail Freight and the Western region: Final Report*, Western Development Commission, December 2015.

Port being developed, with rail access, at Foynes. Further extensions to the North West will serve Ireland West Airport, Sligo and the North West City Region.

Ballina Freight Yard Multi Modal Internal Port



Furthermore, the next phase would also facilitate increased passenger services on the Mayo-Dublin route which currently has the lowest frequency of all radial Dublin rail services nationally. This is due to its reliance on a single 130 mile track as far as Portarlinton that is shared by all Mayo and Galway-Dublin services. In the absence of a direct southern rail link from Mayo, current freight bound for Waterford will continue to be routed via Kildare and Portarlinton (The Greater Dublin Area) while future traffic to and from the Tier 1 Port of Foynes will be required to do likewise.



*The business community (owners, employers and employees) in Mayo have a wonderful track record of generously contributing to a broad range of voluntary sporting, cultural and health and well-being organizations in the county. In keeping with that ethos we have chosen **Hope House, Foxford**, as our partner charity of choice for this publication.*

***Hope House** is one of Ireland's leading addiction treatment centres with 25 years of success in treating people with alcohol, drugs, gambling and other dependencies. A highly experienced and professional team provides a warm, welcoming and therapeutic environment for all who attend the centre.*

*All proceeds from this publication will be donated to **Hope House**.*



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