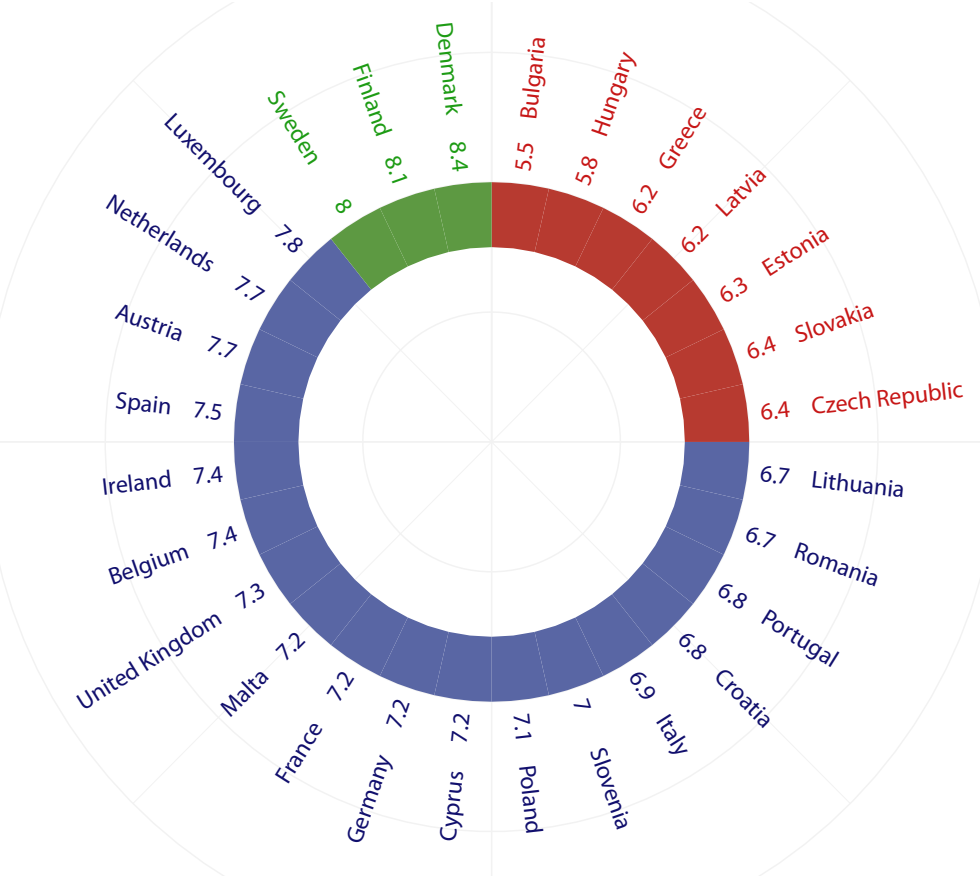
Eurofound

Developing a country typology for analysing quality of life in Europe



Developing a country typology for analysing quality of life in Europe

Abbreviations used in this report

AHCR	adjusted headcount ratio
CIS	Commonwealth of Independent States
CME	coordinated market economy
GNI	gross national income
EQLS	European Quality of Life Survey
ESRI	Economic and Social Research Institute
ESSC	European Statistical System Committee
EU	European Union
EU-SILC	European Union Survey of Income and Living Conditions
GDP	gross domestic product
LME	liberal market economy
OECD	Organisation for Economic Co-operation and Development
REA	rapid evidence assessment
WHO-5	World Health Organization Well-being Index

Eurofound

Developing a country typology for analysing quality of life in Europe

Wyattville Road, Loughlinstown, Dublin 18, Ireland. - Tel: (+353 1) 204 31 00 - Fax: 282 42 09 / 282 64 56
e-mail: information@eurofound.europa.eu - website: www.eurofound.europa.eu

When citing this report, please use the following wording:

Eurofound (2014), *Developing a country typology for analysing quality of life in Europe*, Publications Office of the European Union, Luxembourg.

Authors: Dorothy Watson, Bertrand Maître and Gillian Kingston, Economic and Social Research Institute (ESRI), Dublin

Research managers: Daphne Ahrendt, Jean-Marie Jungblut, Tadas Leončikas and Robert Anderson

Research project: European Quality of Life Survey

Acknowledgements

The authors are grateful to two expert reviewers, Claire Wallace and Christopher Whelan, who provided valuable insight and shared their expertise throughout the project. They also thank the Eurofound project team, Daphne Nathalie Ahrendt, Tadas Leončikas, Jean-Marie Jungblut and Robert Anderson, and Kim De Cuyper of GfK Belgium, for their support.

Luxembourg: Publications Office of the European Union, 2014

doi:10.2806/74521
ISBN 978-92-897-1230-9

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency, whose role is to provide knowledge in the area of social and work-related policies. Eurofound was established in 1975 by Council Regulation (EEC) No. 1365/75, to contribute to the planning and design of better living and working conditions in Europe.

European Foundation for the Improvement of Living and Working Conditions
Telephone (+353 1) 204 31 00
Email: information@eurofound.europa.eu
Web: **www.eurofound.europa.eu**

Cover image © Eurofound. Source: European Quality of Life Survey 2012, question 'How satisfied are you with your life these days?'

Contents

Country codes

28 EU Member States

AT	Austria	**FI**	Finland	**NL**	Netherlands
BE	Belgium	**FR**	France	**PL**	Poland
BG	Bulgaria	**HR**	Croatia	**PT**	Portugal
CY	Cyprus	**HU**	Hungary	**RO**	Romania
CZ	Czech Republic	**IE**	Ireland	**SE**	Sweden
DE	Germany	**IT**	Italy	**SI**	Slovenia
DK	Denmark	**LT**	Lithuania	**SK**	Slovakia
EE	Estonia	**LU**	Luxembourg	**UK**	United Kingdom
EL	Greece	**LV**	Latvia		
ES	Spain	**MT**	Malta		

Candidate countries

IS	Iceland
ME	Montenegro
MK	Former Yugoslav Republic of Macedonia [1]
RS	Serbia
TR	Turkey

Potential candidate countries

KV	Kosovo

[1] This is a provisional code that does not prejudge in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place under the auspices of the United Nations (**http://www.iso.org/iso/country_codes/iso_3166_code_lists.htm**).

Executive summary

Introduction

The expansion of the EU provides an opportunity to improve understanding of the way in which a state can influence outcomes for its citizens: increasing diversity leads to substantial variation in terms of policies and their implementation, and it brings challenges in terms of the number and complexity of such differences. One way of dealing with this is to group countries. Many different models have attempted this, both in Europe and more widely, but none specifically focuses on quality of life while including the full set of current EU Member States. The goal of this project was to develop a country typology focused on quality of life as a multidimensional concept for the 34 countries included in the third European Quality of Life Survey (EQLS).

Policy context

There is a general commitment in Europe to take into account a broad range of outcomes in assessing the goals and effectiveness of economic and social policy, including quality of life. Several bodies are engaged in the reporting and monitoring of quality of life in Europe, and have published reports that recommend going beyond the measurement of GDP as an indicator of well-being. The Europe 2020 strategy, adopted in June 2010, defines measurable targets for a number of indicators that go beyond GDP, which are used to monitor the EU Sustainable Development Strategy.

In some EU Member States, unemployment is a pressing problem; in others, a low standard of living (even among those employed) remains an urgent issue. An approach that groups countries based on the nature of their dominant quality of life problems would be a useful guide to where policy attention is most needed. This approach can illuminate the way in which state activity matters most for quality of life. It would also allow an assessment of the interdependence of the dimensions and of the extent to which different policies and strategies lead to different quality of life outcomes, or whether similar outcomes can be achieved through different policy approaches.

Approach

Ideally, a country grouping system should be: grounded in institutional factors of broad relevance; relatively stable over time; and relevant to quality of life. In order to meet these standards, this study comprised three elements:

- an in-depth ‘rapid evidence assessment’ review of the literature on country grouping, focusing on quality of life;
- an empirical cluster analysis of a small number of indicators of state capacity and action to investigate whether this approach could be used to expand, update and validate a system derived from the literature review;
- an empirical analysis of the 2012 EQLS to test the extent to which the system of grouping countries accounted for country-level differences in quality of life.

Key findings

A tendency towards convergence was found in the reviewed literature, despite differences in approach and presuppositions. Here, seven groups of countries were identified: Nordic countries, the western islands, continental countries, Mediterranean countries, Baltic states, central and eastern Europe, and the Balkan countries. For quality of life research, it makes sense to split the Mediterranean group that was identified in the literature into two groups: east and west. This yields **eight groups of countries** at the most detailed level.

The empirical cluster analysis yielded a different grouping system at the most detailed level (seven groups). However, at a more aggregated level of analysis, 26 of the countries fall within similar groups, under both the literature-based analysis and the empirical cluster analysis. The results hold promise for the possibility of developing a method of validating, expanding and updating the country grouping system based on analysis of widely available macro-level indicators. Further work is needed in this area, however, as it was not possible to produce a classification that was entirely compatible with the literature-based system using current widely available indicators.

A **five-group system** was also identified. It involves combining groups that are similar in terms of quality of life patterns, in order to avoid having groups with only one or two countries where the focus is on the EU28. Here, the continental group is combined with the western islands; the Baltic states are combined with the countries of central and eastern Europe; and the countries of the eastern Mediterranean (Cyprus, Greece and Turkey) are combined with the Balkan countries.

A **three-group system** was designed for use where only a general summary of country-level differences is required. The three groups are the Nordic countries, the countries of western Europe and the countries of central and eastern Europe.

A measure of multidimensional quality of life problems called the adjusted headcount ratio (AHCR) was constructed and tested on the 2012 EQLS data. The AHCR is an indicator that ranges from 0 to 1 and measures the level and intensity of multidimensional quality of life deficits. The lowest value is 0.01 (Iceland) and the highest value is 0.19 (Bulgaria). The AHCR tends to be lowest in the countries of the north and west of Europe and highest in the southern and eastern countries.

In countries where the AHCR was found to be high, problems with basic living standards and the quality of public services tend to be relatively more important. In countries where it was found to be low, problems in the areas of health, mental well-being, perceived social exclusion and social capital deficits become more significant among those experiencing multidimensional quality of life problems.

Policy pointers

The **eight-group system** does a very good job of capturing differences between countries in overall quality of life, material deprivation and public service deficits; and a moderately good job for neighbourhood, accommodation, mental well-being, perceived social exclusion, social tensions and health. It does not perform at all well in terms of distinguishing countries with high and low levels of social capital deficits. Its use is recommended at the most detailed level, where the focus is on the 34 countries and where the greatest level of detail is desired.

The **five-group system** is useful when the focus is on the 28 EU Member States. It does well in capturing the major distinctions in terms of quality of life but performs less well when it comes to distinctions related to accommodation problems and, to a lesser extent, network support and social tensions.

The **three-group system** is suggested for situations where a small number of groups is a priority, although this system will result in some information loss.

For specific dimensions of quality of life, a more refined grouping of countries is needed that takes account of country variations in the challenges and policies relevant to the dimension being considered. Although there are substantial differences between the countries in terms of social capital deprivation, this approach does not perform well in differentiating countries on this basis.

With a view to developing a system that can be updated over time, further investigation is recommended of the use of macro-level indicators as more of these become available. In particular, indicators related to labour market policy, family policy and civic participation are likely to be important to quality of life.

Introduction

The growing size and diversity of the European Union brings an opportunity to better understand how the state can influence outcomes for citizens. While the diversity of Member States introduces important variation in terms of policies and their implementation, it also brings challenges arising from the sheer number and complexity of the differences. One way to deal with this is to group countries based on what are believed to be the most salient characteristics relevant to the outcomes considered. Many different models have grouped countries, both in Europe and more widely, but none has specifically considered quality of life, broadly understood, and none has included all the current EU Member States.

The goal of this project is to develop a country typology focused on quality of life as a multidimensional concept. The classification includes the 34 countries that took part in the third European Quality of Life Survey (EQLS), published in 2012. These comprise the 28 EU Member States as well as the former Yugoslav Republic of Macedonia, Iceland, Kosovo, Montenegro, Serbia and Turkey. Other criteria for the typology are that it must be useful in understanding country differences and similarities in quality of life, and that it must be relevant to policy at national and European levels. The intention is that the typology can be used in the analysis and reporting of EQLS results, with the aim of providing users of the survey with a common and meaningful classification of countries for the academic and policy analysis of quality of life in Europe, broadly defined.

This project includes a review of the literature on country grouping as well as an empirical analysis of the EQLS data and other relevant data. The EQLS is one of the leading resources available to measure quality of life in Europe. The survey is carried out every four years and examines both the objective and subjective circumstances of European citizens' lives. It looks at a range of issues, such as employment, income, education, housing, family, health, work–life balance, as well as levels of happiness and of life satisfaction. The EQLS has developed into a valuable set of indicators, which complements traditional indicators of economic growth and living standards such as GDP or income.

Background

Uses of country groupings

Country groupings can serve a number of different functions in comparative cross-national research. These include theory building, explanation and communication of results (Ahlquist and Breunig, 2009), and contribution to policy development and monitoring.

In terms of theory building, countries can be grouped according to their similarity to certain 'ideal types' with respect to institutional or structural features. In this area, the focus is often on the extent to which there are complementarities between institutional features and structural features of the economy (Esping-Andersen, 1990).

When country groupings are used in an explanatory model, the concern is often with the extent to which different institutional arrangements mediate the impact of events such as recession or unemployment on individual outcomes (see, for example, Palme, 2006; Korpi and Palme, 1998; Esping-Andersen and Myles, 2009; Gallie, 2013). When they are used for communicating results, the goal is to group a large number of countries into a smaller number of groups with certain key features in common in order to facilitate the communication of complex research findings.

Ahlquist and Breunig (2009) note the tension between the theoretical formulations of country regime clusters and their empirical application. The theoretical formulation tends to treat the clusters as Weberian 'ideal types', with no country matching a 'type' perfectly. On the other hand, many authors have adopted the empirical clustering as if it were a given description of how the welfare and employment systems in different countries actually operate.

Depending on the use of country groupings, the preferred outcome may differ. For instance, if the concern is with theory building, there is no requirement for country groupings to be comprehensive – some countries may simply not fit the

patterns under discussion and can be omitted. This is a problem if one is seeking to use country groupings as shorthand for a constellation of institutional features in an explanatory model or when country groupings are used to facilitate the communication of findings on national differences.

In the context of the present study, the emphasis on communication as well as explanation means that there is a requirement for a country grouping scheme that is as comprehensive as possible.

Previous country grouping schemes

Several systems of grouping countries have been based on what are regarded as important structural and institutional features of the countries.

'Three worlds' of welfare capitalism

One of the most influential country groupings is Esping-Andersen's (1990) 'three worlds' of welfare capitalism: liberal, conservative and social democratic. Using data from the 1980s, Esping-Andersen constructed several additive indices of decommodification (the extent to which an individual's welfare is reliant upon the market for pensions, unemployment benefit and sickness insurance) and social stratification (the role of welfare states in maintaining or breaking down social stratification). When 18 OECD countries were ranked on these indices, certain groups of countries tended to rank towards the top on some indices and towards the bottom on others. On this basis he argued for his 'three worlds'.

- Liberal welfare states, such as Australia, Canada and the United States (US), are characterised by a minimalist role for the state and means-tested, modest social welfare payments that attract a certain stigma for recipients.
- Conservative welfare states, such as Austria, France, Germany and Italy, emphasise welfare payments based on previous contributions to social insurance schemes linked to employment. Welfare payments tend to be related to income and are 'status-differentiating'.
- Finally, social democratic welfare states, such as the Scandinavian countries, emphasise a high level of state provision of services ('decommodification') and welfare benefits that are universal and relatively generous.

Welfare regimes have been shown to be important in mediating the impact of welfare spending on redistribution. While there is a link between welfare spending and distribution (Smeeding, 1997), the link is not straightforward, and factors such as whether benefits are targeted or universal make a difference, often in complex ways (Palme, 2006; Korpi and Palme, 1998; Esping-Andersen and Myles, 2009).

Esping-Andersen's approach has been criticised on a number of grounds. Van der Veen and van der Brug (2013) are critical of the fact that the original clustering is based on a mixture of institutional characteristics of welfare systems and outcome measures of social stratification. Scruggs and Allan (2008) replicated Esping-Andersen's indexing and scoring method for the same set of countries in 1980–1981 and 1996–2002. They concluded that the 1980 data do not lead to a clear-cut typology of welfare states, and the country scores on the three regime dimensions are quite unstable over time (see also Ahlquist and Breunig, 2009, p. 7). Van der Veen and van der Brug (2013) focus on five institutional characteristics of welfare regimes pertaining to social insurance and distinguish three regime types: conservative, liberal and universal. They find that some countries classified as liberal by Esping-Andersen, such as Canada and Switzerland, show up as 'hybrid' cases with strong elements of universalism as well as liberalism.

Subsequent authors have attempted to revise the Esping-Andersen 1990 classifications by, for example, arguing for the distinction of a southern or Mediterranean group of countries (for example, Saint-Arnaud and Bernard, 2003; Ferrera, 1996; Eurofound, 2007) or seeking to incorporate the countries of eastern and central Europe (Eurofound, 2007; Bohnke, 2008; Bambra and Eikemo, 2009). Esping-Andersen et al (2001) developed a country grouping that differs from the 1990 model, although retaining three groupings and classifying the southern European countries with the conservative group.

Employment regimes

An alternative approach to classifying countries emphasises 'employment regimes'. Gallie (2007) compared the quality of working life in five European societies with very different institutional systems: France, Germany, Spain, Sweden and the UK. The book focused on skills and skill development, opportunities for training, the scope for initiative in work, the difficulty of combining work and family life, and the security of employment. In earlier work, Gallie and Paugam (2000) distinguished 'unemployment regimes' based on the extent of benefit coverage, replacement rates for the unemployed and the scale of active labour market policies.

Eurofound (2007), by contrast, focuses on the strictness of employment protection legislation, including the regulations governing recruitment and termination of employment. Combining these criteria with those reflected in the standard Esping-Andersen categorisation and expanding the coverage to include the newer European Member States that joined in 2004, Eurofound distinguishes six welfare regimes: social-democratic, corporatist, liberal, southern European, post-socialist corporatist and post-socialist liberal.

- The social-democratic regime is characterised by its emphasis on universalism, in the form of generous social welfare and unemployment benefits. Denmark, Finland, Iceland, Norway, the Netherlands and Sweden make up this group.
- The corporatist regime involves less emphasis on redistribution, and entitlements depend primarily on lifelong employment (Austria, Belgium, France, Germany and Luxembourg).
- The liberal regime emphasises labour market flexibility, and assumes that the role of government is to nurture rather than replace the market. Ireland and the UK constitute this group.
- The southern European regime is distinguished by the crucial role of family support systems, and labour market policies are poorly developed and selective. This group comprises Cyprus, Greece, Italy, Portugal and Spain.
- The post-socialist corporatist regime comprises the central European countries (Czech Republic, Hungary, Poland, Slovenia and Slovakia) with mostly transfer-oriented labour market measures and a moderate degree of employment protection.
- The post-socialist liberal cluster comprises the Baltic states (Estonia, Latvia and Lithuania), which are characterised by a more flexible labour market (Eurofound, 2007; Gallie and Paugam, 2000; Whelan and Maître, 2009).

Varieties of capitalism

The 'varieties of capitalism' project builds on the three worlds approach by incorporating insights from the new institutional economics, but it shifts the emphasis to the role of the firm as economic agent (Hall and Soskice, 2001). The relevant literature distinguishes two constellations of 'capitalisms': liberal market economy (LME) and coordinated market economy (CME). A central concern in this approach is with the distinctive sets of institutional arrangements through which firms solve their problems of coordination. In liberal market economies such as the US, there are hierarchies within firms, and economic actors are linked with each other through competitive markets so that coordination is mediated by price signals. The associated institutional arrangements include a high level of managerial prerogative, limited collective bargaining, and capital markets that emphasise maximising share price in the short term. Coordinated market economies, such as Germany, rely on non-market forms of coordination including negotiation and bargaining between unions and employers, well-developed internal labour markets with strong investment in skill formation, inter-firm networks, and capital markets that emphasise longer-term considerations (Howell, 2003).

European Commission approaches

Earlier Eurofound reports on the EQLS distinguished between country groups using the time of accession to the EU as a key institutional feature. A distinction was drawn between the 15 countries that were EU Member States before the 2004 enlargement and those that joined later, with the latter group further subdivided into those joining before or after

2007. This typology is no longer adequate as it is outdated and does not reflect differences in institutions and trajectories between the countries.

Drawing on the European Commission's flexicurity model (European Commission, 2007a) and the work of Stovicek and Turrini (2012), the European Commission (2012) distinguished five groups based on a classification of unemployment benefit and active labour market systems.

- The first group (the Nordic countries and the Netherlands) combine generous benefits with strict job search requirements.
- The continental countries (Austria, Belgium, France, Germany and Luxembourg) form the next group, characterised by a reasonably generous employment insurance system and reasonably strict job search requirements.
- The 'Anglo-Saxon' countries (Cyprus, Ireland, Malta and the UK) are characterised by modest unemployment insurance benefits of short duration, complemented by means-tested unemployment assistance of long or indefinite duration. Job search requirements are strict but spending on active labour market policies is low.
- The southern countries (Italy, Portugal and Spain) have unemployment insurance benefits with limited coverage and varying generosity (depending on contributions). Unemployment assistance is limited and active labour market policies are often ineffective.
- The final group consists of the central and eastern European countries (Bulgaria, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia). In these countries, unemployment insurance benefits are limited in terms of amount and duration, and unemployment assistance is of minor importance. There is limited monitoring of participation in activation strategies.

Taking account of gender and family patterns

One important critique of Esping-Andersen's 1990 classification methodology was its neglect of the gender dimension in social policy, especially the place of the family in the provision of care and welfare and the gender division of paid and unpaid work (Siaroff, 1994; Arts and Gelissen, 2002). Where the earlier approaches to understanding the welfare state had focused on the roles of the state and market, the role of the family also needs to be considered, as this differs systematically across countries (Lewis, 1992; O'Connor, 1993, 1996; Orloff, 1993, 1996). Pfau-Effinger argues that the different patterns across countries emerge from different cultures of gender and care, which underpin the complex interrelationship between family, state and labour market. In an analysis focusing on European countries, Esping-Andersen et al (2001) developed a grouping of countries that differs from the 1990 model. They acknowledge the role of the family, as well as the state and market, in the provision of welfare and examine country differences in the provision of services to families. However, family policy does not explicitly enter into the way countries are grouped, and the three groups – social democratic, liberal and conservative – are retained (see also Esping-Andersen, 1999).

When the role of family or family policy is placed at the centre of the analysis, the resulting country groups can look quite different to those proposed by Esping-Andersen (1990). Siaroff (1994), for instance, classifies Ireland with the southern European countries. Another approach emphasising family policies groups Ireland and the UK with Belgium, Denmark, Finland, Hungary, Latvia and Sweden (Blum, 2011).

Challenges in classifying countries

None of the previous groupings includes the full range of 34 countries of concern here, however. The enlargement of the EU to include former post-socialist countries has meant that a broader range of institutional factors needs to be considered, as these countries can be challenging to classify in terms of welfare regimes (Alber et al, 2007; Juhász, 2006). A common feature across these countries is a generally low level of spending on social protection and weakness

of social rights. A number of authors have commented on the contrast in this respect between the countries of central and eastern Europe, and the former Soviet countries. For instance, Orenstein (2008) distinguishes between these states in terms of their social protection trajectory following the transition from communism. He notes that the countries of central and eastern Europe have maintained a relatively high level of social protection that makes them more similar to other EU countries, while the states of the former Soviet Union and south-eastern Europe 'have experienced a partial disintegration of their social safety nets' (p. 80).

Eurofound (2007) focused on the countries transitioning from socialism and their situation in relation to labour market flexibility and employment protection. They observe that there has been a general increase in employment flexibility, with most transition countries displaying a level of labour market flexibility significantly less than the UK but significantly greater than that found in southern European countries. They distinguish two clusters among the post-socialist countries.

- The post-socialist conservative regime emphasises transfer-oriented labour market measures and a moderate degree of employment protection. The central European countries are in this group.
- The post-socialist liberal cluster is characterised by a more flexible labour market, with less legal regulation of the labour market, and few policies aimed at sustaining employment. The Baltic states are in this group.

Bohle and Greskovits (2007b and 2012) identify four types of capitalist regimes in central and eastern Europe, distinguished on the basis of their particular political and institutional configurations:

- the 'state-crafted neo-liberal' Baltic states;
- the Commonwealth of Independent States (CIS), which includes the former Soviet republics and which are more open to the world market;
- the Visegrad countries, characterised by 'embedded neo-liberalism';
- the neo-corporatist Slovenia.

Important factors in accounting for the differences between these countries include the capacity of the state to make choices, world financial and commodity markets, and foreign direct investment.

Apart from non-coverage, there may also be some countries that are difficult to classify in existing schemes. Thelen (2004) notes that many of the alternative clustering schemes have trouble classifying certain countries, with Ireland, Greece and Portugal often appearing among the countries that could not be classified.

Part of the reason for a lack of consensus on the position of certain countries may be that their institutional configuration is undergoing change. In general, country typologies do not easily capture change as there is an implicit assumption that the groupings will be relatively stable. The possibility of change is something that should be kept in mind, particularly in the context of incorporating the countries of central and eastern Europe and in the context of the very significant economic changes throughout Europe in the last decade.

Outcomes-based approaches

An alternative method of grouping countries emphasises social or economic outcomes rather than institutional features. These can range from a simple ranking of countries in terms of levels on a specific variable to more sophisticated approaches that use structured and systematic methods to consider several dimensions.

Classifying countries on a single outcome

In the context of the current economic recession, an analysis by the European Commission distinguished between groups of countries in the EU on the basis of movements into and out of poverty (European Commission, 2012).

- One group of countries (Austria, France and the UK) have high rates of entry into and exit from poverty, but with a core group remaining poor.
- A second group of countries (the Baltic states, Bulgaria, Greece, Italy, Malta and Spain) is characterised by a high risk of entry into poverty and a low probability of exit, so that increasing numbers of people become trapped in poverty.
- The third group of countries (the Benelux and Nordic countries) have a low rate of entry into poverty and a low rate of exit from poverty, but a relatively high share of people at risk of persistent poverty.

This approach to country grouping is based on the observed outcome over a specific period in terms of poverty persistence rather than on similar structural or institutional factors expected to explain these differences in outcome. Elsewhere in this report (for example, see Figure 2), a different grouping of countries is described based on changes over time in the unemployment rate (the southern and peripheral euro zone countries are grouped together).

This approach is useful in drawing out distinctions across countries in the experience of a very important component of quality of life. Yet, it considers just one dimension. Would it be possible to consider several dimensions of quality of life and group countries on this basis?

Approaches that capture multidimensionality

Rather than classifying countries on the basis of a single outcome, some authors consider several dimensions of quality of life. For instance, as well as examining the characteristics of government programmes, Saint-Arnaud and Bernard (2003) and Fenger (2007) consider the social and political situation of the countries concerned; relevant factors include level of inequality, unemployment, women's labour force participation, health and level of social trust. These authors use hierarchical cluster analysis to group the countries based on a wide range of dimensions. While this technique is a useful means of combining empirical data, with judgement based on theory (particularly concerning the number of clusters), it does not lend itself to a precise description of how the clusters differ. In particular, the clusters may be dominated by the level of disadvantage rather than by the pattern of disadvantage.

Work on the multidimensionality of poverty has drawn on work by Alkire and Foster (2007, 2011a and b), which offers promise as a way to distinguish countries on the basis of level of quality of life problems and pattern of quality of life problems separately. Whelan et al (2014), for instance, apply an 'adjusted headcount ratio' (AHCR) approach, which allows multidimensional poverty to be examined in a structured way. Like poverty, quality of life encompasses a number of different dimensions, including standard of living, access to education and employment, health, family, social and political participation, and subjective well-being. One problem with adopting a multidimensional approach is that it either identifies too many cases if one considers individuals who qualify on any dimension or too few if one only considers individuals who qualify on all dimensions. The AHCR approach is designed to address this issue while providing a structured way of assessing variations in multidimensionality.

The approach involves:

1. specifying the dimensions and how they are measured;
2. identifying a threshold on each dimension above which a person would be considered to have a quality of life deficit on that dimension;
3. specifying the number of dimensions on which a person is above the threshold before they are considered to have a multidimensional quality of life deficit.

This approach would enable a comparison of countries in terms of the level and depth of multidimensional quality of life deficits. The AHCR index would have a score of 0 where no one in a country experienced a multidimensional quality of life deficit and a score of 1 where everyone experienced a deficit on all dimensions. More importantly, the approach enables a comparison of countries in terms of the pattern of quality of life deficits: the extent to which the different dimensions contribute to multidimensional quality of life deficits. For instance, an analysis would expect to find that problems with the standard of living are more consequential as elements of multidimensional quality of life in countries of eastern Europe, while other issues such as health and family may be relatively more important in the countries of northern Europe. The AHCR score can be partitioned by the quality of life dimension (addressing themes such as employment, deprivation, family and so on) and also by socioeconomic group. The AHCR score can also be broken down into the proportion above the threshold and the intensity of deficits for those above the threshold. This gives the AHCR score considerable flexibility, which means that there is ample scope to investigate whether countries can be grouped in terms of the level of quality of life deficits or the dimensions of quality of life deficits that are dominant (such as deprivation, employment and family).

While the purpose of the AHCR approach is not to classify countries, the methodology can be combined with cluster analysis in order to distinguish groups of countries based on the pattern of quality of life deficits that characterise them. This is done in the empirical analysis of this report.

Policy context

There is a general commitment in Europe to take into account a broad range of outcomes in assessing the goals and effectiveness of economic and social policy. The focus is not just on economic growth, although a restoration of growth is very important in remedying the negative effects of the recession on employment and living standards, but also on dimensions such as health, disability, ageing, retirement, poverty, family and social cohesion (see, for example, European Commission, 2013).

Several bodies are now engaged in the reporting and monitoring of quality of life in Europe, and have published reports that recommend going beyond the measurement of GDP as an indicator of well-being. In 2009, the European Commission published *GDP and beyond — Measuring progress in a changing world*, which proposed five priority actions to further develop environmental and social indicators, and to report more accurately on distribution and inequalities. The report was adopted by the European Statistical System Committee (ESSC), which then made the multidimensional measurement of quality of life a priority. In September 2009, the Commission on the Measurement of Economic Performance and Social Progress (the Stiglitz-Sen-Fitoussi Commission) published a report with 12 recommendations on how to better measure economic performance, societal well-being and sustainability. One of the fundamental recommendations was to broaden income measures to include non-market-based measures. In 2011, the OECD launched the Better Life Initiative, which measures well-being outcomes on 11 dimensions in OECD and non-OECD countries (OECD, 2013).

Against a background of economic difficulties, government policies in priority areas such as growth and jobs are of particular importance. Under the Europe 2020 strategy, five headline targets have been set for the EU to achieve by the end of 2020 related to employment, research and development, climate and energy, education, and social inclusion and poverty reduction. The Europe 2020 strategy, which was adopted in June 2010, defines measurable targets for a number of indicators that go beyond GDP. The sustainable development indicators are used to monitor the EU Sustainable Development Strategy in a report published by Eurostat every two years. They are presented in 10 themes, with 12 headline indicators, including indicators on socioeconomic development, social inclusion and demographic changes.

An approach that groups countries based on the nature of their dominant quality of life problems would be a useful guide to where policy attention is most needed. In some countries, particularly with the recession, unemployment is a very pressing problem. In others, a low standard of living (even among people who are employed) remains an urgent issue.

As well as helping identify the policy area where attention is most urgent, a grouping of countries on the basis of multidimensional quality of life would also allow the interdependence of the dimensions to be assessed. This is likely to have implications for the policy response. For instance, if unemployment in a country is strongly associated with low levels of education, then education and training needs to be part of the policy response.

Over time, the profile of countries in terms of multidimensional quality of life may change. On the one hand, the quality of life profiles of countries would be expected to converge to the extent that policy effectively addresses country-specific quality of life problems. On the other hand, divergence may be observed if countries differ in the extent to which certain dimensions of quality of life are emphasised. Divergence may also occur if countries differ in their exposure or vulnerability to economic or political shocks. For instance, Iceland, Ireland, Greece and Portugal were particularly vulnerable to the negative effects of the present recession.

Report outline

The first chapter of this report describes the literature review methodology adopted for this project and the results of that review. Chapter 2 reports the results of a series of cluster analyses on macro-level indicators capturing the actions of the state relevant to quality of life. Chapter 3 describes the methodology used in the analysis of quality of life as a multidimensional concept and presents the results at country level using data from the third EQLS for 34 countries. Finally, Chapter 4 brings together the two approaches to grouping countries (based on the literature review and the empirical cluster analysis) and the results on multidimensional quality of life at country level to draw recommendations on country groupings for quality of life research.

Literature review 1

Introduction

This chapter provides an overview of the way in which countries are grouped in the literature, including the logic and reasoning for particular groupings. The goal of the literature review was to investigate whether there was a tendency for the different approaches to converge on a single country grouping system or a limited number of systems. This chapter describes the process of reviewing the literature and the development of a method for examining the extent to which pairs of countries tend to be grouped together.[2]

Methodology

Due to time restrictions on this project, a rapid evidence assessment (REA) approach was taken, rather than a full-scale systematic review of the literature. The REA methodology involves applying rigorous methods for locating, appraising and synthesising evidence from previous studies (Jolliffe and Farrington, 2007). Drawing on comments from our expert reviewers, the initial selection criteria were modified, as discussed below, in order to allow the inclusion of additional important contributions to the literature. This section outlines the databases, keywords and criteria used for prioritising material for inclusion.

Choice of database

One of the challenges for the topic of country groupings is that there is no single 'best' database that covers the disciplines of sociology, economics and political science. Google Scholar was used as the primary search tool because (a) it has the broadest coverage, including books and 'grey literature' (such as working papers and documents of international organisations such as the European Commission, Eurofound and the OECD) as well as published research articles; and (b) the results of a search can be sorted by the number of citations.

Other sources, such as Scopus and Proquest Sociological abstracts were used as 'robustness checks' to ensure that important academic literature was not missed (Thomas et al, 2008). In addition, a further robustness check involved ensuring the inclusion of important material known to the report authors, Eurofound research managers, project consultants and an expert on country groupings in eastern Europe.

Keywords

Using the REA model, a list of keywords was developed and tested for the purposes of this review to capture studies with a focus on one or more of the quality of life outcomes (Clarke et al, 2008).

The keywords adopted after the test were: 'welfare regimes', 'employment regimes' and'Esping-Andersen'. These were used as the basis for the search; they were combined with words such as 'comparative' and 'quality of life' and the specific quality of life domains of interest: social inclusion and poverty; work and unemployment; family; health; education; housing; social participation; equality; and subjective well-being.

Criteria for inclusion and prioritisation

The search for relevant studies involved a number of strategies to identify the most important publications. In order to manage time efficiently, it was decided that the REA would concentrate on highly cited articles and books – those that have been widely disseminated and referred to in other research studies.

[2] In order to synthesise the country grouping systems, the focus was placed on pairs of countries and on how often they are grouped together.

To meet the inclusion criteria, it was decided that reviewed studies should meet the following conditions:

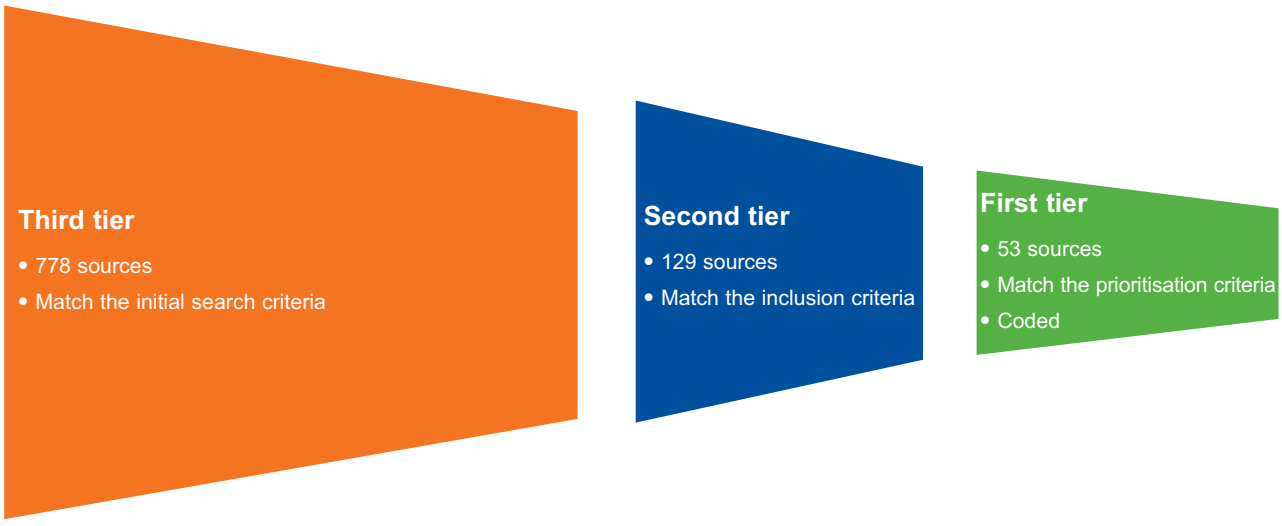
- be published after 1990;
- be relevant to quality of life;
- cover national populations of European countries, broadly defined;
- involve countries clustered into groups;
- be accessible (written in English; see Jolliffe and Farrington, 2007).

The initial review yielded a high volume of material. It was necessary to prioritise further in order to identify a manageable number of sources for detailed coding that would allow the classification of country grouping systems (see Tables 1 and 2). Based on a review of the material, the references were divided into three groups.

- *First tier (priority)*: the most central works, which were analysed in detail, as described below.
- *Second tier*: relevant, but less central works, which were to be processed and included in the first-tier database as time allowed;
- *Third tier*: this includes all works; the filter then goes to the second and first tiers.

As shown in Figure 1, a total of 778 articles, books, reports and conferences presentations were considered. Of these, 129 matched the inclusion criteria and formed the second tier of literature.

Figure 1: *Identified literature by tier*



From the 129 items in the second tier, 53 sources were prioritised for inclusion in the first tier. Some were included in the first tier based on prioritisation criteria, and about 20 sources were prioritised based on recommendations from our subject matter experts.

Recommendations regarding grey literature omitted in previous searches were also considered; these sources were included in the first tier if they met the prioritisation criteria. A search was conducted based on the Human Development Index, the World Bank World Development Index and OECD work on well-being. However this literature, while pertinent to the subject area, did not meet the inclusion criteria of clustering countries.

Altogether, 53 sources were included in the first tier. Apart from the material recommended by the subject matter experts, the prioritisation criteria for including material in the first tier were:

- number of citations;
- coverage of European countries, broadly defined (prioritising those covering at least 10 European countries, and with a specific focus on searching for material on countries poorly covered);
- recent publications
- coverage of quality of life domains.

This last criterion, coverage of quality of life domains, meant that some articles that were widely cited were moved from the first to the second tier in terms of priority because at least three sources covering the same domain of quality of life (for example, health or family) had already been identified, while other domains were not yet represented in the first tier. Certain subject areas were well represented in the originally sourced literature, including gender and welfare states, female employment, family, work–life balance, decommodification, critiques and theoretical reviews of the Esping-Andersen model. There were gaps in literature in other areas, such as housing and local environment, subjective well-being and trust in society. As a result of this, a more intensive search was performed on these latter subject areas, and more suitable literature was retrieved.

The initial search criteria retrieved an inadequate amount of material on certain countries, particularly Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Iceland, Kosovo, Montenegro, Romania, Serbia and Turkey. Therefore, a more focused search was conducted to locate material on these countries. The original prioritisation criteria, such as the inclusion of at least 10 countries, were relaxed. This intensive search provided suitable material on Bulgaria, Croatia, Romania, Serbia and Turkey. However, very little suitable material was found on the former Yugoslav Republic of Macedonia, Kosovo or Montenegro.

Possibility of bias

The results of this literature search may be biased if the emphasis is solely on number of citations, as older works will be more highly cited. Furthermore, just as in quantitative analyses, results that are not statistically significant are less likely to be published (Vevea and Woods, 2005; Jolliffe and Farrington, 2007); grouping schemes that do not 'work' are less likely to be found in the literature.

A special focus on recently published articles is one way to counter the bias in citation counts towards older material. This was also necessary in order to find material that included the former communist countries, Iceland and Turkey.

As an additional check, this review drew on the expertise of a number of reviewers. The listing of first-tier and second-tier material was assessed by two international experts and comments were sought from a third international expert familiar with central and eastern European countries before the processing of first-tier material was completed.

Coding the first-tier sources

The priority first-tier sources were coded and entered into a database that recorded the following dimensions of the country classification:

- name of source (e.g. Esping-Andersen, 1990);
- year of publication;
- number of citations;
- basis of classification (see Table A1 in Annex 1), with up to three coded for each source;
- outcomes, whereby any additional outcomes were examined, apart from any used as a basis of classification. (Up to three outcomes were coded for each source; see Table A2 in Annex 1 for further detail.)

Each of the 34 countries was placed into a group. Numeric coding was used to identify countries placed into the same group. The coding process was iterative, with the entire system revisited at the end in order to check for consistency and to streamline the codes.

Results

First-tier and second-tier material

Annex 1 lists the first-tier materials and provides a table showing the classification of the source materials that formed the basis for the way the countries were grouped, as well as the additional outcomes (where relevant) against which the grouping scheme is tested.

Basis of classification

Table 1 shows a range of approaches to classifying countries identified in the first-tier literature, by the number of relevant sources. One source provided two distinct grouping schemes, and so it is cited twice, bringing the total number of listed sources to 54 in Tables 1 and 2.

Table 1: *Basis for classification of countries*

Basis of classification	Number of sources
Welfare regimes, including those adapted to include additional countries	21
Government programmes, welfare (specific)	12
Re-analysis of basis for welfare regimes	7
Work, employment, unemployment regime	6
Government programmes, welfare (broad)	6
Clustering on quality of life outcomes	6
Combination of institutional factors and outcomes	4
Institutions of co-ordination	2
Political and institutional factors ('Families of nations')	1
Other	6
Total	**54**

Note: Since countries may be grouped on the basis of more than one source, the total number of grouping criteria exceeds the total number of grouping schemes analysed.

The biggest group of sources (21) either adopts or adapts the Esping-Andersen (1990) 'three worlds' welfare regime scheme, often adapting it to include additional countries such as those from the Mediterranean region or from central and eastern Europe. The focus in this approach is on characteristics of the welfare system, particularly the relative importance of the market and the state. It emphasises the extent to which the state reduces the influence of the market in the distribution of resources (decommodification) and the extent to which the state promotes equality of outcome (the opposite of stratification). A further seven sources re-analyse the basis for distinguishing between the welfare regimes.

Another large category of the literature consists of studies that group countries based on specific government programmes such as healthcare, family policy or pensions. These tend to result in quite different cluster systems (see for example Blum, 2011; Thévenon, 2011; Siaroff, 1994; Reibling, 2010).

The remaining large categories are those that: re-analyse the basis for welfare regimes; group countries based on employment regime; and group countries based on a broad range of government programmes. Six of the schemes involved a clustering of countries based on a quality of life outcome, rather than purely on the basis of institutional features of the countries.

Additional quality of life outcomes

Table 2 provides an overview of the additional quality of life outcomes examined in the sources. Up to three outcomes were coded for each source. The biggest category ('no additional outcome') did not apply the classification system to any other outcomes, apart from any that were considered in setting up the clusters. All of the sources that set up country groups and looked only at the distribution of the clustering variables by country and/or group are in this category.

Table 2: *Additional outcomes examined in the literature*

Outcomes checked in the classification (detailed)	Number of sources
No additional outcomes (apart from those used to cluster countries)	21
Equality/poverty/Gini coefficient	13
Work/unemployment	8
Mental/emotional well-being /subjective well-being	6
Social spending	6
Social trust	5
Health	5
Family/work–life balance	4
Social support/networks/contacts	4
Income protection/pensions	3
Material standard of living (deprivation)	2
Total	**54**

Apart from these sources, the largest categories are those that seek to examine the influence of welfare regimes on inequality or poverty, followed at some distance by those that examine work and unemployment, health, social trust and family and/or work–life balance. Note that the 'equality' category includes sources that examine gender inequalities as well as those that examine inequalities in income or other outcome domains such as health.

Synthesising the literature review

Given the diversity of country grouping systems, it may seem an impossible task to attempt a synthesis. There may also be a concern that any attempt at synthesis would confound and confuse the distinctiveness of the approaches of different authors and would lose the diversity of the criteria used to group countries. Nevertheless, a review of the groups suggested that there were certain common patterns and, indeed, a tendency towards convergence. Perhaps this should not

be surprising, since the criteria used to group countries tend to be associated. The approach to welfare and income support tends to be associated with particular approaches to labour and family policy, for instance. Similarly, a commitment to universalism is likely to influence policy on health and education as well as on social protection and pensions.

In order to synthesise the country grouping systems, the focus was placed on pairs of countries and on how often they are grouped together, as shown in Table 3. This analysis enabled the identification of countries that are most often grouped together and countries that are 'difficult to classify', either being assigned to a residual category or grouped differently in different systems. The emphasis is on which countries are grouped together, rather than on the basis of the clustering or the labels applied.

Table 3 takes all sources that include each pair of countries and shows what percentage of these sources group the countries together. For instance, where Sweden and Denmark are both included in a source, they are grouped together in 89% of cases. Percentages are used instead of the number of sources, with countries grouped together as a way of standardising the results and highlighting the pattern; this approach is taken because of the wide variation in the number of sources that include each country. The last row shows the number of clustering systems that include each country. For instance, 47 of the sources include Sweden, but only two include the former Yugoslav Republic of Macedonia and none includes Kosovo (which is not shown in this table).

This method of examining country grouping systems does not attach different weights to the sources based on (for instance) number of citations, number of countries covered or time. However, for most of the countries the results are very clear and weighting would make little difference. In addition, when weighting is by number of citations, there is a risk of introducing a bias towards older material. This would tend to favour studies based on older data, which tend not to include the Member States that joined the EU more recently.

The first thing to notice in the table is that a clear general grouping system emerges, though some countries more clearly belong to a group than others. For most of the countries, the literature suggests a very clear clustering into groups. There are divergences from the scheme proposed by Esping-Andersen (1990), but these actually converge on an alternative classification.

The second thing to note in the table is that rarely is a pair of countries always grouped together. Even among the Nordic countries of Denmark, Finland and Sweden, each pair of countries is grouped together in between 80% and 89% of sources – not 100% of sources.

The Nordic countries of Denmark, Finland and Sweden are frequently grouped together, as shown in Table 3. Denmark and Sweden are in the same cluster in 89% of studies in which both countries appear and Finland is grouped with Sweden in 86% of the studies in which both appear. Although Esping-Andersen (1990) grouped Denmark and Sweden with Austria, Belgium and the Netherlands as 'social democratic' countries, this is not the most commonly used classification system and has been considerably modified by later work, including Esping-Andersen et al, 2001. In 1990, Finland was grouped by Esping-Andersen with the 'conservative' regime (which also included France and Germany), but by 2001 it was grouped with the Nordic countries (Esping-Andersen et al, 2001). Iceland was included in seven of the sources examined and was most often grouped with Denmark, Finland and Sweden (in 71% of sources). Although Iceland is not as strongly linked to the other Nordic countries, there is no other group in which it is more often classified.

Austria, Belgium, France, Germany and Luxembourg are frequently grouped together, as shown in Table 3. The Netherlands, although not always grouped with these countries, is more often grouped here than with any other set of countries. The Netherlands is less frequently grouped with Belgium and France (51% in both cases) than with Luxembourg (67%) and Germany (66%). The remaining countries are grouped together in between 78% and 92% of sources. The uncertain, or changing, position of the Netherlands has been noted by other authors. Muffels and Fouarge (2004) note that the Netherlands is something of a hybrid case, having moved from being primarily a corporatist 'breadwinner' state to one characterised by active employment policies and more restrictive welfare policies but in a context of a safeguarding of principles of equality, uniformity and universality.

Ireland is most likely to be grouped with the UK: in 83% of sources where both countries are represented, they are grouped together. They are typically regarded as 'liberal' welfare regimes (Gallie, 2013) that tend to provide means-tested social benefits only in the event of 'market failure'.

Table 3: *Percentage of sources placing each country pair in the same group*

	SE	DK	FI	IS	NL	LU	AT	FR	DE	BE	ES	PT	IT	EL	CY	MT	TR	IE	UK	LV	LT	EE	PL	SK	HU	CZ	HR	SI	BG	RO	MK	SB	ME	N
SE	100	89	86	71	25	4	14	14	6	20	3	3	2	3	0	0	0	0	7	11	7	0	0	0	5	0	0	0	0	0	0	0	0	2
DK	89	100	80	71	30	4	14	13	8	20	5	3	4	3	0	0	0	0	12	10	6	0	0	4	5	0	0	0	0	0	0	0	0	2
FI	86	80	100	71	24	4	17	18	13	17	3	6	14	3	0	0	0	0	8	9	6	0	0	0	9	0	9	0	5	0	0	0	0	2
IS	71	71	71	100	50	50	29	14	29	29	14	14	14	17	0	0	0	0	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	2
NL	25	30	24	50	100	67	58	51	66	51	18	19	26	16	10	0	0	0	20	18	0	0	6	9	0	9	0	0	0	0	10	0	0	2
LU	4	4	4	50	67	100	91	83	92	79	9	17	21	13	10	0	0	0	17	13	0	0	8	6	0	12	0	0	0	0	13	0	0	2
AT	14	14	17	29	58	91	100	78	88	85	15	16	33	16	0	0	0	0	11	9	0	0	6	5	0	5	5	0	6	0	10	0	0	2
FR	14	13	18	14	51	83	78	100	78	86	22	18	35	18	0	0	33	0	8	13	0	0	6	4	0	5	4	0	5	0	10	0	0	2
DE	6	8	13	29	66	92	88	78	100	80	16	15	35	18	0	0	0	0	12	13	0	0	6	4	0	9	0	0	5	0	10	0	0	2
BE	20	20	17	29	51	79	85	86	80	100	18	12	28	12	0	0	0	0	10	14	7	0	0	0	10	0	9	0	6	0	0	0	0	2
ES	3	5	3	14	18	9	15	22	16	18	100	89	86	86	67	55	50	13	13	14	6	13	6	13	18	9	33	5	20	0	0	0	0	2
PT	3	3	6	14	19	17	16	18	15	12	89	100	85	85	73	55	50	16	9	7	7	19	19	19	15	24	50	6	11	11	0	0	0	2
IT	2	4	14	14	26	21	33	35	35	28	86	85	100	76	67	55	50	10	7	6	13	13	14	14	24	14	33	11	20	0	0	0	0	2
EL	3	3	3	17	16	13	16	18	18	12	86	85	76	100	55	55	67	10	3	21	21	19	14	12	10	19	33	6	30	33	0	0	0	2
CY	0	0	0	0	10	10	0	0	0	0	67	73	67	55	100	89	100	20	18	0	10	10	18	30	18	27		27	17	0				2
MT	0	0	0	0	0	0	0	0	0	0	55	55	55	55	89	100	100	20	10	0	0	10	20	20	20	20	0	30	0	0	0	0	0	2
TR	0	0	0	0	0	0	0	33	0	0	50	50	50	67	100	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
IE	7	12	8	29	20	17	11	8	12	10	13	16	10	10	20	20	0	100	83	7	0	0	0	0	5	5	0	0	0	0	0	0	0	2
UK	11	10	9	29	18	13	9	13	13	14	14	9	7	3	18	10	0	83	100	6	0	0	0	4	0	5	4	0	0	0	0	0	0	2
LV	7	6	6	0	0	0	0	0	0	7	6	7	6	21	0	0	0	7	6	100	95	85	55	100	91	100	86	82	50	83	68	54	54	50	25	0
LT	0	0	0	0	0	0	0	0	0	0	13	7	13	21	10	0	0	0	0	95	100	85	85	55	47	30	30	33	37	62	46	50	25	0
EE	0	0	0	0	0	0	0	0	0	0	6	19	13	19	10	10	0	0	0	85	85	100	55	55	45	45	100	85	43	46	38	25	25	0
PL	0	4	0	0	9	6	6	4	4	0	13	19	14	14	18	20	0	0	0	38	35	55	100	91	100	86	100	85	67	54	46	25	25	0
SK	0	0	0	0	0	0	0	0	0	0	18	19	24	12	30	20	0	0	0	42	47	55	91	100	86	82	50	68	54	54	25	25	25	0
HU	5	5	9	0	0	0	5	5	5	10	9	15	14	10	18	20	0	5	5	38	30	45	89	86	100	85	50	71	46	31	50	50	50	2
CZ	0	0	0	0	9	12	5	4	9	0	24	24	14	19	27	20	0	5	4	33	30	45	89	82	85	100	83	67	54	46	25	25	0	2
HR	0	0	0	0	0	0	0	0	0	0	33	50	33	33		0	0	0	0	33	33	33	67	50	50	83	100	20	83	50	25	25	0	2
SI	0	0	5	0	0	0	6	5	5	6	5	6	11	6	27	30	0	0	0	35	37	43	67	68	71	67	20	100	42	33	25	25	0	2
BG	0	0	0	0	0	0	0	0	0	0	20	11	20	30	17	0	0	0	0	54	62	46	54	54	46	54	83	42	100	67	25	50	50	2
RO	0	0	0	0	10	13	10	10	10	0	0	11	0	33	0	0	0	0	0	46	46	38	46	25	31	46	50	33	67	100	75	50	0	2
MK	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	50	50	25	25	25	50	25	25	25	25	75	100	75	50	2
SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	25	25	25	25	25	50	25	25	25	50	50	75	100	100	2
ME																				0	0	0	0	0	50	0	0	0	0	0	50	100	100	2
N	47	48	45	7	44	24	43	45	48	44	38	35	47	35	12	11	4	42	48	21	20	22	28	22	27	28	6	24	13	13	4	4	2	

Note: Blank cells indicate that there are no studies with this pair of countries.

The Southern/Mediterranean countries (Cyprus, Greece, Italy, Malta, Portugal, Spain and Turkey) tend to form a cluster, but it is also possible to identify a split within this group. Based on how the countries are classified in the literature, two sub-clusters may be identified, with Greece forming a 'bridge' between the two. The first sub-cluster comprises Italy, Portugal and Spain, which are grouped together in between 85% and 89% of sources. The second sub-cluster includes Cyprus, Malta and Turkey, which are grouped together in between 89% and 100% of sources. Note that the number of sources that include these countries is smaller, however: Malta and Cyprus are included in 12 and 11 sources, respectively, and Turkey is included in only four of the sources that were examined in depth. Greece is classified with Spain, Portugal and Italy in between 76% and 85% of sources and with Turkey, Malta and Cyprus in between 55% and 67% of sources. The analysis in subsequent chapters will be important in deciding whether this group is best regarded as forming a single cluster or two clusters.

The newer Member States of central and eastern Europe and the Baltic region are represented in fewer studies, ranging from only two for Montenegro, four to six for Croatia, the former Yugoslav Republic of Macedonia and Serbia, and up to 27–28 for Poland, Hungary and the Czech Republic. As noted above, Kosovo is not represented in any of the country grouping schemes that were examined. Identifying the clusters into which these 14 countries might be grouped is not as clear cut as it was for the Nordic and continental groups. However, the 14 countries appear to fall into three groups along broadly geographic lines.

The clearest group is the Baltic countries of Estonia, Latvia and Lithuania, which are grouped together in 85% to 95% of sources.

A second clear group consists of the Visegrad group of the Czech Republic, Hungary, Poland and Slovakia. The Visegrad Group (also known as the 'Visegrad Four' or simply 'V4') was established as a cooperation platform, the aim of which was integration with Western institutions. Cooperation takes place at all levels, from high-level political summits to expert meetings, and in non-government organisations, research bodies and cultural institutions (OECD, 2011). These countries were grouped together in 82% to 91% of studies. Croatia and Slovenia could be added to the Visegrad group on the grounds that there is no other group to which these two countries are more frequently linked; these countries are linked with the Visegrad countries in between 50% and 83% of sources. Bohle and Greskovits (2007b) also group Slovenia with the Visegrad countries.

The grouping of the remaining countries (Bulgaria, the former Yugoslav Republic of Macedonia, Montenegro, Romania and Serbia) is less clear. The country with which Bulgaria is most often grouped is Croatia (in 83% of sources), but the association of Bulgaria with the other countries in the Visegrad group is weaker (46% to 54%). Bulgaria and Romania are often grouped together (in 67% of sources) but Romania's links to the Visegrad group are much weaker (being included in 25% to 46% of sources). Very few sources classify the former Yugoslav Republic of Macedonia, Montenegro and Serbia. On the basis of geographic proximity and shared cultural heritage, these countries might be provisionally grouped together into a 'Balkan group' with Kosovo also added to this group.

Summary of literature review results

The results of the literature review were rather clear in terms of which countries were grouped together. The countries tended to be classified into seven groups (or eight if the Mediterranean group is split) along broadly geographic lines:

- Nordic: Denmark, Finland, Iceland and Sweden;
- Continental: Austria, Belgium, France, Germany, Luxembourg and the Netherlands;
- Mediterranean: Cyprus, Greece, Italy, Malta, Portugal, Spain and Turkey;
- Western islands: Ireland and the UK;
- Baltic states: Estonia, Latvia and Lithuania;
- Central and eastern Europe: Croatia, the Czech Republic, Hungary, Poland, Slovakia and Slovenia.
- The 'Balkan states': Bulgaria, the former Yugoslav Republic of Macedonia, Kosovo, Montenegro, Romania and Serbia.

Because the results were fairly clear when all of the studies were considered, these groupings were not subdivided into categories, such as those emphasising welfare and poverty versus those emphasising family or health policies. However, it is worth noting that since most of the studies took as their starting point the approach of Esping-Andersen (1990), the dominant concern is with the impact of the state on material welfare and material inequality.

In the course of the literature review, lessons were learned regarding the advantages and limitations of the REA methodology. First, relying on the number of citations to prioritise material was inadequate. It was necessary to go beyond this in a number of respects in order to: include books as well as articles; specifically seek material covering the countries of eastern and south-eastern Europe; and move beyond certain domains (such as health) that resulted in a very high volume of materials using the original search criteria.

The second lesson was that even though different criteria were adopted for classifying countries, a dominant classification system emerged, broadly along geographic lines.

The third lesson was the observation that the distinction between the country groups needs to incorporate an element of judgement and qualitative knowledge of their circumstances rather than relying on a strict application of quantitative criteria. Quantitative indicators of the activities of states will only approximate the qualitative differences in emphasis in state policies. This may account for why the Scruggs and Allan (2008) strict application of quantitative techniques concluded that there was little empirical support for the very influential country groupings associated with Esping-Andersen (1990). Moreover, while Scruggs and Allan do not present an alternative grouping of countries, their scoring would point to some counter-intuitive groupings. For instance, in the early 2000s, Denmark and Ireland would have been grouped together on the basis of scoring high on the socialist dimension, medium-high on the liberal dimension and low on the conservative dimension.

Country-cluster analysis of indicators 2

Introduction

The conclusion to the previous chapter notes that it is unlikely that a country-grouping system could be based entirely on a cluster analysis of quantitative macro-level indicators. This is because of difficulties in capturing the distinct policy priorities of states by means of quantitative indicators. Nevertheless, such an analysis has the potential to be a useful adjunct to the analysis of how countries are grouped in the literature. In particular, to the extent that widely available indicators are used, cluster analysis has the potential to provide information regarding the grouping of countries that are not as often included in the literature and also on how country groups may need to be modified over time.

This chapter draws on a number of widely available indicators of state capacity and state intervention in areas relevant to quality of life to investigate how countries might be grouped using different types of cluster analysis. In this exercise, attention is limited to the indicators available for all countries (except Kosovo) and that are indicative of state action rather than being indicative of quality of life outcomes. This approach was adopted because it is argued that a clustering system based on outcomes is likely to be less informative for policy or explanatory purposes than a clustering system based on state action.

Methodology: Indicators and clustering methods

It is well known that different clustering strategies will yield different results (Handl et al, 2005; Brock et al, 2008). In addition, there is no consensus on which clustering methodology is most suited to examining country groups. The goal here is to investigate whether there is a tendency to converge on a particular grouping of countries based on a small number of widely available macro indicators that capture key conceptual domains, as shown in Table 4.

These indicators are intended to cover the main domains of state activity relevant to quality of life. It is not claimed, however, that the indicators are comprehensive. There are also some limitations. In particular, in some instances the figures for government spending on services such as health and education may not include spending on these services by local authorities and do not include those covered by health insurance. Luxembourg also presents a difficulty since its gross national income (GNI) is an outlier. In order to avoid distorting the overall pattern, the GNI for Luxembourg was set as being equal to that of the next highest country (the Netherlands).

The clValid package (Brock et al, 2008) was used to test a number of different clustering schemes and to examine whether the results tended to converge on a particular pattern. Cluster analysis works by grouping countries based on these indicators using a distance matrix. The distance measure used was ‘Euclidean distance’ and the agglomeration method used was the default, except that the Ward method (which is less likely to result in clusters of very disparate sizes) was used for hierarchical clustering. Clusters of different sizes, from three to eight, were tested. Clusters smaller than three countries are unlikely to adequately represent the differences between the countries, while a cluster of more than eight would be rather cumbersome as a tool for understanding and communicating patterns across countries.

The clValid package compares different clustering schemes in terms of a number of indicators of validity and stability. It is not used for that purpose here, however, but because it is a convenient way to run a large number of different clustering algorithms with different cluster sizes. The clValid tests did not yield a single clustering solution that was the ‘best fit’ on all tests. This further reinforces the advantages of combining the clustering solutions to see if there is a tendency towards convergence.

Table 4: *Macro-level indicator variables and conceptual domains*

Domain	Indicator
Capacity of economy to support an interventionist state	Log of **gross national income** (GNI) per capita, in purchasing power parities for 2011 (from World Bank, International Comparison Program database). The log of GNI is used as differences in GNI at lower levels are expected to be more consequential for state capacity.
Capacity of state to harness resources	**Government revenue** as a percentage of GDP (from World Bank development indicators). This indicator represents the capacity of the state to harness a share of the country's economic resources.
Decommodification of labour; social contract	**Social benefits** (other than social transfers in kind) paid by general government as a percentage of GDP. This indicator is intended to capture the extent to which the state protects citizens from risks such as unemployment and illness as well as making provision for lifecycle groups such as children and older adults.
Decommodification of education	Public spending on **education** as a percentage of GDP (from World Bank development indicators). This indicator captures the extent of investment in education by the state as well as the decommodification of education services.
Decommodification of healthcare	Public spending on **health** services as a percentage of GDP (from World Bank development indicators). This indicator is intended to capture the extent to which health services are provided by the state rather than the market.
Residualisation of social benefits	**Proportion of social benefits that are means tested** (from Eurostat, table 'spr_exp_gdp'). This captures the extent to which state social benefits are targeted to the most disadvantaged group. Means-tested benefits tend to be less generous and are often stigmatised.

Note: Indicator values for 2011 (or closest year) are taken.
Sources: *World Bank development indicators; Eurostat*.

Eight different clustering methods were tested on six different cluster sizes (ranging from three to eight). In addition, the clustering was repeated with the indicator variables coded from 0 to 1 as well as with the indicator variables standardised to have a mean of 0 and a standard deviation of 1. The clustering methods are shown in Table 5. The indicators (before standardisation or recoding to range from 0 to 1) are shown in Table A3 in Annex 2.

Table 5: *Types of clustering systems examined*

Type	Description
Hierarchical	Agglomerative clustering algorithm that begins with each case (country) in a cluster of its own and proceeds by adding one country at a time to the one 'closest' to it in terms of a dissimilarity matrix.
K-means	An iterative clustering method that minimises the within-class sum of squares for a given number of clusters.
DIANA	A divisive hierarchical algorithm that begins with all observations in a single cluster and successively divides the clusters until each contains a single observation. At each stage, the cluster with the largest dissimilarity between any two of its observations is divided (Kaufman and Rousseeuw, 1990).
PAM	Partitioning around medoids (PAM) is similar to K-means. Like K-means, the number of clusters is fixed in advance, and an initial set of cluster centres is required to start the algorithm.
Fuzzy clustering	In fuzzy clustering, each observation can have partial membership in each cluster (Kaufman and Rousseeuw, 1990). Thus, each observation has a vector that gives the partial membership to each of the clusters. A hard cluster can be produced by assigning each observation to the cluster where it has the highest membership.
SOM	Self-organising maps (Kohonen, 1997), based on neural networks, clusters objects based on similarity.
Model-based	A statistical model consisting of a finite mixture of Gaussian distributions is fit to the data (Fraley and Raftery, 2001). Each mixture component represents a cluster, and the mixture components and group memberships are estimated using maximum likelihood (EM algorithm).
SOTA	Self-organising tree algorithm (SOTA), an unsupervised network with a divisive hierarchical binary tree structure (Dopazo and Carazo, 1997; Herrero et al, 2001).

Source: *Brock et al, 2008*.

Results of clustering on macro-level variables

In general, the results are similar depending on whether the variables are standardised or scaled to range from 0 to 1, as can be seen by comparing tables A3 and A4 in Annex 2. Given the diverse results of the clustering, depending on which method is used and on how the variables are coded, how can the results be synthesised? The method used in the previous

chapter was adapted to synthesise the results of the literature review. Focus was placed on the number of clustering results in which each pair of countries was grouped together. This is shown in Table 6, which sorts the countries so that those frequently grouped together are adjacent to one another. The numbers in Table 6 refer to the number of cluster results (out of a total of 96) where the countries are grouped together. Table 7 shows the pattern in terms of the value of the macro variables that form the basis of the clustering system.

The first cluster consists of the three Nordic countries (Denmark, Finland and Sweden) and three countries that are usually classified with the continental group in the literature (Austria, Belgium and France). It is worth recalling that Esping-Andersen (1990) classified Austria and Belgium with Denmark, Norway and Sweden to form the social democratic group, although both France and Finland were grouped with the conservative continental countries. These are high-income countries, with government revenue at a relatively high percentage of GDP and with relatively high spending on social benefits, education and health but with a low level of means-tested social benefits.

Germany, the Netherlands and the United Kingdom form the next cluster. These are also high-income countries with government revenue at a high proportion of GDP, but with slightly lower social spending rates and slightly higher levels of means testing than the first group. Esping-Andersen had grouped the Netherlands with the social democratic countries, the UK with the liberal countries, and Germany with the conservative countries. In the literature review, the UK was more often grouped with Ireland as a liberal country.

The next group consists of Iceland, Ireland and Spain. Cyprus and Malta are added to this group here. Though these countries are not as strongly identified with the other three, this is done in order to avoid having a group with only two members and because these two countries have a stronger relationship to the first three than with any other group. This group is very distinct from the typical group found in the literature, although a number have grouped Ireland and Spain together (Helliwell, 2002; Krenz, 2013; Obinger and Wagschal, 2001; Siaroff, 1994). What the countries have in common is that the proportion of social benefits that are means tested is high (Ireland and Iceland, 26%–27%) or medium (13%–16% in the other countries). Compared to the countries in the first three groups, the GNI per capita when adjusted for purchasing power parity is somewhat lower, government revenue tends to be a lower proportion of GDP (but this varies within this group of countries) and government spending on social benefits tends to be lower as a proportion of GDP.

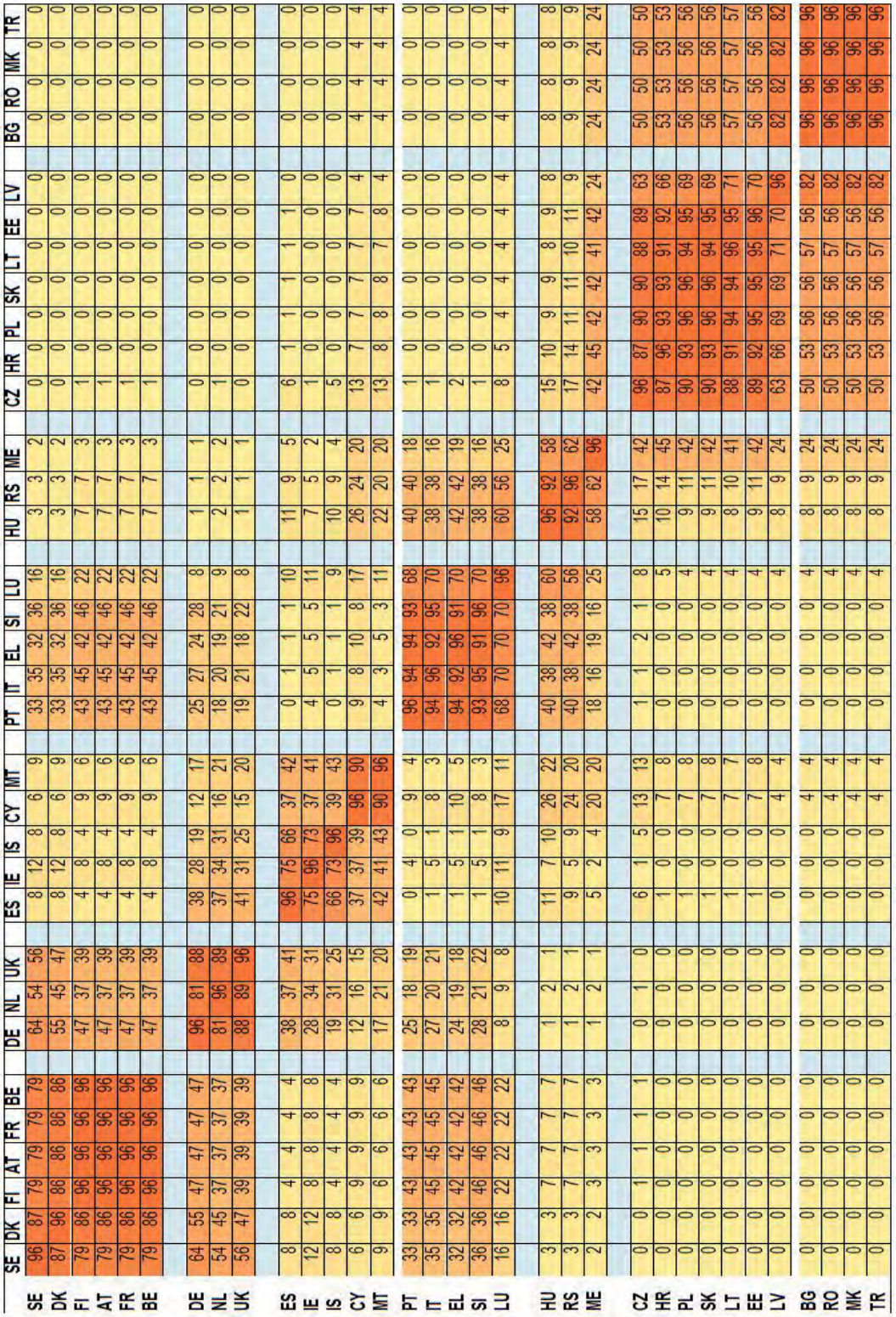
The next group consists mainly of southern countries (Greece, Italy, Portugal and Slovenia), but Luxembourg is also part of this group. Luxembourg will always be difficult to classify based on the GDP-based criteria used here because its GDP is an outlier. This also affects related indices such as GNI. As noted above, the GNI indicator was truncated to equal that of the next highest country (the Netherlands) but spending expressed as a proportion of GDP will be affected. Therefore, the classification of Luxembourg should be considered very provisional. For the remaining countries, a slightly lower GNI than the previous groups is observed, but with relatively high government revenue as a proportion of GDP and relatively high spending on social benefits, though with lower spending on health and education.

The next group of three countries (Hungary, Montenegro and Serbia) have much lower GNI, although it is much higher in Hungary than in the other two countries. Government revenue is high relative to GDP (38%–48%). Spending on social benefits is also relatively high, but spending on health and education is below average.

The largest group of countries from eastern Europe is included in the next group: Croatia, the Czech Republic, Estonia, Lithuania, Poland, Slovakia and, more weakly associated, Latvia. This group is characterised by relatively low income, government revenue that is low relative to the GDP and below-average government spending on social benefits, health and education.

The final group (Bulgaria, the former Yugoslav Republic of Macedonia, Romania and Turkey) is distinguished from the previous one mainly in having a lower level of GNI. Government revenue and government spending on health, education and social benefits are all low.

Table 6: *Results of clustering on the macro variables (number of cluster results)*



Note: Indicator values for 2011 (or closest year) are taken.
Sources: *World Bank development indicators; Eurostat; analysis by authors*.

Table 7: *Government spending by field and country*

	GNI per capita (in PPP)	Government revenue as % GDP	Spending on social benefits as % GDP	Spending on education as % GDP	Spending on health as % GDP	Percentage of social benefits that are means tested
SE	35,763.36	32.44	14.10	6.98	7.73	2.76
DK	33,394.11	50.52	17.10	8.80	9.27	5.18
FI	32,107.43	38.37	18.00	6.85	6.79	4.78
AT	35,815.03	36.28	19.10	5.89	8.55	7.67
FR	30,597.60	42.58	19.40	5.86	8.93	11.25
BE	33,263.69	41.29	17.10	6.57	7.98	4.83
DE	35,392.38	28.98	16.30	5.08	8.66	12.01
NL	37,181.07	40.80	11.80	5.98	9.49	15.46
UK	33,311.13	36.52	14.90	6.22	7.80	14.50
ES	26,323.55	23.61	15.60	4.98	6.79	16.41
IE	29,915.79	31.41	15.20	6.41	5.89	27.46
IS	28,804.43	29.98	8.50	7.60	7.39	25.91
CY	24,548.07	39.00	14.60	7.92	3.21	13.06
MT	20,851.48	37.21	12.60	6.74	5.59	13.44
PT	20,880.23	39.98	17.40	5.62	6.65	8.80
IT	26,922.06	37.55	19.30	4.50	7.18	6.34
EL	21,667.91	41.09	19.20	4.09	5.94	6.25
SI	24,685.34	36.95	17.60	5.66	6.52	8.15
LU	37,181.00	39.68	15.40	3.15	5.63	3.62
HU	16,141.55	48.25	15.60	4.88	5.13	4.39
RS	9,506.95	37.55	19.30	4.82	6.41	4.17
ME	10,732.45	37.50	15.80	6.29	4.19	7.78
CZ	22,549.44	29.21	13.80	4.25	6.29	2.02
HR	15,853.65	33.17	14.20	4.27	5.62	6.93
PL	17,184.84	30.54	14.10	5.17	4.83	6.38
SK	18,980.36	28.39	13.60	4.22	5.63	5.08
LT	14,047.68	26.32	12.60	5.36	4.78	6.10
EE	17,223.09	32.76	11.50	5.68	4.70	1.26
LV	13,225.80	24.81	10.60	5.01	3.43	4.70
BG	11,402.01	29.41	11.90	4.10	4.02	4.09
RO	11,003.99	30.09	12.00	3.53	4.44	4.97
MK	9,197.93	28.48	12.20	3.30	4.42	7.50
TR	13,476.41	33.23	10.48	2.86	4.46	7.80

Notes: Indicator values for 2011 (or closest year) are taken.
Source: *World Bank development indicators; Eurostat; analysis by authors.*

Summary

This chapter presented a set of cluster analyses of a limited number of macro-level indicators designed to capture the activity of the state in areas relevant to quality of life. The indicators are gross national income, government revenue, social benefits, public spending on health and education and the proportion of social benefits that are means tested. The purpose of the exercise was to check whether it might be possible to cluster countries on the basis of a small number of widely available macro-level indicators in a way that might provide useful additional information to that obtained from the literature review. The emphasis was not on including a fully comprehensive set of indicators, but on including a limited number of key indicators available on a comparable basis for the 34 countries and that will be updated on a regular basis.

Cluster analyses were conducted specifying six different cluster sizes, with eight different clustering algorithms and two different methods of coding the variables (standardised and coded, 0–1), resulting in 96 clustering solutions in total. Using a method similar to that applied in the analysis of literature, the solutions that grouped each pair of countries in the same cluster were examined. Based on this pattern, seven groups of countries were identified, which tend to be clustered together. The groups are as follows:

- a Nordic/western continental group: Austria, Belgium, Denmark, Finland, France and Sweden;
- a smaller continental/western group: Germany, the Netherlands and the UK (mainly distinguished from the first group by a higher level of means testing of benefits);
- a 'mixed' group consisting of Cyprus, Iceland, Ireland, Malta and Spain;
- a 'southern' group: Greece, Italy, Portugal and Slovenia (which also includes Luxembourg, but Luxembourg is challenging to classify based on these empirical data because of its very high GDP);
- a small 'eastern/Balkan' group: Hungary, Serbia and Montenegro;
- a larger 'eastern/Baltic' group: Croatia, the Czech Republic, Estonia, Latvia, Lithuania, Poland and Slovakia;
- a mainly 'Balkan group': Bulgaria, the former Yugoslav Republic of Macedonia, Romania and Turkey.

It is important to note that the analysis here was based on data from 2011 (or the nearest available year) only. Given the continuing recession in Europe at that stage, the pattern of national income and public spending in that period may be atypical.

The country groups resulting from this analysis differ from the synthesised results of the literature review. Before the results from the literature review and the results from the empirical cluster analysis are brought together, the next chapter describes the development of a multidimensional quality of life indicator. This is used to examine how the different country grouping systems might be useful in explaining or reporting on country-based differences in quality of life.

Multidimensional indicator of quality of life 3

Introduction

This chapter presents the development of an indicator of multidimensional quality of life in order to assess the extent to which the two country grouping systems developed in the previous chapters are informative in terms of understanding quality of life issues. An attempt is made to encompass the multidimensionality of quality of life problems using a technique that was developed to examine deprivation as a multidimensional concept. Like deprivation, quality of life has a number of different dimensions, including standard of living, health, access to employment, family, social and political participation and subjective well-being. A problem with adopting a multidimensional approach is that either too many cases are identified, if individuals who qualify on any dimension are included, or too few are identified, if only individuals who qualify on all dimensions are included. The use of the adjusted headcount ratio (AHCR) approach is discussed in addressing this issue, and it is applied to the analysis of quality of life outcomes in Europe. This method allows the classification of countries based on the extent or severity of their quality of life problems.

The second part of the analysis asks whether countries differ in terms of the nature of the quality of life challenges they face. This is a different exercise, since the focus of interest is the nature of quality of life problems, rather than the extent of them. One of the outcomes of the AHCR method is that it enables consideration of whether countries differ in the composition of quality of life problems. For instance, health problems may be more significant in some countries as a component of multidimensional quality of life problems while material deprivation may be more of a problem in others.

The empirical analysis presented here is based on data from the third EQLS (2012) for the 34 participating countries.

Methodology

The AHCR method

It has become well established since the work of Townsend (1979) that poverty does not simply consist of a low income but that it is also about the 'inability to participate fully in society' due to a lack of resources (Townsend, 1979, p.13). The multidimensional nature of poverty makes it difficult to measure and an important area of poverty research focuses on such measurement (Moisio, 2004; Whelan and Maître, 2005; Whelan et al, 2014). The AHCR methodology originated in the development of the economic literature on the multidimensionality of poverty and inequality, which was largely influenced by the work of Amartya Sen (1980, 1985, 1992, 1999). Here, this methodology is used as developed by Alkire and Foster (2007). While the early focus was on the context of developing countries, recent work by Whelan et al (2014), Williams et al (2014) and Alkire et al (2012) has applied it to European developed countries.

The AHCR approach is designed to provide a structured way of assessing variations in multidimensionality (Alkire and Foster, 2007, 2011a, 2011b). The approach involves (a) specifying the dimensions and how they are measured; (b) identifying a threshold on each dimension above which a person would be considered to have a quality of life deficit on that dimension; and (c) specifying the number of dimensions on which a person is above the threshold before they are considered to have a multidimensional quality of life deficit.

This approach allows the comparison of countries in terms of the level and depth of multidimensional quality of life deficits. More importantly, it allows the comparison of countries in terms of the extent to which the different dimensions contribute to multidimensional quality of life deficits. For instance, material deprivation would be expected to be more consequential as an element of multidimensional quality of life in the countries of eastern Europe, while other issues such as health may be relatively more important in the wealthier countries of the north. The AHCR score can be used to describe the proportion of the population above the overall threshold and the intensity of deficits for those above the threshold. This gives the AHCR score considerable flexibility, which means that there is ample scope to investigate

whether countries can be grouped in terms of the level of quality of life deficits or the dimensions of quality of life deficits that are dominant (such as deprivation, health and social capital).

Selected dimensions related to quality of life

Several studies using different waves of the EQLS have identified a wide range of dimensions related to the quality of life. In the analysis of the first EQLS, Eurofound (2005) identified 19 quality of life indicators such as material deprivation, housing defects, neighbourhood environment, self-rated health and quality of public services, to cite only a few. Using the second EQLS, Eurofound (2010) used measures of perceived social exclusion as well as mental well-being. This report draws on that body of work to identify the relevant dimensions and their corresponding measures as described below.

One of the advantages of the AHCR methodology is that it makes it possible to ascertain which dimensions contribute most to overall quality of life deficits. For this reason, it is important to keep the range of dimensions to a manageable number so that the interpretation of the results is not overly complicated. Since the AHCR method also requires all of the indicators for all the population included, this analysis has not included indicators that are relevant to only a subset of the population (such as work–life balance, job satisfaction or childcare). This report uses the body of work of Eurofound (2005) and Eurofound (2010) to identify similar dimensions but with a restricted set of measures that are relevant to the general population across all countries. The selection was informed by the capabilities approach of Sen, which emphasises factors that enable people to increase the type and range of things they can do (Sen, 1989, 1993). This includes personal resources, such as health and mental well-being; resources based on economic transactions (material well-being and accommodation problems); resources linked to the quality of social relationships (social capital, network support); and resources deriving from the social, economic and political setting (neighbourhood, public services, social tensions and perceptions of belonging or exclusion). This analysis focuses on a set of items capturing a broad selection of 10 quality of life domains:

- self-rated health;
- mental well-being (WHO-5);
- material deprivation;
- accommodation problems;
- neighbourhood problems;
- poor quality public services (perceived);
- social tensions;
- perceived social exclusion;
- social capital deficits;
- network support deficits.

Some of these dimensions have been constructed from simple and single questions (self-rated health, for example) while other domains have been constructed from several sets of questions to produce a scale measure (mental well-being, for example, as in Eurofound, 2010). The measurement of each dimension is described in the following sections. This describes the variables forming the dimension and the basis on which someone is considered ‘deprived’ on each quality of life dimension.

There is an element of arbitrariness in deciding on a threshold to identify those with quality of life problems on each dimension. The rationale adopted here, following Whelan et al (2014) is to take the income poverty rate (or at-risk-of-poverty rate) as a benchmark. This is a widely used indicator of poverty in the EU and is one of the main EU official measures of poverty. The EU uses a poverty threshold at 60% of the national median. In 2011 the at-risk-of-poverty rate across the EU28 was 16.9%. For this report, the chosen threshold for each indicator is that which identifies a group that is as close as possible in size to the overall percentage of people in the EU28 Member States that are at risk of poverty (16.9%). Figures for the EU28 are used because they are produced by Eurostat, based on data from the European Union Statistics on Income and Living Conditions (EU-SILC) 2010.[3] For each quality of life dimension, the threshold used is that which identifies as closely as possible to the 16.9% of people that are the most 'deprived'.[4] While there is an element of arbitrariness in the choice of this threshold, it has the merit of being linked to an indicator of social exclusion that has broad acceptance in European social policy.

Self-rated health

In the EQLS, respondents were asked to describe their health, with possible answers ranging from 'very good' to 'very bad'. A respondent was considered deprived on the health dimension if they answered that they had 'bad' or 'very bad' health (9.2% across the 34 countries).[5]

Mental well-being (WHO-5)

The mental well-being indicator is based on the World Health Organization's five item well-being index (WHO-5). This index is constructed from answers to five items on the frequency of feeling: cheerful and in good spirits; calm and relaxed; active and vigorous; fresh and rested; and that daily life has been filled with things of interest.

The response categories range from 'all the time' to 'at no time'. The index is the sum of all the scores; the higher the index, the higher is the mental well-being of the respondent. The items are reverse coded, so that a high score indicates mental distress. Deprivation on this dimension consists of having a score above the threshold that identifies the 15.3% of the population with the highest risk of mental well-being problems across the 34 countries.

Material deprivation

An awareness of the limitations of income poverty as a measure of material social exclusion (Ringen, 1987, 1988) and the complementary value of non-monetary measures of deprivation to capture the multidimensional aspect of poverty have contributed to the development and use of non-monetary measures of deprivation. So rather than using an income poverty measure, a non-monetary measure of deprivation was used, based on a list of items broadly adopted in the EU-SILC.[6] This measure is constructed from the answers to six questions about the affordability of: (1) keeping the house warm; (2) having a week's holiday away; (3) replacing worn-out furniture; (4) having a meal with meat, chicken, fish

[3] The Eurostat figure for the EU28 was used as there are no harmonised data with an at-risk-of-poverty rate covering the 34 countries included in this report.

[4] In the situation where the proportion who are the most 'deprived' is lower than 16.9%, the 'most deprived' group is considered to be the proportion of the population identified by the measure (see the health dimension for example).

[5] The dichotomous nature of the variable (as opposed to a continuous variable) produces a different threshold to the one used across the other measures.

[6] The indicator of income is also not ideal since a large proportion of cases are missing for some countries.

every second day; (5) buying new clothes; and (6) having friends or family for a meal or drink once a month. The index is the sum of all the scores across the six items, with a high score indicating a greater level of material deprivation. The threshold adopted identifies the 17.1% of people most deprived on this dimension across the 34 countries.

Problems with quality of accommodation

Respondents were asked if their accommodation had any of the following problems: (1) shortage of space; (2) rot in windows, doors or floors; (3) damp or leaks in walls or roof; (4) no indoor toilet; (5) no bath or shower; and (6) no place to sit outside. Those having a problem on a specific item are considered as deprived regarding that item. The threshold for quality of life problems on this dimension identified the 16.5% who are most deprived across the 34 countries.

Problems with quality of neighbourhood

This measure is constructed from the answers to questions about the neighbourhood environment and problems with the following: (1) noise; (2) air quality; (3) drinking water quality; (4) crime, violence or vandalism; (5) litter or rubbish; and (6) traffic congestion. On each item, a person was considered deprived if they experienced 'major problems' or 'moderate problems'. The threshold on the neighbourhood quality scale that resulted in the group closest in size to the 16.9% target identified the 19% of the population in the 34 countries who are most 'deprived' on this dimension. The next threshold would have identified only 13.9% as deprived on this indicator.

Poor quality public services

The respondent was asked to rate the quality of the following public services: (1) health services; (2) the education system; (3) public transport; (4) childcare services; (5) long-term care services; (6) social housing; and (7) the state pension system. Each item was scored on a scale ranging from 0 (poor quality) to 10 (high quality). The threshold adopted for this item identifies the 16.8% of respondents in the 34 countries who have the most negative perception of the quality of public services.

Social tensions

This index measures the extent to which respondents perceive social tensions between different groups in their country (management and workers; rich and poor; men and women; young and old; different ethnic, national or religious groups; people of different sexual orientation). The threshold identifies the 16% of the population across the 34 countries who perceive the highest levels of social tension.

Perceived social exclusion

This index is based on the strength of agreement or disagreement with four items capturing whether the person feels left out of society; that life has become too complicated; that the value of their work is not recognised; or that people look down on them. The scale identifies the 15% of the population across the 34 countries who perceive the highest levels of social exclusion.

Social capital deprivation

The EQLS measures involvement in community networks, involvement in voluntary work and participation in civil society. Following Pichler and Wallace (2007), an index of social capital deprivation was constructed. This is based on three sub-indicators that are given equal weight: social participation (participation in social activities of clubs, societies or associations, and attending religious services); volunteering (with community organisations, political associations, charities or educational or sports associations); and political participation (attending a political meeting, signing a petition, contacting a politician, attending a protest or demonstration). The threshold identifies the 20.4% of people across the 34 EU countries with the lowest score on the social capital index.

Network support

The network support dimension is constructed from a set of items on the sources of support available across a range of different situations, such as: illness; seeking advice on a serious matter; help in getting a job; depression or feeling low; or needing to raise money urgently. The sources of support are: family members or relatives; other neighbours; friends; or nobody. The scale identifies the number of situations in which the person has nobody to provide support. The threshold on this scale identifies the 9.6% of respondents who are most deprived on this dimension across the 34 countries.

Table 8 shows the percentage of people 'deprived' on each of these quality of life dimensions for each country, as well as the overall average across the 34 countries. With the exception of self-rated health (9.2%) and network support (9.6%), the threshold adopted identifies the 15%–20% of the EU population that is most deprived on each dimension. As noted above, the goal was to identify a proportion that is as close as possible to the proportion of people in the EU28 at risk of income poverty (16.9%) since 'at risk of poverty' is an indicator of social exclusion with wide acceptance in policy circles.

The countries in Table 8 are sorted according to the groups identified in the literature review. As can be seen in Table 8, the proportion of people experiencing quality of life deprivation differs across countries and across domains. For instance, people in Denmark are very unlikely to experience quality of life problems in the domains of material deprivation, neighbourhood problems, poor quality public services or perceived social exclusion, but are above average when it comes to reporting problems with health. On the other hand, people in the former Yugoslav Republic of Macedonia are very unlikely to report problems with health, but are well above average in terms of neighbourhood problems and social tensions.

In general, the Nordic countries tend to be less likely to experience quality of life deficits on most dimensions while the level of quality of life problems is highest in the countries of central and eastern Europe and in Turkey. Two of the dimensions are exceptions to this pattern: network support problems are more frequent in the countries of continental Europe while the cross-national pattern for health problems is more mixed.

Rather than attempt to further summarise this complex and detailed table, the results of the AHCR analysis are described both in terms of the level of multidimensional deprivation and the composition of multidimensional deprivation. Following this, the results are drawn on to look at how countries might be clustered on the basis of outcomes.

Table 8: *People experiencing deprivation across quality of life domains (%)*

Country	Health	Mental well-being	Material deprivation	Accommodation problems	Neighbourhood problems	Poor quality public services	Social tensions	Perceived social exclusion	Social capital deprivation	Network support deprivation
SE	7.7	8.9	3.0	9.9	6.0	7.4	9.4	7.9	11.5	6.8
DK	12.7	5.0	2.0	8.9	4.0	3.7	1.5	6.7	15.3	6.2
FI	7.0	5.8	4.3	8.0	3.3	2.0	7.3	6.5	10.3	9.3
IS	4.5	4.5	9.1	9.1	0.0	4.5	0.0	4.5	4.5	4.5
NL	9.9	9.1	4.3	8.7	3.5	2.0	10.9	6.4	17.4	17.0
LU	7.9	10.8	0.0	10.8	5.4	2.7	10.8	13.5	24.3	15.8
AT	3.9	7.7	3.3	8.8	14.7	3.3	12.4	10.4	14.1	10.4
FR	6.6	13.7	7.1	16.7	14.4	8.2	22.1	18.6	26.9	14.1
DE	8.9	9.8	7.6	9.6	18.2	9.5	7.7	9.6	21.7	8.8
BE	8.9	9.9	6.6	15.4	18.0	2.4	14.4	15.4	27.8	14.8
ES	5.6	11.4	14.2	8.0	10.8	9.0	11.3	9.0	24.4	6.5
PT	14.9	11.0	21.6	15.1	10.1	20.2	7.5	12.8	20.6	7.6
IT	5.6	8.7	7.8	12.0	28.0	22.7	15.6	14.2	18.4	12.2
EL	8.1	18.0	32.1	22.6	29.4	43.5	23.9	22.3	8.7	6.6
CY	3.4	22.0	25.4	13.8	32.2	16.9	27.1	39.7	11.9	11.9
MT	3.2	16.1	18.8	16.1	29.0	6.5	12.9	16.1	16.1	6.5
TR	8.6	29.6	41.7	34.8	30.8	17.4	29.8	17.9	23.2	7.1
IE	4.5	11.6	9.4	7.4	9.1	17.1	5.5	11.3	7.4	6.5
UK	11.0	18.7	12.6	14.3	14.9	10.6	13.0	17.1	21.5	11.5
LT	20.8	17.8	32.0	22.9	21.3	23.9	12.7	16.8	16.0	6.9
LV	16.3	19.2	33.1	41.9	9.9	25.1	8.2	18.6	34.9	16.9
EE	14.9	14.7	32.4	30.4	12.9	17.6	8.9	15.8	23.5	11.8
PL	13.0	21.4	29.0	19.8	22.0	36.5	15.0	18.5	7.5	7.4
SK	10.5	16.7	27.2	8.1	11.0	32.4	8.1	13.2	16.6	4.9
HU	15.9	14.8	40.8	16.9	18.7	33.1	34.0	13.9	36.5	10.0
CZ	11.7	12.4	17.4	14.5	22.2	15.9	17.1	23.8	25.2	6.1
HR	13.6	13.6	16.3	15.7	11.7	29.9	31.7	14.8	10.8	5.4
SI	9.6	15.9	9.6	9.5	7.0	15.8	19.7	12.0	22.4	2.5
BG	11.1	16.1	42.1	23.4	33.2	50.2	7.1	31.8	40.4	8.1
RO	17.2	23.5	33.3	31.5	22.1	36.4	20.2	18.9	10.1	7.5
MK	6.7	10.1	18.9	16.8	31.5	20.3	24.8	20.1	8.1	5.4
RS	16.3	25.3	23.6	19.3	17.8	33.3	26.7	23.4	21.5	7.6
ME	9.3	9.3	14.0	15.9	25.0	25.6	23.3	16.3	25.6	2.3
KV	5.0	18.2	26.0	40.2	51.5	30.4	7.0	24.5	7.9	2.0
All	9.2	15.3	17.1	16.5	19.0	16.8	16.0	15.0	20.4	9.6

Note: These figures are based on the threshold for each domain.
Source: *EQLS 2012, analysis by authors*.

Multidimensional quality of life deprivation

As noted above, when the range of dimensions described above are taken into account, it is necessary to identify a threshold above which an individual will be considered to be experiencing multidimensional deficits related to their quality of life. In this regard, a person must experience deprivation on at least three of the 10 dimensions in order to be considered as experiencing multidimensional quality of life problems. The threshold of three was chosen because this gave an overall frequency of multidimensional quality of life problems that was closer to the level of income poverty across the EU28. This identified 22.4% of the population across the 34 countries, ranging from 4.5% in Iceland to 46.8% in Bulgaria. A threshold of two or more would identify 40.7% of the population across the 34 countries, ranging from 9.5% in Iceland to 70.9% in Bulgaria.

Level of multidimensional deprivation

Table 9 presents the overall level of multidimensional deprivation related to quality of life. The countries are sorted by the proportion of individuals in each country that experience at least three quality of life problems (shown in column 1). The colour scheme in the table helps to visualise the pattern of results between countries: green can be interpreted as a lower proportion experiencing multidimensional quality of life problems while red is associated with a higher level of multidimensional quality of life problems.

The first column, showing the percentage of individuals experiencing at least three quality of life problems, represents the 'headcount'. Individuals that are deprived on only one or two dimensions are not considered to be experiencing multidimensional quality of life problems. As noted above, the range is very wide, from 4.5% in Iceland to 46.8% in Bulgaria. For instance, this dispersion between countries is much wider than that found regarding those 'at risk of poverty' (see Figure A1 in Annex 3).

The second column presents the average intensity for the individuals who are multidimensionally deprived (deprived on three or more dimensions). This is measured as the average proportion of people who are deprived across the 19 dimensions of quality of life. A value of 0.30, for instance, indicates that the person is deprived on 30% of the 10 quality of life dimensions (or three of the 10); while a value of 1.0 indicates a person is deprived on all of the dimensions. In comparison with the results from the first column, there is much less variation across countries with the range extending from 0.34 in Denmark to 0.44 in Serbia. With a few minor exceptions, such as Iceland at one end of the spectrum and Kosovo and Cyprus at the other end, there is a linear relationship between the headcount level and the intensity level. Countries with a higher headcount tend to also have a higher intensity of quality of life deprivation.

The final column presents results for the level of multidimensional adjusted headcount ratio (AHCR). The AHCR is calculated as the product of the headcount (the proportion experiencing multidimensional deprivation in the first column) and the multidimensional intensity score (in the second column). The higher the AHCR score, the higher the overall extent of multidimensional quality of life problems. The AHCR takes the value of zero when no one in a country is deprived on any of the 10 dimensions and it takes a value of one when all the population in a country is deprived on all the dimensions. The values of the AHCR range from 0.01 in Iceland to 0.19 in Bulgaria.

Although the indicators in the table are continuous, the countries can be sorted into four broad categories on the basis of the figures in the first column, which shows the proportion of the population experiencing multidimensional quality of life problems. This categorisation of countries is used in the next section to summarise the relationship between the level and the composition of multidimensional quality of life problems.

Table 9: *Multidimensional deprivation related to quality of life*

Country	Multidimensional deprivation on quality of life (%)	Multidimensional intensity	Multidimensional adjusted headcount ratio
IS	4.5	.39	.01
DK	5.0	.34	.02
FI	5.3	.37	.02
AT	7.8	.35	.03
SE	8.2	.37	.03
NL	8.7	.38	.03
LU	10.5	.35	.03
ES	10.9	.35	.04
IE	11.3	.37	.04
DE	13.0	.38	.05
SI	16.2	.37	.06
PT	18.2	.37	.07
BE	18.9	.38	.07
MT	19.4	.39	.07
FR	19.8	.38	.08
IT	20.5	.37	.08
UK	21.2	.39	.08
SK	22.1	.39	.09
HR	24.2	.39	.10
ME	25.0	.38	.10
CZ	24.7	.39	.10
MK	26.1	.39	.10
EE	29.0	.40	.12
PL	30.1	.40	.12
LT	30.0	.41	.12
KV	35.5	.38	.13
CY	36.2	.38	.14
RS	32.8	.44	.14
EL	33.8	.43	.14
RO	36.2	.41	.15
LV	37.1	.42	.16
HU	40.1	.41	.16
TR	43.3	.40	.17
BG	46.8	.41	.19
All countries	22.4	.39	.09

Note: 'All countries' refers to the average across countries, taking no account of differences in population: unweighted.
Source: *EQLS 2012, analysis by authors*.

Box 1: Calculation of AHCR

In order to illustrate the methodology of the AHCR, consider two countries at the opposite side of the AHCR spectrum (Table 9): Austria and Serbia, with AHCR scores of 0.03 and 0.14, respectively.

Multidimensional quality of life takes account of 10 dimensions: health, mental well-being, material deprivation, accommodation problems, neighbourhood problems, perceived poor quality public services, social tensions, perceived social exclusion, social capital deficits and network support deficits.

An individual is considered to have multidimensional quality of life problems if they experience deprivation or problems on three or more of the dimensions. All other individuals (experiencing no deprivation or deprivation on only one or two dimensions) are therefore not considered as experiencing multidimensional quality of life deprivation.

The first statistic from the AHCR methodology, then, is the **headcount**: the percentage of the population experiencing problems on three or more dimensions. This figure is 7.8% of the population in Austria and 32.8% in Serbia. This is shown in the first column of Table 9.

The second statistic is the depth or **intensity** of the multidimensional deprivation. This is the average number of problems (expressed as a proportion) among those who experience multidimensional deprivation. This figure is 0.35 in Austria and 0.44 in Serbia. In other words, among those with problems on three or more of the 10 dimensions in Austria, the average person in Austria is deprived on 0.35 of the dimensions while the average person in Serbia is deprived on 0.44 of the dimensions.

The third statistic, the **AHCR** is the product of the overall level of deprivation (the headcount) by the intensity of deprivation. For Austria the AHCR is therefore 0.03 (0.078 x 0.35) and it is 0.14 in Serbia (0.328 x 0.44).

Composition of quality of life problems

One of the interesting features of the adjusted headcount ratio is that it shows the relative contribution of each domain to the overall measure, within each country. In other words, apart from looking at the level of quality of life problems, it is also possible to see the composition of quality of life problems and to consider whether this varies by country. Even though countries that are usually grouped together in the literature can vary considerably in terms of their AHCR level, perhaps they have more in common in terms of the composition of their quality of life problems.

This analysis involves looking at the contribution of each dimension to the total AHCR score of each country. The detailed results are presented in Table A5 in Annex 2 and are summarised in Table 10; the summary was prepared by condensing the results for countries with different levels of multidimensional quality of life deficits. For convenience, four groups of countries are identified. Since the AHCR is a continuous measure, the boundaries between the groups are somewhat arbitrary, though the general pattern is clear. Horizontal lines in Table 9 show where the groups are separated.

In the **first group** of countries, the adjusted headcount ratio ranges from 0.01 to 0.05. It contains the Scandinavian countries, Austria, Germany, Luxembourg and the Netherlands from the continental group, and Ireland and Spain.

In the **second group**, the adjusted headcount ratio ranges from 0.09 to 0.12. This group comprises Belgium, France, Italy, Malta, Portugal, Slovakia, Slovenia and the UK.

In the **third group**, the range of the adjusted headcount ratio is from 0.10 to 0.12. More of the newer EU Member States are found here (Croatia, the Czech Republic, Estonia, Poland and Lithuania) as well as the former Yugoslav Republic of Macedonia and Montenegro.

The **final group** is characterised by having the highest level, but also the largest variation, in the adjusted headcount ratio (0.13 to 0.19) and has nine countries. With the exceptions of Cyprus and Greece, all the countries are from central and eastern Europe, the Baltic region and the Balkan region. The countries are Bulgaria, Cyprus, Greece, Hungary, Kosovo, Latvia, Romania, Serbia and Turkey.

Level and intensity of deprivation

Table 10 reports the mean contribution of each dimension to the overall quality of life problems for the four groups of countries, based on the level and intensity of multidimensional quality of life deprivation.

Looking at the first group of countries, with the lowest overall intensity of quality of life problems, the main contributing components are poor health, problems with mental well-being, perceived social exclusion and social capital deficits (all ranging from 0.11 to 0.13 of the total) and, to a lesser extent, self-rated health, accommodation problems and lack of social contact and network support (ranging from 0.12 to 0.14). This does not mean that problems with health and mental health are more prevalent in these countries than elsewhere; it just means that when people in these countries experience multidimensional quality of life problems, they are most likely to arise in these areas (health, mental well-being, social capital and perceived social exclusion). On the positive side there are fewer problems in these countries with material deprivation, neighbourhood deprivation and perceived quality of public services (all ranging from 0.07 to 0.09).

Table 10: *Quality of life scores by country groups*

Dimension of quality of life	Group 1	Group 2	Group 3	Group 4
Health	0.111	0.078	0.089	0.06
Mental wellbeing	0.122	0.122	0.097	0.102
Material deprivation	0.09	0.117	0.146	0.153
Accommodation deprivation	0.089	0.099	0.107	0.12
Neighbourhood deprivation	0.074	0.101	0.102	0.11
Poor quality public services	0.084	0.1	0.124	0.13
Social tensions	0.096	0.089	0.098	0.088
Perceived social exclusion	0.134	0.123	0.119	0.117
Social capital deficits	0.111	0.109	0.074	0.078
Network support deprivation	0.089	0.062	0.043	0.041
Total	1.000	1.000	1.000	1.000

Note: Figures sum to 1 in each column. Countries are grouped based on the level and intensity of multidimensional quality of life problems (the AHCR ratio).

In the second group of countries, the main issues are mental distress (0.12), perceived social exclusion (0.12) and social capital problems (0.11). Self-rated health is less of a problem (0.08) while material deprivation (0.12) is relatively more important.

In the third and fourth groups, basic living standards and perceived quality of public services become more salient and there is an increasing significance of accommodation and neighbourhood related problems. Problems with health make less of a contribution to quality of life issues here. Problems with lack of network support and social capital deficits are relatively less important than they are in the first group.

This analysis shows that there is an association between the composition or nature of the quality of life deprivation and the level and intensity of quality of life problems, as measured by the AHCR. Where the AHCR is high, problems with basic living standards and the quality of public services tend to be relatively more important. On the other hand, where the AHCR is low, health and mental well-being problems, perceived social exclusion and social capital deficits become more significant components of multidimensional quality of life deprivation.

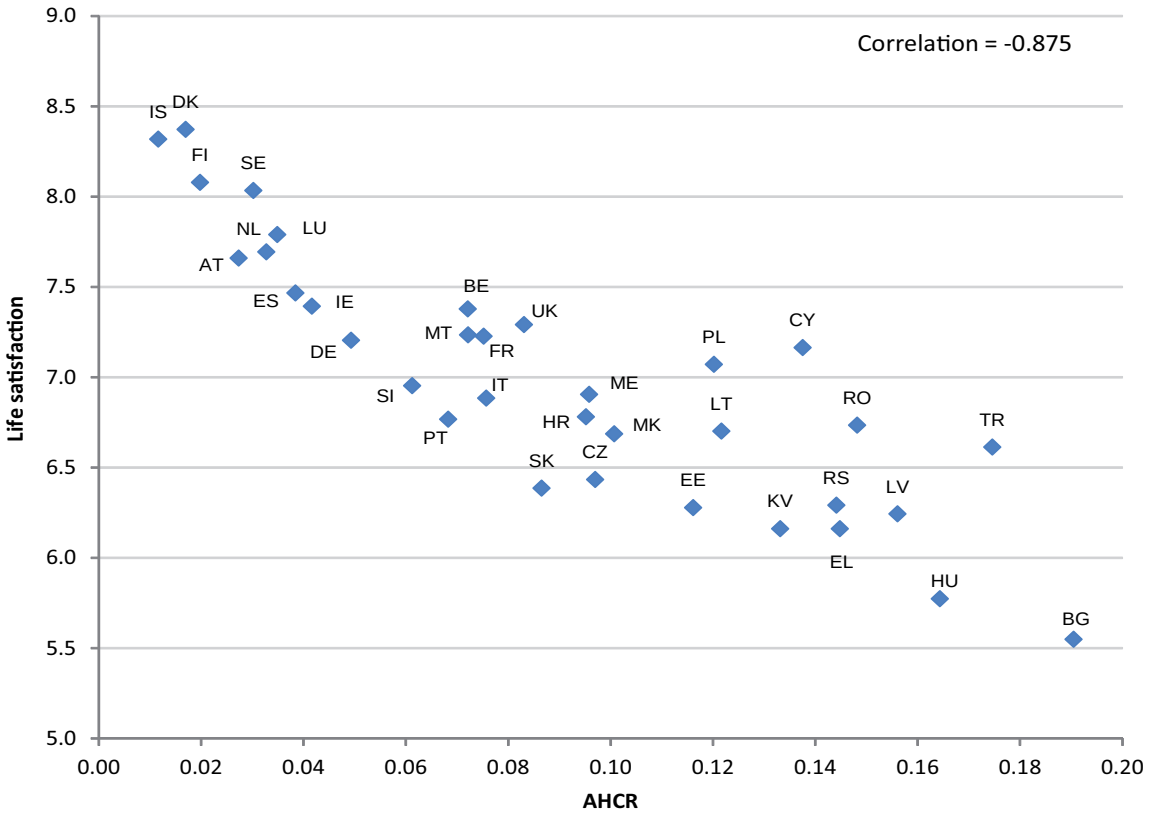
Chapter 4 brings together the results of the AHCR analysis in this chapter with the results of the analyses in the previous chapters to examine whether it is possible to identify a way of grouping countries that is informative for an understanding of national variations in quality of life.

Quality of life and life satisfaction

In constructing an indicator of multidimensional quality of life, 10 dimensions were included: health, mental well-being, material deprivation, accommodation problems, neighbourhood problems, perceived poor quality public services, social tensions, perceived social exclusion, social capital deficits and network support deficits. All of these were chosen in line with the capabilities approach of Sen, as factors that enable people to increase the type and range of things they can do (Sen, 1989, 1993). Subjective quality of life, as measured by global life satisfaction, might be thought of as a person's overall assessment of their quality of life, taking into account those dimensions that are particularly significant to them (Eurofound, 2010). A strong relationship is expected between subjective quality of life and the resources and conditions that affect people's capacity to make choices and to act.

This relationship is examined in Figure 2, which shows the association between the average level of life satisfaction in each country according to the third EQLS (Eurofound, 2012) and the average AHCR. There is a strong negative relationship between the two: countries with a higher level of quality of life problems have a lower average level of life satisfaction. The correlation between the two is -0.875. Denmark, Finland and Iceland have the highest average levels of life satisfaction and the lowest average AHCR levels. At the other end of the spectrum, Bulgaria and Hungary have the lowest level of life satisfaction and are among the three countries with the highest level of quality of life problems, as measured by the AHCR.

Figure 2: *Average life satisfaction and AHCR rate by country*



Source: *EQLS, 2012; analysis by authors*.

Summary

This chapter draws on the work of Alkire and Foster (2007, 2011a, 2011b) to develop an indicator of multidimensional quality of life deficits based on the EQLS data. This approach enables the comparison of countries in terms of the level and depth of multidimensional quality of life deficits. The dimensions included are health, mental well-being, material deprivation, accommodation problems, neighbourhood problems, poor quality public services, social tensions, perceived social exclusion, social capital deficits and network support deficits. The adjusted headcount ratio (AHCR) is an indicator that ranges from 0 to 1. It expresses the level and intensity of multidimensional quality of life deficits. The lowest value is 0.01 in Iceland and the highest value is 0.19 in Bulgaria. The AHCR is lowest in the Nordic countries and continental Europe and highest in Bulgaria, Hungary, Latvia and Turkey.

Apart from the level and intensity of multidimensional quality of life problems, the AHCR method is also a means of examining the composition of multidimensional quality of life problems by country. In countries where the level and intensity of quality of life problems are greater, problems with basic living standards and the quality of public services tend to be relatively more important. In countries with a lower level of quality of life problems, as measured by the AHCR, problems in the areas of health, mental well-being, perceived social exclusion and social capital deficits become more significant among those experiencing multidimensional quality of life problems.

A country-based typology for quality of life 4

Introduction

This chapter draws together the results from the literature review, the empirical analysis of macro-level indicators of state action and the analysis of quality of life to ask whether it is possible to recommend a particular grouping of countries for quality of life research. It begins by outlining a number of criteria on the basis of which one might decide which country grouping system (if any) would be most suited to analysis and communication of quality of life patterns in Europe. It then examines the two country-grouping systems with respect to these criteria. The third part of the chapter examines the extent to which the literature-based country grouping system is informative in terms of accounting for country patterns in multidimensional quality of life problems. Finally, the fourth section recommends a way of grouping countries and a strategy for developing this in the future.

Criteria for choosing a country grouping

It was evident from a review of the literature that there is no universal agreement on the grouping of countries, but that there is an identifiable dominant pattern. The underlying theory may emphasise different factors. For instance, Esping-Andersen (1990) emphasises decommodification and stratification; Hall and Soskice (2001) emphasise firms' coordination strategies and Castles and Mitchell (1992) emphasise a constellation of social and political factors that are common within a 'family' of nations. Nevertheless, there tends to be a convergence on a dominant schema, across a large number of sources. There was greater fluidity in terms of the countries of the Baltic region, central and eastern Europe and the Balkans. The inclusion of these countries in comparative international studies is relatively recent and they are represented in fewer sources dealing with welfare or employment regimes.

The analysis of macro-level indicators also indicated a degree of convergence across the different clustering techniques tested, but the resulting scheme differed in some respects from that identified in the literature.

Given the differences between the grouping systems based on the analysis of the literature and those based on an analysis of macro-level indicators, can it be concluded that it is possible to derive a system of grouping countries that would be useful in terms of understanding and communicating differences in quality of life across these 34 countries? In order to answer this question, it is helpful to begin by reviewing the important criteria for a country grouping system.

Grouping countries based on institutional features

A grouping scheme based on the analysis of institutional features of countries would be preferable to one based on quality of life outcomes. This is because basing group membership on distinct institutional features, such as the nature of the approach to welfare, would enable analysis of the impact of policies on quality of life. It would also make it possible to consider whether similar quality of life outcomes in a given domain (or in terms of overall quality of life) could be arrived at through different institutional and policy configurations. Although it is legitimate to ask what institutional features of a country are most relevant to quality of life, this is more easily achieved if the institutional features are separately identified using macro-level indicators or qualitative information about the country's political and socioeconomic institutions. Beginning with the institutional features of a country is also more useful from a policy perspective, since it facilitates comparison and analysis of the kinds of policies that affect quality of life outcomes. Both the approach adopted in the literature and the approach based on cluster analyses of macro-level indicators are linked to institutional and policy configurations rather than quality of life outcomes.

A broad range of institutional features

From the perspective of quality of life research, a grouping scheme based on a broad range of institutional features would be preferable to one based on a narrow and specific range of institutions. In the analysis of the literature, it emerged that schemes focusing on a single policy domain tended to produce very different country grouping schemes from the

dominant ones. For instance, in a study that emphasises family policy, Blum (2011) groups Hungary, Ireland, Latvia and the UK with the Scandinavian countries, while the Czech Republic, Estonia, Greece, Poland and Portugal are grouped with continental countries. This system of grouping countries is very valuable in highlighting patterns in family policy trends, but its usefulness is more limited when it comes to understanding other quality of life outcomes. A broadly defined system that takes account of very general aspects of a country's political and institutional configuration is useful in highlighting patterns in multidimensional quality of life. It draws attention to patterns that deviate from those expected from the country groups. The search for an explanation for unexpected patterns can contribute significantly to the development of theory. As discussed below, the unexpected patterns include the very different levels of quality of life in eastern and western Mediterranean countries and the much higher level of quality of life problems in Hungary compared to other countries in the Visegrad group.

Relative stability over time

Country groups should be relatively stable over time, so that they are based on relatively enduring aspects of the role of the state with respect to issues relevant to quality of life. A degree of stability would allow an assessment of the impact over time of a constellation of state policies. The benefits of many policies – such as in the area of health promotion and education – take a long time to be realised. In the absence of stability over time, there is a risk that the benefits due to policies in one regime would be attributed to the policies of another, later policy package.

Ease of updating and validating country groups

While stability is an advantage, the system should not be so rigid that it is unresponsive to major regime shifts. Ideally, a robust country grouping system would be based on a limited number of well-grounded, widely available macro-level indicators that capture actions of the state relevant to quality of life. This would permit the continuing validity of the grouping system to be assessed over time. Social and political change may lead to a country shifting from one group to another. This is particularly true given that the sorting of countries into groups is always going to be an approximate exercise since they will fit together well in some respects (overall capacity of the state as measured by state revenue, for instance) but less well in others – for example, regarding means testing of social benefits perhaps. Some countries will approximate 'pure types', while others may contain a mixture of different types (Ferragina and Seeleib-Kaiser, 2011). Moreover, and perhaps especially in the case of the countries of central and eastern Europe and the Balkans, there may be an evolution of institutional arrangements over time that warrants a reclassification of countries.

Assessment of country grouping systems

Table 11 summarises the country grouping systems with respect to these criteria. Both the literature-based system and the system based on cluster analysis of macro-level indicators perform well in terms of being based on institutional features of the countries rather than on quality of life outcomes. The literature review did include some grouping systems based on particular policy outcomes or a mix of outcomes and institutional features, but the dominant trend was to base the system on institutional features.[7] Given the limited number of indicators used in the empirical cluster analysis, this system is more selective than the literature-based approach in terms of the institutional features.[8]

[7] While six of the 53 sources were grouped on the basis of quality of life outcomes, there was only one case where this was the sole criterion.

[8] The indicators were GNI (logged); government revenue as a percentage of GDP; government spending on social benefits as a percentage of GDP; government spending on health as a percentage of GDP; government spending on education as a percentage of GDP; and percentage of social benefits that are means tested.

Since a wide range of institutional criteria were considered in the literature, the literature-based system meets the criterion of being broadly based. As far as possible, the selection of indicators for the empirical cluster analysis aspired to be broad, based on policies of wide relevance, such as social protection, health and education. However, it does not meet this criterion to the same degree, since it does not include any indicators of labour market policy or family policy. It is difficult to get robust and comparable indicators of these dimensions for the full range of countries included in this report.

In terms of stability over time, the literature-based system performs well since different sources draw on data from different periods of time, from the 1980s to the 2000s. The cluster-based system does not score as highly in this respect, since the cluster analysis was based on 2011 data only. The indicators of national income and government spending might be expected to change only slowly over time, but testing this was beyond the scope of the present analysis. In any case, for many of the countries of eastern and south-eastern Europe the analysis is limited by the length of the time series data available.

Finally, in terms of the potential to validate and update the systems, the system derived from the empirical cluster analysis of macro-level indicators has a clear advantage. The indicators are readily available and will be available into the future. On the other hand, it is a slower process to validate and update a system based on the literature.

Table 11: *Alternative country grouping systems assessed against criteria*

Criteria	System derived from literature review	System derived from cluster analysis
Based on institutional features of countries	High	Medium–high
Broad range of institutional features	High	Medium–high
Stability over time	Medium–high	Medium–low
Ease of updating and validating	Low–medium	High

In summary, based on the four criteria outlined above, the literature-based system has the advantage in terms of the range of institutional features considered and the span of time considered. This is only in contrast to the empirical cluster analysis conducted in the present report, however. In the future, it will be possible to conduct further tests, using a broader range of indicators that span a longer time period, as they become available for the 34 countries. This could broaden the base of the cluster-based country grouping system and permit an examination of stability over time.

Comparing country clusters

Table 12 compares the clusters derived from the literature to those derived from the analysis of the macro-level indicators in this chapter. There are many areas of similarity but also some cases where countries are classified quite differently.

In both clustering schemes, Denmark, Finland and Sweden are grouped together but the empirical analysis no longer groups Iceland with these three countries, as indicated by unbolded text. While Denmark, Finland and Sweden form a separate cluster in the literature analysis, they are combined with Austria, Belgium and France in the empirical analysis. In both systems, Austria, Belgium and France are found in the same cluster. Germany and the Netherlands are found together in both systems, but are grouped with the larger continental countries in the literature and with the smaller western/continental group in the empirical analysis.

Table 12: *Country clusters by method*

Literature-based	Country cluster label	Empirical, cluster-based
DK, FI, SE, IS	← Nordic Nordic/Continental →	**DK, FI, SE, AT, BE, FR**
DE, NL, AT, BE, FR, LU	← Continental Continental/Western →	**DE, NL,** UK
EL,IT, PT, CY, ES, MT, TR	← Mediterranean →	**EL, IT, PT,** SI (LU)
	Mixed →	IS, IE, **ES, MT, CY**
UK, IE	← Western islands	
EE, LV, LT	← Baltic states	
PL, SK, CZ, HR, HU, SI	← Central and eastern Europe →	**PL, SK, CZ, HR, EE, LT, LV**
BG, RO, MK, ME, RS	← Balkan Peninsula →	**BG, RO, MK,** TR
	Mixed →	HU, **RS, ME**

Source: *Literature review by authors; cluster analysis by authors of indicators from World Bank development indicators and Eurostat*.

The 'western islands' group, consisting of Ireland and the UK, was found in the literature but was not found in the empirical analysis, which places the UK with the continental/Nordic group and Ireland with a new 'mixed' group that also includes Cyprus, Iceland, Malta and Spain. This latter group is mainly characterised by a relatively high level of means testing for social benefits.

The 'southern' group found in the analysis of the literature does not clearly emerge in the empirical analysis. In the empirical analysis, Cyprus, Malta and Spain are found together in one cluster and Greece, Italy and Portugal are found together in another cluster. Turkey is not found with the 'southern' countries in the empirical analysis, but is found with the Balkan countries.

The Baltic, central and eastern European and Balkan countries are also grouped differently according to the two approaches. In both, the three Baltic states are found together but while they form a cluster of their own in the literature, the empirical analysis combines them with the Czech Republic, Croatia, Poland and Slovakia. These four countries are found together in both schemes, but the remaining countries in the literature analysis differ from those in the empirical analysis of the macro-level variables.

Hungary, Montenegro and Serbia are found in a cluster that has no parallel in the literature. This might be because there is not very much literature yet that includes Montenegro and Serbia. In terms of the macro-level variables, these countries seem to be characterised by low income, but relatively high government revenue and social benefits as a percentage of GDP.

Finally, Bulgaria, the former Yugoslav Republic of Macedonia and Romania are found together in both systems. However, they are combined with Montenegro and Serbia in the literature but with Turkey in the empirical analysis.

Overall, then, there are some similarities between the two grouping systems, but some differences occur as well. At the level of detail shown in Table 12, of the 33 countries, 15 would be grouped similarly under both approaches: Denmark, Finland and Sweden in a Nordic/social democratic group; Germany and the Netherlands in a continental group; Greece, Italy and Portugal in a Mediterranean group; the Czech Republic, Croatia, Poland and Slovakia in a central and eastern European group; and Bulgaria, the former Yugoslav Republic of Macedonia and Romania in a mainly Balkan group.

However, at a slightly more aggregated level of analysis, 26 of the 33 countries would be in similar groups under both systems. Eight countries are in one of two groups – Nordic or continental – in both systems: Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands and Sweden. A further three countries are in the Mediterranean group in both

systems (Portugal, Italy and Greece) and another three could be added if the mainly Mediterranean 'mixed group' from the empirical cluster analysis is combined with this category (Cyprus, Malta and Spain). Seven countries are classified in either the central and eastern group or the Baltic group under both systems (the Czech Republic, Croatia, Estonia, Latvia, Lithuania, Poland and Slovakia). Finally, five countries are classified in a largely Balkan group in both systems (Bulgaria, the former Yugoslav Republic of Macedonia, Montenegro, Romania and Serbia). At a more aggregated level, then, the similarities between the two systems are more apparent.

Country groups and quality of life

It was shown earlier in this chapter that the literature-based country grouping scheme offered a number of advantages in terms of the plausibility of the country groups, it being based on broad institutional features of the countries and its relative stability over time. This section examines how well this system captures important differences between the countries in terms of quality of life. The purpose of this analysis is to check whether some modification of the literature-based groups might lead to an improved capacity to identify important distinctions in terms of quality of life.

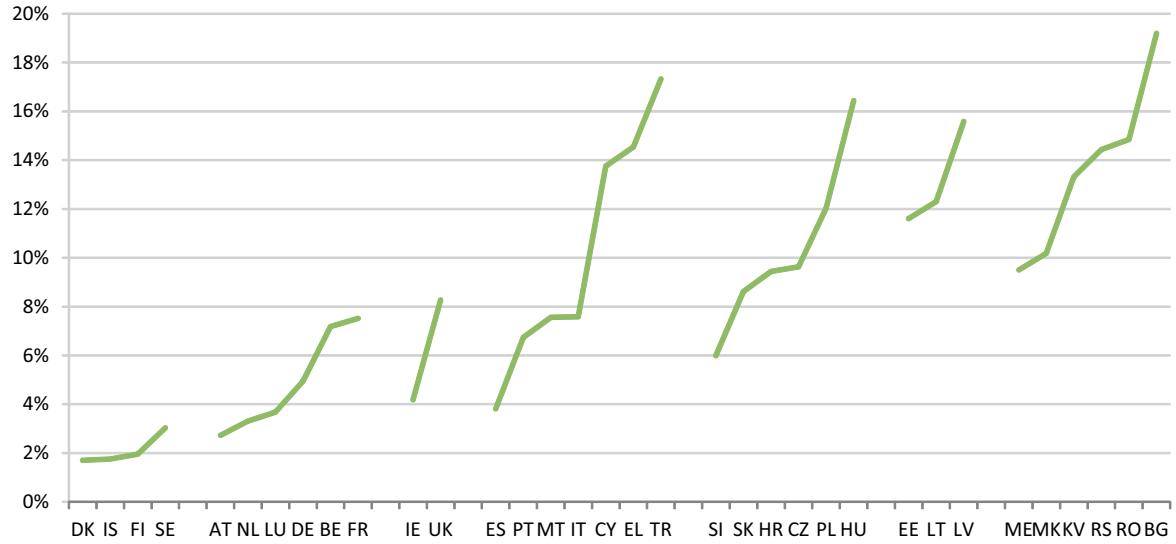
This section begins by examining the overall AHCR, which measures the level and intensity of multidimensional quality of life problems across 10 domains: health, mental wellbeing, material deprivation, accommodation deprivation, neighbourhood deprivation, poor quality public services, social tensions, perceived social exclusion, social capital deficits and network support deprivation. It then examines the grouping system with respect to the 10 domains separately. Because the country groups were developed, for the most part, on the basis of factors other than quality of life outcomes, there is no reason why they will capture important variations in quality of life. However, to the extent that they do capture such variation, they will be more useful in understanding and communicating these patterns and differences.

It is also possible to include Kosovo in this analysis since quality of life data on this country is available from the third EQLS (2012). Kosovo was included in neither the literature-based system nor the empirical cluster analysis due to lack of data. Kosovo is provisionally grouped with its neighbouring states – the former Yugoslav Republic of Macedonia, Montenegro and Serbia – in the following charts.

Adjusted headcount ratio (AHCR)

Figure 3 summarises how the AHCR varies across countries and by country group. The R^2 statistic, which indicates the proportion of the country-level variation explained by the country groups, is 0.532 for the literature-based groups. This indicates that 0.532 (or 53.2%) of the country-level variation in the overall level and intensity of quality of life problems is accounted for by country group. The literature-based system groups Iceland with Denmark, Finland and Sweden to form the group with the lowest AHCRs. Among the Visegrad countries grouped together in the literature (the Czech Republic, Hungary, Poland and Slovakia), Hungary stands out as having a much higher level of quality of life problems. The most diverse group is that of the Mediterranean countries, where Cyprus, Greece and Turkey have much higher AHCR scores than the other countries in this group. The diversity within this group suggests that it might be usefully split into a western Mediterranean group (Italy, Malta, Portugal and Spain) and an eastern Mediterranean group consisting of Cyprus, Greece and Turkey.

Figure 3: *AHCR by country and literature-based groups (%)*

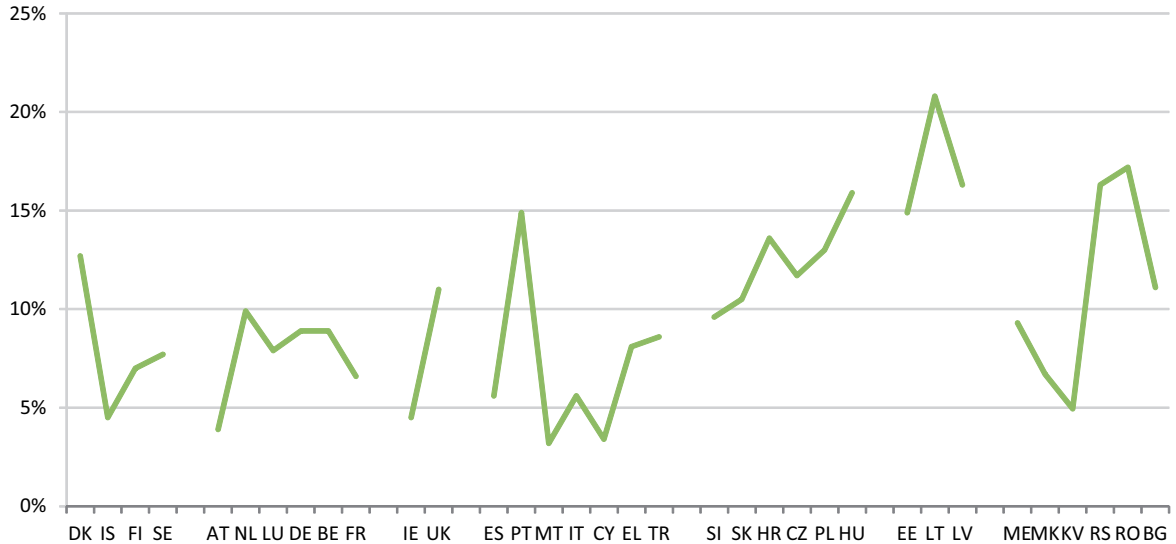


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.532.*

General health

Figure 4 shows the percentage of people rating their health as 'bad' or 'very bad' by country and country group. The adjusted R^2 statistic suggests that a lower proportion of country-level variation in health problems is accounted for by country group (about 36% compared to about 53% of the AHCR). The rate of health problems tends to be highest in the Baltic states, which are grouped together. However, the rate is also high in Romania and Serbia, which are grouped with the former Yugoslav Republic of Macedonia, Kosovo and Montenegro – countries with a much lower rate of self-reported health problems. There is also diversity within the Mediterranean group, with a high rate of health problems in Portugal but much lower rates in Cyprus, Malta and Spain. The differences between the Nordic, continental and western island groups are very minor. The combination of within-group diversity and groups with similar mean levels of health problems accounts for the weaker relationship between country group and the prevalence of health problems.

Figure 4: *Health rated as 'bad' or 'very bad' by country and literature-based group (%)*

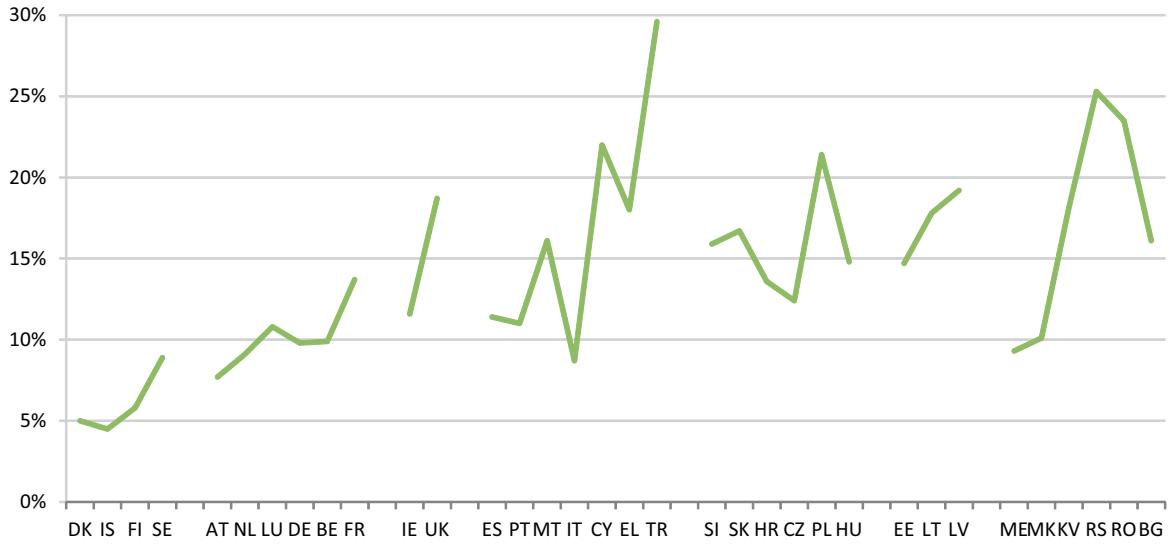


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.363.*

Mental well-being

In the case of mental well-being problems, the adjusted R^2 statistic is 0.306. Again, there is diversity within the Mediterranean and Balkan groups. This reduces the proportion of country-level variation accounted for by country groups. Within the Mediterranean group, a similar pattern is observed to that for the AHCR, with higher levels of problems in Cyprus, Greece and Turkey than in the other countries in this group. In the Balkan group, levels of mental well-being problems are high in Romania and Serbia and much lower in the former Yugoslav Republic of Macedonia and Montenegro.

Figure 5: *Proportion with low levels of mental well-being by country and literature-based group (%)*

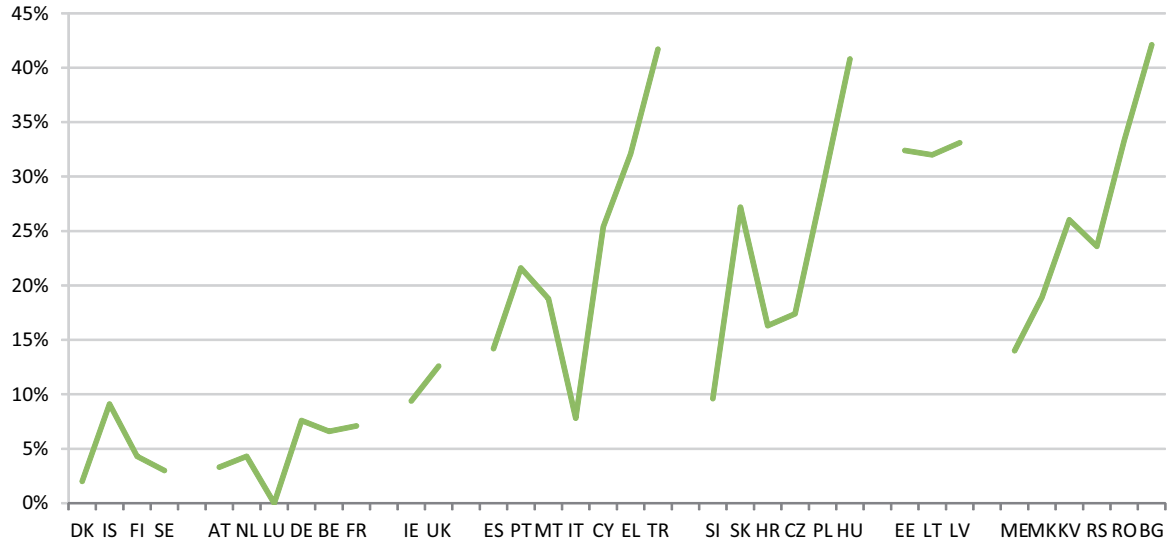


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.306.*

Material deprivation

The relationship between material deprivation and country group is somewhat stronger, with an R^2 statistic of 0.538. The literature-based system has four groups of countries with internally very similar levels of material deprivation (Nordic, continental, liberal and Baltic). Greece and Turkey have much higher levels of material deprivation than the other countries classified in the Mediterranean group in the literature-based approach. In the Balkan group, Bulgaria and Romania have much higher levels of material deprivation than the other countries. There is also diversity within the central and eastern European group, with high levels of deprivation in Hungary and relatively low levels in Slovenia.

Figure 6: *Material deprivation by country and literature-based group (%)*

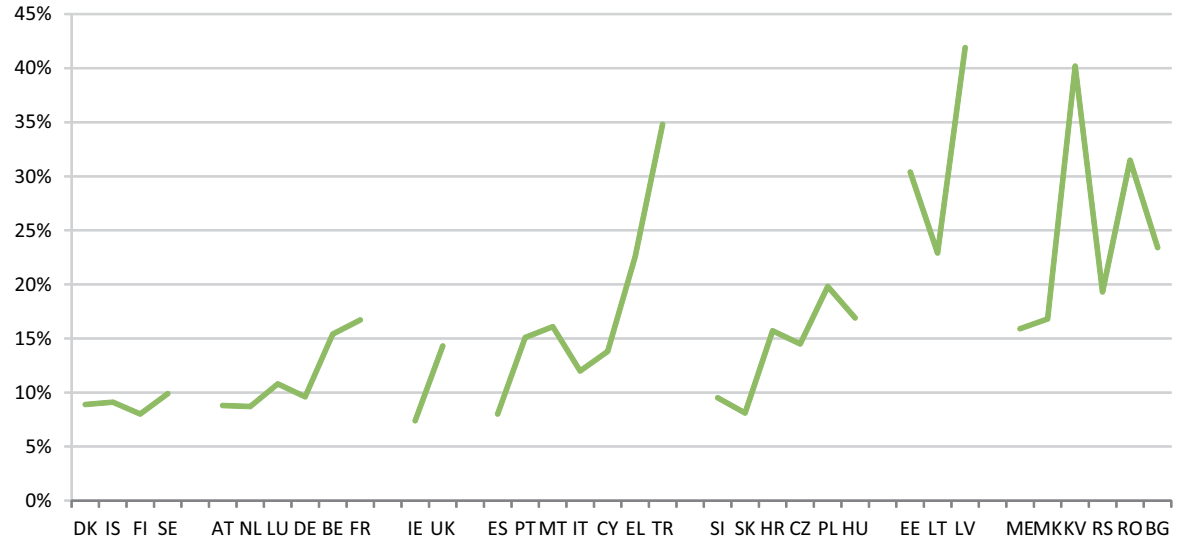


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.538.*

Accommodation deprivation

The variation across countries in accommodation deprivation is relatively modest apart from a small number of eastern and south-eastern countries where the level of deprivation is particularly high (Estonia, Kosovo, Latvia, Romania and Turkey). Nevertheless, the overall R^2 statistic is moderately high, at 0.443.

Figure 7: *Accommodation deprivation by country and literature-based group (%)*

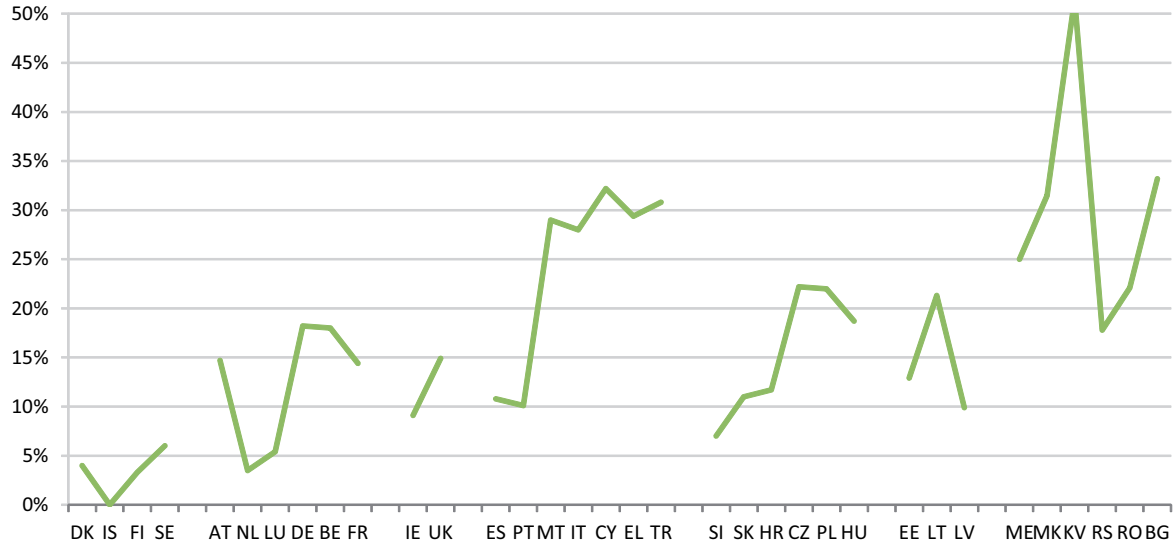


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.443.*

Neighbourhood deprivation

The level of neighbourhood quality problems is moderately associated with the literature-derived country grouping system (adjusted R^2 is 0.476). The highest level of problems is found in Kosovo, but the levels tend to be high in the other Balkan countries as well and also in several of the Mediterranean countries (Cyprus, Greece, Italy and Turkey).

Figure 8: *Proportion experiencing neighbourhood deprivation by country and literature-based group (%)*

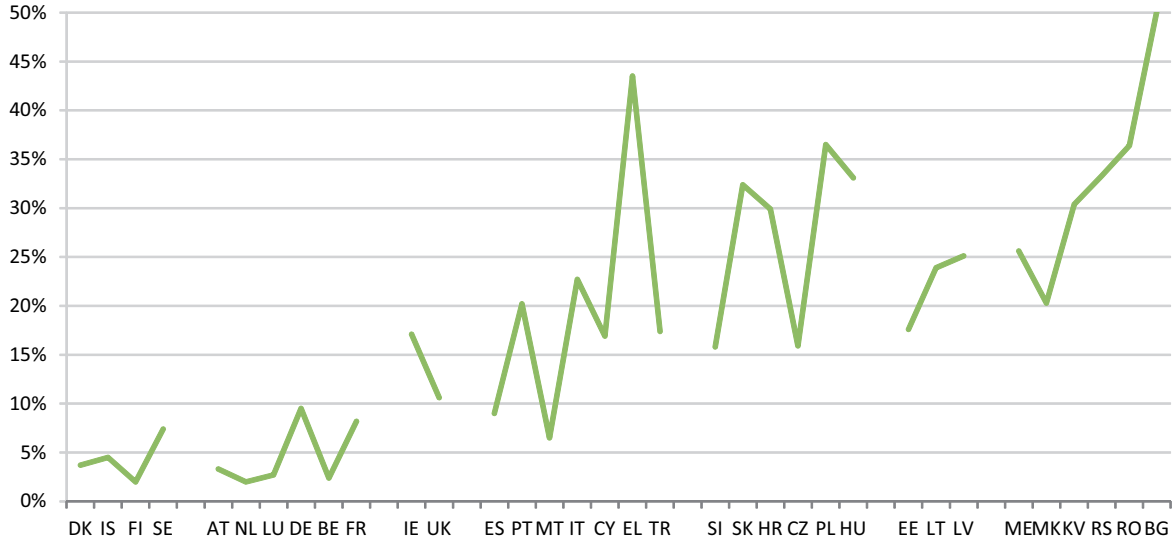


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.476.*

Problems with the quality of public services

The main difference in perceived quality of public services occurs between the countries in the north and west and those in the south and east, with the latter experiencing a higher level of problems. The adjusted R^2 statistic is relatively high, at 0.579. There is diversity within the Mediterranean system with the highest level of problems in Greece. There is also diversity within the Balkan countries, with problems highest in Bulgaria.

Figure 9: *Reported public service quality problems by country and literature-based group (%)*



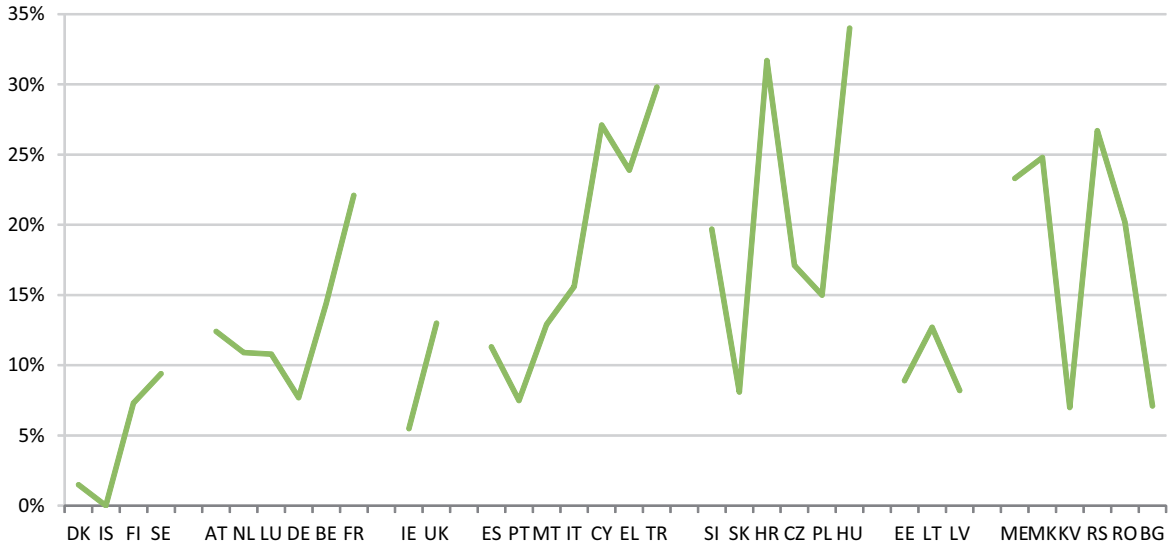
Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.579.*

Social tensions

The perceived level of social tension is very variable within groups. This is reflected in an adjusted R^2, which at 0.240 is lower than that of most of the other quality of life outcomes. The Mediterranean countries again split into the familiar two groups, with much higher levels of social tensions in the eastern countries. There is also a great deal of diversity

within the central and eastern European group and the Balkan group. In the former, levels of tension are particularly high in Croatia and Hungary, while in the Balkan countries levels are highest in the former Yugoslav Republic of Macedonia and Serbia.

Figure 10: *Reported high levels of social tensions by country and literature-based group (%)*

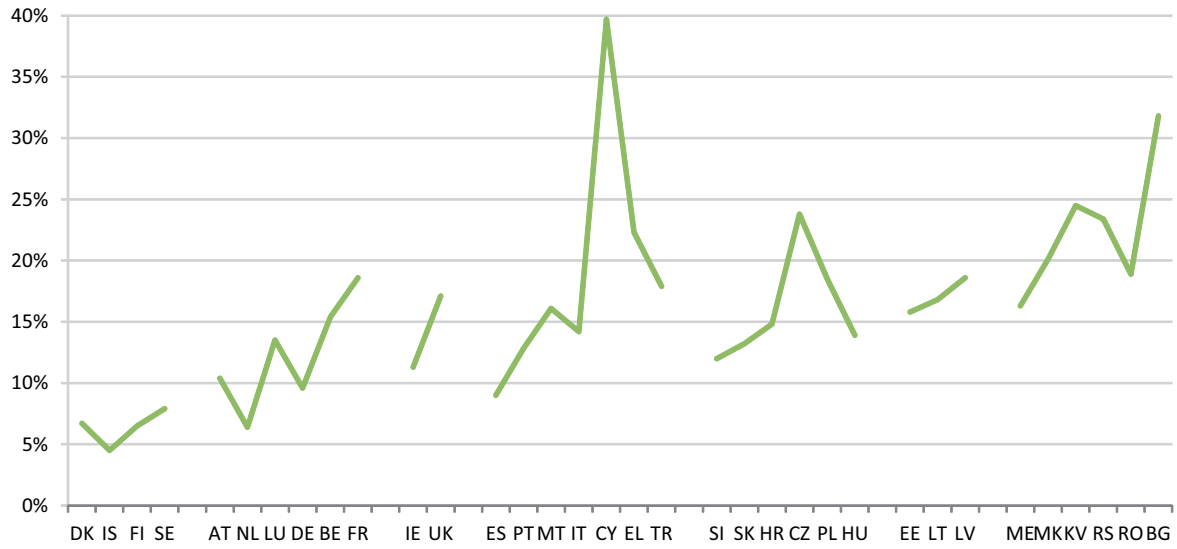


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.240.*

Perceived social exclusion

Apart from Bulgaria and Cyprus, which have particularly high levels of perceived social exclusion, the differences between countries on this issue is relatively modest – internally, the groups tend to be fairly homogenous. Neither is a large difference found between groups. As a result, the R^2 statistic for this dimension is lower than it is for most other quality of life dimensions, at 0.316.

Figure 11: *Perceived social exclusion by country and literature-based group (%)*

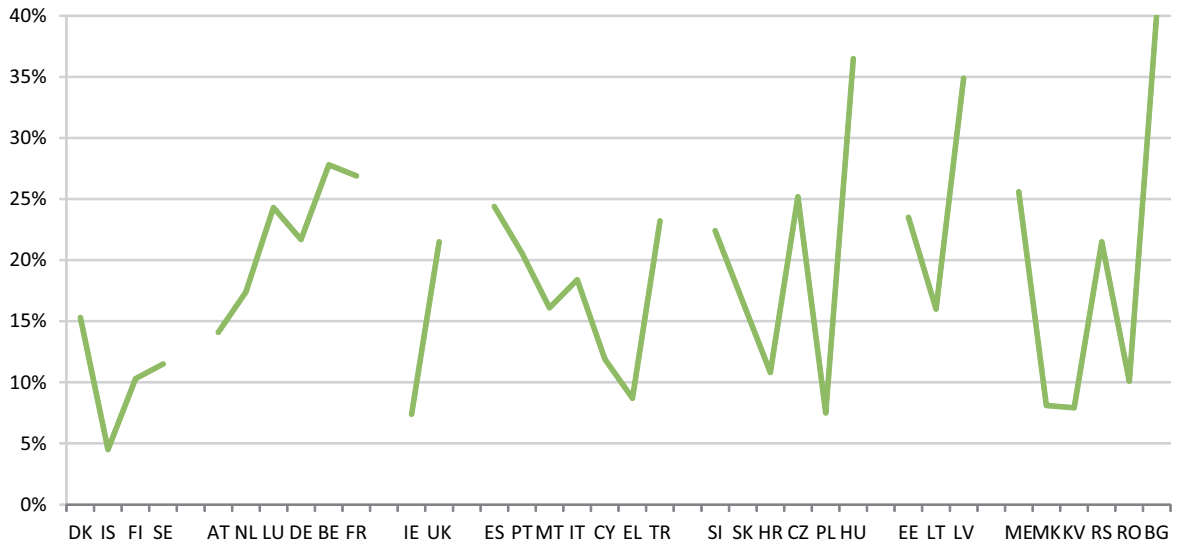


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.316.*

Social capital deficits

The indicator of social capital deficits includes low involvement in community networks, low involvement in voluntary work and low participation in civil society. Apart from the better scores on this indicator in the Nordic countries and Ireland, there is no clear relationship between the level of social capital deprivation and country cluster. The adjusted R^2 statistic is low at 0.017. The system does a poor job of distinguishing the three countries with particularly high levels of social capital deficits (Bulgaria, Hungary and Latvia), which are placed in three different groups.

Figure 12: *Reported social capital deprivation by country and literature-based group (%)*

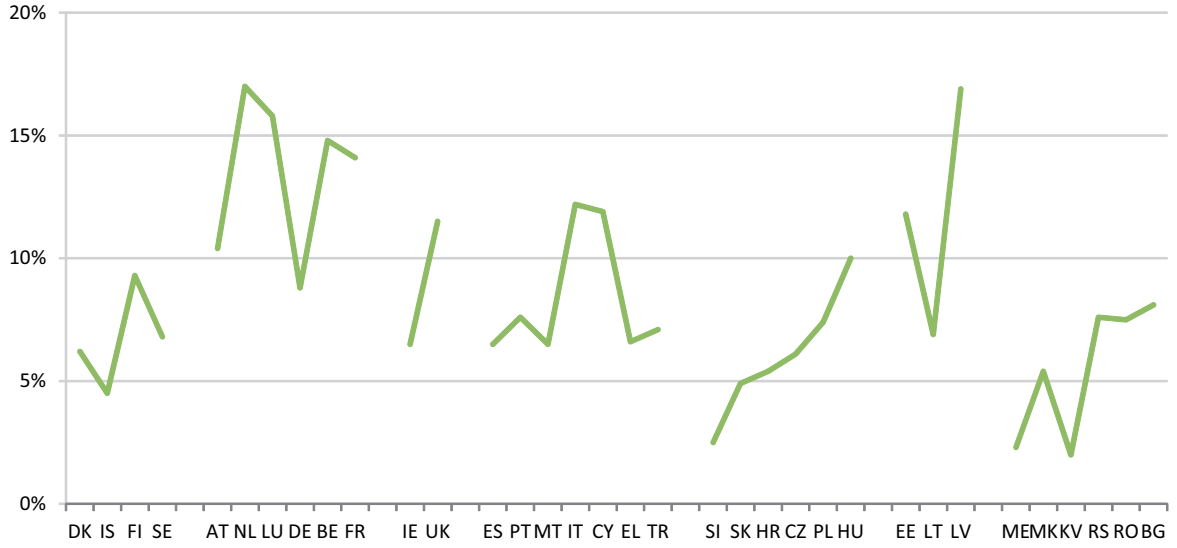


Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0 .017.*

Lack of network support

Lack of network support differs from many of the other dimensions in that the country group with the highest level of problems in this area is the relatively affluent continental group. The level of variability across countries is relatively modest, however. There are only three countries with a level above 15% (Luxembourg, Latvia and the Netherlands). The adjusted R^2 is 0.451.

Figure 13: *Lack of social network support by country and literature-based group (%)*



Source: *EQLS, 2012; analysis by authors. The adjusted R^2 is 0.451.*

Quality of life across country clusters in Europe

It is clear from the analysis in the previous section that quality of life in the western Mediterranean countries is very different from that in the eastern Mediterranean countries. This means that for the purposes of quality of life research, it makes sense to split this group. Kosovo was provisionally placed in the Balkan group. Given that this is already a diverse group, Kosovo was not atypical on most dimensions. Kosovo was an outlier on the neighbourhood and accommodation dimensions but it was closer to the Balkan pattern on these dimensions than to the alternative group to which it might have been assigned (the central and eastern European group). The general recommendation emerging from the empirical analysis of quality of life indicators, then, is to split the Mediterranean group into two groups: eastern Mediterranean countries and western Mediterranean countries, but to leave the remaining country groups as they are.

Table 13 shows how this would affect the proportion of the country-level variation in quality of life that is accounted for by the country groups. On average, across the dimensions, the proportion explained would increase from 0.387 to 0.476. The increase is particularly marked for the overall indicator of multidimensional quality of life problems (the AHCR), which would increase from 0.532 to 0.719. Major improvements are also seen in the areas of mental well-being problems (0.306 to 0.523), social tensions (0.240 to 0.408) and perceived social exclusion (0.316 to 0.520).

Table 13: *Differences in quality of life across country groups*

Quality of life dimension	Adjusted R^2 with seven Groups	Adjusted R^2 with eight Groups
Level and intensity of multidimensional quality of life deficits (AHCR)	0.532	0.719
Health problems	0.363	0.340
Mental well-being problems	0.306	0.523
Material deprivation	0.538	0.647
Accommodation deprivation	0.443	0.513
Neighbourhood deprivation	0.476	0.523
Public service deficits	0.579	0.613
Social tensions	0.240	0.408
Perceived social exclusion	0.316	0.520
Social capital deficits	0.017	0.003
Network support deficits	0.451	0.430
Average across dimensions	0.387	0.476

Notes: The R^2 statistic measures the percentage of the variation between countries in each dimension that is accounted for by country groups.
Source: *EQLS, 2012 (34 countries), analysis by authors*.

For three of the dimensions (health problems, social capital deficits and network support deficits), splitting the Mediterranean group makes little difference. Since the adjusted R^2 takes account of the number of groups (essentially adding a 'penalty' if there is an increase in the number of groups with no improvement in the proportion of variance explained), it is slightly lower for the eight-group system than the seven-group system for these dimensions. However, the increase in variance explained overall more than compensates for the loss of efficiency involved in moving from seven to eight groups.

Overall, Table 13 shows that the eight country groups do a very good job of capturing differences between countries in overall quality of life, material deprivation and public service deficits (0.60 to 0.72); a moderately good job for neighbourhood, accommodation, mental well-being, perceived social exclusion, social tensions and health (0.34 to 0.52); and that they do not perform at all well for social capital deficits (0.036).

Aggregating countries for fewer groups

There may be situations in which a smaller number of groups is needed. This may be for reasons of parsimony or, where the focus is on a more limited group of countries, to avoid having groups with only one or two countries. An analysis of the 28 EU Member States, for instance, would have three groups with only two Member States if the eight-group system in Table 13 were adopted. How might the groups be combined to produce a smaller number of groups with a larger number of countries in each group? The analysis of country patterns in the dimensions of quality of life provided some hints as to how this might be accomplished without major loss of explanatory power. For instance, Ireland and the UK were very similar to the continental countries in terms of quality of life, particularly in terms of the overall AHCR level. The three Baltic countries have a similar AHCR level to Hungary and Poland, while Cyprus, Greece and Turkey have an ACHR level similar to that of Bulgaria and Romania.

Table 14 shows the original eight groups and how the groups might be aggregated to form five groups or three groups. Table 15 shows how much of the country-level variation in quality of life is accounted for by the eight groups, five groups and three groups.

Table 14: *Recommended country groups*

Countries	Eight groups	Five groups	Three groups
Denmark, Finland, Sweden, (Iceland)	Nordic	Nordic	Nordic
Austria, Belgium, Germany, France, Luxembourg, Netherlands	Continental	Continental and western islands	Western Europe
Ireland, United Kingdom	Western islands		
Italy, Malta, Portugal, Spain	Mediterranean (W)	Mediterranean (W)	
Croatia, Czech Republic, Hungary, Poland, Slovakia, Slovenia	Central and eastern Europe	Central and eastern Europe	Central and eastern Europe
Estonia, Latvia, Lithuania	Baltic nations		
Cyprus, Greece, (Turkey)	Mediterranean (E)	Eastern Mediterranean and Balkan	
Bulgaria, (the former Yugoslav Republic of Macedonia), (Kosovo), (Montenegro), Romania, (Serbia)	Balkan countries		
Recommended use	When greatest level of detail is required and/ or where 34 countries are concerned.	For 28 EU Member States; for general quality of life; not for accommodation problems, network support or social tensions.	In cases where having a small number of groups is the priority; some loss of explanatory power.

Notes: Country names in (parentheses) are not EU Member States.

In going from eight groups to five groups, the proportion of country-level variation in the AHCR is maintained at about 0.72 and there is little change in the proportion of country-level variation accounted for in most of the other dimensions, especially material deprivation, neighbourhood deprivation, perceived social exclusion and quality of public services.

However, there is considerable loss of explanatory power when it comes to accommodation deprivation (falling from 0.513 with eight groups to 0.313 with five groups). This is because the three Baltic states had a much higher level of problems in this area than the other countries of central and eastern Europe (see Figure 7). There is a loss of explanatory power for health problems (from 0.340 to 0.264) but the level of variation in health problems by country group was modest in any case. There is also some loss of explanatory power when it comes to social tensions and loss of network support, but this is less marked than in the case of accommodation deprivation. The five-group system is less useful if the focus is on accommodation problems, social tensions or network support deficits.

For the purpose of presenting results on quality of life, then, aggregating these groups to form five groups as shown in Table 14 would not result in the loss of a great deal of country-level information. Moving from eight to five groups would also avoid having any groups with fewer than three countries when the focus is on the 28 EU Member States.

Table 15: *Variation in quality of life, by country groups*

Quality of life dimension	Adjusted R^2 Eight Groups	Adjusted R^2 Five Groups	Adjusted R^2 Three Groups
Overall quality of life deficits (AHCR)	0.719	0.715	0.682
Health problems	0.340	0.264	0.164
Mental well-being problems	0.523	0.458	0.459
Material deprivation	0.647	0.615	0.589
Accommodation deprivation	0.513	0.313	0.325
Neighbourhood deprivation	0.523	0.572	0.297
Public service deficits	0.613	0.598	0.575
Social tensions	0.408	0.281	0.299
Perceived social exclusion	0.520	0.543	0.418
Social capital deficits	0.003	0.030	0.063
Network support deficits	0.430	0.235	0.170
Average across dimensions	0.476	0.420	0.367

Note: The R^2 statistic shows the proportion of country-level variation across the 34 countries accounted for by the different country grouping systems.
Source: *EQLS, 2012; analysis by authors*.

The countries could also be grouped into three very broad groups: the 'Nordic countries'; the 'western European' group consisting of the continental group, the western islands (the UK and Ireland) and the western Mediterranean groups; and the 'eastern European' group consisting of the countries of central and eastern Europe, the Baltic states, the eastern Mediterranean countries and the Balkan states. These three groups preserve the main country-level distinctions in terms of overall multidimensional quality of life and also perform quite well in capturing variation in material deprivation, quality of public services and perceived social exclusion. There is some loss of explanatory power when it comes to network support, accommodation deprivation, neighbourhood deprivation, social tensions and health problems but this may be acceptable when these dimensions are not the focus of the analysis and parsimonious presentation is the priority.

Conclusion

This chapter drew together the results from the literature review, the analysis of macro-level indicators of state activity and the analysis of multidimensional quality of life deficits to recommend a system of grouping countries for quality of life research.

In bringing together the results of the literature review (Chapter 1), a method was developed of combining very diverse results by asking how often each pair of countries was grouped together. A similar method was used to draw together a very large number of different solutions from the empirical cluster analysis of macro-level indicators (Chapter 2). In both cases, the method produced a reasonably clear grouping of countries.

When the ideal features of a country grouping system are considered, the theoretically grounded system based on the literature has a number of advantages. It is grounded in the institutional features of the countries and takes a broad approach because it includes literature with a range of emphases. It also has an element of stability over time since the data underlying the literature are spread over the period since 1990. One advantage of a grouping system based on empirical cluster analysis of a small number of indicators is ease of updating and expansion of the grouping system. The empirical cluster analysis shows promise for use as an adjunct to the literature-based system – the empirical cluster analysis would have classified 26 of the 33 countries into groups similar to those that emerged from the literature-based approach. However, further work is needed in this area to produce a grouping that shows greater consistency with the more broadly-based results from the literature review.

The analysis of dimensions of quality of life suggested a modification of the grouping of countries derived from the literature. It was found that countries of the eastern Mediterranean (Cyprus, Greece and Turkey) tended to have much greater quality of life problems than countries of the western Mediterranean (Italy, Malta, Portugal and Spain). For quality of life research, then, it makes sense to split the Mediterranean group into these two groups. The eight-group system does a very good job of capturing differences between countries in overall quality of life, material deprivation and public service deficits (0.60 to 0.71); and a moderately good job for neighbourhood, accommodation, mental well-being, perceived social exclusion, social tensions and health (0.39 to 0.56). It does not perform at all well for social capital deficits (0.036).

As well as the eight-group system, a five-group system is recommended for use when the focus is on the 28 EU Member States. The five-group system does well in capturing the major distinctions in terms of quality of life but performs less well when it comes to distinctions related to accommodation problems. A three-group system is also suggested for situations where a small number of groups is a priority, although this system will result in some information loss.

Despite the diversity of perspectives and priorities in the literature on country grouping systems, the analysis in this report led to a coherent country grouping system. Further, as shown in this final chapter, this system performs well in terms of capturing country-level variation in quality of life across most dimensions. Perhaps it should not be surprising that the country grouping system derived from the review of literature performs well or that the groups of countries are coherent. After all, much of the literature is informed by an in-depth analysis of cultures, history and institutions. This also accounts for the geographical clustering of groups. Some similarities would be expected in the welfare states of peoples who have shared a great deal of their history (such as Ireland and the UK or the Baltic states), deriving from similar institutional legacies, cultures and values. The cultural dimension is important to the structure and role of family and caring patterns, approaches to work, approaches to citizenship, forms of sociability and solidarity and welfare. These kinds of cultures and institutions overlay one another, which may be why clustering systems that start from different points often arrive at quite similar configurations.

For specific dimensions of quality of life, a more refined grouping of countries is needed that takes account of country variations in the challenges and policies relevant to the dimension being considered. As noted above, although there are substantial differences between the countries in terms of social capital deprivation, none of the country-clustering systems does a good job of differentiating countries on this basis.

With a view to developing a system that can be updated over time, further investigation is recommended of the use of macro-level indicators as more of these become available. In particular, indicators related to labour market policy, family policy and civic participation are likely to be important to quality of life. It is unlikely that an automatic application of macro-level quantitative indicators could ever fully substitute for the detailed qualitative work involved in comparing

the institutional systems of states. Nevertheless, a system that makes use of a conceptually informed choice of macro-level indicators to better capture the most salient institutional distinctions would allow researchers to continually validate the system of grouping countries as circumstances and institutions change. It would also facilitate the inclusion of additional countries.

References

All Eurofound publications are available at **www.eurofound.europa.eu**.

Abbott, P. and Wallace, C. (2012), 'Social quality: A way to measure the quality of society', *Social Indicators Research*, Vol. 108, No.1, pp. 153–167.

Ahlquist, J. S. and Breunig, C. (2009), 'Country clustering in comparative political economy', MPIfG Discussion Paper 09, Max-Planck-Institut für Gesellschaftsforschung / Max Planck Institute for the Study of Societies, Cologne.

Alber, J., Fahey, T. and Saraceno, C. (2007), 'Introduction: EU enlargement and quality of life: The context and purpose of the book', in Alber, J., Fahey, T. and Saraceno, C. (eds.) *Handbook of Quality of Life in the Enlarged European Union*, Routledge, Oxon.

Alkire, S. and Foster, J. (2007), 'Counting and multidimensional poverty measurement', *Oxford poverty and human development initiative*, OPHI Working Paper 7, Oxford.

Alkire, S. and Foster, J. (2011a), 'Understandings and misunderstandings of multidimensional poverty measurement', *Journal of Economic Inequality*, Vol. 9, pp. 289–314.

Alkire, S. and Foster, J. (2011b), 'Counting and multidimensional poverty', *Journal of Public Economics*, Vol. 95, No. 7–8, pp. 476–487.

Alkire, S., Apablaza, M. and Jung, E. (2012), 'Multidimensional poverty measurement for EU-SILC (European Union Statistics on Income and Living Conditions) countries', *OPHI Research in Progress 36a*, Oxford.

Arts, W. and Gelissen, J. (2002), 'Three worlds of welfare capitalism or more? A state-of-the-art report', *Journal of European Social Policy*, Vol. 12, No. 2, pp. 137–158.

Bambra, C. (2005), 'Cash versus services: "Worlds of welfare" and the decommodification of cash benefits and health care services', *Journal of Social Policy*, Vol. 34, No.2, pp.195–213.

Bambra, C. and Eikemo, T. A. (2009), 'Welfare state regimes, unemployment and health: A comparative study of the relationship between unemployment and self-reported health in 23 European countries', *Journal of Epidemiology and Community health*, Vol. 63, No. 2, pp. 92–98.

Blum, S. (2011), 'Family policy trends in Europe – Criss-crossing all typologies', Working Paper No. 36, Social Sciences Research Network TransEurope.

Bohle, D. and Greskovits, B. (2007a), 'Neoliberalism, embedded neoliberalism and neocorporatism: Towards transnational capitalism in Central-Eastern Europe', *West European Politics*, Vol. 30, pp. 443–466.

Bohle, D. and Greskovits, B. (2007b), 'The state, internationalization and capitalist diversity in eastern Europe', *Competition and Change*, Vol. 11, pp. 90–115.

Bohle, D. and, Greskovits. B, (2012), *Capitalist diversity on Europe's periphery*, Cornell University Press, New York.

Bohnke, P. (2008), 'Are the poor socially integrated? The link between poverty and social support in different welfare regimes', *Journal of European Social Policy*, Vol. 18, No. 2, pp. 133–150.

Bonoli, G., and Natali, D. (2011), 'The politics of the "new" welfare states', in Bonoli, G. and Natali, D. (eds.), *The politics of the 'new' welfare state*, OUP, Oxford, pp. 3–17.

Brinegar, A. P., Jolly, S. K, and Kitschelt, H. (2004), 'Varieties of capitalism and political divides over European integration', in Marks, G. and Steenbergen, M. (eds.) *European Integration and Political Conflict*, Cambridge University Press, New York, pp. 62-89.

Brock, G., Pihur, V., Datta, S., and Datta, S. (2008), 'clValid: An R package for cluster validation', *Journal of Statistical Software*, Vol. 25, No. 4, pp. 1–22.

Castles, F. and Mitchell, D. (1992), 'Identifying welfare state regimes: The links between politics, instruments and outcomes', *Governance*, Vol. 5, No. 1, pp. 1–26.

Clarke, A., Fenton, A., Holmans, A., Jones, M., Markkhenan, S., Monk, S. and Whitehead, C. (2008), *Understanding demographic, spatial and economic impacts on future affordable housing demand*, Housing Corporation, London.

Dopazo J. and Carazo, J. M. (1997), 'Phylogenetic reconstruction using a growing neural network that adopts the topology of a phylogenetic tree', *Journal of Molecular Evolution*, Vol. 44, No. 2, pp. 226–233.

Esping-Andersen, G. (1990), *The three worlds of welfare capitalism*, Princeton University Press, New Jersey.

Esping-Andersen (1999), *Social foundations of post-industrial economies*, Oxford University Press, New York.

Esping-Andersen, G. and Myles, J. (2009), 'Inequality and the welfare state', in Salverda, W., Nolan, B. and Smeeding, T. M. (eds.), *The Oxford handbook of economic inequality*, Oxford University Press, Oxford.

Esping-Andersen, G., Gallie, D., Hemerijck, A. and Myles, J. (2001), *A new welfare architecture for Europe? Report submitted to the Belgian Presidency of the European Union*.

Eurofound (2003), *Monitoring quality of life in Europe*, Publications Office of the European Union, Luxembourg.

Eurofound (2005), *Income inequalities and deprivation*, Publications Office of the European Union, Luxembourg.

Eurofound (2007), *Occupational mobility in Europe*, Publications Office of the European Union, Luxembourg.

Eurofound (2010), *Second European Quality of Life Survey: Living conditions, social exclusion and mental well-being*, Dublin.

Eurofound (2012), *Third European Quality of Life Survey: Living conditions, social exclusion and mental well-being*, Dublin.

European Commission (2007a), *Towards common principles of flexicurity: More and better jobs though flexibility and security*, Publications Office of the European Union, Luxembourg.

European Commission (2007b), *Employment in Europe 2007*, Publications Office of the European Union, Luxembourg.

European Commission (2012), *Employment and social developments in Europe 2012*, Publications Office of the European Union, Luxembourg.

European Commission (2013), 'Towards social investment for growth and cohesion, including implementing the European Social Fund 2014–2020', COM(2013) 83 final, Brussels.

Fenger, H.J.M. (2007), 'Welfare regimes in central and eastern Europe: Incorporating post-communist countries in a welfare regime typology', *Contemporary Issues and Ideas in Social Sciences*, Vol. 3, No. 2, pp. 1–30.

Ferragina, E. and Seeleib-Kaiser, M. (2011), 'Welfare regime debate: Past, present, futures', *Policy & Politics*, Vol. 39, No. 4, pp. 583–661.

Ferrera, M. (1996), 'The southern model of welfare in social Europe', *Journal of European Social Policy*, Vol. 6, No. 1, pp. 17–37.

Fraley, C. and Raftery, A. E. (1998), 'How many clusters? Which clustering method? Answers via model-based cluster analysis', *The Computer Journal*, Vol. 41, No. 8, pp. 578–88.

Fraley, C. and Raftery, A. E. (2001), 'Model-based clustering, discriminant analysis and density Estimation', *Journal of the American Statistical Association*, Vol. 17, pp. 126–136.

Fraley, C. and Raftery, A. E. (2007), 'MCLUST Version 3 for R: Normal mixture modelling and model-based clustering', Technical Report 504, Department of Statistics, University of Washington.

Gallie, D. and Paugam, S. (2000), 'The experience of unemployment in Europe', in Gallie, D., and Paugam, S. (eds.), *Welfare regimes and the experience of unemployment in Europe*, Oxford University Press, Oxford, pp. 1–24.

Gallie, D. (2007), *Employment regimes and the quality of work*, Oxford University Press, Oxford.

Gallie, D. (ed.) (2013), *Economic crisis, quality of work and social integration*, Oxford University Press, Oxford.

Hall, P. A. and Soskice, D. (2001), *Varieties of capitalism*, Oxford University Press, New York.

Handl, J., Knowles, J. and Kell, D. B. (2005), 'Computational cluster validation in post-genomic data analysis', *Bioinformatics*, Vol. 2, No. 15, pp. 3201–12.

Helliwell, J. F. (2002), 'How's life? Combining individual and national variables to explain subjective well-being', *NBER Working Paper*, No. 9065, NBER, Cambridge.

Hemerijck, A. (2012), *Changing welfare states*, Oxford University Press, Oxford.

Herrero J., Valencia, A. and Dopazo, J. (2001), 'A hierarchical unsupervised growing neural net-work for clustering gene expression patterns', *Bioinformatics*, Vol. 17, No. 2, pp. 126–36.

Hofstede, G. (2001), *Culture's consequences: Comparing values, behaviours, institutions and organisations across nations*, 2nd edition, Sage, London, California, New Delhi.

Howell, C. (2003), 'Varieties of capitalism: And then there was one?', *Comparative Politics*, October, pp. 103–124.

Inglehart, R. (1990), *Culture shift in advanced industrial society*, Princeton University Press, New Jersey.

Inglehart, R. (1997), *Modernization and postmodernization. Cultural, political and economic change in 43 societies*, Princeton University Press, New Jersey.

Inglehart, R. and Norris, P. (2003), *Rising tide. Gender equality and cultural change around the world*, Cambridge University Press, Cambridge.

Jackson, G. and Deeg, R. (2006), 'How many varieties of capitalism? Comparing the comparative institutional analyses of capitalist diversity', MPIfG Discussion Paper, No. 06/2.

Jolliffe, D. and Farrington, D. P. (2007), *A rapid evidence assessment of the impact of mentoring on re-offending: A summary*, Home Office Online Report 11/07, Cambridge University, Cambridge.

Juhász, G. (2006), 'Exporting or pulling down? The European social model and eastern enlargement of the EU', *European Journal of Social Quality*, Vol. 6, No.1, pp. 82–107.

Kaufman, L. and Rousseeuw, P. J. (1990), *Finding groups in data: An introduction to cluster analysis*, Wiley-Interscience, New York.

Kayvan, K., Thelwall, M. and Somayeh, R. (2011), 'Assessing the citation impact of books: The role of Google Books, Google Scholar, and Scopus', *Journal of the American Society for Information Science and Technology*, Vol. 625, No. 11, pp. 2147–2164.

Kitschelt, H., Lange, P., Marks, G. and Stephens, J. D. (1999), 'Convergence and divergence in advanced capitalist democracies', in Kitschelt, H., Lange, P., Marks, G. and Stephens, J.D. (eds.), *Continuity and change in contemporary capitalism*, Cambridge University Press, New York, pp. 427–460.

Kohonen, T. (1997), *Self-organizing maps*, 2nd edition, Springer-Verlag, New York.

Korpi, W. and Palme, J. (1998), 'The paradox of redistribution and strategies of equality: Welfare state institutions, inequality and poverty in the western countries', *American Sociological Review*, Vol. 63, No. 5, pp. 661–687.

Krenz, A. (2013), 'Cross-country heterogeneity and endogeneity bias in life satisfaction estimations – Macro- and micro-level evidence for advanced, developing and transition countries', *Center for European, Governance and Economic Development Research Discussion Papers*, No. 155, Department of Economics, University of Goettingen.

Lewis, J. (1992), 'Gender and the development of welfare regimes', *Journal of European Social Policy*, Vol. 3, pp. 159–173.

Moisio, P. (2004), 'A latent class application to the multidimensional measurement of poverty', *Quantity and Quality-International Journal of Methodology*, Vol. 38, No. 6, pp. 703–717.

Muffels, R. and Fouarge, D. (2004), 'The role of European welfare states in explaining resources deprivation', *Social Indicators Research*, Vol. 68, No. 3, pp. 299–330.

Myles, J. and Quadagno, J. (2002), 'Political theories of the welfare state', *Social Service Review*, Vol. 76, No. 1, pp. 34–57.

Obinger, H. and Wagschal, U. (2001), 'Families of nations and public policy', *West European politics*, Vol. 24, No. 1, pp. 99–114.

O'Connor, J. S. (1993), 'Gender, class and citizenship in the comparative analysis of welfare state regimes: Theoretical and methodological issues', *British Journal of Sociology*, Vol. 44, pp. 501–518.

O'Connor, J. S. (1996), 'From women in the welfare state to gendering welfare state regimes', *Current Sociology*, Vol. 44, pp.1–124.

OECD (2007) 'Istanbul Declaration', presentation, *Second OECD world forum on statistics, knowledge and policy*, 30 June, Istanbul, Turkey.

OECD (2011), *Environmental performance reviews: Slovak Republic 2011*, OECD, Paris.

OECD (2013), *How's life? 2013: Measuring well-being*, OECD Publishing, Paris.

OECD and JRC (2008), *Handbook on constructing composite indicators. Methodology and user guide* (jointly prepared by the OECD and the Econometrics and Applied Statistics Unit of the European Commission Joint Research Centre (JRC)), OECD, Paris.

Orenstein, M. (2008), 'Postcommunist welfare states', *Journal of Democracy*, Vol. 19, No. 4, pp. 80–105.

Orloff, A. S. (1993), 'Gender and the social rights of citizenship: The comparative analysis of gender relations and welfare states', *American Sociological Review*, Vol. 58, pp. 303–328.

Orloff, A. S. (1996), 'Gender in the welfare state', *Annual Review of Sociology*, Vol. 22, pp. 51–78.

Palme, J. (2006), 'Welfare states and inequality: Institutional designs and distributive outcomes', *Research in Social Stratification and Mobility*, Vol. 24, pp. 387–403.

Petticrew, M. and Roberts, H. (2006), *Systematic reviews in the social sciences: A practical guide*, Blackwell, Oxford.

Pfau-Effinger, B. (2004), *Development of culture, welfare states and women's employment in Europe*, Ashgate, Aldershot.

Pichler, F. and Wallace, C. (2007), 'Patterns of formal and informal social capital in Europe', *European Sociological Review*, Vol. 23, pp. 423–436.

Reibling, N. (2010), 'Healthcare systems in Europe: Towards an incorporation of patient access', *Journal of European Social Policy*, Vol. 20, No. 1, pp. 5–18.

Ringen, S. (1987), *The possibility of politics: A study in the political economy of the welfare state*, Oxford University Press, Oxford.

Ringen, S. (1988), 'Direct and indirect measures of poverty', *Journal of Social Policy*, Vol. 17, pp 351–365.

Sagiv, L. and Shalom Schwartz, H. (2000), 'Value processes and subjective wellbeing: Direct relations and congruity effects', *European Journal of Social Psychology*, Vol. 30, pp.177–198.

Saint-Arnaud, S. and Bernard, P. (2003), 'Convergence or resilience? A hierarchical cluster analysis of the welfare regimes in advanced countries', *Current Sociology*, Vol. 51, No.5, pp.499–527.

Schwartz, S. H. (1992), 'Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries', in Zanna, M. P. (ed.), *Advances in experimental social psychology*, Academic Press, New York, pp. 1–65.

Schwartz, S. H. (1994), 'Are there universal aspects in the content and structure of values?', *Journal of Social Issues*, Vol. 50, pp. 19-46.

Scruggs, L. A. and Allan, J. P. (2008), 'Social stratification and welfare regimes for the 21st century: Revisiting the three worlds of welfare capitalism', *World Politics*, Vol. 60, pp. 642–64.

Sen, A. K. (1980), 'Equality of what? (1979 Tanner Lecture at Stanford)', in McMurrin, S. (ed.), *The Tanner Lectures on Human Values*, University of Utah Press, Salt Lake City, pp. 197–220.

Sen, A. K. (1985), 'Well-being, agency and freedom: The Dewey lectures 1984', *The Journal of Philosophy*, Vol. 82, No. 4, pp. 169–221.

Sen, A. K. (1992), *Inequality reexamined*, Clarendon Press, Oxford.

Sen, A. K. (1989), 'Development as capability expansion', *Journal of Development Planning*, Vol. 19, pp. 41–58.

Sen, A. K. (1993), 'Capability and well-being', in Nussbaum, M. and Sen, A. (eds.), *The quality of life*, Oxford Clarendon Press, New York, pp. 30–53.

Sen, A. K. (1999), *Development as freedom*, Oxford University Press, Oxford.

Siaroff, A. (1994), 'Work, welfare and gender equality: A new typology', in Sainsbury, D. (ed.), *Gendering welfare states*, SAGE Publications, London, pp. 82–101.

Smeeding, T. (1997), 'Financial poverty in developed countries', Luxembourg Income Study, Working Paper 115.

Stovicek, K. and Turrini, A. (2012), 'Benchmarking unemployment benefit systems,' *European Commission Economic Papers*, No. 454 (May).

Thelen, K. (2001), 'Varieties of labor politics in the developed democracies,' in Hall, P. A. and Soskice, D. (eds.), *Varieties of capitalism*, Oxford University Press, New York, pp. 71–103.

Thelen, K. (2004), *How institutions evolve: The political economy of skills in comparative-historical perspective*, Cambridge University Press, New York.

Thévenon, O. (2011), 'Family policies in OECD countries: A comparative analysis', *Population and Development Review*, Vol. 37, No. 1, pp. 57–87.

Thomas, J., Vigurs, C. A, Oliver, K., Suarez, B., Newman, M., Dickson, K. and Sinclair, J. (2008), *Targeted youth support: Rapid evidence assessment of effective early interventions for youth at risk of future poor outcomes*, EPPI-Centre report No. 1615.

Townsend, P. (1979), *Poverty in the United Kingdom: A survey of household resources and standards of living*, Allen Lane and Penguin Books, London.

Van der Veen, R. J. and van der Brug, W. (2013), 'Three worlds of social insurance: On the validity of Esping-Andersen's welfare regime dimensions', *British Journal of Political Science*, Vol. 43, pp. 323–343.

Vevea, J. L. and Woods, C. M. (2005), 'Publication bias in research synthesis: Sensitivity analysis using a priori weight functions', *Psychological Methods*, Vol. 10, pp. 428–443.

Victor, L. (2008a), 'Systematic reviewing in the social sciences: Outcomes and explanation', *Enquire*, Vol. 1, No. 1, pp.1–12.

Victor, L. (2008b), 'Systematic reviewing', *Social Research Update*, Vol. 54 , pp. 1–4.

Whelan, C. T. and Maître, B. (2005), 'Vulnerability and multiple deprivation perspectives on economic exclusion in Europe: A latent class analysis', *European Societies*, Vol. 7, No. 3, pp. 423–450.

Whelan, C. T. and Maître, B. (2009), 'Welfare regime and social class variation in poverty and economic vulnerability in Europe: An analysis of EU-SILC', UCD Geary Institute Discussion paper series, Dublin.

Whelan, C. T. and Maître, B. (2010), 'Welfare regime and social class variation in poverty and economic vulnerability in Europe: An analysis of EU-SILC', *Journal of European Social Policy*, Vol. 20, No. 4, pp. 316–332.

Whelan, C. T., Nolan, B. and Maitre, B. (2014), 'Multidimensional poverty measurement in Europe: An application of the adjusted headcount approach', *Journal of European Social Policy*, Vol. 24, No. 2, pp.183–197.

Williams, J., Murray, A. and Whelan, C. T. (2014), 'Multi-dimensional deprivation among 9-year olds in Ireland: An analysis of the Growing Up in Ireland Survey', *Child Indicators Research*, Vol. 7, pp. 279–300.

Annexes

Annex 1: First-tier and second-tier literature sources

First-tier literature

Bambra, C. (2006), 'Research note: Decommodification and the worlds of welfare revisited', *Journal of European Social Policy*, Vol. 16, No. 1, pp. 73–80.

Bambra, C. and Eikemo, T. A. (2009), 'Welfare state regimes, unemployment and health: A comparative study of the relationship between unemployment and self-reported health in 23 European countries', *Journal of Epidemiology and Community health*, Vol. 63, No. 2, pp. 92–98.

Blum, S. (2011), 'Family policy trends in Europe – Criss-crossing all typologies', Working Paper No. 36, *Social Sciences Research Network TransEurope*.

Bohle, D. and Greskovits, B. (2007a), 'Neoliberalism, embedded neoliberalism and neocorporatism: Towards transnational capitalism in Central-Eastern Europe', *West European Politics*, Vol. 30, pp. 443–466.

Bohle, D. and Greskovits, B. (2007b), 'The state, internationalization and capitalist diversity in eastern Europe', *Competition and Change*, Vol. 11, pp. 90–115.

Bohle, D. and, Greskovits, B. (2012), *Capitalist diversity on Europe's periphery*, Cornell University Press, New York.

Bohnke, P. (2008), 'Are the poor socially integrated? The link between poverty and social support in different welfare regimes', *Journal of European Social Policy*, Vol. 18, No. 2, pp. 133–150.

Bonoli, G. (1997), 'Classifying welfare states: A two-dimension approach', *Journal of Social Policy*, Vol. 26, No. 3, pp. 351–372.

Castles, F. G. and Obinger, H. (2008), 'Worlds, families, regimes: Country clusters in European and OECD area public policy', *West European Politics*, Vol. 3, No. 1–2, pp. 321–344.

Castles, F. and Mitchell, D. (1992), 'Identifying welfare state regimes: The links between politics, instruments and outcomes', *Governance*, Vol. 5, No. 1, pp. 1–26.

Chung, H. and Muntaner, C. (2007), 'Welfare state matters: A typological multilevel analysis of wealthy countries', *Health Policy,* Amsterdam, Netherlands, Vol. 80, No. 2, pp. 328–339.

Coburn, D. (2004), 'Beyond the income inequality hypothesis: Class, neo-liberalism, and health inequalities', *Social Science & Medicine*, Vol. 58, No. 1, pp. 41–56.

Dragolov, G., Zsofia I., Lorenz, J., Delhey, J. and Boehnke, K. (2013), *Social cohesion radar – Measuring common ground: An international comparison of social cohesion*, Bertelsmann Stiftung, Gutersloh.

Eikemo, T. A, Huisman, M., Bambra, C. and Kunst, A. E. (2008), 'Health inequalities according to educational level in different welfare regimes: A comparison of 23 European countries', *Sociology of Health and Illness*, Vol. 30, No. 4, pp. 565–582.

Esping-Andersen, G. (1990), *The three worlds of welfare capitalism*, Princeton University Press, New Jersey.

Esping-Andersen, G., Gallie, D., Hemerijck, A. and Myles, J., (2001), *A new welfare architecture for Europe? Report submitted to the Belgian Presidency of the European Union*.

Eurofound (2007), *Occupational mobility in Europe*, Dublin.

European Commission (2012), *Employment and social developments in Europe 2012*, Publications Office of the European Union, Luxembourg.

Fenger, H. J. M. (2007), 'Welfare regimes in central and eastern Europe: Incorporating post-communist countries in a welfare regime typology', *Contemporary Issues and Ideas in Social Sciences*, August, pp.1–37.

Ferragina, E. and Seeleib-Kaiser, M. (2011), 'The welfare regime debate: Past, present, futures?', *Policy & Politics*, Vol. 39, pp. 583–611.

Ferragina, E., Seeleib-Kaiser, M. and Tomlinson, M. (2013), 'Unemployment protection and family policy at the turn of the 21st century: A dynamic approach to welfare regime theory', *Social Policy and Administration*, Vol. 47, No. 7, pp. 783–805.

Ferrera, M. (1996), 'The southern model of welfare in social Europe', *Journal of European Social Policy*, Vol. 6, No. 1, pp. 17–37.

Gal, J. (2010), 'Is there an extended family of Mediterranean welfare states?', *Journal of European Social Policy*, Vol. 20, No. 4, pp. 283–300.

Gallie, D. and Paugam, S. (2000), 'The experience of unemployment in Europe', in Gallie, D. and Paugam, S. (eds.), *Welfare regimes and the experience of unemployment in Europe*, Oxford University Press, Oxford.

Gallie, D. (2007), *Employment regimes and the quality of work*, Oxford University Press, Oxford.

Gallie, D. (ed.) (2013), *Economic crisis, quality of work and social integration*, Oxford University Press, Oxford.

Gukalova, I. (2013), 'The five qualities of life in Europe: Multidimensional spatial typology of countries with a special attention to Ukraine', *Geoinfor Geostat: An Overview*, Vol. 1, No. 3, pp. 1–7.

Guriev, S. and Zhuravskaya, E. (2009), '(Un)happiness in transition', *Centre for Economic Policy Research Discussion Paper*, No. 7258, CEPR, London.

Hall, P. A. and Soskice, D. (eds.) (2001), *Varieties of capitalism*, Oxford University Press, New York.

Helliwell, J. F. (2002), 'How's life? Combining individual and national variables to explain subjective well-being', *NBER Working Paper*, No. 9065, NBER, Cambridge.

Hemerjick, A. (2012), *Changing welfare states*, Oxford University Press, New York.

Kääriäinen, J. and Lehtonen, H. (2006), 'The variety of social capital in welfare state regimes – A comparative study of 21 countries', *European Societies*, Vol. 8, No. 1, pp. 27–57.

Kangas, O. (1994), 'The politics of social security: On regressions, qualitative comparisons, and cluster analysis', in Janoski, T. and Hicks, M. (eds.), *The comparative political economy of the welfare state*, Cambridge University Press, Cambridge.

Korpi, W. (2000), 'Faces of inequality: Gender, class and patterns of inequalities in different types of welfare states', *Social Politics*, Vol. 7, No. 2, pp. 127–191.

Korpi, W. and Palme, J. (1998), 'The paradox of redistribution and strategies of equality: Welfare State institutions, inequality and poverty in the western countries', *American Sociological Review*, Vol. 63, No. 5, pp. 661–687.

Krenz, A. (2013), 'Cross-country heterogeneity and endogeneity bias in life satisfaction estimations – Macro- and micro-level evidence for advanced, developing and transition countries', *Center for European, Governance and Economic Development Research Discussion Papers*, No. 155, Department of Economics, University of Goettingen.

Leibfried, S. (1992), 'Towards a European welfare state: On integrating poverty regimes in the European Community', in Ferge Z. and Kolberg J. E. (eds.), *Social Policy in a Changing Europe*, Campus-Verlag, Frankfurt.

Leitner, S. (2003), 'Varieties of familialism: The caring function of the family in comparative perspective', *European Societies*, Vol. 5, No. 4, pp. 353–375.

Obinger, H. and Wagschal, U. (2001), 'Families of nations and public policy', *West European politics*, Vol. 24, No. 1, pp. 99–114.

Pichler, F. and Wallace, C. (2007), 'Patterns of formal and informal social capital in Europe', *European Sociological Review*, Vol. 23, pp. 423–436.

Powell, M. and Barrientos, A. (2004), 'Welfare regimes and the welfare mix', *European Journal of Political Research*, Vol. 43, No. 1, pp. 83–105.

Ragin, C. (1994), 'A qualitative comparative analysis of pension systems', in Janoski, T. and Hicks, M. (eds.), *The comparative political economy of the welfare state*, Cambridge University Press, Cambridge.

Reibling, N. (2010), 'Healthcare systems in Europe: Towards an incorporation of patient access', *Journal of European Social Policy*, Vol. 20, No. 1, pp. 5–18.

Rostila, M. (2007), 'Social capital and health in European welfare regimes: A multilevel approach', *Journal of European Social Policy*, Vol. 17, No. 3, pp. 223–239.

Saint-Arnaud, S. and Bernard, P. (2003), 'Convergence or resilience? A hierarchical cluster analysis of the welfare regimes in advanced countries', *Current Sociology*, Vol. 51, No. 5, pp. 499–527.

Sanfey, P. and Teksoz, U. (2005), *Does transition make you happy?*, EBRD Working Paper No. 91, European Bank for Reconstruction and Development, London.

Scruggs, L. A. and Allan, J. P. (2008), 'Social stratification and welfare regimes for the twenty-first century: Revisiting the three worlds of welfare capitalism', *World Politics*, Vol. 60, No. 4, pp. 642–664.

Siaroff, A. (1994), 'Work, welfare and gender equality: A new typology', in Sainsbury, D. (ed.), *Gendering welfare states*, SAGE Publications, London, pp. 82–101.

Soede, A. (2004), *Unequal welfare states: Distributive consequences of population ageing in six European countries*, the Netherlands Institute for Social Research, the Hague.

Stovicek, K. and Turrini, A. (2012), *European economy: Benchmarking unemployment benefit systems*, Economic Papers 454, European Commission, Brussels.

Thévenon, O. (2011), 'Family policies in OECD countries: A comparative analysis', *Population and Development Review*, Vol. 37, No. 1, pp. 57–87.

Van Oorschot, W. (2005), 'The social capital of European welfare states: The crowding out hypothesis revisited', *Journal of European Social Policy*, Vol. 15, No. 1, pp. 5–26.

Whelan, C. T. and Maître, B. (2010), 'Welfare regime and social class variation in poverty and economic vulnerability in Europe: An analysis of EU-SILC', *Journal of European Social Policy*, Vol. 20, No. 4, pp. 316–332.

Second-tier literature

Aassve, A., Billari, F., Mazzuco, S. and Ongaro, F. (2002), 'Leaving home: A comparative analysis of ECHP data', *Journal of European Social Policy*, Vol. 12, No. 4, pp. 259–275.

Aassve, A., Iacovou, M. and Mencarini, L. (2006), 'Youth poverty and transition to adulthood in Europe', *Demographic Research*, Vol. 15, pp. 21–50.

Abrahamson, P. (1999), 'The welfare modelling business', *Social Policy and Administration*, Vol. 33, No. 4, pp. 394–415.

Ahlquist, J. S. and Breunig, C. (2011), 'Country clustering in comparative political economy', MPIfg Discussion Paper 09/5, Max Planck Institute, Cologne.

Aidukaite, J. (2009), 'Old welfare state theories and new welfare regimes in Eastern Europe: Challenges and implications', *Communist and Post-Communist Studies*, Vol. 42, No. 1, pp. 23–39.

Alber, J. (2007), 'Where Turkey stands in Europe and why it should be admitted to the EU', WZB Discussion Paper, WZB, Berlin.

Albertini, M., Kohli, M. and Vogel, C. (2007), 'Intergenerational transfers of time and money in European families: Common patterns, different regimes?', *Journal of European Social Policy*, Vol. 17, No. 4, pp. 319–334.

Anxo, D., Fagan, C., Cebrian, I. and Moreno, G. (2007), 'Patterns of labour market integration in Europe – A life course perspective on time policies', *Socio-Economic Review*, Vol. 5, pp. 233–260.

Arts, W. and Gelissen, J. (2002), 'Three worlds of welfare capitalism or more? A state-of-the-art report', *Journal of European Social Policy*, Vol. 12, No. 2, pp. 137–158.

Avdeyeva, O. (2006), 'In support of mothers' employment: Limits to policy convergence in the EU?', *International Journal of Social Welfare*, Vol. 15, No. 1, pp. 37–49.

Bambra, C. (2007), 'Defamilisation and welfare state regimes: A cluster analysis', *International Journal of Social Welfare*, Vol. 16, No. 4, pp. 326–338.

Beblavý, M., Thum, A. and Veselkova, M. (2011), *Education policy and welfare regimes in OECD countries: social stratification and equal opportunity in education*, CEPS Working Document No. 357, Centre for European Policy Studies, Brussels.

Bettio, F. and Plantenga, J. (2004), 'Comparing care regimes in Europe', *Feminist Economics*, Vol. 10, No.1, pp. 85–113.

Blekesaune, M. and Quadagno, J. (2003), 'Public attitudes toward welfare state policies: A comparative analysis of 24 nations', *European Sociological Review*, Vol. 19, No. 5, pp. 415–427.

Bonke, J. and Esping-Andersen, G. (2011), 'Family investments in children – Productivities, preferences, and parental child care', *European Sociological Review*, Vol. 27, No.1, pp. 43–55.

Bosjnak, V. and Stubbs, P. (2007), 'Towards a new welfare mix for the most vulnerable: Reforming social services in Bosnia-Herezgovina, Croatia and Serbia', *Social Policy and Regional Development Proceedings*, The Institute of Economics Zagreb, Zagreb.

Bouget, D. (2003), 'Convergence in the social welfare systems in Europe: From goal to reality', *Social Policy and Administration*, Vol. 37, No.6, pp.674–693.

Brush, L. D. (2002), 'Changing the subject: Gender and welfare regime studies', *Social Politics*, Vol. 9, No. 2, pp. 161–186.

Bugra, A. (2006), 'The Turkish welfare regime in transformation', *Journal of European Social Policy*, Vol. 16, No. 3, pp. 211–228.

Burgoon, B. (2004), 'Three worlds of working time: The partisan and welfare politics of work hours in industrialized countries', *Politics & Society*, Vol. 32, No. 4, pp. 439–473.

Deacon, B. (2000), 'Eastern European welfare states: The impact of the politics of globalization', *Journal of European Social Policy*, Vol. 10, No. 2, pp. 146–161.

Dewilde, C. (2008), 'Individual and institutional determinants of multidimensional poverty: A European comparison', *Social Indicators Research*, Vol. 86, No. 2, pp. 233–256.

Domański, H. and Przybysz, D. (2007), 'Educational homogamy in 22 European countries', *European Societies*, Vol. 9, No. 4, pp. 495–526.

Ebbinghaus, B. (2012), 'Comparing welfare state regimes: Are typologies an ideal or realistic strategy?' conference presentation, *ESPAnet conference*, 6–8 September, Edinburgh, pp. 1–20.

Erlinghagen, M. and Knuth, M. (2009), 'Unemployment as an institutional construct? Structural differences in non-employment between selected European countries and the United States', *Journal of Social Policy*, Vol. 39, No. 1, pp. 71–94.

Esping-Andersen, G. (1992), 'Post-industrial class structures: An analytical framework', *Estudios/Working Papers*, No. 38, pp.1–35.

Esping-Andersen, G. (1996), 'Welfare states without work: The impasse of labor shedding and familialism in continental European social policy', in G. Esping-Andersen (ed.), *Welfare states in transition: National adaptations in global economies*, SAGE Publications, London, pp. 66–88.

Esping-Andersen, G. (2000a), 'Interview on postindustrialism and the future of the welfare state', *Work, Employment & Society*, Vol. 14, No. 4, pp. 757–769.

Esping-Andersen, G. (2000b), 'Two societies, one sociology, and no theory', *British Journal of Sociology*, Vol. 51, No. 1, pp. 59–77.

Esping-Andersen, G. and Garfinkel, I. (2012), 'Child care and school performance in Denmark and the United States', *Children and Youth*, Vol. 34, No. 3, pp. 576–589.

Eurofound (2005), *First European Quality of Life Survey: Income inequalities and deprivation*, Publications Office of the European Union, Luxembourg.

Farkas, B. (2011), 'The central and eastern European model of capitalism', *Post-Communist Economies*, Vol. 23, No. 1, pp. 15–34.

Fuwa, M. (2004), 'Macro-level gender inequality and the division of household labor in 22 countries', *American Sociological Review*, Vol. 69, No. 6, pp.751–767.

Gallie, D. (2007), 'Production regimes and the quality of employment in Europe', *Annual Review of Sociology*, Vol. 33, No. 1, pp. 85–104.

Gevers, J., Gelissen, J., Arts, W. and Muffels, R. (2000), 'Public health care in the balance: Exploring popular support for health care systems in the European Union', *International Journal of Social Welfare*, Vol. 9, No. 3, pp. 1–321.

Gornick, J. C., Meyers, M. K. and Ross, K. E. (1997), 'Supporting the employment of mothers: Policy variation across fourteen welfare states', *Journal of European Social Policy*, Vol. 7, No. 1, pp. 45–70.

Gough, I. (2001), 'Social assistance regimes: A cluster analysis', *Journal of European Social Policy*, Vol. 11, No. 2, pp. 165–170.

Hamnett, C. (1996), 'Social polarisation, economic restructuring and welfare state regimes', *Urban studies*, Vol. 33, No. 8, pp. 1407–1431.

Iversen, T. and Stephens, J. D. (2008), 'Partisan politics, the welfare state, and three worlds of human capital formation', *Comparative Political Studies*, Vol. 41, No. 4–5, pp. 600–637.

Jaeger, M. (2005), 'Welfare regimes and attitudes towards redistribution: The regime hypothesis revisited', *European Sociological Review*, Vol. 22, No. 2, pp. 157–170.

Jessop, B. (1999), 'The changing governance of welfare: Recent trends in its primary functions, scale, and modes of coordination', *Social Policy and Administration*, Vol. 33, No. 4, pp. 348–359.

Kautto, M. (2002), 'Investing in services in West European welfare states', *Journal of European Social Policy*, Vol. 12, No. 1, pp. 53–65.

Kosta, J., Novica, S. and Olgica, I. (2011), 'European welfare regimes: Political orientations versus poverty', *Panoeconomicus*, Vol. 329, pp. 651–674.

Lapinski, J. S., Riemann, C. R., Shapiro, R. Y., Stevens, M. F. and Jacobs, L. R. (1998), 'Welfare state regimes and subjective well-being: A cross-national study', *International Journal of Public Opinion Research*, Vol. 10, No. 1, pp. 2–24.

Leibrecht, M., Klien, M. and Onaran, O. (2010), 'Globalization, welfare regimes and social protection expenditures in Western and Eastern European countries', *Public Choice*, Vol. 148, No. 3–4, pp. 569–594.

Lelkes, O. (2000), 'A great leap towards liberalism? The Hungarian welfare state', *International Journal of Social Welfare*, Vol. 9, No. 2, pp. 92–102.

Lendvai, N. (2009), 'Variety of post-communist welfare: Europeanisation and emerging welfare regimes in the New EU Member States', conference presentation, *RC19 Conference*, 20–22 August, Montreal.

Lewis, J. (1997), 'Gender and welfare regimes: Further thoughts', *Social Politics*, Vol. 4, No. 2, pp. 160–177.

Lindbom, A. (2007), 'Obfuscating retrenchment: Swedish welfare policy in the 1990s', *Journal of Public Policy*, Vol. 27, No. 2, pp. 129–150.

Lohmann, H. (2011), 'Assessing family policies: Confronting family poverty and social exclusion and ensuring work–family balance', *Meeting on assessing family policies: Confronting family poverty and social exclusion and ensuring work–family balance*, Expert Group Meeting, United Nations Department of Economic and Social Affairs (DESA), 1–3 June, New York.

Mandel, H. and Semyonov, M. (2006), 'A welfare state paradox: State interventions and women's employment opportunities in 22 countries', *American Journal of Sociology*, Vol. 111, No. 6, pp. 1910–1949.

Manning, N. (2003), 'The transferability of welfare models between East and West', in *Researching the European social model from a comparative perspective*, 7th series, European Cross-National Research and Policy, European Xnat and ESRC, pp. 19–30.

Muffels, R. and Fouarge, D. (2004), 'The role of European welfare states in explaining resources deprivation', *Social Indicators Research*, Vol. 68, No. 3, pp. 299–330.

Muffels, R. and Luijkx, R. (2008), 'Labour market mobility and employment security of male employees in Europe: "trade-off" or "flexicurity"?', *Work, Employment & Society*, Vol. 22, No. 2, pp. 221–242.

O'Connor, J. (1993), 'Gender, class and citizenship in the comparative analysis of welfare state regimes: Theoretical and methodological issues', *British Journal of Sociology*, Vol. 44, No. 3, pp. 501–518.

Orenstein, M. A. (2008), 'Postcommunist welfare states', *Journal of Democracy*, Vol. 19, No. 4, pp. 80–93.

Orloff, A. S. (1993), 'Gender and the social rights of citizenship: The comparative analysis of gender relations and welfare states', *American Sociological Review*, Vol. 58, No. 3, pp. 303–328.

Orloff, A. S. (1996), 'Gender in the welfare state', *Annual Review of Sociology*, Vol. 22, pp. 51–78.

Pascall, G. and Manning, N. (2000), 'Gender and social policy: Comparing welfare states in central and eastern Europe and the former Soviet Union', *Journal of European Social Policy*, Vol. 10, No. 3, pp. 240–266.

Pfau-Effinger, B. (2005), 'Welfare state policies and the development of care arrangements', *European Societies*, Vol. 7, No. 2, pp. 321–347.

Pierson, P. (2000), 'Three worlds of welfare state research', *Comparative Political Studies*, Vol. 33, No. 6–7, pp. 791–821.

Plantenga, J. and Hansen, J. (1999), 'Assessing equal opportunities in the European Union', *International Labour Review*, Vol. 138, No. 4, pp. 351–379.

Ray, R., Gornick, J. C. and Schmitt, J. (2010), 'Who cares? Assessing generosity and gender equality in parental leave policy designs in 21 countries', *Journal of European Social Policy*, Vol. 20, No. 3, pp. 196–216.

Robila, M. (2010), 'Family policies in eastern Europe: A focus on parental leave', *Journal of Child and Family Studies*, Vol. 21, No. 1, pp. 32–41.

Rothstein, B. (1998), 'The universal welfare state as a social dilemma', *Rationality & Society*, Vol. 13, No. 2, pp. 213–233.

Russell, H. and O'Connell, P. J. (2001), 'Getting a job in Europe: The transition from unemployment to work among young people in nine European countries', *Work, Employment & Society*, Vol. 15, No. 1, pp. 1–24.

Saxonberg, S. (2013), 'From defamilialization to degenderization: Toward a new welfare typology', *Social Policy & Administration*, Vol. 47, No. 1, pp. 26–49.

Simonazzi, A. (2008), 'Care regimes and national employment models', *Cambridge Journal of Economics*, Vol. 33, No. 2, pp. 211–232.

Stambolieva, M. (2013), 'Welfare and democratization – Comparing Croatia, Serbia and Macedonia', *Social Policy & Administration*, Vol. 47, No. 2, pp. 142–160.

Stier, H., Lewin-Epstein, N. and Braun, M. (2001), 'Welfare regimes, family supportive policies, and women's employment along the life course', *American Journal of Sociology*, Vol. 106, No. 6, pp. 1731–1760.

Treas, J. and Widmer, E. (2000), 'Married women's employment over the life course: Attitudes in cross-national perspective', *Social Forces*, Vol. 78, No. 4, pp. 1409–1436.

Tsakloglou, P. and Papadopoulos, F. (2002), 'Aggregate level and determining factors of social exclusion in twelve European countries', *Journal of European Social Policy*, Vol. 12, No. 3, pp. 211–225.

Van der Lippe, T. and Van Dijk, L. (2002), 'Comparative research on women's employment', *Annual Review of Sociology*, Vol. 28, No. 1, pp. 221–241.

Wagener, H. (2002), 'The welfare state in transition economies and accession to the EU', *West European Politics*, Vol. 25, No. 2, pp. 152–174.

Wallace, C. (2003), 'Work flexibility in eight European countries: A cross-national comparison', *Czech Sociological Review* (*Sociologický časopis*), Vol. 39, No. 6, pp. 773–794.

Whelan, C. T. and Maître, B. (2005), 'Vulnerability and multiple deprivation perspectives on economic exclusion in Europe: A latent class analysis', *European Societies*, Vol. 7, No. 3, pp. 423–450.

Coding of first-tier literature

Table A1: *Summary of coding for first-tier literature*

Author and year of publication	Cit	Bas1	Bas2	Bas3	Out1	Out2	Out3
Bambra and Eikemo (2009)	123	1			9	11	
Bambra (2006)	94	12					
Blum (2011)		3			3		
Bohle and Greskovits (2007a)	78	4	15		2	13	
Bohle and Greskovits (2012)	36	1	4	8	2	12	
Bohle and Greskovits (2007b)	253	1			11	12	
Bohnke (2008)	41	1			2	6	
Bonoli (1997)	546	9					
Castles and Mitchell (1992)	214	7	9				
Castles and Obinger (2008)	68	4					
Chung and Mutaner (2007)	104	1	5		9		
Coburn (2004)	319	5			9	2	
Dragolov et al (2013)		8			6	7	
Eikemo, Huisman, Bambra and Kunst (2008)	116	1			9	2	
European Commission (2012)		1					
Esping-Andersen (1990)	18,714	1			2	11	
Esping-Andersen, Gallie, Hemerijck and Myles (2001)	137	1			11	2	
Eurofound (2007)	19	16			11		
Fenger (2007)	148	7	8				
Ferragina and Seeileib-Kaiser (2011)	4	1					
Ferragina, Seelib-Kaiser and Tomlinson (2013)	4	3	6				
Ferrera (1996)	1,907	7					
Gal (2010)	36	1	3	17			
Gallie (ed.) (2013)		16			1	3	10
Gallie (2007)	142	16			11		
Gallie and Paugam (2000)	522	16			11	2	
Gukalova (2013)		17			10		
Guriev and Zhuravskaya (2009)	52	17			10		
Hall and Soskice (2001)	6,119	15					
Helliwell (2002)	801	17			10		
Hemerjick (2012	73	1			11	12	13
Kaariainen and Lehtonen (2006)	123	1			6	7	
Kangas (1994)	132	14					
Korpi and Palme (1998)	1,211	10			2	12	
Korpi (2000)	609	3	10		2		
Krenz (2013)		17			10		
Leibfried (1992)	1,048	7			2		
Leitner (2010)	295	3					
Leitner (2010)	295	3					
Obinger and Wagschal (2001)	83	11	8				
Pichler and Wallace (2007)	175	1			6	7	3
Powell and Barrientos (2004)	145	1	6				

Author and year of publication	Cit	Bas1	Bas2	Bas3	Out1	Out2	Out3
Ragin (1994)	132	1	13		13		
Reibling (2010)	23	14					
Rostila (2007)	45	1			9	7	
Saint Arnaud and Bernard (2003)	122	7	8				
Sanfey and Teksoz (2005)		17			10		
Scruggs and Allan (2008)	65	1					
Siaroff (1994)	778	3					
Soede, Vrooman, Ferraresi and Segre (2004)	44	7	13		2	12	
Stovicek and Turrini (2012)	5	10					
Thevenon (2011)	63	3			3		
Van Oorschot (2005)	266	4	8	10	7	12	
Whelan and Maître (2010)	14	1			2	1	

Notes: Cit' = number of citations; 'Bas' = basis of classification; Out = outcome against which classification is tested (see Table A2 for codes).

Table A2: *Description of coding schemes*

Codes	Basis of classification
1, 2, 5	**Welfare regimes (including those adapted to include additional countries)**
1	'Esping-Andersen 1990 'worlds of welfare' (WoW) (with updates for southern and central/eastern)'
2	'following Huber and Stephens'
5	'Navarro and Shi 2001 adaptation of WoW'
9, 10, 12	**Re-analysis of basis for welfare regimes**
9	'Two dimensions, size and Bismarkian/ Beveridgean characteristics of welfare state'
10	'Social insurance system: basis of entitlement, generosity and governance'
12	'Decommodification'
11	**Political and institutional factors ('Families of nations')**
11	Political/institutional (family of nations, cluster analysis)
15	**Institutions of co-ordination**
15	'Social institutions of co-ordination (firms)'
6, 16	**Work, employment, unemployment regime'**
6	'Unemployment policy/ALMP'
16	'Employment regime'
7	**Government programmes, welfare (broad)**
7	'Government programme characteristics/Welfare mix'
3, 13, 14	**Government programmes, welfare (specific)**
3	'Family policy/ family policy trends'
13	'Pensions'
14	'Health care systems/access to health care'
8	**Clustering on quality of life outcomes**
8	'Social and political outcomes – many'
4	**Combination of institutional factors and outcomes**
4	'Size of government, spending priorities, outcomes (cluster analysis)'
17	**Other**
17	'Other'
Codes	**Outcome description**
1	Material standard of living (deprivation)
2	Equality/poverty/GINI
3	Family/work–life balance
4	Accommodation/housing
5	Neighbourhood quality
6	Social support/networks/contacts
7	Social trust
8	Quality of public services
9	Health
10	Mental/emotional well-being /Subjective well-being
11	Work/unemployment
12	Social spending
13	Pensions
14	Other

Note: See Table A1 for listing of sources by codes.

Annex 2: Country data and results of cluster analysis

Table A3: *Macro-level country data for 2011*

	Log of GNI per capita in PPP	Government revenue as % GDP	Social benefits as % GDP	Government spending on education as % GDP	Government spending on health as % GDP	% Social benefits means-tested
AT	10.49	36.28	19.10	5.89	8.55	7.67
BE	10.41	41.29	17.10	6.57	7.98	4.83
BG	9.34	29.41	11.90	4.10	4.02	4.09
CY	10.11	39.00	14.60	7.92	3.21	13.06
CZ	10.02	29.21	13.80	4.25	6.29	2.02
DE	10.47	28.98	16.30	5.08	8.66	12.01
DK	10.42	40.52	17.10	8.80	9.27	5.18
EE	9.75	32.76	11.50	5.68	4.70	1.26
EL	9.98	41.09	19.20	4.09	5.94	6.25
ES	10.18	23.61	15.60	4.98	6.79	16.41
FI	10.38	38.37	18.00	6.85	6.79	4.78
FR	10.33	42.58	19.40	5.86	8.93	11.25
HR	9.67	33.17	14.20	4.27	5.62	6.93
HU	9.69	48.25	15.60	4.88	5.13	4.39
IE	10.31	31.41	15.20	6.41	5.89	27.46
IS	10.27	29.98	8.50	7.60	7.39	25.91
IT	10.20	37.55	19.30	4.50	7.18	6.34
LT	9.55	26.32	12.60	5.36	4.78	6.10
LU	10.52*	39.68	15.40	3.15	5.63	3.62
LV	9.49	24.81	10.60	5.01	3.43	4.70
ME	9.28	37.50	15.80	6.29	4.19	7.78
MK	9.13	28.48	12.20	3.30	4.42	7.50
MT	9.95	37.21	12.60	6.74	5.59	13.44
NL	10.52	40.80	11.80	5.98	9.49	15.46
PL	9.75	30.54	14.10	5.17	4.83	6.38
PT	9.95	39.98	17.40	5.62	6.65	8.80
RO	9.31	30.09	12.00	3.53	4.44	4.97
RS	9.16	37.55	19.30	4.82	6.41	4.17
SE	10.48	32.44	14.10	6.98	7.73	2.76
SI	10.11	36.95	17.60	5.66	6.52	8.16
SK	9.85	28.39	13.60	4.22	5.63	5.08
TR	9.51	33.23	10.48	2.86	4.46	7.80
UK	10.41	36.52	14.90	6.22	7.80	14.50

Note: * GNI for Luxembourg was an outlier and was truncated to equal the next highest value to avoid distorting the results.
Sources: *World Bank development indicators and Eurostat (for means tested benefits). The colours in the table represent the ranking of the values within columns, with high values shown in a darker red and low values in a paler yellow.*

Table A4: *Eight cluster analyses with 3–8 cluster solutions (variables standardised)*

Country	Hierarchical							K-means							DIANA							Fuzzy clustering							SOM							PAM							SOTA							Model-based						
N clusters→	3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8		3	4	5	6	7	8
AT	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		3	3	3	3	3	3		1	1	1	1	1	1		1	2	2	2	1	1		1	1	1	1	1	1
BE	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		3	3	3	3	3	8		1	1	1	1	1	1		1	2	2	2	1	1		1	1	1	1	3	7
BG	2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	1	2	1	7	3		2	2	2	2	2	2		2	1	1	1	1	1		2	2	2	2	1	5
CY	3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		4	2	1	2	1	7		3	3	3	3	3	3		3	2	2	2	1	1		3	3	3	3	3	7
CZ	2	2	2	4	4	4		2	2	4	4	4	4		2	2	4	4	4	4		2	2	2	3	3	3		2	2	2	3	4	4		2	2	4	5	5	5		2	1	1	1	1	1		2	2	4	5	6	6
DE	3	3	4	5	5	5		3	1	4	5	5	5		3	1	5	5	5	5		3	1	3	4	4	4		7	3	4	5	5	5		3	3	5	5	5	5		2	2	2	2	1	1		3	3	3	5	6	6
DK	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		3	4	1	1	1	4		1	1	1	1	1	1		1	2	2	2	1	1		1	1	1	1	1	1
EE	2	2	2	4	4	4		2	2	2	4	4	4		2	2	2	4	4	4		2	2	2	4	4	4		2	3	4	4	4	2		2	2	2	4	4	4		2	1	1	1	1	1		2	2	2	2	2	2
EL	1	4	5	6	6	6		1	4	5	6	6	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	3	6	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	7	8
ES	3	3	4	5	5	5		3	3	4	5	5	5		3	3	4	5	5	5		3	3	3	4	4	4		3	2	2	5	5	7		3	3	4	5	5	5		2	2	2	2	1	1		3	3	3	3	1	1
FI	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		3	3	4	5	5	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	2
FR	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		3	3	4	5	5	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	2
HR	2	2	2	4	4	4		2	2	4	4	4	4		2	2	2	4	4	4		2	2	2	4	4	4		2	1	2	5	6	2		2	3	4	4	4	4		2	2	2	2	1	1		2	2	2	2	2	2
HU	1	4	5	6	6	7		1	4	5	6	6	7		1	1	1	1	1	1		1	1	1	1	1	1		3	1	2	5	4	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
IE	3	3	3	3	7	8		3	3	3	3	7	8		3	3	3	3	6	6		3	3	3	3	5	6		8	3	4	5	1	6		3	3	5	5	5	5		3	2	2	2	1	1		3	3	3	3	3	3
IS	3	3	3	3	7	8		3	3	3	3	7	8		3	3	4	5	6	8		3	3	3	5	6	7		3	3	4	5	6	3		3	3	5	5	5	5		3	2	2	2	1	1		3	3	3	3	3	3
IT	1	4	5	6	6	6		1	4	5	6	6	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
LT	2	2	2	4	4	4		2	2	2	4	4	4		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	1	1	1	1	1		2	2	2	2	2	2
LU	1	4	5	6	6	6		1	4	5	6	6	6		1	2	4	5	6	7		3	3	3	3	3	3		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
LV	2	2	2	4	4	4		2	2	2	4	4	4		2	2	2	2	2	2		2	2	2	2	2	2		2	1	2	2	2	2		2	2	2	2	2	2		2	1	1	1	1	1		2	2	2	2	2	2
ME	1	4	5	6	6	7		2	4	5	4	3	7		2	2	2	2	2	2		2	3	3	4	1	2		2	1	2	2	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
MK	2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	1	2	2	2	2		2	2	2	2	2	2		2	1	1	1	1	1		2	2	2	2	2	2
MT	3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		3	3	3	3	3	3		3	3	4	5	5	5		3	3	3	3	3	3		3	2	2	2	1	1		3	3	3	3	3	3
NL	3	3	4	5	5	5		3	1	4	5	5	5		3	1	1	1	1	1		3	4	4	4	4	4		1	4	5	5	5	5		3	1	4	5	5	5		3	2	2	2	1	1		3	3	4	4	4	4
PL	2	2	2	4	4	4		2	2	4	4	4	4		2	2	2	2	2	2		2	2	2	2	2	2		2	2	3	4	4	4		2	2	4	4	4	4		2	2	2	2	1	1		2	2	3	3	3	3
PT	1	4	5	6	6	6		1	4	5	6	6	6		1	1	1	1	1	1		1	1	1	1	1	1		3	2	2	3	6	6		1	1	1	1	1	1		1	2	2	2	1	1		1	1	1	1	1	1
RO	2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	1	1		2	2	2	2	2	2
RS	1	4	5	6	6	7		1	4	5	6	6	7		2	4	5	6	7	7		3	3	3	3	3	3		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
SE	1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	4	4		4	1	1	1	1	1		3	4	2	3	8	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1
SI	1	4	5	6	6	6		1	4	5	6	6	6		1	1	1	1	1	1		1	1	1	1	1	1		1	1	2	5	4	1		1	1	1	1	1	1		1	1	1	1	1	1		1	1	1	1	7	8
SK	2	2	2	4	4	4		2	2	2	4	4	4		2	2	2	2	2	2		2	2	2	2	2	2		2	1	2	5	6	2		2	2	2	2	2	2		2	2	2	2	1	1		2	2	2	2	1	5
TR	2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	2	2	2	2	2		2	1	1	1	6	7		3	2	2	2	2	2		2	2	2	2	1	1		2	2	2	2	5	6
UK	3	3	4	5	5	5		3	1	4	5	5	5		3	1	4	5	5	5		3	4	5	5	5	5		3	4	5	5	5	5		3	4	5	5	5	5		3	2	2	2	1	1		3	3	3	3	3	3

Note: The table shows cluster to which each country is assigned. Variables are standardised with mean = 0 and standard deviation = 1.

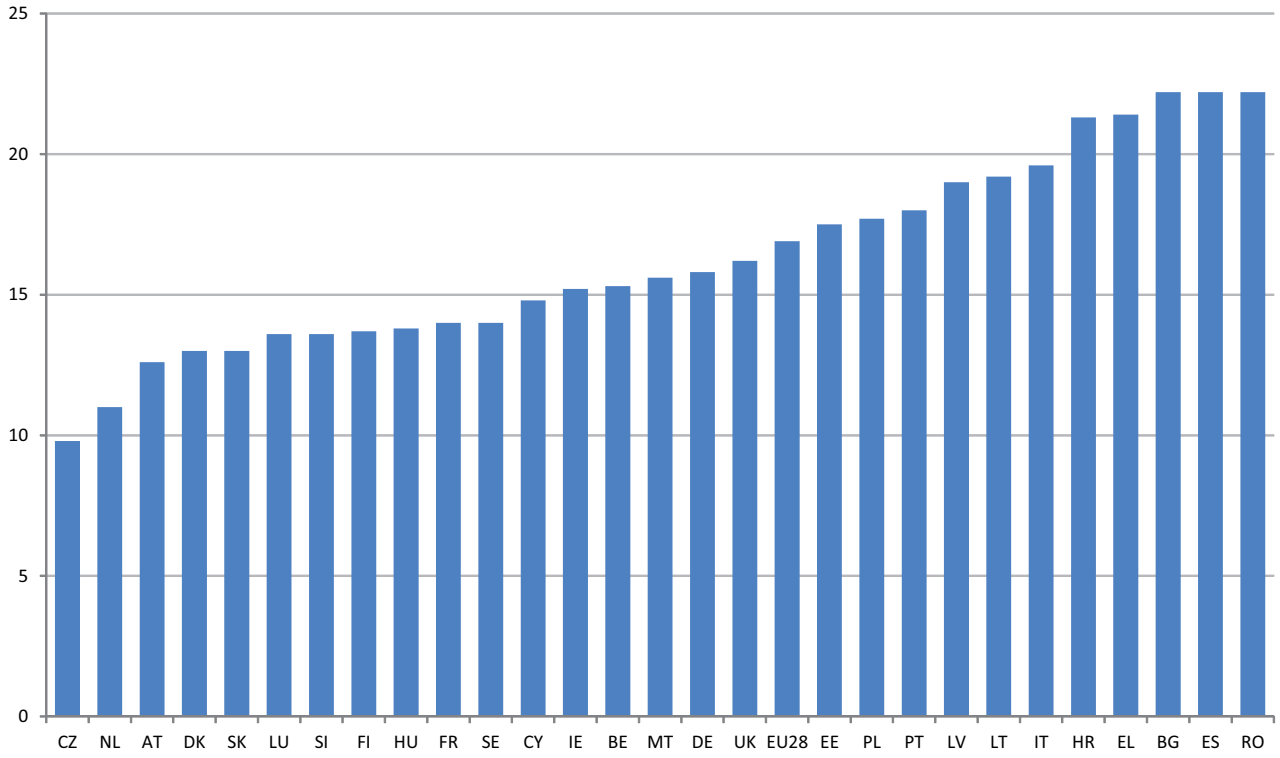
Table A5: *Eight cluster analyses with 3–8 cluster solutions (variables coded 0–1)*

Country	Hierarchical								K-means								DIANA								Fuzzy clustering								SOM								PAM								SOTA								Model-based							
N clusters→	3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8		
AT	1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
BE	1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
BG	2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			1	4	3	6	1				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
CY	1	3	3	3	3	3			3	3	3	3	3	3			3	3	3	3	3	3			3	3	3	3	3	3			2	2	4	4	3				3	3	3	3	3				3	4	4	4	4				3	3	3	3	3	
CZ	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			1	1	3	4	4				1	3	4	4	5				1	1	3	3	4				4	4	4	4	4	
DE	1	1	1	1	1	5			1	1	1	1	1	5			1	1	1	1	1	5			1	1	1	1	1	5			3	3	4	4	5				3	4	4	4	5				3	3	4	4	5				1	1	1	1	1	
DK	1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
EE	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			1	4	3	5	2				3	3	3	3	3				1	1	5	5	5				4	4	4	4	4	
EL	3	4	4	5	5	6			3	4	4	5	5	6			1	1	1	1	1	1			1	1	1	1	1	1			2	3	2	5	4				1	1	1	1	1				2	3	4	4	4				1	1	1	1	1	
ES	1	3	3	3	6	7			1	3	3	3	6	7			1	3	4	4	5	5			1	3	4	4	6	7			3	2	5	4	7				1	1	1	1	1				3	4	4	4	4				1	1	1	1	1	
FI	1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
FR	1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
HR	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	4	4	4			1	4	3	5	2				3	3	3	3	3				1	1	5	5	5				4	4	4	4	4	
HU	3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			3	4	5	6	7	8			2	3	4	4	6				3	4	5	6	7				3	4	5	6	7				3	4	5	6	7	
IE	1	3	3	3	6	7			1	3	3	3	6	7			1	3	4	4	5	5			1	3	4	4	5	5			3	2	5	4	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
IS	1	3	3	3	6	7			1	3	4	5	6	7			1	3	4	4	5	7			1	3	3	3	6	6			3	2	5	4	7				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
IT	3	4	4	5	5	6			3	4	5	5	6	6			1	1	1	1	1	1			1	1	1	1	5	1			1	4	3	5	8				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
LT	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	2	2	2			2	2	2	2	2	4			1	1	3	1	2				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
LU	3	4	4	5	5	6			3	4	4	5	5	6			1	1	1	1	1	8			3	3	1	1	3	3			3	3	1	2	4				2	2	2	2	2				1	1	5	5	6				2	2	2	2	2	
LV	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	2	2	2			2	2	2	2	2	2			1	1	3	1	2				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
ME	3	4	5	6	7	8			2	2	5	6	7	8			2	3	5	6	6	6			2	2	4	4	4	4			2	1	4	2	1				3	3	3	3	3				2	2	5	6	7				3	3	3	3	3	
MK	2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			1	4	3	6	1				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
MT	1	3	3	3	3	3			1	3	3	3	3	3			1	3	3	3	3	3			1	3	3	3	4	3			3	4	3	3	3				1	1	1	1	1				1	1	6	6	6				3	3	3	3	3	
NL	1	1	1	1	1	5			1	1	1	1	1	5			1	1	1	4	4	4			1	1	1	1	1	1			3	1	2	5	6				1	1	1	1	1				3	4	4	5	5				1	1	1	1	1	
PL	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	2	2	2			2	2	2	2	4	4			1	4	3	5	2				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
PT	3	4	4	5	5	6			3	4	4	5	5	6			1	1	1	1	1	1			1	1	1	1	5	1			1	4	3	5	8				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
RO	2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			1	1	3	1	2				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
RS	3	4	5	6	7	8			3	4	5	6	7	8			2	3	5	6	6	6			2	3	3	3	4	4			2	3	4	4	6				1	1	1	1	1				1	1	6	6	6				3	4	5	6	7	
SE	1	1	1	1	1	5			1	1	1	1	1	5			1	1	1	4	4	4			1	1	1	1	1	1			3	1	2	5	6				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
SI	3	4	4	5	5	6			3	4	4	5	5	6			1	1	1	1	1	1			1	1	1	1	1	1			3	1	2	5	8				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	
SK	2	2	2	4	4	4			2	2	2	4	4	4			2	2	2	2	2	2			2	2	2	2	4	4			1	4	3	5	2				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
TR	2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			2	2	2	2	2	2			1	4	3	6	1				2	2	2	2	2				1	1	5	5	5				2	2	2	2	2	
UK	1	1	1	1	1	5			1	1	1	1	1	5			1	1	1	4	4	4			1	1	1	1	1	1			3	1	2	5	6				1	1	1	1	1				2	2	1	1	1				1	1	1	1	1	

Note: The table shows cluster to which each country is assigned. Variables are coded 0–1.

Annex 3: Further data on income poverty and deprivation

Figure A1: *Income poverty rate ('at-risk-of-poverty' rate) by country, 2011*



Source: *Eurostat, ([ilc_li02], extracted 15 March 2014.*

Table A6: *Composition of multidimensional deprivation, by country*

	Health (poor)	Mental ill-being	Material deprivation	Accommodation	Neighbour-hood	Poor quality public services	Social tensions	Perceived social exclusion	Social capital deficits	Network support lack
IS	.115	.104	.134	.092	.032	.156	.064	.159	.066	.080
DK	.201	.097	.051	.109	.058	.065	.047	.143	.145	.087
FI	.156	.117	.095	.070	.035	.059	.104	.177	.086	.101
AT	.066	.110	.073	.100	.139	.038	.168	.084	.125	.095
SE	.105	.147	.046	.092	.057	.103	.108	.153	.096	.094
NL	.149	.143	.076	.061	.040	.042	.107	.112	.125	.147
LU	.085	.137	.033	.122	.066	.036	.114	.171	.142	.094
ES	.072	.119	.154	.076	.084	.090	.112	.086	.148	.059
IE	.071	.145	.135	.079	.111	.156	.060	.145	.043	.054
DE	.093	.100	.101	.090	.118	.098	.072	.107	.138	.084
SI	.095	.164	.118	.088	.056	.113	.115	.118	.108	.025
PT	.122	.107	.152	.110	.062	.121	.052	.097	.110	.065
BE	.087	.099	.065	.116	.134	.026	.094	.137	.152	.091
MT	.030	.147	.156	.118	.150	.080	.069	.120	.088	.041
FR	.063	.107	.069	.107	.095	.057	.133	.143	.134	.093
IT	.046	.078	.074	.096	.156	.153	.109	.110	.097	.080
UK	.087	.145	.107	.088	.093	.072	.088	.149	.112	.059
SK	.094	.131	.194	.066	.064	.175	.055	.112	.069	.039
HR	.105	.102	.124	.105	.071	.140	.145	.112	.060	.036
ME	.080	.071	.119	.106	.132	.142	.101	.122	.105	.023
CZ	.088	.096	.125	.077	.120	.090	.107	.151	.101	.046
MK	.051	.079	.136	.121	.140	.127	.146	.131	.034	.035
EE	.100	.099	.187	.128	.063	.092	.049	.109	.110	.065
PL	.079	.123	.159	.109	.099	.161	.073	.105	.041	.052
LT	.121	.113	.172	.108	.090	.115	.065	.106	.069	.041
KV	.029	.082	.134	.176	.214	.154	.041	.126	.035	.010
CY	.022	.098	.128	.082	.152	.088	.141	.193	.043	.052
RS	.089	.131	.127	.099	.072	.136	.102	.123	.078	.044
EL	.048	.104	.158	.110	.121	.166	.100	.124	.034	.035
RO	.093	.125	.163	.134	.088	.134	.090	.095	.044	.034
LV	.084	.098	.159	.156	.044	.118	.038	.108	.116	.079
HU	.080	.079	.172	.076	.075	.130	.128	.076	.135	.049
TR	.041	.129	.169	.154	.117	.074	.124	.073	.090	.030
BG	.051	.075	.171	.095	.111	.175	.030	.131	.128	.033
All	.077	.113	.117	.101	.104	.100	.099	.114	.107	.067

Note: This table shows the importance of each dimension regarding multidimensional deprivation in each country. Figures sum to 1 in each row.
Source: *EQLS 2012, analysis by authors*.

TJ-04-14-758-EN-N

As the European Union grows in size and diversity, it becomes increasingly challenging to summarise the impact of state actions on the lives of citizens. One approach to this complexity is to group countries based on characteristics relevant to quality of life. This report develops a country typology focused on quality of life as a multidimensional concept. It draws on (a) a review of the literature on country groups, (b) an empirical cluster analysis of macro-level indicators of state capacity and action and (c) an analysis of data on quality of life from the 2012 European Quality of Life Survey. This report develops a typology of the 34 countries included in this survey (the 28 EU Member States as well as the former Yugoslav Republic of Macedonia, Iceland, Kosovo, Montenegro, Serbia and Turkey). Drawing mainly on a synthesis of the literature, it goes on to recommend an eight-group system, which can be collapsed into five or three groups depending on the requirements of the analysis.

doi: 10.2806/74521
ISBN:978-92-897-1230-9