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Article

Towards productive welfare? A comparative analysis of 23 OECD countries

John Hudson and Stefan Kühner*, *University of York, UK*

Summary Numerous analysts have suggested that globalization and the emergence of more knowledge-based economies have encouraged high-income nations to shift towards a model of productive welfare focused on social investment, yet typologies of welfare are still largely drawn on the basis of measures of social protection rather than social investment. Here we develop a classification of welfare state types that incorporates both productive and protective elements of social policy. Using fuzzy set ideal type analysis we explore data for a sample of 23 OECD countries in three time points: 1994, 1998 and 2003. Our findings provide no more than very modest support for claims that welfare states are shifting from protective to productive modes of provision and, in many cases, we identify a shift in the alternative direction. In addition, we identify some nations that are clearly productive in their focus and others that manage to combine productive and protective features.

Key words fuzzy set ideal type analysis, productification, productive welfare, welfare state typologies

Introduction

In this article we utilize fuzzy set ideal type analysis in order to offer a multidimensional analysis of welfare state activity in 23 OECD countries over three time points (1994, 1998 and 2004). In so doing, we aim to offer a classification of welfare state types that encompasses both the protective and productive dimensions of social policy. We then utilize this classification to test the argument that welfare states have shifted away from traditional protective functions towards a model of 'productive welfare', characterized by a greater emphasis on investment in human capital.

Rationale: the emergence of productive welfare?

The welfare state modelling literature has been fundamentally shaped by Esping-Andersen's (1990) claim that three worlds of welfare can be identified largely on the basis of the varying strength of their protective social rights. More recently, however, the focus on social rights that dominates the welfare modelling business has been challenged. Some have argued that – in response to globalization – states have shifted the emphasis of their social policies towards that of a supporting and subjugated role vis-à-vis economic policy. Indeed, Evans and Cerny (2003; Cerny and Evans, 1999) suggest the welfare state has been *replaced* by a 'competition state', with traditional income protections being gradually dismantled in favour of social investment policies such as education and training that can boost economic competitiveness. Jessop (2000) similarly argues that we have seen the death of the old-style 'Keynesian Welfare National State' and the rise of the 'Schumpeterian Workfare Post-National Regime' in which the state constrains social rights in the face of an increasingly competitive global economy.

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On a similar note, others have argued that the emergence of a postindustrial, knowledge economy has led states to place an increasing emphasis on social investment (Midgley and Tang, 2001; Room, 2002). Indeed, Giddens has forcefully argued that the emergence of a globalized knowledge-based economy requires a new postindustrial welfare society in which there is much greater emphasis on the human investment functions of welfare (Giddens, 2000; 2006). Writing more broadly still, Castells and Himanen (2002) have argued that some welfare states have adapted their structures in light of the emerging informational society, but point to different models found in the two leading 'informational societies' – the USA and Finland. The former, they argue, is following a largely free-market approach, with social protection kept to a minimum in order to reduce the burdens on business, while the latter has adapted its strongly interventionist social policy frameworks in a manner that both maintains strong social protection and encourages the modernization of its economy. Indeed, they argue that Finland has created an 'informational welfare state' in which strong social policies and a strong informational economy are symbiotically linked in a virtuous, reinforcing circle: on the one hand, high levels of spending on education and training boost the human capital that feeds innovative Research and Development (R&D) while generous unemployment insurance encourages entrepreneurs to pursue risky start-up ventures that have only a small chance of success; on the other hand, the high levels of growth provided by their high-tech economy make costly welfare interventions easier to sustain.

In short, there is an increasing recognition that a deep understanding of welfare state types now requires an analysis of both the traditionally protective functions of social policy *and* the productive functions concerned with investment in human capital. Some theorists have already made tentative steps in this direction. For example, Room (2000) has offered us an illustration of how the 'self-development' component of decommodification might be operationalized. Powell and Barrientos (2004) and Vis (2007) include data on Active Labour Market Policies (ALMPs) in their explorations of welfare state types and both conclude the inclusion of such data adds to the robustness of welfare state models, though for different reasons. Powell and Barrientos

(2004) highlight the data's crucial role in confirming the enduring utility of Esping-Andersen's trichotomy of welfare regimes, while Vis (2007) concludes that the data help to demonstrate radical shifts in social policy towards a new 'workfare' based type in some nations.

While these contributions are useful, more needs to be understood both about the importance of 'productive' functions for the classification of welfare states into ideal types and the relationship between the 'protective' and 'productive' functions of social policy. Indeed, much of the early critique of Esping-Andersen's (1990) approach emanated from those concerned with the East Asian nations, and a common claim was that Esping-Andersen had overlooked the key features of a fourth world of welfare located within the region in which 'productivist' economic goals drive social policy (Holliday, 2000; Kwon and Holliday, 2007). Consequently, a greater concern with the productive dimensions of welfare may not only help us to ascertain whether arguments about the refocusing of welfare in the post-globalization, postindustrial 'era' are empirically robust, but may also help us to answer the persistent question of where to locate the East Asian welfare states in welfare typologies.

Welfare state modelling: towards multidimensional analysis?

Attempts to develop welfare typologies are still very much dominated by a focus on the protective elements of welfare. Yet, as we have noted above, there is an increasingly prominent view that the productive elements of welfare need to be analysed alongside the protective elements to capture more recent conceptual developments in the comparative welfare research literature. Esping-Andersen's (1990) classic typology was based on an analysis of three dimensions of welfare: social rights as measured by a decommodification index that captured the extent and generosity of key social security programmes; the stratification effects of welfare; and the public–private family welfare mix in the delivery of welfare. Each dimension, according to Esping-Andersen, would produce similar groupings (and similar rankings) of nations, justifying the primary focus on decommodification in his work; but even taking the widest view of his approach, it is clear that Esping-Andersen did not

attempt to account for the productive intent of welfare states in his typology.

As Room (2002: 48, 43) argues, 'there can be no presumption' that 'human investment regimes' will be directly related to Esping-Andersen's three 'social protection' regimes. If this is so, we cannot simply deduce from Esping-Andersen's decommodification scores or regime memberships how deep a nation's commitment to investing in human capital might be. Simply because Sweden was shown to have the highest decommodification index score does not automatically imply that its productive intent is also very extensive. Similarly, simply because the United States was classified as a liberal welfare state with relatively lean social protection it does not automatically imply that its investment in human capital will be equally restrained. Indeed, even a very limited knowledge of the US case – famed for its relatively well-resourced educational institutions – might lead one to believe such an approach is deeply problematic. In short, existing measures of the protective elements of social policy cannot help us much in understanding the productive elements of social policy found in welfare states.

The question of how best to combine measures of protective and productive intent when the ordering of nations within measures of these distinct dimensions differs presents a methodological headache. An often overlooked issue with Esping-Andersen's (1990) work is that he was able to rely primarily on his decommodification index to classify nations because the data for stratification and welfare mix produced the same clustering of nations as his data for social rights. Those looking to go beyond his approach by combining multiple, perhaps conflicting, dimensions have adopted a range of statistical techniques to allocate country membership to ideal types. Most straightforwardly, if the goal is to produce a ranking of nations in which productive and protective elements count equally, then an aggregated additive index compiled by adding together standardized (z-score) figures for each indicator could be a way forward; indeed, Room (2000) deployed this technique in developing a prototype 'human investment regimes' index. Others have used more complex techniques. For instance, Shalev (2005) used factor analysis on more than a dozen indicators, while Powell and Barrientos (2004) utilized a cluster analysis to examine the memberships

of welfare regimes based on data similar to Esping-Andersen's and with new components such as the welfare mix and ALMP added in for good measure. Both techniques could be deployed in an attempt to analyse a dataset encompassing both productive and protective dimensions of welfare activity; while neither produces a straightforward single indicator akin to the decommodification index, both would offer a firm set of country groupings.

However, what all these techniques have in common is that they rely on mean averages that can mask important elements of cross-national diversity. In particular, they are prone to outlier effects: that is, if a country is exceptionally strong or weak in one dimension then this can have an undesirable impact on its classification; this is particularly so for additive indices – where a country that is average in both its productive and protective features could be ranked in the same place as a qualitatively very different country that is very strong in its productive features but very weak in its protective features – but the problem can hamper cluster and factor analysis too (Hudson and Kühner, 2008). The recently developed fuzzy set ideal type analysis (see Kvist, 2006; Vis, 2007) can overcome these issues.

Fuzzy set ideal type analysis

Fuzzy set ideal type analysis has its origins in fuzzy logic and, more directly, in fuzzy set social science as articulated most extensively by Ragin (2000). Its starting point is that cases (in this instance welfare states) are best understood as differing configurations of multiple, conceptually rooted, dimensions. Researchers begin by specifying the key dimensions that are the focus of analysis and then proceed by viewing each of these dimensions as a 'set' in which the cases can have varying degrees of membership. So, for instance, if a study is concerned with the generosity of welfare states and their redistributive intent, then these two concepts form the basis of two distinct sets and empirical analysis proceeds by establishing whether individual countries are members of both, one or none of these sets. Sets are 'fuzzy' in this approach because in the real world there are rarely 'crisp' boundaries. Rather than falling into a simple dichotomy of 'generous' and 'not generous' types, welfare states are likely to have varying levels of generosity that fall between these

Table 1 Fuzzy set scores

1 = fully in
$.5 < x_i < 1$ = degrees of membership more 'in' than 'out'
$.5$ = crossover point
$0 < x_i < 0.5$ = degrees of membership more 'out' than 'in'
0 = fully out

Source:
Adapted from Ragin (2000: 156).

two poles, and fuzzy set analysis reflects this by analysing cases on the basis of their graded, partial memberships of sets.

In practical terms, fuzzy set analysis proceeds by assigning each case a score between 0 (fully out) and 1 (fully in) for each set being examined. However, rather than simply rescaling raw data via arithmetic computation, fuzzy set analysis demands that researchers reconsider their data from a conceptual viewpoint too. So, for instance, as Kvist (2006: 174) notes, if an unemployment benefit replaces 100 percent of previous income it seems evident that this ought to be regarded as a full member of the 'generous welfare' set. However, such a system does not exist anywhere in the world and, based on substantive knowledge of cases, a researcher might suggest that, in practice, any unemployment benefit system replacing 90 percent or more of previous income can be viewed as a full member of the 'generous welfare' set and that variation above this cut-off point means little for the analysis of sets. In other words, fuzzy set analysis requires researchers to consider how raw data relate to verbal descriptors of their concepts and to specify qualitative breakpoints at the top (fully in) and bottom (fully out) of their sets (see Kvist, 2006; Ragin, 2000). While Ragin (2000) outlines numerous techniques for specifying the values between these two breakpoints, here we follow the most straightforward model, using the fs/QCA software to compute a continuous scale of values between these two breakpoints (see Ragin et al., 2006).

When raw data are recalibrated in such a manner, we are left with a series of scores for each fuzzy set with 0.5 representing the crucial cross-over point where a case begins to move from being more out of the set to being more in the set (see Table 1). However, for fuzzy set ideal type analysis, the scores

for each fuzzy set tell us little: what matters more than the variations between nations in the values of these individual dimensions is how these *multiple* dimensions are differently configured across our sample of nations. Fuzzy set ideal type analysis uses fuzzy logic to explore these differing configurations in our nations. Accordingly, two key principles of logic are utilized to analyse combinations of sets: logical NOT (the negation principle, indicated by the symbol ~) and logical AND (the intersection or minimum principle, indicated by the symbol •). Together, these two principles can be used to calculate all logically possible combinations of the multiple fuzzy sets being analysed (the 'property space'): indeed, the number of possible types in a property space is simply 2^k, where k = the number of fuzzy sets under consideration.

Building on an illustration used above, if we were aiming to capture the generosity (G) and redistributive intent (R) of welfare states, then with just two fuzzy sets we would have only four types in our property space: generous and redistributive; generous and not redistributive; not generous and redistributive; and not generous and not redistributive. More importantly, with the property space identified, the logical NOT and AND operators can also be used to assign each case to a single type on the basis of their combined fuzzy set scores.[1] The logical AND (or minimum principle) dictates that the computation proceeds by using the lowest of the scores for each of the sets being combined: so, for instance, if Country A scores 0.8 in G but just 0.4 in R it receives a combined score of 0.4: if Country A is not redistributive, it cannot be a member of the generous and redistributive type (G·R), no matter how generous it might be. The logical NOT (or negation principle) simply inverts scores for a given set (1-*n*): Country A's score of 0.4 for G becomes 0.6 for ~G: if Country A is not a member of the fuzzy set G then, logically, it *is* a member of the set NOT G. The negation principle is important when calculating scores where the absence of a dimension (in this case: not generous) is present: Country A's score for the type ~G·R becomes 0.6 on this basis.

Fuzzy set ideal type analysis offers us a number of advantages over techniques that rely on the computation of statistical means. First, and most importantly, it does not allow for compensation effects to mask the real extent of diversity. If a welfare state is

'weak' in one area, it cannot 'make up' for this by being 'very strong' in another area. Each component matters and cannot be overlooked because another dimension is especially strong or weak. Second, and on a similar note, the approach allows for the simultaneous analysis of multiple dimensions and, crucially, handles these dimensions in a manner that emphasizes, rather than ameliorates, difference: fuzzy logic allows us to classify nations on the basis of multiple, even conflicting, components. Finally, by forcing us to think about the links between the values of quantitative data and qualitative descriptors of key concepts, fuzzy set analysis offers a bridge between quantitative and qualitative approaches. In particular, by recognizing that not all variation matters, fuzzy set analysis avoids the distorting effects of extreme values that can thwart some quantitative comparative analyses of welfare states.

Productive-protective fuzzy set ideal types

We have already argued that welfare states ought to be increasingly viewed as combining both protective and productive functions. However, quite how these terms might best be interpreted is a moot point. Here, we have chosen to identify four fuzzy sets: two productive and two protective. The case for including an income protection set in our analysis of welfare state types hardly needs to be made: it has formed the bedrock of welfare modelling (e.g. Esping-Andersen, 1990). But, rather than only looking at systems of income protection, we also include employment protection in our study; that is, the extent to which nations protect employees from dismissal. Inclusion of this dimension is increasingly common in attempts to specify different welfare state types, be they largely theoretical case-study based treatments (e.g. Estevez-Abe et al., 2001) or primarily quantitative approaches (e.g. Powell and Barrientos, 2004). As for the productive elements, following Room (2000; 2002) we look at investment in education and, following others (including Powell and Barrientos, 2004; Vis, 2007) labour market training; that is, investment in human capital within and outside the labour force.

These four fuzzy sets give us a total of 16 types in our property space. Four of these are what we regard as 'pure' ideal types (see Table 2). Countries which score highly on each of the four fuzzy sets – education investment, training investment, income

protection and employment protection – manage to combine both productive and protective elements successfully. This constitutes our *productive-protective* ideal type. Countries that score highly on both productive sets (education and training investment) but do not make it into the protective set are *purely productive* ideal types. Equally, *purely protective* ideal types score highly on income and employment protection but perform less well in education and training investment. *Weak* ideal types score low on both protective and productive fuzzy sets.

Our fuzzy set ideal type analysis also produces several hybrid types (see Table 2). Although only of secondary importance for our discussions, these are still included in our subsequent discussion of findings. Weak productive-protective types each score highly on only one of each of the productive and protective fuzzy set variables; that is, these cases show high education investment paired with either high income or high employment protection or high training investment with either high income or employment protection. Those countries that score highly on both productive sets and also on one of the two protective fuzzy sets are labelled productive-plus types. If a country only scores highly on one of the productive and none of the protective variables, we labelled it weak productive. Equally, those countries with high scores on both protective and one additional productive fuzzy set are labelled protective-plus types. Weak protective types score highly on only one of the two protective fuzzy set variables.

One of the obvious weaknesses of using hybrids in this way is that countries with different combinations of high and low fuzzy set scores may be classified in the same hybrid types. For instance, whether countries are classified in the weak productive-protective set because they perform well in income protection but not employment protection or the other way around signifies an important qualitative difference. Thus, collapsing our hybrids into a small number of types may admittedly mask important dissimilarities of welfare states; while this may be seen by some readers as a major limitation of our approach and fuzzy set ideal type analysis in general, it remains a valid approach here given that we are interested in the *balance* between productive and protective elements in our sample countries rather than in offering an exhaustive and all-encompassing classification of welfare regimes.[2]

Table 2 Productive-protective fuzzy set ideal types

	Education investment (E)	Training investment (T)	Employment protection (L)	Income protection (B)	Model
'Pure' ideal types					
Productive-protective	IN	IN	IN	IN	(E•T•L•B)
Productive	IN	IN	OUT	OUT	(E•T•~L•~B)
Protective	OUT	OUT	IN	IN	(~E•~T•L•B)
Weak	OUT	OUT	OUT	OUT	(~E•~T•~L•~B)
'Hybrid' ideal types					
Productive plus	IN	IN	IN	OUT	(E•T•L•~B)
	IN	IN	OUT	IN	(E•T•~L•B)
Protective plus	OUT	IN	IN	IN	(~E•T•L•B)
	IN	OUT	IN	IN	(E•~T•L•B)
Weak productive-protective	IN	OUT	OUT	IN	(E•~T•~L•B)
	IN	OUT	IN	OUT	(E•~T•L•~B)
	OUT	IN	OUT	IN	(~E•T•~L•B)
	OUT	IN	IN	OUT	(~E•T•L•~B)
Weak protective	OUT	OUT	OUT	IN	(~E•~T•~L•B)
	OUT	OUT	IN	OUT	(~E•~T•L•~B)
Weak productive	IN	OUT	OUT	OUT	(E•~T•~L•~B)
	OUT	IN	OUT	OUT	(~E•T•~L•~B)

Operationalizing the fuzzy sets

In terms of operationalizing our analysis, we set out to include as many OECD countries as possible for as long a time period as possible. Including the two East Asian members of the OECD (Japan and Korea) in our data set was a particular priority given the strong claims in the literature that they might be characterized as being unusually productive in intent. However, including the theoretically important case of Korea restricted the time frame of our study as it is one of the newest members of the OECD. While an analysis stretching back to the 1980s would have been desirable, the inclusion of Korea means we can only look back to the early 1990s. This places a clear limitation on our analysis, but we should note that the major OECD databases only contain education spending data stretching back to the early 1990s and, moreover, that there are inconsistencies between key measures of education spending found in these databases and historical estimates found in older printed volumes of OECD data (mainly because of differences in the treatment of public and private higher education spending). As a consequence, even were we to exclude Korea, it is unlikely that we could provide

reliable estimates for one of our key sets for the 1970s or 1980s. Given these restrictions imposed by our selection of cases and our chosen indicators, we were able to include a total of 23 countries – the 18 nations included in Esping-Andersen's (1990) *Three Worlds of Welfare Capitalism* plus Greece, Portugal, Spain, Korea and the Czech Republic – and to base our analysis on three points in time: 1994, 1998 and 2003. (For a full list of data sources: see Appendix 1.)

With regard to our income protection set, the OECD produces net replacement rates of unemployment benefits that provide a useful indicator of the generosity of social security provision. However, each nation's replacement rate indicator can differ substantially according to the family type examined, assumptions about a worker's prior income, for different lengths of unemployment and according to whether social assistance payments are taken into account or not. Here, we utilize the net replacement rate of a single, long-term unemployed worker without any children, formerly employed at average production worker wage and including social assistance payments. This is a comparably hard test, as this group often receives the lowest level of income support, but it is – in our view – the best indicator to

measure the protective intent of a nation as a consequence, not least because some nations offer relatively strong short-term protection but relatively weak long-term protection. Although we use slightly different measures, we adopt the breakpoints used by Kvist (2003: 11) and Vis (2007: 112) in their operationalization of similar fuzzy sets. Both authors point to national income studies which show that maintenance of attained standards of living is not possible if an individual's income is reduced to 20 percent or less of its prior level. Our first breakpoint, fully out of the set of income protection, is thus set at a replacement rate of 20 percent. Both Kvist (2003) and Vis (2007) also point to the fact that most countries grant tax exemptions and allowances of around 10 percent before decreases of unemployment benefits are phased in. Net replacement rates of around 90 percent can thus be viewed as fully generous. The second breakpoint, fully in the set of income protection, is set at 90 percent accordingly.

Second, we follow the example of Vis (2007) for our employment protection set as well. The OECD Employment Policy Legislation (EPL) index is an additive index of the strictness of employment protection for both regular and short-term employment. It is composed of a total of 14 items; each item can reach a score of between 0 and 6 with higher scores signifying higher levels of strictness of employment legislation. Vis (2007) chooses the breakpoints 0.5 (fully out) and 3.0 (fully in) according to the following rationale: a score in the additive index of 0.5 signifies a high score in a maximum of one of the 14 items included in the index – it should thus be relatively easy and relatively cheap for employers to dismiss workers in this case. A score of three or higher signifies a high score on a least half of the 14 items – it should thus be much harder, albeit not impossible, and relatively cost-intensive to dismiss workers within such legislative frameworks.

We operationalize training investment by examining expenditure on the training components of ALMP budgets as a share of the total ALMP budget. Both Powell and Barrientos (2004) and Vis (2007) emphasize ALMPs as a key variable. Here, however, we are not interested in total ALMP spending as a percentage of GDP; instead, we depart from usual practice by emphasizing the *relative importance* of (longer-term) training initiatives against (short-term) programmes designed to enhance employment exchanges and subsidized (protected) employment.[3]

The costs of running employment offices or subsidized employment programmes might be 'active' but it can be argued that they are not genuinely 'productive' in the sense that their goal is not the direct enhancement of skills and qualifications. The OECD SOCX database (2007) breaks ALMP into five principal components: expenditures for the running of employment offices, subsidized employment, labour market training, youth measures, and measures for the disabled. For countries to have an equal focus on non-productive and productive elements, we would expect a 40:60 split of non-productive against productive spending (employment offices and subsidized employment against labour market training, youth measures, and measures for disabled people). Our first breakpoint, fully out of the set of training investment, is productive spending accounting for just 20 percent of all ALMP spending, as the non-productive elements in such a case would command at least twice their 'equal' share. The second qualitative breakpoint, fully in the set of training investment, is set at productive spending accounting for 80 percent of ALMP spending. In such cases, the converse would be true: the non-productive elements of the ALMP budget would account for no more than half their 'equal' share.

Finally, we operationalize investment in education as public education spending as a share of total public social and education spending. As with training investment, we do not simply use education investment as a percentage of GDP, because we are interested in the *relative importance* of education effort compared to more protective elements of social budgets: if investment in human capital is becoming more important then we ought to see its share of the total budget rising – and for the overall share to be higher – in productively oriented welfare states. Moreover, by eschewing a GDP share-based measure we also allow countries with low total welfare spending but a relatively strong internal budgetary emphasis on education to score highly on this indicator. The first qualitative breakpoint, 0, fully out of the set of education investment, is set at a share of 15 percent. The second qualitative breakpoint for this fuzzy set, fully in the set of education investment, is set at 25 percent. Our conceptual rationale at this point is that, historically, social policy analysts have been concerned with five core sectors of policy (social security, health services, education, employment, and housing): equal emphasis

Table 3 Fuzzy set ideal type country memberships (2003)

		Productive-protective: *Finland*		
	Productive plus: Denmark, Norway		**Protective plus:** Sweden, Netherlands, Austria, *Finland*	
Productive: United States, New Zealand		**Weak productive-protective:** Greece, Ireland, Switzerland, Italy, Korea		**Protective:** Belgium, Germany
	Weak productive: Canada		**Weak protective:** Spain, France, Czech Republic, Japan, Portugal, *United Kingdom*	
		Weak: Australia, *United Kingdom*		

Note: Italicized countries are at the cross-over point (i.e. they score exactly 0.5).

would result in a 20 percent share for each and this figure provides the mid-point for this set. In setting the floor (15%) and ceiling (25%) around this 'equal shares' mid-point we drew on substantive knowledge of the historical highs and lows to be found in our cases and consultation of the descriptive statistics produced by the fs/QCA software for this indicator's raw data, with these crucial breakpoints being rough approximations of one standard deviation above or below the mean for this variable.

Findings: productive-protective fuzzy set ideal types

Table 3 illustrates the memberships for the year 2003 of the different productive-protective fuzzy set

ideal types introduced above. Several countries in our sample are members of one of the four 'pure' ideal types according to our analysis. Finland is at the cross-over point for the productive-protective ideal type, which is interesting since it matches Castells and Himanen's (2002) thesis of the Finnish model being closest to what they call an 'informational welfare state'; that is, managing to combine both productive and protective elements simultaneously. Interestingly, the Finnish case also illustrates one of the main advantages of fuzzy set ideal type analyses discussed previously. Finland does not score highly on any of our fuzzy sets. However, it does well enough to be 'more in' than 'out' of each of these sets – thus it is at the cross-over point for the productive-protective ideal type. Using an additive index based

on mean averages and standard deviations would mask this important finding as Finland would only be somewhere in the middle of such a league table.

Further support for Castells and Himanen's thesis comes from the USA being placed strongly within our pure productive set, where it is joined by New Zealand. Significantly, the USA's fuzzy set membership score for this ideal type is higher than for almost any country score across all the ideal types in our sample, stressing the strong balance of its welfare state towards productive features. Both Belgium and Germany are members of the pure protective set, while Australia (along with the UK, which is at the cross-over point) is placed within the weak set according to our data. It may be worth briefly reflecting on those countries within our weak type; their placement within this set should not be taken to mean that the countries are retrenching or have ineffective social policies. Rather, they are in the unusual position of failing to join any of our sets. In a sense, they are equally balanced welfare states in terms of their emphasis on protective and productive features and could be alternatively labelled as something like 'weak-balanced-productive-protective'. Here, they contrast with most of the other Anglophone nations, which place a clear emphasis on productive welfare strategies. In some ways, it may be that Australia and the UK are trying to steer a middle course between the productive emphasis of their Anglophone cousins and the protective course of the Continental European nations; here they share much with the Scandinavian nations, but their low scores in each of the productive-protective sets perhaps reflect the strong path-dependent traditions of the liberal welfare regime's minimalist outlook. Indeed, in both countries, raw data indicate important expansions of provision have taken place in some areas (though not, we should add, in terms of benefit generosity, which has weakened in both cases). In the UK's case, ALMP expenditure has fluctuated considerably, with its radical movements on this indicator in part a reflection of the influence of short-term policy measures and initiatives in this sector. Both countries' ALMP scores are significantly reduced by rising administrative costs in this field, perhaps in part a reflection of their attempts to introduce a mixed economy of provision in this sector.

A look at the countries placed within our hybrid types yields some interesting additional findings. Denmark, Norway and Sweden are all very close to qualifying for membership of the productive-protective ideal type. The former two countries are members of the productive-plus fuzzy set, while Sweden is a member of the protective-plus set, with Finland joining it at the cross-over point. Our analysis thus suggests that all four Scandinavian countries are – at least – very close to combining productive and protective elements in their respective welfare states. This is an important finding, for it is at odds with Holliday's (2000) argument that protective and productive features are mutually exclusive and the basis of different welfare state types. Indeed, our findings present an additional challenge to Holliday (2000) as neither of the two included East Asian countries actually qualifies as a purely productive ideal type. Rather, our data suggest that Korea is merely a member of the weak-productive-protective hybrid type alongside countries like Greece, Ireland, Switzerland and Italy. Japan is characterized by our data as a weak-protective hybrid alongside countries like Spain, France, the Czech Republic and Portugal. It is important to note here that we do not suggest that welfare states in these particular hybrids are qualitatively uniform; instead, we argue that the relative focus on protective and productive elements in these countries warrants a clustering in this way.

We stated at the outset of this article that we are not only interested in a static description of welfare state ideal type memberships. Instead, an important aim of this article is to test empirically whether modern welfare states have shifted their emphasis away from protective elements towards using more productive ones. Our data produce some mixed findings with regard to such claims. As is illustrated in Figure 1, only two countries in our sample – Denmark and Finland – show a real shift towards productive welfare during the observed time period (1994–2003). Denmark moved from a protective-plus hybrid towards a productive-plus type as it significantly increased its emphasis on education spending while – at the same time – reducing the strictness of its employment legislation. Being a purely protective type in 1994, Finland gradually increased its relative investment into education and labour market training to become – at the cross-over point – a member of the productive-protective ideal type in 2003. Both Greece and Italy shifted towards the weak-productive-protective ideal type – albeit from a different starting point of much less developed welfare states with an emphasis primarily on employment protection.
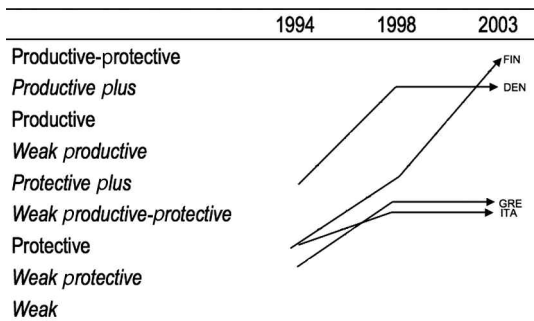
Figure 1 Fuzzy membership across time: countries moving towards productive elements
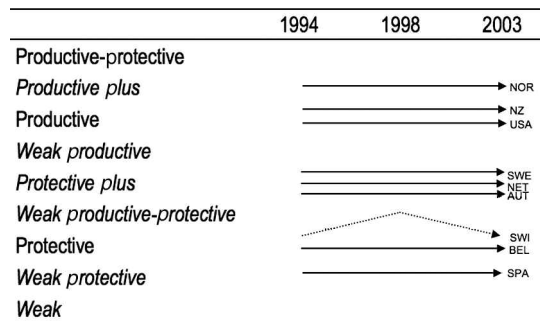

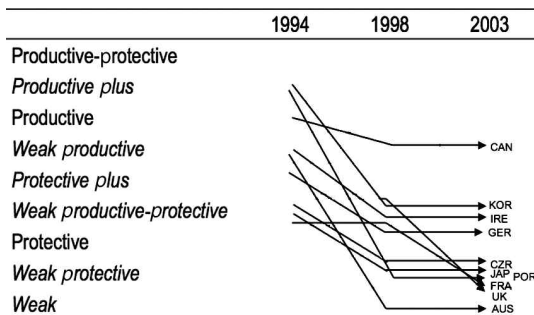**Figure 2** Fuzzy membership across time: stable countries.

Figure 3 Fuzzy membership across time: countries moving away from productive elements

While these findings may be loosely read as a confirmation of some of the claims of the 'competition state' literature, the vast majority of observed countries do not show comparable shifts. On the contrary, a substantial proportion of the countries in our sample remained stable throughout the 1994–2003 time period; that is, they retained membership of one specific ideal type (see Fig. 2). To borrow from Vis's (2007) vocabulary, we could also say that our data suggest that these countries featured no radical and regime-specific changes. Furthermore, Figure 3 illustrates that the remaining countries in our sample actually moved *away* from the more productive ideal types. Korea, Canada, Portugal are mentionable at this point in particular: all were members of either the productive-plus or purely productive ideal types in 1994 but shifted – according to our data – towards more protective

types afterwards. These findings are obviously surprising, to say the least, if we consider the library of contributions to the literature observing a productive shift in welfare in face of increased fiscal austerity and global economic competition.

Given the commonplace claims that Korea provides an illustration of a productivist welfare state – indeed, former Korean President Rho often invoked similar rhetoric himself in his speeches (Hwang, 2006) – it is worth reflecting on why our data appear to suggest that it has shifted away from a productive emphasis. First, it is worth stressing that Korea's extraordinary emphasis on education spending is perhaps the most striking feature of its welfare state; it is fully within the education set at each point of our analysis, but does not gain 'additional points' in our approach for being the clear leader in the OECD here. This is significant, for its active labour market spending has shifted considerably over time and dragged it out of the second of our productive sets, and our approach does not allow its high score in education to compensate for this. With regard to the ALMP spending, Korea was in the set in 1994, but dropped out in 1998, largely due to a huge increase in the use of subsidized employment in response to the 1997 economic crash (Hwang, 2006). These subsidies are being phased out over time and it may well be that Korea will rejoin the productive-plus set in the near future, but its return to traditional labour market subsidies on such a large scale certainly challenges its 'productivist' credentials. It is perhaps worth adding too that Korea's reasonably

strong labour market protections place it firmly within this dimension of our protective set, a feature that has perhaps been too readily over-looked in discussions of the Korean case. While it is some way from being in our income protection set, if its recent expansion of social security continues it may even be a candidate for the productive-protective set in the future.

While several authors have brought forward arguments for a fourth 'Southern European' welfare regime (e.g. Ferrera, 1996), our findings provide some limited support for this thesis. In fact, it is striking that all the Mediterranean countries – including France – possess relatively high degrees of membership of the employment protection set (in fact France, Spain and Portugal are fully in this set for 2003, while Greece and Italy are in the set at all time points). Equally, none of these countries is a member of the income protection set, with most fully out or nearly fully out of this set. Beyond this, however, there is variation in the grouping in terms of their productive features with some joining the weak-productive-protective set on the basis of their employment spending (e.g. Greece and Italy). Portugal was a member of our productive-plus set in the 1990s, but was a member of the weak-protective set in 2003; prima facie, this is the most radical shift in 'types' in our sample, but seems in part likely to be a consequence of the relative underdevelopment of some of its welfare provisions in the 1990s: expansion of social security and health programmes has reduced the overall share of spending taken by education and taken it out of this set. Meanwhile, its ALMP spending has shifted because of greater use of job subsidies, taking it marginally out of this set. While its productive scores in both education and training are close to being within the set, it seems likely that its changing membership reflects a genuine shift towards protective features in the Portuguese social policy agenda rather being a mere artefact of our data.

Conclusion

Examining the productive and protective dimensions of welfare states via fuzzy set ideal type analysis offers a rich picture of social policy stability and change, diversity and difference. The analysis also provides us with some theoretically

significant findings. By identifying strongly productive types in some of the Anglophone countries – the USA, New Zealand (and, less so, Canada) – the approach emphasizes the strengths of these welfare states while most alternative classifications have pointed mainly to the weaknesses in their protective components. Added to this, we have shown that the combination of productive and protective features is possible, though it is by no means an easy task to achieve such a balance. Our analysis provides considerable support for Castells and Himanen's (2002) claims that Finland and the USA form the basis of competing ideal types of a new human investment focused welfare state. We should add too that the other Scandinavian nations are not far behind Finland and may soon join it in the productive-protective set. This is an interesting finding and is largely consistent with the case-study based arguments Benner (2003) has made about the adaptations of the Scandinavian model in response to the modernizing pressures of the knowledge economy.

The position of the East Asian welfare states is interesting too. Much as Esping-Andersen (1997) argued in response to critics of his approach, Japan does not have any special claim to be an illustration of a fourth ideal type on the basis of its productivist orientation: indeed, as Esping-Andersen (1997) suspected, its claims to be productivist are much weaker than those of some of the Scandinavian nations. Korea can – or, rather, could – have made a stronger claim to be so, but changes over time have eroded such arguments; again, this finding is consistent with recent case-study based analysis of the Korean case (Kim, 2008).

Finally, our analysis provides no more than mixed evidence to support claims that welfare states are moving away from their protective functions and towards productive ones. Many of the countries in our sample are better classified as being protective, rather than productive, in their orientation and, moreover, in the limited time frame we have analysed, far from moving towards productive welfare, many more have, in fact, moved away from it. While theorists are right to suggest our attentions need to be cast more firmly towards the productive dimensions of welfare, those claiming that there has been a paradigmatic shift of welfare states themselves towards productive welfare have, it seems, been somewhat hasty in drawing their conclusions.

Appendix 1   data sources

Variable	Notes	Sources
Education investment Total government education spending (all levels of education, all types of transactions) as share of total public and mandatory private social and total education spending	Data for Austria: 1995, 1998, 2003	*OECD Education at a Glance,* *OECD Social Expenditure Database*, own calculations. All sources accessed through OECD statistics portal at: http://www.oecd.org
Training investment Total public and mandatory private active labour market spending (ALMP) MINUS spending on employment services and administration MINUS spending on subsidized employment as a share of total ALMP spending	Data for Italy: 1994, 1998, 2001	*OECD Social Expenditure Database*, own calculations. Accessed through OECD statistics portal at: http://www.oecd.org
Income protection Net replacement rates for long-term single unemployed with no children; earning average production worker (APW) wage; after tax and including unemployment benefits, social assistance, family and housing benefits in the 60th month of benefit receipt	Comparability of 2003 and 1994–98 rates: the OECD stresses that for some countries, calculation models have been revised in line with clarifications received from country experts. This constitutes a break in the time-series and needs to be kept in mind when interpreting observed changes	*OECD Tax Benefit Models*, accessed at: http://www.oecd.org
Employment protection Overall Employment Protection Legislation Index (EPL Version 1)	No data available for 1994; the mid-point of 1990 and 1998 EPL 1 scores were used to calculate 1994 scores	*OECD Employment Outlook*, own calculations. Accessed through OECD statistics portal at: http://www.oecd.org

Notes

1 Or, in rare cases, to multiple property spaces when it is exactly half in a number of sets because it scores 0.5, thus placing it at the cross-over point representing exactly half in, and half out, a set.
2 Scores for each country for each fuzzy set can be found online at: [www.york.ac.uk/depts/spsw/productive welfare/].

3   Refraining from using ALMP data as a percentage of
    GDP has another advantage. Vis (2007) rightly stresses
    the necessity to standardize ALMP spending by the
    number of unemployed as these data are always a func-
    tion of different levels of unemployed across time and
    space. By utilizing relative shares of disaggregated ALMP
    components, we not only sidestep this critical issue;
    because unemployment does have an impact on relative
    shares of training and job placement and job cre-
    ation/security measures, these statistics also entail sub-
    stantive information on the preferred (productive or
    protective) policy strategy in times of economic regress.

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