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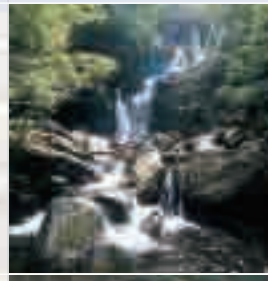

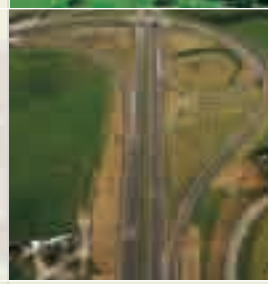

QUALITY OF LIFE AND THE ENVIRONMENT

Final Report

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Department of the Environment, Heritage and Local Government

Environmental Research Technological Development and Innovation (ERTDI) Programme 2000-2006

Environmental Protection Agency

The Environmental Protection Agency (EPA) is a statutory body responsible for protecting the environment in Ireland. We regulate and police activities that might otherwise cause pollution. We ensure there is solid information on environmental trends so that necessary actions are taken. Our priorities are protecting the Irish environment and ensuring that development is sustainable.

The EPA is an independent public body established in July 1993 under the Environmental Protection Agency Act, 1992. Its sponsor in Government is the Department of the Environment, Heritage and Local Government.

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- Office of Environmental Enforcement
- Office of Environmental Assessment
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet several times a year to discuss issues of concern and offer advice to the Board.

Environmental RTDI Programme 2000–2006

Quality of Life and the Environment

(2004-SD-DS-16-M1)

Final Report

Prepared for the Environmental Protection Agency

by

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SOCIO-ECONOMICS

The Socio-Economics Section of the Environmental RTDI Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in this area. The reports in this series are intended as contributions to the necessary debate on socio-economics and the environment.

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Executive Summary

Measures of Quality of Life

Although Cork and Galway are regional growth centres, the greatest concentration of economic activity, together with the bulk of the country's population, is to be found in Dublin and the mid-east. Irish regional policy, as set out in the National Development Plan (2000–2006), aims to reduce this spatial domination and to provide for a better distribution of economic activity and development. The National Spatial Strategy (2002) further articulated this regional policy by proposing that principles of sustainable development should apply and that equal emphasis should be given to economic, social and environmental dimensions if people's quality of life is to be advanced. However, rather little consideration is given to what constitutes quality of life, such that, in practice, policy falls back on conventional strategies to increase investment and incomes. Income is presumed to be commensurate with increased quality of life. Although politicians and policy-makers often refer to quality of life, there has been very little research on what constitutes quality of life in Ireland. Neither has much consideration been given to the role of the environment – either in its own right, or relative to economic and social aspects of quality of life.

Agreement on what constitutes quality of life and how it can be measured is contentious, not just in Ireland, but everywhere. The conventional approach used for policy has been to use measures of gross domestic product (GDP) or regional valued added. However, it is acknowledged that such conventional economic measures have only a partial relationship with societal well-being. Consequently, EU policy has been increasingly emphasising the importance of equality, citizenship and public participation in decision making. To the extent that economic measures are related to resource use and consumption, there are also pressing issues in relation to public goods and the sustainability of economic growth.

Aspects to quality of life other than income include the environment, freedom, health, working conditions, leisure, social and family relationships, and levels of contentment, amongst others. Economists do not deny that these other dimensions do play a role in quality of life. Their argument has rather been that there is a trade-off between incomes and these other aspects. Rosen (1979), for example, proposed that those locations which might be desirable as places to live (in terms of income-earning opportunities or other factors) were also likely to have higher costs of living, particularly with regard to house prices.

A characteristic of economic indicators of quality of life is that there is an assumption of rationality in that people know what they want and set out to get it, trading off income for other aspects. Alternatively, social indicators are based on normative ideals of what could be considered the 'good life' such as high levels of literacy, low rates of premature mortality or a quality environment. In either case, there are risks in relying too much on objective indicators alone. For instance, some observers (e.g. Myers 1987) have identified a dependence on local or community circumstances. Furthermore, assumptions of rationality are countered by the observation of a 'paradox of affluence' (Pacione 1982) whereby a headlong rush for increased incomes and consumption in Western societies has not been accompanied by a commensurate increase in subjective well-being.

Subjective indicators of well-being have therefore been recommended to complement more objective measures. As these measure people's personal evaluation of their quality of life, much depends on personal expectations and experience. Nevertheless, a full understanding of what constitutes quality of life cannot proceed without a consideration of subjective well-being. Moreover, while being better placed to manage those factors that can be measured with objective indices, policy still has an influence on people's capabilities and aspirations.

Quality of Life in Ireland

In Ireland, something of a regional trade-off can be identified between economic opportunities and other aspects of quality of life as per the Rosen argument. In particular, while average incomes are higher in the east of the country, house prices are lower in the west. Furthermore, this report demonstrates that people in the west are not only more able to afford a property, they are also more able to afford a property of choice in that there are more opportunities to purchase detached houses. The flip side is that, where people own their own houses, they are more likely to have benefited from an appreciation in its value and to consequently perceive a higher degree of wealth, albeit locked up in property. Generally, levels of property appreciation have been higher in the east. Unfortunately, young people, and the more economically active segment of the population, are more likely to be faced with rising entry-level house prices and the prospect of large borrowings.

The report finds that other objective indicators of quality of life such as education, crime and access to healthcare are not uniformly better in the west or the east. Indeed, many measures of social disadvantage are at their worst in the west, although often highlighted by the lower representation of the more economically active and educated members of the population. Of the environment – the topic of core interest to this report – there is a danger in presuming that environmental quality is better in the west. Some indicators of environmental quality are, indeed, better in the west, but there are others, such as drinking-water quality or recreational access, that are often worse.

Comparisons can often be reduced to an urban–rural dimension rather than a regional one. Factors such as incomes, house prices, crime levels, air pollution and congestion are all likely to be higher in urban areas. Some of the most acute instances of poverty are also to be found here.

There is also a danger in measuring only regional differences without considering underlying processes. If regional development policy is successful, it will bring with it greater competition in the housing market and greater pressures on the environment. Much of the more pristine environment of the west is more vulnerable to change than that of the east precisely because it has witnessed less change in the past. Ireland has an opportunity now to ensure that development in the west does not occur at the expense of other aspects of quality of life, including the environment.

The Study

The study examines objective indicators associated with quality of life in Ireland. As noted above, these include indicators of environmental quality, income, house prices, health, education and crime. The analysis then moves on to compare these objective indicators with subjective indicators as revealed through the use of a public survey and further qualitative analysis based on focus-group discussions. The intention, therefore, was to compare the objective measures with people's perception of these indicators and their own subjective assessment of personal well-being. This comparison is not performed as often as it should be in discussions of quality of life.

The survey was modest in size, but does allow some comparison between Dublin, the city's commuter belt and a rural area, Co. Leitrim. In fact, it appears that there is a fair amount of agreement on the relative rating of factors influencing quality of life. Ability to own one's home and security of income were paramount, but respondents also placed almost equal importance on clean air and drinking water, low crime, good schools and, if of working age, a satisfying job. Where there were differences, the rural respondents appeared to place a slightly greater emphasis on key environmental attributes, while urban residents valued absolute incomes and social or leisure activity rather more.

Additional information based on respondents' perception of their actual circumstances indicated that people come to value the better aspects of their place of residency, or at least to rationalise their situation on this basis. Although this is an area deserving of further research, it seems possible that people may adapt to their circumstances – as much as economic or geographical theory suppose they relocate in search of such attributes. Planning and traffic were the only attributes for which actual perceived circumstances differed markedly from those that would be preferred.

A factor analysis was applied to the survey data too. The analysis does not necessarily provide more information on the key attributes of quality of life, but does identify where there are common patterns amongst many respondents. In this respect, the analysis identifies three components of quality of life, each of which was evident in all three locations. These components can be broadly described as (i) 'domestic security', (ii) 'social/leisure' and (iii) aspects of the 'planned environment'. The first of these includes indicators such as security of income, absolute income, home ownership and low crime. As this component encompasses air and drinking-water quality, it suggests that these indicators may be associated with personal health and well-being. The 'social/leisure' component suggests that many respondents desire to live in an area that can offer a vibrant social network and recreational opportunities, while the 'planned environment' component includes those attributes that affect quality of life over which the authorities have a direct influence, for instance, a clean environment, traffic and planning. The factor analysis does not suggest that everybody places a priority on these sets of indicators, but it does identify three areas that deserve to be considered by policy-makers.

The survey was followed by three public focus groups in counties Meath, Leitrim, and Waterford. The focus groups provided for some further interpretation of the survey data as well as granting some new insights. A couple of aspects resonated with the findings from the survey. In the latter, security, as in security of income, low crime and home ownership, was clearly a valued aspect. The focus groups revealed a feeling of insecurity amongst people in relation to employment, crime and the in-migration of non-nationals. Concerns were also raised about local planning by the focus groups in Navan and Carrick-on-Shannon. An overt concern with the environment was only occasionally expressed, but the issue of planning does have relevance here. For both security and planning, it appears that these concerns could emanate from the pace of social and economic change.

Taken together, the review of objective indicators and the analysis of the more subjective data from the survey and focus groups reveals some need for policies that provide reassurance, for instance in relation to income or employment stability, rather than just absolute income alone. This finding may simply be an inevitable characteristic of the rate of social and economic change, and could still be insufficient to undermine conclusions from other national surveys that the Irish are amongst the most optimistic of Europeans. However, it does also suggest that policy and administrative mechanisms, including planning, may not be keeping pace with change. It could suggest that now is the time for policy-makers to stop presuming that quality of life (and the environment) must be better in the west – to begin instead to add substance to policy references to sustainability by ensuring that quality of life is supported by public investment and not just presumed to be an inevitable outcome of economic development.

1 Introduction

Although income is the most commonly used proxy for welfare, it is nevertheless a poor measure of well-being as it fails to take into account cost of living differences and quality of life disparities between regions. It also fails to consider the impact of environmental degradation on quality of life. Likewise, regional policy aims to equalise incomes through an even geographical spread of employment opportunities and by directing private and public investment preferentially to areas that are considered to be underdeveloped. However, policy may fail to recognise that the environment also contributes to social welfare. In doing so, it may not give sufficient attention to environmental impacts, particularly where these are in conflict with economic development objectives.

Unfortunately, in the absence of broad agreement on alternative indicators, policy-makers tend to accept that societal welfare is best measured in terms of gross domestic product (GDP) or gross national product (GNP). However, such a singular approach can have its limitations in that economic progress does not necessarily ensure the provision of other factors that might be considered to be important for quality of life — for example, shared community values. Indeed, there could possibly be an inverse relationship between economic development and some factors such as personal security or a clean environment.

A variety of objective social and economic indicators can be used to measure quality of life. There are also subjective indicators of well-being. This report aims to examine the extent to which regional quality of life as measured by these indicators could vary from that indicated by GDP. It also intends to examine the role that the environment plays in contributing to quality of life.

2 Study Methodology

2.1 Introduction

Enhancing quality of life is increasingly cited as one of the objectives of government policy, yet information about quality of life, with the exception of income, is lacking. Without the information required to inform policy decisions, it is necessary to question whether current policy intervention is addressing quality of life and improving national social welfare properly. Research into the various components of quality of life and their implications for regional policy intervention is therefore necessary.

This report has two principal objectives:

1. To explore the proposition that income alone is an inadequate measure of regional disparities and that regional policy intervention should focus instead on the region's potential to realise a comparable quality of life.
2. To use both subjective and objective measures to investigate geographical disparities in quality of life, including the contribution of environmental quality.

The rapid growth and development of the Irish economy has been accompanied by the widening of regional disparities between a dominant core, comprising the Greater Dublin Area (GDA), and geographically peripheral regions. On average, income tends to decline with distance from Dublin.[1] A variety of regional policies have been implemented over the years in an attempt to reduce regional income disparities that have persisted despite national economic growth. These approaches have encompassed various applications of regional policy, from the designation of regional growth centres to attempts at economic convergence using the EU Structural Fund. Amongst the more recent initiatives has been the National Spatial Strategy (NSS), which is intended to offer a means to ensure balanced regional development and reduce income disparities (GVA[2] per capita) between the regions (Government of Ireland 2002).

Most income measures confirm the existence of regional disparities in Ireland, but there are a number of problems with using income as the sole measure. Firstly, pure income measures are not linked with the cost of living. Secondly, income measures do not capture quality of life disparities, including environmental quality disparities, between regions. Objective and subjective measures of non-income quality of life in Ireland suggest that this could be lower in Dublin than other regional locations and that environmental quality may be one factor in this respect in that it is considered to improve with distance from Dublin[3] (Clinch et al. 2002; Meredith and Commins 2004). With so much population and economic activity concentrated in Dublin and the GDA, the EPA report *Ireland's Environment* (EPA 2004) adds that the environmental impact of increased development and enhanced prosperity is not without some cost in terms of increased commuting times, noise, air quality and encroachment of urban areas into the countryside.

However, most of the justification and rationale for adopting regional policy intervention in Ireland, including the NSS, has been initiated and justified on the basis of income disparities between regions. Very little reference is made to environmental quality or other important components of quality of life.

Hypothesis

The principal hypothesis of this study is, therefore, that regional disparities in income are an inadequate indicator of regional disparities in quality of life.

[1] See Appendix 1.

[2] Gross value added (GVA) at a factor cost is a measure of the value of goods and services produced in a region, priced at the value that the producers receive, minus any taxes payable and plus all subsidies (Boyle et al. 1999: 7).

[3] See Appendix 1.

2.2 Approach

This study proposes to investigate this hypothesis using four main components, namely:

1. Review of the literature.
2. Analysis and mapping of objective indicators.
3. Questionnaire on subjective valuation of these same indicators and others.
4. Focus groups.

2.2.1 Literature Review

The review of the literature sets out to examine the role of both income and the environment on quality of life. In doing so, it examines the range of literature on the subject of quality of life, including the relative role of objective and subjective indices, both of which apply to material well-being and the environment as much as they do to other factors. Additional material has been consulted on Irish and European regional policy, the extent to which this is motivated by income discrepancies and the degree to which other indices of well-being are considered, including environmental quality.

2.2.2 Objective Indicators

A number of key objective indicators are analysed based on previous surveys discussed in the literature review. This section begins with those indicators which can be used to demonstrate regional variations in income and cost of living, the latter including relative house prices. Indicators of social and economic disadvantage are also presented to demonstrate regional and other variations in inequality.

Environmental quality has an undefined impact on quality of life and various indicators are used to show regional variations in aspects such as water quality. Government policy has aimed to remove the infrastructure gap in relation to the environment, but there are other aspects of environmental quality that may not be accounted for by government investment or which may, indeed, lie outside the scope of government. In addition, the report presents a number of other indicators which could be thought to have an impact on regional quality of life.

These include indicators relating to key areas of public concern as suggested by public debate and media interest, including levels of crime, and education, health and services provision.

Data to support regional economic strategies in Ireland is limited in many cases and often several years out of date. In particular, there is no reliable data on disposable incomes; county variations are instead based on share of GDP. Where regional data is available, this has been mapped into a geographical information system using ArcMap. County data is sometimes skewed by urban–rural variations while other potential indicators of quality of life simply cannot be mapped at present. For example, there is no satisfactory local data on access to green space or levels of crime.

2.2.3 Postal Survey

A postal survey was undertaken of people living in Dublin, the Dublin commuter belt (including the towns and environs of Navan and Naas) and Co. Leitrim. A total of 500 questionnaires were posted, to which the response was 32%.

The object of the survey was to examine both objective and subjective indicators. The questionnaire contained various objective questions in relation to people's place of residence and commuting as well as the usual set of socio-demographic questions. It asked people to rate the importance they give to 42 attributes of quality of life based on issues identified by the literature review. The ratings are based on a seven-point scale from undesirable to essential. People were then asked if each attribute applied to where they live now. The intention was to determine the importance that people place on both income and the environment as well as other indicators of quality of life. In most cases, the supply of these attributes is influenced by government and local government policy and expenditure. Where people have a degree of flexibility in choosing where to live, their experience of the actual supply of these quality-of-life attributes is also influenced by their personal location decision.

2.2.4 Focus Groups

Following the preliminary analysis of the questionnaire, three focus groups were held with people living in the commuter belt and more rural regional localities. The objective here was to examine the results of the survey and to explore in more detail the trade-offs that people perceive between income, environmental quality and other attributes of quality of life.

The first two focus groups were held in Carrick-on-Shannon in Co. Leitrim and in Navan. To compensate for the fact that the survey had drawn its rural sample from Co. Leitrim, an additional focus group was also organised in New Ross in the South-East Region, an area that has experienced some loss of industry and population in recent years.

Participants were selected by a market research company using door-to-door recruitment in suburbs or estates selected to represent a cross section of socio-economic classes. Between eight and ten people participated in each group, including a mix of men and women. People were deliberately recruited from an age range of 20–65 and were selected to represent both long-standing residents and in-migrants.

3 Literature Review: Relative Contribution of Material Well-Being and Environment

3.1 Societal Welfare and the Role of Environment

There are many measures of environmental quality, but only crude proxies for quality of life. Moreover, the measurement of societal welfare is controversial. Societal welfare is not simply the sum of the parts, but varies depending on the individual and the context in which people find themselves at any one time in their life. In principle, it should be possible to apply weights to each element of societal welfare, but as preferences for each of these vary within the population, it is not clear how to proceed. Even where we have information on the average values that people attach to each element, we typically have this information only for factors considered in isolation and have not asked people to compare all those factors that contribute to their welfare. Indeed, such a task could be impossible.

In the absence of a method with which everybody is satisfied, GNP and GDP are typically the most widely used measures for policy. Thus, if the economy is growing, it is assumed that people are better off. However, this observation ignores the consumption of earlier (intramarginal) units which yield higher utility than that measured at the margin (Frey and Stutzer 2002). It also rests on an assumption of income equality. In addition, there are problems with the data itself. For example, GDP ignores household production such as the effort that goes into the rearing of children, the benefits that this provides for society and the public expenditure that is avoided. Neither are costs treated equally with the benefits. GDP counts all economic activities irrespective of whether they are positive or negative. For instance, expenditure on pollution abatement appears to increase GDP even though it is correcting the negative impacts of earlier economic output. Hence, there is a degree of double counting.

Unfortunately, adjustments to the GDP index are often subject to interpretations of the data and detail. Furthermore, only so much estimation is possible. For example, an Index of Economic Well-Being was devised by Nordhaus and Tobin (1973) which included some non-traded activities such as household services, but omitted environmental damage. A similar Index of Sustainable Economic Welfare (ISEW) has been proposed by Levett (2003). As with some other indices, this latter index finds that levels of well-being have been stagnating since the mid-1970s. While Levett acknowledges that some of the individual indicators comprising the index may be questionable, they do believe that the trend suggests that a measure of welfare based on GDP should be treated with at least equal scepticism.

An alternative is presented by Islam and Clarke (2002) who propose a cost–benefit social welfare function that formally takes account of costs and benefits of development. Their revised measure corrects the inadequacy of the GDP measure by taking into account factors such as the costs of urbanisation, accidents and environmental damage. Applying the revised function to the Thai economy, Islam and Clarke find that it expanded by only 20% between 1980 and 1990, whereas the comparable rise in GDP was 78%. However, while the measure probably reflects better the true increase in welfare, the authors acknowledge that it remains subject to some rough estimation and vulnerable to certain omissions such as rates of social time preference. These make it difficult to draw comparisons with other countries.

3.1.1 Consumption, Welfare and the Environment

Economics associates societal welfare with consumption. In economic theory (first welfare theorem), an optimum (pareto optimum) allocation of resources should occur at the point at which it is impossible to make anybody better off without making somebody else worse off. The basic theorem proposes that such a position is achieved within a market exchange through each actor pursuing their own private interest. Utility is measured through market-based measures and revealed preference of consumption.

The weakness of revealed preference is that there is no market for public goods. For instance, many environmental goods are unpriced. Consequently, environmental goods that people value, or which are critical to the sustainability of development, are abused or depleted because of their public good characteristics and the absence of a market price signal. Ritov and Kahneman (1997) argue that environmental problems follow from a social conflict of interests. Externalities arise which may require varying degrees of intervention if they are to be corrected. Hence, the second welfare theorem acknowledges a need to reallocate wealth to account for these failures and externalities so as to maximise social welfare (Katz and Rosen 1998).

However, governments typically tamper only with corrective measures. A value judgement remains that increased welfare is achieved through increasing consumption. Governments therefore seek to increase incomes, choice and consumption. The sustainability of this path is now being questioned. In particular, it is argued that increased eco-efficiency can achieve only so much. While increased eco-efficiency has improved the productivity of natural resource use, this has also been realised in terms of reduced costs and, ultimately, lower prices, which tend to encourage yet more consumption (compare, for example, reduced CO_2 vehicle emissions with increasing vehicle use and engine size). Reducing consumption itself is taboo for governments (Levett 2003).

Environmental economists try to work within the economic model. Rather than questioning the link between utility and consumption or choice, the preferred approach is to add an element into the utility function that represents the value of environmental goods or the stock of natural capital. By one means or another, the preservation value of these environmental goods is estimated in terms of willingness to pay to protect the environment or as willingness to forego other goods in return.

Krutilla et al. (2002) identify a trade-off between values associated with preservation and consumption. They agree that the environment and natural capital provide utility in their natural state as well as through consumption. They then attempt to broaden the traditional social-welfare function to include a wider role for natural capital beyond consumption alone. They further adopt an ecological systems dynamic approach. This essentially transfers the instability of the ecological system to the economic system in line with much recent thinking in the area of ecological economics (e.g. Maler 2000). This results in a departure from standard models of economic growth based on consumption of natural resources towards a model more closely attuned to sustainable development. The revised model demonstrates a dependency on natural capital stocks rather than just flows. A complex series of multiple equilibria and differing welfare levels emerge for changing relative levels of consumption and natural capital. As such, different locations could exhibit differences in welfare despite possessing the same fundamental parameters of economic development.

Nevertheless, issues still remain in relation to the quality as well as the stock of natural capital. The focus of economics on the consumption of particular goods, or their utility-inducing functions, still fails to satisfy many commentators, who argue that more fundamental determinants of quality of life are overlooked. Others point out the sustainable development ultimately provides higher overall utility than could be estimated by totting up the utility associated with consumption alone.

Neither do such models examine other non-environmental determinants of quality of life. There are other aspects which help to determine welfare, including less tangible factors or those residing in subjective domains such as personal health, working conditions, freedom, leisure, social and family relationships, culture and identity, public safety and levels of contentment (Fahey et al. 2003; Islam and Clarke 2002). While incomes may be highest in one region of the country, it could be that these other measures would favour different regions where economic development is possibly less.

3.2 Material Well-Being at a Regional Level

Practical issues emerge when using economic indices to measure regional variations in societal welfare. Myers (1987) and Rogerson (1999) identify a concept of 'disamenity compensation' in which higher incomes are needed to compensate people for environmental quality of life losses. In theory, it is argued, there should be a geographical 'sorting-out' of households depending on how people trade off personal and environmental factors in relation to where they have chosen to live.

Economics should provide some guidance in this respect in that it is concerned with trade-offs and the relative weight that people give to income and other contributors to quality of life such as the environment or level of public services. That differences in local taxes and public services should cause people to move in search of better conditions is a process that has been debated since Tiebout (1956). It is argued that the process should be progressive in that a degree of competition will occur amongst towns as successful localities offer higher civic facilities, while less successful locations attempt to keep people from migrating away by compensating for some of their relative economic disadvantage.

For anybody contemplating migration, Savageau's Places Rated Almanac (2007) (formerly produced regularly by Boyer and Savageau) rates metropolitan areas in the United States on the basis of a set of 'quality of life' indices. However, the almanac lumps together housing and wages with social amenities as though each matter equally (Luger 1996). It is also contentious in that it fails to place outcomes in their context and to relate these to the relative challenges cities have in achieving certain indices. Myers (1987) is critical of the rationale for the almanac's weightings, its neglect of subjective data and the disinterest in the unique local features that local people often pride.

The almanac's ratings have little relevance to the economic argument that people reveal their preferences through their acceptance of certain wages or their willingness to pay particular house prices in exchange for other contributors to welfare. The economic argument, most famously espoused by Rosen (1979), is that those successful towns which attract in-migrants should typically possess higher costs of living, especially housing. Elsewhere, the lower costs of living compensate to some extent for lost economic opportunities. However, the Rosen model too attracted criticism in that it assumed that people's levels of satisfaction are invariant, while allowing amenities to vary from place to place. In contrast, Tiebout (1956) noted that people choose different places to live, precisely because their have different preferences.

Rosen's framework can be tested by relating marginal utility for amenities to changes in housing costs or wages, or by estimating housing expenses as a function of housing characteristics and local amenities, after adjusting for wages. Using this approach, Stover and Levin (1992) find no convergence. They argue that, in practice, this finding occurs not because of a failure of the theory, but mainly because people are bound to certain locations by employment circumstances or their networks of friends and family (Evans 1990; Greenwood et al. 1991). In this respect, there are both voluntary choice and involuntary factors at work.

There is a question as to whether efficiency or equity implications arise from these rigidities. Migration does impose a degree of adjustment in that house prices and, to an extent wages, do respond. However, while some people are able to move to their location of choice, others are tied to their existing location through lack of choice. There are consequent negative equity implications for the latter group as the constraints on choice prevent people from realising their preferred quality of life.

3.3 Measures of Quality of Life

3.3.1 Objective and Subjective Measures

According to Allardt (1993) quality of life is the sum of 'having, loving and being'. It is impossible to argue with that. Nevertheless, there will be variations in people's perception of how far each of these apply to them. At one level, the quality of people's environment can be represented by objective indicators. At another, their interpretation will vary and can be represented by subjective indicators.

Objective indicators come in two forms: (i) economic indicators and (ii) social indicators. The former depends on an ability to select the goods and services that one desires, in other words the satisfaction of preferences. The economic argument is that people select the best quality of life they can obtain commensurate with their resources and personal desires (Diener and Eunkook 1997).

By comparison, social indicators are based on normative ideals on what could be considered the 'good life'. Examples would be infant mortality, literacy, crime rates and also the quality of the environment. Both these economic and social indicators are objective measures. Both have guided much of the research on quality of life, particularly that arising from contemporary concern with the urban environment. Neither approach depends on the subjective experience of the individual, but rather on what society considers to represent progress in terms of quality of life.

As noted earlier, economic indicators can be criticised on the basis that economic growth or higher incomes do not guarantee other elements that contribute to quality of life. Indeed, they may be inversely related to some, such as leisure time or equity. They also assume a rationality that may or may not apply, namely that people know what it is that makes them happy and set out to obtain this, albeit not necessarily through consumption. Similarly, a possible limitation of social indicators is that a correlation exists with economic progress and income. However, the normative values on which they are based will vary amongst people and, especially, between different cultures.

Pacione (1982) describes a 'paradox of affluence' in that people's worries over quality of life have coincided with increases in income. This is not helped by the fact that time-series studies indicate that expectations rise as fast as incomes. At a macro level, Max-Neef (1995) finds evidence for a threshold hypothesis in which beyond a certain threshold environmental quality, quality of life and, ultimately, economic development may all begin to deteriorate. Surveys by a number of researchers (Levett 2003; Scitovsky 1976; Hirsch 1977; Max-Neef 1995) have reported that perceived quality of life has been stagnant or declining in Western societies despite rising affluence. Sen (1985) has argued that this has followed an erosion of perceived entitlements such as stable employment as well as work pressures that have intensified because of competitive forces.

Objective indicators do have the considerable merit of consistent interpretation and data collection. They can also provide the basis for the formulation of policy objectives. However, objectivity does not guarantee comprehensiveness or appropriateness. For instance, the relevance of house price data will depend on the resources of people looking to buy a home and may also have less relevance to people who are settled in their homes. Furthermore, causal relationships can also be difficult to identify from objective indicators. Characteristics such as house ownership, life-stage and income tend to cluster and it becomes difficult to demonstrate the relative contribution of each.

Neither are objective indicators applicable to everybody. For example, the aforementioned Places Rated Almanac presumes that all people like warm climates. Consequently, it applies high ratings to cities where temperatures remain close to 70 degrees. Applying different weightings to other contentious variables, Becker (1987) found that 134 different cities could be placed at the bottom of a quality of life league table, while almost as many could be placed first.

Furthermore, Myers (1987) notes disagreement in relation to the application of objective indicators to public goods, of which environmental goods would be a classic example.

He argues that people have a shared interest in the fate of their communities. This, he believes, makes quality of life a local consideration, judged by the community on the basis of shared values and changes over time, rather than through comparisons with elsewhere. Evaluations of quality of life depend on the current environment and a judgement of what a place ought to be (Cutter 1985). This community-trend approach to quality of life implies that preferences vary by locality and cannot be amalgamated for the purposes of weighting indices of quality of life. Instead, it is argued, quality of life is uniquely defined for each community and is not a standardised abstraction for comparison across locations. As an example, Myers notes that locally valued community facilities can have a significant influence on local quality of life, for instance, natural beauty spots used for recreation.

3.3.2 Subjective Well-Being

The principal criticism of objective indicators, at least to the extent that they are used exclusively, is that they do not reflect people's internal well-being (Campbell et al. 1976), but rather other people's judgement of what should matter. Subjective well-being (SWB) represents an alternative means of measuring quality of life. Formally, SWB is comprised of three interrelated components: (i) life satisfaction, (ii) pleasant affects and (iii) unpleasant affects. The first of these refers to a cognitive sense of satisfaction with life, while affects relate to pleasant and unpleasant experiences (Diener and Eunkook 1997).

Well-being depends on life satisfaction, a subjective appraisal that depends on an individual perspective analogous to the glass being 'half-full' or 'half-empty'. It can be argued that indicators of well-being therefore provide a subjective interpretation of the objective measures through which we can reduce the confusion of physical and psychological aspects (Schneider et al. 1992).

Perceptions of social well-being can also involve an evaluation of one's quality of life in relation to a set of personal values and the prevailing objective circumstances as they are perceived by the individual (Healy 2005).

For instance, most surveys do reveal an inverse relationship between perceived well-being and unemployment. There is also a relationship with income, although most commentators accept the influence of thresholds beyond which the influence of income becomes less.

Personal experience also moulds perceptions of well-being, particularly adaptation to one's environment and time spent living at a particular location. The behavioural response to the person–environment relationship has been characterised by an urban stress model in which a person must adapt and cope with their circumstances (Pacione 2003). The stress model observes that life satisfaction is enhanced where adaptation to a new environment is successful. Conversely, failures to cope with one's environment obviously have an adverse impact on perceived quality of life. Placed in the regional context, it can be seen that this stress model has particular relevance to migrants.

Expectations may be conditioned by one's prevailing situation or people's ability to adapt to their circumstances. This can explain why people living in objectively inferior environments may, nevertheless, have a positive evaluation of their quality of life (Pacione 2003). Similarly, when drawing comparisons with others, people are at liberty to choose with whom to make the comparisons, often arriving at a more satisfying conclusion. Flexible strategies may therefore be adopted to cope with an objectively inferior situation (Diener and Eunkook 1997).

Subjective indicators of well-being may therefore lack the consistency of objective measures, but do have the more direct impact on quality of life. Research suggests that the indicators of most importance to people are those that are considered to be most relevant to the individual's own personal situation (Pacione 2003), for example, income, and family and social ties. Diener et al. (1995) agree, arguing that economic and social indicators alone are inadequate and social well-being research is needed to provide the necessary additional perspective.

3.3.3 Combining Objective and Subjective Indicators

In contrast to the relationship between economic and social indicators, the relationship between these objective indicators and subjective indicators is less predictable. There are also variations in the strength of the relationship between subjective and objective indicators with some relationships being strong, and others weak or non-existent. An objective indicator could also apply at one particular spatial scale, while a corresponding subjective indicator may operate at a quite different scale, and vary also between individuals. A relationship may exist between economic indicators and social indicators such as health or crime, but the direct relationship between income and social well-being may be negligible. Veenhoven (1997) believes that income, education and employment account for around 10% of the variation in social well-being, but that an at least equal amount is accounted for by interpersonal relationships and social ties.

At an individual level, factors such as personal health and education intervene in the relationship between objective and subjective indicators. For example, experience of crime is one factor that can greatly affect the person–environment relationship in the way that personal safety is perceived.

In reality, the relationship between objective and subjective indicators is complex, but if both sets of indicators were to coincide, there would be no need of the latter. Rather, one informs the other and so a broad set of indicators is needed to capture all the important life concerns of the population.

Pacione (2003), for example, argues that studies into urban liveability cannot be judged solely by the attributes of the environment, but are a behaviour-related function of the interaction between the environment and the character of the individual, the so-called 'person–environment relationship'. This human ecology perspective on quality of life places analytical and practical significance on a cross-disciplinary approach to well-being. The problem is that a cross-disciplinary approach is not easily agreed. Different disciplines apply different interpretations to quality of life, consider the issue at different levels of scale (individual versus aggregate), or place varying relative influence on objective and subjective attributes. These disciplines also attach their colours to relevant 'metaconcepts' such as liveability, environmental quality and sustainability. The concepts, in turn, arise from the disciplines' respective concerns with health, safety, well-being, residential satisfaction and the physical environment. There will also be differences in causality. For instance, sustainability can be considered to result from an interaction of the physical and economic domains, while liveability can be considered to represent the interaction between the physical and the social domains.

It is therefore no surprise that van Kamp et al. (2003) find that no agreed comprehensive framework exists despite the appeal of the interdisciplinary model. Reviewing the literature, they find that some concepts relate to economic, social and environmental circumstances and require measurement through objective indicators. Others principally revolve around the individual and recommend themselves for measurement through subjective indicators.

In practice, the research goal typically determines the choice of subjective or objective indicators. In most cases, van Kamp et al. agree that a mixture of objective and subjective indicators is desirable. Both sets of indicators provide alternative perspectives on quality of life. Objective indicators form a 'point of departure', while personal characteristics and experience affect how each is perceived and evaluated in terms of life satisfaction as demonstrated by subjective indicators (Campbell et al. 1976). When both sets of measures converge, more definitive conclusions can be drawn. Indeed, at higher levels of aggregation, individual subjective experiences often cancel one another out, such that economic or social indicators may correlate more closely with SWB.

3.3.4 Measurement

Measurement is an issue. Most models have simply adopted an additive linear model on the basis that individuals add up their goods and bads. An extension of this is a model in which satisfaction is presented as a weighted sum of preferences in relation to different aspects of life. More complex still is the structure provided by Maslow's hierarchy of needs (Maslow 1954). This suggests that some needs are

more fundamental than others and that the individual must overcome these fundamental needs before other attributes can be evaluated. Indeed, there is a connection here with the intramarginal consumption discussed in relation to GDP in that consumption of a goods exhibits diminishing returns, no longer supplying the same utility beyond a certain point.

Individual perceptions depend heavily on personal experience and aspirations. For instance, perception may depend on a comparison of expectations and personal capabilities (Sen 1985), namely an individual interpretation of one's capability to achieve a desired lifestyle. Alternatively, the comparison can be between actual and desired. In this respect, one argument is that the strength of that comparison depends on the fulfilment of certain essential needs as described by Maslow. Once these are met, differences in circumstances have less discriminatory power.

Factors that associate strongly with SWB indicate a positive relationship with individualism (Diener et al. 1995). This possibly arises from the degree to which society allows people to realise their own ambitions (Diener and Eunkook 1997). In that income facilitates these choices, there is evidently a relationship with economic circumstances, but one at least supplemented by freedom and equality of opportunity. In addition, the relationship is yet more subtle in that the norms on which judgements are made will themselves increase with the income growth of a society (Diener and Eunkook 1997; Easterlin 1995). On this, Levett is pessimistic, believing that while subsistence demands may eventually be sated, individual consumption expectations continue to rise, while their perceptions of status are often expressed through the purchase of 'trophy goods'. A common observation is that people compare their own situation with that of others. Indeed, we may be further enforcing this comparison through an acceptance by government of benchmarking.

Individualism does, however, have a downside where people are less successful at pursuing their own ends. Individualistic societies also tend to provide less social support. Consequently a further paradox arises whereby a nation's reported happiness is high, but unhappiness, including suicide, can be high.

3.4 Influence of Government

Government aims to advance quality of life by providing those facilities which provide for well-being, but these are services which can be measured through objective indices. Health, security and a clean environment are all part of this package, but the principal mechanism has been support for a healthy economy that is believed to provide individuals with 'capabilities', for instance a capacity to believe that there are opportunities to find meaningful and remunerative employment. Investment in infrastructure such as roads and telecommunications obviously contributes to economic growth, but also provides people with more opportunity to choose those locations where they would prefer to live. The infrastructure cannot guarantee that private investment will follow, but it is certainly supportive of such investment and a payback is likely if the investment is planned and executed properly.

Investment in the environment has a less direct influence on economic growth, but further enhances people's options in relation to where they wish to live. There is also a firm link with quality of life, although the strength of this link will vary depending on which aspect of the environment is being considered and by whom. Investment in providing clean air and clean drinking water has obvious benefits for everybody and will be realised in terms of improved health and ultimately lower health expenditure. Investment in the landscape and nature conservation contributes to quality of life too, but the extent to which this contribution is appreciated will vary within the population.

Investment in social capital is longer term and the outcome less reliable. Social capital is a convenient term that links concepts of trust, social support, social interactions and social hierarchy. The OECD has defined social capital as 'shared norms, values and understandings that facilitate cooperation within or between groups'. Based on the works of Pierre Bourdieu (1986), James Coleman (1988) and Robert Putnam (1995), the existence of both social networks and norms of reciprocity are essential to social capital (Healy 2005).

As with expenditure on the environment, investment in social capital contributes to quality of life. However, the perception of the benefits will again vary amongst individuals, depending largely, but not exclusively, on the security of their individual circumstances. As with the environment, the government can certainly adopt strategies that provide for public security, for instance by taking measures to reduce crime, a measure likely to be appreciated by everybody (except criminals), at least to one degree or another. In other respects, the outcome is less assured – for example, investment in the physical structures necessary to enhance social interaction, namely community centres or sports facilities. Furthermore, the creation of social capital has an element which responds to general social trends and is autonomous of anything governments can do.

Given a lack of consensus on the alternatives, it may not be surprising that governments have concentrated on strategies to secure quality of life which rely on sustaining economic growth. Where the prevailing culture supports freedom of individual choice, such a strategy may be a wise choice politically. A conflict could, though, be arising where the sustainability of strategy may be compromised by the external costs of economic growth, including environmental constraints. As overt restrictions on choice are unlikely to be well received, governments may need to explore other means to advance quality of life that are not so singularly associated with increasing income.

4 Objective Indicators for Ireland

4.1 Regional Disparities

Ireland is often presented as being a case of the classic centre–periphery model in which one city, Dublin, or at least Dublin and a scattering of smaller cities, dominate economic activity. Local and regional differences in economic progress, social inclusion and equality, and environmental quality are therefore likely to be scrutinised for evidence of this presumed geographical pattern. Some commentators argue that this domination is to the detriment of the economic development of more remote areas. Typically, comparisons are drawn with the west or, more specifically, the Border, Midland and Western (BMW) Region. Sometimes comparisons are made between Dublin or Leinster and Connaght, Munster and Ulster. Alternatively, comparisons may be made with rural areas, many of which are described as being economically disadvantaged by poor infrastructure, lower levels of investment and, in some persistent cases, out-migration.

This imbalanced development is described as being characterised by lower levels of economic opportunity, lower employment and lower incomes. On the other hand, the regions could be perceived as having certain quality of life advantages, at least for those people who are not economically disadvantaged and have a higher capacity to benefit from the positive attributes. For instance, the recent Look West Campaign, sponsored by the Western Development Commission (www.wdc.ie/ourwork_lookwest.html) and regional authorities, sought to promote the region on the basis of its quality environment and lower house prices.

Economic and social cohesion is one of the main objectives of the European Union (EU). Various regional policies have attempted to correct disparities of income between core regions and peripheral areas. Social and quality of life objectives are increasingly acknowledged, but a focus has often been placed on competitiveness, an emphasis that some see as potentially compromising objectives of social cohesion (Alden 1996).

In Ireland, EU development funds have been drawn on to equalise incomes between the east and the west based on Objective I status for Structural Funds or NUTS II designation (i.e. the regionalisation agreed with the EU for development funding). More recent policy, as articulated in the NSS, is to achieve this convergence through better quality of life, a strong competitive economic position and an environment of the highest quality (Department of Environment, Heritage and Local Government [DELG] 2002). Hence, the NSS identifies the importance of non-income factors, observing that some rural areas and smaller towns have a comparative advantage based on housing preferences and perceived quality of life advantages. However, when it comes to recommended policy, the justification for specific strategies within the NSS sticks to convention and continues to be based on regional income disparities. Very little reference is made to environmental quality or other components of quality of life.

Standard measures used to describe geographical relationships and economic disadvantage may be inadequate to describe Ireland's situation. There are those who dispute the suggestion that Ireland conforms to a simple centre–periphery exposition. For example, Meredith and Commins (2004) and Walsh et al. (2006) argue that, in income terms, some more western counties do relatively well. Drawing a comparison between counties Clare and Wexford, Meredith and Commins find that the former does relatively well despite its inferior agricultural resources and geographical location. They describe this as being due to factors such as investment in new economic enterprises.

However, spatial patterns of relative economic development are complex, particularly noting that there are urban–rural discrepancies as well as regional variations. The Meredith and Commins argument reveals the influence of scale and choice of measure. For instance, income data can currently be compiled only on the basis of county and regional measures of economic activity. This scale obscures significant differences within counties and omits any discussion of the influence of urban centres on county incomes. By taking the example of Co. Clare, Meredith and Commins exclude any discussion of Ennis, Shannon and many of the wealthier suburbs of Limerick city.

4.2 Economic Indicators

4.2.1 Incomes

On average, Irish incomes have increased due to the rapid economic growth. This is apparent from Central Statistics Office (CSO) data which reports that average weekly industrial earnings in 2006 (June) were €602 compared to €408 in 1999, with those in the sector of electricity, gas and water supply being highest. High activity in the construction sector is having a driving influence on employment and wages, here averaging €767 for unskilled workers and €892 for skilled operatives. Data on household expenditure confirms a real increase in that a higher proportion of income is now being spent on services, recreation and entertainment (CSO 2004). The number of people employed has risen to over 2 million from 1.1 million in 1983, while the number unemployed has halved to less than 92,000 from over 180,000 (4.5% of the labour force). At present, according to the ESRI Quarterly Economic Commentary, Summer 2006 (Barrett et al. 2006), GDP is continuing to grow at a healthy rate of 5%.

Nevertheless, an east–west divide has been identified for Ireland in relation to income levels. For instance, in 2003 (the latest year for which regional data is available), the gross value added (GVA)[4] index of economic output in the BMW Region was 70% of the average for the state, and only 64.8% in the Midlands Region taken alone (Table 4.1). Average disposable incomes in the BMW were around 8% below the average for the state, being lowest in Co. Donegal (CSO 2006c). Relative disparities do depend on which index is selected, with the South-West Region, for example, having a higher GVA but lower average incomes than the Mid-East, in part due to repatriation of profits by multinational companies.

Table 4.1: Indices of GVA per person

Region	GVA per person 2003 (national = 100)
Border, Midlands and Western Region	70.1
Border	73.4
Midlands	64.8
West	69.4
Southern and Eastern Region	110.8
Dublin and Mid-East	115.4
Mid-West	88.2
South-East	84.7
South-West	131.0

[4] GVA is equivalent to GDP after removing taxes and subsidies.

Walsh et al. (2006) argue that regional variations in income and employment are not sizeable by European standards and that Ireland's regions have benefited equally from national economic growth. However, this does appear to have occurred through default rather than design and, in a large part, due to national wage agreements and Ireland's small size. For many years, it has been argued that there was no clear strategy for spatial development (Walsh 1995). The NSS was meant to correct this deficiency, although actual infrastructural investment has not always conformed to the strategy. Neither has the government's policy on public sector decentralisation been coordinated with the NSS. Kinlen (2003) argues that policies to combat regional disparities have only lately been considered and then often without conviction. She considers that regionalisation has a very recent history and observed that that 'the division of Ireland into two regions in 1999 arose out of a pragmatic desire to optimise EU Structural Funds rather than a real commitment'. She adds that 'the goal of (balanced regional development) has remained largely aspirational and without very clear regional targets'. Elsewhere, it is argued that failures in regional policy threaten national economic growth, and that deficiencies in regional infrastructure will prolong congestion and high rent and wage expectations in the east (WDC 2005).

This is not to suggest that quality of life is worse in the west of the country. Indeed, in many respects is could be better (as acknowledged by the aforementioned Look West Campaign) to encourage migration away from the east. Rather, it can be argued that the west is disadvantaged in other respects, namely in terms of access to services, transport, employment opportunities, higher education and incomes.

On a per capita basis, CSO data confirms the anecdotal expectation that incomes are highest in the east (CSO 2005). Naturally, this is supported by the concentration of economic activity in the region, in particular in areas such as finance and high-value activities. This includes the bulk of foreign direct investment despite efforts by the Industrial Development Agency (IDA) to increase the geographical spread of this investment. Public sector jobs are also concentrated in Dublin and public sector salaries and pension packages would appear to be above those of corresponding jobs in the private sector (McCoy et al. 2003). Decentralisation, despite shortcomings in its conception, will have an impact in this respect. However, many public sector jobs, e.g. in healthcare, will continue to be concentrated in Dublin for as long as this is home to such a large proportion of the population.

As noted above, the county data is skewed in that statistics on major cities are not presented separately. Consequently some regional counties, such as Co. Limerick, fair well in the income league because of their urban and commuter populations. Nevertheless, within cities, large variations in income can be expected. Variations also exist at rural level, especially in areas where farmers continue to be dependent on small landownings. A large number of people in both rural and urban areas, and particularly in the west, have incomes that are dependent on construction and which could be at risk in the event of an economic downturn.[5]

There are also variations in hours worked and this has a key influence on both incomes and quality of life. The evidence is that working hours have increased for the self-employed and many white-collar employees, but hours reported for the construction sector actually fell slightly in the five years up to 2003, contrary perhaps to expectations, given the construction boom.

[5] In the BMW, construction accounts for 28% of employment compared with 22% in the south and east.

Table 4.2: Regional incomes

Region	County	Average income per capita	Population	National population (%)	Population by region (%)	(%)
Border	Cavan	13,396	56,546	1	13	
	Donegal	12,550	137,575	4	32	
	Leitrim	12,960	25,799	1	6	
	Louth	14,855	101,821	3	24	
	Monaghan	13,736	52,593	1	12	
	Sligo	14,451	58,200	1	13	100
Midlands	Laois	12,175	58,774	2	26	
	Longford	12,650	31,068	1	14	
	Offaly	12,395	63,663	2	28	
	Westmeath	13,549	71,858	2	32	100
West	Galway	14,314	209,077	5	55	
	Mayo	12,541	117,446	3	31	
	Roscommon	12,724	53,776	1	14	100
Mid-East	Dublin	16,736	112,2821	29	73	
	Kildare	15,890	163,944	4	11	
	Meath	14,356	134,005	3	9	
	Wicklow	14,543	114,676	3	7	100
Mid-West	Clare	13,245	103,277	3	30	
	Limerick	15,288	175,304	4	52	
	Tipperary N	14,594	61,010	2	18	100
South-East	Carlow	12,277	46,014	1	11	
	Kilkenny	12,691	80,339	2	19	
	Tipperary S	12,495	79,121	2	19	
	Waterford	13,758	101,546	3	24	
	Wexford	12,708	116,596	3	28	100
South-West	Cork	14,472	447,829	11	77	
	Kerry	12,521	13,527	3	23	100

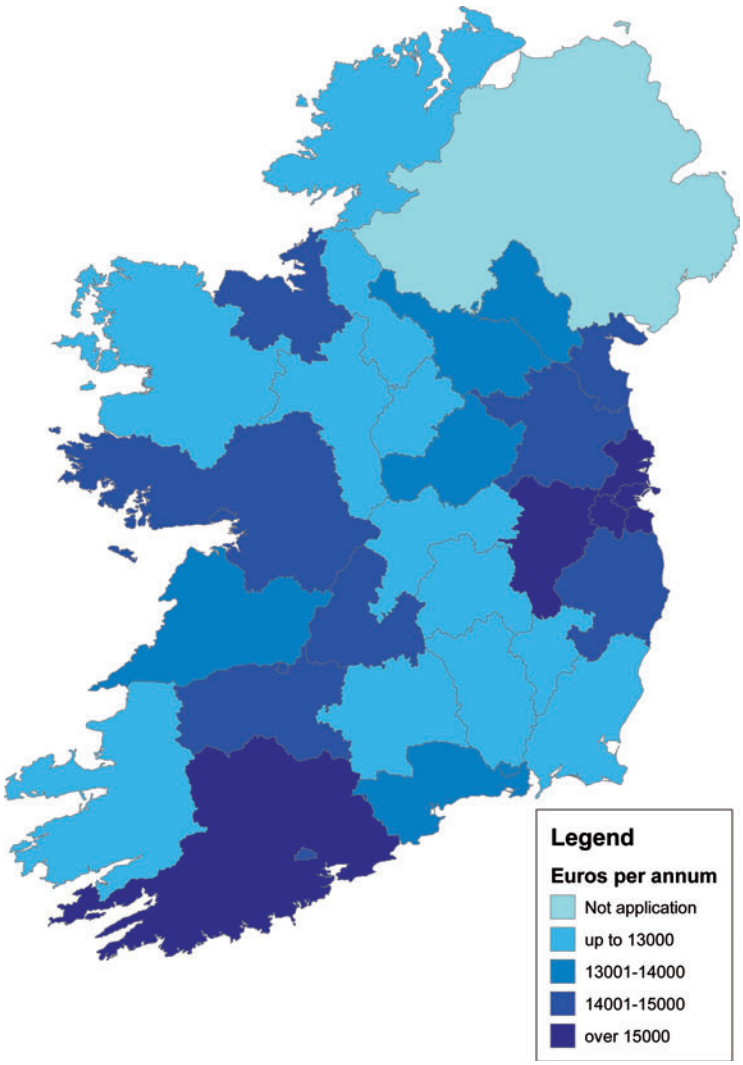
Map 4.1 demonstrates the spatial pattern of income in 2003, the latest year for which data is available. Once again, it has to be noted that the data is available only in aggregate at county level. Consequently, the figures for counties Cork, Galway, Sligo and Waterford are exaggerated by the existence of major cities within their boundaries.

Variations in income will arise due to the choice by employers to pay more for particular jobs in Dublin. However, the variation in per capita income is also inevitably influenced by the rural–urban divide and by the proportion of the population who are non-working.

The rural–urban comparison has relevance to the regional question in that the east is more urbanised. Indeed, the CSO Household Budget Survey (2000) demonstrates that disposable incomes are 19.4% higher in urban areas than in rural areas.[6] Furthermore, while subject to considerable individual and year-to-year variation, the incomes of full-time agricultural workers were only 55% of that of all industrial workers in 2001 (CSO 2003). They are unlikely to have increased relatively since this time, although an increasing number of people in this sector have availed of the greater supply of off-farm employment, notably in construction.

6 The data does not account for commuting, allowing for which the disparity would be greater.

Map 4.1: Disposable per capita income by county



Source: Ordnance Survey Ireland (OSI) (2005) county base map

4.2.2 Cost of Living

In assessing regional variation in income, an important factor to bear in mind is the relative cost of living. A good measure in this respect is the equivalence of purchasing power parity across regions. As a small country, there are only minor differences in the relative cost of most consumer items across Ireland, for example groceries and petrol. Regional differences are less significant than urban–rural variations. The latter are characterised by differences in the composition of items that are purchased. For example, it can be assumed that people in rural areas are more dependent on oil-based heating and the private car. Indeed, while people living in cities may experience disutility from commuting, rural dwellers travel at least as far on average according to CSO figures. They may also need to use the car more often for non-work journeys. Consequently, average rural expenditure on transport according to the Household Budget Survey is €4,054 per household compared per year with €3,794 in urban areas.[7] The survey also notes that many urban residents also benefit from company cars and also from company health schemes. Differences in transport expenditure might be especially marked in the peripheral regions of the country with large rural populations, such as Donegal and Mayo.

[7] Most recent data.

The main area in which differences in expenditure between urban and rural areas arise to the disadvantage of urban areas stems from the effect of urban lifestyles, including a tendency to eat out more often or to go on foreign holidays. Indeed, average household expenditure on holidays in urban areas is €1,168 compared with just €530 in rural areas. Naturally, unlike the higher fuel costs endured by rural dwellers, such expenditure is by choice in that holidays are a luxury rather than an essential item. Although the propensity to take holidays, especially overseas holidays, is closely linked to absolute incomes.

4.2.3 House Prices

There is one area in which significant regional differences in expenditure can be expected. On the basis of 2004 figures, house prices in the BMW are 84% of the national average.[8] However, the major cities exert a distinct upward influence on these figures such that the actual figure is likely to be below 80%. An at least equal distinction can be made on the basis of what money can buy in terms of property. Standard semi-detached houses in country towns and smaller second-hand properties in rural BMW attract relatively lower prices. The quality of the existing stock of houses in many rural western areas may also be inferior.

Housing costs, namely mortgage and rental payments, will have a significant influence on net household income. The effect of house prices does, though, have a distinctly different impact depending on whether an individual owns their house outright or is paying a mortgage or renting privately. In the first two of these cases, an appreciation in property prices adds to people's perception of their wealth. However, high property prices are also passed on in the form of high new mortgage payments or, in due course, in higher private rents. In the case of property owners, the impact of rising house prices on their perceived wealth will depend on how recently the property was purchased and the relative extent to which incomes and house prices have risen in the subsequent period. The gap between incomes and house prices also affects decisions over if, or when, to trade up, a step that may be necessary once children arrive.

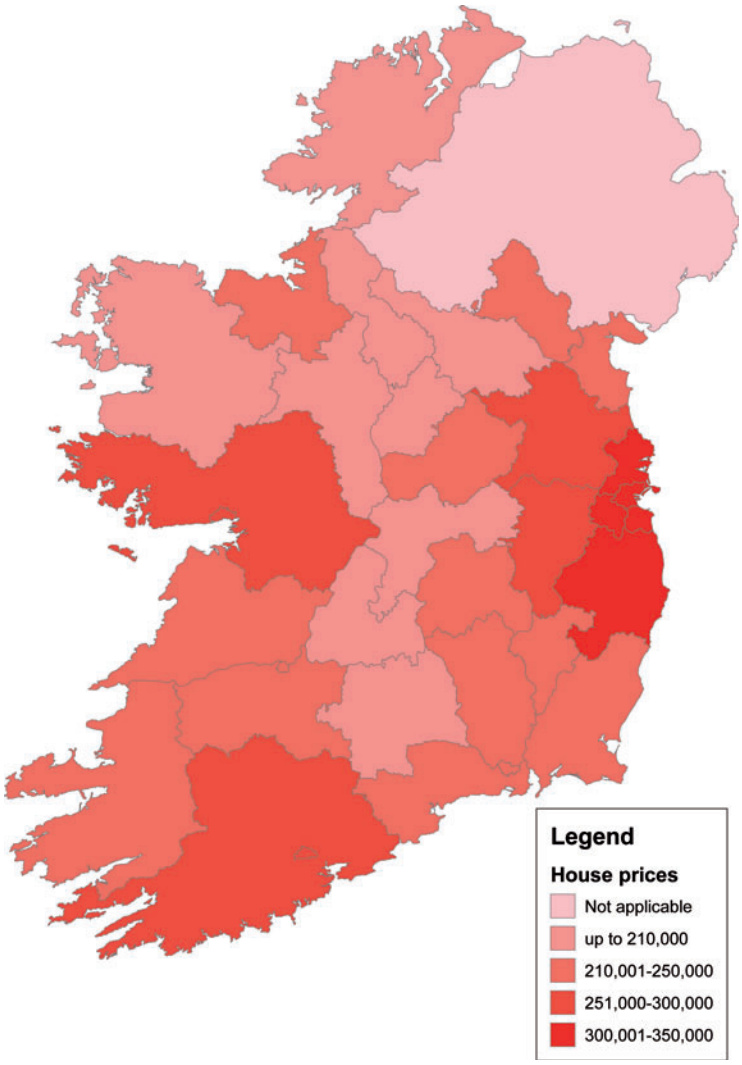
House price indices are maintained by Permanent TSB/ESRI (www.permanenttsb.ie). However, a standardised series is available only for Dublin and the regions, and for new and second-hand houses. Permanent TSB/ESRI maintain county data and this reveals that the lowest prices are to be found in counties Longford and Leitrim. The latest edition of their price index shows continuing low growth in prices in Leitrim (2%), but also a transfer of double-digit growth from the Mid-East to counties such as Kilkenny (14%) and Kerry (15%). Although Leitrim residents have yet to experience it, the average price paid by first-time buyers is now approaching a quarter of a million euro.

The Permanent TSB/ESRI county index is useful, but is not ideal for comparative purposes, given that it is represented by a non-standardised bundle of properties. For instance, rural counties have a higher proportion of detached houses. Urban areas can be expected to possess a greater variation in the types of property, including a greater proportion of apartments and terraced houses, than the regions.

The Department of Environment, Heritage and Local Government (DEHLG) does compile data for the main cities which local authorities are required to collect at county level. Although this is not based on a consistent bundle of household attributes, local authorities are required to examine and project prices separately for different areas and for different demand segments. Crude comparisons are possible using this data after some refinement by means of the CSO Quarterly National Household Survey which provides regional data on housing type, size, age and ownership status. For the purposes of the current study, a crude comparison has also been made based on a sample of properties featured on the sales website www.myhome.ie which has the virtue of providing some information on housing attributes through which comparisons can be made more easily.

8 Price index maintained by Permanent TSB.

Map 4.2: Irish houses prices 2004



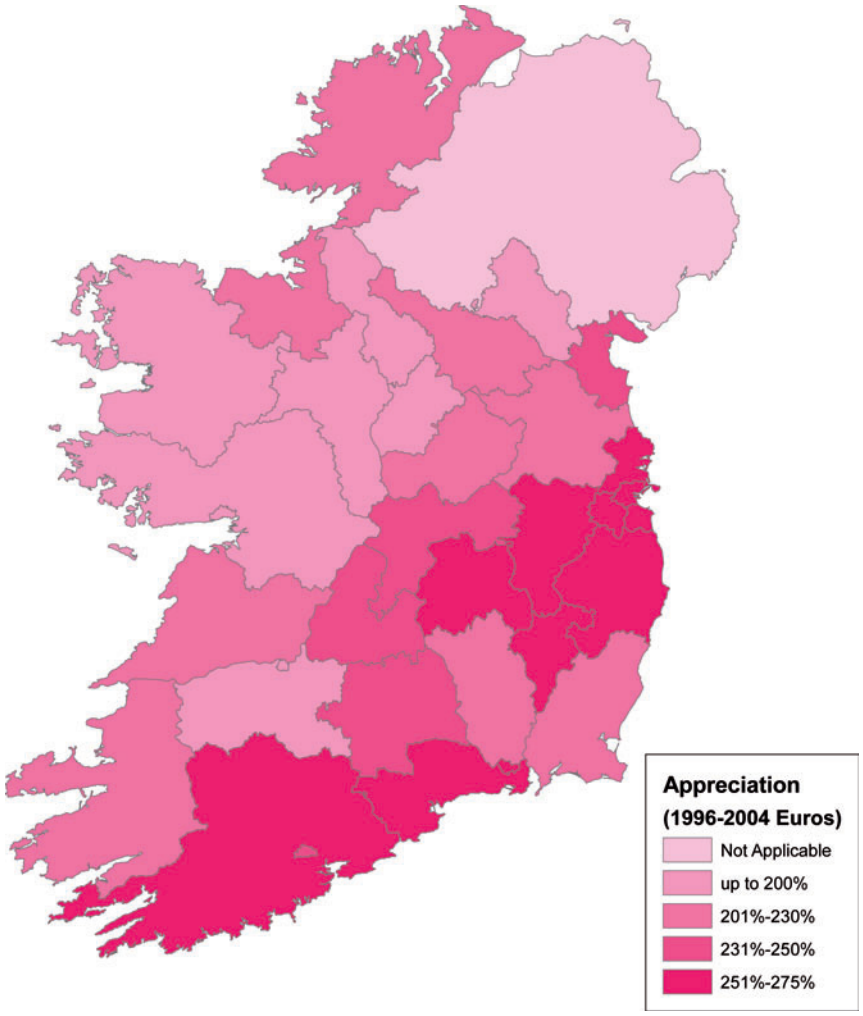
Source: Permanent TSB/ESRI (2004) OSI county base map

In addition, a higher proportion of people in Ireland own their home compared with most other EU countries. On the one hand, this makes the Irish amongst the most indebted, but on the other, it means that many people will have benefited financially from recent economic growth beyond the average increase in incomes. Indeed, the observation that Ireland has a U-shaped relationship between age and reported levels of happiness may partly arise from the fact that many middle-aged and older people own their homes and will have witnessed the appreciation of the value of their property (Brereton et al. 2004). While this rapid appreciation would have occurred first for Dublin, it now appears to have spread to most other regions.

On the basis of the series maintained by Permanent TSB, house prices have appreciated most relative to their values ten years previously in the Mid-East counties and Cork city. Overall, a similar regional pattern is evident for appreciation (Map 4.3) as for incomes and absolute house prices in that the western and border counties have faired less well than more urbanised counties of the east.

Map 4.3 shows the value of this appreciation relative to the absolute appreciation experienced in Dublin. Counties Wicklow, Kildare, Meath, Galway, and Cork city and Dublin are each seen to have done well, although some Midlands counties have witnessed a reasonable level of

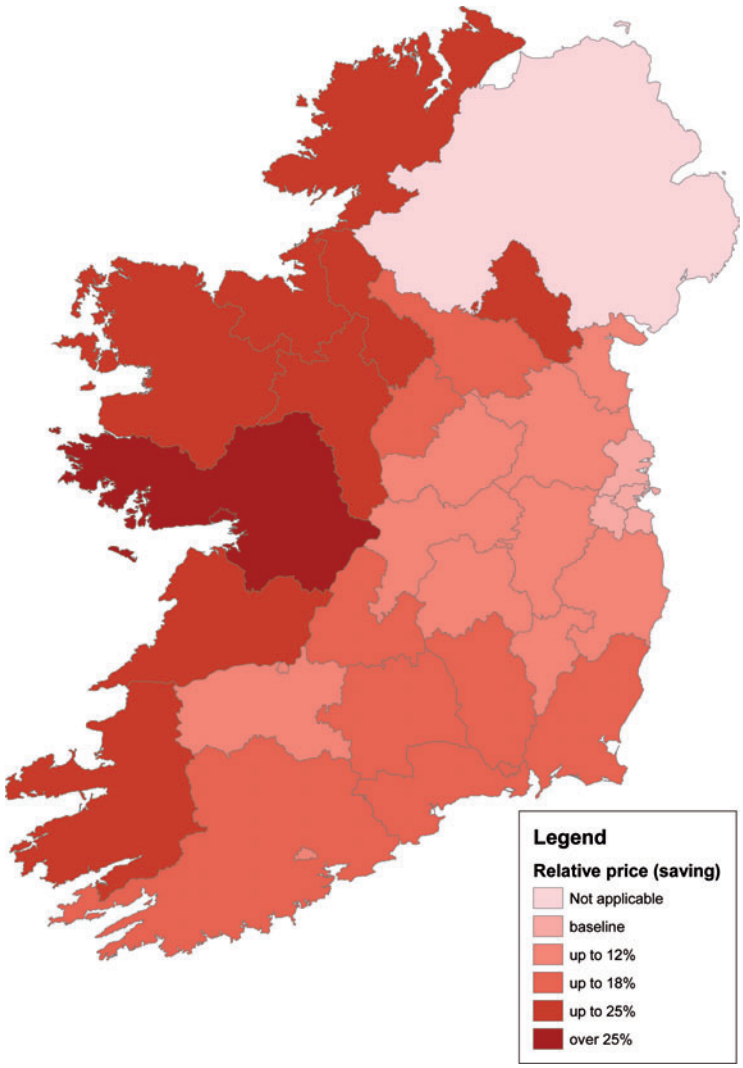
Map 4.3: Appreciation in house prices



Source: Permanent TSB/ESRI (2004) data, OSI county base map

appreciation, presumably because of low baseline prices. Inevitably, both the appreciation relative to earlier values and the absolute level of the appreciation will have added to people's perception of their wealth. The impact of this perceived wealth is likely to be largely independent of the type of property in which people live. Nevertheless, an alternative way of examining prices would be to take into consideration the types of property in different counties as indicated by the Department of the Environment database for 2004, namely bungalows, detached houses, semi-detached houses, terraced houses and apartments. The types of home that people purchased provide some indication of what money can buy in different locations. A utility gain follows in that preferred property types are more affordable.

Map 4.4: Relative house prices compared with Dublin



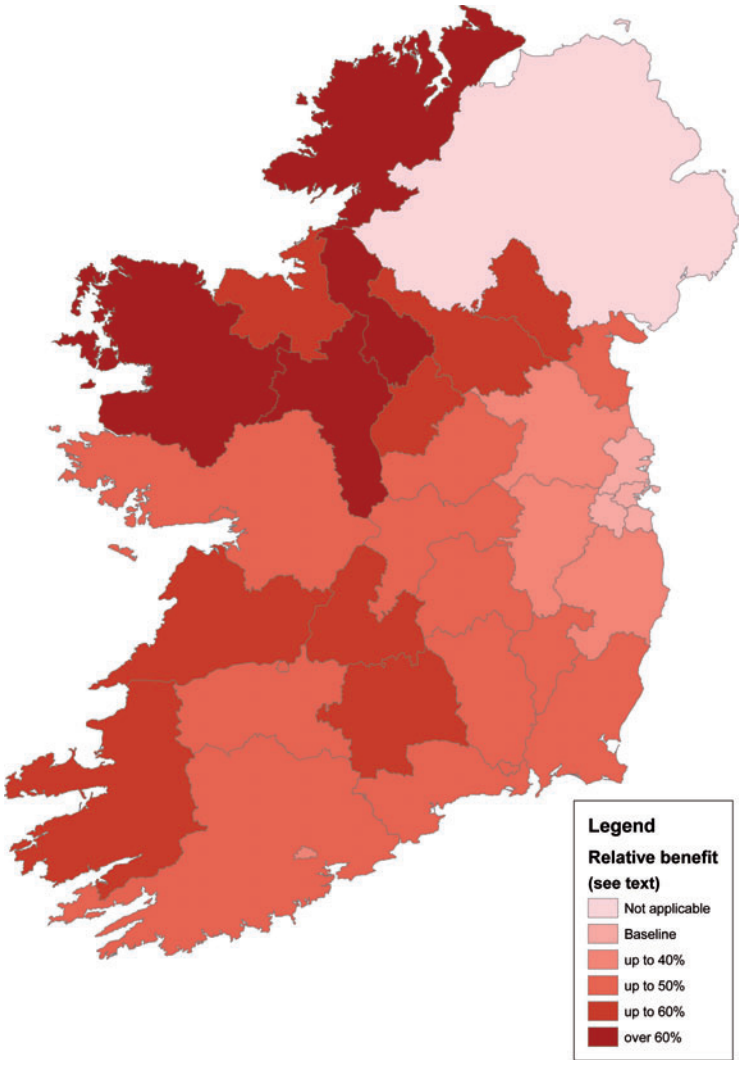
Source: myhome.ie (2006)/ESRI/Permanent TSB (2004)

No current figures are available to show the average price of properties in these different categories. A weak substitute used here is to take the offer prices of 25 standard-looking Greater Dublin properties advertised on www.myhome.ie. This, of course, is not a reliable sample, but does provide an indication of relative prices.

Map 4.4 gives the approximate per cent price saving realised on buying a house, given the actual composition of house types (number bungalows, semis, detached, apartments) purchased in 2004, priced at Dublin price differentials.

Map 4.5 is as Map 4.4, plus the actual average per cent price saving for the county compared with Dublin.

Map 4.5: Relative gain by type and price



Source: myhome.ie (2006)/ESRI Permanent TSB (2004)

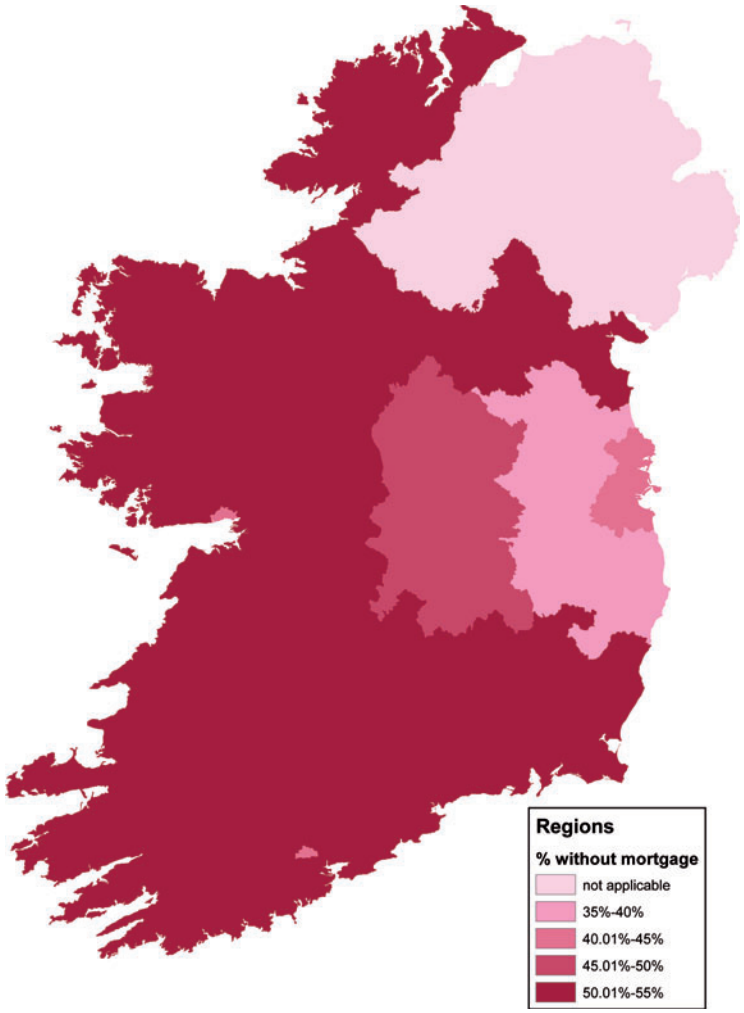
Naturally, there are significant weaknesses in this comparison in that a bungalow, a detached house or many semi-detached properties in Dublin tend to imply a better commodity than the comparative property in a rural county. On the other hand, many rural properties will have a larger floor area and garden size than Dublin. Nevertheless, Map 4.4 does help to condition the price appreciation factor in relation to housing type, placing regional counties in a better light. People here are able to buy larger or more detached properties.

Map 4.5 goes further by taking the relative price gain by house type and adding this to the average saving in property prices for each county. On this basis, north-west property purchasers do particularly well as their preferred type of property is more affordable and they gain from the generally lower price of property compared with Dublin. Overall, these savings are, of course, conditioned by relative demand, including the effect of lower incomes in this region. Once again, the representation is rather crude in that only average prices for the county (i.e. all property types) are provided in the Permanent TSB/ESRI data.[9]

While there are purchasers who will perceive a price saving by living in the regions, there will be others who are more focused on the cost. Many people who have recently

[9] Potentially, a sample for all counties could be taken from www.myhome.ie, but the number of properties (in some categories) listed for some counties would be rather few on which to base an average.

Map 4.6: Owner-occupiers without a mortgage



Source: CSO (2006) OSI county base map

purchased their home will have a significant mortgage. The Irish National Survey of Housing Quality (Watson and Williams 2003) finds that, for most people, mortgage payments are only a small proportion of income. Nationally, only 37% of all households are mortgaged and 90% of households pay less than one-third of their income in mortgage or rental payments. Map 4.6 reveals an east–west regional divide in terms of the proportion of people with mortgages. For most counties falling in these regions, this pattern appears to reflect regional migration trends.

There are also large variations in median payments, depending on the time when the mortgage was taken out and whether the household is located in Dublin, the BMW Region or a rural location. Here again, the regions appear to better placed. It is also worth noting that some of those segments of the workforce that are most important to the economy, including many people with young families and high outgoings, will have a sizeable mortgage. Of people within this economically active segment, 28% pay more than one-third of their income in rent.

Overall, the regional variations in housing and the relative impact that this has on incomes is much dependent on whether housing is regarded as a cost or an asset. For many people, it will be the latter, especially in the east and major cities, but also where prices have appreciated most in the east and parts of the south and south-west. Rather

few people outside Dublin have mortgages and many of the latter will have had these for some years such that the monthly cost has fallen relative to their incomes. Naturally, appreciation does not ensure that property owners are able to move, but it does raise people's perception of their material well-being.

For others, high property prices are a cost. Potentially, they are a serious impediment to in-migration that could ultimately have an impact on economic growth in the east. In terms of what money will buy, those people on reasonable incomes in the west are able to afford larger, often detached, properties that could be unaffordable in Dublin. Many others, though, will be occupying poor-quality housing built in earlier decades when little attention was paid to weather proofing or insulation. In this respect, many are clearly disadvantaged, irrespective of whether they have a detached house without a mortgage.

4.2.4 Economic and Social Disadvantage

While the regional distribution of income in Ireland is poor, so too is the level of inequality, being relatively inferior to that of most EU countries, excepting the UK and Luxembourg. Using a measure of deprivation based on ability to afford six principal household items, the European Quality of Life Survey finds that Ireland fares poorly. The ESRI believes that our liberal welfare regime is a contributing factor in this regard (Fahey et al. 2003), even though recent statements by ministers have reiterated the importance that the government attaches to 'social capital'.[10]

There is, though, considerable argument amongst researchers investigating issues of economic disadvantage about the degree to which this can either be depicted or explained by spatial measures. Examining indices of poverty in Ireland in their report Mapping Poverty: National, Regional and County Patterns, Watson et al. (2005) find that spatial variations in poverty are generally modest and less than the underlying variation in socio-demographic or structural factors that contribute to disadvantage. However, the report, compiled by the ESRI on behalf of the Combat Poverty Agency, did acknowledge that many of these socio-demographic variables, for example, unemployment, low pay or education, do have a distinct spatial distribution, even though the spatial dimension of poverty itself is diluted by other factors. The report goes on to argue that an understanding of this spatial aspect is necessary to improve service delivery across the country.

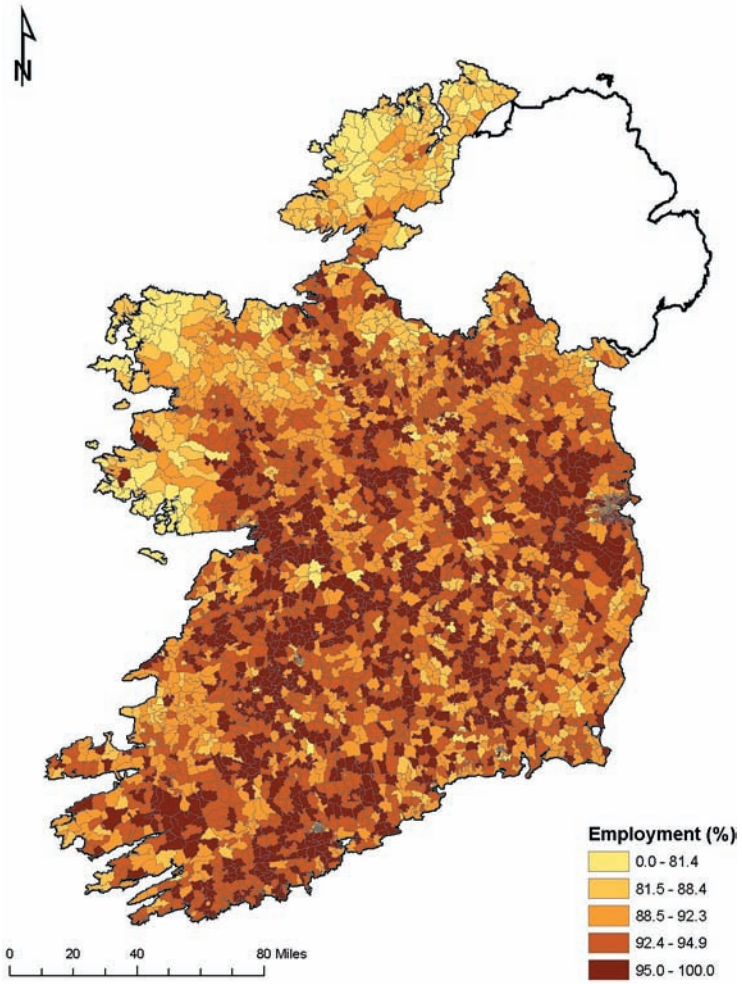
The greatest risk of poverty is reported to apply in the Border Region, closely followed by the South-West and West. Aggregated into the BMW, this region fares worst. At a county level, Donegal, Leitrim and Mayo have the highest rates of poverty. However, the spatial representation of poverty varies depending on the choice of indices, such that Dublin fares relatively poorly on housing and environmental deprivation (in this instance, environmental deprivation refers to elements of the immediate environment such as levels of litter, vandalism, public drunkenness and poor-quality housing).

Of a selection of relevant indices, age dependency (for persons aged 0–14 and over 65) is highest in the Border and West regions. In counties Donegal, Mayo, Roscommon, Leitrim and Longford, the proportion of people over 65 years ranges between 4% and 5.1% compared with just 2.9% nationally. Labour-force participation is also low in these counties and in Cork County Borough. Levels of unemployment are highest in the Border Region, and especially in Donegal where it is equal to 15.6%, compared with the national average of 8.8%. Map 4.7 shows low levels of employment in peripheral areas of the west and north-west, with pockets of low employment in some electoral divisions elsewhere.

Other indices that demonstrate higher levels of disadvantage in the West and Border regions include economic dependency, educational attainment and social class. However, counties Carlow and Tipperary fare poorly in terms of economic (as opposed to age) dependency. Pockets of serious disadvantage also exist within the major cities, including Dublin, and this disadvantage is becoming exacerbated as better-placed individuals move out of these areas. In all respects, the choice of indicator

[10] For example, the speech given by Taoiseach Bertie Ahern at the conference on the future of community and the voluntary sector held at Croke Park Conference Centre on 14 May 2005.

Map 4.7: Percentage of adult population employed



Source: CSO (2003) OSI county base map

level has an influence, such that while basic deprivation is worst in the Border Region, secondary deprivation is more evenly spread. Choice of indicator also results in large urban–rural variations. For example, individuals at the (more acute) 50% poverty indicator have experienced a widening trend in the urban–rural differential. However, at the more severe 60% indicator level, the differential is stable, or even narrowing. This possibly suggests that policies have mitigated instances of acute poverty within rural areas, but that the relative level of poverty remains disproportionately higher in the least populated areas.

The data on disadvantage advises us that, while people on good incomes living in the BMW Region may benefit from cheaper housing, there are also another significant number of people whose personal characteristics place them at greater risk of economic disadvantage.

4.2.5 Summary – Incomes, Cost of Living, House Prices and Disadvantage

The data demonstrates that there are regional differences in income, but that these are narrowing as economic growth extends to areas outside Dublin and the east. However, the greater variations in income are apparent in comparisons of urban and rural areas where the differences are linked to differences in employment opportunities. This distinction applies in each of the other topics discussed. Cost of living

variations are slight regionally, but more distinct between urban and rural areas. Levels of more acute economic and social disadvantage are higher in rural areas than urban areas, although this varies by index selected, while county data conceals pockets of severe disadvantage in some urban suburbs. Regional variations arise largely from the proportion of the population that is urbanised such that many BMW counties have relatively high rural populations in geographically peripheral areas.

House prices in the east are highest, but are catching up in other major urban centres. House prices are lower in most rural areas outside the mid-east. High house prices add to the perceived wealth of many individuals, but are more critical to quality of life of those who have recently purchased or are looking to buy. They exclude many people from the property market and force others to live in areas further from their work or with poorer facilities. In this respect, the east, as a region, is at some relative disadvantage.

4.3 Environmental Quality

4.3.1 Background

Is environmental quality higher in the west and, if so, does this compensate for lower incomes in these regions? Is it inevitable that rural residents have access to a quality environment even if rural areas are characterised by higher levels of disadvantage (in some respects) or higher costs of living in areas other than housing?

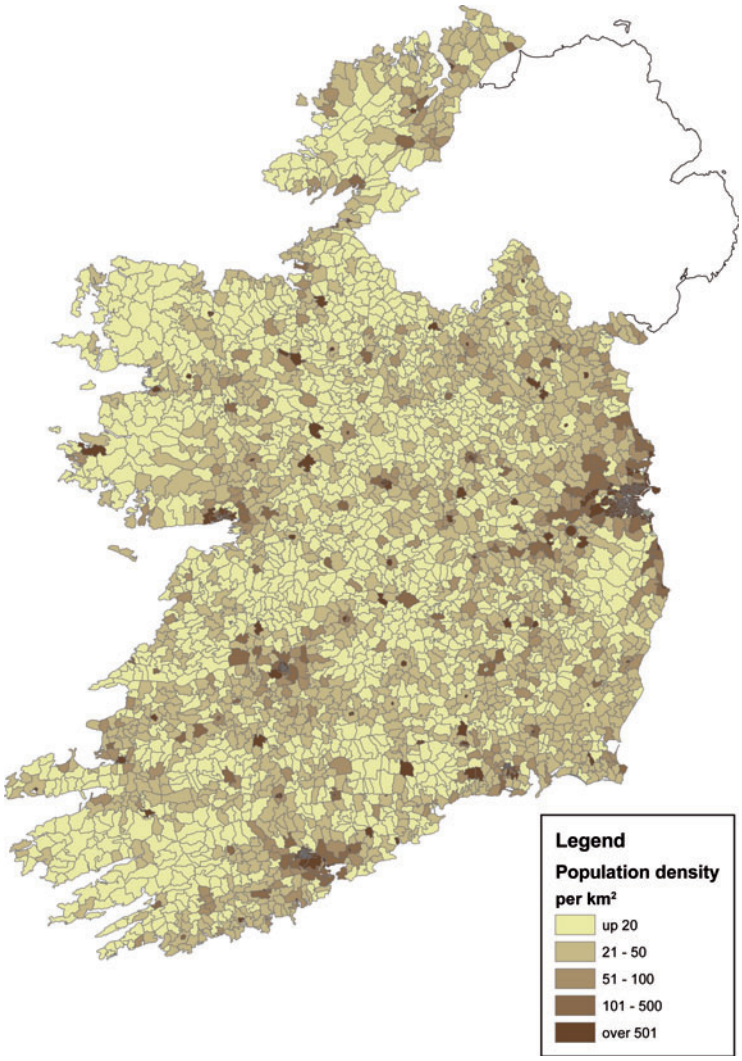
At a national level, the EPA report on Ireland's environment (EPA 2004) observes that recent economic growth has led to an increase in the exploitation of natural resources and of the amount of waste generated. Coupled with this growth in the economy, there have also been significant increases in population, particularly in the Mid-East counties around Dublin. At between 25 and 100 persons per square kilometre, population densities are generally higher in the Mid-East Region, the north-east counties and in the vicinity of the major cities. Densities are least in the west and north-west, notably parts of Mayo, Leitrim and Donegal. The populations of counties Meath and Kildare have increased by over 20% since the 2002 census and, in some locations, by over 100%. This has led to demand for land for residential development, services provision and for transport infrastructure. These pressures are likely to continue. While the regional population projections (CSO 2006b) do predict a 35% population increase in the west by 2021, they also predict both a higher absolute and proportional (50%) increase in the Mid-East.

Population increase has a direct impact on the environment by placing demands on local natural resources, particularly open space and water. It also leads to a sense of crowding that reduces the utility associated with access to the environment.

Agriculture has gone through a period of significant change that has seen accelerated reductions in the amount of mixed cropping and traditional land management. Indeed, changes in the CAP, together with changes in the expectations of younger farmers, will ensure that further change is likely to be characterised by increases in farm size and greater specialisation with implications for landscape and wildlife. These characteristics of farm holdings are more familiar in the east of the country. They are likely to extend to the west as the older generation of farmers retires, although this will probably be accompanied by a trend to extensification of production rather than the intensification hitherto experienced in the east (Dixon and Mathews 2005). This will bring its environmental consequences, given the importance of farming to many semi-natural habitats. The more noticeable change will likely occur in the west, but could yet be perceived as either positive or negative depending on the outcome of accompanying policies for rural development.

Such pressures on the environment have, though, been paralleled by an increasing awareness of environmental issues. European directives such as the Drinking Water Directive, the Water Framework Directive and the Habitats Directive, have spurred a raft of national legislation intended to bring about more sustainable development and, in many instances, an enhancement of the environment. In fact, a general trend evident from the Ireland's Environment report (EPA 2004) is that instances of serious pollution, e.g. river pollution, fish kills, smog, etc., have been greatly diminished, although the number of pristine or unpolluted sites has tended to remain stable or to fall slightly.

Map 4.8: Population density by electoral division (per km²)



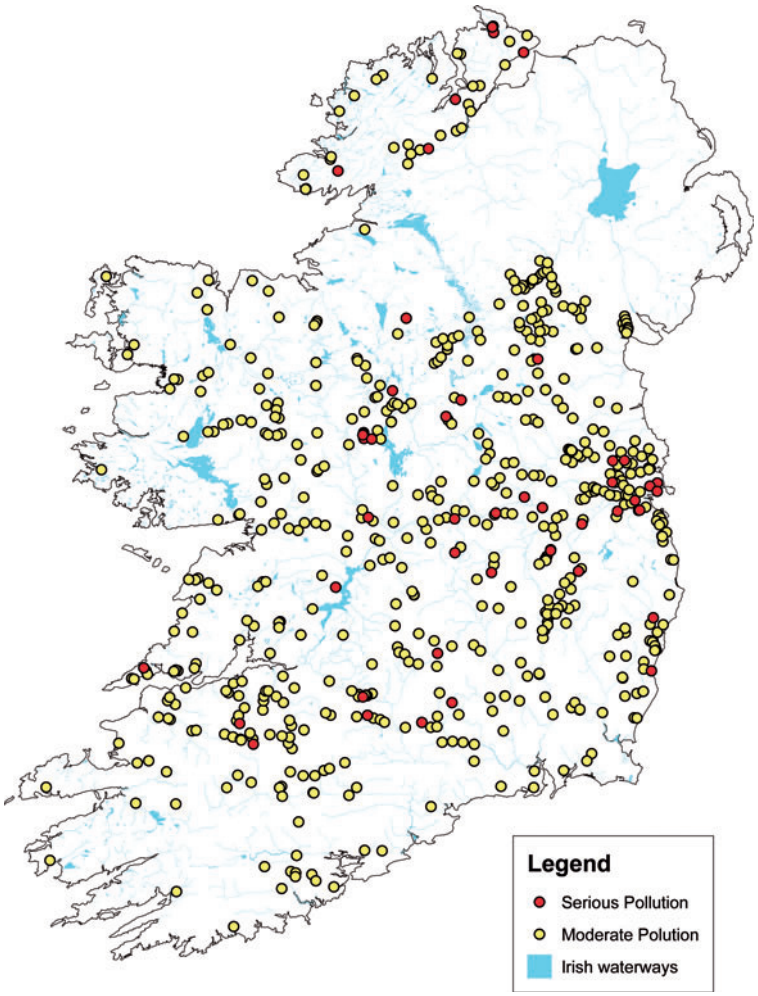
Source: CSO (Census 2006) OSI county base map

Given the rate of economic growth and its concentration in the east of the country, it would be easy to presume that the quality of the environment is higher the further away from the mid-east one goes. Certainly, the west is less developed economically and population densities are also much lower than in the east. Indeed, population density in the 13 counties of the BMW Region at 31 persons/km2 is only two-fifths that of the south and east of the country at 79 persons/km2. In terms of objective indicators, the environment in the west is of higher quality. Again, though, there is geographical variation. There are also aspects of the environment that could be valued higher on a subjective scale in the east. In addition, it could be argued that much of the West is more vulnerable in that it has, until recently, experienced little development and so was able to retain more small farms, more pockets of natural interest and more healthy salmonoid rivers. It could, therefore, experience a greater rate of change.

4.3.2 Objective Environmental Criteria

EPA data provides information on air pollution, surface-water quality, drinking-water quality, the terrestrial environment, natural resources and industrial emissions amongst other indicators of environmental quality. Not all of these are amenable to a regional analysis.

Map 4.9: Levels of river pollution



Source: EPA (2006) OSI county base map

(a) Air Pollution

Air pollution is one of several environmental impacts that demonstrates a greater distinction between urban and rural locations than regionally. This characteristic arises from the direct link between levels of economic activity and population pressure. Ireland's Environment (EPA 2004) notes that there are higher levels of air pollution in urban centres. For this reason, most monitoring stations are located in the major towns and cities while regional data is sparse. Amongst cities, concentrations of particulates from vehicles are similar in regional urban centres to central Dublin. However, levels of potentially poisonous particulates and sulphur dioxide arising from coal smoke, while having fallen significantly across the country, are now higher in regional centres such as Cork city and Limerick than in Dublin. Generally, air pollution is below threshold levels even in urban areas except at times when weather conditions such as temperature inversions lead to short periods of non-compliance.

(b) Water (Rivers, Lakes and Drinking Water)

The less developed areas of the country have a relatively high proportion of unpolluted rivers. The North-West Region has the highest river quality, followed by the Southern, Western and Shannon regions (the last falling mostly into the BMW political region). The Eastern Region

fares relatively poorly with only 45% of its rivers classed by the EPA as 'unpolluted' Class A and with the largest proportion, 3%, classified as 'seriously polluted'. By comparison, in the North-Western, 87% of rivers in Donegal and Sligo are classed as 'unpolluted' and only 1% of rivers are 'seriously polluted'. The Western, Mid-Western and Southern regions have slightly lower proportions of Class A rivers, but no instances of serious pollution.

However, for this and other criteria, it would be wrong to assume that all areas outside the east have a higher quality environment. Some instances of serious pollution have been long standing, for example of the Triogue and Tullamore rivers near Portlaois, or of the Hind river near Roscommon town. Nitrate levels are high on some regional rivers such as the Blackwater in Cork or the Barrow in Co. Kilkenny. Phosphate levels are high on the rivers Maigue/Deel, Erne and Barrow.

Indeed, eutrophication, from domestic sewage and farm slurry spreading, is possibly the most serious pollution problem facing Ireland. The North-West(a) subregion, corresponding to much of the Border Region, has the poorest water quality in terms of unpolluted rivers. Many watercourses and lakes in counties Cavan and Monaghan have at least moderate (and rising) levels of eutrophication, due partly to intensive pig rearing and careless slurry spreading. In these counties, only 49% of river length was unpolluted and a sizeable 30% fell into Class C.

Of lakes, there has been a tendency towards increased eutrophication (i.e. excessive nutrients) at the lower levels, but a reduction in more serious instances. This would, for instance, be true of loughs Derg and Ree, although, elsewhere, eutrophication has been more widespread and has extended to some estuaries such as that of the Slaney in Co. Wexford. Those counties with a large proportion of non-compliant lakes include counties Cavan, Clare, Cork, Donegal, Galway, Leitrim and Monaghan (Clenaghan 2003).

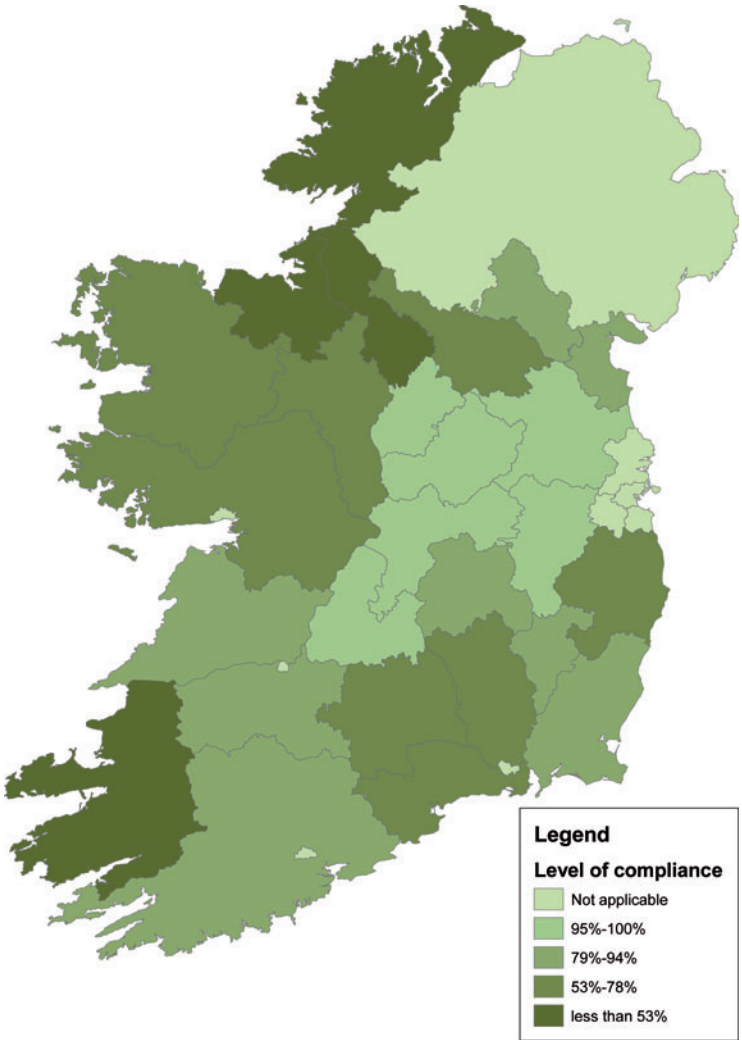
Generally, levels of phosphates and nitrates which lead to eutrophication are higher in the east and south, particularly in catchments where tillage farming is practised. Scenarios of future agricultural trends (e.g. the FAPRI model, Binfield et al. 2003: pp. 1–79) imply that this distinction could widen over time owing to the possibility of more extensive farming activity in the west in contrast to continuing intensive production in the east, though the proportion of land under tillage could diminish.

In terms of drinking water, however, the distinction could diminish over time, given investment in the treatment of waste water in urban areas and the high construction rate of individual dwellings in the west, the overwhelming majority of which are dependent on private septic tank systems. While regulations require new builds to have a modern sewage system, such systems do not remove the prospect of sewage pollution altogether. To date, rather few water schemes have been found to have high nitrate levels, with little evidence of a regional pattern and most non-conformance having occurred in widely separated counties such as Cavan, Kildare, Waterford and Cork. Conventional treatment fails to reduce nitrates and more pro-active control is required at source, i.e. farmland.

A more immediate threat to many rural areas is apparent in terms of levels of coliform contamination from both agricultural and domestic sources. Unlike most instances of eutrophication, faecal coliforms, nitrates and high levels of certain trace minerals have implications for human health. Previous surveys have indicated alarmingly poor levels of drinking-water quality, for example for faecal contamination of 25.6% over the period 2001–2002 (Page et al. 2003). However, recent investment by the Department of the Environment in sewerage infrastructure has allowed overall compliance to rise to 96.4% (Page 2005).

Threats to health are greatest where private septic tanks predominate and where land is under intensive livestock farming or where poor slurry application occurs. The compliance rate of public sources has improved considerably in recent years, but only 78% of private group water schemes were compliant for *E. coli* in 2004 and 41% failed to meet total coliform indicator values. In this respect the situation is actually worse in the some western areas, with poor levels of compliance recorded for group water schemes in parts of the south-west and north-west, notably counties Kerry and Donegal, and amongst some public schemes in Co. Galway.

Map 4.10: *E. coli* compliance in private group water schemes



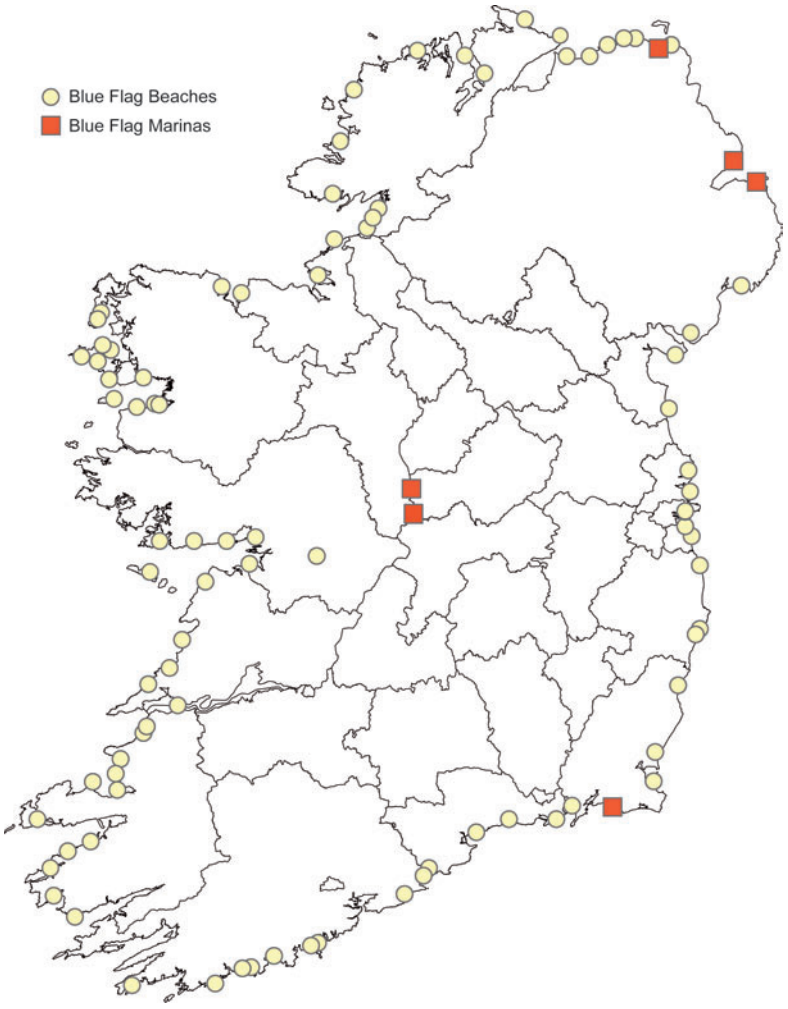
Source: EPA (2002) OSI county base map

Many rural areas in the regions have a dependence on local water sources through group water schemes. The management and water quality of these schemes is being improved through massive ongoing investment to meet EU regulations. Nevertheless, there are still problems in relation to the disposal of waste and waste water and with private wells. Nationally, 81% of sources are from surface water, but counties highly dependent on groundwater, such as Roscommon, are at particular risk of contamination of water supplies by coliforms or nitrates.

(c) Coastal Water and Beaches

Of coastal areas, there is compliance with minimum standards in 97.5% of cases. Most coastal bathing sites remain free of pollution, but there has been a failure to reach more stringent guide levels in a handful of locations in Galway, Sligo, Donegal and Kerry. An Taisce produces an annual map of beaches achieving Blue Flag status on the basis of bathing water quality and litter. Map 4.11 shows that such beaches are almost as likely to be found in the east as in the west, although there is notable absence of Blue Flag beaches in counties Wexford and Meath. EPA data also indicates no particular regional dimension. Generally, coastal water quality is good, although the negative visual and ecological impact of residential, hotel and golf course development in all counties has been highlighted by An Taisce and others. There are also now relatively few areas where shellfish can be collected and

Map 4.11: Beach quality



Source: An Taisce (2006) OSI county base map

consumed directly. The presence of algal blooms, arising from a combination of factors, but including nutrification and a tendency to warmer summers, has meant that few areas are free of biotoxins, particularly the south-west.

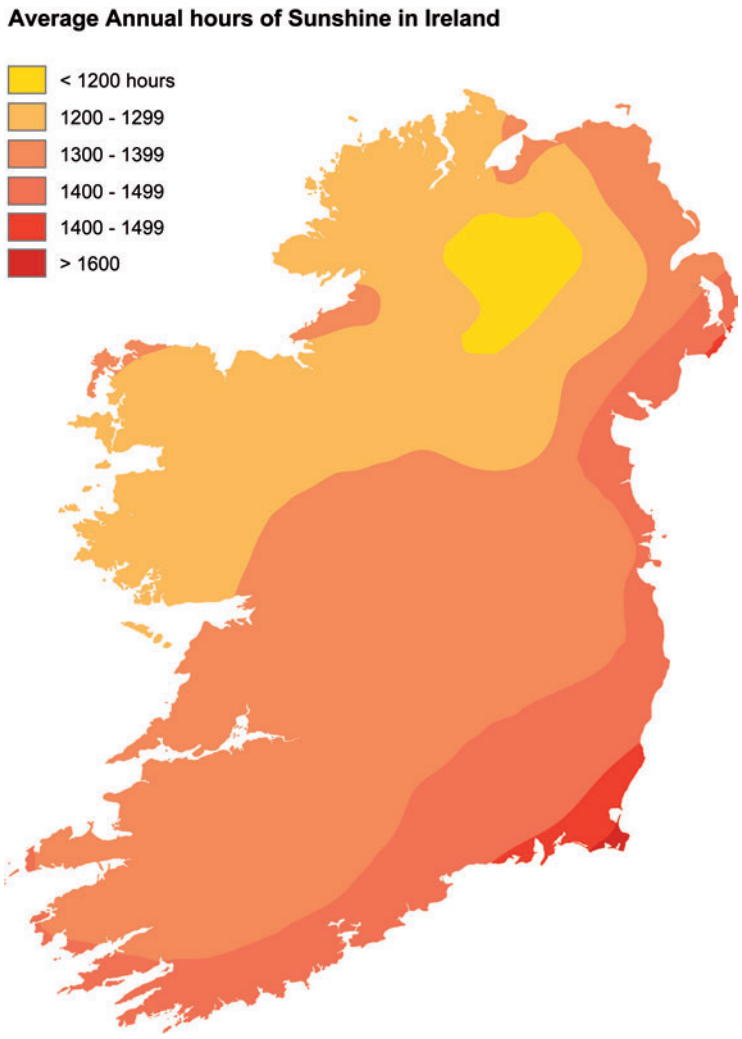
(d) Climate

In respect of sunshine levels, it is no surprise that the east and south-east of the country fare best. A survey undertaken by Finbarr Brereton of University College Dublin (Brereton, in press) indicates that temperature has a positive, albeit statistically insignificant, influence on subjective quality of life. Instead, a significant negative influence appears to be due to wind, although the reasons for these results remain unclear. Living by the coast has a significant positive influence.

(e) Noise and Light Pollution

The EPA (Waugh et al. 2003) has mapped quiet areas in conformance with the recent EU directive on the assessment and management of noise (2002/49/EC). It finds that the further one travels from Dublin and the major cities, the lower the level of background noise due to traffic in particular. Inevitably, this favours the less populated west of the country, principally areas away from towns and major roads. By contrast, areas outside the mid-east fare well for noise pollution. Consequently, the map of noise pollution largely mirrors that for population density. The same is no doubt true of light pollution.

Map 4.12: Sunshine levels



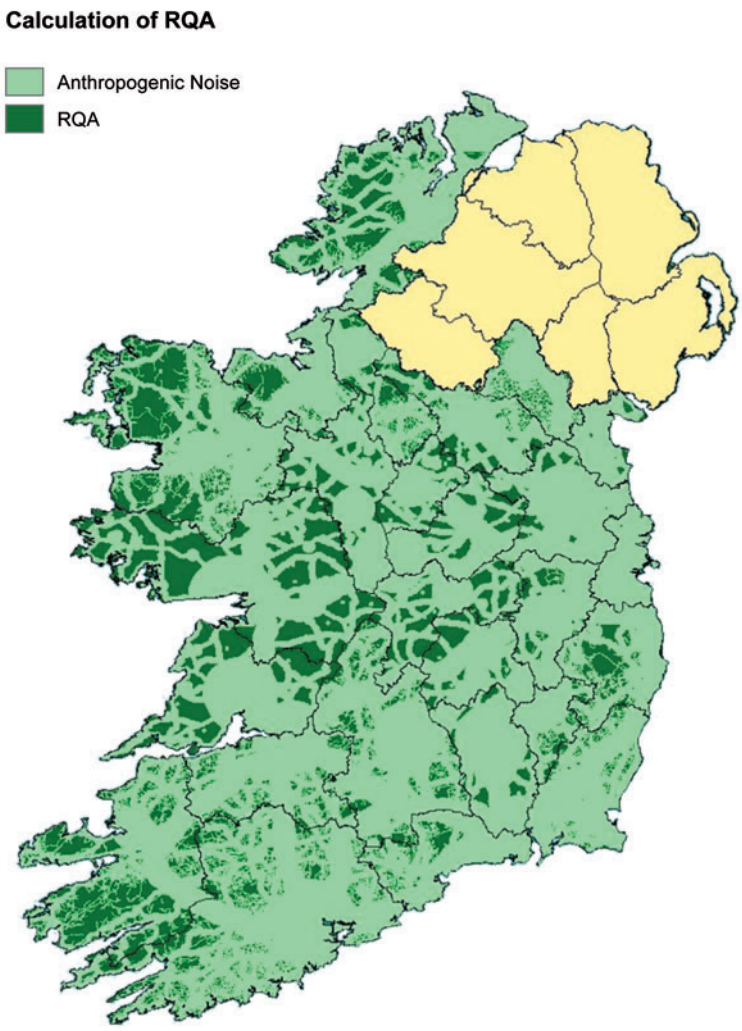
Source: Met Éireann (2004)

(f) Biodiversity

For biodiversity and the prevalence of valued habitat, there does not appear to be an east–west divide. The evidence is that mixed farming can support higher levels of biodiversity. Consequently, biodiversity is likely to have been good in many areas of small farms and where both grazing and tillage were formerly practised. As mixed cropping has declined, so there has been a decline in the biodiversity associated with it. There has also been a loss of biodiversity in farmed areas due to changes in grassland management and replacement of contiguous areas of habitat with more isolated entities. Birds such as the corn bunting, yellowhammer, and grey partridge have been victims of these changes.

Both the east and the west have experienced this decline, but in the east and south this decline has also been accompanied by intensification and a corresponding loss of biodiversity. However, few species have disappeared from the more developed east. The common frog, for example, is found in every county, despite having fallen dramatically in numbers in most of continental Europe. Other species have declined, but are almost as likely to be found in sites in the east of the country as in the west, for example the pearl mussel or marsh fritillary (Lucey and Doris 2001). Arctic charr and corncrake are two species whose distribution has receded westwards, but here too their distribution is sparse. The west also has experienced specific changes to sensitive habitats,

Map 4.13: Noise levels



Source: EPA (Waugh et al. 2003)

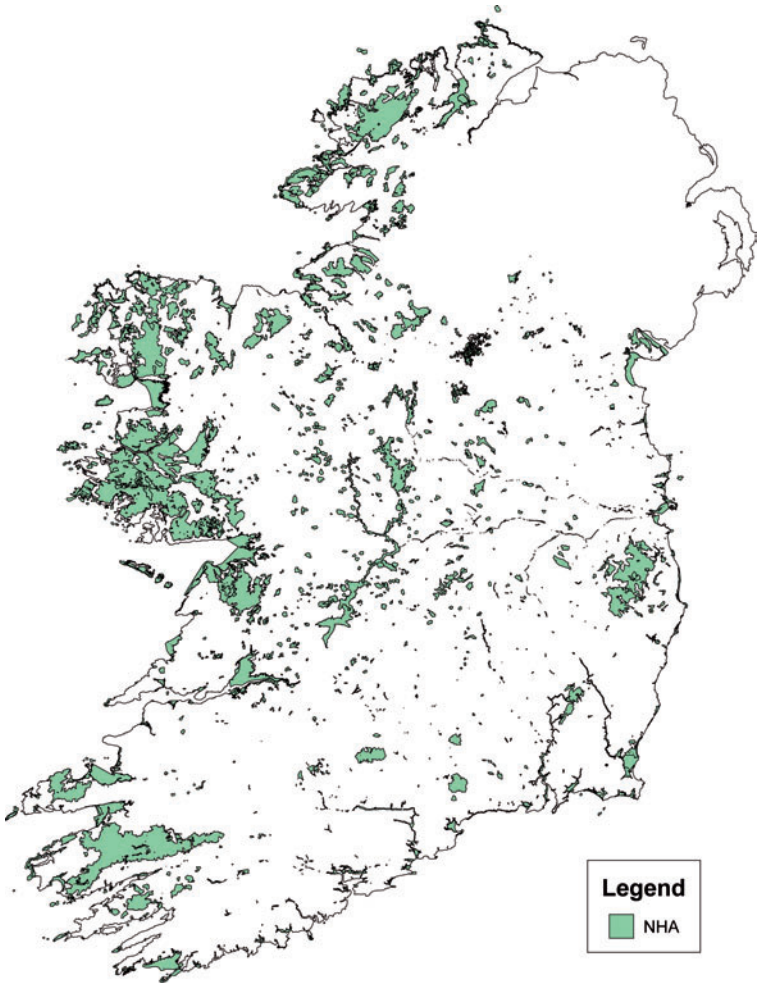
notably because of overgrazing and afforestation, that has had a deleterious affect on formerly more common species.

There are large areas of Natural Heritage Areas (NHA), Special Protection Areas (SPA) and Special Areas for Conservation (SAC) in the western counties, but this largely reflects the presence of sizeable areas of upland and bog. Elsewhere, these designations are protecting a scattering of smaller upland areas, lakes and estuaries across the country. This includes the east where the Wicklow Mountains and much of the coastline is designated as SAC. Likewise, there is a high proportion of statutory nature reserves in the south-west, but also across the midlands counties and in the east (Hickey 2006). Instead, the lowest geographical representation of such designations occurs in the north-east or the south.

(g) Amenity and Access

As well as areas of biodiversity values, there is also a broad spread of areas designated by planning authorities as being of high amenity value or of scenic importance. However, poor accessibility to the farmed countryside is rapidly becoming a national issue as is evident from the formation of Comhar na Cuile and the decision by the Irish Ramblers Club to disaffiliate from the Mountaineering Council of Ireland, alleging inaction by the latter over the

Map 4.14: Natural Heritage Areas (NHAs)



Source: EPA (2005) OSI county base map

issue of public access in 2005. There have been high-profile incidents of closing of traditional footpaths in counties Wicklow, Kerry, Cork, Mayo and Sligo. In that people walking in western areas have traditionally assumed unencumbered access, this loss has been felt most acutely in these areas, notably in some popular uplands and coastal areas. In this respect, rural populations are often at a disadvantage compared with urban inhabitants who at least have access to public parks. People living in the midlands and mid-western counties are especially disadvantaged in this regard as beaches are distant and there are few upland areas nearby.

4.3.3 Summary of Environmental Criteria

While there are people in the west of Ireland who may benefit from lower property prices, it cannot be presumed that higher environmental quality here compensates for lower average incomes. Certainly, there are aspects of the environment in the west which could be regarded as high quality. Clearly, landscape is an important 'pull' factor in those counties, given the presence of mountains, uplands and Atlantic coastlines, but pressures on the environment are increasing in the west and rural areas, due to settlement and land-use trends. In some respects, aspects

of the environment are sometimes inferior to the east, for example rural drinking-water quality or recreational access. Safe thresholds are commonly exceeded.

As well as the objective indicators, quality also depends on how the environment is perceived. Ultimately, the question may be the subjective importance that the public attaches to elements of the environment in relation to their own quality of life. Certainly, there does appear to be an increasing interest amongst state bodies and policy-makers in the value that people attach to the environment, as evidenced by recent studies by the Irish Sports Council (2005) and the Heritage Council (2007) that have estimated the value that the public places on public goods such as trails, forests and heritage. It might also be presumed that the public attach high importance to aspects that are perceived to affect their health directly – such as drinking-water quality, air quality and radioactivity. However, there is also evidence from surveys and media stories of an increasing concern with planning and recreation as well as a rising awareness of climate change and threats to biodiversity.

Public policy on the environment does not take a regional dimension as it does (in principle) for economic development. As a result, there is no specific strategy to preserve a quality environment in the west vis-à-vis the east even though the environment's attractiveness to existing residents or tourists is acknowledged by public bodies such as Fáilte Ireland. Rather, there is an assumption that the environment in the west must be better. Policies such as the Rural Environmental Protection Scheme (REPS) are not tailored or targeted for specific areas with the exception of some local initiatives. Agri-environmental policy has an unintentional regional dimension only in that the financial incentives are more attractive to small marginal farms. There is a danger that while the east will be forced to confront the implications of higher population growth, the environmental assets of the west, such as local beauty spots, unspoilt coastlines or high water quality, are vulnerable to national and local policy decisions that favour perceived economic objectives over more fundamental quality of life needs.

4.4 Other Non-Income/Non-Environmental Aspects of Quality of Life

The literature review provided examples of candidate indicators of quality of life other than economic or environmental criteria. Amongst those which regularly attract the attention of the media, and which would indeed be expected to have an influence on quality of life, are levels of crime and personal safety, health and education.

4.4.1 Crime

Garda crime statistics confirm what might be expected in that levels of crime are higher in urban areas in both absolute and percentage terms, especially in Dublin. Of 'headline offences', the Dublin Metropolitan Region (DMR) has by far the highest proportion at 41 per 1,000 of population compared with an average for the state of 25. The level of offences is particularly high in the DMR North Central areas where the figure exceeds 119 per 1,000 of population.

Generally, this geographical concentration applies to most of the offences that could be expected to influence quality of life most – namely assault, burglaries and drugs. For example, the Dublin area has an unenviable dominance in the figures for stolen vehicles and for thefts from unattended vehicles. However, the difference between Dublin and the regions is narrowed for non-aggravated burglaries (i.e. without firearms). For example, burglaries amount to 6.9 per 1,000 of population in the Eastern Region (Carlow/Kildare/Laois/Offaly/Longford/Westmeath/Louth/Meath) compared with 9.6 in Dublin.

Similarly, levels of rape and sexual assault are highest in the Northern Region (Cavan /Monaghan/Donegal/Sligo/Leitrim) at 0.22 per 1,000 of population compared with 0.10 in Dublin. Domestic violence will have a more direct influence on the quality of life of some individuals. Based on the number of banning orders, this appears to be concentrated in urban areas, but could well be more concealed in some rural areas.[11]

[11] Barring and related orders.

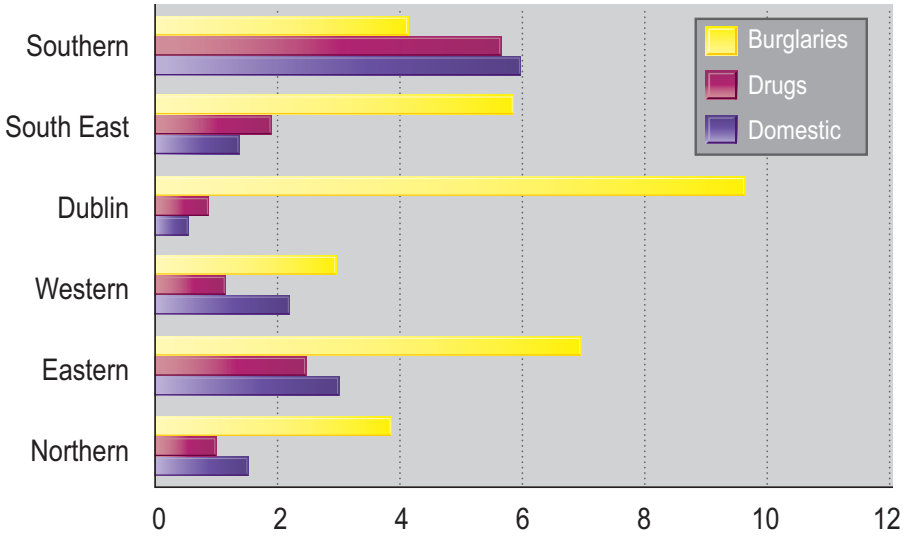
Drug offences are of concern, particularly to parents. As with the above figures, these too show a bias to the regions, being highest in the South Eastern Region (Tipperary/Waterford/Kilkenny/Wexford/Wicklow) at 2.43 per 1,000 of population compared with 2.00 in Dublin and 1.11 in the Western Region (Clare/Galway/Mayo/Roscommon). Likewise, Proceedings for Supply (Section 15 Misuse of Drugs Act [MDA]) are proportionately higher in the Southern Region at 5.58 per 1,000 population compared with just 0.45 in Dublin, although the absolute number of offences is much higher in the latter at 911 compared with 236. Major regional cities such as Limerick and Cork do, however, inflate the regional figures for both drug offences and domestic violence.

4.4.2 Health

Personal health is another factor that has a major impact on quality of life, including access to health facilities. In most respects, people's health is improving. Department of Health figures for 2002 reveal that 81% of people believe their health to be good or very good (Department of Health and Children 2005). Some key indicators of health, including age-standardised death rates from cancer and levels of infant mortality, have been falling. Levels of smoking have fallen to 28% from 31% in 1998, but alcohol consumption has continued to increase and is now the second highest in the EU. Death and injury because of traffic accidents, while below the EU average, are twice those of the Scandinavian countries and show no sign of falling.

Although issues such as hospital waiting lists and problems with accident and emergency wards continue to cause public concern, the numbers of consultants and nurses have risen in line with increased expenditure on health. Health expenditure reached 7.4% as a proportion of GNP in 2002, its highest since the 1980s when the economy was much smaller. Attention is being gradually redirected to preventative health measures. This has included a promotion of healthy lifestyles including the encouragement of regular exercise. There is a link here with the environment in that the importance of open spaces, walking routes and accessible countryside has been recognised by the Irish Heart Foundation and the Irish Sports Council.

At a regional level, there is rather little variation in indicators or health. For example, cases of 'all circulatory diseases' do not vary markedly, being least by a small margin in the North-Western and Eastern Regional Authority areas at around 275 cases per 100,000 of population. However, the quality and availability of facilities does vary. For instance, there are three times as many day-centre places available per 100,000 of population in the North-Western Region as there are in the



Source: An Garda Siochána 2006

Figure 4.1: Relative crime levels – regional crime per 1,000 population

Southern and Midlands regions. In terms of number of beds available in acute hospitals, there are 3.5 beds per 1,000 of population in the Eastern Regional Authority area compared with 2.1 beds per 1,000 in the Midlands (Department of Health and Children 2006). To some extent, these facilities have to allow for the distribution of population. Nonetheless, the general perception is that people living in less populated regions typically have to travel further to avail of services, particularly of specialist facilities such as cancer treatment. The extent to which resources need to be concentrated in specialist units and the location of such facilities is an issue that continues to agitate local politics.

4.4.3 Other Factors: Education, Childcare and Commuting

Little information appears to be available with which to gauge variations in the regional quality of education provision. An issue of regional relevance, and one that has been picked up by the media, is the condition of many rural school buildings. Another issue would be geographical access to higher education and adult learning for many people in the north and west. At a national level, the number of children in first-level education has increased slightly after a long decline in line with falling birth rates, while the second-level pupil–teacher ratio had fallen to 14.0:1 in 2003/2004 from 16.8:1 in 1989/1990.

The availability of childcare has been an issue in many rural locations, particularly for people moving into more rural areas where this service has traditionally been provided by family or private childminders. The availability of facilities has improved in recent years in response to government investment, although the quality of facilities is often poor with only 21 out of 160 facilities in the west having passed a Health Service Executive (HSE) inspection. Cost is another factor, with 45% of parents paying more than €100 per week per child (www.rollercoster.ie 2004). A recent report by Fine-Davis et al. (2006) found that 56.7% of working women found it stressful to juggle work with domestic activities, including childcare. Overall, though, more men appear to be stressed than women, stress which arises mainly from work. Amongst young men, 75% are stressed by work, financial worries or commuting.

Generally, lower levels of life satisfaction in Ireland appear to be associated with greater commitments on time (McGinnity et al. 2005). Indeed, there are those who would argue that we have brought this on ourselves by associating status with high incomes and being seen to be busy (Becker 1965).

More rural households have a car than urban households, but, as discussed earlier, the need for a car is greater in the former. However, the proportion of rural households without a car is highest in Donegal and the western parts of counties Mayo, Clare and Kerry. In many of the most remote areas of these peripheral counties, over 25% of households do not possess a car, many of which are characterised by elderly occupants. The lengthier commutes to work are undertaken in rural areas where 37.6% exceed 16 km. The origin of these longer journeys have a clear spatial relationship with major towns across the country as demonstrated in a recent report by Walsh et al. (2006).

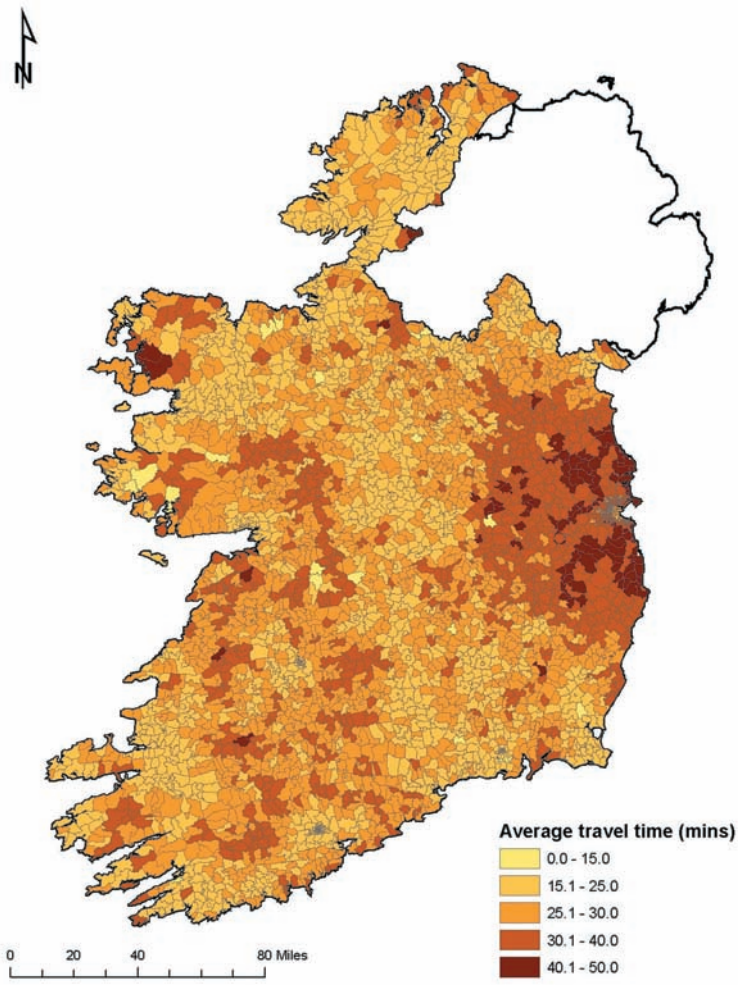
However, in terms of time, journeys over 30 minutes account for only 29.3% of commuting trips in rural areas compared with 36.4% in urban areas. Journeys are also much longer on average in the Mid-East counties around Dublin as well as some areas around other major cities. Whether everybody actually feels disadvantaged is a mute point. The survey by Fine-Davis et al. indicates that three-quarters of people do not actually find commuting to be stressful.

4.4.4 Well-Being

In recent years, the EU has begun to shift its focus from GDP as an indicator of national well-being and has paid greater attention to social policy. Although competitiveness continues to be high on the agenda, a gradual change in emphasis has been evident since the 1989 Social Charter and the Social Protocol of the Maastricht Treaty 1989. Following EU enlargement, as much effort is being made to achieve social cohesion as used to be applied to economic cohesion.

Although Ireland fares relatively poorly in terms of deprivation, measured in terms of subjective well-being, the European Quality of Life Survey finds that Irish people are amongst the most contented in Europe. The mean index rate of 7.7 is only just behind Finland, Sweden and Austria, countries generally regarded as having the luxury of both

Map 4.15: Commuting time



Source: CSO (Census 2002) OSI county base map

high incomes and generous welfare systems. In commenting on the values, the ESRI (Watson 2004) observes two aspects to this sense of well-being, namely (i) overall happiness and (ii) a more cognitive-driven evaluation of living conditions. Of the former, people in Ireland appear to be doing quite nicely in that its score is equal to Finland and only just behind Denmark. Indeed, for the whole of the EU, the survey finds a strong correlation between satisfaction and happiness. Economic factors certainly exert a predictable influence on this condition in that satisfaction is negatively correlated with unemployment but positively associated with income. The influence of economic factors does, however, appear to be greater at the lower income extremes and is most marked in the poorer European states.

One area which has an impact on life satisfaction, and in which Ireland is doing particularly well, is positive attitudes towards the future. In this respect, 51% of Irish people 'agree completely' that they are optimistic, while their overall optimism is on a par with the high-income Scandinavian countries. After ten years of largely uninterrupted economic growth, it appears that Irish people are positive about economic development, despite the implications that this has had for equality and for some aspects of the environment.

However, while people are positive about the future, it is the happiness of older people in Ireland that is rising most, particularly when compared to young people whose reported levels of happiness are falling slightly. Viewed

over time, though, the happiness of the same groups remains fairly constant. The ESRI speculates that older people's relative happiness may be due to these individuals having experienced the golden era of economic and social progress between the 1950s and 1970s.

In terms of the environment, the proportions of Irish people complaining about noise (8%), air pollution (7%), water quality (11%) and lack of green space (10%) are all low, although the last of these is around the average for the EU. The ESRI notes that city-dwellers declare more dissatisfaction. However, it is worthwhile to consider the relationship between how important people think the environment to be, and how concerned they are about its current condition. There will also be differences between actual levels of environmental quality and the subjective measures in the European Quality of Life Survey. For instance, rural areas may be cleaner and less noisy, but much depends on the relative sensitivity of urban and rural inhabitants to such problems.

4.5 Summary

Regional differences in GDP and personal incomes provide only a limited measure of quality of life in modern Ireland. For many people, rapid economic growth has provided higher incomes and a greater range of employment options, particularly in the major cities and the east of the country. However, economic growth has also had a significant impact on housing affordability, vehicle ownership, congestion, commuting times and pollution. The government has sought, with varying conviction, to increase the supply of affordable housing and to free more serviced land for development. It has also invested in transport infrastructure, although the major road and public transport initiatives have been concentrated in the east where congestion pressures are most acute. The government has also sought, but with mixed success, to channel foreign direct investment into the west of Ireland and to disperse public-sector jobs through decentralisation. Nevertheless, economic development in some western counties remains fragile and vulnerable to any downturn.

By comparison, initiatives in respect of quality of life have been piecemeal and have not been guided by dedicated policy strategy. Environmental policy has been largely spearheaded by EU directives and has no regional dimension. A quality environment is perceived by tourist and regional development organisations, such as Fáilte Ireland and the WDC, to be an important draw for both overseas tourists and internal migrants. However, there has been no regional strategy for ensuring the protection of this environment. Instead, it has been assumed that environmental protection can be ensured by EPA, at least in as far as ensuring that critical thresholds are not exceeded. Planning control is delegated largely to local authorities and, in a number of cases, these have pursued policies or granted planning permissions that demonstrate a continuing primary concern with economic development.

Nevertheless, it is clear that the environment in the west is being increasingly faced with the same pressures as the east. The east too could deserve a regional policy that aims at consolidating the quality of life gains from economic growth by moving from environmental protection to environmental gain.

Wherever it occurs, rapid development has an impact on equality, social structures and the environment. Evidently, people in Ireland are foregoing many social and environmental goods in return for economic benefits, but these economic benefits are far from being equally spread within the population. EPA annual environmental reports demonstrate that development has caused substantial environmental impacts and that these have been regionally imbalanced. On the other hand, Ireland performs well in terms of indices of happiness and optimism. Therefore, it is not clear how people perceive the relative benefits and costs of economic growth. The public survey discussed in the next section aims to provide information on what it is that contributes to quality of life, including the role of environment. Even with this information, it remains unclear how the relative benefits and costs of economic growth will be perceived in years to come or by future generations.

5 The Postal Survey

5.1 Aims

So far, the information presented has demonstrated the extent of regional and urban–rural variations in key economic and environmental indicators, together with some examination of variations in other quality of life criteria. However, there is no basis by which to judge the relative importance that people attach to each of these aspects of quality of life. All that can be commented on is relative performance.

The objective of the postal survey was to obtain subjective data on people's perception of the importance of various attributes on quality of life in different localities. To determine the extent to which people's quality of life expectations are been provided for by national government and local government, survey respondents were also asked to rate their perception of the actual availability of these same attributes in each location. To meet the regional objectives of the study, the sample covered:

- Dublin: an urban locality with the highest average income levels, but also levels of inequality and some adverse aspects of environmental quality.
- The Dublin commuter belt: an area with generally high incomes, but with some residents who have chosen to tolerate commuting pressures in return for lower property prices and possibly higher environmental quality.
- Co. Leitrim: a regional locality with a high proportion of rural residents whose average incomes are below the national average, but which has low property prices and arguably higher environmental quality than the former two sample areas.

The survey was designed to provide quantitative data with which to complement a series of qualitative focus group interviews on the topic of quality of life.

5.2 Methodology

The survey involved a questionnaire being distributed to people living in each of the above sample areas. The Dublin commuter belt sample included the towns and environs of Navan and Naas, while Co. Leitrim was taken to be representative of a regional and rural county, albeit one with rather specific characteristics in that there are both pockets of new affluence and of continuing disadvantage in the county. The sample was selected at random using the electoral register.[12] The total survey size was 500, from which 161 responses were received, a response rate of 32%.

A full copy of the questionnaire is contained in Appendix I. The questionnaire contained various objective questions in relation to people's place of residence and commuting habits as well as the usual set of socio-demographic questions. Two approaches were employed to determine people's subjective valuation of quality of life indicators. Of the first, the survey asked people to rate the importance they give to 42 attributes of quality of life using a seven-point scale from 'undesirable/not important' to 'essential'. These attributes were selected based on those topics that have previously been identified as being important to quality of life as discussed in the literature review. Others were selected based on the earlier analysis of objective data as well as some others deemed to be specific to current public debate in Ireland, e.g. access, planning and levels of traffic. The attributes can be broadly grouped as aspects of material well-being, personal/social well-being, community, infrastructure and services, and the environment. The main focus of the analysis is on the relative role of material well-being and the environment. In addition, it is necessary to place these factors in context by including other key indices of quality of life so as to be

[12] Changes in the accessibility of the electoral register mean that this option will unfortunately not be available to researchers in the future.

able to examine the true importance of these two sets of attributes to other indicators of quality of life. These other factors did not extend to personal, health or family circumstances as the emphasis here is on quality of provision.

The first step was, therefore, to establish the importance that the public attaches to key quality of life attributes. The second step was to determine the extent to which people believed each attribute applied to where they live now. Answers to these questions allow us to compare the perceived importance of each attribute with the perceived supply of these attributes in each locality. Both responses are subjective, but can be compared with the earlier objective information. The supply of many attributes is determined by national or local government policy and expenditure. Others are more reflective of people's personal decisions as to where they have chosen to live.

The response rate of 32% was respectable in comparison with other surveys of this type. Although the absolute sample size is small, there was a good degree of consistency as evidenced by a low standard deviation in the responses. The number of returned questionnaires was just sufficient to allow a factor analysis. Results are presented as follows. First, the averages for the socio-demographic data are presented, followed by an analysis of the ratings given by different respondents. This rating analysis is followed by the factor analysis to demonstrate those attributes and respondent types amongst which there was most correlation. Finally, differences between perceived and actual quality of life are presented.

5.3 Results

5.3.1 Socio-Demographics

The survey sample was of a modest size, but provided a reasonable approximation to the composition of the national population with some over-representation of higher socio-economic groups and people of middle years.

Males constituted 59% of respondents compared with 41% of females. Getting a response from young people within surveys is always difficult even where names have been taken randomly from the electoral register and, indeed, only one respondent was less than 21 years. People between 21 and 40 years represented 32% of the sample, those between 41 and 65 years totalled 51%, and the remaining 16% were over 65. National census figures reveal that 45% of the population over 21 are aged between 21 and 41, while 32% are aged between 41 and 65 years, so the sample rather over-represented this last category compared with people below 41 and over 65.

Of all respondents, the majority, i.e. 82%, were married. Those without children under 16 years represented 61% of the sample, of whom two-thirds had children of less than 7 years. Nationally, 51.4% of the population over 15 years are either married or separated.

Table 5.1 below shows the respondents' socio-economic composition. The average household income was around €65,000 per annum which is above the national average of around €50,000.

Table 5.1: Respondent composition

	Married or cohabiting (%)	Separated (%)	Widowed (%)	Single (%)	Not specified (%)
Sample	82.1%	4.5	1.9%	11.2	2.3

	Manual (%)	Skilled manual (%)	Clerical (%)	Managerial (%)	Professional (%)	Retired (%)
Sample	7.0	7.7	22.3	11.2	33.8	23.9

Unfortunately, the census data does not show how people perceive their overall quality of life, but most respondents in the survey, i.e. 53%, believed their quality of life was average, while 41% thought it to be above average. It takes a little confidence to report a lower than average quality of life, but 5% did believe this category applied to them. The percentages do not allow a meaningful break down by the socio-demographics.

5.3.2 Material Well-Being

Income

Of household income, results for respondents in the commuter counties was slightly higher, at €49,600 per annum, than for Dublin where the average income was €49,000. The difference is small and the result probably not surprising, given that Dublin contains more areas of relative disadvantage. By comparison, the average income in the Leitrim rural area was less than €40,000. Within the sample, the variation in absolute income levels was similar across the sample, but highest for the commuter belt.

For the whole sample, absolute income is perceived to be only the eighth most important variable, though still equivalent to being 'very important' with an average rating of 5.99. Dubliners gave the highest rating to income at 6.11, but, relative to other factors, income was considered to be more important by people living in the commuter belt and relatively less important by those living in rural areas. In that many people living in the commuter belt will have sought out affordable property despite the higher commuting time, it is possibly not surprising that the importance of income features highly in their perception, given that it would, in part, have determined their choice of residence.

The number of foreign holidays taken forms another indicator of disposable income, albeit an imprecise one. Indeed, the number of holidays taken is highest in the commuter belt. People here took an average of 3.46 foreign holidays in the last two years, compared with 3.14 in Dublin, but just 2.38 in the rural area. When asked about the importance of foreign holidays, the relative ratings followed the same pattern.

Security of income was the factor rated highest overall with a rating of 6.28. In terms of the definitions used, this rating lies somewhere between 'very important' and 'essential'. For both Dubliners and people living in the commuter belt, security of income was rated very highly at 6.42 and 6.13 respectively. However, it was rated behind some other factors by rural people, while retaining an average weighting above 6.

Women tended to put marginally greater weight on both absolute income and security of income. Those women with young children placed the highest value on absolute income, but there is little difference in the rating of security of income compared with couples without young children. Where socio-economic status is concerned, manual workers were, not surprisingly, most concerned with absolute income. They are followed by skilled manual workers, while retired people allocated the lowest average rating. Manual workers were unanimous in agreeing that income security deserves the highest average rating of 7, i.e. 'essential'. In this instance, though, they were most closely followed by retired people, and then by skilled manual workers and professionals with an equal average rating. Clerical and managerial employees were slightly less preoccupied with income security.

It is probably fair to say that many people living in Dublin and the commuter belt areas will have had experience of redundancy, and that this proportion is probably higher than for people living in rural areas, at least before the current economic boom. A probably more widespread consideration, based on the earlier objective data, is that more people in these areas also have a mortgage. It is not difficult to imagine that people with mortgages place a high value on security of income without which they are at risk of losing their home.

Housing

In terms of housing or occupancy, 27% of the rural sample lived in a town and 73% in the countryside. This compares with 66% of people living in a town and 34% in the country within in the commuter belt.

Of the total sample, 48% owned their own home outright, while 40% had a mortgage. The highest proportion that owned their home outright were in the commuter belt, while the highest proportion of people renting were found in the rural area, although the high level of renting in Carrick-on-Shannon was an influence on the last figure.

A lower proportion of rural respondents therefore have a mortgage. 62% of these respondents also have the relative satisfaction of living in a detached property. Only 54% of people in the commuter belt responded that they live in a detached property. For people in Dublin a detached house is a relative luxury: only 24% had a detached home. Respectively, 51% live in a semi-detached house, 22% in a terraced house and 3% in an apartment.

Map 4.6 demonstrated that there is higher proportion of home-owners (without a mortgage) outside the Mid-East. For many people in this region, home ownership is an aspiration. Not surprisingly, 'owning your own home' was rated as the second highest and highest factor by Dubliners and by people in the commuter belt respectively, exchanging places only with security of income. For people in the rural area, owning your own home was still amongst the top five rated factors, but appears lower down the list.

Interestingly, a bigger relative difference is evident from the factor 'living in your ideal home'. This factor introduces an evident characteristic of the data, namely the tendency to assess one's situation in the best possible light. For people in Dublin, for whom living in one's ideal home is a distinct luxury, this factor appears only 24th in the list, albeit still with a rating of 'quite important'. In comparison, people living in the commuter belt might be expected to have a relatively higher chance of acquiring their ideal home, although this attribute moves up only three places. However, for people in the rural area, the factor is much elevated, appearing in 11th place. In the Leitrim area where the rural survey was conducted, a good proportion of people have also had the opportunity to purchase plots and to build their own rural home.

Curiously, perhaps, the largest proportion of people who had been living in the same house for over ten years was to be found in the commuter belt (49%). However, the difference with other locations was not great (being 41% even in the rural area). Of course, the commuter belt still contains a sizeable indigenous population who could perceive themselves as having the best of both worlds and so might be less pressed to move. However, 27% of people in the commuter belt had moved within the last five years, while the same figure was 33% for Dublin, but only 12% for the rural area. Most moves in Dublin and the commuter belt had occurred within the last five years, coinciding with economic growth and opportunity.

Table 5.2: House ownership

	All sample	Dublin	Commuter belt	Rural area
Own outright	48.5%	51.1%	58.9%	35.1%
Mortgage	38.8%	39.1%	41.0%	46.2%
Renting privately	4.8%	5.4%	0%	11.5%
Renting from local authority	2.4%	1.0%	5.1%	3.8%
Other	3.5%	3.4%	5.0%	3.6%

Table 5.3: Ratings: income and personal well-being

Rank	All responses		Dublin		Commuter belt		Rural area	
1	**Own home**	6.28	**Secure income**	6.42	**Own home**	6.17	Clean fresh air	6.22
2	**Secure income**	6.28	**Own home**	6.38	**Secure income**	6.13	Good quality drinking water	6.21
3	Clean fresh air	6.15	Low crime	6.28	Clean fresh air	6.05	Healthy air quality	6.13
4	Good quality drinking water	6.12	Good schools	6.25	Healthy air quality	6.03	**Own home**	6.12
5	Low crime	6.08	Clean fresh air	6.18	Good quality drinking water	6.00	**Secure income**	6.04
6	Healthy air quality	6.06	School nearby	6.18	**Income**	5.97	Low crime	5.77
7	Good schools	6.00	Good quality drinking water	6.16	Low crime	5.86	Satisfying job	5.65
8	**Income**	5.99	**Income**	6.11	Clean environment	5.83	Clean environment	5.63
9	Clean environment	5.94	Good planning	6.08	School nearby	5.80	Good schools	5.60
10	School nearby	5.93	Clean environment	6.08	Healthcare nearby	5.76	**Income**	5.54
11	Good planning	5.83	Healthy air quality	6.06	Kids' friends near	5.72	**Ideal home**	5.46
12	Low noise	5.75	Kids' friends near	5.93	Good schools	5.69	Healthcare nearby	5.46
13	**Satisfying job**	5.73	Places to walk	5.92	Good planning	5.62	Low noise	5.46

Table 5.3: Ratings: income and personal well-being (continued)

Rank	All responses		Dublin		Commuter belt		Rural area	
14	Places to walk	5.71	Low noise	5.90	Low noise	5.59	Countryside	5.38
15	Kids' friends nearby	5.69	**Satisfying job**	5.88	Traffic congestion	5.51	Places to walk	5.38
16	Short journey to work	5.62	Short journey to work	5.83	Short journey to work	5.48	Wildlife healthy/protected	5.33
17	Healthcare nearby	5.54	Wildlife healthy/protected	5.83	**Satisfying job**	5.45	School nearby	5.32
18	Wildlife healthy/protected	5.52	Traffic congestion	5.61	Attractive countryside	5.45	Good planning	5.28
19	Traffic congestion	5.51	Traffic light	5.60	Places to walk	5.45	Attractive countryside	5.25
20	Attractive countryside	5.44	Attractive countryside	5.49	Affordable property	5.44	Traffic congestion	5.17
21	Traffic light	5.37	Cultural	5.48	**Ideal home**	5.29	Rivers clean	5.15
22	**Ideal home**	5.35	Healthcare nearby	5.46	Friends nearby	5.24	Affordable property	5.00
23	Rivers clean	5.26	Rivers clean	5.39	Traffic light	5.15	Short journey to work	5.00
24	Friends nearby	5.19	**Ideal home**	5.34	Foreign holidays	5.14	Childcare	4.93
25	Affordable property	5.16	Friends nearby	5.34	Childcare	5.11	Traffic light	4.80
26	Cultural	5.13	Outdoor recreation	5.28	Rivers clean	5.5.07	Outdoor recreation	4.4.76

5.3.3 The Environment

One of the primary objectives of the project is to determine how important a contribution environmental quality makes to quality of life compared with income. Do people accept lower incomes for higher environmental quality and higher incomes in return for lower environmental quality? In practice, not everybody has the choice over where to work. People on high incomes buy houses in pricey areas with a clean or attractive environment. On the other side of the fence, people on lower incomes usually reside in poorer neighbourhoods. Sometimes these poorer neighbourhoods are also characterised by a poorer environment which could include air polluted by local heavy industry, or where the only affordable housing is near busy roads or industrial wastelands. The relative extent to which this situation depends on area status or environmental quality is a question. Frequently, low incomes and low environmental quality coincide in locations where people without the money, time or political know-how, are unable to object to environmentally damaging activity close to their home.

Much of the relevant literature derives from the United States which has a footloose population and is a country where, as outlined in the literature review, cities compete to attract new migrants by offering good environmental quality or, sometimes, lower local taxes. Mostly though, people do not get much choice in the matter. People live where work is to be found, usually cities with all their incumbent traffic, noise and pollution. In Ireland, the question is whether perceived higher environmental quality in the west compensates for poorer infrastructure and services as well as lower incomes and employment opportunities.

A number of environmental attributes were included within the questionnaire, namely:

- Knowing that local rivers and lakes are clean.
- Local wildlife population is healthy or protected.
- Attractive nearby countryside.
- Excellent drinking-water quality.
- Air quality presents minimal risk to health.
- Very clean fresh air.
- Low noise levels.
- Great place for outdoor recreation nearby.
- Places to walk nearby.
- Nearby beaches.
- Clean well-maintained surroundings.
- Low traffic congestion.
- Light levels of traffic locally.

Some of these attributes relate to landscape, others to the natural environment. Some relate to health considerations or factors closely associated with direct personal utility, such as recreation. Generally, it might be expected that somebody who rates one of the environmental attributes highly will also rate the others positively too. However, people preoccupied with traffic congestion need not necessarily be interested in aspects of the natural environment, while people who use beaches may value them more as a place to relax or to sunbathe rather than being concerned with levels of litter or bathing water quality. In the above list, similar attributes have been grouped together, but in the questionnaire they were deliberately distributed randomly to reduce the risk that respondents would identify a pattern.

The important issue is how the environmental factors are perceived. Portesous (1971) argues that environmental quality involves subjective perceptions, attitudes and values that vary among groups and individuals. Nevertheless, the survey data reveals general agreement. ‘Clean fresh air’ and ‘excellent drinking-water quality’ are respectively 3rd and 4th in the ratings. This is a result that would surely encourage environmentalists in that neither of these factors would be nominated as being a regular topic of casual conversation. Indeed, seven environmental factors appear in the top 20 rated factors, including also ‘healthy air quality’, ‘clean, well-maintained environment’, ‘low noise’, ‘places to walk nearby’, ‘wildlife protection’, ‘low traffic congestion’ and ‘attractive countryside’.

At a regional level, the value placed on the environmental factors relative to other factors remains similar across regions, as do the relative ratings between environmental factors. Even ‘low traffic congestion’ achieves a similar rating (15th to 19th) in each sample area despite the variation in actual traffic congestion.

In Dublin, environmental factors do get relegated slightly by other pressing considerations including security of income, schools and crime, but the absolute ratings remain high. While, in the commuter belt, 'wildlife protection' emerges in only 30th place, compared with 17th and 16th places respectively in Dublin and Leitrim. 'Clean rivers and lakes' do similarly poorly in the commuter belt.

Rural respondents are not blasé about the environment even though they might be surrounded by green. 'Healthy air quality' and 'excellent drinking water quality' account for the three highest rated attributes. As absolute income was rated lower down the scale by rural respondents compared with the other sample areas, this could mean that a degree of compensation is provided by the perception of a good environment. Alternatively, rather than being a deliberate choice, this could be evidence of satisfying[13] behaviour of the kind 'well, I would like a good income, but at least the surroundings are green'.

Interestingly, Dubliners rate proximity to attractive countryside as highly as respondents elsewhere and most believe that this also applies to them. In fact, Dublin is not a large city by international standards and much of the surrounding countryside is, indeed, attractive. Asked about living in a town or city, Dubliners rated this low on the scale (38th), although above being able to live in the countryside, which appears in bottom place. Rural dwellers, though, were in less doubt about the merits of living in the countryside and placed this attribute in 13th place. For them, to be able to live in a town or city was bottom of the list.

On the basis of the standard deviation of estimates, there was also more agreement amongst rural dwellers on the respective disadvantage and merit of living in town or countryside. Of course, the respective ratings of these attributes would again have been influenced by the actual circumstances in which people find themselves. These ratings appear to be more direct evidence of satisfycing behaviour, given that only a minority of rural people would have specifically chosen countryside over city. Only five respondents (8.8%) had moved from the city.

Availability of an 'places for outdoor recreation' site was rated equally by Dubliners and rural dwellers and somewhat less by people in the commuter belt. Although in the former two locations, outdoor recreation still achieved only 14th place. The ratings for 'places to walk nearby' followed the same pattern As with some other environmental attributes, it seems likely that there is variation amongst respondents. Indeed, 'places for outdoor recreation' and 'places to walk nearby' are rated more highly by the two highest earning groups than by those with a household income of less than €40,000. The same is true of 'wildlife protection' and 'good planning'. The less affluent group appears to place much greater weight on 'healthy air quality' and 'clean rivers and lakes'. However, once the next lowest income category is combined with the first, these relative differences persist only for the income-elastic attributes of 'places for outdoor recreation', 'places to walk nearby', 'wildlife protection' and 'good planning'. This possibly suggests that it is the least affluent who are most acutely aware of the fundamental environmental attributes of poor air quality and polluted rivers, concerns which may arise from living in a poorer environment.

[13] That is, the first situation at which somebody remains content with their life choices.

Table 5.4: Ratings: environment

Rank	All responses		Dublin		Commuter belt		Rural area	
1	Own home	6.28	Secure income	6.42	Own home	6.17	Clean fresh air	6.22
2	Secure income	6.28	Own home	6.38	Secure income	6.13	Good quality drinking water	6.21
3	Clean fresh air	6.15	Low crime	6.28	Clean fresh air	6.05	Healthy air quality	6.13
4	Good quality drinking water	6.12	Good schools	6.25	Healthy air quality	6.03	Own home	6.12
5	Low crime	6.08	Clean fresh air	6.18	Good quality drinking water	6.00	Secure income	6.04
6	Healthy air quality	6.06	School nearby	6.18	Income	5.97	Low crime	5.77
7	Good schools	6.00	Good quality drinking water	6.16	Low crime	5.86	Satisfying job	5.65
8	Income	5.99	Income	6.11	Clean environment	5.83	Clean environment	5.63
9	Clean environment	5.94	Good planning	6.08	School nearby	5.80	Good schools	5.60
10	School nearby	5.93	Clean environment	6.08	Healthcare nearby	5.76	Income	5.54
11	Good planning	5.83	Healthy air quality	6.06	Kids' friends near	5.72	Ideal home	5.46
12	Low noise	5.75	Kids' friends near	5.93	Good schools	5.69	Healthcare nearby	5.46
13	Satisfying job	5.73	Places to walk	5.92	Good planning	5.62	Low noise	5.46

Table 5.4: Ratings: environment (continued)

Rank	All responses		Dublin		Commuter belt		Rural area	
14	Places to walk	5.71	Low noise	5.90	Low noise	5.59	Countryside	5.38
15	Kids' friends near	5.69	Satisfying job	5.88	Traffic congestion	5.51	Places to walk	5.38
16	Short journey to work	5.62	Short journey to work	5.83	Short journey to work	5.48	Wildlife healthy/protected	5.33
17	Healthcare nearby	5.54	Wildlife healthy/protected	5.83	Satisfying job	5.45	School nearby	5.32
18	Wildlife healthy/protected	5.52	Traffic congestion	5.61	Attractive countryside	5.45	Good planning	5.28
19	Traffic congestion	5.51	Traffic light	5.60	Places to walk	5.45	Attractive countryside	5.25
20	Attractive countryside	5.44	Attractive countryside	5.49	Affordable property	5.44	Traffic congestion	5.17
21	Traffic light	5.37	Cultural	5.48	Ideal home	5.29	Rivers clean	5.15
22	Ideal home	5.35	Healthcare nearby	5.46	Friends nearby	5.24	Affordable property	5.00
23	Rivers clean	5.26	Rivers clean	5.39	Traffic light	5.15	Short journey to work	5.00
24	Friends nearby	5.19	Ideal home	5.34	Foreign holidays	5.14	Childcare	4.93
25	Affordable property	5.16	Friends nearby	5.34	Childcare	5.11	Traffic light	4.80
26	Cultural	5.13	Outdoor recreation	5.28	Rivers clean	5.07	Outdoor recreation	4.76

Other attributes

Other non-income and non-environmental attributes could be grouped as follows:

- Personal attributes:
  - Family nearby.
  - Friends nearby.
  - Proximity to aged close relatives.
  - Good social network.
  - Short journey to work.
  - Being able to take foreign holidays.
- Community attributes:
  - Friends nearby.
  - Low crime.
  - Light levels of traffic locally.
  - Vibrant neighbourhood.
  - Being able to participate in the community.
  - Good social network.
  - Nearby schools.
  - Children can walk to friends' house.
  - Religious facilities nearby.
  - Good pub nearby.
- Infrastructure and services:
  - Clean, well-maintained surroundings.
  - Places to walk nearby.
  - Nearby leisure centre.
  - Childcare facilities.
  - Low traffic congestion.
  - Good town or country planning.
  - Good cultural facilities.
  - Good sports facilities.
  - Good schools.
  - Nearby health facilities.

Not all the attributes could be described as being exclusive to particular headings. Generally, personal attributes can be considered as being those that are conditioned by personal circumstances, preferences or choice.

Community attributes are the positive attributes one would associate with agreeable communities, whereas infrastructure and services reflects government or local government provision. However, 'short journey to work' may reflect adequacy of transport options, while 'low crime' may reflect good law enforcement.

Personal factors

Excepting those attributes associated with income or well-being, the personal factors rated most highly was 'short journey to work', if only in 16th place in the ratings table. 'Friends nearby' was next, but somewhat further down the list in 24th place. 'Good social network', 'ability to take foreign holidays' and 'proximity to aged relatives' are grouped together yet further down the list. A 'good social network' and 'ability to take foreign holidays' are also relatively important to Dubliners. Other personal attributes were rated similarly, although proximity (of friends and relatives) appears to be less important to rural dwellers. This probably arises due to being accustomed to more distant facilities, but also due to the lower disutility associated with travel.

Community Attributes

Not surprisingly, 'low crime' appears higher on the Dubliner list (i.e. 6.28 = essential), but is still considered very important by rural dwellers and those in the commuter belt. Of other community attributes, there is evidence that proximity is again of less relevance to rural dwellers as, for example, with 'nearby schools' which appears lower down the list for these respondents. The same is true of 'children's friends nearby'. 'Light traffic locally' appears in only 21st place, being most important to Dubliners. 'Ability to participate in the community' is highest for rural dwellers, but still only listed in 30th place, while a 'vibrant neighbourhood' was considered to be relatively more important by people in Dublin. 'Religious facilities' and a 'good nearby pub' appear low on the list, although, as might be expected, there is a fair amount of variation in the ratings for these two attributes.

Infrastructure and Services

Of infrastructure and services, 'good schools' appears highest on the list, particularly for Dubliners. 'Clean, well maintained surroundings' also possesses high average ratings for all localities. Of some interest is that 'good planning' was also rated as being very important, especially by people in Dublin and the commuter belt, but also to a slightly lesser extent by the rural sample too. Naturally, 'good planning' means different things to different people and comments on some returned questionnaires did suggest that a few respondents had experienced conflicts with the planning authorities. Nevertheless, to the extent that good planning implies a fair and professional intervention in development activity, there does appear to be a common acceptance of its importance.

Other infrastructure and services attributes which were perceived to be important, include 'places to walk nearby' and 'nearby health facilities'. Of the first, this could, of course, imply a pleasant local environment and lightly trafficked roads. However, it also indicates an availability of actual places to walk to, including parks and dedicated footpaths, both typically provided by the local authority. The importance attached to 'nearby health facilities' indicates that, for this attribute, priority is important. The attribute was rated as being most important by rural dwellers and those in the commuter zone, although this also reflects physical availability of facilities and the relatively higher age of rural respondents.

'Low traffic congestion' was rated as being important by all groups, but, as might be expected, it was rated most highly by those in the commuter belt and by people in Dublin. Likewise, people in Dublin gave a relatively high rating to 'cultural facilities', which received a lower rating by respondents in the commuter belt and especially those in rural areas.

Variation in Ratings

In terms of variation in ratings by respondent type, there is most variation in relation to attributes such as 'good pub nearby', 'good sports facilities', 'leisure facilities nearby' and 'proximity to aged relatives'. Given that factors such as age and gender obviously have an impact on such factors, this is no surprise. Of more interest in that 'clean, well-maintained surroundings' possessed the lowest variation in ratings of all the attributes, including those closely associated with well-being, such as income and job satisfaction. There was also general agreement on the importance of 'good schools' and 'nearby schools', although these were, of course, rated highest by people with children. People with young children were especially concerned with 'nearby childcare facilities'. Good childcare was important to the most affluent group, while 'low crime' was relatively important for the lowest income category.

Of gender differences, many of the differences in relative ratings are predictable. Most noticeable is that women placed much higher ratings overall on childcare, while there was little gender difference on the value of good schools. Women also gave high ratings to 'places to walk' and 'leisure facilities nearby'. Both women and men rated a 'good pub nearby' almost equally.

Similarly, rating differences are rather predictable by age. 'Friends nearby', 'low crime' and 'religious facilities' were rated highly by the retired age category. 'Choice of affordable property', 'satisfying job', pubs and foreign holidays are rated highly by the second youngest category of 21 to 40 years. Of some interest is that older people rated 'clean rivers and lakes' as being relatively important. Older people also placed a higher average value on 'clean, well maintained surroundings' and 'excellent drinking water quality'.

Regression Analysis

A linear regression analysis was undertaken of the rating of individual attributes based on the independent socio-demographic variables using the full dataset. A linear regression does not provide the best possible fit for all the attributes as most of these tend to possess ratings towards the higher end of the scale, given the nature of the questions asked, i.e. most attributes were desirable. Nevertheless, the linear regression does confirm many of the above observations, indicating which variables are most influential in the case of some of the attributes. In other cases, ratings appear to have been decided by the respondent's endogenous preferences rather than being determined by identifiable independent variables. Amongst the more satisfactory regressions for both environmental and non-environmental attributes, neither rural or urban habitation make a significant appearance.

R^2 values of model fit are generally low using a regression analysis to explain the ratings of selected attributes. For example, a regression of 'availability of childcare' has an R^2 of 0.223 with repeatedly significant variables being home ownership (beta = -1.142, i.e. tends to local authority rental), type of home (-0.716, i.e. tends to apartment), travel to work (-0.643, i.e. tends to increasing travel time) and having young children (2.595). Home ownership and type of home appear to form proxies for income, although income itself is not significant.

Of environmental attributes, the most distinct is 'clean rivers and lakes', for which adjusted R^2 is only 0.188 and the significant variables are female (1.238) and income (-0.295). Other environment-related attributes include 'places for outdoor recreation' which has an improved adjusted R^2 of 0.298 and for which significant variables include possession of young children (0.922), age (-1.296) and employment (0.367, i.e. positive, tends to professional). 'Places to walk nearby' has an adjusted R^2 of 0.264 with significant variables including being female (1.252), having young children (0.619) and employment (0.258).

5.4 Realisation of Preferences

As well as the perceived importance of desirable personal, community and environmental attributes, there will be a difference between what is preferred and what is aspired to. For some key attributes, this difference will itself be an indicator of quality of life as suggested by some of the literature on perceived well-being. This could apply especially to attributes which might demonstrate one's social status or success.

The questionnaire contained a second question through which respondents were asked if the variable they had been asked to rate applied to where they live now. This again requires a subjective response. It was also a rather demanding question to answer, given that it followed a request for the importance rating of attributes, and respondents were encouraged, as far as this could be expected, to answer the two questions consecutively. Quite a number of people appear to have answered the question haphazardly or only in affirmative cases. Only around 35% of respondents completed this question so the results have to be generalised from a small sample, particularly in the case of rural inhabitants. Nevertheless, most values match a *priori* expectations.

Piloting suggested it would be too demanding to expect respondents to rate the actual supply of the attribute using the same seven-point scale as for their perceptions. Instead, they were asked only to indicate if they believed this to apply to their locality or not. The analysis is based on a scale in which a highest figure is given to those attributes which a respondent rates most highly and where that attribute applies to the location where they reside. The lowest (negative) figures apply to those attributes which are again perceived to be most important, but which are not represented in the location where they reside.

On this basis, the highest positive figures for the whole sample apply to 'nearby school' and 'own home', while the lowest figure applies to 'good planning', an attribute which also appears rather high up the importance rating scale. Indeed, no other attribute carries such a large negative value.

Dublin

Amongst the attributes rated most highly by respondents in Dublin, there was general satisfaction with the availability of 'good schools', the proximity of schools, the proximity of 'children's friends', and the availability of 'places to walk nearby'. However, there are also a good number of low values, more so than for the other two locations. There is a disparity between perceived importance and the actual perceived level of 'security of income' and 'clean fresh air'. Indeed, security of income could be a key indicator of satisfaction with regard to aspirations, noting that the value for absolute income is low too. Although 'low traffic congestion' appears lower down the rating scale than anecdotal evidence may suggest, it is also a cause of dissatisfaction as is the relative absence of 'light levels of traffic'.

Commuter Belt

For the commuter belt, there was a good level of satisfaction with 'home ownership' and absolute 'income'. The figure for 'security of income' was noticeably higher than for Dublin. Proximity to 'attractive countryside', a 'clean, well-maintained environment' and 'low crime' also attract good values. There is a degree of dissatisfaction with some environmental attributes, namely the availability of 'places to walk nearby' and 'clean rivers and lakes'. However, by far the most obvious contributor of dissatisfaction was 'planning', or rather the perceived lack of good planning. The negative value of -4.60 suggests that a large proportion of respondents do not believe that this attribute applies to where they live.

Rural Area

Amongst rural inhabitants there was also a good level of satisfaction with 'home ownership' and 'security of income'. There are numerous attributes which attract values which are midway between those for Dublin and those for the commuter belt, although the figures for 'low crime' and 'good schools' are higher than those for the commuter areas. There is some dissatisfaction with 'cultural activities', 'planning' and 'affordable property'.

One factor which does attract distinct levels of satisfaction is the environment. Clearly, rural respondents are very satisfied with 'clean fresh air' and 'high air quality'. The same is true of 'clean, well-maintained surroundings', 'low noise', 'places to walk nearby', 'wildlife protection' and 'clean rivers and lakes'. 'Excellent drinking water quality' is the fly in the ointment. The negative value for this attribute does suggest that a portion of rural respondents do perceive that their drinking water is not of adequate quality. The figure is of particular interest in that the general rural environment is perceived to be good, even though objective indices indicate that this is not universally the case. In fact, Co. Leitrim does have a high dependence on group water schemes and the quality of many of these sources has been unsatisfactory. Although on-going sizeable investment is now being made, the perception of inadequate water quality obviously lingers.

Fewer rural respondents (67%) thought they had a 'good recreational site nearby', compared to Dubliners (86%) and people in the commuter belt (76%). Dublin does, of course, have the assets of the coast and the Wicklow Mountains.

Table 5.5: Differences between perceived importance and perceived supply

	All		Dublin		Commuter		Rural	
	rating	satisfaction	rating	satisfaction	rating	satisfaction	rating	satisfaction
Own home	6.28	4.04	6.38	3.31	6.17	5.36	6.12	4.59
Secure income	6.28	1.82	6.42	0.86	6.13	3.36	6.04	3.69
Clean fresh air	6.15	0.56	6.18	-0.52	6.05	0.92	6.22	4.73
Attractive countryside	6.44	2.45	6.27	1.51	6.05	4.30	5.82	3.25
Good quality drinking water	6.12	2.46	6.16	2.80	6.00	3.13	6.21	-0.21
Low crime	6.08	1.85	6.28	1.00	5.86	2.74	5.77	3.83
Leisure nearby	6.07	1.43	6.06	1.17	6.05	1.96	6.15	1.65
Healthy air quality	6.06	2.31	6.06	1.90	6.03	1.17	6.13	5.50
Good schools	6.00	3.58	6.25	3.93	5.69	2.00	5.60	3.92
Income	5.99	1.83	6.11	1.62	5.97	2.48	5.54	1.77
Kids' friends nearby	5.69	2.78	6.21	3.32	5.69	2.54	5.45	0.78
Clean environment	5.94	2.51	6.08	1.95	5.83	3.24	5.63	3.93

Table 5.5: Differences between perceived importance and perceived supply (continued)

	All		Dublin		Commuter		Rural	
	rating	satisfaction	rating	satisfaction	rating	satisfaction	rating	satisfaction
School nearby	5.83	4.49	6.18	4.80	5.80	3.73	5.32	4.25
Good planning	5.79	-2.65	5.85	-2.27	5.68	-4.60	5.79	-1.43
Low noise	5.75	1.96	5.90	1.04	5.59	2.93	5.46	4.25
Satisfying job	5.73	1.91	5.88	2.51	5.45	1.13	5.65	0.38
Places to walk	5.71	3.32	5.92	3.97	5.45	1.48	5.38	3.29
Short journey to work	5.62	0.44	5.83	-0.06	5.48	0.31	5.00	3.75
Healthcare nearby	5.54	3.40	5.46	3.55	5.76	4.04	5.46	1.89
Wildlife healthy/protected	5.52	2.28	5.83	1.32	4.75	2.86	5.33	4.36
Traffic congestion	5.51	-0.61	5.61	-2.22	5.51	0.83	5.17	3.71
Employ opportunities	5.41	0.38	5.59	1.02	5.30	-1.18	4.94	-0.73
Traffic light	5.37	-0.63	5.60	-1.86	5.15	0.79	4.80	2.77
Ideal home	5.35	-0.46	5.34	-1.01	5.29	0.67	5.46	0.47

6 Factor Analysis

A factor analysis, or specifically a principal components analysis (PCA), was performed on the data to indicate correlations that exist between the ratings that respondents allocated to certain types of attribute. The factor analysis provides an indication of shared motivations or fundamental preferences. These need not conform to those attributes which people rate most highly since attributes such as security of income and home ownership will be rated highly by all respondents, irrespective of whether they are otherwise concerned with the environment or community issues.

The number of responses is close to the minimum required for an adequate factor analysis. Although there is no clear agreement on the minimum number, it is generally agreed that there should not be an excess of attributes over number of respondents. When the data is subdivided into the three area samples, the reliability of the analysis is inevitably diminished, particularly for the rural area for which the number of returned questionnaires was small. The KMO (Kaiser–Meyer–Olkin) index indicates good model fit when the index is above 6. The Bartlett's measure is a secondary indicator of model fit. In some of the analysis below, it is suspected that the appearance of odd attributes within a factor may be due to weaknesses in the model fit which could have been eliminated by a larger sample. Nevertheless, common factors, or themes, persist throughout much of the analysis.

6.1 All Responses

A factor analysis of all the responses, using a Varimax rotation, results in a model with a good KMO of 0.851. The Bartett measure of significance is good too at 0.002.

The table of communalities suggests that there is good loading onto factors, and that this is strongest for 'low traffic congestion' (0.839) and 'short journey to work' (0.815). It appears least for 'affordable property' (0.496). The model identifies 11 components with eigenvalues greater than 1, but one of these accounts for a large proportion (32%) of variance. Indeed, the components matrix confirms that most variables load onto Component 1. This is not uncommon for factor analysis and often the first component is something of a mixture. In this case, the component does account for rather too much of the variance, but it does have a rather consistent interpretation.

The Varimax rotation identifies the following three main components. The consistency of definition is indicated as being quite clear (i.e. clearly), more marginal (i.e. just) or otherwise.

Component 1 Social/leisure (clearly)
Highest loading values for attributes (in order): participate (0.796), vibrant, leisure nearby, social network, sports, culture, employment opportunities, outdoor recreation (0.538).
Component 2 Domestic security (+ schools and clean air) (clearly)
Highest loadings for: income security, income, own home, clean air, healthy air, ideal home, low crime, schools (0.505).
Component 3 Planned environment (just)
Low traffic congestion (0.834), light traffic, attractive countryside, clean environment.

The first two components regularly emerge from the PCA. Social/leisure appears to describe the attributes that have the highest loadings for the first component. Domestic security appears to describe attributes relating to income and the home environment, including environmental attributes that correspond to personal or family health. In the following analyses these two components often change places or release attributes to form a third component describing the environment, or aspects of the environment that can be managed (planned) by the government or local authorities. Note, as mentioned above, that the components do not represent the most highly or universally valued quality of life attributes, but rather attribute types that attract common ratings from a certain group within the respondents.

On this occasion, an analysis using generalised least squares (GLS) analysis also worked, although goodness of fit was 1, i.e. not significant. In this case, the identified components are:

Component 1 = Social/leisure + employment opportunities (clearly)

Component 2 = Clean air + drinking water (not obvious)

Component 3 = Social network/facilities (clearly)

Component 4 = Schools (just schools)

Component 5 = Traffic (just)

Component 6 = Income (just)

As it can be argued that there are too many variables, an analysis was performed without the popular schools and traffic attributes. This raises the KMO slightly to 0.854 and leads to a high level of significance. It also reduces the number of components with eigenvalues >1 to 8. In this case, the former Component 2, i.e. domestic security, appears first. This is followed by 'social/leisure' (clearly), with Component 3 now being a little clearer as 'environment/social' (a bit of a mix).

A further reduction in the number of variables further increases the KMO index to 0.875. In this case, the components are:

Component 1 = Social/leisure (clearly)

Component 2 = Planned environment (open to interpretation)

Component 3 = Domestic security (not obvious)

Component 4 = Social network /facilities (not obvious)

A principal factor analysis (PFA) was also undertaken. This approach differs from PCA in that it looks for the least number of factors to explain the variance. Only two factors emerge, namely:

Component 1 = Social/leisure (clearly)

Component 2 = Environment (without the planned aspect of PCA)

Altogether, the various models indicate shared concerns in relation to one's social/leisure situation and to domestic security. Environmental attributes appear as a further component, but one which includes aspects of the planned environment with less consistency. Further models were run for those individuals with children and those over 40 years of age. These models were not reliable, given the low number of cases, but again indicate the primacy of 'domestic security' to both groups, with the former respondent group including the attributes referring to schools, childcare and children under this definition. Similarly, there is an associated component relating to 'social/leisure' and the 'planned environment' for older respondents.

6.2 Dublin Sample

The Dublin sample is smaller at 90 responses and this is one possible reason why the KMO is lower at 0.683. Bartett's significance appears to be unsatisfactory with a value of 1.000. Nevertheless the table of communalities suggests good loading onto factors, and this is strongest for 'good schools' (0.865) and 'income' (0.851). In all, there are 12 components with eigenvalues above 1. Of these, one accounts for 24% of variance, a dominance that is slightly less than for the full dataset. The components matrix shows that most attributes load onto Component 1, but that Components 2 and 3 also make an appearance.

Only with a reduced number of variables does the Varimax rotation converge with less than 25 iterations (KMO 0.694, Bartlett's 0.000):

Component 1 Social network/leisure (clearly)
Highest loadings for (in order): vibrant (0.756), employment opportunities, leisure nearby, participate, culture, social network, places to walk, sports (0.560).
Component 2 Schools and domestic security (clearly)
Schools (average) (0.813), health centre, children's friends, childcare, friends nearby, low crime (0.513).
Component 3 Nearby social network/facilities (not obvious)
Attractive countryside (0.793), traffic (average), air (average), clean environment (0.530).

A GLS-based rotation did not converge. A PFA did converge, but with no improvement in the KMO. Social facilities were a feature of this model.

6.3 Commuter Belt and Rural

Although there are differences, the two samples are combined to maximise the sample size. The resultant model has a good KMO of 0.745, although the Bartlett's is 0.000. The table of communalities suggests good loading onto factors, with the strongest loadings being for air (0.873) and traffic (0.856). There are ten components with eigenvalues above 1, of which the first accounts for a large 39% of variance. Indeed, the components matrix shows that most variables load onto Component 1, but Components 2 and 3 make an appearance.

The Varimax rotation again reveals three components:

Component 1 Domestic security (clearly)
Highest loadings for (in order): schools nearby (0.817), satisfying job, income security, income, children's friends, own home, short journey to work, health centre, low crime, ideal home, healthy air quality (0.404).
Component 2 Social/leisure (clearly)
Participate (0.859), vibrant, sports, leisure, social network, employment opportunities, outdoor recreation (0.432).
Component 3 Planned environment (clearly)
Low traffic congestion (0.854), light traffic, clean environment, attractive countryside, beach nearby, living in the countryside (0.364).

In a second run with fewer variables, the KMO is increased to 0.796 and the Bartlett's significance is now 0.113. The component list is similar with the third component resembling an aspect of domestic security, i.e.

Component 1 = Secure domestic with elements of environment (water/air and walk/leisure)

Component 2 = Social /leisure (clearly)

Component 3 = Personal contentment (schools, job, rivers, income, countryside) (unclear)

A PFA is again similar, i.e.

Component 1 = Social/leisure again (clearly)

Component 2 = Personal contentment (air, crime, leisure, schools, income) (unclear)

Component 3 = Planned environment (traffic, short journey, noise, culture) (bit unclear)

6.3.1 Commuter Belt Subset

In this case, there are only 42 cases and the components matrix is not positive semi-definite. The analysis does, however, indicate that ten components have eigenvalues above 1, of which one accounts for a large 38% of variance.

Despite absence of matrix solution, a Varimax rotation does converge in which:

Component 1 = Family/environment with health facilities (bit of a mix)

Component 2 = Social/leisure (clearly)

Component 3 = Domestic security including schools and school friends (bit of a mix)

Removing the schools and traffic variables does produce a KMO of 0.641, but Bartlett's is not significant. There are now eight components with eigenvalues greater than 1. Component 1 is similar to before, but with more evidence of 'domestic security', less the income attributes, but with most environmental attributes. Component 2 is clearly 'social/leisure', while Component 3 is clearly 'planned environment', containing 'own home', 'planning', 'short journey to work', 'clean environment' and 'low noise'. The list is little changed if further variables are removed.

A PFA turns these components around, such that:

Component 1 = Family/environment where environment is represented by rivers, countryside and walk (bit of a mix)

Component 2 = Social network/leisure (clearly)

Component 3 = Planned environment (clearly), including wildlife, planning and traffic

Component 4 = Personal comfort including friends, schools, job, journey to work and income

6.3.2 *Rural Subset*

In the case of an analysis of the rural subset there are only 25 cases. As with the commuter sample, the components matrix is not positive semi-definite. There are ten components with eigenvalues above 1, of which the first accounts for a huge 42% of variance. A scree plot appears particularly poor.

The following components emerge from a Varimax rotation:

Component 1 = Domestic security/environment/schools (but environment does not contain the rural elements of living in the countryside or walk)

Component 2 = Social/leisure (but without social network)

Component 3 = Rural environment, i.e. limited to living in countryside, traffic, short journey and employment opportunities

With the schools attributes removed, Component 1 can clearly be summarised as 'domestic security'. Component 2 is 'social/leisure' as before. Component 3 remains 'rural environment', now without 'traffic' and with 'religious facilities'.

A further run with fewer variables still has no matrix solution, but follows a similar pattern, with:

Component 1 = Domestic security/environment/schools and planning (clearly)

Component 2 = Social/leisure (clearly)

Component 3 = Rural environment, especially with attractive countryside and clean environment

A PFA locates:

Component 1 = Social/leisure (more limited)

Component 2 = Social facilities (less crime)

Component 3 = Environment (less traffic)

6.4 Summary

Results from the survey demonstrate that respondents attach primary importance to factors such as home ownership and security of income, while applying high importance too to factors such as clean air, clean water, low crime and good schools. A good income is also rated highly, but it is apparent that some environmental attributes are recognised as being vital to quality of life, at least through the conduit of good personal health. The regional variation in attribute ratings was modest, although clean air and water were placed slightly higher by rural inhabitants.

To an extent, the relative ratings may reflect respondents' home circumstances in that they rationalise respondents' own situations, although a genuine adaptation to make the best of one's location could be at least as strong as migration in search of favourable attributes. Hence, rural inhabitants value key environmental attributes relatively highly, while urban inhabitants appreciate cultural aspects rather more. Not everybody gets to choose where they live.

Asked about their actual circumstances, rural respondents were satisfied with environmental quality, excepting drinking-water quality. By comparison, some Dublin respondents acknowledged that air quality could be better, but were generally satisfied with schools and places to walk. People living in the commuter belt appear to be most dissatisfied, particularly with planning.

The factor analysis does not necessarily indicate what attributes are most important, but it does reveal common trends and correlations between attributes. Three principal components emerged for each of the sample areas, namely attributes that together represent domestic security, social/leisure and aspects of the planned environment. There was not universal agreement on the attributes that comprise these components, for example for leisure centres. However, it is apparent that a variety of needs represented by such components do need to be catered for if people's quality of life is to be secured.

7 The Focus Groups

7.1 Methodology

As a research tool, focus groups typically comprise discussion meetings with 8–15 people where participants are encouraged to discuss amongst themselves, topics with minimal intervention from a facilitator. With an emphasis on group interaction, focus groups have been used to provide evidence of people's beliefs or perceptions. Sometimes focus groups have been used to discuss topics of a sensitive nature using the group setting as a supportive environment. On other occasions, the topics are not sensitive, but are rarely discussed in the course of daily social interaction. A subject such as quality of life can fall into this last category. Aspects of quality of life such as local politics, schools or healthcare can indeed be regular conservation points, but may be rarely considered together in relation to the issue of one's quality of life. Other topics such as the environment may be irregular casual discussion for many people.

Focus groups have also been used within environmental economics as a means to gather information to design a survey questionnaire. Alternatively, they can be used to help throw light on results from a survey. The present case would be one example of such a use. However, it should be remembered that focus groups comprise a handful of people and, as such, are not representative, nor a substitute for the findings from a large-scale survey. In principle, it is usually proposed that focus groups should each be made up of fairly homogenous groups of people so as to allow topics to be explored in depth by identified population subsets. However, it can also be useful to have some divergent participants so as to stimulate disagreement too.

In general, focus groups are a 'constructionalist' approach that contrasts with the 'positivistic' quantitative approach used in surveys. They are an inductive method that employs group dynamics to reveal fundamental attitudes and motivations (Kitzinger 1994). This does not imply the need to accompany focus groups with a full suite of analytical or transcription software. Instead, the discussions complement the survey data, allowing participants to contradict one another or to use the group dynamics to reveal aspects of their underlying values or modes of thinking (O'Brien 1994).

7.2 Use of Focus Groups in the Study

Three focus groups were held in Navan, New Ross and Carrick-on-Shannon. Each location is found in a different region of the country.

Navan

Navan falls within the commuter belt of Dublin and corresponds to the commuter belt sample of the survey. Navan has experienced rapid change in recent years, particularly in the form of new residential development and commuting patterns.

New Ross

New Ross is in an area that was not sampled in the survey, but represents a site in a regional location that, while not remote, has not prospered to the same degree as other locations. New Ross is a rural town, but it was apparent from the focus group that many people worked in or studied in the nearby city of Waterford and, therefore, there were as many comparisons with Navan as with the rural town of Carrick-on-Shannon that was home to the third focus group.

Carrick-on-Shannon

Carrick-on-Shannon corresponds to the survey sample from the rural west of the country. However, unlike much of Leitrim for which it is the county town, Carrick-on-Shannon has experienced considerable new development encouraged by siting of the MBNA call centre, development tax incentives and its location beside the Shannon.

The objective of the focus groups was to explore in more detail some of the results that had become apparent from the survey. Each of the focus groups was facilitated by the researcher, and tape recorded. Mori Ireland were given the task of recruiting for the groups and were asked to select a mix of sexes and a mix of local people and more recent migrants. Most participants were aged between 30 and 50 years and belonged to social classes B and B/C.[14] Ideally, a more homogeneous composition might have been sought and for a larger number of groups. However, the resources available did not permit a larger exercise. The Navan and New Ross groups were attended by ten and nine people respectively, although severe weather reduced the Carrick attendance to seven.

The output from the groups is listed below under various headings, namely:

- Material well-being.
- Environment.
- Personal and community facilities.
- Infrastructure and services.
- Local government and planning.
- Security.
- Health.
- Migrants.

Letters in brackets refer to the Carrick (C), Navan (N) and New Ross (R) groups, while the numbers that follow refer to comments from individual participants. Participants were asked about how infrastructure, services and the nature of their surroundings affected their quality of life, and about the relative role of the environment. The results are discussed in detail below. Some common trends include a concern with the rate of built development and the loss of open spaces and community character. Comparing each group, respondents in New Ross were fairly content with developments in their town, but members of the Carrick group had concerns about the impact of rapid development, an issue that was also especially felt by members of the Navan group.

7.2.4 Material Well-Being

Each of the focus groups was reluctant to discuss earnings, but each acknowledged that incomes and related indices such as employment, security of income, housing and family resources were of primary concern and that all other considerations had to be secondary. Members of each of the focus groups were, however, in line with the survey results in acknowledging that incomes alone were inadequate unless they could also deliver the related indices. One member of the New Ross group (R1) believed that only a major increase in income could get her to consider a move to Dublin with all the attendant problems of traffic. Members of the Navan group also acknowledged that disposable income, in terms of the housing that could be purchased, was the overriding consideration for which they were prepared to tolerate long periods of commuting. Indeed, it was argued that the traditional sources of employment, for which Navan had once been famous (carpets and furniture), were now gone. There was more choice available to people than before, but many of these jobs now required travel to Dublin.

The New Ross participants agreed that they did not think they were having to work too hard, despite the popular impression of the Celtic Tiger's demands. However, it was felt that the Celtic Tiger had fuelled expectations with 'people now wanting another bedroom, another car, or a better job'. Still, although 'everyone is that bit better off', they were 'no more happy than before'. In the Carrick group too, it was agreed that there was now more leisure time available to people. New construction had provided many new jobs, although it was felt that many people were living beyond their means.

[14] Class A is taken to be approximately equivalent to CSO social class definitions 1–2 (professional, managerial), B is equivalent to 3–4 (non-manual, semi-manual) and C to 5–6 (semi-skilled, manual).

7.2.5 The Environment

The environment was of less concern to participants, but not irrelevant, particularly where aspects of the environment had an impact on daily life. Again, in line with the survey results, people acknowledged the importance of a clean environment in the vicinity of their home. By this were meant factors such as clean air, clean water, tidy surroundings and, for some, countryside. Asked about ecological aspects, however, nobody felt too strongly. One person declared that it would not influence where she chose to live and that employment was the primary consideration in this regard (R1). However, when it came to the environment, open spaces were of greater relevance than conservation (R2).

Members of the Carrick group noted that they enjoyed the natural beauty of the area. They were, though, concerned about recent building developments and future proposals. At Lough Key, it was noted, there 'are trees and plants down there that have never been disturbed' (C2).

There were mixed views on living in the countryside. One New Ross participant described how he had lived in the countryside and could not imagine living in town, noting that the countryside was quiet and peaceful and that it was good for rearing children who could play outside safely (R4). However, not everybody agreed. Another participant remarked that he could not imagine living in a house all on his own (R5). Another remarked that even though she lived on a housing estate on the edge of town, this still required her to drive everywhere (R3).

Of the related topic of recreation, the Navan participants stated that being able to walk along the river was one of the town's assets. Indeed, 'it's a lovely safe place' (N2) and has now been cleaned up, being formerly overgrown (N6). The group agreed that they did make good use of such places. Moreover, 'five minutes in your car and you're in the countryside' (N1). Co. Meath also had some of the best beaches in Ireland (N1), including some within a half-hour drive of Navan. The town park, though, was little used, having been taken over by gangs and drinkers (N3).

In terms of getting enough exercise, one New Ross participant felt a bit restricted. She 'wouldn't dream of walking on the road', but would take the car to a country park (JFK Park) which was three miles distant (R3). The group agreed that there lots of places within a short drive, including forest parks and the coast.

7.2.6 Personal and Community Attributes

Much of the free discussion in the focus groups was directed at infrastructure and services. With regard to personal and family aspects, one respondent in New Ross (R1) found the town to be an easier place to raise a family than Dublin. She had 'found it very difficult to leave one child off at 7 a.m. and then get home again at 7 p.m. <and> would never go back to that'. On the other hand, it appeared that many people in New Ross were prepared to travel into Waterford city every morning for work and secondary schools despite the distance of a 30 km round trip and the congestion on the town bridge. The bridge was a major topic of concern, but when asked why such commuting was tolerated, material factors were again primary: property was 'cheaper in New Ross'.

New Ross did, though, have other compensations. It had 'good schools' (R2) and an IT and building college for young adults. There was no playground of any kind, but the town did have a swimming pool. The local theatre manager was unanimously applauded for his personal initiative of introducing new activities for teenagers, including drama and music. Such activities were important, especially for the 'non-sporty ones'. As in Navan, other facilities tended to be only for 'specific sports' (R5).

In fact, the New Ross group appeared to be content with their community. People in their mid-30s were coming back to the town, it was said, finding that 'New Ross has something to offer them' (R1). The town 'is a friendly community' (R5), 'a good place' (R2), where 'everyone knows what's going on' (R3). It was 'still a good place to move to' (R1) and possibly better than '10 or 20 years ago <when> it was a sleepy town' (R4). Now it 'looks better' and

has 'plenty going on' (R5). It was also close to Waterford which contains 'an awful lot of amenities', including 'all the shops' (R6). If compromises had to be made, argued one participant, people were prepared to make them as long as they had 'security or are happy with where they are living' (R5).

In Carrick, the participants agreed that living was less expensive. There was also no need to spend time commuting for two hours each day (C3). There was none of the 'rat race' of Dublin and more 'sense of freedom' too (C1). It was also possible to get a 'bigger and cheaper house' (C3). There were also more facilities now including ethnic restaurants and new supermarkets as well as a multiplex cinema reputedly in the pipeline (C3). New crèches were becoming available too. Carrick was thought to be a good place to bring up children, even if the facilities specifically for children were rather limited and traffic volumes affected children's safety on the way to school.

As for Navan, it was still a friendly town and still possessed traditional shops such as butchers which had been replaced by supermarkets elsewhere. However, one long-term resident claimed that the heart of town had gone and that Navan was 'not the way it was' (N1). There were so many Dubliners in the town that locals had given nicknames to suburbs that were mostly occupied by these incomers (N1). Another participant (one of these Dubliners) felt that she no longer knew 'who half her neighbours were' (N6). It was also frustrating that it was now necessary to make prior arrangements to meet people (N1). 'Now everybody is rushing' (N4).

7.2.7 Infrastructure and Services

Transport

Participants in the Navan group were anxious to see the opening of the new M3. There was little sympathy for the argument that the road would have a significant impact on the historic landscape around the Hill of Tara. Clearly this is an issue that has attracted much concern from archaeologists and others with an interest in heritage, including people living in Co. Meath. However, participants in the group were more inclined to comment on the inconvenience suffered by motorists. The issue was of most concern to those participants who commute to Dublin, although other members of the group pointed out that the inadequacy of the existing road affected them too when it came to shopping and other trips to Dublin. Indeed, with the demise of traditional industries, it was argued that long-term residents were becoming increasingly dependent on commuting to Dublin too.

New Ross group participants were of the opinion that that traffic congestion affected their private and social life. They were especially irritated by peak-hour congestion on the bridge. Indeed, the subject animated the whole group and was argued to be a problem that had been going on 'for years' during which, if was felt, 'the council must have spent millions on commissioning reports' about the situation (R1). Many people were affected as they needed to cross the bridge to get to work and schools in Waterford. The congestion on the bridge also prevented others from making short journeys, for instance, to the shops, at any time around the rush hour. However, the situation was still perceived to be better than in Dublin.

The group agreed that a local bus service would be welcome. The current situation seemed to be represented by a private or call-up service used mostly by elderly people. One participant was disappointed that the council had tarmacked over the railway tracks which, he felt, should be reinstated.

In Carrick, transport issues caused less concern, especially now that people were aware of new developments to the N4 being in progress. The group saw themselves as being more fortunate than people in Dublin, but felt that they too would soon be brought into the Dublin commuting zone by the improved transport connections.

Local Government and Planning

The Navan group were very exercised by the manner in which planning permissions were being allocated in the town. Open spaces were being lost and, in their place, were new houses and apartments that were very expensive. Of the occupants, there was a 'mass of cars coming out <of the new estates> every day', but 'we do not know who owns them <the houses>' (N5).

Concern with the rate of new development was also expressed by the New Ross group, although they were less dismissive than their fellows in Navan. By comparison, the Carrick group were more concerned about the pace of development and poor planning. A lot was being 'lost to construction'. In particular, the much valued Forest Park was at risk (C2) (at the time the group was held, proposals for a large holiday complex in Lough Key Forest Park were being reviewed by An Bord Pleanála after being enthusiastically endorsed by Roscommon County Council and local politicians). However, one participant did comment that the reason she had been able to return to Carrick was because her husband was in the construction business. Another agreed that Carrick had done well because of 'all the development'. Other towns had not been so fortunate and perhaps Carrick's success was due to more inexpensive housing choice (C6).

Security

The Navan group were concerned about increasing crime in the town, including violent crime. It was felt that people from Dublin, but living in the town, were responsible for these activities (N1). There was some discussion of security in the New Ross group too. One participant was not prepared to let her children out on their own. Another countered that generally things don't happen, while a third participant argued that attacks and abuse had occurred in the past, but that people just 'didn't hear about it' (R1). This, in turn, invited another comment that, in the past, abusers tended to be people who knew the victim, but that this was less true now especially, given the fear that 'outside paedophiles could take a child' (R7). Theft was a growing concern too. 'Robbing is going a bit haywire' (E3).

Health

There was some dissatisfaction with the health services in New Ross. One participant was very unhappy with the local hospital and believed medical practices were now concerned only with profit and that medics no longer 'gave a damn' (R8). The 'old family doctor who knew your father' was gone (R2). Now every visit with your child to the GP costs €50 complained another member of the group (R9). Another participant reported that Waterford had been labelled the 'dirtiest hospital in Ireland'. It was 'one of those places where you get MRSA' said another (R6). 'Health needs to be looked after big time' (R7). It was the same with all small towns. For anything serious 'you have to go to Dublin' (R2).

Migrants

The final principal issue that preoccupied the groups was that of recent migrants or 'non-nationals' by which was meant people from Eastern Europe and, to a lesser extent, 'asylum seekers' from Africa and Asia. In all three groups there was anxiety about the number of new migrant workers. Members of the Navan group believed that many of the new apartments were being taken over by non-nationals (N1), a point with which most members of the group agreed.

The issue of migrants also arose during the New Ross discussions. 'There are a lot of Poles in New Ross now', it was said (R6), all of which had happened in the 'last two years' (R7). The situation had 'gone mad' remarked one participant (R4). 'Even though there was enough work to be found <it caused> anxiety in relation to jobs' (R3). There were concerns that the town centre now contained 'lots of people you don't know' and that in-migration had introduced language problems in schools that had not been provided for by the government and which were 'holding other children back' (R1). The situation, especially in the schools, appeared to vex some participants, although frustration was directed mostly at the authorities or reflected in an anxiety over 'where it would all end' (R4). No overt criticism was made of the new migrants themselves, though one participant thought it 'okay so long as they don't take over'. Some unsubstantiated associations were claimed with increasing burglaries in the town.

Such concerns were also apparent in Carrick. The town had become cosmopolitan, but it was becoming 'difficult to find a job' as even coffee shops were now 'full of Latvians' (C5). Low wages were being encouraged, it was felt, and those local people with little education were either having to work at the supermarket or move elsewhere (C4).

7.3 Analysis

As far as can be deduced from the three focus groups, perceptions of quality of life were generally good. The principal perceived threats to quality of life appear to be the rate of economic development, including build development, and a presumed threat that new migrants could take available jobs and put downward pressure on wages. The rate of economic development had raised expectations in relation to standards of living and one outcome has been people's willingness to endure long commutes and fewer local facilities in exchange for affordable property whose nature or size meet with aspirations. At the same time, these same ongoing decisions by others were perceived to be contributing to rapid development, loss of community and the impression that everyone is being drawn into a Dublin-centred machine of economic growth. The anxieties were apparent in each of these groups, but especially in Navan, which has seen considerable growth in recent years and is likely to see further development pressure when the M3 motorway is built.

In terms of the above outcome, there is correspondence with the public survey in that security of income and home ownership were clearly important, but the focus groups do indeed add some interpretation in that these priorities were articulated in terms of security of livelihood and ability to purchase the best property that can be afforded.

As regards the regional aspect, the participants acknowledged that the quality of infrastructure, particularly health, was important but inferior to that found in the mid-east. However, schools were satisfactory and participants were also content with the recent arrival of new facilities such as cinemas, restaurants and, especially it seemed, major supermarkets. No such facilities had existed previously. However, the needs of young people and children were thought to be poorly catered for, especially given the loss of open spaces in which to play, the shortage of playgrounds and the restricted range of facilities for teenagers aside from those provided by the GAA.

On the environment, there was less interest than had been apparent from some responses to the survey. The groups agreed that clean air and water were important, but participants felt they already had these facilities. Therefore, these factors did not stimulate much discussion. The issue of wildlife and ecology was raised by the facilitator, but elicited little interest. Landscape too stimulated little response, except where this was related to countryside surroundings close to where people live or to recreation. Recreation sites were valued, but there did not appear to be a clamour for more. On the other hand, participants were concerned about the potential loss of recreation sites and open space to development. There was general concern with the planning process and a perception that such decisions are made without information being provided or local people being consulted. Participants felt that they had no input into planning decisions which affected their community.

In summary, focus groups are no substitute for large-scale public surveys in that they are too small to be representative. The focus groups did, though, provide a better understanding of how some attributes such as 'security of income' and 'own home' are perceived. Clearly, economic growth had raised expectations, but it has also introduced new anxieties which can be considered to involve quality of life and the question of 'Where are we going?' As far as the regional aspect can be deduced, participants did not feel that they were particularly disadvantaged by living outside Dublin. Indeed, in several aspects, for instance traffic, housing, community and low crime, they considered themselves to be better off. However, there was a perception that they too needed to adapt to increasing pressures in each of these aspects. Of these, the environment was not an overt consideration, but the groups' concern with clean air and water and the availability of open space or countryside are of obvious relevance, as is the perceived threat from a planning system over which people feel they have no influence.

8 Principal Findings and Implications for Public Policy

Objective data has been provided in the form of primary and secondary data on house prices, environmental quality and income measures. This has been complemented by survey data and focus group reports.

The principal findings of this report are:

- Variations in quality of life appear to depend on the choice of indicator (income, house prices and environmental quality) and may exhibit inequality to the detriment of the regions or, alternatively, of the mid-east. This contrasts with the expected findings that quality of life would be higher outside the mid-east or in counties with a high degree of rurality.
- There does not appear to be a significant and proven negative correlation between income and environmental quality.
- The urban–rural dimension in relation to income, housing and environmental quality appears to be stronger than the regional dimension.
- Quality of life in Ireland is affected by perceptions of security of income, employment opportunities and home ownership.
- People's subjective perception of quality of life has a tendency to favour the circumstances in which they find themselves, but not so much as to obscure a realisation that some key indicators such as income security, personal security or drinking-water quality (depending on location) are at levels that detract from quality of life.
- Although economic growth appears to have had a positive impact on people's sense of well-being, at least from the results of pan-European surveys, poorly planned development, lack of planning consultation and immigration appear to have introduced an undercurrent of insecurity.

8.1 Conclusions

8.1.1 Objective Factors

A presumption exists that quality of life in Ireland is higher in the west and in regions further away from the mid-east. In particular, environmental quality is perceived to be higher in the west. Conversely, incomes are believed to be lower in regions away from Dublin. It has been argued that higher quality of life, including that arising from living in a higher quality environment, compensates to some extent for lower income levels.

A review of various objective indicators of quality of life provides at best mixed evidence in relation to regional variations in quality of life. On average, incomes are lower outside the Mid-East. Although it is now apparent that over ten years of high economic growth has allowed wealth to spread to most regions of the country. Similar jobs in the service and industrial sectors receive similar remuneration. Where a divide does exist, it appears rather to be an urban–rural phenomenon. Incomes are lower in rural areas as borne out too by the postal survey. This income differential largely reflects the narrower diversity of employment opportunities. This, in turn, is reflected in lower levels of labour-force participation and also higher dependency ratios as younger or more qualified members of the labour force move to urban areas in search for work. However, while this relative disadvantage is associated with the rural situation, it does attain a spatial dimension in the more geographically peripheral counties in the north-west and border regions.

Rural households are also disadvantaged by higher costs of living. The spread of discount supermarket chains across the country has reduced regional differentials in

relation to grocery prices, but people living in more rural communities inevitably have less frequent access to these facilities and must also endure higher transport costs.

However, people living in regions further away from Dublin, and in rural areas in particular, do have the benefit of lower house prices. The relatively high level of mortgage debt in Dublin and the mid-east demonstrates that this is a principal element of the cost of living and one in which people in the regions and the west are relatively better off. Although house price appreciation has benefited many people in the east and in some of the major regional cities, this inevitably has an adverse impact on the quality of life of younger people or people with young families. These people represent the most economically active and mobile component of the population.

In terms of the environment, the west, in particular, has experienced less development and has the higher density of NHAs or other areas designated for environmental quality. However, several aspects of environmental quality in the east have improved over the years, for instance, bathing water quality and air quality. The west, by comparison, is more vulnerable to some of the external costs of economic growth, for instance built development and contamination of rivers and lakes. Drinking-water quality in metropolitan areas across the country is good, but that in many rural areas, particularly where dependent on group water schemes, if often poor. Water quality is gradually improving due to substantial public investment, but many isolated properties remain vulnerable to pollution from farm and domestic sources. Levels of eutrophication of lakes in many parts of the country are high, especially in the Border Region.

Other objective indicators of quality of life also present a mixed picture. Violent crime and theft is far higher in cities and notably higher in the east, given the size of the urban population. On the other hand, reports of some sexual offences are greater in the northern region, while levels of domestic violence may be higher in rural areas proportionate to the population.

There appears to be no distinct regional differential in education or health. However, access to health facilities, particularly community or preventative health services, is worse in some rural areas due to distance. Access to specialist services or a surgery is also inferior for the same reason. Childcare is less easily available in many rural areas and there have also been issues with the general quality of childcare available in the west. On the other hand, childcare is more costly in urban areas where access to alternative childcare within the family is typically less.

8.1.2 Subjective Factors

Analysis of the postal survey and of the focus groups demonstrates that people's perception of quality of life indicators varies depending on the situation in which they find themselves. So called 'satisfycing' behaviour is apparent in which people acknowledge the negative aspects of their local environment, but also emphasise the positive aspects which are allowed to compensate for the former.

Hence, incomes are acknowledged to be lower in rural areas. In both the survey and the focus groups, it was apparent that people in Dublin and the commuter areas were more concerned with income security than absolute incomes, particularly as many had large mortgages to service. The rural population have the compensation of a clean, well-maintained or attractive environment, although many did acknowledge that drinking-water quality was poor. Proportionately more people in the mid-east have the compensation of owning their own home or living in their 'ideal home'.

The Dublin sample was generally pleased with the quality of schools, but acknowledged that crime was a concern by allocating a relatively high rating to low crime. High levels of traffic and commuting were a concern, the latter inevitably a more significant factor for people living in the Dublin commuter belt. However, the pressures of congestion and commuting were rated below the level that might have been presumed. It is apparent that many people living in the regions or in rural areas also endure long commutes and often congestion too where these commutes are to cities.

The factor analysis of the survey data was quite revealing in demonstrating a distinction between the urban and rural population in terms of the relative importance that people attach to the positive aspects of their environment. People in Dublin attached a high importance to quality of life attributes associated with social and leisure aspects such as social networks and access to leisure and cultural centres. People in the rural area attached a relatively higher importance to attributes which together reflected personal security and health. Consequently, those aspects of the environment that were conducive to personal health, such as clean air and clean water, were considered relatively more important along with aspects such as owning one's own home.

8.1.3 Role of the Environment

An interpretation of the objective and subjective indicators suggests that there is an expectation that environmental quality should be higher in the regions and in rural areas. It does, indeed, appear to be regarded as being higher overall, but this expectation does not preclude an awareness of those aspects of environmental quality that are not as high as would be expected, for instance drinking-water quality. A less tangible aspect of environmental quality that appears to be valued is that of 'space'. Rural participants in the focus groups spoke positively of being surrounded by open space and countryside. Interpreting both the objective and survey data it seems that, as much as this perception of space is associated with countryside, it is also as likely to be associated with people's own living environment, in particular living in a detached property or on an estate that is smaller than an urban counterpart. A value is attached to the ability to choose these surroundings, whereas urban residents are obviously restricted by an expensive property market that reduces choice.

The objective information on access to open space in rural areas is often contrary to the perception of 'space'. Access to countryside is often limited. In many areas, recreation areas such as hills or demesnes are few or distant. By comparison, the Dublin survey respondents were very conscious of the benefits they enjoy in terms of access to open space. These open spaces include parks, canals, coast and the Dublin mountains.

In both the survey and focus groups, there was an awareness of threats to the positive aspects of the environment in which people had chosen to live. Local authority planning was clearly a major concern of people in the commuter belt and also of people in the rural sample. It was this quality of life indicator that presented the most dissatisfaction. The focus group discussions indicated that the rate of built development was a concern, particularly where this had an impact on either the precise location where people had chosen to live, for example where farmland was being built on, or where amenity areas were threatened by new development. People found it difficult to reconcile these development threats with the positive environmental aspects they had identified when asked what it was that they thought most contributed to quality of life or what they valued most about the area where they live.

8.1.4 The Core–Periphery Dimension

The study highlighted several issues that have implications for public policy. These include home ownership, access to employment, security of income and environmental quality. It is apparent that many of these issues can be better analysed from an urban and rural perspective than an income-based regional one.

While, formerly, Ireland may have resembled a core–periphery national economy in that the range and diversity of employment opportunities in Dublin was greater than those of the regions, any such characteristic appears to have diminished after several years of economic growth. A much stronger divide is apparent at the urban–rural dimension, with each area having its own individual strengths and weaknesses.

It seems from the above discussion that urban areas provide greater employment opportunities, higher nominal incomes, proximity to facilities and services, and often greater public access to green space. On the other hand, they have higher social costs such as traffic congestion, air pollution and the reduced ability to realise an 'ideal house' because of the expense of the property market.

Rural areas, on average, have fewer employment opportunities, lower incomes, typically longer travel distances to facilities or services and, sometimes, lower quality drinking water. On the other hand, they have reduced housing costs, lower crime and more opportunities for people to acquire their 'ideal home'. It is apparent that there is a perception of increased environmental quality due to the proximity, if not necessarily the accessibility, of open space.

The third group included in the study have their own specific issues. People in the Dublin commuter belt appear to be concerned with the inadequate planning of population growth and development. Here, a perceived failure to provide social and public-services infrastructure in tandem with population growth was of particular concern. This issue was voiced by both long-term and new residents of the commuter belt.

8.2 Policy Implications

Two universal issues arise from all regions. These concern home ownership and security of income. Home ownership appears to be one of the most important components of subjective quality of life. Similarly, security of income is rated very highly across the regions. Absolute income is rated less than other components of quality of life in rural areas where a degree of compensation may be provided by the perception of a good local environment. In itself, environmental quality appears to be most valued in terms of its contribution to a pleasant living environment and personal health.

Existing policy, for example the National Development Plan (NDP), the Regional Operational Programmes and, to some extent, the NSS, aims to reduce regional divergences in quality of life through interventions to equalise incomes and GDP per capita. This report indicates that an approach based purely on income measures is flawed. An approach that incorporates all components of quality of life and aims to equalise economic opportunities may be more appropriate. In particular:

Regional policy should aim to advance quality of life rather than simply seeking to equalise incomes. The report has indicated some ways in which this could be achieved through, for example, provision of social and environmental services and recognition of the importance of rural amenities. The NSS identified the importance of the environment and quality of life, but failed to give this substance in the absence of supporting data, choosing instead to fall back on income disparities. There is a case for providing more detailed objective data on the quality of life in all cities, towns and counties and for ensuring that 'gateway' cities and 'hubs' (as defined in the NSS) possess the full range of amenities.

It appears that there is greater variation in the indicators affecting quality of life in terms of proximity to towns or as urban–rural comparisons, than at a regional level. Quality of life is not necessarily better in towns or in rural areas, but the subjective indicators that are used do vary. Policy-makers should address the quality of life issue at these spatial levels, aiming to provide a fuller and more equitable quality of life between urban and rural areas by seeking to enhance objective indicators everywhere where they are deficient.

In a period of rapid economic and social change, the report points to a need to provide the public with more assurance as to the nature of future development. For instance, it reveals a need for fair, open and sustainable planning supported by public consultation.

The high level of house prices is an accepted policy issue that has been the subject of dedicated policy research. In that high mortgages and access to the property market are quality of life issues, the evidence in the report adds to the case for social and affordable housing.

Policy should be conscious of the difference between nominal incomes, real incomes and disposable incomes as opposed to nominal income alone.

Infrastructure and amenities, including access to open space, that are commensurate with population growth should be provided. Complacency in assuming that rural areas inherently possess an agreeable environment needs to be avoided, and it should be ensured that this is realised through improved water quality, protection of rural amenities and access to open space.

Additional environmental indicators that have a direct impact on quality of life need to be devised. Water quality is one existing example, but others could relate to landscape integrity, density of countryside amenity sites and countryside access. A handful of counties have undertaken landscape character assessments.

Opportunities for varied employment should be increased by providing a sustainable employment base in rural areas and commuting towns.

8.3 Future Research

Whilst this report has highlighted several important issues and suggested implications for public policy, the research has been based on a modest survey sample which did not cover all spectrums of the population. Future research should seek to analyse the issues highlighted in this report in greater detail through more quantitative and qualitative analysis.

For example, it should examine a larger regional sample and investigate whether other areas experience the same positives and negatives of quality of life. A larger sample would also allow regional and urban–rural influences on quality of life to be distinguished from personal characteristics such as income, social class or family status.

Existing regional areas used for the Southern & Eastern and BMW Regional Operational Programmes are based on a combination of political boundaries and income measures. Future more detailed research should seek to identify the most appropriate spatial boundaries for public policy intervention. This report has proposed some relevant criteria.

Finally, other research being undertaken in the School of Geography, Planning and Environmental Policy University College Dublin adds further to the evidence base on quality of life. Ongoing research in the School is analysing the potential of market-based instruments to influence settlement patterns and potentially compensate for locally negative developments. Other research has explored the determinants of quality of life generally, but with a specific focus on environmental amenities. This information would assist in further analysis of regional issues pertaining to quality of life.

Acronyms

CSO	Central Statistics Office
ESRI	Economic and Social Research Institute
GDP	gross domestic product
GLS	generalised least squares
GNP	gross national product
GOI	government of Ireland
GVA	gross value added
IDA	Industrial Development Agency
KMO	Kaiser–Meyer–Olkin index of model fit
NHA	Natural Heritage Area(s)
NSS	National Spatial Strategy
NUTS	nomenclature of territorial units for statistics
PCA	principal components analysis
PFA	principal factor analysis
REPS	Rural Environmental Protection Scheme
SAC	Special Area(s) of Conservation
SPA	Special Protection Area(s)
SWB	subjective well-being
WDC	Western Development Commission

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Appendix I

QUALITY OF LIFE IN IRELAND

A survey of people's peception of quality of life in Ireland today.

Planning and Environmental Policy, UCD, Richview, Clonskeagh Drive, Dublin 14 (01 716 2784)

If you would like to be entered in our prize draw for a €80 restaurant voucher, please include your address, phone number or e-mail below.

.....

Context. May we ask:

1	Where do you **live**?	in a city ☐	in a large town ☐	in a country town ☐	country near a town ☐	more remote countryside ☐
2	Do **you**...?	have a mortage ☐	own outright ☐	rent privately ☐	rent from local authority ☐	other ☐
3	Is **your home**…?	an apartment ☐	terraced ☐	semi-detached ☐	detached house ☐	
4	Have you **moved**...?	in last five years ☐	in last ten years ☐	More than 10 years ago / family home ☐		
5	...**From** what type of place?	Dublin (elsewhere in Dublin) ☐	a city ☐	a town ☐	the countryside ☐	another country ☐
6	How long does it take you **to travel to work**?	up to 15 minutes ☐	15-45 mins ☐	more than 45 mins ☐	other (e.g. not applicable) ☐	

HOW IMPORTANT ARE THE ITEMS BELOW ARE TO YOUR QUALITY OF LIFE?

How would you **rate** these items between **1** (not important) and **7** (essential)

Where:

1 =	not important/not relevant
2 =	not too important
3 =	a little important
4 =	moderately important
5 =	quite important
6 =	very important
7 =	essential

In the left columns, please **tick how important** this item is to you in principle.
(Note: many of the items are "good", but please rate them relative to one another).

In the right column please **tick** whether this describes the situation where **you live now.**
(PS. Some people find it easier to go through the left columns first and the return to the right one).

please tick one box each	**How important are these items to you?** undesirable / not important → essential							**DOES THIS DESCRIBE WHERE YOU LIVE NOW?** tick if "yes" cross if "no"
GROUP 1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	
Example → Safe neighbourhood	☐	☐	☐	☐	☑	☐	☐	☐
Having family living nearby	☐	☐	☐	☐	☐	☐	☐	☐
Choice of affordable property	☐	☐	☐	☐	☐	☐	☐	☐
Knowing that local rivers or lakes are clean	☐	☐	☐	☐	☐	☐	☐	☐
Great place for outdoor recreation nearby	☐	☐	☐	☐	☐	☐	☐	☐
Low crime	☐	☐	☐	☐	☐	☐	☐	☐
To be able to live in the countryside	☐	☐	☐	☐	☐	☐	☐	☐
To be able to live in a town or city	☐	☐	☐	☐	☐	☐	☐	☐
Local wildlife population is healthy or protected	☐	☐	☐	☐	☐	☐	☐	☐
Having friends living nearby	☐	☐	☐	☐	☐	☐	☐	☐
GROUP 2 →	**1**	**2**	**3**	**4**	**5**	**6**	**7**	tick if "yes" cross if "no"
Attractive nearby countryside	☐	☐	☐	☐	☐	☐	☐	☐
Proximity to aged close relatives	☐	☐	☐	☐	☐	☐	☐	☐
Excellent drinking water quality	☐	☐	☐	☐	☐	☐	☐	☐
Clean, well-maintained surroundings	☐	☐	☐	☐	☐	☐	☐	☐
Places to walk nearby (parks, country paths)	☐	☐	☐	☐	☐	☐	☐	☐
Having childcare facilities nearby (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Air quality presents minimal risk to health	☐	☐	☐	☐	☐	☐	☐	☐
Very clean fresh air	☐	☐	☐	☐	☐	☐	☐	☐
Nearby leisure centre	☐	☐	☐	☐	☐	☐	☐	☐
Low noise levels	☐	☐	☐	☐	☐	☐	☐	☐

Continued: **How important are these items to you?**

GROUP 3	undesirable/ not important → essential 1	2	3	4	5	6	7	**DOES THIS DESCRIBE WHERE YOU LIVE NOW?** tick if "yes" cross if "no"
Low traffic congestion	☐	☐	☐	☐	☐	☐	☐	☐
Light levels of traffic locally	☐	☐	☐	☐	☐	☐	☐	☐
Having choice of employment opportunities	☐	☐	☐	☐	☐	☐	☐	☐
Vibrant neighbourhood (i.e. plenty going on)	☐	☐	☐	☐	☐	☐	☐	☐
Being able to participate in the community	☐	☐	☐	☐	☐	☐	☐	☐
Good social network (not necessarily nearby)	☐	☐	☐	☐	☐	☐	☐	☐
Being able to own your own home	☐	☐	☐	☐	☐	☐	☐	☐
Good town or country planning	☐	☐	☐	☐	☐	☐	☐	☐
Short journey to work (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Good cultural facilities (cinema, theatre)	☐	☐	☐	☐	☐	☐	☐	☐
Having a good income	☐	☐	☐	☐	☐	☐	☐	☐
Having security of income	☐	☐	☐	☐	☐	☐	☐	☐
GROUP 4								
Good sports facilities	☐	☐	☐	☐	☐	☐	☐	☐
To be able to live in your ideal home	☐	☐	☐	☐	☐	☐	☐	☐
A satisfying job (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Nearby beaches	☐	☐	☐	☐	☐	☐	☐	☐
Good schools (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Nearby schools (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Kids can walk to friends' house (if applicable)	☐	☐	☐	☐	☐	☐	☐	☐
Having religious facilities nearby	☐	☐	☐	☐	☐	☐	☐	☐
Being able to take foreign holidays	☐	☐	☐	☐	☐	☐	☐	☐
Nearby health facilities	☐	☐	☐	☐	☐	☐	☐	☐
Good pub nearby	☐	☐	☐	☐	☐	☐	☐	☐

7 Quality of life doesn't depend on just the above items. How would you describe **your quality of life** generally?

below average	average	above average
☐	☐	☐

8 Are you **male** or **female**

male	female
☐	☐

9 Are **you**

single	married / with partner	separated	widowed
☐	☐	☐	☐

10 If you have **children**, what are their **ages**?

less than 7	7-16	17-24	more than 24	No children
☐	☐	☐	☐	☐

11 What is your **own age** (approximately)?

less than 21	21-40	41-65	over 65
☐	☐	☐	☐

12 How would you describe your **work**?

student	manual	skilled manual	clerical	managerial	professional	retired
☐	☐	☐	☐	☐	☐	☐

13 Roughly how many **foreign holidays** have you taken in the last **two** years?

none	1	2	3	4	more than 4
☐	☐	☐	☐	☐	☐

14 What is your gross annual **household income**? (All responses are confidential, but leave blank if you prefer).

student / not employed	up to €40,000	€40-€60,000	€60-€80,000	€80-€100,000	more than €100,000
☐	☐	☐	☐	☐	☐

THANK YOU FOR COMPLETING THIS SURVEY

(please return in the pre-paid envleope)

An Ghníomhaireacht um Chaomhnú Comhshaoil

Is í an Gníomhaireacht um Chaomhnú Comhshaoil (EPA) comhlachta reachtúil a chosnaíonn an comhshaol do mhuintir na tíre go léir. Rialaímid agus déanaimid maoirsiú ar ghníomhaíochtaí a d'fhéadfadh truailliú a chruthú murach sin. Cinntímid go bhfuil eolas cruinn ann ar threochtaí comhshaoil ionas go nglactar aon chéim is gá. Is iad na príomh-nithe a bhfuilimid gníomhach leo ná comhshaol na hÉireann a chosaint agus cinntiú go bhfuil forbairt inbhuanaithe.

Is comhlacht poiblí neamhspleách í an Ghníomhaireacht um Chaomhnú Comhshaoil (EPA) a bunaíodh i mí Iúil 1993 faoin Acht fán nGníomhaireacht um Chaomhnú Comhshaoil 1992. Ó thaobh an Rialtais, is í an Roinn Comhshaoil agus Rialtais Áitiúil a dhéanann urraíocht uirthi.

ÁR bhFREAGRACHTAÍ

CEADÚNÚ

Bíonn ceadúnais á n-eisiúint againn i gcomhair na nithe seo a leanas chun a chinntiú nach mbíonn astuithe uathu ag cur sláinte an phobail ná an comhshaol i mbaol:

- áiseanna dramhaíola (m.sh., líonadh talún, loisceoirí, stáisiúin aistrithe dramhaíola);
- gníomhaíochtaí tionsclaíocha ar scála mór (m.sh., déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- diantalmhaíocht;
- úsáid faoi shrian agus scaoileadh smachtaithe Orgánach Géinathraithe (GMO);
- mór-áiseanna stórais peitreail.

FEIDHMIÚ COMHSHAOIL NÁISIÚNTA

- Stiúradh os cionn 2,000 iniúchadh agus cigireacht de áiseanna a fuair ceadúnas ón nGníomhaireacht gach bliain.
- Maoirsiú freagrachtaí cosanta comhshaoil údarás áitiúla thar sé earnáil - aer, fuaim, dramhaíl, dramhuisce agus caighdeán uisce.
- Obair le húdaráis áitiúla agus leis na Gardaí chun stop a chur le gníomhaíocht mhídhleathach dramhaíola trí comhordú a dhéanamh ar líonra forfheidhmithe náisiúnta, díriú isteach ar chiontóirí, stiúradh fiosrúcháin agus maoirsiú leigheas na bhfadhbanna.
- An dlí a chur orthu siúd a bhriseann dlí comhshaoil agus a dhéanann dochar don chomhshaol mar thoradh ar a ngníomhaíochtaí.

MONATÓIREACHT, ANAILÍS AGUS TUAIRISCIÚ AR AN GCOMHSHAOL

- Monatóireacht ar chaighdeán aeir agus caighdeáin aibhneacha, locha, uiscí taoide agus uiscí talaimh; leibhéil agus sruth aibhneacha a thomhas.
- Tuairisciú neamhspleách chun cabhrú le rialtais náisiúnta agus áitiúla cinntí a dhéanamh.

RIALÚ ASTUITHE GÁIS CEAPTHA TEASA NA HÉIREANN

- Cainníochtú astuithe gáis ceaptha teasa na hÉireann i gcomhthéacs ár dtiomantas Kyoto.
- Cur i bhfeidhm na Treorach um Thrádáil Astuithe, a bhfuil baint aige le hos cionn 100 cuideachta atá ina mór-ghineadóirí dé-ocsaíd charbóin in Éirinn.

TAIGHDE AGUS FORBAIRT COMHSHAOIL

- Taighde ar shaincheisteanna comhshaoil a chomhordú (cosúil le caighdéan aeir agus uisce, athrú aeráide, bithéagsúlacht, teicneolaíochtaí comhshaoil).

MEASÚNÚ STRAITÉISEACH COMHSHAOIL

- Ag déanamh measúnú ar thionchar phleananna agus chláracha ar chomhshaol na hÉireann (cosúil le pleananna bainistíochta dramhaíola agus forbartha).

PLEANÁIL, OIDEACHAS AGUS TREOIR CHOMHSHAOIL

- Treoir a thabhairt don phobal agus do thionscal ar cheisteanna comhshaoil éagsúla (m.sh., iarratais ar cheadúnais, seachaint dramhaíola agus rialacháin chomhshaoil).
- Eolas níos fearr ar an gcomhshaol a scaipeadh (trí cláracha teilifíse comhshaoil agus pacáistí acmhainne do bhunscoileanna agus do mheánscoileanna).

BAINISTÍOCHT DRAMHAÍOLA FHORGHNÍOMHACH

- Cur chun cinn seachaint agus laghdú dramhaíola trí chomhordú An Chláir Náisiúnta um Chosc Dramhaíola, lena n-áirítear cur i bhfeidhm na dTionscnamh Freagrachta Táirgeoirí.
- Cur i bhfeidhm Rialachán ar nós na treoracha maidir le Trealamh Leictreach agus Leictreonach Caite agus le Srianadh Substaintí Guaiseacha agus substaintí a dhéanann ídiú ar an gcrios ózóin.
- Plean Náisiúnta Bainistíochta um Dramhaíl Ghuaiseach a fhorbairt chun dramhaíl ghuaiseach a sheachaint agus a bhainistiú.

STRUCHTÚR NA GNÍOMHAIREACHTA

Bunaíodh an Ghníomhaireacht i 1993 chun comhshaol na hÉireann a chosaint. Tá an eagraíocht á bhainistiú ag Bord lánaimseartha, ar a bhfuil Príomhstiúrthóir agus ceithre Stiúrthóir.

Tá obair na Gníomhaireachta ar siúl trí ceithre Oifig:

- An Oifig Aeráide, Ceadúnaithe agus Úsáide Acmhainní
- An Oifig um Fhorfheidhmiúchán Comhshaoil
- An Oifig um Measúnacht Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáide

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag ball air agus tagann siad le chéile cúpla uair in aghaidh na bliana le plé a dhéanamh ar cheisteanna ar ábhar imní iad agus le comhairle a thabhairt don Bhord.

Environmental Research Technological Development and Innovation (ERTDI) Programme 2000-2006

The Environmental Research Technological Development and Innovation Programme was allocated €32 million by the Irish Government under the National Development Plan 2000-2006. This funding is being invested in the following research areas:

- Environmentally Sustainable Resource Management
- Sustainable Development
- Cleaner Production
- National Environmental Research Centre of Excellence

The Environmental Protection Agency is implementing this programme on behalf of the Department of the Environment, Heritage and Local Government.

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