

The DORA Project – Methodological Considerations at the European Level¹

Paper prepared for the 5th Conference of the European Sociological Association, “Visions and Divisions”, RENCORE Research Network, August 28-September 1, 2001, Helsinki, Finland

Paul Courtney^{}, Jane Atterton^{*} and Vânia Ceccato^{**}*

^{}The Arkleton Centre for Rural Development Research, University of Aberdeen, UK*

*^{**}Nordregio - The Nordic Centre for Spatial Development, Stockholm, Sweden*

Abstract This paper reviews the rationale for the adoption of a multiple-methods interdisciplinary approach in a European comparative research project entitled the Dynamics of Rural Areas (DORA), and describes some of the experiences, advantages and limitations of the selected approach. DORA has as a main goal to assess the underlying reasons for differential economic performance in eight European regions, and involves research teams in Scotland, Germany, Greece and Sweden. Four key issues are discussed. Firstly, the challenges faced in designing a ‘common’ methodology within a multi-disciplinary international team that reflects both researchers’ backgrounds and specific country contexts. Secondly, some of the problems related to the sensitivity of economic indicators and the collection of comparable secondary data across different countries. Thirdly, the potential conflicts that can arise between a requirement for international comparability combined with a need to recognise the unique circumstances of individual case study areas, and finally, the variations in respondents’ perceptions and opinions that can occur between qualitative and more quantitative approaches, and how these can be dealt with. The discussion is illustrated by a presentation of some key findings of the study, and concludes with some suggestions to help take the debate forward.

1.0 Introduction

Within academia it has been common practice to associate particular epistemologies with distinctive methodologies. For example, in the discipline of geography, positivism has traditionally been linked with quantitative methods, whilst more recent epistemological perspectives such as humanism and postmodernism have been linked with qualitative methods (Phillip, 1998). Researchers have often been forced to choose between this quantitative-qualitative dichotomy, and as a result, there are few accounts of integrating quantitative and qualitative approaches in social science methods literature.

However, more recently, social science researchers have exhibited a growing recognition of the benefits of a multiple methods approach to research, especially as positivism has been discredited and new approaches such as postmodernism have emerged. Also, whilst in the past policy makers have tended to show a preference for quantitative research, they have gradually begun to show an heightened awareness of the role of qualitative research in informing policy formulation. For example, in the last decade or so a shift has occurred in rural development policy towards the need for more holistic, sustainable and integrated

¹ Whilst the DORA project is nearing completion, this discussion paper represents work in progress. It is not for quotation without the prior consent of the authors.

policy, which can, arguably, only be supported by multi-disciplinary and multi-method research which tackles all aspects (including economic, social, environmental and cultural elements) of the rural development problem.

This paper provides a discussion of the methodological challenges faced when attempting to combine qualitative and quantitative methods across countries. The discussion is based on empirical experience of a European comparative research project entitled the *Dynamics of Rural Areas (DORA)*². Following a short critique of quantitative and qualitative methodologies the paper questions the dualism that has emerged and highlights the role of multiple method research in moving beyond this questionable dichotomy. The paper then discusses the benefits of holistic research when investigating the development problem across European countries, and, specifically, the potential role for multiple methods in rural development research, as recognised by policy-making organisations such as the EU. It then goes on to discuss the background and aims of the DORA project, outlining the process of selecting the study areas and the challenges involved in developing a common methodology with multidisciplinary cross border research teams. Through the presentation of key findings from the Scottish study and international comparison some key methodological issues are discussed. These highlight some of the challenges involved, and problems encountered, in combining methods in a European policy context. Finally, the paper highlights some areas for further research and related methodological challenges that need to be overcome.

2.0 A short critique of quantitative and qualitative methodologies

Quantitative techniques, which involve ‘objective’ and ‘scientific’ methods, are used to test specific hypotheses and attempt to verify theory with the aim of producing universal truths and knowledge in a way that can be directly replicated by others. Philip (1998) notes that the widespread adoption of such techniques in human geography in the mid 20th century has led to continued attention to some topics, especially those which could produce data amenable to quantification, whilst some items have effectively been excluded from the research agenda. These include those where the objects of research are ‘messy’, difficult to observe and unsuitable for classification, measurement and delimitation. Examples of quantitative techniques in the social sciences are structured surveys and questionnaires in which respondents answer a rigid set of questions and are subsequently categorised accordingly. As well as closed questions, which are commonly classified as either factual, opinion or attitude, open questions can also be included, which are subsequently interpreted and coded at the time of data entry. Of course, this interpretation moves the quantitative approach further along the objective-subjective continuum but can help to enrich the data and overcome situations where too little is already known to frame a closed question.

Many advantages and limitations of quantitative and qualitative techniques are documented in the literature (see for example Frankfort-Nachmias and Nachmias (1992); Oppenheim (1992);

² DORA is a joint European project co-ordinated by Professor John Bryden at The Arkleton Centre for Rural Development Research. John Bryden is Co-Director of The Arkleton Centre and Chair of Human Geography at the University of Aberdeen and is the originator of DORA. The research team at Aberdeen consists of John Bryden, Paul Courtney, Anja Timm, Jane Atterton, Keith Hart and Gillian Munro. There are three research partners in DORA: in Germany, Helmut Schrader, Gerd Hachmöller, Birgit Koch and Lars Masurek; in Greece, Sofia Efstratoglou, Angelos Efstratoglou, Apostolos Papadopoulos and Emmanouela Kourossi; and in Sweden, Vania Ceccato and Lars-Olof Persson. DORA is funded by the European Commission under the Fourth Framework Programme for Research and Technology Development, FAIR6-CT98-4162. Further information on DORA can be found on the project web site at: <http://www.abdn.ac.uk/arkleton/dora1199.htm>. DORA was approved in 1998 and started in 1999. It will end in 2001.

Moser and Kalton (1971); Barnet (1991)). Structured surveys such as postal questionnaires can be administered at lower costs and with greater anonymity, allowing time for considered answers and consultation to aid responses and reducing biasing error that can occur in personal interviews. Two further advantages of quantitative techniques are their ability to capture large samples of the population from which they are drawn, and, providing appropriate sampling techniques are employed, for those samples to be structurally representative of this population. Using basic statistical techniques and more complex multivariate modelling procedures this can then allow generalisations to be made. However, to ensure success, consideration must be given to the analytical methodology at the time of designing survey instruments.

Likewise, quantitative researchers must not overlook the concepts of validity and reliability³ if findings are to be suitably robust. Consideration of these concepts requires careful attention to the design of survey instruments and a rigorous process of pre-testing and pilot work prior to administration of the main surveys. Ideally, methods should also be devised to test a quantitative methodology for reliability and validity. This must include estimating response bias in the sample by comparing the structure of respondents with that of the entire population. Of course, often the two do not match sufficiently, seriously impeding the reliability and usefulness of the findings, which becomes particularly important in the case of policy research. Validity should also be measured, either by dividing the data set into *analysis* and *holdout* samples at the modelling stage or by judging the survey instrument against another method that is acknowledged as 'gold standard' for assessing the same variable (see Litwin, 1995 for further discussion).

Arguably the biggest drawback of quantitative techniques often cited by social scientists is that they do not allow individuals to explain their particular experiences, thus there is no scope to explore contradictions and complexities. In requiring the construction of relatively simple questions with no opportunities to probe for further information it is difficult to capture all the processes that contribute to the workings of the system and account for the interactions between them. In other words, whilst quantitative methods are strong on *description*, they are weak on *explanation*. Other limitations of structured surveys are that there can be little or no control over who actually responds and answers cannot be treated as independent because the respondent has access to all questions before answering any one of them.

Qualitative techniques, such as participant observation, focus group research and personal interviewing, are commonly associated with humanist and postmodernist epistemologies. More importantly, they are tools that facilitate in-depth explanation of the subject under study and have a wide variety of applications. Very simply, such techniques can be classified as non-numeric or narrative in their approach though as yet no consensus has been reached about the exact nature of such methods. According to Mason (1996) this is not surprising as the term 'qualitative methods' does not represent a unified set of techniques or philosophies, and has grown largely out of a range of intellectual and disciplinary traditions. Qualitative techniques are concerned with how the social world is interpreted, understood, experienced and produced, and they have been employed across a range of social science disciplines for many years, enabling complexity, diversity, variety and the meaning of research material to be retained. Qualitative research tends to investigate research questions relating to how

³ As Oppenheim (1992) explains, reliability refers to the consistency of a measure, to repeatability, and to the probability of obtaining the same results again if the measure were to be duplicated. Validity, on the other hand, tells us whether the questions or item measures what it is supposed to measure.

everyday life is understood, perceived and experienced by a variety of subjects and communities at different times and in different places. In theory this allows for the contextual differences of study areas to be explored and represented equally, thus allowing a more complex analysis of the inter-relationships which are integral to socio-economic life. Arguably therefore, a 'truer' representation of reality can be captured than with quantitative approaches.

In qualitative research there are no pre-defined hypotheses that require testing, though attempts may be made to generate theory from the findings, for example using techniques such as *Grounded Theory*.⁴ Other techniques can also be employed to provide a more structured analytical approach, such as Ritchie and Spencer's (1994) *Framework Analysis*. This approach involves a systematic process of five key stages to the analysis involving familiarisation, identifying a thematic framework, indexing, charting and mapping and interpretation (see Brunt and Courtney, 1999). Essentially, qualitative techniques are based on exploratory methods of data collection that are more flexible and sensitive to the social context in which the data are produced. In turn they lend themselves more to exploring new phenomenon in specific contexts in that less priory knowledge is required to develop issues and questions to frame the exploration.

Greater flexibility is also provided for in an interview situation, allowing the interviewer more control over the situation and opportunity to probe for additional and more detailed information. However, such flexibility can sometimes leave room for personal influence or bias on the part of the interviewer and the lack of anonymity can cause problems in more sensitive situations. Indeed, as Phillip (1998) explains, qualitative methods have often been criticised as being less rigorous than quantitative methods, primarily because of an association with subjectivity. Analysis can thus be value laden and hence is juxtaposed negatively to the supposedly objective virtues of quantification as linked to researcher neutrality in categorising and numbering phenomena. Sampling techniques and sample size are also areas prone to criticism. Due to the nature of qualitative enquiries, which are often exploratory, the selection of respondents can often be coloured by the need for suitably qualified or experienced informants. Likewise, time constraints and the volume of in-depth narrative yielded from personal interviews can restrict the number of respondents that can be feasibly targeted. Table 1 summarises the main claimed features of quantitative and qualitative methods.

⁴ The concept of grounded theory was put forward by Glaser and Strauss in 1967 to refer to a theory grounded in data rather than presumed at the outset of a research study (Silverman, 2000: 62). In other words, it is a term used to describe a way of inducing theoretically based generalisations from qualitative data. Many social scientists advocate a grounded theory approach as they consider social processes too complex, too relative, too elusive or too exotic to be approached with explicit conceptual frames or standard instruments. They prefer the more loosely structured, emergent, inductively 'grounded' approach to gathering data which the grounded theory approach advocates (Miles and Huberman, 1994: 17). Grounded theory has also been criticised for its failure to acknowledge implicit theories which guide work at an early stage and for the fact that it is clearer about the generation of theories than about their test (Silverman, 2000: 144-145).

Table 1: Main features of Qualitative and Quantitative approaches

<i>Qualitative</i>	<i>Quantitative</i>
Soft	Hard
Flexible	Fixed
Subjective	Objective
Political	Value-free
Case Study	Survey
Speculative	Hypothesis testing
Grounded	Abstract

(Source: Halfpenny, 1979: 799 in Silverman, 2000: 2)

Table 1 illustrates some of the terms that are commonly applied to qualitative and quantitative approaches. As Silverman (2000) argues, such terms might suggest that quantitative research is superior because, for example, it is value free. The implication here is that quantitative research objectively reports reality, whereas qualitative research is influenced by the researchers political values. Conversely, others might argue that such value freedom in the social sciences is either undesirable or impossible. Likewise, whilst flexibility may be construed encouraging qualitative researchers to be innovative, others may perceive it as meaning a lack of structure.

3.0 Multiple Methods: Beyond the quantitative-qualitative dichotomy

In recent years in the social sciences there have been indications that a new debate surrounding the merits and problems of quantitative and qualitative methods is emerging. For example, in Human Geography, articles and debates have been published in a number of journals, such as *The Professional Geographer* (1995) and *Environment and Planning A* (1994). Amongst other things, geographers have begun to re-evaluate the role of quantitative methods in human geography, to remark on the gulf that exists between quantitative and qualitative methods (Philip, 1998: 261) and to discuss the merits and limitations of multiple methods research.

Theoretical debates that have been widespread in geography over the last fifty years or so have recently evolved into a more grounded methodological debate. Indeed, the reconsideration of multiple methods may be linked to methodological opportunities presented by postmodernism to human geography and to social science disciplines more widely.

Philip (1998) argues that a combination of quantitative and qualitative approaches should be viewed as an acceptable methodological approach for research based within a variety of epistemological positions and concerning a wide range of substantive research areas in human geography. She notes that the multiple methods approach represents a poly-vocal approach to research, where employing a range of methodological strategies means that the researcher does not necessarily privilege a particular way of looking at the social world over another. In recognition of these and other such arguments, many social science researchers are increasingly rejecting the automatic association of particular methodologies with particular epistemologies. Instead, they are exhibiting flexibility in selecting the method or methods most appropriate to a particular research project.

Despite the fact that they are often presented as a dichotomy, quantitative and qualitative methods are not mutually exclusive and they do indeed share common ground, for example, overlapping in the processes of logical enquiry which underpin them (Brannen, 1992). Indeed, some of the key arguments advocating the superior nature of quantitative methods (such as that quantitative research is objective and thus better than subjective qualitative research) have been increasingly discredited. Indeed, many positivists would agree that no research is entirely objective and error free as researchers choose their subject and how they will conduct their investigation. Furthermore, whilst quantitative methods have been regarded as deductive (associated with the formulation and testing of hypotheses), the qualitative approach is associated with an inductive approach. However, as Hammersley (1992: 48) argues, “in all research we move from ideas to data as well as from data to ideas”. In other words, researchers continually move between research questions and evidence, regardless of the methods adopted to carry out the research.

McKendrick (1996) argues that the “*concept ‘multi-method research’ would seem to be self-defining*”. However, Philip (1998) notes that the term is often confused with, or used interchangeably with ‘*mixed-method research*’ and she proposes a subtle distinction between the two. She argues that *mixed methods* may be taken as referring to a situation whereby two or more methods are used to address a research question at the same stage in a research process, in the same place and with the same research subjects. *Multiple methods* may be understood as being the situation in which a number of complementary methods are employed to address different facets of a research question, or to address the same question from different perspectives.

Choosing a multiple method approach is not without problems and researchers engaging in such research projects need to be aware of the differing claims and criticisms of each approach, not least the claims of subjectivity and objectivity, in order to be taken seriously by both ‘camps’ (Philip, 1998). It is thus important that researchers are self-reflexive about their reasons for adopting particular methods and that they are aware of the fluid relationship between epistemology and methodology, as noted by Hammersley (1992) above. Constraints on time and financial resources also present challenges when attempting multiple method research.

Despite these challenges, combining methods may be advantageous for a number of reasons. Multiple method research offers two complementary approaches to different research problems or different aspects of the same problem. There are also the advantages of *triangulation*. The original formulation of triangulation was advanced by Denzin in 1970, who argued in favour of combining research strategies as a means of examining the same research problem and hence enhancing claims about the reliability of the conclusions that could be reached (and the methods used to reach those conclusions) and minimising the risk of generating erroneous findings. In other words, triangulation is about exposing analysis to potentially conflicting perspectives and showing that data findings can be integrated and cross-referenced to highlight consistency.

However, the concept of triangulation has been criticised for its naïve central tenet that combining approaches leads to validity (Fielding and Fielding, 1986). Indeed, the differences that are revealed may be as illuminating as the similarities. As Hammersley and Atkinson (1983: 199) point out “*one should not adopt a naively optimistic view that the aggregation of data from different sources will unproblematically add up to produce a more complete picture*”. There are numerous different instances in social science research where we cannot

simply aggregate data to arrive at an overall 'truth'. Furthermore, as Silverman (2000) argues, triangulation seeks to overcome the context-boundedness of materials at the cost of analysing their sense in context. It is unlikely to be useful in much social research to conceive of an over-arching reality to which data, gathered in different contexts, approximates.

Researchers often use quantitative research to generate further questions for qualitative research and vice versa. By developing closed questions from the responses of a qualitative study it is possible to test hypotheses derived from an initial exploration of issues, thus allowing progression and clarification in the research process. Likewise, it is often useful to add a qualitative dimension to a quantitative study to explore the 'why and how' of classified quantitative responses to help explain and enrich the findings. Thus, combining methods also allows a broader range of issues to be investigated, arguably more deeply than if one approach was used exclusively.

4.0 The need for an holistic approach to development research in Europe

Recent regional development literature has emphasised the need to address socio-economic problems within a complex non-linear system by taking a more holistic approach to research. For rural researchers, as rural areas rise to the challenge of globalisation by placing increased emphasis on local, unique, intangible and non-competitive factors (such as identity, sense of community and culture and networking), researchers must in turn rise to the challenge of understanding rural dynamics in a complex system that requires a holistic view, rather than considering it in separate parts or aspects (Courtney et al, 2001). As Hart (2001) argues, with the change of order that we have witnessed in the 1990s, it is no longer appropriate to read off 'development' from a few linear indicators. Friedman (2000) summarises the challenge well:

"Human beings are now confronted with immensely complex ecological, political, economic and social problems. When we attempt to tackle such difficult problems, we naturally tend to break them up into more manageable pieces. That is a useful practice, but has serious limitations... with a complex non-linear system you have to break it up into different pieces and then study each aspect and then study the strong interaction between them all. Only then can you understand the system" (Friedman, 2000: 27-28).

The value of multiple method research, which can involve researchers from a variety of disciplines to achieve such an holistic view, is increasingly being recognised in development research. The European Commission recognises that high level research is becoming progressively more complex and inter-disciplinary, as well as being increasingly costly. Few research teams, and indeed few EU Member States, can reasonably claim to be able to respond to these challenges without becoming involved in cross-European research. This is a key reason for the proposed European Research Area (ERA), which will support co-operative research and promote researcher mobility, especially through placing a greater focus on questions of European importance than in the past, such as the major socio-economic challenges facing all Member States.

In addition to encouraging researchers to think beyond the traditional quantitative-qualitative dualism, choosing a multiple method approach also allows the strengths of interdisciplinary teams to be used to the full. As Bryden (2001) argues, multi-disciplinarity and inter-disciplinarity, not to mention trans-disciplinarity, are now seen as essential in problem-oriented strategic and applied research. Indeed, since the launch of the First Framework Programme for Research and Technology Development in 1984, the EU's institutions have

played an important role in the promotion and organisation of multi-disciplinary, trans-frontier co-operation.

Such multi-disciplinary research is by no means easy and it creates a demand for new methodologies bridging the very different epistemologies of the natural and social sciences. This requires new investment in institutional and human resource development (Bryden, 2001: 3). It also requires Governments and policy makers to be more open and receptive to qualitative research. There is a very apparent and long-established preference for the quantitative paradigm amongst policy makers, usually involving the provision of statistical facts that are assumed to be rigorous and neutral in a political and value-free sense (Brannen, 1992: 18) and thus more readily applicable. More recently, a greater recognition of the important role of qualitative research is apparent amongst many policy makers.

The need for multi-disciplinary research is increasingly being recognised in rural research, as Bryden's review of EU Framework V funded projects illustrates (Bryden 2001). It is increasingly evident that changes in rural areas occur in large part as a result of the decisions of people and organisations in response to both their own circumstances and perceptions and to the changing world outside and the new constraints or opportunities that appear. Such multi-disciplinary research is required to inform the increasingly multi-sectoral rural policy:

“Rural development policy must be multi-disciplinary in concept, and multi-sectoral in applications, with a clear territorial dimension... It must be based on an integrated approach, encompassing within the same legal and policy framework: agricultural adjustment and development, economic diversification – notably small and medium sized industries and rural services – the management of natural resources, the enhancement of environmental functions and the promotion of culture, tourism and recreation” (The Cork Declaration, Point 2).

Furthermore, as Errington (2001) describes, Priority 5.5 of the current (Framework 5) RTD Quality of Life programme of the EU calls for the development of *“New tools and models for the integrated and sustainable development of rural and other relevant areas”* (EC, 1998: 18). In addition, in the UK, a variety of government departments and agencies involved in rural development are beginning to demand robust and workable tools to help implement their policy initiatives, giving researchers from many disciplines a role to play. For example, in England the Countryside Agency in England is establishing a national ‘health check’ to help local governments examine the economic, social and environmental health of market towns (Countryside Agency, 2001). The Agency has also commissioned research to develop an audit tool that will help assess the capacity of organisations to participate in Integrated Rural Development (IRD) initiatives.

As the Council of Europe (1995: 37) has noted, *“diversity lies at the heart of Europe’s cultural richness which is our common heritage and the basis of our unity”*. Thus, there is a need for researchers to recognise this diversity, and also for them to identify the most appropriate research methods to adopt when investigating the reasons for this diversity.

Comparative research is key to addressing this diversity and is vitally important for investigating a range of issues pertinent to rural areas across Europe, be they in northern Sweden or southern Greece. As Bryden (2001) explains, comparative research can help with the development of ‘benchmarks’ to be used in further policy development and comparison of policy effectiveness. However, comparative research will also serve to highlight and help an understanding of the diverse and differentiated development paths in rural Europe. It is an

essential element in EU-level social research (indeed, in any social research) because it helps us to understand better the role of national and regional contexts – regulation, history, culture (attitudes, beliefs, values), institutional and other human creations. In this respect, EU-level research plays a vital role, since very little national funding is directed at comparative research. Nationally funded research in the Member States involves different institutional and ideological frameworks (including differential funding, policy priorities, and the participation of different interests).

It is therefore apparent that comparative, holistic and inter-disciplinary research projects using multiple methods have a key role to play in exploring Europe's diversity. The following section introduces the DORA project, which provides some empirical evidence of such interdisciplinary, multiple method research at the European level.

5.0 The DORA project: an interdisciplinary approach to European research

In the DORA project we are addressing 'the bigger picture' with respect to rural dynamics through a combination of quantitative and qualitative analyses of European study areas. The aim is to try and identify the underlying reasons for differential economic performance (hereafter referred to as DEP) and help inform policy at local, regional, national and European level. In this way, the project recognises the complexities of the system created by Europeanisation and globalisation and thus allows it to identify with some of the local responses to these institutional and market forces.

The principal aim of the DORA project is to investigate the underlying reasons for good and bad economic performance in different rural areas in apparently similar geographical and policy contexts, and to investigate the role of tangible and less tangible factors in influencing development outcomes. The core research question can be stated as: *Why do rural areas in apparently similar economic, social and environmental circumstances have markedly different performance over relatively long periods of time?* The research hypothesis is that the differential development of rural areas can be explained by a combination of 'tangible' and 'less tangible' factors and the way in which these interact in specific national, regional and local contexts. In addition to more conventional *tangible* factors concerning DEP, for example: Natural and Human Resources, Infrastructure, Investment and Economic Structure, five *less tangible* factors were identified. These concern Market Performance, Institutions, Networks, Community and Quality of Life⁵ (Figure 1). Essentially, whilst descriptive, quantitative information about the factors is required, explanatory, qualitative information is integral to exploring both the reasons for DEP and the inter-dependencies between the factors.

⁵ For a more comprehensive explanation of the ten research factors see Bryden et al. (2000).

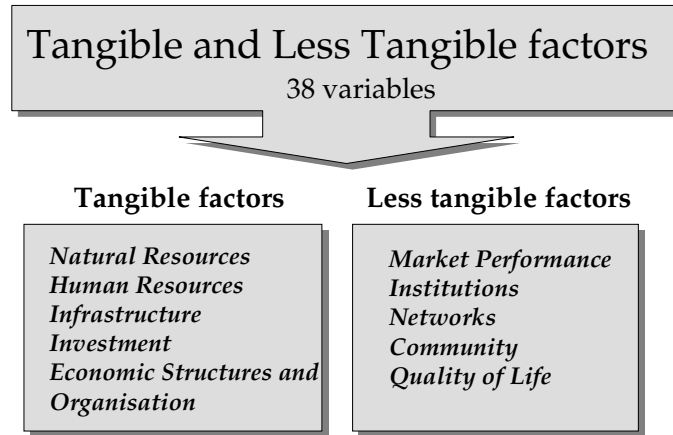


Figure 1 Tangible and less tangible factors in the DORA research model

To facilitate analysis of these 10 factors each one has been broken down into several variables (a total of 38). Thus, each factor is derived to function as ‘a composite’ of aggregated variables that are understood to influence the economic performance of each study area in different ways. In turn we were able to compare the usefulness of ‘objective’ indicators of performance based on secondary data with the ‘subjective’ indicators derived from qualitative interviews and thus highlight the problems with the measurement of DEP of local economies.

To provide a useful spread of perceptions and experiences to inform the research, targeted respondents were divided into four categories. With approximately 35 in each study area, the ‘sample’ in each was stratified to target 5 public officials, 10 community leaders, 10 entrepreneurs and 10 individual citizens. Inevitably the derivation became slightly distorted between the countries due to differing institutional and community set-ups, although on the whole it was feasible and provided a degree of beneficial cross-fertilisation which enriched the analysis and interpretation of the findings. Further stratification ensured that at least 30 percent of the target samples were females. Efforts were also made to collect supplementary information relevant to the chosen factors. Local newspapers proved to be particularly useful in this respect, as did planning documents and various forms of literature produced by regional and local organisations.

5.1 *Selecting comparable study areas at the European level*

The DORA project has involved four study areas in two regions in each of the four partner countries, providing a total of sixteen study areas in eight regions across Europe. It was decided that the two regions in each country were to be selected on the basis of three criteria: GDP per head, status for policy programmes and degree of rurality according to OECD criteria, in order to allow a sufficient level of comparability, but also to differentiate areas in terms of location and policy status.

However, due to the varying policy and geographical circumstances in different countries across Europe, the selection criteria were not followed rigidly in all four countries. In the Greek case, it was not possible to use policy status as a criterion for selection of regions as the whole of Greece receives Objective 1 funding. The geography also posed a problem as many regions contained both upland and lowland areas, which would cause further problems in making comparisons within regions that were supposed to be largely homogenous in

geographical terms, with similar land morphology, accessibility and structures. To overcome this, and make the Greek cases comparable with the other DORA selections, it was therefore decided to select a pair of mountainous areas and a pair of plain areas, from different regions, for comparison. The four Greek study areas were therefore located in three different regions, as opposed to two.

Within each region, two study areas were chosen which exhibit ‘contrasting economic performance’ measured according to five key indicators: population change, net migration, employment change, unemployment and business start-ups. In short, one study area in each pair exhibits good economic performance over the medium term (10-15 years) whilst the other exhibits poor economic performance over the same period. (See appendix A for further information on DORA regions and study areas.)

5.2 *Developing a “common methodology” within a multi-disciplinary context*

The DORA project is extremely diverse, taking in four European countries, sixteen local areas and several levels of government as well as disciplines as diverse as geography, economics and anthropology. Investigations were inevitably coloured by the specific character of the people and places that were studied, as well as by the professional backgrounds of those in each team. The researchers wished to make a virtue of that necessity and embrace the scope for diversity and experimentation sensitive to local difference, especially as they believe that this accords with the best intentions of the EU itself.

The DORA project takes a case study approach to the investigation of DEP across rural areas in the EU. The case study areas selected (according to the criteria outlined in Section 5.1 and detailed in Appendix A) reflect a desire for diversity, variety and balance. Generalisation was not the main aim of the DORA inquiry. The first obligation of the study is an understanding of DEP in each area and thus the importance of the specific features of places in defining their individual development trajectory. From this, it can be concluded that central policy directives are only realised through the specific circumstances of individual places.

The DORA project is therefore an example of exploratory qualitative research, concerned with gaining holistic knowledge about a place and its inhabitants. Qualitative research is also generally aimed at understanding often highly complex inter-relationships amongst all that exists in the case. Indeed, central to the DORA project was an exploration of the inter-relationships between the ten explanatory factors for DEP contained in the research model (for a list of factors, see Figure 1). Central to rural research at the European level more generally, is a recognition that rural development is a territorial not a sectoral issue and that the inter-relationships across the rural economy are crucially important.

In contrast to the qualitative approach in DORA, which aims to synthesise material with secondary data from the public record, quantitative studies are aimed at measurement, explanation (often based on cause-effect arguments) and control in order to allow formal generalisations to be made about a case. As Stake (1995) argues:

“[quantitative researchers] tend to nullify context in order to discover general and pervasive explanatory relationships. Generalisation is an important aim... Quantitative researchers regularly treat uniqueness of cases as ‘error’, outside the system of explained science. Qualitative researchers treat the uniqueness of individual cases and contexts as important to

understanding. Particularisation is an important aim, coming to know the particularity of the case” (Stake, 1995: 39).

At the same time as ensuring that each case study was investigated thoroughly, the project needed to frame the inquiries of DEP so that they were fundamentally the same across the national studies in order to ensure consistency and comparability. Thus, the DORA research team faced a challenge in ensuring that the project was able to incorporate diversity, yet this diversity was not so great as to hinder cross-country comparisons.

The main mechanisms to ensure such comparability were, firstly, the common agreements on factors, variables and research questions and, secondly, the common interview schedule. This had a key role in ensuring that the findings in each country could be compared, whilst still allowing for diversity to be explored and retained. The schedule was effectively an instrument that could guide local research without imposing a rigid structure on the inquiries. It allowed for the collection of detailed ‘stories’ of DEP, on which a researcher places his/her subjective interpretation based on his/her experiences (in the field as well as more widely) and research training in different disciplines. The national teams were given freedom to decide how they used the schedule, although its common elements were decided in advance by the teams. In addition, a second element of the methodology was designed. A structured summary questionnaire, implemented uniformly across the teams, provided a further tool to aid the international comparison⁶.

Therefore, by adopting both quantitative and qualitative elements, the DORA researchers were able to combine an accurate *description* of the key elements affecting DEP with an *explanation* of these elements through the perceptions of key actors and *interpretation* of the processes. In turn, they were able to gain a deep understanding of the characteristics of specific places, leading to recognition of the vital importance of context (or uniqueness) in each case study, and the ability to compare the findings internationally and to advance any generalisable policy implications that became apparent.

Thus, the DORA project has effectively followed a Kantian and neo-Kantian approach. Kant argued that knowledge rests on two sources: *form* – the ideas already formed in our minds that we bring to understanding the world and *substance* – the empirical content of our interactions with the world organised subsequently by means of analysis. His successors in the 20th century took from this methodological rule that our abstract categories should be informed by the empirical substance of what we investigate in an ongoing process of mutual refinement⁷. In the DORA project, we have attempted to build specific inquiries on the project’s intellectual template agreed with the Commission⁸, allowing for substantive diversity to be accommodated where possible, without losing the formal consistency we achieved.

⁶ Some illustrative results from this are presented and discussed in Section 6.0.

⁷ The authors are especially grateful to Keith Hart for his insights into methodological design and development.

⁸ A general related issue is the question of to whom research is addressed. In reality, researchers do not have an open choice about their adopted methods as they are usually dictated by the research funder. In the case of the DORA project, the funder is the European Commission thus the findings of the project need to be presented in such a way as to be acceptable to an academic and a non-academic audience. A reliance solely on qualitative material in the DORA project could have created difficulties when attempting to translate the research findings into ideas with policy relevance and applicability. Government and policy-making bodies have in the past tended to prefer quick, ‘simple’ answers based on ‘reliable’ variables (Silverman, 2000: 2) and as Philip (1998: 273) notes, many qualitative approaches are still either not well understood or are deemed to be inappropriate by many people outside the academy.

5.3 *Analytical methodology*

Having devised a common methodology that could be applied in all four countries with the scope to tailor survey methods to specific contexts and circumstances at the discretion of the respective research teams, variation was inevitably going to exist in the analytical methods employed by the four teams. There are good reasons for this. First, the disciplinary slant of the teams; second the deliberate choice of those involved which implied that a mix of approaches was useful at the outset; and third that cultural differences inevitably mean that some approaches are less acceptable to the actors than others.

In Scotland, the common schedule effectively provided a useful list of issues from which respondents were free to discuss ‘stories’ relevant to their own perceptions, opinions and experiences of economic development and performance, guided and probed by the interviewee accordingly. This yielded a rich and in-depth data set with transcripts that were totally unique in terms of content, structure and detail. Formal analysis of the data followed transcription of the interviews, after which they were entered into N-Vivo⁹ and subsequently organised and coded. In the first instance, coding was attributed according to the variables that each section of text related to. However, researchers found that the richness of the narrative was being lost by this fragmentation, so this was substituted for coding according to the ten factors, factor relationships and discretionary coding which employed key words, phrases or other unique aspects of individual stories. This proved satisfactory, allowing the complex web of inter-relationships between the factors to explain help DEP. The development of themes emerged at a later stage when researchers found that this web actually required re-amalgamation of the coding frames in order to produce a comprehensive account of explanations that took account of the area and region-specific circumstances.

Due to variations in the researchers’ experiences and backgrounds and in their knowledge of the usefulness of different methodological tools in different national settings, the adoption of the common schedule varied between the four DORA countries. Whilst the Swedish research team used the common schedule in the interviews in a similar way to the Scottish team, the interviews were conducted slightly differently by the Greek and German teams. The Greek team derived a semi-structured questionnaire from the schedule for the main reason that in past research projects, Greek respondents, particularly in rural areas, have been found to be reluctant to have interviews tape-recorded. Thus, in Greece, a semi-structured questionnaire became a more effective tool for gathering all the necessary information. The German team also followed a more formal approach in the interviews, again using the schedule more as a questionnaire, and interviews were again not recorded as respondents also tended to feel uneasy with the presence of the microphone. Two researchers were present at each interview conducted in Germany, one to ask questions and one to take detailed notes of responses. For the German research team, the common schedule also provided the base for the development of a structured business survey, which was administered in each study area.

This illustrates one of the principal challenges of conducting cross-country research – that some research instruments work better in some national situations than others. Ultimately, it was important that all teams covered the issues included in the schedule, but it was designed to be flexible in order to be able to respond to varying national settings. Thus, the task was to identify a minimum framework of a common approach within which teams would be free to develop according to their own circumstances.

⁹ A software package designed to facilitate the organisation and analysis of qualitative data.

6.0 Some illustrative findings and related discussion

Some key findings are provided in this paper to help illustrate the methodological points being made and to provide a flavour of how inter-disciplinary research can help enrich the development processes in Europe. First, some key elements of the Scottish findings are discussed; mainly to highlight the challenges encountered in exploring the interdependencies between the factors and how they were overcome. Results from the international summary analysis are then provided to illustrate the complexities involved in synthesising data from different sources and different countries.

Following the data collection phase it was decided that all partner teams would produce a comprehensive factor by factor analysis, addressing each factor and variable in turn. The aim was to synthesise secondary data from the public record and qualitative data from personal interviews to inform on the ways that each factor influences DEP in each of the regions. Whilst this proved useful, it was found that a thematic approach was also required to help explain the interdependencies between factors and to account for contextual differences at study area and regional level. The themes identified for the two Scottish regions, along with the inter-relationships between factors encompassed within them, are set out in Table 2.

Table 2: Main themes and associated factor inter-relationships* in explanation of DEP: Scotland

Dumfries and Galloway (D&G)	Highlands and Islands (H&I)
<p><u>East-West Split: Centralisation and Marginalisation.</u> (INF-MP; ES-INS; NET-MP) Involving two inter-related issues: relative accessibility of study areas from urban centres and national markets; and centralisation of local governance, services and investment in the regional capital. Also encompassing differential patterns of economic activity and networking that result from the divide.</p> <p><u>Belonging, Confidence and Co-operation.</u> (QOL-COM; COM-NET) Encompassing the differentiating issues of migration dynamics: transience vs. stability; local networks and a sense of belonging; and processes of involvement and confidence in community initiatives.</p>	<p><u>Economic Structures.</u> (ES-HR; ES-MP; ES-INV) Focusing on the differential influence of large economic structures and the impacts of their relative dominance in Caithness.</p> <p><u>Institutional Arrangements.</u> (INS-INV; INS-MP; INS-NET; INS-COM) Involving the relative benefits of institutional autonomy in Orkney, including the favourable patterns institutional and community co-operation and networking.</p> <p><u>Quality of Life and Migration Issues.</u> (QOL-NR; HR-QOL; QOL-COM) Encompassing differential migration dynamics and resulting processes of conflict, participation and confidence in the respective communities.</p> <p><u>Heritage, Community and Identity.</u> (COM-MP) Focusing on the relatively successful transference of identity into image and marketing and community initiative into commercial development in Orkney.</p>

* KEY TO FACTORS:

ES-Economic Structures	MP-Market Performance
NR-Natural Resources	NET-Networks
HR-Human Resources	INS-
Institutions	
	INV-Investment
QOL-Quality of Life	
	INF-Infrastructure
Community	COM-

The thematic approach was taken to deal with the synthesis of secondary data from the public record and in-depth narrative from qualitative interviews. The explanations of DEP in both regions start from a tangible base and move through to explanations drawing on less tangible factors. Whilst inter-relationships are key to explanations, and indeed highlight the complexity of them, it is evident that the less tangible factors are crucial to the findings. It is useful to compare these core findings with the results from the summary questionnaire, completed by the respondent at the end of each qualitative interview and designed principally to aid the international comparison. Two key points are worth highlighting, the conflicting views recorded in the questionnaire itself and the contradictions between the interview narrative and its 'quantitative'¹⁰ summary. For example, when asked in the summary questionnaire to pinpoint the most important factors contributing to the economic performance of their area, the majority cited Infrastructure, Investment, Human Resources and Natural Resources¹¹. However, at the same time over 80% of all respondents felt that the motivations of local people were more important to local development and performance than the objective resources available to them.

The questionnaire also requested that respondents identify the key relationships between the ten factors by drawing lines between two columns of the list of ten and indicating the direction of the perceived relationship (i.e. positive or negative). Interestingly, the majority of inter-relationships highlighted by the Scottish analysis involved the Market Performance factor, in particular relating it to Natural Resources, Infrastructure, Investment and Economic Structure. At the time of the summary analysis (which took place prior to the analysis of interview transcripts) it was construed that most perceptions of DEP related in some way to market failure¹². However, as can be seen Table 2, whilst inter-relationships involving Market Performance (MP) were found to be important in the explanation of DEP they were not the dominating feature.

At a discussion between all DORA partners mid-way through the analysis phase it was agreed that the summary questionnaire did pose potential problems and in many cases conflicted with perceptions of DEP documented in the interviews. Essentially, the problem lay in the interpretation of the factors by respondents with different professional backgrounds and intellectual capabilities. Whilst explanations of their meaning were sufficient for the interviews themselves, this did not prove to be the case when the respondent was asked to summarise their relative influence independently. Factors such as Market Performance and Networks proved to be particularly confusing because, although their content proved successful in helping to explain DEP, as essentially academic terms they failed to be accurately interpreted by respondents. Thus, more familiar terms such as Infrastructure and Investment were possibly ranked higher than more ambiguous terms such as Community or Market Performance. In other words, to act as a guide to comprehensive research, the factors needed to be interpreted and broken down by the researchers for each question, issue and line of inquiry.

¹⁰ Whilst the format of the summary questionnaire, and its subsequent analysis were quantitative, it was not supported by the appropriate sampling techniques (which were designed to facilitate the qualitative enquiry) to warrant the description of 'quantitative' in the true technical sense.

¹¹ The ten factors were explained to all respondents prior to each interview and were often prompted in the interview as to relevant factor relating to the questions, or set of questions.

¹² Market failures occur when transactions between agents fail to produce the best outcome for society as a whole. For example, there may be wider costs or benefits to society associated with a good or its production which are not reflected in its market price.

Indeed, this point is reinforced by the fact that one particular question, reproduced in Table 3, did prove useful. Not only did the analysis prove supportive and summative of the in-depth findings, especially in the Scottish case, but it also facilitated the international comparison of the DORA findings. In effect, this aspect of the summary questionnaire can be viewed in the context of a variant on triangulation, whereby the main data sets were exposed to potentially conflicting perspectives and showing that data findings can be integrated and cross-referenced to highlight consistency.

Table 3: Summary question to identify main descriptors of economic performance in all DORA study areas*

rich				poor
booming				depressed
beautiful				ordinary
friendly				unfriendly
exciting				boring
home				escape
well-governed				badly-governed
integrated				divided
up-to-date				old-fashioned
self-sufficient				dependent

*Which of the following descriptions in your view apply to your area?
(tick either left, right or middle)

This question, which effectively used lay terms to identify perceptions of economic performance, rather than academic constructs, asked respondents to rate their area according to ten potential descriptors of economic performance¹³. A Principal Component Analysis was applied to the data and subsequently identified three distinct descriptive dimensions relating to local economic performance (factors), which are illustrated by the data in Table 4.

Table 4: Results of Principal Component Analysis involving descriptor variables¹⁴

FACTOR 1	FACTOR 2	FACTOR 3
----------	----------	----------

¹³ Two variables from question 3 were dropped from the international analysis due to problems of missing data and ambiguity: *beautiful - friendly* and *home - escape*. The latter pair of descriptors was omitted mainly because the meanings of the words 'home' and 'escape' were changed when they were translated from English into the languages of the other project teams. This made comparisons problematic.

¹⁴ A total of 487 cases were entered into the analysis. Each variable was assigned a -1, 0, 1 coding format, with -1 relating to the negative aspect of each descriptor and 1 to the positive. In the Swedish case, a more detailed scale was re-coded to provide comparability to the Scottish, German and Greek data sets. A model specification method suggested by Hair *et al.* (1998) was followed. This involved employing a Varimax rotation (which was appropriate to the coding format that was employed) and using the standard criteria of Eigenvalues greater than 1 and cumulative total variance of at least 60%. Only practical, and not statistical, significance was of interest (due to sampling procedures and methodological design). However, diagnostic tests of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.749), Bartlett's test of Sphericity (556.0, df 28, p=0.0000) and the Determinant of the Correlation Matrix (.316) were also computed to ensure adequate model fit. The cut off point for interpretation of loading scores was 0.50, as at this point they can be considered *practically* significant. The results identified three distinct factors explaining 60% of total variance. This appeared to give the best representation of the underlying relationship among selected variables.

'Prosperous'	'Inclusive'	'Lively'
<i>rich</i> (.753) <i>booming</i> (.695) <i>up to date</i> (.630) <i>self sufficient</i> (.592)	<i>integrated</i> (.771) <i>well governed</i> (.729) <i>friendly</i> (.567)	<i>exciting</i> (.868) <i>friendly</i> (.534)
% of variance = 32.0	% of variance = 15.5	% of variance = 13.1

The coding of the descriptor variables was designed to create positive dimensions of rural dynamics. In other words, each factor can be considered to be an underlying dimension of social and/or economic success. The factors are labelled to reflect the correlations within each underlying dimension. For example, in the case of Factor 1, those respondents who perceived their area to be 'rich' also considered it to be 'booming', 'self-sufficient' and 'up to date'. The label 'Prosperous' thus relates to areas which could be economically successful enough to be self-supporting and sufficiently up to date in terms of technology and development not to be wholly reliant on the outside world. Factor 2 is concerned primarily with the relationship between the Institutions and Community factors in the DORA model. A friendly, integrated community appears to correlate with favourable local governance, apparently creating an 'Inclusive' society for an area's inhabitants. Factor 3 can be conceptualised mainly in terms of Quality of Life issues. An area could be considered 'Lively' by its inhabitants in terms of the friendliness of fellow citizens and the fact that the area is an exciting place to live.

The data in Table 5 presents the mean factor scores for all DORA study areas, regions and countries for each underlying descriptor identified by the Principal Component Analysis. The related discussion focuses mainly on the mean scores for Factor 1 (F_1).

Of the four countries, Sweden and Greece have the highest mean factor scores for the first component, .30 and .21 respectively compared with 0.2 for Germany and -.62 for Scotland. This would indicate that a greater proportion of respondents in the former two held a more positive view of their areas. However, reference to the F_1 scores for the respective regions and study areas paints a more detailed picture, and in turn highlights the diversity between rural areas and the subsequent need for local level research.

In Greece, the high score for the prosperity factor is largely attributed to the Plain region, indicating substantial differences between the two regions in terms of perceptions of economic success. In Sweden, however, there is little difference between the scores for each region, which at first sight may seem surprising given the substantial differences in peripherality between the two, although not to the same degree when the Swedish welfare system is taken into account. Likewise, in Germany although Niedersachsen has a positive mean score in comparison to that for Mecklenburg-Vorpommern, which is negative, one might expect a greater difference between east and west Germany with respect to perceptions of prosperity. In Scotland, the fact that the H&I is perceived as being more 'prosperous' is likely to reflect the regions profile, its promotion of industries such as tourism and the greater institutional density than in D&G. It may also reflect the profile of IT projects in the region, and employment in new service industries, such as call centres.

Examining the prosperity scores for study areas across the four countries, we find that both WP areas in Scotland and Germany follow the expected perceptions of relative success by having higher mean scores than the two LWP areas. Thus, in effect local perceptions of prosperity conform to the objective indicators of economic performance in the public

record¹⁵. In Greece, the pattern of scores continue to follow the regional divide between mountainous and Plain areas, with Korinthia (WP) and Fthiotis (LWP) having higher mean scores for this success factor than the other two study areas. However, the greatest deviation between Trikala (WP) and Arkadia (LWP) in the mountainous region, with the latter showing a substantially lower mean score. This indicates that respondents in the area perceive the area to be particularly deprived, which conform to findings indicating that low levels of entrepreneurial activity, low levels private investment, poor exploitation of tourism and a high dependence on state revenues from local government are key in the explanation of DEP.

Table 5: Mean factor scores associated with the underlying descriptive dimensions: given by country, region and study area¹⁶

F₁ 'Prosperous'	F₂ 'Inclusive'	F₃ 'Lively'
COUNTRY:		
Scotland -.62	Scotland .17	Scotland -.27
Germany .02	Germany .05	Germany -.44
Greece .21	Greece -.24	Greece .54
Sweden .30	Sweden .09	Sweden .09
REGION:		
Scotland -.62	Scotland .17	Scotland -.27
Highlands & Islands -.38	Dumfries & Galloway .19	Highlands & Islands -.16
Dumfries & Galloway -.85	Highlands & Islands .15	Dumfries & Galloway -.36
Germany .02	Germany .05	Germany -.44
Niedersachsen .11	Niedersachsen .21	Niedersachsen -.22
Mecklenburg -.08	Mecklenburg -.13	Mecklenburg -.67
Greece .21	Greece -.24	Greece .54
Plain .62	Mountainous .04	Mountainous .67
Mountainous -.16	Plain -.55	Plain .40
Sweden .30	Sweden .09	Sweden .09
Norra Norrland .32	Norra Norrland .11	Norra Norrland .23
Southeast Sweden .26	Southeast Sweden .06	Southeast Sweden -.10
STUDY AREA:		
Scotland -.62	Scotland .17	Scotland -.27
Orkney (WP) -.02	Orkney (WP) .40	Wigtownshire (LWP) -.14
Annandale & Eskdale (WP) -.68	Wigtownshire (LWP) .34	Caithness (LWP) -.15
Caithness (LWP) -.77	Annandale & Eskdale (WP) .05	Orkney (WP) -.18
Wigtownshire (LWP) -1.0	Caithness (LWP) -.11	Annandale & Eskdale (WP) -.58
Germany .02	Germany .05	Germany -.44
Emsland (WP) .91	Emsland (WP) 1.0	Luechow (LWP) .13
Ludwigslust (WP) .41	Ludwigslust (WP) .20	Emsland (WP) -.51
Uecker-Randow (LWP) -.71	Uecker-Randow (LWP) -.54	Uecker-Randow (LWP) -.53
Luechow (LWP) -.84	Luechow (LWP) -.77	Ludwigslust (WP) -.80
Greece .21	Greece -.24	Greece .54
Korinthia (WP) .77	Arkadia (LWP) .06	Arkadia (LWP) .81
Fthiotis (LWP) .46	Trikala (WP) .03	Fthiotis (LWP) .62
Trikala (WP) .39	Fthiotis (LWP) -.09	Trikala (WP) .55
Arkadia (LWP) -.77	Korinthia (WP) -1.0	Korinthia (WP) .16
Sweden	Sweden .09	Sweden .09
Storuman (WP) .42	Overkalix (LWP) .30	Overkalix (LWP) .27
Hultsfred (LWP) .29	Hultsfred (LWP) .17	Storuman (WP) .18
Kinda, Boxholm (WP) .25	Storuman (WP) -.06	Kinda, Boxholm (WP) -.05
Overkalix (LWP) .22	Kinda, Boxholm (WP) -.09	Hultsfred (LWP) -.17

¹⁵ A key indicator was taken to be employment change over a 10-15 year period. Supplementary indicators employed were population change (with net in-migration seen as a positive indicator of economic performance), unemployment rates and rates of new business formation.

¹⁶ WP denotes well-performing study area; LWP denotes less well-performing.

When all cases in the WP and LWP DORA study areas are amalgamated in Table 6, it is clear that the prosperity factor (F_1) works best in terms of its consistency with the WP-LWP dichotomy derived from indicators in the public record. This is an important finding given that the factor accounts for over half of the observed variance in the analysis. F_2 also conforms with the standard indicators, although less convincingly, while F_3 is contrary, implying that respondents living in LWP areas appear to perceive their area to be more ‘lively’ than those in the WP areas.

Table 6: Mean factor scores associated with underlying descriptive dimensions; given by study area category

F₁ ‘Prosperous’	F₂ ‘Inclusive’	F₃ ‘Lively’
AREA CATEGORY:		
Well-performing (WP) .35	Well-performing (WP) .08	Well-performing (WP) -.14
Less-well performing (LWP) -.40	Less-well performing (LWP) -.10	Less-well performing (LWP) .16

7.0 Further discussion: comparability, data availability and study area selection

Generally, the DORA project has highlighted some central problems with the use of objective indicators of DEP, especially when attempting to make comparisons across different European countries where there are considerable variations in data availability. For example, some GDP figures are collected in relation to an EU average, some in relation to a national average and some in terms of national currency per capita (as is evident by the information in Appendix A).

Even within countries, the availability of data can vary. In Scotland, shifting institutional and local government arrangements have created differences in the spatial level at which data is collected as well as in the frequency of data collection. For example, in the Highlands and Islands region, one DORA study area (the Orkney Islands) is an all-purpose unitary authority area thus information is collected at this level and is made available by Orkney Islands Council. In contrast, the less well performing study area Caithness, is part of the large Highland Council area thus data for the area alone is limited. A further example is the difference in data available in the former East and West Germany. Whilst the data available in the public domain for the former West-German region (Niedersachsen) was particularly wide-ranging, only limited data was available for the former East-German region (Mecklenburg-Vorpommern). Whilst some data has simply not been collected, changes in administrative boundaries since re-unification have brought additional statistical problems. Some countries collect and publish statistics on a wider range of issues than others. A key area of data collection found to be lacking in Scotland is data showing the spatial distribution of inward investment, meaning that comparisons cannot be made between the capacity of different regions to attract such investment, which is often a key driver of economic development.

It is clear from DORA that people’s perceptions of DEP only partially support public record data. This not only highlights the limitations of basing policy prescriptions on official statistics but also indicates the problems associated with measuring DEP generally. The DORA project has shown that the complex inter-relationships between tangible and less tangible factors defy simplistic quantitative measurement, although it does provide a useful step forward. Not only has the in-depth data has been shown to be far more useful in informing the debate on measuring DEP but it has also pinpointed potential indicators that could be explored using quantitative techniques in subsequent studies.

In the literature, empirical evidence in a variety of different fields shows that the extent of correspondence between people's perception and public record data of the same phenomena varies from a strong relationship (e.g., Campbell et al., 1976) to a weak or non-existent one (e.g., Allardt, 1993, Ceccato, 1998). The weak correlation between them reinforces the argument for employing both types of information as complementary in the planning process.

Selecting study areas of similar size in the four countries in order to make meaningful comparisons was also a challenge for the research teams. Whilst the study areas in Sweden were small (with an average population of 33,000 inhabitants) as were those in Scotland (with an average population of 28,000), those in Greece and Germany were considerably larger because their rural areas are more densely populated. Whilst this raises questions in terms of comparability, inevitably the choice of areas was to some extent governed by the availability of statistical data at different spatial scales. For example, reducing the size of the German study areas would have required the formation of artificial areas of 5 to 10 NUTS 4 areas, which would have created significant statistical problems. It would also have increased the risk of the study area performance being governed by one or two dominant enterprises. At the same time, it was crucial that the areas selected represented homogenous areas that inhabitants could identify with, rather than areas created artificially for the purposes of the project.

As far as possible, each national team used all five indicators (see Section 5.1 for a list of the indicators) in the selection process, though in some cases the limited availability of information and changes in recording and measuring techniques (such as boundary changes) meant that some data was missing. All teams recognised that standing alone, some figures are not accurate indicators of economic performance. For example, unemployment figures may be artificially lowered by large numbers of people moving out of rural areas to find employment in urban areas, rather than remaining unemployed in an area. Another example was GDP per head in two municipalities of North Sweden that have hydropower plants. As an indicator, GDP yields an erroneous positive picture of the economy of the area (high GDP per capita), as other economic indicators point in the opposite direction (See Bryden et al. (2000b) for further discussion on GDP).

In Sweden, the choice of study areas with contrasting performance in South East Sweden was particularly hard. The data suggested that there were no dramatic differences in performance between the municipalities since virtually the whole region in Southeast Sweden is experiencing unemployment problems and an out-migration of population. In a sense therefore, the definition of well performing and less well performing in this Swedish case depended on the scale and detail of analysis.

Again in the Swedish case, the study areas were relatively heterogeneous even though they appeared to perform similarly. This heterogeneity was a confusing factor when indicators were selected to try and identify differences in economic performance between study areas. For example, seven municipalities that together were selected as the region Southeast Sweden, range from 4,200 inhabitants (in Ydre) to 15,100 inhabitants (in Hultsfred). Furthermore, they did not constitute a single administrative region, as the study areas are part of three different counties. The well-performing municipalities of Southeast Sweden were quite heterogeneous in terms of their history of structural change. Some of these municipalities have been dominated by agriculture and forestry, with only limited industrial processing of raw material from these sectors, whilst others have been more oriented towards one or a few large manufacturing companies. Others still have a more diversified SME

structure. In a cultural sense, the farming lifestyle has dominated in some of these municipalities, yet in others, a working class lifestyle is also represented.

There are also specific aspects of adaptability of the DORA method to each region and country. The Swedish experience shows that the DORA method was more suitable to DEP in North Sweden, where the differences between study areas were great and more evident through objective indicators, than in the region of Southeast Sweden. The fact that Sweden is traditionally a welfare country (with its equalisation system that struggles to maintain the equal living conditions between regions) constitutes one aspect that could explain why the DORA method failed to identify differences between the study areas with regard to some tangible factors. The equality of living conditions includes to local governments/municipalities for providing services transfers to individuals for compensating low incomes and severe other measures. This practice creates a situation in which leading areas perform less well than the lagging ones in some of the more tangible contexts.

The economic performance of Southeast Sweden is a good example of this. Here, the economic performance, measured in terms of the income per capita of the local population (i.e. the local income tax base), was estimated to be almost 20 percent higher in the LWP area of the region than in the WP area. The main reason for this is the demographic structure of the population and its industrial structure, which is characterised by low wages. This also illustrates the compensatory functions embedded in the Swedish welfare programmes. We believe that a great part of the dynamics of rural areas in Sweden was obscured by several decades of intervention of national policy measures favouring cohesion between social classes and regions. A municipality reporting poor income tax base is automatically compensated for the deficits. The quantitative and qualitative supply of basic local services is accordingly more or less standardised between leading and lagging regions.

Therefore, whilst the DORA team devised a set of indicators of good and poor economic performance to aid the selection of the pairs of study areas in each country, it was evident that the indicators proved more accurate and helpful in some circumstances than in others. Even within countries data availability may vary, making international comparisons more problematic. The problems encountered in finding and using objective indicators available in the public record further exposed the need to assess local peoples' subjective perceptions of DEP, which were shown to only partially conform with the objective indicators available to the DORA researchers.

8.0 Drawing conclusions and looking ahead

This paper has described the inter-disciplinary, comparative approach taken to explaining DEP amongst sixteen rural case studies in four EU countries. It has argued the case for research of this kind, which takes account of the changing contexts within which rural areas must adapt in order to survive and develop. It is evident that trends towards multi-sectoral and territorial approaches to rural policy in Europe indicate the need for multiple methods in development research. In highlighting the crucial differences between quantitative and qualitative methods we have shown that combining them can prove potentially fruitful in today's policy environment.

The DORA project illustrates some of the challenges faced in devising methodologies that can capture the holistic nature of socio-economic systems. Three points are crucial to the DORA experience. The first involves the challenges posed by national specificities, both in

devising methodologies and collating comparable data. Variations in secondary data availability can inevitably cause problems, whilst contextual differences are integral to explaining phenomena in cross-border studies. Related to this point is that the rich and diverse nature of data obtained from a multi-disciplinary study reflects the various backgrounds and experiences of both the researchers involved in the project, as well as the subjects under study.

The second key point concerns the challenge of combining qualitative and quantitative data. We have found that combining in-depth qualitative data with secondary data from the public record has proved particularly fruitful in explaining reasons for diversity in rural Europe. Importantly, the process has highlighted the varying degrees of consistency that can result between the two, reinforcing the need to combine data sources at the local level. Problems have also been revealed in attempting to transfer in-depth narrative into summative quantitative data at the time of data collection. Whilst academic constructs have proved useful in identifying the issues pertinent to the study, the experience highlights the dangers of passing the task of interpretation onto the respondent. In this case, a Principal Component Analysis of data derived from summary questions incorporating lay terms has proved to be a more successful way of linking qualitative and quantitative approaches.

The third key point refers to the importance of studies such as DORA in highlighting the diversity of Europe's rural areas and the importance of contextual issues in explaining differential economic performance. However, whilst generalisation was not the main aim of the DORA project, in order to be able to achieve consistency and comparability across Europe, the national studies were framed in such a way as to ultimately enable comparisons to be made. Future collaborative projects require national inquiries be framed in a way that is sufficiently similar to facilitate comparison whilst allowing for national and regional specificities. This will always be a difficult balance to strike.

Essentially, the DORA project has highlighted some of the complexities of the development process in rural areas. In turn, these have provided some interesting methodological challenges. However, it is important that local people understand such complexities and the inter-relationships between factors, so that they are able to play a larger part in their own futures. With knowledge of the specificities of each area, policy makers, planners and practitioners will be able to focus on the integrated aspects of development and performance in rural areas by using people's perceptions as a complementary source of information.

References

Allardt, E. 1993, "Having, loving, being: an alternative to the Swedish model of welfare research", In: *The quality of life*. Eds. Nussbaum, M.C. and Sen, Amartya, S. Clarendon, Oxford, 85-88p.

Barnet V. 1991. *Sample Survey: Principles and methods*. Edward Arnold: London.

Brannen, J. 1992 "Combining qualitative and quantitative approaches: an overview", in Brannen, J. (Ed.) *Mixing Methods: Qualitative and Quantitative Research*, Avebury: Aldershot, Hants., pp. 3-38

Brannen, J. (Ed.) 1992 *Mixing Methods: Qualitative and Quantitative Research*, Avebury: Aldershot, Hants.

- Brunt, P. and Courtney, P. 1999. Host perceptions of Sociocultural Impacts, *Annals of Tourism Research* 26 (3), 493-515
- Bryden, J. 2001 "Prospects for Research and Development", *Paper presented at the Workshop on 'European Rural Development: Problems, Chances, Research Needs'*, Jointly organised by the International Institute for Applied Systems Analysis, Laxenburg, Austria and the Polish Academy of Sciences in association with the Polish Institute of Agricultural and Food Economics, Warsaw, May 7-9.
- Bryden, J., Atterton, J., Courtney, P., Hart, K., Munro, G. and Timm, A. 2000a "Differential Economic Performance in Rural Areas", *Paper presented at the 'International Conference on European Rural Policy at the Crossroads'*, University of Aberdeen, June 29-July 1
- Bryden, J., Atterton, J., Courtney, P., Hart, K. and Timm, A. 2000b "On the measurement of differential economic performance in rural areas. Experience from the DORA research project", *Paper presented at the CRRF-NRE Project Annual Conference, Albert, Ontario, October*
- Campbell, A.; Converse, P.E.; Rodgers, W.L. 1976 *The quality of American life*. Russel Sage: New York
- Ceccato, V. 1998, "Assessing residential quality of life: three case studies in Stockholm County", *Licentiate Thesis*, Regional Planning Division, KTH, Stockholm, 236p.
- Courtney, P., Bryden, J., Atterton, J., Hart, K., Munro, G. and Timm, A. 2001 "Dynamics of Rural Areas: Local Responses to Globalisation", *Paper presented at the RGS-IBG Conference, Plymouth, 2-5 January*
- Creswell, J. 1994 *Research Design: Qualitative and Quantitative Approaches*, Sage: Thousand Oaks, California
- Denzin, N. 1970 *The Research Act in Sociology*, Butterworth: London
- Fielding, N. and Fielding, J. 1986 *Linking Data: Qualitative Research Network Series 4*, Sage: London
- Errington, A.J. 2001. *Developing Tools for Rural Development: A Multidisciplinary Research Agenda*. Paper presented to the 73rd Seminar of the European Association of Agricultural Economists, Ancona, Italy, 28-30 June.
- Frankfort-Nachmias, C.F. and Nachmias, D. 1992. *Research methods in the Social Sciences*. Fourth Edition. Edward Arnold, London
- Friedman, T. 2000 *The Lexus and the Olive Tree: Understanding Globalisation*, HarperCollins.
- Glaser, B. and Strauss, A. 1967 *The Discovery of Grounded Theory: Strategies in Qualitative Research*, Aldine de Gruyter: New York

- Hair, J.R., Anderson, R.E., Tatham, R.L. and Black, W.C. 1998. *Multivariate data Analysis*. Prentice-Hall: London.
- Halfpenny, P. 1979 “The analysis of qualitative data”, *Sociological Review*, 27 (4), 799-825
- Hammersley, M. 1992 “Deconstructing the qualitative-quantitative divide”, in *Mixing Methods: Qualitative and Quantitative Research*, Ed. J. Brannen, Avebury: Aldershot, Hants., pp. 39-55
- Hart, K. 2001 “Decentralised development in the Scottish Highlands: The significance of the Highlands for development studies”, *Progress in Development Studies*, *CHECK VOL etc.*
- Mason, J. 1996 *Qualitative Researching*, Sage: London and California
- Litwin, M. S. 1995. *How to Measure Survey Reliability and Validity*, Sage Publications: California.
- McKendrick, J. 1996 “Why bother with multi-method research?” in *Multi-method research in Population Geography: A Primer to Debate*, compiled by J. McKendrick (Population Geography Research Group of the Royal Geographical Society with the Institute of British Geographers and the University of Manchester, pp. 1-8
- Miles, M. and Huberman, M. 1994 *Qualitative Data Analysis* (2nd Edition), Sage: London, Thousand Oaks, New Delhi
- Moser, C.A and Kalton, G. 1993. *Survey Methods in Social Investigation*. 3rd Ed., Heinemann, London.
- Oppenheim, A. N. 1992. *Questionnaire Design, Interviewing and Attitude Measurement*. New Edition. Pinter Publishers: London.
- Philip, L. 1998 “Combining quantitative and qualitative approaches to social research in human geography – an impossible mixture?”, *Environment and Planning A*, 30, pp. 262-376
- Ritchie, J. and Spencer, L. 1994. *Qualitative Data Analysis for Applied Policy Research*. In: Brymen, J. and Burgess, R.G. (Eds), *Analysing Qualitative Data*. Routledge: London
- Sayer, A. 1992 *Method in Social Science: A Realist Approach*, 2nd Ed. Routledge: London
- Silverman, D. 2000 *Doing Qualitative Research – A Practical Handbook*, Sage: London, Thousand Oaks, New Delhi
- Stake, R. 1995 *The Art of Case Study Research*, Sage: Thousand Oaks, London, New Delhi

Acknowledgements

This paper draws on the joint work of the DORA team. The authors are especially grateful to John Bryden (project Co-ordinator and member of the Scottish team) for his valuable comments on an earlier draft of this paper. They would also like to acknowledge the contributions of the other DORA research partners: In Scotland (Anja Timm, Keith Hart and Gillian Munro); in Sweden (Lars Olof Persson); in Germany (Helmut Schrader, Gerd

Hachmöller, Birgit Koch and Lars Masurek); and in Greece (Sofia Efstratoglou, Angelos Efstratoglou, and Apostolos Papadopoulos and Emmanouela Kourossi). Similarly, they would like to thank Anders Fihl from Aarhus University, Denmark who piloted the common schedule in Scotland; and Bill Reimer from Concordia University, Canada for his useful insights into methodological issues and advice on quantitative analysis.

Appendix A: DORA Regions and Study Areas

	Scotland		Germany		Sweden		Greece	
Regions	<i>Highlands & Islands</i>	<i>Dumfries & Galloway</i>	<i>Niedersachsen</i>	<i>Mecklenburg-Vorpommern</i>	<i>Norra Norrland</i>	<i>Southeast Sweden</i>	<i>Peloponnisos/ Sterea Ellada</i>	<i>Thessaly/ Peloponnisos</i>
GDP per head*	78	93	21,250	13,000	174	160	91 (Peloponnisos) 108 (Sterea Ellada)	91 (Peloponnisos) 86 (Thessaly)
Status for policy programmes, 1994-1999	Objective 1	Objective 5b	Objective 5b	Objective 1	Objective 6	Objective 5b	Objective 1	Objective 1
Status for Policy Programmes, 2000-2006	Transitional Objective 1	Objective 2	Objective 5b	Objective 1	Objective 1	Objective 2	Objective 1	Objective 1
OECD Degree of Rurality	Predominantly rural	Predominantly rural	Significantly rural	Significantly rural	Significantly rural	Significantly rural	Predominantly rural	Predominantly rural
Well-performing study area	Orkney Islands	Annandale & Eskdale	Emsland	Ludwigslust	Storuman, Sorsele & Lycksele	Kinda, Boxholm, Odeshog, Ydre & Aneby	Korinthia	Trikala
Less well-performing study area	Caithness	Wigtownshire	Luechow Dannenburg	Uecker-Randow	Overkalix, Pajala & Gallivare	Hultsfred & Vetlanda	Fthiotis	Arkadia

* The GDP figures in Greece and Scotland are in national currency and are related in each case to the country average of 100.

The GDP figures for the German regions illustrate GDP per capita in ECU. The GDP figures for the Swedish regions are Thousand Swedish Krone per capita.

All GDP figures are for 1996 except Greece which are for 1994.