

This article was downloaded by: [Australian National University Library]

On: 20 March 2009

Access details: Access Details: [subscription number 907447645]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



West European Politics

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title-content=t713395181>

Worlds, Families, Regimes: Country Clusters in European and OECD Area Public Policy

Francis G. Castles; Herbert Obinger

Online Publication Date: 01 January 2008

To cite this Article Castles, Francis G. and Obinger, Herbert(2008)'Worlds, Families, Regimes: Country Clusters in European and OECD Area Public Policy',West European Politics,31:1,321 — 344

To link to this Article: DOI: 10.1080/01402380701835140

URL: <http://dx.doi.org/10.1080/01402380701835140>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Worlds, Families, Regimes: Country Clusters in European and OECD Area Public Policy

FRANCIS G. CASTLES and HERBERT OBINGER

This article focuses on the notion that the policies and politics of states and nations constitute distinct worlds or clusters. We begin by examining the concept of clustering as it has emerged in the literature on policy regimes and families of nations. We then address a series of empirical questions: whether distinct worlds persist in an era of policy convergence and globalisation, whether policy antecedents cluster in the same ways as policy outcomes and whether the enlargement of the EU has led to an increase in the number of worlds constituting the wider European polity. Our main conclusions are that country clustering is, if anything, more pronounced than in the past, that it is, in large part, structurally determined and that the EU now contains a quite distinct post-Communist family of nations.

The idea that the politics and policies of states and nations are distinctively clustered in terms of enduring affinities is as old as type construction in comparative political inquiry. The clustering concept has two strong variants: one where policy affinities are seen as being closely associated with aspects of territoriality – a shared language, a common geography or a common culture – and another where the basis of commonality is manifested in a logic of policy coherence deriving from relatively unchanging structural characteristics, often, but not exclusively, of a socio-economic nature. In other words, national policy profiles are seen as being clustered into different and distinctive ‘worlds’ either because they share distinct ‘family’ resemblances – they have similar territorial origins – or because common structures give rise to distinct types of policy ‘regime’ – they are informed by qualitatively different policy logics. In what follows, the technical term ‘clusters’ is often preferred to the more metaphorical ‘worlds’.

Correspondence Address: castles@coombs.anu.edu.au

Regime and family variants should not be regarded as mutually exclusive. There is no reason, in principle or in practice, why clustering resulting from territorially derived characteristics should not co-exist with structurally determined policy logics, with the policy effects of the first-past-the-post electoral systems of the English-speaking world a possible example. There is also a much weaker clustering notion, with the term ‘world’ or ‘model’ sometimes used to designate membership of a type without any notion of common origins or logically coherent and structured outcomes and, hence, with no implication that such worlds or models will be anything more than evanescent. This article does not discuss worlds or clusters in this much weaker sense.

Of the two strong variants, the regimes concept is, arguably, the most venerable, with a case to be made that such a notion informs Aristotle’s classification of constitutional forms in Book IV of *The Politics*, where he suggests that differences in class structure shape diverse constitutional orders with distinctive outcomes in terms of distributive justice. Similar notions of clustering tend to occur wherever an attribution of qualitatively different policy arrangements or outcomes is seen as resulting from deep laid and persistent structuring and it is no accident that the classification of diverse regime types in recent policy research often emerges in the context of analysis informed by class and gender perspectives. It is also no accident that the debate on the proper definition of regime types is most intense where class and gender perspectives intersect, as in the social policy arena.

The territorial conception is of more recent provenance. Its heyday was the late nineteenth and early twentieth centuries, when, in an era in which the nation-state progressively became the paramount focus of political identity, historians, political scientists and popular commentators increasingly made distinctions amongst countries in terms of possession of a common language, a common culture or relationship to a ‘mother country’ or ‘fatherland’. Although modern scholars rarely see such affinities as sufficient explanations for cross-national policy differences, collective proper nouns with territorially specified designations, i.e. ‘English-speaking’, ‘Southern European’, ‘Nordic’, etc., are frequently used in the literature to identify recognised differences in the character of policy outcomes in different groups of nation-states.

Neither the idea of resemblance on the basis of shared national attributes nor that of policy logics proceeding from deep underlying structures prospered in the social sciences in the decades immediately following World War II. The functionalism informing the ‘comparative politics movement’ of the 1950s and 1960s (Almond 1968) explicitly rejected explanation in terms of institutional forms and legal rules of a kind transparently attributable to territorial transmission mechanisms. Attributions of similarity designated by collective proper nouns were clearly not a part of what was seen as the proper task of comparative analysis: namely, to ‘reduce proper names to explanatory variables’ (Przeworski 1987: 38–9) and, on those grounds, area

studies had to be regarded as being pre-scientific. Moreover, a scientific study of politics had little time for an analysis that could be easily construed as endorsing the kind of national character attributions featuring widely in the rhetoric of pre-war authoritarian politics. Nor, although the causal programme of comparative analysis gave a prominent role to socio-economic causation, was the immediate post-war period particularly hospitable to the kind of class and gender analysis that implied persistent and qualitatively diverse patterning of social and economic relationships over substantial periods of time. The mindset of the structural-functional analysis from which the comparative politics movement was born was initially almost exclusively focused on the factors driving the process of industrial modernisation and not on the factors shaping diverse national 'routes to and through modernity' (Therborn 1995: 5).

The notion that it might be worth investigating the possibility of the existence of a distinctive and enduring clustering of national public policy outcomes only became a part of the comparative public policy mainstream in the early 1990s. While previous research – particularly that emanating from the 'politics matter' school and what remained of area studies after a generation of structural-functional analysis – had frequently noted similarities in the policy patterns of particular groupings of nations defined in terms of their territorial and/or structural attributes,¹ two studies now appeared which provided reasonably exhaustive classifications of advanced Western nations in terms of country clusters with distinctive public policy profiles. The first was Esping-Andersen's *The Three Worlds of Welfare Capitalism* published in 1990, which used measures of the degree of 'decommodification' of pension, sickness and unemployment benefit programmes to identify 'liberal', 'conservative' and 'social democratic' welfare state regimes in 18 advanced Western nations. The second was an edited volume entitled *Families of Nations* published in 1993, in which Frank Castles, Manfred Schmidt, Göran Therborn and a number of other colleagues explored the heuristic value of analysing national public policy patterns in terms of family resemblances between English-speaking, German-speaking and Scandinavian nations.

Both strands of analysis had precursors outside the comparative public policy field. Regime analysis started its life as a political economy response to the prevailing realism of international relations theory, seeking to explain international cooperation amongst groups of nations as the consequence of the existence of regimes defined as 'sets of implicit or explicit principles, rules and decision-making procedures around which actors' expectations converge in a given area of international relations' (Krasner 1982: 186). During the past two decades, 'regime theory' in this sense has become a prominent strand of international relations theory. A similar development took place in urban politics, where 'urban regimes', defined 'as the collaborative arrangements through which local governments and private actors assemble the capacity to govern' (Mossberger and Stoker 2001: 812),

are now widely seen as a key to understanding the incorporation of interests in local politics.

An explicit notion of family affinities has not been nearly so prominent in the recent literature. Nevertheless, through the seminal work of Stein Rokkan (1970), the idea that modern nation-states manifest greater or lesser resemblances in virtue of characteristics deeply embedded in their historical trajectories of development and differentiation is one quite familiar to those coming to comparative public policy analysis with a background in comparative politics. In Rokkan's account of the evolution of European nation-building, socio-economic cleavages and centre-periphery relationships have shaped a territorial clustering of European nation-state types, each characterised by distinctive political structures and distinctive patterns of political conflict. If the presumption is that politics matters, it takes but one further step to see these structures and cleavage divisions combining to generate a distinctive policy dynamic that continues to unfold up to the present day.²

Because regime analysis in the broad area of policy studies seeks to locate distinctive logics of policy provision, its focus tends to be on specific dependent variables. The main emphasis is on showing that policy arrangements and/or outcomes in a given area of policy are distinctively clustered, with greater or lesser attention paid to the factors conducive to the emergence of such regime clusters. In addition to Esping-Andersen's original welfare regimes typology, which continues to be the topic of the most extensive debate (see Abrahamson 1999; Arts and Gelissen 2002), the comparative public policy literature now includes a wide variety of other regime classifications including 'social assistance regimes' (Gough 2001), 'health policy regimes' (Altenstetter 1992), 'gender policy' (Sainsbury 1999) and 'gender regimes' (Pascall and Lewis 2004), 'production regimes' (varieties of capitalism) (Hollingsworth *et al.* 1994; Soskice 1999; Hall and Soskice 2001), 'labour market regimes' (Traxler and Woitech 2000) and 'tax regimes' (Wagschal 2001). In the realm of economic policy proper, where professional economists often use the regime concept to denote little more than the existence of distinctive sets of policy options, we encounter analyses of 'monetary policy regimes' (a topic with its own very extensive literature), 'competition policy regimes', 'inflation regimes' and 'regulatory regimes'.

Family of nations' attributions are necessarily less policy specific, with the implicit or explicit assumption that territorial clustering shapes policy arrangements and outcomes across a wide spectrum.³ Despite this lack of specificity, there is, in principle, considerable room for diverse attributions of family resemblance based variously on similarities deriving from affinities of descent, imperial ties, common legal or religious cultures, diffusion and deliberately chosen membership of political and economic unions such as the EU (see Therborn 1993). However, with the exception of this last, many of these potential sources of resemblance overlap to a greater or lesser degree and, at least as far as OECD and European policy comparisons are

concerned, usually come down to a fourfold distinction between English-speaking, Scandinavian, continental European and Southern European families of nations initially elaborated in Castles (1998)⁴ or to variations on that theme.⁵ Widening the perspective somewhat, there has been some speculation that the 2005 enlargement of the existing EU membership to include a new family of Central and East European states may be a barrier to further pan-European policy development (see Goetz 2006), that the relationships of Spain, France and Britain with their former colonies constitute something analogous to family of nations type identities (Brysk *et al.* 2002), and that 'varieties of capitalism' have distinctive families of nations attributes (Amable 2004).

Apart from the elaboration of diverse regime types and diverse bases of family resemblance, the main issues of concern in the clustering literature have tended to relate to the number, defining characteristics and membership of clusters. Arguably, greater effort should have gone into establishing their coherence and persistence. After some 15 years of debate on how many worlds of welfare there might be, whether their dimensions are properly captured by Esping-Andersen's measure of 'decommodification' and how individual countries should be classified, questions are now beginning to be asked about the extent to which the different welfare programmes Esping-Andersen analysed are interrelated and whether patterns of policy outcomes observed a quarter of a century previously (Esping-Andersen's data were from 1980) persist into the present. Those questions do not yield reassuring answers. A paper by Scruggs and Allan, replicating Esping-Andersen's data and bringing it up to date, suggests that 'clustering is, at best, very weak' and that 'there are not elective affinities within countries' social insurance programmes, an assumption on which the whole notion of distinctive regimes rests' (Scruggs and Allen 2006: 68–9). Another paper replicating Esping-Andersen's findings points out that the identification of three rather than some other number of worlds of welfare is a statistical artefact of the classificatory method employed⁶ and that an updated decommodification index does not suggest similar clustering today (see Bamba 2006).

Since the majority of elaborations of regime types in the policy literature pay no more attention to issues of coherence and persistence than the Esping-Andersen study,⁷ undue confidence in their findings is unwarranted. There has, however, been a replication study of Castles' four families' typology identifying distinctive English-speaking, Scandinavian, continental European and Southern European patterns of outcomes across a wide range of policy areas. This study explicitly employs cluster analysis techniques to establish the existence of coherent policy profiles using a combination of social policy, labour market and tax policy indicators as outcome variables for the 1960–73, 1974–95 and 1960–95 periods covered by Castles' research. The study concludes not only that 'the hypothesised families of nations can be shown to exist', but also that 'they are quite robust and stable over time' (Obinger and Wagschal 2001: 99).

These findings confirm the existence, coherence and persistence of country clusters of a family of nations' kind during much of the post-World War II era. They leave open, however, two important questions, which this article seeks to explore. First, whilst the persistence of 1960–73 policy clusters into the period 1974–95 demonstrates the longevity of these families of nations patterns, it offers no guarantee that such patterns continue to exist into the first decade of the twenty-first century. There are, of course, strong theoretical arguments that the joint influences of globalisation, convergence and Europeanisation have diminished cross-national policy differences over recent decades. One question, then, is whether distinctive country clusters have survived such ostensibly massive levelling influences. Second, the political and economic boundaries of Europe have changed appreciably since the mid-1990s. Of the 21 countries classified into families of nations in Castles' (1998) analysis and revisited in the Obinger and Wagschal (2001) replication study, five were from outside Europe and only 12 were members of the EU. Since that time EU membership has more than doubled, with the largest influx of new members coming from the former communist nations of Central and Eastern Europe. A further question, then, is whether the four cluster pattern of public policy outcomes characterising Europe in the immediate post-war decades is in the process of being modified or superseded either by the addition of new family clusters or by the disappearance of old ones.

In the remainder of this article we investigate the extent of clustering of public policy outcomes and the persistence of such clustering over time. We also examine the further question of whether there is a correspondence between the clustering of policy outcomes and of economic, social and political antecedents as presumed in the regimes literature, but here manifested across a very much wider range of policies than implied in that literature, i.e. we ask whether there are worlds of structural antecedents as well as worlds of public policy. Finally we examine the extent of policy clustering in the EU-25. In the next section, we discuss briefly the strategy of comparison that informs our analysis and the methods and data on which our findings are based.

Strategy, Methods and Data

We base our investigation of the presence and persistence of distinct worlds of public policy on comparisons of 20 advanced OECD democracies⁸ over two separate time periods using the techniques of hierarchical and k-means cluster analysis. We use averaged data for separate time periods rather than single years in order to reduce the risk of distortions resulting from exogenous shocks or country-specific idiosyncrasies.

The logic informing our strategy of comparison is as follows. First, we seek to establish the existence of policy clusters for the period 1960–75, often referred to as the 'golden age' of post-war capitalism and of the welfare state. Next, and using the same set of variables, we repeat this exercise for

the early years of the new millennium. Hence, we have a time span of approximately 25 years between the two periods of observation over which to test for the persistence of country clustering. During this period, the international political economy and the political landscape of Europe have undergone fundamental transformations. More specifically, this period has witnessed the collapse of communism, a deepening European integration, a marked societal modernisation and an ever increasing economic globalisation. These remarkable changes have undoubtedly led to new challenges for public governance that could very well have contributed to a Rokkianian 'unfreezing' of distinct worlds of public policy.

A potential mechanism for such a blurring of worlds might be a process of policy convergence, clearly demonstrated as occurring across a wide range of public expenditure arenas over the past quarter of a century (see Castles 2007), but not evenly across all areas of public policy (see Starke *et al.*, forthcoming). Reasons for increasing similarity in policy outcomes are not difficult to discern and include (i) the legal harmonisation resulting from EU integration, (ii) the regulatory competition induced by globalisation, (iii) the similarity of problem pressures fuelled by societal modernisation (e.g. 'new social risks' and changed demographics), (iv) the imposition of policies by international organisations (e.g. in Eastern Europe) and (v) policy diffusion triggered by increasing transnational communication (see Holzinger and Knill 2005). It should be noted, however, that policy convergence, even where it does occur, does not automatically produce a diminution in the distinctiveness of country groupings. If country clusters become more internally homogeneous with the passage of time, they may persist – and acquire a greater distinctiveness – as countries in general become more alike in their policy outcomes.

European integration has been accompanied by a substantial increase in the number of EU member states. Leaving aside the intrinsic virtues of greater integration, a major advantage of enlargement for public policy comparison has been the increase in the number of countries for which comparative data on policy outcomes are available. This means that we can now go beyond the limits of the normal OECD policy comparison, using Eurostat data to locate patterns of policy affinity in a wider Europe. Unfortunately, we cannot fully replicate our OECD two-period comparison due to lack of data for the earlier period. However, our analysis of contemporary policy patterns in the EU-25 does allow us to investigate the extent of policy clustering in the new Europe.

A further issue we seek to address concerns the nature of the mechanisms underlying country clustering. Our conclusions here will be admittedly tentative. Regimes theory suggests a correspondence between structural antecedents and specific policy outcomes. The family of nations hypothesis suggests that the range of policy similarities is much wider, but does not deny the possibility that these similarities are mediated via structural similarities nations may have in virtue of language, culture, history and geography. Here, we seek to establish whether OECD policy clusters

correspond with a similar clustering of political, societal and economic circumstances in the immediate post-war decades. A demonstration that such a correspondence exists is not a decisive test of whether regimes theory or a family of nations interpretation provides the most persuasive account of clustering patterns. Certainly, such a correspondence would show that the structural determination of policy outcomes is plausible, but over a much wider ambit than generally presupposed in much of the regimes literature. Assuming that the clustering identified has strong territorial characteristics, an appropriate conclusion might be that family of nations affinities are frequently manifested through structural mechanisms that are conducive to the emergence of cognate regime clusters in different policy areas.

The method we use to establish the existence of worlds is hierarchical cluster analysis, which is an exploratory data analysis tool for solving classification problems. The main goal of this method is to discover a structure within a given data set that can be visualised by means of a dendrogram. This technique is a simple heuristic tool which seeks to discern clusters showing great internal homogeneity – or what, in the context of this discussion, we label as worlds, families and regimes. In other words, the goal is to identify a set of clusters such that units of observations within a cluster are more similar to each other than they are to cases in other clusters. The advantage of hierarchical cluster analysis compared to non-hierarchical k-means cluster analysis is that we do not have to predetermine the number of clusters. In consequence, the clustering obtained by this method is exclusively data-determined and therefore fits the underlying purpose of this article to identify clustering as it occurs or fails to occur in the real world.

A disadvantage is that this method is sensitive to the set of variables used. Therefore, in order to avoid the accusation that we have predetermined our findings by our prior selection of variables, we have selected outcomes variables featuring prominently in the international discussion of policy regimes and families of nations and antecedents variables identified by the main schools of thought of comparative public policy research (see Castles 1998; Schmidt 1996). Another disadvantage is that the hierarchical clustering technique does not tell us which variables contribute most to the distinctiveness of the clusters identified in the analysis. To gain some leverage on this issue, we also undertake k-means analyses, using F-tests as a means of identifying the variables driving the clustering of outcomes.

Hierarchical cluster analysis proceeds as follows. In a first step, z-scores for all variables subject to cluster analysis are computed in order to standardise the data. Next, either a measure of similarity or a distance measure for all variables and all units of observation (in our case countries) is calculated. We have chosen a distance measure, namely the squared Euclidean distance, which is the sum of the squared differences between the scores for any pair of cases on all variables. Based on the resulting distance matrix, the units of observations are then combined (fused) into clusters in an iterative process until all cases have been assigned to a particular cluster.

The logic of fusion is determined by a clustering algorithm. We use the Ward method which determines cluster membership on the basis of the total sum of squared deviations from the mean of a cluster.

In order to improve the coherence of the findings, we have used the same set of variables for our initial inquiry of policy clusters and their persistence over time. In total, we use 16 outcome variables to examine the existence of worlds of public policy in 20 OECD nations and 15 variables for the 25 EU countries. The variables selected map the size of government, distinct spending priorities of governments (e.g. spending on education, industrial subsidies, welfare and defence), the mode of public expenditure financing, economic and labour market performance and gender-related outcomes. This final policy dimension is measured by female labour market participation and the total fertility rate.

The analysis that aims to identify the factors shaping policy clusters is also based on a substantial number of variables (15 for the first period; 14 for the second) derived from the major schools of thought of comparative public policy research. More specifically, the variables reflect social and cultural characteristics (demographics, ethno-linguistic fractionalization and religious adherence), levels of economic development (GDP per capita, agricultural employment), the distribution of power resources (partisan complexion of government, party system fractionalisation, union density), the system of interest mediation and the institutionally mediated horizontal and vertical division of power. Definitions and sources for all the data used in analysis of policy antecedents are to be found in Appendices A3 and A4.

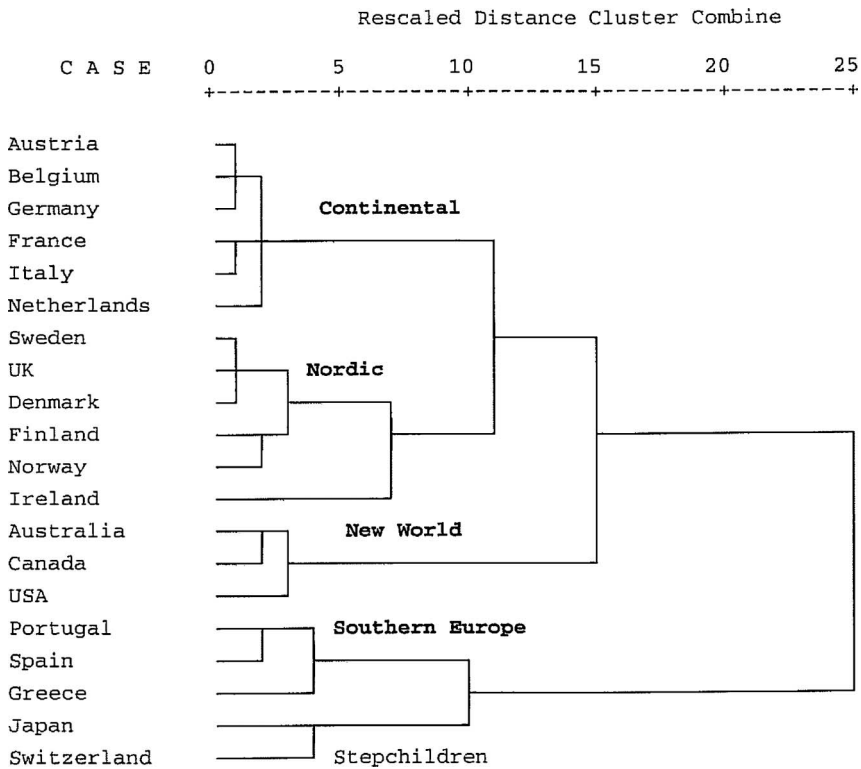
Findings

Patterns of Public Policy (1960–75)

We commence our analysis with a cluster analysis of cross-national public policy outcomes for the period from 1960 to 1975. The cluster tree (or dendrogram) for these outcomes is displayed in Figure 1.

The cluster tree should be interpreted as follows. The more one moves to the right on the x-axis, the more dissimilar are the clusters. Hence, long cluster lines indicate marked dissimilarities between the clusters. Figure 1 strongly supports the idea of the existence of distinct worlds of public policy. First, there is a cluster consisting of all continental countries plus Italy. The three – at the time less developed and less democratic – countries of Southern Europe make up a cluster of their own, which is quite distinct from all other groups of nations. A third cluster is composed of the Nordic countries plus the UK, whereas Ireland is an outlier that joins this group at a later stage. The location of the UK in the Nordic cluster is, at first glance, surprising. However, Britain's similarity to the Nordic countries can be explained by the policy legacy of the post-war Labour government and the fact that the Nordic policy cluster appears rooted in a Lib-Lab power constellation that, at the time, was also prevalent in Britain. The

FIGURE 1
PATTERNS OF PUBLIC POLICY (ca. 1960–75)



Notes: Dendrogram using Ward Method and squared Euclidean Distances; Variables are listed in Appendix A1.

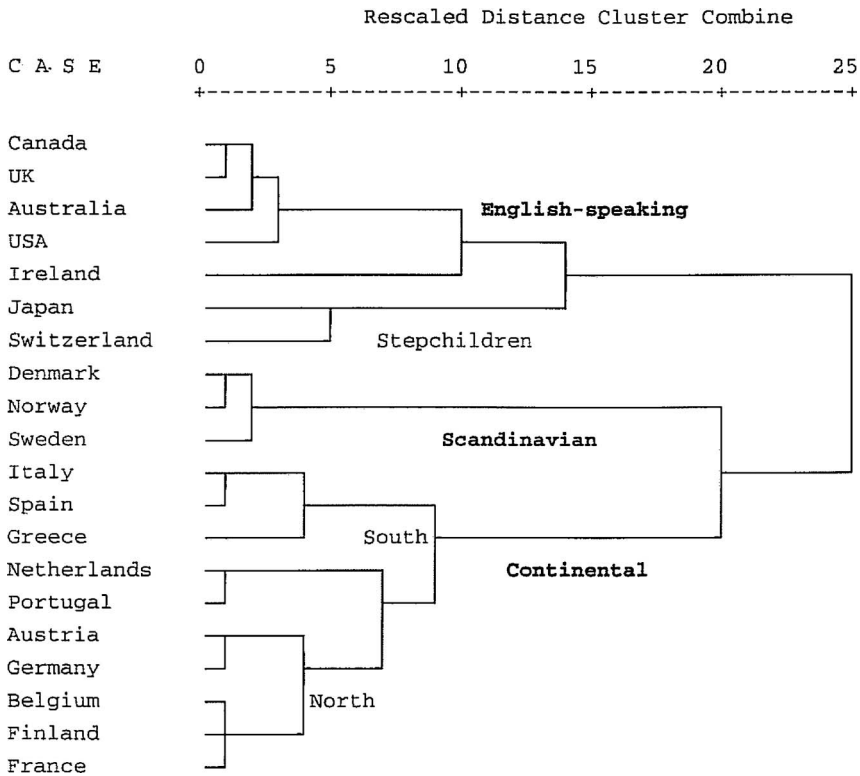
British settler colonies, by contrast, form a quite distinct cluster. Finally, and fully in accordance with a families of nations interpretation, Switzerland and Japan are clear outliers that do not belong to any of the particular families. That said, these countries' closest resemblance is to the policy profile of the countries of Southern Europe characterised by a non-interventionist stance in economic and social affairs and by a focus on rapid economic development.

Patterns of Public Policy (early 2000s)

The second step in our analysis is to undertake a cluster analysis of public policy patterns at the turn to the twenty-first century. Using the same set of variables as in the previous analysis allows us to examine whether or not the clustering of nations has changed over time. Figure 2 reveals several striking results. To begin with, there is no evidence of a blurring of regimes or families of nations. Rather the contrary is true since the boundaries between the distinct worlds of public policy have become even more clear-cut over

Downloaded By: [Australian National University Library] At: 04:05 20 March 2009

FIGURE 2
PATTERNS OF PUBLIC POLICY (ca. 2000–2004)



Notes: Dendrogram using Ward Method and squared Euclidean Distances; Variables are listed in Appendix A2.

time, with convergence within clusters exceeding that of the sample as a whole. The UK and Ireland are now part of the English-speaking cluster, albeit Ireland clearly deviates from the remaining English-speaking countries. A comparison between Figures 1 and 2 is strongly supportive of a remarkable persistence of distinct policy regimes or families of nations.

A caveat of some significance, however, is the fact that the countries of Southern Europe have become more similar in their policy outcomes to those of continental Western Europe. There nevertheless remains a visible divide between the northern and southern countries located in the cluster. Two further changes are also worth mentioning. First, in the new millennium Finland is, in policy terms, no longer part of the Nordic family, but has become a member of the continental family. Thus, the distinctive policy family of North-Western Europe is now exclusively Scandinavian in character. Second, Switzerland and Japan remain outliers, but now show greater similarities with the policy profile of the English-speaking than the continental countries.

In sum, the clustering of nations identified in Figure 2 is not only highly congruent with the families of nations concept, but also with Esping-Andersen's 'three worlds' classification (Esping-Andersen 1990). Figure 2 displays a continental or conservative world of policy, a Scandinavian or social democratic cluster and an English-speaking or liberal world to which Japan and Switzerland are affiliated. A four family account rests on the fact that Southern Europe is not yet fully assimilated into the continental Western Europe cluster; a three worlds account on the fact that the Southern European and continental European clusters are clearly now converging. Irrespective of the account that is preferred, what is most remarkable is the persistence of the clustering of nations over time despite fundamental transformations of the international and domestic political economy over the past quarter of a century.

Figure 2 suggests three distinct clusters of public policy. We now use this information to run a k-means analysis specifying a three-cluster solution. Table 1 reports the cluster centres by variable for the final cluster solution. Note that the clustering is more or less identical to the results obtained by hierarchical cluster analysis.

The F-test statistics indicated by asterisks in Table 1 tell us which variables are significant in accounting for differences between the clusters. Interestingly, most of the indicators of economic performance as well as the

TABLE 1
CLUSTER CENTRES BY VARIABLES (K = 3)

Variable	Cluster centres by variable		
	1 English (liberal)	2 Continental (conservative)	3 Scandinavian (social democratic)
Total fertility rate*	1.7	1.4	1.6
Military spending	1.6	2.0	1.7
Subsidies	1.3	1.4	1.8
Public education expenditure*	4.7	4.9	6.5
Total tax revenues*	31.2	40.2	47.8
Taxes on income and profits*	43.8	29.3	45.7
Taxes on goods and services	26.3	29.9	29.7
Social security contributions*	19.0	33.6	20.2
Total disbursements of government*	37.2	48.2	52.3
Inflation	2.0	2.5	2.0
Unemployment	5.2	7.7	5.7
Female labour market participation*	68.4	59.8	76.0
Male labour market participation*	86.2	79.2	82.5
Government employment*	14.8	15.4	29.6
Economic growth	2.13	1.87	1.95
Social security transfers*	11.1	15.6	16.5

Notes: English = Australia, Canada, Ireland, Japan, Switzerland, UK, USA.

Continental = Austria, Belgium, France, Germany, Greece, Italy, Netherlands, Portugal, Spain.

Nordic = Denmark, Finland, Norway, Sweden.

Variables that are marked with an asterisk indicate that the ANOVA F-test is significant at a level $p \leq .05$. Variables are listed in Appendix A2.

measures of military and subsidy spending do not differ significantly between the different groups of nations. What really matters in shaping the distinctiveness of clusters is the overall size of government, educational and social spending levels, labour market outcomes, the tax structure and the fertility rate. Among the various tax variables, the major watershed between clusters is the relative share of social security contributions and of taxes levied on income and profits. Many, although not all, of these variables feature in various adumbrations of Esping-Andersen's three worlds account and it therefore comes as little surprise that the patterns of public policy identified in Figure 2 closely resemble those specified by his regimes classification.

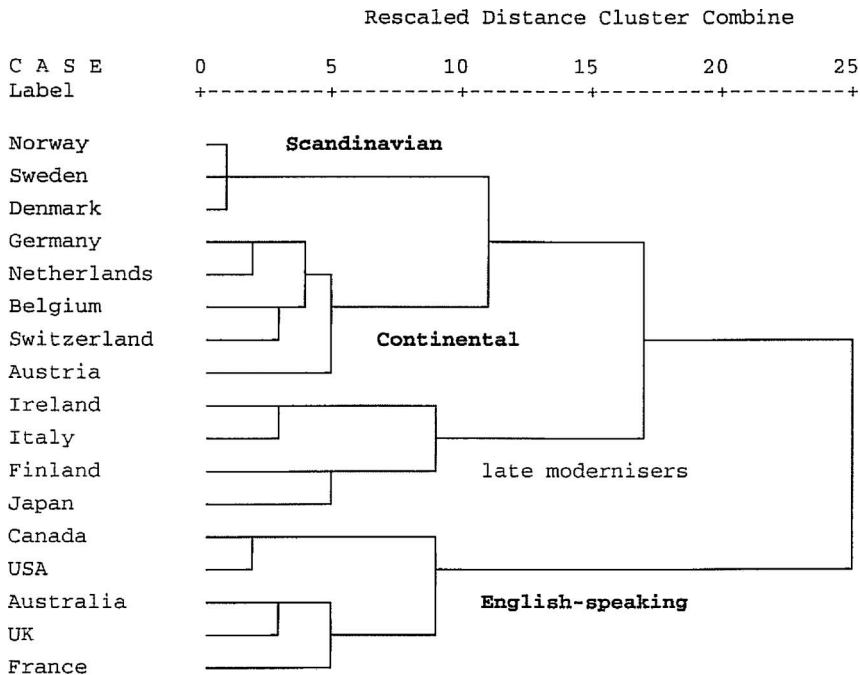
The Origins of Public Policy Patterns (1945–75)

The next step in our analysis is to investigate similarities between patterns of OECD policy outcomes and their antecedents. As noted previously, the demonstration of an isomorphic relationship between underlying structures and broad patterns of policy outcomes is not sufficient to distinguish between family of nations and regime interpretations, precisely because the assumption of the territorial approach is that territorial contiguities are likely to have structural and institutional consequences that feed into policy outcomes. What such an isomorphic relationship between territorially defined clusters and structural antecedents would demonstrate is the plausibility of regime theory's insistence on the structural determination of policy outcomes and the strength of the family of nations argument that territorially distinctive structural antecedents produce territorially distinctive policy outcomes across a broad front.

To investigate a possible correspondence between the clustering of structural antecedents and of policy outcomes in the immediate post-war period, we have used the 15 variables listed in Appendix A3. The data cover the period from 1945 to 1975, building in an element of time-lag for the determination of outcomes. The nations of Southern Europe are excluded from the analysis due to gaps in the data for this period. However, given the marked divergence in the developmental status of these countries during these years, there can be absolutely no question that they would constitute a distinct cluster in economic, social, cultural and political terms until the mid-1970s at least.

The resulting cluster tree shown in Figure 3 manifests a striking resemblance to the dendrogram depicting policy outcomes in the period 1960 to 1975 (see Figure 1 above). Once more we can identify an English-speaking cluster (plus France), a continental group of nations (which now includes Switzerland) and a Scandinavian cluster. There is, however, an additional cluster consisting of a territorially heterogeneous group of nations. What these countries (Japan, Italy, Finland and Ireland) have in common is that they have all been laggards in economic development terms.

FIGURE 3
CLUSTER ORIGINS (1945/60–75)



Notes: Dendrogram using Ward Method and squared Euclidean Distances; Variables are listed in Appendix A3.

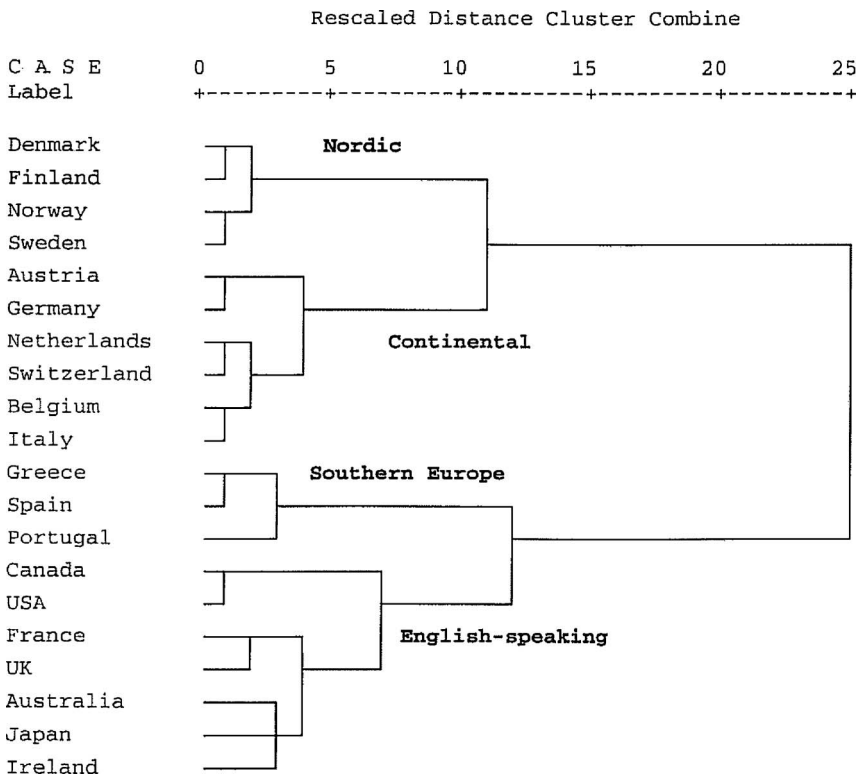
Interestingly, as the previous analysis has shown (see Figures 1 and 2), three of these countries have switched between different outcomes clusters over time, presumably as a consequence of the rapid economic development resulting from their delayed modernisation.

Overall, the analysis demonstrates a strong affinity between antecedents and outcomes. A major exception is France, which manifests structural similarities to the countries of the English-speaking cluster, while the country's policy profile shows strong continental traits. Arguably, this discrepancy results from the continuing legacy of the French Revolution, manifested in the absence of characteristically continental, Christian democratic parties, low union density, and the presence of a highly centralised state structure. A second exception is Switzerland, which is part of the continental cluster in terms of structural antecedents, but shows an affinity to a different world of public policy. Obinger and Wagschal (2001) have argued that this pattern is likely to have been influenced by Switzerland's unique political institutions, notably the far greater importance of referendums than in any of the other countries of the OECD.⁹

We now move on to examine policy antecedents for the period from 1985 to 2004 with a view to establishing whether the clustering of structural

antecedents we have just identified persists over time and whether it continues to correspond with outcomes clustering. With the exception of the variable measuring ethno-linguistic fractionalisation, which is only available for the early 1960s, we use the same set of variables as in the previous analysis. The resulting cluster tree is reported in Figure 4. A comparison with Figure 3 shows that the contemporary clustering of regime origins is now more clear-cut and almost perfectly in line with the notion of families of nations. The late modernisers, which had formed a distinct group in the immediate post-war period (see Figure 3), have been absorbed by the 'correct' family of nations, whereas the 'stepchild' Japan has been adopted by the English-speaking family. Note that the former autocracies of Southern Europe, which were not included in the previous analysis, form a cluster of their own. Even more important, however, is the fact that the patterns identified again point to a close correspondence between structural antecedents and patterns of public policy.

FIGURE 4
CLUSTER ORIGINS (1985 – ca. 2004)



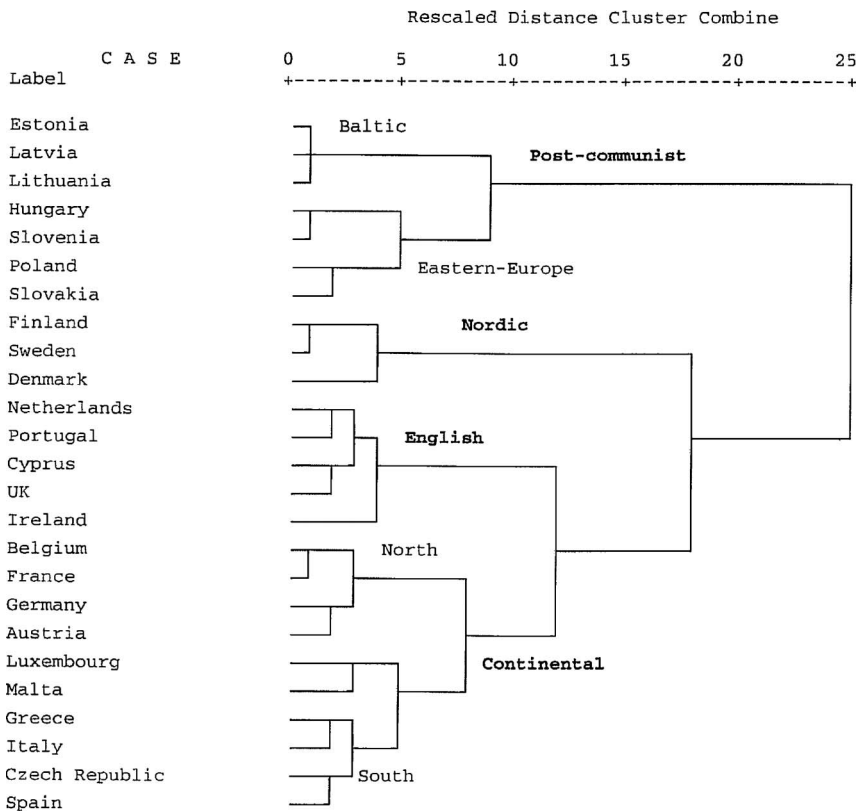
Notes: Dendrogram using Ward Method and squared Euclidean Distances; Variables are listed in Appendix A4.

Patterns of Public Policy in the EU-25

In this final section of our findings, we examine the existence of worlds of public policy amongst the 25 member states of the European Union. With the exception of military expenditure, we use similar (but not always identically defined) variables as those featuring in our previous analysis of the OECD democracies. Hence, our cluster analysis is based on 15 variables and covers the period between 2000 and 2005.

The cluster tree reported in Figure 5 suggests that the recent eastern enlargement of the EU has added a quite distinctive new world of public policy to the already existing country clusters of Western Europe. Leaving Malta and Cyprus to one side, the new member states form a coherent policy cluster that may appropriately be described as ‘post-Communist’. Interestingly, within this cluster may be distinguished two distinct

FIGURE 5
PATTERNS OF PUBLIC POLICY IN THE EU-25 (CA. 2000–2005)



Notes: Dendrogram using Ward Method and squared Euclidean Distances; Variables are listed in Appendix A5.

sub-worlds. Very much as one might expect on the basis of a families of nations approach, we may identify a Baltic cluster consisting of Latvia, Estonia and Lithuania and another cluster comprising the countries of Eastern Europe with the notable exception of the Czech Republic. Together these groupings form a super-cluster exhibiting marked policy contrasts as compared to other EU members.

The cluster groupings of the remaining countries are, in most respects, similar to those identified in Figure 2. Once again, it is possible to locate a distinct Nordic cluster and a continental cluster, again consisting of distinguishable northern and southern sub-clusters. The fact that the Czech Republic is part of the continental cluster should come as little surprise, given policy origins owing much to cultural diffusion from Germany and Austria in the late nineteenth and early twentieth centuries. That the country is now a member of the southern sub-cluster is a legacy of a suppressed modernisation stemming from the Communist period. One important difference from Figure 2 that should be noted and which is discussed further below is that, while England and Ireland still feature as part of a distinctive cluster, that cluster now also includes Portugal, Cyprus and the Netherlands and is defined less in territorial terms than by emergent policy similarities.

The final step in the analysis is to attempt to identify the factors contributing to the distinctiveness of the EU-25 clusters located in Figure 5. Again, we use k-means cluster analysis and F-tests for this purpose, specifying a five-cluster solution as shown in Table 2. It should be noted, however, that, in this instance, the k-means analysis produces a somewhat changed composition of clusters as compared to that resulting from the hierarchical cluster analysis on which Figure 5 is based (see country clusters as specified in the notes to Table 2).

The most notable finding of Table 2 is the very clear distinctiveness of a somewhat attenuated post-Communist family of nations manifesting extreme values in respect of nearly all the variables shaping the clustering of EU-25 policy patterns. These nations are the least statist in the EU (low outlays, low transfers, low subsidies and low direct taxes), manifest the greatest economic and social problems (low male labour force participation, high inflation, massive unemployment and low fertility), but, at the same time, exhibit much the highest rates of economic growth. An optimistic interpretation might suggest that high growth rates may ultimately be the key to diminishing some of these other aspects of policy distinctiveness in much the same way as occurred in the New Southern Europe in the years following the EU enlargement of the 1980s.

The other interesting point to note is that Table 2 provides empirical substance for the source of distinctiveness of the wider grouping to which the English-speaking nations now belong. In Table 1, the English-speaking countries of the old and new worlds are clustered together as the nations exhibiting much the lowest degree of statism (the lowest levels of public disbursements, social security transfers, low educational spending and low

TABLE 2
CLUSTER CENTRES BY VARIABLES (K = 5)

	Cluster centres by variable				
	1 Continental (north)	2 Continental (south)	3 Scandinavian	4 English	5 Post- Communist
Total fertility rate*	1.51	1.34	1.71	1.60	1.28
Employment public sector	7.37	7.67	5.78	7.39	6.44
Social security contributions*	32.77	29.02	14.70	25.92	30.71
Direct taxes*	26.24	26.83	43.08	29.20	20.92
Indirect taxes	29.91	32.16	29.60	32.64	34.31
Inflation	3.13	2.91	1.81	2.74	3.86
Unemployment*	7.31	9.24	5.35	4.89	14.32
Education expenditure*	5.66	4.34	7.88	4.94	5.28
Subsidies	1.69	1.04	1.93	1.31	.96
Male employment*	69.62	72.47	77.33	76.72	62.96
Social transfers*	16.80	14.52	17.01	11.95	11.35
Total tax revenues*	43.39	37.63	50.63	36.09	31.49
Female employment*	57.67	41.30	71.43	59.12	54.42
Outlays of government*	49.47	45.14	55.87	42.05	38.20
Economic growth*	2.56	2.59	2.19	3.23	6.15

Notes: Continental (north) = Austria, Belgium, Germany, Finland, France, Hungary, Slovenia.

Continental (south) = Greece, Italy, Spain, Malta.

Scandinavian = Denmark, Sweden.

English = Ireland, UK, Czech Republic, Portugal, Netherlands, Luxembourg, Cyprus.

Eastern Europe = Estonia, Latvia, Lithuania, Poland, Slovakia.

Variables that are marked with an asterisk indicate that the ANOVA F-test is significant at a level $p \leq .05$; Variables are listed in Appendix A5.

government employment). In Table 2, with the new world English-speaking countries no longer in the picture, England and Ireland still find themselves in a grouping characterised by a degree of statism lower than in the majority of continental and Scandinavian countries, but at least marginally greater than that of the countries of the post-Communist EU periphery and without these latter countries' economic and social problems or growth rate performance. In the EU of 25, the 'awfulness of the English' (see note 3) has been replaced by post-Communist exceptionalism and post-Communist malaise.

Conclusion

In the introduction to this article we argued that there were two outstanding questions raised by the literature on policy clustering in advanced nations: first, whether the strong family of nations patterns clearly discernable amongst OECD nations up to the mid-1990s had persisted into the early years of the new millennium and, second, whether the latest stage in the enlargement of the EU had led to the addition of new families of nations or the disappearance of old ones. The answers provided by our cluster analysis are unequivocal. Within the OECD, and despite convergence trends in

respect of many variables, families of nations have, if anything, become more distinct with the passage of time, with only the diminishing distinctiveness of continental and Southern European outcomes patterns suggestive of a blurring of cluster boundaries already clearly defined in the early pre-war decades. Within the new boundaries of the EU, all the previously existing families of nations are present, but are now joined by a still more distinctive post-Communist family, with clearly defined Baltic and Eastern European sub-types. Convergence trends including European integration may have made nations more alike in certain respects, but the evidence presented here suggests that they have not succeeded in extinguishing policy differences between groups of nations stemming directly or indirectly from characteristics shaped by aspects of territoriality.

The direct evidence of territorial or family of nations clustering is simply the fact that that groups of nations we know to be linked by language, history, culture and geography are so frequently identified as falling into the same clusters by a technique that is exclusively data-determined, that these clusters persist over time and that they are replicated for policy outcomes and for policy antecedents. That said, the very fact of the strong correspondence between outcomes and antecedents demonstrated here does vindicate an important aspect of regime theory; namely that the persistence of policy clusters is, to a significant degree, a function of the persistence of underlying structural characteristics. However, we do not consider the fact that outcome clusters are often structurally determined as evidence against a family of nations interpretation, since the very fact that structural differences cluster in much the same way as outcomes provides further strong indirect evidence of the shaping influence of territorially linked variables. As we have insisted throughout, regime interpretations and family of nations interpretations are not necessarily in conflict, with the most sensible ordering of concepts, given that most regime attributions are policy specific and that family of nations' attributions have a much wider policy span, being that regimes are specific policy manifestations of structurally mediated family of nations differences. The coherence and persistence of family of nations patterns and their structural determination have been amply demonstrated in this article.

Notes

1. An instance is the article by Castles (1978), appearing in the first number of *West European Politics*, which sought to identify the political antecedents of the Scandinavian countries' outstanding welfare state performance.
2. See, for an explicitly Rokkanian analysis of contemporary European welfare state development, Ferrera (2005).
3. For instance, Castles (1993) identifies commonalities amongst the English-speaking nations in respect of poor economic performance, low welfare spending and high divorce rates justifying an earlier attribution of the 'awfulness of the English(-speaking nations)' in Castles and Merrill (1989).

4. Essentially, Esping-Andersen's three worlds of welfare plus Southern Europe. The debate on whether there is a distinctive Southern European welfare state type has been an important theme in the comparative social policy literature since the early 1990s (see Leibfried 1993; Esping-Andersen 1993; Castles 1995; Ferrera 1996).
5. See, for instance, Stockard and O'Brien's (2006) distinction between 'English-speaking', 'Romanist', 'Germanic' and 'Nordic' families.
6. Outcomes are grouped according to whether they are within one standard deviation of the mean, more than one standard deviation above or more than one below.
7. Exceptions are studies like those of Gough (2001) and Powell and Barrientos (2004), which use cluster analysis techniques to test for coherence. The latter study of types of 'welfare mix' focuses on different dimensions and measures of welfare from those featuring in the three worlds typology, but derives a very similar regime clustering and one which is shown to be persistent over time.
8. Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States.
9. Note that direct democracy is not included in the set of variables underlying the analysis of regime origins.

References

- Abrahamson, P. (1999). 'The Welfare Modelling Business', *Social Policy and Administration*, 33:4, 394–415.
- Almond, G.A. (1968). 'Comparative Politics', in *International Encyclopedia of the Social Sciences*. New York: Macmillan, 13, 331–6.
- Altenstetter, C. (1992). 'Health Policy Regimes and the Single European Market', *Journal of Health Politics, Policy and Law*, 17:4, 813–46.
- Amable, B. (2004). *The Diversity of Modern Capitalism*. Oxford: Oxford University Press.
- Armingeon, K., P. Leimgruber, M. Beyeler and S. Menegale (2006). *Comparative Political Data Set (1960–2004)*. Bern: Institut für Politikwissenschaft, Universität Bern.
- Arts, W., and J. Gelissen (2002). 'Three Worlds of Welfare Capitalism or More? A State-of-the-Art Report', *Journal of European Social Policy*, 12:2, 137–58.
- Bambra, C. (2006). 'Decommodification and the Worlds of Welfare Revisited', *Journal of European Social Policy*, 16:1, 73–80.
- Brysk, A., C. Parsons and W. Sandholtz (2002). 'After Empire: National Identity and Post-Colonial Families of Nations', *European Journal of International Relations*, 8:2, 267–305.
- Castles, F.G. (1978). 'Scandinavian Social Democracy: Achievements and Problems', *West European Politics*, 1:1, 11–29.
- Castles, F.G., ed. (1993). *Families of Nations: Patterns of Public Policy in Western Democracies*. Aldershot: Dartmouth, 31–49.
- Castles, F.G. (1995). 'Welfare State Development in Southern Europe', *West European Politics*, 18:2, 291–313.
- Castles, F.G. (1998). *Comparative Public Policy: Patterns of Post-war Transformation*. Cheltenham: Edward Elgar.
- Castles, F.G. (2003). 'The World Turned Upside Down: Below Replacement Fertility, Changing Preferences and Family-friendly Policies in 21 OECD Countries', *Journal of European Social Policy*, 13:3, 209–27.
- Castles, F.G., ed. (2007) *The Disappearing State? Retrenchment Realities in an Age of Globalisation*. Cheltenham: Edward Elgar.
- Castles, F.G., and V. Merrill (1989). 'Towards a General Model of Public Policy Outcomes', *Journal of Theoretical Politics*, 1:2, 177–212.
- Cusack, Thomas R. (2007). 'Sinking Budgets and Ballooning Prices: Recent Developments Connected to Military Spending', in F.G. Castles (ed.), *The Disappearing State? Retrenchment Realities in an Age of Globalisation*. Cheltenham: Edward Elgar.

- Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Oxford: Polity Press.
- Esping-Andersen, G. (1993). 'Budgets and Democracy: Towards a Welfare State in Spain and Portugal, 1960–1986', in I. Budge and D. McKay (eds.), *Expanding Democracy: Research in Honour of Jean Blondel*. London: Sage.
- Ferrera, M. (1996). 'The "Southern Model" of Welfare in Social Europe', *Journal of European Social Policy*, 6:1, 17–37.
- Ferrera, M. (2005). *The Boundaries of Welfare: European Integration and the New Spatial Politics of Social Protection*. Oxford: Oxford University Press.
- Goetz, K.H. (2006). 'Territoriality, Temporality and Clustered Europeanization', *Political Science Series*, No. 109, Institute for Advanced Studies, Vienna.
- Gough, Ian (2001). 'Social Assistance Regimes: A Cluster Analysis', *Journal of European Social Policy*, 11:2, 165–70.
- Hall, P.A., and D. Soskice, eds. (2001). *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*. Oxford: Oxford University Press.
- Hollingsworth, J.R., P. Schmitter and W. Streeck, eds. (1994). *Governing Capitalist Economies*. New York: Oxford University Press.
- Holzinger, K., and C. Knill (2005). 'Causes and Conditions of Cross-national Policy Convergence', *European Journal of Public Policy*, 12:5, 775–96.
- Krasner, S.D. (1982). 'Structural Causes and Regime Consequences: Regimes as Intervening Variables', *International Organization*, 36:2, 185–205.
- Leibfried, S. (1993). 'Towards a European Welfare State?', in C. Jones (ed.), *New Perspectives on the Welfare State in Europe*. London: Routledge.
- Lijphart, A. (1999). *Patterns of Democracy*. New Haven, CT: Yale University Press.
- Maddison, A. (2001). *The World Economy. A Millennial Perspective*. Paris: OECD.
- Mossberger, K., and G. Stoker (2001). 'The Evolution of Urban Regime Theory: The Challenge of Conceptualization', *Urban Affairs Review*, 36:6, 810–35.
- Obinger, H., and U. Wagschal (2001). 'Families of Nations and Public Policy', *West European Politics*, 24:1, 99–114.
- Obinger, H., P. Starke and F.G. Castles (2007). 'Convergence Towards Where: In What Ways, If Any, Are Welfare States Becoming More Similar?', *Journal of European Public Policy*, 14.
- Pascall, G., and J. Lewis (2004). 'Emerging Gender Regimes and Policies for Gender Equality in a Wider Europe', *Journal of Social Policy*, 33:3, 373–94.
- Powell, M., and A. Barrientos (2004). 'Welfare Regimes and the Welfare Mix', *European Journal of Political Research*, 43:1, 83–105.
- Przeworski, A. (1987). 'Methods of Cross-National Research, 1970–83: An Overview', in M. Dierkes, H.N. Weiler and A.B. Antal (eds.), *Comparative Policy Research*. Aldershot: Gower.
- Rokkan, S. (1970). *Citizens, Elections, Parties*. New York: McKay.
- Sainsbury, D., ed. (1999). *Gender and Welfare State Regimes*. Oxford: Oxford University Press.
- Schmidt, M.G. (1996). 'When Parties Matter. A Review of the Possibilities and Limits of Partisan Influence on Public Policy', *European Journal of Political Research*, 30, 155–83.
- Schmidt, M.G. (2007). 'Testing the Retrenchment Hypothesis: Educational Spending, 1960–2002', in F. G. Castles (ed.), *The Disappearing State? Retrenchment Realities in an Age of Globalisation*. Cheltenham: Edward Elgar.
- Siaroff, A. (1999). 'Corporatism in 24 Industrial Democracies: Meaning and Measurement', *European Journal of Political Research*, 36, 175–205.
- Soskice, D. (1999). 'Divergent Production Regimes: Coordinated and Uncoordinated Market Economies in the 1980s and 1990s', in H. Kitschelt, P. Lange, G. Marks and J.D. Stephens (eds.), *Continuity and Change in Contemporary Capitalism*. Cambridge: Cambridge University Press, 101–34.
- Scruggs, L., and J. Allan (2006). 'Welfare-state Decommodification in 18 Countries: A Replication and Revision', *Journal of European Social Policy*, 16:1, 55–72.
- Stockard, J., and R.M. O'Brien (2006). 'Cohort Variations in Suicide Rates among Families of Nations', *International Journal of Comparative Sociology*, 47:1, 5–33.

- Therborn, G. (1993). 'Beyond the Lonely Nation-State', in F.G. Castles (ed.), *Families of Nations: Patterns of Public Policy in Western Democracies*. Aldershot: Dartmouth, 329–40.
- Therborn, G. (1995). *European Modernity and Beyond: The Trajectory of European Societies, 1945–2000*. London: Sage Publications.
- Traxler, F., and B. Woitech (2000). 'Transnational Investment and National Labour Market Regimes', *European Journal of Industrial Relations*, 6:2, 141–59.
- Wagschal, U. (2001). 'Deutschlands Steuerstaat und die vier Welten der Besteuerung', in M.G. Schmidt (ed.), *Wohlfahrtsstaatliche Politik: Institutionen, politische Prozess und Leistungsprofil*. Opladen: Leske and Budrich, 124–60.
- Welzel, C., R. Inglehart and H.-D. Klingemann (2003). 'The Theory of Human Development: A Cross-cultural Analysis', *European Journal of Political Research*, 42, 341–79.

APPENDIX A1

List of variables (Figure 1)

1. Total fertility rate 1960; Castles (2003: 212)
2. Military spending as a percentage of GDP 1960–69; Cusack (2007)
3. Total economy subsidies as a percentage of GDP 1960–75; Denmark = 1971–75; Economic Outlook Database
4. Public education expenditures (average 1960/74); Castles (1998: 177)
5. Total tax revenue as a percentage of GDP (average 1965/1970/75), OECD Revenue Statistics 1965–2003, Paris
6. Taxes on income and profits as a percentage of total taxation (average 1965/70/75), OECD Revenue Statistics 1965–2003, Paris
7. Taxes on goods and services as a percentage of total taxation (average 1965/70/75), OECD Revenue Statistics 1965–2003, Paris
8. Social security contributions as a percentage of total taxation (average 1965/70/75), OECD Revenue Statistics 1965–2003, Paris
9. Total outlays of government 1960–73, Spain = average 1968/74; OECD Historical Statistics 1960–93, Paris
10. Inflation (CPI) 1963–73; OECD Historical Statistics 1960–93, Paris
11. Unemployment 1960–74; OECD Economic Outlook Database
12. Female labour force as a percentage of the female population 15–64, Norway = average 1960/86/1974; OECD Historical Statistics 1960–93, Paris
13. Male labour force as a percentage of the male population 15–64, Norway = average 1960/68/1974; OECD Historical Statistics 1960–1993, Paris
14. Government employment as a percentage of total employment 1960–74, OECD Economic Outlook Database
15. Economic Growth in Geary-Khamis dollars, 1960–75; Maddison (2001)
16. Social security transfers as pct of GDP 1960–73; OECD Historical Statistics 1960–93, Paris

APPENDIX A2

List of variables (Figure 2, Table 1)

1. Total fertility rate 1998; Castles (2003: 212)
2. Military spending as a percentage of GDP 2000–03; Cusack (2007)
3. Total economy subsidies as a percentage of GDP 2000–04, OECD Economic Outlook Database
4. Public education expenditures 2002; Schmidt (2007 Table 7.1)
5. Total tax revenue as a percentage of GDP 2000–2002; OECD Revenue Statistics 1965–2003

6. Taxes on income and profits as a percentage of total taxation 2000–02; OECD Revenue Statistics 1965–2003
7. Taxes on goods and services as a percentage of total taxation 2000–02; OECD Revenue Statistics 1965–2003
8. Social security contributions as a percentage of total taxation 2000–02; OECD Revenue Statistics 1965–2003
9. Total disbursements of government 2000–04, OECD Economic Outlook Database
10. Inflation (CPI) 2000–04; OECD Economic Outlook Database
11. Unemployment rate 2000–04; OECD Economic Outlook Database
12. Female labour force as a percentage of the female population 15–64 2000–04; OECD Labour Force Statistics 2006 online edition
13. Male labour force as a percentage of the male population 15–64 2000–04; OECD Labour Force Statistics 2006 online edition
14. Government employment as a percentage of total employment 2000–04; Switzerland and Australia = 1999
15. Economic growth 1990–01, OECD Economic Outlook Database
16. Social security transfers as a percentage of GDP 2000 (or late 1990s); OECD Historical Statistics 1970–2000

APPENDIX A3

List of variables (Figure 3)

1. Ethno-linguistic fractionalization in the 1960s (= probability that two randomly selected individuals in a country will belong to different ethno-linguistic groups); Soviet data
2. Percentage of population aged 65 and over in 1960; Castles (1998: 50)
3. Trade union membership as a percentage of wage and salary earners 1960; Castles (1998: 68)
4. Employment in agriculture as a percentage of civilian employment 1960–73, Denmark and Norway = average (1960/68/74); OECD Historical Statistics 1960–93, Paris
5. Cabinet share of left parties [Social Democrats and Communists] (1945–75); data provided by Manfred Schmidt
6. Cabinet share of liberal and non-Christian centre parties (1945–75); data provided by Manfred Schmidt
7. Cabinet share of secular conservative parties (1945–75); data provided by Manfred Schmidt
8. Cabinet share of Christian Democrats (1945–75); data provided by Manfred Schmidt
9. Catholics (percentage of population baptised into a non-Protestant Christian faith); Castles (1998: 56)
10. Level of GDP per capita in 1990 international Geary-Khamis dollars (average 1950/60/75); Maddison (2001: appendix C)
11. Integration score late 1960s; Siaroff (1999: 198)
12. Division of power (executives-parties dimension) 1945–75; Lijphart (1999: 312)
13. Division of power (federal-unitary dimension) 1945–75; Lijphart (1999: 312)
14. Index of interest pluralism 1945–75; Lijphart (1999: 313)
15. Effective number of parties in parliament (1960–75); Armingeon *et al.* (2006)

APPENDIX A4

List of variables (Figure 4)

1. Percentage of population aged 65 and over, early 1990s, Castles (1998: 50)
2. Trade union membership as a percentage of wage and salary earners, early 1990s; Castles (1998: 68)

3. Employment in agriculture as a percentage of civilian employment (1970–2000); OECD Historical Statistics 1970–2000
4. Cabinet share of left parties (Social Democrats + Communists), 1985–2004; data provided by Manfred Schmidt
5. Cabinet share of liberal and non-Christian centre parties, 1985–2004; data provided by Manfred Schmidt
6. Cabinet share of Christian Democrats, 1985–2004; data provided by Manfred Schmidt
7. Cabinet share of secular conservative parties 1985–2004; data provided by Manfred Schmidt
8. Catholics (percentage of population baptised into a non-Protestant Christian faith); Castles (1998: 56)
9. Level of real GDP per capita (1985–2000); Penn World Table 6.1.
10. Integration score mid-1990s; Siaroff (1999: 198)
11. Division of power (executives-parties dimension) 1971–96; Lijphart (1999: 312)
12. Division of power (federal-unitary dimension) 1971–96; Lijphart (1999: 312)
13. Index of interest pluralism 1971–96; Lijphart (1999: 313)
14. Effective number of parties in parliament (1985–2003); Armingeon *et al.* (2006)

APPENDIX A5

List of variables (Figure 5, Table 2)

1. Total fertility rate, 2000–05; EUROSTAT
2. Employment in the public sector (administration, defence, social insurance) as a percentage of total employment, 2002–05; EUROSTAT
3. Social security contribution as a percentage of total government revenue, 2000–05; EUROSTAT
4. Direct taxes as a percentage of total government revenue, 2000–05; EUROSTAT
5. Indirect taxes as pct of total government revenue, 2000–05; EUROSTAT
6. Inflation (CPI), 2000–05; EUROSTAT
7. Unemployment rate, 2000–05; EUROSTAT
8. Education expenditure as a percentage of GDP, 2000–03; EUROSTAT
9. Subsidies as a percentage of GDP, 2000–05; EUROSTAT
10. Male employment as a pct of male population 15–64, 2000–05; EUROSTAT
11. Social transfers (cash) as pct of GDP, 2000–05; EUROSTAT
12. Total tax revenue as a percentage of GDP 2000–04; EUROSTAT
13. Female employment as a percentage of female population 15–64, 2000–05; EUROSTAT
14. Total outlays of government as a percentage of GDP, 2000–05; EUROSTAT
15. Growth of real GDP, 2000–05; EUROSTAT