

IDENTIFYING WELFARE POLICY PATTERNS BY MEANS OF DISAGGREGATED SPENDING STRUCTURE: AN APPLICATION FOR 28 EUROPEAN COUNTRIES

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Abstract

Comparing welfare policy patterns over time and across countries in a comprehensive quantitative manner requires not only underlying theoretical concepts which are suited for travelling across countries, but also necessarily valid data. The lack of comparable and conceptually substantiated time series data on welfare policies and institutions is still an Achilles’ heel of comparative analyses, which has been addressed repeatedly in reference to the “dependent variable problem” in the past. Yet most of the cross-country comparisons (especially those with a pooled time-series cross-section design) either still make use of aggregate social spending or limit the analytical scope to countries for which more sophisticated data like welfare state generosity is available, i.e. the OECD countries.

A recent approach to address this problem is to use disaggregated social expenditure data for identifying patterns of welfare policies. This paper first discusses advantages and shortcomings of concepts in this tradition. Drawing on recent approaches utilizing disaggregated spending data, it then develops an integrated analytical concept and illustrates how the ESSPROS data provided by Eurostat instead of OECD SOCX can be adopted for the operationalization. Using ESSPROS data enables us to integrate the new Central and Eastern European (CEE) member states of the European Union (EU) in the corpus of comparative welfare state typologies – an attempt which has gained little methodologically substantiated attention in comparative quantitative studies so far. A hierarchical cluster analysis of 28 European countries is finally performed in order to provide insight into whether patterns of spending result in clusters similar to the ones identified within the “welfare regime” framework and how the CEE countries fit into it.

Keywords: Disaggregated social expenditure, welfare regimes, cluster analysis

Introduction¹

Comparing national patterns of welfare policies and classifying divergent types of welfare states constitutes the core of comparative welfare state research. Since Gøsta Esping-Andersen's seminal work on the three "Worlds of Welfare Capitalism" was published in 1990, numerous classification approaches have been made with differing indicators and cases and along varying assumptions about the underlying logics and causes behind the welfare regimes (for an overview, see for example Abrahamson 2000; Arts and Gelissen 2002; Bambra 2007; for the genesis of the regime analysis, see Castles and Obinger 2008). Common to all approaches is, that the original regime types identified by Esping-Andersen – the Scandinavian social democratic, the Continental European conservative and the Anglo-Saxon liberal – are astonishingly withstanding no matter which indicators are chosen for measuring welfare policies and institutions. Scholars also agree to a high degree about the existence of a fourth regime type, the Latin Rim or southern model (Leibfried 1993; Castles 1995; Ferrera 1996). Further differentiations are sometimes made and regimes identified depending on the selected cases and indicators in focus.

As more and more notice is attracted to the dynamics of welfare arrangements on the one hand and to the configuration of welfare state arrangements in developing and middle-income countries on the other hand, the question of feasible measures for welfare policies and the demand for appropriate and comparable data gains in importance. Although theoretically ambitious, many classifying approaches fail to take an appropriate empirical test simply due to lack of reliable, comparable and conceptually rich data or are limited in their case selection. Time variant and causal research designs are afflicted by lacking data to an even greater degree – especially causal inference becomes methodologically equivocal, when only cross-sectional settings with small or medium number of countries can be included and dynamics of welfare policy change cannot be accounted for.² Although the "dependent variable problem" has been addressed repeatedly in the past (Clasen and Siegel 2007), most of the cross-country comparisons, especially those with a pooled time-series cross-section design, either still make use of aggregate social spending or limit their analytical scope to countries for which more sophisticated data like welfare state generosity is available, i.e. the Western OECD countries. The widespread use of total social expenditure is especially unsatisfying, since it reveals barely anything of the contents of welfare policies and is furthermore often misleadingly taken for a measure of welfare generosity.

¹ This paper presents first results of an ongoing research project "Welfare Policies in the Enlarged Europe" funded by the German Science Foundation (DFG; JA 638/12-1). For more information on the project, please visit <http://welfare.uni-greifswald.de>.

² The data provided in the Comparative Welfare Entitlements Dataset (CWED) by Lyle Scruggs (18 OECD countries, 1960/1970-2002, available at <http://www.sp.uconn.edu/~scruggs/wp.htm>) and in the Social Citizenship Indicator Program (SCIP) by Walter Korpi and Joakim Palme (18 countries, 1930-2000 in mainly five-year-sequences, available at <https://dspace.it.su.se/dspace/handle/10102/7>) are valuable exceptions in this regard. Nevertheless, the temporal and spatial scope of these datasets limits the analytical focus which can be addressed. Currently, a new dataset on analogue institutional features of welfare policies for 26 European countries and the time period of 1995-2008 is being compiled by the author and others at the University of Greifswald.

Recently, new approaches utilizing disaggregated social expenditure data have been developed in order to identify patterns of welfare policy. This has been made possible by two datasets – the Social Expenditure Database (SOCX) by the OECD and the European System of Integrated Social Protection Statistics (ESSPROS) by the Eurostat. Both now enable scholars to draw on data on annual basis for versatile functionally disaggregated expenditure categories for 30 OECD countries and the period of 1980-2005 (SOCX) respectively for 30 European countries and for the period of 1990-2007 (ESSPROS).³ So far, the potential of this data is far from being fully exhausted in comparative scholarly work. First attempts to identify different types of welfare states on the basis of a distinction between expenditure on cash transfers and services have already been taken (e.g. Kautto 2002; Jensen 2008). The so far most sophisticated approaches utilizing more refined disaggregated expenditure categories have been suggested by Francis G. Castles, though (Castles 2002, 2004, 2008). Especially the latest approach by Castles, “What Welfare States Do: A Disaggregated Expenditure Approach” (2008), is of interest for this paper. Based on descriptive inspection on spending figures in four distinct categories taken from the SOCX data, Castles argues that different welfare state regimes or families of nations exhibit quite different patterns of spending.

This paper draws on these recent attempts and addresses the following question: do disaggregated welfare spending patterns reveal significant cross-country variation among welfare states which can be traced back to theoretically meaningful distinction of differing types of welfare states? I argue that disaggregated spending data is well suited for comparative endeavors but some important conceptual and methodological issues must be addressed before using the data for comparative purposes. Based on the conception of four distinct spending categories suggested by Castles (2008), I first modify this concept to be applicable for using ESSPROS data instead of SOCX data. I also account for social needs pressure factors potentially affecting welfare spending levels by adjusting the data with adequate weights. I then apply a more robust method of classification and perform a cluster analysis for 28 European countries in order to test, whether a) European countries cluster in a theoretically meaningful way and b) whether these clusters coincide with those suggested by the descriptive analysis by Castles (2008). This paper thus seeks to make a first step in the direction of making the disaggregated expenditure approach fruitful for utilizing it in a comparative setting by macroquantitative methods. Additionally, using ESSPROS data also enables us to integrate the post-socialist countries of Central and Eastern Europe (CEE) in the comparative analysis of welfare policy patterns – an attempt which has gained little methodologically substantiated attention in comparative quantitative studies so far.

In the following section, recent approaches for using disaggregated social expenditure as a measure for welfare state policies are introduced. The third section proposes a revised approach of identifying welfare policy patterns by using disaggregated social expenditure data provided by the Eurostat. In the fourth, empirical section, the dimensionality of welfare spending is first depicted by means of a factor analysis before testing how 28 European welfare states cluster

³ OECD SOCX: www.oecd.org/els/social/expenditure; ESSPROS: http://epp.eurostat.ec.europa.eu/portal/page/portal/living_conditions_and_social_protection/data/database; last accessed July 26th 2010

with respect to distinct categories of welfare policy expenditure. The characteristics of the clusters revealed by the analysis are discussed in the fifth section. The final section concludes by discussing the advantages and caveats of this approach for future research.

Disaggregated social expenditure as a measure for welfare policy patterns

Advantages and limits of expenditure approaches in welfare state comparisons

As has been noted repeatedly by attentive scholars of comparative welfare state research, total social expenditure gives little information about the substantive content of welfare policies. Esping-Andersen correctly argues that “by scoring welfare states on spending, we assume that all spending counts equally” and that “expenditures are epiphenomenal to the theoretical substance of welfare states” (Esping-Andersen 1990: 19-20). As a result of the good availability of data on total social expenditure for many countries and long time series, though, it is still used as an indicator for the extent of welfare stateness or welfare policies in many comparative macroquantitative studies. In general, total social expenditure is considered to measure validly the overall welfare effort but not the generosity of welfare states (De Deken and Kittel 2007; Siegel 2007). Especially in times of economic hardship, allocation of governmental budgets and the costs of social provision become particularly contentious in political debates. Consequently, the actual emphasis on social matters as measured by social expenditure indicates aplenty of welfare policy reality (Siegel 2007). For comparative purposes, the validity of the indicators at hand inevitably depends on the question one aims to answer and the assumptions one makes a priori. The question is, then, *how* expenditure measures are operationalized for analytical purposes (Castles 2004; Siegel 2007).

Moving on to a more sensitive disaggregated analysis of the structure of social expenditure sheds more light on the *contents* of the welfare effort. Using disaggregated data bears several advantages (Castles 2004; Siegel 2007). First, they make it possible to improve aggregate measures and to make them more theoretically funded and comparable over time and across countries. Second, using disaggregated data offers insights into the asymmetries between different domains of welfare policy and makes it possible to account for volatility in the structure of welfare policies over time. Even if social expenditure remains stable over time, the underlying categories of social spending may well be in flux. Third, looking at disaggregated data allows for distinguishing “welfare state structures in terms of the kinds of social provision they offer” (Castles 2004: 48). This way, it is possible to develop empirically based typologies. Fourth, the data availability for a great number of countries on an annual basis is an indisputable advantage which enables more systematic research designs and time series analyses and thus contributes better to the needs of scholarly work in comparative welfare state research.

Approaches using disaggregated data

Disaggregated spending data has already been used in several previous classification attempts. At the most general level, state expenditure on social purposes can be distinguished into spending on cash benefits or transfers (for example on pensions or unemployment benefits) and on

benefits in kind or services (for example child care facilities or services for disabled). Spending on transfers corresponds roughly to the decommodification dimension in Esping-Andersen's terms and spending on services to the defamilization dimension. Accordingly, welfare states differ to the degree to which they emphasize one of these dimensions (e.g. Korpi and Palme 1998; Kautto 2002; Jensen 2008). In corporatist-conservative welfare states spending on transfers outbalance spending on services, among other things because the care of elderly or children is primarily seen as the responsibility of the family. In Scandinavian welfare states the share of service spending is high since care functions are taken over by the state, but generous benefit levels and universal eligibility criteria also lead to high levels of spending on cash transfers (Esping-Andersen 1999; Kautto 2002). Within the liberal welfare cluster, service provision takes a rather important part as well, but is paired with only modest levels of cash benefits (Castles 1993).

In a cluster analysis including 15 EU member states in 1990 and 1997, Kautto finds support for the existence of three distinct country clusters when clustering these countries according to the relative weight of their service effort. A first "service effort group" consists of, but not exclusively of, the Nordic countries, a second "transfer approach group" of Belgium, the Netherlands, Austria and Italy. A third group is characterized by both low service and low transfer effort and includes Ireland and the Mediterranean countries (Kautto 2002: 62).

In another cluster approach drawing on the distinction between the service and the transfer component of welfare effort, Jensen finds out these components to be two distinct dimensions of welfare regimes. He argues further that emphasis on health care services follow a distinct logic than other service expenditure. According to Jensen, this is due to the fact that social services are well due to their diverging ideological saliency in different regimes (at least at the outset; today this is eventually the case via institutional path dependencies), but health care is much an ideologically insalient issue. All types of welfare states spend about as much for health care, but great variance occurs with respect to social care/other services (Jensen 2008). In the realm of health care, technological advancement and necessary professionalization makes no trade-off between domestic and public sphere responsibility possible. This is different in child-care and care of the elderly (and disabled) (Anttonen et al. 2003). A cluster analysis using transfer effort and social service effort in 18 OECD countries in 2001 results into four country clusters which to a large part coincide with the three welfare regimes identified by Esping-Andersen and a fourth cluster which merges with the liberal cluster in a three-cluster-solution (Jensen 2008: 156-157).

Francis G. Castles brings the differentiation between functional categories of spending even further. In an earlier approach, he draws on a different distinction between functional categories of disaggregated welfare spending (Castles 2002, 2004). In looking at the relational emphasis on what he calls "income-replacing expenditure share" (expenditure share on old-age, disability, occupational injury and disease, sickness and survivor's cash benefits) and "contingency-based expenditure share" split into a) "poverty alleviation and health care" (expenditure share on family cash benefits, health expenditure, housing benefits and other benefits) and b) "state services" (expenditure share on old-age and family benefits in kind), he ends up with three distinct welfare state types: the Continental Western European social security state, the English-speaking poverty alleviation state and the Scandinavian state services state (Castles 2004: Chapter 3). Later on, he rejects this approach and proposes a new one which is based on the

present classification system in the OECD SOCX data and is at the same time functionally more specific (Castles 2008: 60-61). The following spending categories build the basis for Castles' analysis (Castles 2008: 48):

- 1) Age-related cash benefits (old-age and survivors' cash benefits)
- 2) Working-age benefits (income support payments in respect of incapacity, unemployment, families and social assistance plus spending on active labour market policies)
- 3) Health care services (benefits in kind)
- 4) Other service expenditure (all social services other than health)

As we can see, the former two categories consist of cash benefits and the latter two of benefits in kind. These four categories respond better to intentional politics of welfare spending than the simple division in transfers and services, though, and give us more possibilities to link the data with conceptual contents. For example, the category of working-age cash benefits accounts for all kinds of risks (old and new) citizens face in the course of their working lives and thus correspond more specifically to the idea of decommodifying characteristics of certain types of welfare effort than cash transfers in general. Pensions and survivors' benefits to a certain extent follow a different logic and are based in previous savings and contributions especially in the corporatist oriented countries. As was argued by Jensen and by Castles too, health care service spending is different from other social service spending due to its specific functional and operational features and political insalience.

Drawing on ordinary observation of levels of spending in percentage of Gross Domestic Product (GDP) in 2003, Castles not only shows that considerable cross-national variation in the expenditure levels in the four categories occurs, but also that the 23 Western OECD countries included in the analysis differ in their spending profiles and form clusters or – in his own earlier terms – families of nations based on the following spending categories. Likewise the clusters detected in Jensen's analysis, these families correspond largely to Esping-Andersen's welfare regimes. The respective families of nations and the distinctive features of their spending patterns are described in Table 1.

Table 1. Families of nations regarding patterns of welfare spending in 2003 according to Castles

<i>Family</i>	<i>Countries</i>	<i>Characteristics</i>
English-speaking	Australia, Canada, Ireland, New Zealand, United Kingdom, United States	*low level of spending on pensions *below-average total social spending
Scandinavian	Denmark, Finland, Norway, Sweden	*high levels of spending on working-age cash, social services *high total social spending
Continental Western European	Austria, Belgium, France, Germany, Netherlands	*high levels of working-age cash spending *when excluding the Netherlands, most consistently high spending profile
Southern European	Greece, Italy, Portugal, Spain	*high levels of old-age spending *low levels of spending on working-age cash and services
Unclassified	Iceland, Japan, Luxembourg, Switzerland	

Notes: Own compilation on the basis of Castles 2008: 49-51.

According to Castles' analysis, different areas of expenditure are not significantly correlated. Together with the descriptive analysis of the spending figures in cross-country comparison, this underlines the argumentation that it is not only some countries spending more than others, but also, that countries differ considerably in their spending priorities and that these priorities seem independent in nature. Therefore, the disaggregated social expenditure approach "has the potential to provide us with new information about the nature, the causes and the consequences of welfare state variation" (Castles 2008: 51-52).

A revised approach for identifying welfare policy patterns using the ESSPROS data

This paper utilizes this potential offered by disaggregated expenditure data by applying the approach proposed by Castles for 28 European countries. In order to make Castles' approach more fruitful for this sample of European countries and, in more general terms, the purposes of cross-country comparisons, the original operationalization is first modified in order to be able to use the ESSPROS data offered by Eurostat instead of the OECD SOCX data. Since social expenditure is to a high extent dependent on the persons in need of and eligible for benefits, the data is adjusted to needs pressure factors in order to make it comparable over time and across countries.

Using ESSPROS data

Eurostat provides data on social protection benefits in the core system well suited for cross-country comparisons on an annual basis. The so called European System of integrated Social Protection Statistics (ESSPROS) data accounts for the financial flows of social security expenditure and receipts. Information on social expenditure, which is of interest here, is provided for eight

functional fields of social protection (sickness/health care, disability, old age, survivors, family/children, unemployment, housing and social exclusion). Each functional category further provides a distinction of expenditure in cash benefits and benefits in kind and also in more detailed sub-categories. In addition, data on expenditure is broken down at means-tested and non-means tested as well as lump sum benefits. Data for some of these sub-categories is not available for all countries or years, though.

One of the advantages of the ESSPROS data for comparative purposes is that it enables us to integrate the post-socialist countries of CEE in the analysis of welfare policy effort – an attempt which is important regarding the lack of comparable data and subsequent lack of systematically comparative analyses on welfare policy arrangements in these countries so far.⁴

As has been shown by De Deken and Kittel (2007), the ESSPROS and OECD SOCX data differ considerably in several regards and both contain problems which should be accounted for when using this data for cross-country comparisons. In general, the OECD has taken a different approach than Eurostat in defining what actually counts as public spending. While in the ESSPROS data, spending is defined as “public” if the decision power lies with the government, in the SOCX data spending is only considered to be “public” when it is carried into execution by governmental sector agents. In other words, the ESSPROS data includes also mandatory schemes in public expenditure and therefore spending figures are in most cases systematically higher than the respective figures by the SOCX data (De Deken and Kittel 2007: 74). De Deken and Kittel point at several problems which occur due to this deviating definition of public spending – for example, the dynamics of shifts from public to private schemes and within individual benefit schemes – but also draw attention to the fact that it depends on the research interest whether this limits the utility of the data for cross-country comparisons. Another problem refers to missing data at more disaggregated level; if data for some disaggregated categories is missing, how reliable is the data at a more aggregated level (De Deken and Kittel 2007: 99)?

In general, data reliability is also not just a matter of differing definitions between both datasets but also within the datasets, as the comparability of observations between countries and over time is challenged by measurement errors and changing concepts. Bearing all these restrictions in mind, the ESSPROS and SOCX data provide the best available time series data on disaggregated welfare state spending which can be utilized for comparative cross-country studies to a far greater extent as has been the case so far (see also Castles 2004, 2008; De Deken and Kittel 2007: 73). Due to these differences in data definition and included spending categories, ESSPROS and SOCX data cannot be directly combined in case one wishes to include both countries for which either only SOCX or ESSPROS data is available in the analysis. With careful and restricted selection of variables, though, this would be possible too, since data in many of the categories is overlapping.

Differences in the data also lead to some conceptual modifications for the purposes of this analysis. Since the health expenditure reported in the SOCX only contains expenditure on health care services (i.e., benefits in kind), sickness cash benefits were not taken into account in Castles’

⁴ Data is available for the Czech Republic and Slovakia from 1995, for Lithuania and Slovenia from 1996, for Latvia from 1997, for Hungary from 1999 and for Estonia, Poland and Romania from 2000 on. Finally, for Bulgaria data is available from 2005 on.

original approach. These are arguably important for securing income of the working age population, though, and were therefore included in the category “working-age cash benefits”. Whereas Castles includes spending on active labor market policies into the dimension of working-age benefits, I refrain from doing so not only for data availability reasons, but also because, in my view, the inclusion of this category blurs the boundaries of social and labour market policy at least when one considers welfare policies in a narrower sense, which is in the focus of this analysis.⁵

Taken these adjustments, the following functional spending categories reported in Table 2 were included in this analysis, measured as percentage of GDP:

Table 2. Categories of welfare policy spending

	Cash benefits		Benefits in kind	
	<i>Age-related cash expenditure</i>	<i>Working-age / income replacing expenditure</i>	<i>Health care services expenditure</i>	<i>Social services expenditure</i>
Included ESSPROS categories	*Old-age cash benefits *Survivors’ cash benefits	*Unemployment cash benefits *Sickness cash benefits *Disability cash benefits *Family cash benefits	*Health care benefits in kind	*Old-age benefits in kind *Family benefits in kind *Disability benefits in kind *Survivors’ benefits in kind *Unemployment benefits in kind *Social exclusion benefits in kind

The spending categories used in this analysis and based on ESSPROS data correlate to a great extent with respective categories based on the SOCX data when accounting for all commonly available years and countries for which both SOCX and ESSPROS data is available. Yet notable differences make the correlations far from being perfect (age-related cash .791**, working-age cash .947**, health care .705** and other services .969**).⁶ Occurring discrepancies are mainly due to different categorization of benefits in expenditure categories like the exclusion of sickness cash benefits in the SOCX data. Consequently, it is not possible to account for cash benefits in case of sickness when using the SOCX data and the spending for working-age cash benefits as

⁵ Activation policies in general certainly gain more and more importance in many countries and impact the living conditions of working-age population as has been argued among others by Powell and Barrientos (2004), Serrano Pascual and Magnusson (2007) and Castles (2008). If one would like to analyse patterns of governmental effort for social policies in a broader sense, one should consider not only ALMP but also other policy fields like education too (Jensen 2008).

⁶ For this comparison, whenever possible, identical spending categories offered by ESSPROS and SOCX were used for building the four cumulative categories. Spending on active labour market policies (ALMP) was thus not included in the working-age cash expenditure as was done in the original categories by Castles (2008: 48; ALMP makes up on average 0.8 percent points of working-age cash expenditure in Western European countries which were included in Castles’ study in 2008).

defined in this paper is therefore systematically higher than in the approach by Castles (2008) (on average of all years and countries 0.7 percent points with great cross-country variation).

Adjusting the data for demographic and needs pressures

Given that expenditure on social benefits is highly dependent on population in need and eligible for benefits, we need to account for this when analyzing expenditure data beyond pure description across countries (Clayton and Pontusson 1998; Huber and Stephens 2001; Siegel 2007; Kangas and Palme 2007). In this analysis I account for cyclical and structural needs resulting from the size of population entitled for different benefits by weighting the disaggregated expenditure categories by respective structural and demographic variables. Although it is not possible to determine the exact numbers of (potential) recipients, I use proxy variables which come closest to the needs pressures. The two most common needs pressure factors, which are usually also included as control variables in causal analysis when using expenditure as dependent variable are the unemployment rate and the rate of elderly population. Consequently, the unemployment cash benefits and benefits in kind are weighted by the unemployment rate. The old-age cash benefits and benefits in kind are weighted by the rate of population over 65. In case of family and sickness benefits, it is more difficult to measure the needs pressure in a proper way. Family or child care allowances make up the greatest part of family cash benefits and so I follow the suggestion by Kangas and Palme and weight the expenditure on family cash benefits by the proportion of younger population which is measured as the proportion of persons aged 16 years or younger (Kangas/Palme 2007: 110).⁷ Family benefits in kind in turn consist mainly of child day care costs and expenditure on family benefits in kind is therefore weighted by the proportion of children under school age (below 7 years of age). In case of sickness benefits, I again follow the way of accounting for structural pressures suggested by Kangas and Palme and take life expectancy as a proxy for the overall health status of the population. We would expect the longevity of the population to reflect the overall status of health and would therefore expect sickness leaves to be less pronounced in countries where the overall state of health is better. Although this measure is only a very rough approximation and also prone to counterfactual argumentation, I weight sickness cash benefits by the reversed life expectancy in absence of more suited alternative data.⁸ For health care benefits in kind, the inverse weighting is performed; where life expectancy is high, higher expenses for the health care systems occur simply due to the fact that a greater proportion of elderly and eldest persons in the total population is likely to raise the need for medical care. Therefore, sickness benefits in kind are weighted by the life expectancy.

For all other fields of benefits (i.e. survivors, disabled, persons in danger of social exclusion or eligible for housing benefits), no weighting was made due to lack of adequate data on persons in need. Weighting some of the benefit dimensions by pressure factors and leaving others unweighted certainly leads to biased data to some degree, but since these unweighted fields

⁷ The age limits for child care allowance vary greatly, but in most countries, cash benefits are paid at least until the age of 16. The measure used here has therefore to be regarded as a very rough approximation.

⁸ For calculating the weighting factor, the maximum life expectancy in the sample (82.16 years, Switzerland in 2008) was set at 100 and all other values were then indexed along this benchmark.

make out only a minor proportion of total social benefit spending, the bias should be less serious than when leaving the major benefit categories unweighted. For the best practice, of course, all benefit spending should be adjusted by the adequate data on persons in need, but this would require comprehensive and comparable data on the target groups and eligible persons in all benefits categories. At the moment, such data is not available for time series and across the countries which are analysed in this paper.

The adjustment procedure results in values which are on average 14.3 percent lower than the original values in case of age-related cash benefits, 5.8 percent in case of working-age cash benefits, 22.2 percent in case of health care services, 9.1 percent in case of social services and finally 13.3 percent in case of total social spending (see also Table 5 for a detailed comparison).

Empirical analysis: Clusters of welfare spending patterns in 28 European countries

Despite the strikingly perspicuous argumentation of the clustering of countries, the analysis performed by Castles (2008) is less substantiated in methodological terms since it leans purely on description of the spending patterns in 2003. In this paper, I take a step further in utilizing the disaggregated expenditure approach and employ a more sophisticated statistical method, the cluster analysis, in order to reassess whether disaggregated spending profiles indeed coincide with different welfare regimes in 28 European countries in 2005-2007.⁹ The analysis applied in this study is in first place purely explorative. Besides the Western European EU member states which were also included in Castles' analysis, I also include the new member states of the CEE. Although some comparative work has already been done, the evidence of the characteristics of the emerging patterns of welfare regimes in the CEE is still tentative, not least resulting from the lack of quantitative data on welfare institutions and other policy measures for these countries (see among others Inglot 2008; Cerami and Vanhuysse 2009; Szikra and Tomka 2009). It is therefore especially alluring to apply the now available disaggregated data and explore in which ways the emerging patterns of welfare policy arrangements in these countries correspond to those prevalent in Western Europe.

Method

For classifying countries (or more general, observations) along theoretically and empirically distinctive features, cluster analysis is the method of first choice (Gough 2001; Kangas 1994; Pitruzzello 1999; Bambra 2007). After long being surprisingly underrepresented in comparative welfare state research, cluster analysis has gained momentum in recent attempts to classify welfare states or to identify welfare regimes (Gough 2001; Obinger and Wagschal 2001; Kautto 2002; Saint-Arnaud and Bernard 2003; Powell and Barrientos 2004; Bambra 2007; Jensen 2008). The goal of cluster analysis is to determine clusters of objects that display small within-cluster

⁹ I use means of these three years, 2007 being the last year for which data is currently available. While a simple cross-sectional analysis is always sensitive for outliers or coincidental values, using means for more than just one year diminishes the random character of cross-sectional analysis and also the risk measurement errors.

variation relative to between-cluster variation. In other words, the resulting clusters should show high internal homogeneity and high external heterogeneity.

In order to account for this explorative character of the research focus in this paper, I apply an agglomerative hierarchical clustering procedure (hierarchical cluster analysis, HCA) using the squared Euclidian distance as a distance measure and the Ward method as clustering algorithm. This method determines cluster membership on the basis of the total sum of squared deviations from the mean of cluster and has proven to perform well in allocating cases “correctly” to clusters (Bergs 1981; Everitt et al. 2001). Therefore, it has become a standard for many social scientific clustering approaches for solving classification problems (e.g. Castles and Obinger 2008; Jensen 2008).

While assumptions regarding normal distribution, linearity, and homoscedasticity have little bearing on cluster analysis, careful attention to the issue of multicollinearity must be paid. In cluster analysis, highly intercorrelated variables can implicitly overweight some of the variables in the clustering procedure and thus distort the results. As Table 3 shows, the spending categories correlate partly to a substantially high degree with each other. In particular, age-related cash expenditure is highly correlated with health care services and working-age cash expenditure is highly correlated with both health care expenditure and social service expenditure. This is contradictory to Castles’ findings which suggested no or only very low correlations between the different expenditure types (Castles 2008: 51). Note that the data used here was weighted by the needs pressure factors and that some differences in the composition of the categories exists as was explicated above. This together with the differing point in time might explain the contradictory findings. All spending categories correlate highly with total social expenditure, the relationship between total expenditure and social service expenditure being the most moderate.

Table 3. Correlations between expenditure categories (weighted means 2005-2007, Pearson’s r)

	Age-related cash expenditure	Working-age cash expenditure	Health care service expenditure	Social service expenditure
Age-related cash expenditure	1			
Working-age cash expenditure	.221	1		
Health care service expenditure	.579**	.517**	1	
Social service expenditure	-.034	.682**	.388*	1
Total social expenditure	.722**	.740**	.850**	.587**

Notes: * p < 0.05, ** p < 0.01 (2-tailed).

Given these intercorrelational patterns, including all spending categories in the cluster analysis would thus run the risk of producing distorted results. An exploratory factor analysis was therefore first run in order to eliminate highly correlated variables from the cluster analysis. It also enables us to depict the dimensionality of the data, giving us hints of underlying patterns of welfare policy spending behind the spending figures. If the assumption that welfare policy spending in cash benefits on the one hand and benefits in kind on the other hand is to hold true as has been suggested among others by Kautto (2002) and Jensen (2008), we would expect the age-related cash spending and working-age cash spending to load on one dimension and the

spending on health care services and other social services to load on another dimension(s), respectively.

An explorative factor analysis assuming independence of the components (Varimax rotation) and allowing for *n* components was run using the means for 2005-2007 of the four spending categories. The analysis resulted in two distinct dimensions accounting for 85.3 % of the total variation, the first consisting of working-age cash spending and social services spending and the second one of old-age cash and health care in kind spending (Table 4). Health care service spending loads on the first factor as well, but the factor loading is much higher on the second factor. The first factor is characterized by the highest loading for social service spending and the second by the one for the age-related spending.¹⁰ Accordingly, we do not find support for the distinctiveness of welfare policy spending in cash and services spending, but observe health care service spending to be distinct from the other spending categories to a certain extent. This might support the view of non-salience of health care in welfare policy priority setting (Jensen 2008).

Table 4. Results of a factor analysis with the four categories of welfare spending (% of GDP, means 2005-2007)

	Components		Uniqueness
	<i>Factor 1</i>	<i>Factor 2</i>	
Social service expenditure	.936		.102
Working-age cash expenditure	.865		.178
Age-related cash expenditure		.946	.186
Health care service expenditure	.458	.777	.123
Total variance explained	55.65%	29.63%	

Notes: Extraction method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Values lower than .30 are suppressed.

¹⁰ The factor analysis was also run for all years from 1995-2007 and only for the Western European countries in order to see whether the two dimensions also hold true when including time series or only the established welfare states. In both cases, very similar results to those with the means for 2005-2007 for all 28 countries occur. When including only Western European countries, the highest factor loading for the first dimension was for health care expenditure instead of old-age cash expenditure, though. Furthermore, a factor analysis with the single components of the different spending categories was conducted in order to see whether the *a priori* grouping of welfare spending in theoretically based categories dominates the results. An unrotated solution shows that the single components load to a large extent in a similar manner; old-age cash spending together with survivors cash spending and sickness benefits in kind make out the three strongest loadings in one component. Family and old-age benefits in kind and sickness cash benefits are the dominant three variables in the second component. Unemployment cash benefit spending is more ambiguous, though; it loads moderately in both dimensions. Altogether, these results seem to give little support for the assumption that European countries are predominantly divergent to the extent they spend either on cash benefits or on benefits in kind as has been suggested by some earlier analyses (Kautto 2002; Jensen 2008)

Results of the cluster analysis

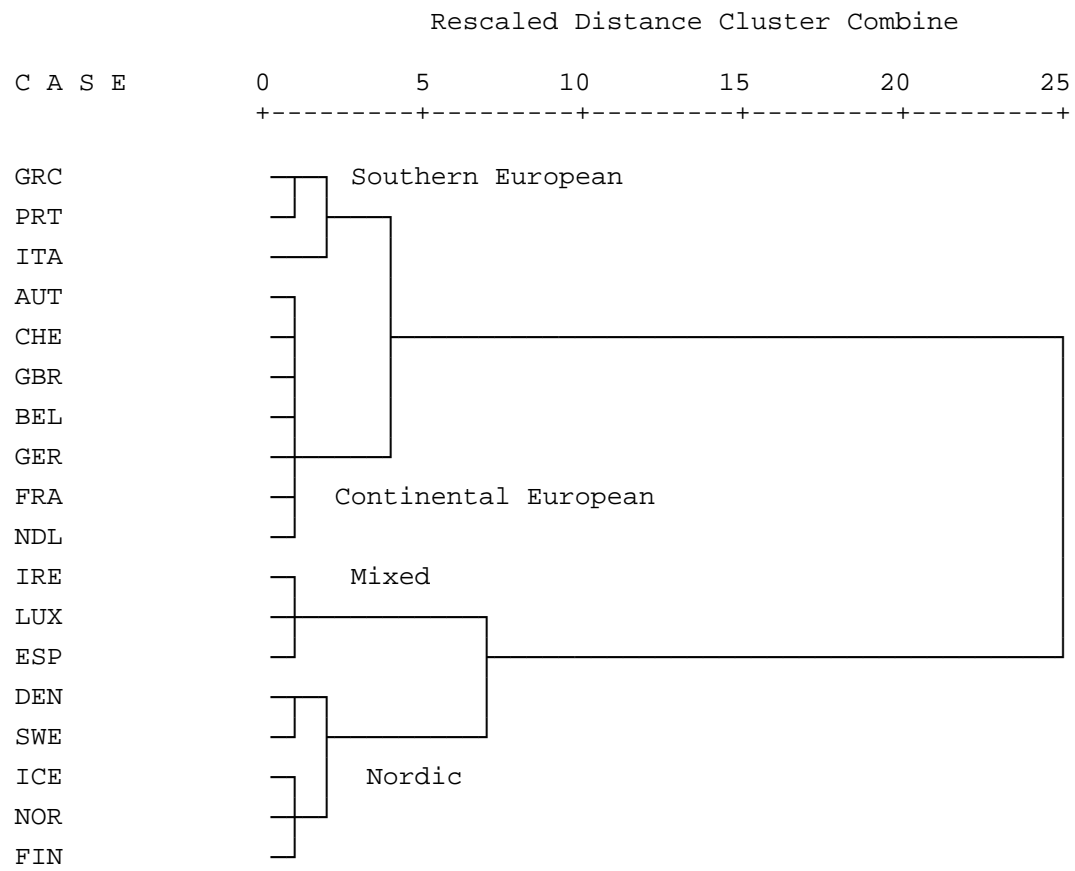
In a first step of the cluster analysis, I included the Western European countries in the HCA in order to examine how the mature welfare states fit into the established regime categories and especially into the families of nations by Castles when using the factor scores of the spending categories as distinctive measures. The results presented in Figure 1 strongly support the idea of distinct worlds of welfare spending, showing that four clusters emerge which to a considerable extent correspond to the established regimes. Yet some deviations occur, too. First, Austria, Belgium, Germany, France and the Netherlands form one cluster, but contrary to many other categorization attempts, Great Britain and Switzerland also join this cluster which could be characterized as the conservative *Continental European* cluster.¹¹ Second, the Scandinavian countries form a distinct *Nordic* cluster which is first formed by Denmark and Sweden and then joined by Iceland, Norway and Finland. Third, Greece, Portugal and Italy group together, thus forming a *Southern European* cluster. A fourth cluster which seems less coherent in theoretical terms consists of Ireland, Luxembourg and Spain. Contrary to most of the previous categorization attempts, clustering along welfare spending patterns neither disposes Great Britain and Ireland to build a distinctive liberal or English-speaking family nor groups them in one and the same cluster.¹² The main dividing line runs between the Continental and Southern European clusters on the one hand and the Nordic and the mixed clusters on the other. As previously stated among others by Ferrera (1996), the Mediterranean countries seem to share some characteristics with the conservative Continental countries. I turn to the constitutive characteristics of these clusters in section five.

In a second step, I then incorporated the 10 post-socialist CEE countries in the cluster analysis. The results of the HCA presented in Figure 2 support the insight that instead of forming a unique Eastern European welfare regime, welfare policy patterns in the CEE countries have developed in different directions (see also Cerami 2006; Inglot 2008; Szikra and Tomka 2009). On the one hand, the Baltic countries, Slovakia, Bulgaria and Romania form a distinctive cluster of their own, which might be described as the rudimentary *Eastern European* cluster. In the initial splitting this cluster is closer to the Nordic and mixed ones than to the Continental and Southern ones, but is again differentiated from the Nordic cluster in the second splitting. On the other hand, the rest of the CEE countries join one of the Western European clusters. While Poland and Slovenia share features of the Southern European cluster, the Czech Republic and Hungary group together with Spain, Luxemburg and Ireland in the mixed cluster.

¹¹ In order to avoid misleading terminology and keeping in mind the explorative character of this study, I abstain from using more content-specific attributes for the clusters at this stage, but instead use geographic terms (see also Ferrera 1996; Castles and Obinger 2008). To some extent, though, these geographic labels are of course connoted with the common characteristics underlying the regimes or worlds of welfare, be it of cultural, societal or political nature. In some cases, these labels do not do justice to single countries in the literally geographic sense (e.g. Great Britain in the “Continental” or later on, Poland in the “Southern” cluster).

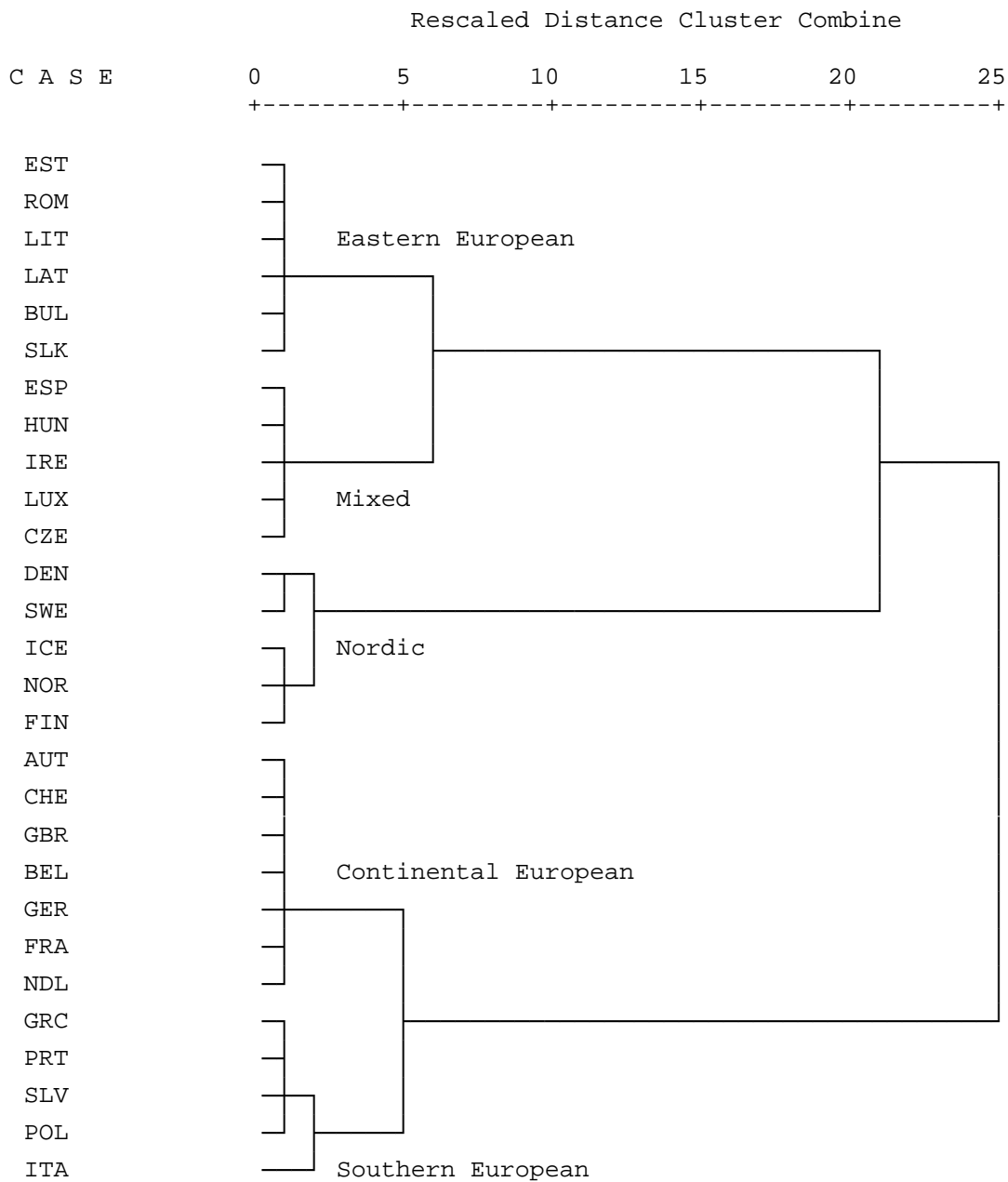
¹² Since most of the “liberal” or “Anglo-Saxon” countries (the USA, Canada, Australia, New Zealand) to which Great Britain and Ireland usually are attached to are excluded from this analysis, the formation of a such a cluster is unlikely per definition, though.

Figure 1. Clusters of welfare spending in Western European countries, 2005-2007



Notes: Results of an HCA using Ward method and squared Euclidian distance.

Figure 2. Clusters of welfare spending in 28 European countries, 2005-2007



Notes: Results of an HCA using Ward method and squared Euclidian distance.

Robustness of the clusters

The robustness of the clusters produced by the HCA was first tested by utilizing another agglomerative hierarchical clustering method, the complete linkage method. For this method, the cluster criterion is based on maximum distance between a pair of objects, the one being in one cluster and the other in the other. This method is not as sensitive for outliers than the Ward's method, but tends to build compact and equally sized clusters with equal diameters (Everitt et al.

2001). While the clusters iterated by the HCA using Ward's method remain fairly stable, a few countries now join another cluster. Italy changes from the Southern European cluster to the Continental one but is still clearly distinct from the other members of this group. The Netherlands now join the Nordic group and links most closely to Finland. The Southern European cluster now is also closer to the rudimentary Eastern European and the mixed ones, the Nordic and the Continental clusters are independent in the initial splitting.

Second, I ran the HCA analysis with the original four spending categories instead of the factor scores for checking whether the selection of the variables has an impact on the extracted clusters. Basically, the same clusters appear, but some of the countries now join other clusters. The Netherlands is part of the Nordic cluster while Iceland, Norway and Ireland form an own cluster which affiliates to the mixed cluster at a later stage. In addition, Great Britain now is part of the Southern European cluster. Recall that this procedure might be sensitive to distortions caused by multicollinearity, though, which is why using the factor scores was chosen in the first place.

Finally, I also tested how countries cluster when setting the number of clusters a priori, i.e. running the partitioning *k*-means clustering procedure (KCA). The rationale behind this is that we first make theoretical assumptions about the expected number of clusters and then see how our observations empirically group into the defined number of clusters. The number of clusters was set at three (corresponding to the original three worlds of Esping-Andersen 1990), four (the former plus a Southern cluster) and five (the former plus an Eastern European cluster or the five "families of nations" identified by Castles 2008). The three cluster solution produces one cluster identical to the Nordic one in the HCA, a second cluster consisting of the Continental and the Southern European countries and a third cluster which combines the Eastern European and the mixed groups. In the four cluster solution the rudimentary Eastern European countries now separate into an own cluster and finally the five cluster solution reveals an identical pattern as the HCA. We therefore can conclude the patterns found in the HCA to be robust.

Characteristics of the welfare spending patterns across the country clusters

In this section we turn to the constitutive patterns of welfare spending of the five country clusters. The original and the needs adjusted spending figures for the means of 2005-2007 in distinct welfare policy categories for the 28 European countries are presented in Table 5. At the most general level, the clusters are distinguished by their overall level of total social spending as percentage of GDP. The average total spending is highest in the group of the conservative Continental European countries, followed by the Nordic countries. The variation in the Continental cluster is at the same time the lowest in the whole sample and highest in the Nordic cluster. This is especially due to the very high total spending level in Sweden – the highest among the European countries – and the moderate spending level in Iceland. The countries in the Southern European also show rather high overall spending levels, Poland being an exception in this regard. The Eastern European cluster in turn is characterized by very modest overall social spending proportionate to their GDP. Welfare policy in these post-communist countries thus has

not even nearly the same priority in governmental budgeting as in the other European countries. The mixed group is situated between the Eastern and the Southern European country clusters.

The Continental cluster is furthermore characterized by high cash spending on age-related benefits and also rather high spending levels for cash expenditure for working-age population as well as for health care services. Social services, in contrast, are far less pronounced in terms of governmental spending. This is in line with the traditional focus of the conservative-corporatists or Bismarckian welfare states on contribution-based social security benefits and only “essential” welfare services including the health care (e.g. Palier 2010). Great Britain is to a certain extent an outlier in this group as it comes to the spending on working-age cash benefits, these being lower than in the other countries in the Continental cluster.

The Southern European cluster shares the high cash spending on age-related issues and the relative importance of health care services spending with the Continental cluster, the age-related spending making even a greater part of total social spending. Working-age cash spending and social services in turn are far less pronounced in these countries. Health care services make up about the same relative importance in relation to total social spending as in the Continental cluster. This cluster can be seen as a more rudimentary and family-oriented variant of the conservative welfare state (see also Ferrera 1996; Esping-Andersen 1999). One explanation for the Catholic Poland joining the Southern cluster might be just due to this family-oriented alignment. Of the countries included in the Southern cluster, Poland seems least fitted not only geographically, though, but also, because her social service and especially health care service expenditure is considerably lower than in the other countries of this group, this underlining the rudimentary character of the Polish welfare state.

Table 5. Types of welfare state expenditure, original and adjusted values (in % of GDP, means 2005-2007)

	Age-related cash benefits		Working-age cash benefits		Health care services		Social services		Total social expenditure	
	orig.	adj.	orig.	adj.	orig.	adj.	orig.	adj.	orig.	adj.
Cluster 1: Continental European										
Austria	13,0	11,2	6,5	6,1	6,0	4,8	2,1	2,0	27,6	24,0
Belgium	12,7	11,0	7,9	7,3	6,4	5,1	1,3	1,3	28,3	24,7
France	12,7	11,0	6,3	5,7	8,0	6,5	2,2	2,1	29,3	25,3
Germany	11,9	10,1	6,9	6,4	6,7	5,4	2,1	2,1	27,6	23,9
Netherlands	10,1	8,9	6,8	6,7	6,7	5,3	3,0	2,8	26,6	23,7
United Kingdom	10,8	9,2	4,3	4,0	7,4	5,8	2,9	2,8	25,4	21,9
Switzerland	12,6	10,8	5,9	5,7	5,9	4,8	1,7	1,7	26,2	22,9
<i>Mean</i>	<i>12,0</i>	<i>10,3</i>	<i>6,4</i>	<i>6,0</i>	<i>6,7</i>	<i>5,4</i>	<i>2,2</i>	<i>2,1</i>	<i>27,3</i>	<i>23,8</i>
<i>STD</i>	<i>1,0</i>	<i>0,9</i>	<i>1,0</i>	<i>1,0</i>	<i>0,7</i>	<i>0,6</i>	<i>0,6</i>	<i>0,5</i>	<i>1,2</i>	<i>1,1</i>
Cluster 2: Southern European										
Greece	12,2	10,3	3,0	2,8	6,2	4,9	2,5	2,4	23,9	20,4
Portugal	11,2	9,6	4,8	4,6	6,5	5,1	1,1	1,0	23,6	20,3
Slovenia	9,8	8,5	4,9	4,7	6,0	4,7	1,1	1,0	21,8	18,9
Poland	11,2	10,0	4,0	3,8	3,2	2,4	0,3	0,3	18,7	16,5
Italy	15,4	12,8	3,1	3,0	6,3	5,1	0,7	0,7	25,5	21,6
<i>Mean</i>	<i>12,0</i>	<i>10,2</i>	<i>4,0</i>	<i>3,8</i>	<i>5,6</i>	<i>4,4</i>	<i>1,1</i>	<i>1,1</i>	<i>22,7</i>	<i>19,5</i>
<i>STD</i>	<i>1,9</i>	<i>1,6</i>	<i>0,8</i>	<i>0,9</i>	<i>1,2</i>	<i>1,2</i>	<i>0,7</i>	<i>0,8</i>	<i>2,3</i>	<i>2,0</i>

Table 5 continued

	Age-related cash benefits		Working-age cash benefits		Health care services		Social services		Total social expenditure	
	orig.	adj.	orig.	adj.	orig.	adj.	orig.	adj.	orig.	adj.
Cluster 3: Nordic										
Denmark	9,0	7,7	8,1	7,7	5,2	4,1	6,3	5,9	28,7	25,3
Sweden	9,6	8,1	7,4	7,1	6,1	5,0	6,8	6,3	30,0	26,4
Finland	8,6	7,4	7,3	6,9	5,4	4,3	4,0	3,7	25,3	22,2
Iceland	4,8	4,3	5,5	5,2	6,3	5,1	4,6	4,3	21,2	18,9
Norway	5,3	4,6	8,0	7,7	5,0	4,0	4,4	4,0	22,6	20,3
<i>Mean</i>	7,5	6,4	7,2	6,9	5,6	4,5	5,2	4,8	25,6	22,6
<i>STD</i>	2,0	1,8	0,9	1,0	0,5	0,5	1,1	1,2	3,4	3,2
Cluster 4: Eastern European										
Bulgaria	7,7	6,5	2,9	2,7	3,7	2,7	0,6	0,6	14,9	12,5
Estonia	5,3	4,5	3,2	3,0	3,3	2,4	0,4	0,4	12,3	10,3
Latvia	5,4	4,5	2,6	2,5	2,7	1,9	0,9	0,8	11,5	9,8
Lithuania	5,9	5,1	2,6	2,6	3,5	2,5	1,1	1,0	13,1	11,2
Romania	5,8	5,0	2,8	2,6	3,1	2,3	0,9	0,9	12,6	10,7
Slovakia	6,4	5,8	3,9	3,6	4,4	3,3	1,0	0,9	15,7	13,5
<i>Mean</i>	6,1	5,2	3,0	2,8	3,5	2,5	0,8	0,8	13,3	11,3
<i>STD</i>	0,8	0,8	0,4	0,4	0,5	0,5	0,2	0,2	1,5	1,4
Cluster 5: Mixed/unclassified										
Czech Republic	7,6	6,6	4,5	4,3	5,3	4,0	0,9	0,8	18,2	15,8
Hungary	8,8	7,6	5,2	4,9	5,5	4,0	2,3	2,2	21,8	18,6
Ireland	4,3	3,9	5,2	4,7	6,3	5,0	1,3	1,2	17,2	14,9
Luxemburg	7,4	6,6	6,6	6,0	4,3	3,4	1,8	1,7	20,1	17,7
Spain	8,1	7,0	5,2	5,0	5,3	4,3	1,9	1,8	20,4	18,0
<i>Mean</i>	7,2	6,3	5,3	5,0	5,3	4,1	1,6	1,5	19,5	17,0
<i>STD</i>	1,5	1,4	0,7	0,6	0,6	0,6	0,5	0,5	1,6	1,6
Mean all	9,1	7,8	5,2	4,9	5,4	4,2	2,2	2,0	21,8	18,9
STD all	3,0	2,5	1,7	1,7	1,4	1,2	1,7	1,6	5,6	5,0
Min	4,3	3,9	2,6	2,5	2,7	1,9	0,3	0,3	11,5	9,8
Max	15,4	12,8	8,1	7,7	8,0	6,5	6,8	6,3	30,0	26,4

Source: Eurostat ESSPROS

The countries of the Nordic cluster show considerably higher levels of spending for social services, these being on average far more than twice as high as those of the nearest cluster, the Continental one. The emphasis on welfare services like child care and old-age care facilities is a well-known feature of the social-democratic welfare model and the supply of social care services outside the family sphere accounts decisively to the defamilising character of the Nordic welfare states (Esping-Andersen 1990, 1999; Korpi 2000; Kautto 2002; Bambra 2007; Jensen 2008; Palme et al. 2009). But high working-age cash expenditure too is characteristic for the Nordic cluster, reflecting the generous benefit levels, universalistic eligibility criteria and high coverage of social security benefits typical for these countries. One of the benefit categories accounting for the comparably high cash benefits in working phase of life is child benefits and cash benefits for parental leave, these being the most generous in the Nordic countries. The Nordic welfare cluster

is thus characterized by welfare spending priorities resulting in *both* a high level of defamilizing *and* decommodifying measures. Age-related spending is proportionally lower than spending on cash benefits for working-age population. Iceland is clearly a deviant case in this cluster, her expenditure on old- and working-age benefits being considerably lower than in the rest of the Nordic countries.

The Eastern European cluster shows overall low levels of spending in all categories and the Baltic countries, Bulgaria, Romania and Slovakia can therefore be titled as rudimentary welfare states. Especially social services have virtually barely relevance, the percentage of spending in this category in most cases not even exceeding one percent of the GDP. When looking at the proportions of different spending categories in relation to total social spending in this country cluster, though, it becomes apparent that these remain strongly the proportions prevalent in the conservative Continental cluster. This pattern is in line with the results of previous scholarly work which consider the conservative or Bismarckian model to come closest to the characteristics of the emerging welfare state types in CEE (Cerami 2006; Inglot 2008). It remains to be seen, whether the social matters will gain on importance within governmental spending strategies in general in the longer run, as these countries catch up in terms of economic wealth after overcoming the recent financial crisis.

Finally, the countries in the mixed cluster also show a pattern similar to the Continental cluster, the age-related cash spending being the most important category followed by working-age cash benefits, health care services and finally social services. As this cluster is rather heterogeneous, though, it does not seem appropriate to characterize the countries included in this cluster as a unique type of welfare states. Rather than this, the countries in this cluster might still be developing in different directions.

Summing up, the clusters which resulted from the HCA are characterized by distinct patterns of welfare spending and varying emphasis on functionally different domains of social protection and welfare provision. By and large, these clusters are in accordance with the ones identified by Castles (2008), yet some countries are found to group together differently. Also, contrary to the findings of Castles, the Continental European cluster seems the most coherent one. Taken the analogies in spending profiles of the Continental, the Southern and the Eastern clusters identified in this study and the clearly deviating spending pattern of the Nordic cluster, the main dividing line in welfare effort and underlying welfare policy arrangements in Europe seems to be constituted by whether welfare policy focuses in the provision of social services or for social security via cash transfers especially for people in retirement.

Conclusion

This paper has made a first attempt to refine the disaggregated welfare expenditure approach by applying it for identifying patterns of welfare spending in 28 European countries and by utilizing cluster analysis. The analysis was based on the approach introduced by Castles (2008), but amendments were made both in conceptual terms and with regard to the data treatment. The results show that, first, the approach proposed by Castles is feasible for the ESSPROS data as

well. This opens up the option of finally including the Central and Eastern European EU member states in addition to the OECD countries into the corpus of macroquantitative comparative studies on welfare state properties and developments.

Second, contrary to some earlier studies, welfare policy effort does not seem to be bifurcated in cash transfers and services in the sense that these would build the main dimensions around which welfare regimes cluster. Instead, the results of this study suggest that welfare states in Europe differ primarily with regard to the extent to which they invest either on old-age benefits or in services and income maintaining cash transfers to working-age population. Spending on health care services shows the lowest variation across countries which might be due to the politically less salient and compulsory nature of this policy field, as has been argued also by previous studies.

Third and what has been the main focus of this paper, divergent welfare spending patterns indeed can be identified by means of different functional categories of disaggregated welfare expenditure as percent of GDP. The European countries cluster in a way which coincides to a large part with the regimes or worlds of welfare extracted in previous studies. The Continental European cluster attests to an outstanding importance of old-age cash transfers incorporating countries which usually are subsumed under the label conservative-corporatists or Bismarckian regime. The Southern European cluster seems what could be called a more rudimentary variation of the Continental pattern. Investing in social services paired with high level of working-age transfers spending is the distinguishing feature of the Nordic cluster. The welfare policy patterns of the CEE countries attest to the emergence of a variety of welfare arrangements in the post-communist region. Common to all CEE countries is a general orientation in the direction of Bismarckian or the Continental model and the overall lower spending ratios proportionate to GDP compared to the most Western European countries. In general, European welfare states differ in the degree to which their financial effort aims at providing social services or income maintaining transfers especially in the old age.

These results suggest that theoretically important distinctions between different types of welfare states can be empirically drawn by leaning on disaggregated spending data likewise as by utilizing more detailed data on programs and institutions. The disaggregated spending approach appears fruitful for quantitative comparative analysis of welfare states for several reasons. First and at simplest, it builds on data which is easily available for all scholars on an annual basis from at least two sources and for a large number of countries and longer time series. It thus not only enables cross-sectional comparisons, for example categorization analysis like the one conducted in this paper, but also causal analysis in pooled cross-sectional time-series settings or the analysis of spatial dynamics in welfare policy development. The latter gain importance but are often restricted by the poor availability of indicators of welfare policies for potentially important interaction countries outside the universe of OECD. Potentially, even more countries outside the OECD world might find entrance in comparative analyses if data on welfare expenditure in the manner of SOCX and/or ESSPROS is available from national sources. Second, at the minimum, disaggregated approach is useful for making more precise and focused analyses on social expenditure in general. The functional distinction used in this analysis is only one possibility of utilizing the data – theoretical considerations might lead scholars to diverse approaches in the

future. Third, as cross-country spending patterns empirically match with clusters based on other welfare policy measures, this poses an interesting puzzle for theorizing the links between welfare spending, social rights and effects of welfare policies as well as their roots.

When using disaggregated expenditure data for analyzing welfare policy patterns and their dynamics in a comparative manner, some restrictions and caveats must be considered. First, accounting for demographic and needs pressure factors inevitably is of importance as they impact the levels of spending to a considerable degree. In this paper, one way of dealing with this problem was introduced. For cross-country macro comparisons with the focus on patterns such as the one performed in this paper, the adjustment suggested here might be sufficient. In case one wants to compare specific welfare programs, for example pensions, even more specific weights should be considered. Also, even though it is possible to combine the ESSPROS and SOCX data, one must be very careful with choosing analogue categories since some of the definitions vary considerably (see also De Deken and Kittel 2007). Finally, spending patterns do not reveal much about how and to whom the money is spent – whether benefits are means-tested or not or equally distributed among all recipients and so on. Yet as with all measures, one must carefully define and disclose the theoretical and analytical limits when using disaggregated expenditure data.

Given these precautions, the disaggregated expenditure approach and the data material provide comparative scholars with an acceptable tool for analyzing welfare policy patterns and their change as both dependent and independent variable. First attempts to analyse the determinants and the consequences of differing welfare spending patterns were already taken by Castles himself, showing that both the determinants and the outcomes of different categories of spending differ to a great extent (Castles 2008). The data opens up a great variety of potential research directions. The next steps in advancing this approach should at least include a more in-depth linking of the spending patterns with the theoretical substance of the different institutional settings of the worlds or regimes of welfare and an analysis of program- and function-specific developments. Considering the interest of many comparative approaches for including both mature and developing welfare states in the analysis, finding ways to phase SOCX and ESSPROS data is one of the challenges quantitative welfare state scholars should address in the future, too.

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