

Krzysztof CZARNECKI*
Poznań University of Economics

The higher education policy of 'post-communist' countries in the context of welfare regimes

Abstract: The paper attempts to examine whether higher education policies in 'post-communist' countries, proxied by the Visegrad Group, exhibit features distinct from the classical types of welfare regimes (social-democratic, liberal and conservative) that would allow one to classify them under a single label. It also re-examines the relationship of different national approaches to higher education participation and funding with welfare regimes. Policies are operationalized in four general indicators: (1) participation in tertiary education, (2) educational expenditures, (3) tuition fees and student financial support, and (4) pre-tertiary stratification. Correspondence analysis is used to explore the relationship between the countries and indicators. The strong correspondence between the indicators' values and a given welfare regime has been confirmed. The four 'post-communist' countries belonging to the Visegrad Group seem to exhibit a mixture of conservative and liberal features. However, no regular pattern of higher education policy has been found among them. Thus, no distinct 'post-communist' welfare regime can be identified with regard to this policy.

Keywords: higher education policy, welfare regime, 'post-communist' countries, correspondence analysis.

JEL code: I22.

Introduction

In the scientific and political discourse of the most advanced OECD (Organization for Economic Co-operation and Development) countries higher education is regarded as an important part of welfare policy. Consequently,

* E-mail: krzysztof.czarnecki@ue.poznan.pl.

higher education policy has become a subject of comparative analysis, in which different national approaches to higher-education participation, pre-tertiary stratification, educational expenditure, tuition fees and student financial support are being assessed. Two recent studies use the concept of ‘welfare regime’ as an analytical tool [Pechar & Andres 2011; Willemse & de Beer 2012]. This article follows that line of research by updating the data and extending the number of countries by the Visegrad Group, as a proxy of ‘post-communist’ countries. The research question is to what extent do they exhibit characteristics different than social-democratic, conservative and liberal countries and thereby constitute a separate ‘regime’ of higher education policies?

In the second section of the paper the concept of ‘welfare regimes’ is introduced and the literature on the specificity of ‘post-communist’ welfare regimes is reviewed. In sections three and four the concept is applied with specific indicators operationalized for the purpose of the trans-national comparison of higher education policies. Next the method of correspondence analysis is described. The sixth section consists of the data analysis and interpretation of the findings. The final section concludes.

1. Welfare regimes and the specificity of ‘post-communist’ countries

In the wake of the seminal work by Esping-Andersen [1990], the concept of ‘welfare regimes’ has become popular in comparative welfare state research. His classical typology of liberal, conservative and social-democratic welfare regimes has received acclamation as well as critique. Alternative notions such as ‘families of nations’, or ‘formations of human capital’ has been coined and applied to research practice.¹ In this article, the focus is on ‘welfare regimes’, since such an approach follows the operationalization of research which was a prime inspiration and conceptual base for this paper [Pechar & Andres 2011]. ‘Welfare regimes’ can be understood as ‘a complex of legal and organizational features that are systematically intertwined alongside the market, civil society and the family’ [Arts & Gelissen 2002, p. 140]. Each welfare policy is organized in accordance with certain principles according to which social services are provided. Most importantly these principles determine to what extent the mar-

¹ The differences between them are discussed for example in: Arts & Gelissen [2002]; Jæger [2006] and Castles & Obinger [2008].

ket, state and family are held responsible for satisfying a social need. Therefore the concept is useful in analyses of sectoral policies when they are presented in the context of country or regime-specific social policy arrangements.

Since many welfare state institutions exhibit trans-national similarities, countries can be clustered into different and distinctive 'worlds' [Castles & Obinger 2008, p. 321] or 'regimes'. This is either because they have trodden similar historical pathways, share territorial proximity or due to common structural characteristics (socio-economic factors such as class structure or political institutions such as a type of government). The regimes theory suggests a correspondence between structural determinants and specific policy arrangements and outcomes [Castles & Obinger 2008, p. 339]. Distinctive regimes are constructed as 'ideal-types' that are supposed to serve as a means to explore that correspondence [Arts & Gelissen 2002, p. 140]. This implies that research done in this fashion is both descriptive and explorative when it comes to classifying countries into different 'clusters' and also explanative in checking for what reasons real-types resemble ideal-types [see Arts & Gelissen 2002]. Yet, as the research question indicates, in this article the focus is on dependent variables, namely policy arrangements and outcomes.

Aidukaite underlines an empirical and theoretical gap that resulted from the exclusion of 'post-communist' countries from welfare state theorising. [Aidukaite 2009, p. 23]. Some attempts have already been undertaken to fill in that gap, mostly in order to explain changes that have been occurring in Central-Eastern Europe on the way to and after the enlargement of the European Union in 2004 and 2007. Are they leading to the formation of a separate welfare regime? If so, what might be its distinctive features?

The comparative inquiries trying to answer these questions lead to different results. Very early on Deacon [1992] predicted that 'post-communist' welfare states will develop institutions different from each other and distinct from regimes described by Esping-Andersen [1990]. Various reform trajectories towards Western models and general heterogenization was confirmed by Fenger [2007]. Yet even though the changes might not follow a single pattern, some researchers [Aidukaite 2011] argue that there are enough similarities to state that a 'post-communist' welfare regime is underway – even if many of its components, such as insurance-based programmes of the social protection system and low social security benefits, are rather superficially borrowed from the three 'classic' regimes (mostly from liberal and conservative) [Aidukaite 2009, p. 35; Adascalitei 2012, pp. 59–60; Książopolski 2013, p. 37]. 'Post-communist' countries are also claimed to exhibit common features such as the importance of the market to guarantee an adequate stand-

ard of living [Aidukaite 2009, p. 36], the central role of family in social care and high inequalities and poverty rates [Hacker 2009, p. 166].

However Hacker claims that presenting Central and Eastern European countries as a “monolithic bloc” of social policy arrangements would be an excessive simplification because they follow different reform paths in health care, the pension system and unemployment protection [Hacker 2009, pp. 152–153]. Moreover they differ not only in policies, but also in social and economic performances [Aidukaite 2009].

In summary the findings are inconclusive and do not unequivocally answer the question whether one can speak about a specific ‘post-communist’ welfare regime. Maybe this is because it is too early to classify post-communist welfare states, which are still ‘models in the making’ [Książkowski 2013]. Furthermore, most of the studies take into account only standard areas of social policy, such as social security or the health sector. More research is needed – further testing the welfare regime theories, as well as extending the scope of the analyses by unexplored social policy spheres, such as long-term care and education. This could advance the existing theoretical approaches and typologies or discuss their legitimacy.

2. Welfare regimes and higher education policies

Expansion of higher education is usually perceived as a key to economic competitiveness, democratic development and extension of human capacities. Even though increasing participation has recently led in many countries to the problems of overeducation [Bernardi & Ballarino 2012], equity of access to good-quality higher education remained the main political goal [Barr 2012]. Firstly graduation from studies increases – if not determines – individual chances in the labour market. High graduation rates can promote equality of opportunity (social mobility chances), depending on a level of diversification and stratification of an educational system. This confirms Castles’ and Mitchell’s [1993] assertion that not only social spending in the form of transfer payments may lead to income redistribution. In the long term income maintenance and equalization of opportunity can be provided through a skill formation system of which tertiary education is an important part. Secondly the system of higher education can redistribute directly through the way education is financed, i.e. by a set of financial instruments such as tuition fees and student scholarships, grants and loans. These usually income-related benefits or costs can make an effective contribution to redis-

tribution and provide incentives that encourage individuals and families to act in ways that follow a particular path of educational policy development. In the context of welfare economics the former can be presented as horizontal and the latter as vertical redistribution [Barr 2012].²

Thus higher education can be analysed as a system that performs some functions of the welfare state. What this means is that different national systems of higher education provision could be thought of as parts of the wider set of political arrangements known as welfare regimes. The question emerges as to how much the systems differ from each other and to what extent they fit the classical typology. As was mentioned before, this problem has been already taken up by some scholars, but their research efforts did not encompass 'post-communist' countries. What follows is the operationalisation of the comparative research on higher education policies with regard to welfare state functions.

3. Research design

The first purpose of the research is to re-examine the relationship between tertiary education policies and their outcomes in different welfare regimes, following Pechar and Andres' [2011] approach. This will be done through the analysis of the newest OECD database [2012] and, where necessary, other sources of data (see references under the tables 1–4). The hypothesis is that little has changed during the last four years in terms of extent to which different welfare regimes exhibit systematic differences in the way they enhance participation and equalize access to tertiary education.³ Differences in results may occur not only due to policy changes but also to operational modifications of the indicators and the inclusion of additional countries which changes the variability of values of each indicator.

The second purpose is to answer the research question through the inclusion of four post-communist countries into the research framework. No hypothesis is given here, since it is difficult to formulate potential implications that could stem from the affinity of the Visegrad countries to the 'post-communist' regime the existence of which is questioned. Therefore this purpose is rather explorative.

To achieve these purposes four general indicators are employed consisting of a total of thirteen indicators. Key concepts employed in Esping-Andersen's typology are decommodification and stratification. Willemse and de Beer

² Arguments for inclusion of education policy in welfare state studies are extensively elaborated upon in Hega and Hokenmaier [2002].

³ Pechar and Andres [2011] extract data mostly from OECD 2008 database.

[2012] applied them to the comparative analysis of higher education policies in OECD countries. Their typology showed that there exists a correlation between these policies and a country's affinity to a conservative, social-democratic or liberal regime, although not every expected implication of that has been confirmed. Here the focus is mostly on decommodification, reflected in the indicators of (1) *participation in tertiary education*, (3) *educational expenditures*, (4) *tuition fees and student financial support*. Stratification is only partially touched upon in the form of (2) *pre-tertiary* indicators. A more elaborated consideration of the way higher education is structured in each country would need a comprehensive analysis of qualitative data that is difficult to fit into a comparative approach.

(1) *Participation in tertiary education*. Four indicators are included that altogether provide information on the level of massification of tertiary education with respect to the change that has occurred between the 25–34 and 25–64 age groups. For two reasons, there is no differentiation between tertiary level A (ISCED 5A – academic, general skills focused education) and tertiary level B (vocationally-oriented education). Firstly, there are large differences between the countries in the way both types of tertiary education are organized and in the skills they provide. Polish polytechniques are, for example, included into tertiary level A, although they very often provide more specialised technical training than universities. In Finland tertiary level B category does not apply, although there are many universities of applied sciences which also provide a much more vocationally-oriented training. Second if such differentiation was made, 'skill (or 'human capital') formation' might have been a more adequate theoretical framework [Hall & Soskice 2001], and then also social insurance, organization of vocational training and upper secondary education systems should have been taken into account. The indicators are as follows:

- a) entry rates into tertiary education;
- b) graduation rates from tertiary education;
- c) adult population aged 25–34 years who have attained tertiary level credentials;
- d) adult population aged 25–64 years who have attained tertiary level credentials.

(2) *Pre-tertiary*. Three indicators are included that give an insight into the extent to which a system is stratified, i.e., how many students are expected to enrol in tertiary education, assuming that the probability is higher for those attending general upper secondary education than for students of vocational upper secondary education. Furthermore the earlier individuals are tracked on a vocational or general educational route, the more their life chances are

determined independently from their future efforts and preferences. Thus, early tracking is propitious to social selection and helps social structure to reproduce. This is reflected in the “age at which first selection takes place” variable. Indicators are then as follows:

- a) age at which first selection takes place;
- b) the proportion of the age group in general programmes of upper secondary education;
- c) the proportion of the age group in vocational programmes of upper secondary education.

(3) *Educational expenditures*. The level of higher education financing is an essential measure of the attention given by policy makers and interest groups to educational issues. Each of the four indicators is described separately, following the work of Pechar and Andres [2011].

- a) public tertiary educational expenditures as a percentage of GDP.

This measures the extent of public tertiary educational expenditures in relation to the income of a country.

- b) public tertiary educational expenditures as a percentage of total public expenditures.

This indicates the priority of higher education policies within the overall framework of government policies. The statistic does not include public subsidies for living costs during studies.

- c) share of public expenditure on tertiary educational institutions in relation to private expenditures, expressed in percentages.

This indicator is slightly different than the one employed by Pechar and Andres, where public vs. private expenditures are presented as a percentage of GDP. Spending on tertiary education in relation to the income of a country is already reflected in other indicators, so it is sufficient to consider the relative proportion of public and private spendings.

- d) annual expenditure per student relative to GDP per capita.

This indicator measures how much is invested per one student relative to the wealth of the country. Thereby it signals whether potential massification has been achieved at the expense of educational quality, assuming that more spending per student improves the quality.

(4) *Tuition fees and student financial support*. The elements of this indicator have been thoroughly modified. Now only two indicators are taken into account. The first one (a) is taken from the recent OECD database [2012], where it is a basic measure of how much financial support students receive. It shows how much attention in public policy is given to students’ material well-being and to equalizing access through financial incentives to study.

The second one (b), relates average tuition fees to GDP per capita making the data more comparable and better reflects the size of the burden of tuition fees. Therefore, it gives fairer account of trans-national differences. Still some important aspects of student support are not represented in this analysis. What is especially missing is distinguishing between income-contingent and mortgage-type loans and the proportion of non-repayable transfers to loans available in a given country. The fact that liberal countries rank very high on indicator (a) is mostly due to the developed system of loans, and the impact of this instrument of financing tertiary schooling on equity of access is disputable [for the discussion, see Barr 2012, chapter 12; Callender & Jackson 2005]. Nevertheless, these are the best available indicators:

- a) public support for households and other private entities as a percentage of total public expenditure on higher education;
- b) average tuition fee per student as a percentage of GDP per capita.

A selection of liberal welfare states such as (Canada [CA], the United States [US], Australia [AUS], New Zealand [NZ], United Kingdom [UK]), social-democratic (Sweden [SE], Denmark [DK], Norway [NO], Finland [FI]) and conservative (Austria [AU], France [FR], Germany [DE], the Netherlands [NL], Italy [IT], Switzerland [CH], Belgium [BE]) follows Pechar and Andres' [2011] choice which is based on the Esping-Andersen analysis [1990]. The extension of the classical typology by adding 'post-communist' countries of Central-Eastern Europe was suggested by, amongst many others, Busemeyer & Nikolai [2010], Mills & Blossfeld [2003] and Arts & Gelissen [2002, p. 153]. Here, only the Visegrad Group countries are included (the Czech Republic [CZ], Slovakia [SK], Poland [PL] and Hungary [HU]). Obviously, the best solution would be to include the whole set of countries. However, the Visegrad countries have the most geographical and historical proximities. Thus, if variation is observed between them that enables us to identify a separate regime, even more diversification could be expected amongst other countries that are either more developed (Slovenia), used to be a part of Soviet Union and represent 'the Baltic family' (Lithuania, Latvia and Estonia), or have been under the influence of European Union's convergence trends for a shorter period of time (Romania, Bulgaria).

4. Method

Exploration of the trans-country and trans-regime differences in the four general indicators was conducted with the use of correspondence analysis (CA). Additionally the data presented in Tables 1–4 is studied in order to as-

sess the numerical range of variations. According to the classical textbook on CA it is a multivariate statistical technique particularly helpful in analysing cross-tabular data in the form of numerical frequencies and results in a simple graphical display (where each row and column is depicted as a point) which permits rapid interpretation of the data [Greenacre 2007, pp. ix]. The way CA is employed here follows Pechar and Andres' [2011] approach (for the description of it see p. 41–43). The only difference is that the analysis contains twenty countries (represented in columns) and rows are comprised of thirteen indicators instead of seventeen (identified in Tables 1–4, where also their labels are listed). The method allows measurement of the correspondence between the countries and the indicators.

XLSTAT was used to compute the coordinates of profile points, conduct the statistical tests and create the graphical representation of data. The diagram (Figure 1) displays the projection of points (relative positions of column and row profiles) in the subspace defined by the first two principal axes that account for the largest amount of overall inertia (36%). Total inertia is a measurement of how much variance there is in the table which does not depend on the sample size. In other words, the higher the total inertia, the greater is the association between the columns (countries) and rows (variables). The interpretation of the diagram is possible after identifying the latent variables that explain the amount of the total inertia along each axis.

Regimes and countries appear to be significantly associated with the indicators ($\chi^2 = 526.81$, d.f. = 475, $p < 0.0001$). To assess whether the *chi-square* value is large or small, tables of its distribution were used that correspond to the degrees of freedom associated with the statistic. For a table consisting of 20 columns and 26 rows,⁴ the degrees of freedom are $19 \times 25 = 475$ (one less than the number of columns multiplied by one less than the number of rows). The *p*-value associated with the 526,81 of the *chi-square* statistic with 475 degrees of freedom is 0,0001, which means that it is very likely that there are significant differences between the countries with regard to the indicators.

⁴ Continuous data had to be recoded into ranks and doubled, according to the procedure described by Greenacre [2007, pp. 182–184]. The idea behind doubling is to redefine each variable scale as a pair of complementary scales, one labelled the 'positive' (high value) pole of the scale and the other the 'negative' (low) pole. Each indicator was given a rank, ranging from the lowest to the highest (tied ranks were given average), thus creating the so-called 'positive pole'. Then the negative pole was created by subtracting each rank from the maximum value of the positive pole. Therefore the number of rows is a doubled number of indicators. In terms of data visualization, the loss of information is minimal in this procedure. Such analysis is robust with respect to outliers and can be called a nonparametric CA.

Table 1. Indicators of participation in tertiary education (ISCED 5A and 5B) in selected OECD countries^a

Country	Conservative							Liberal					Social-democratic					Visegrad		
	AU	FR	DE	NL	IT	CH	BE	CA	US	AUS	NZ	UK	SE	DK	NO	FI	CZ	SK	PL	HU
Entry rates into higher education (%) [entry_rate]	66	53	57	61	49	56	66	77 ^b	74	67	102	66	77	80	73	68	69	64	84	70
Graduation rates from higher education (%) [grad_rate]	42	36	44	42	33	47	41 ^b	65	49	66	73	63	43	59	42	49	43	50	56	37
Population aged 25–34 years that has attained tertiary level qualifications (%) [grad_25–34]	21	43	26	41	21	40	44	56	42	44	46	46	42	38	47	39	23	24	37	26
Population aged 25–64 years with tertiary level qualifications (%) [grad_25–64]	19	29	26	32	14	32	35	50	40	37	40	37	34	33	36	37	17	17	23	20

^a Data sources: [OECD 2012], for France: [Ministry of Higher Education and Research 2010].

^b Data not available. An average value of the respective 'regime' was imputed. In case of Canada, no alternative, suitable measure could be found and data from previous years are also not available. OECD [2012] provides information only about first degree (and not first-time) graduation rates in Belgium (49%). Adjusting for this measure moves Belgium slightly closer to the left along horizontal axis and closer to the social-democratic grouping on the CA diagram, but in general it does not distort the picture obtained with the imputed value.

Table 2. Educational expenditures in selected OECD countries^a

Country	Conservative							Liberal				Social-democratic				Visegrad				
	AU	FR	DE	NL	IT	CH	BE	CA	US	AUS	NZ	UK	SE	DK	NO	FI	CZ	SK	PL	HU
Public tertiary educational expenditures as a percentage of GDP [public_exp_GDP]	1.4	1.5	1.3	1.7	1	1.3	1.5	2.5	2.6	1.6	1.6	1.3	1.8	1.9	1.4	1.9	1.3	0.9	1.5	1
Public tertiary educational expenditures as a percentage of total public expenditures [public_exp_total]	3	2.4	2.8	3.2	1.7	4.1	2.7	4.7	3	3.1	5.7	1.6	3.7	4.2	4.8	3.9	2.3	1.9	2.4	2.2
Share of public expenditure on tertiary educational institutions (%) [public_in_total]	87.7	83.1	84.4	72	68.6	81 ^b	89.7	62.9	38.1	45.4	67.9	29.6	89.8	95.4	96.1	95.8	79.9	70	69.7	78.5
Annual expenditure per student relative to GDP per capita (%) [exp_per_student]	25	30	27	28	18	21	27	39	58	25	31	29	25	25 ^b	21	28	26	26	34	33

^a Data sources: [OECD 2012].

^b Data not available. An average value of the respective 'regime' was imputed. In case of Denmark, OECD provides only the data on expenditures per student that include R&D activities, which appeared to be at the same level than in Sweden (48%, relative to GDP per capita). For Switzerland, only the data on the share of public expenditure on the cantonal university sector has been found [Federal Office for Professional Education 2012]. This amounts to 92% and if accounted for it would move Switzerland slightly closer to the left along horizontal axis and closer to the social-democratic grouping on the CA map, not changing the big picture.

Table 3. Tuition fees and student financial support in selected OECD countries^a

Country	Conservative						Liberal				Social-democratic				Visegrad					
	AU	FR	DE	NL	IT	CH	BE	CA	US	AUS	NZ	UK	SE	DK	NO	FI	CZ	SK	PL	HU
Public support for households and other private entities as a percentage of total public expenditure on higher education [public_support]	19.6	7.4	20.7	27.4	22	8	13.4	15.8	19.6	33.5	43.1	54.2	24.9	27.1	40.3	15.8	2.8	22.1	1.4	14.3
Average tuition fee per student as a percentage of GDP per capita [aver_tuition_fee]	1.6	1.4	1.3	3.1	6.6	2.6	1.1	7.2	25.5	10.8	7.3	8.6	0	0	2.7	0	0	3	4	4

^a Data sources: [OECD 2012] for public support indicator. For average tuition fee indicator: [Willemse & de Beer 2012; European Commission 2012] for the Czech Republic and Hungary [GUS 2010; 2012] for Poland and [http://studentskefinance.sk] (values for both countries weighted for public and private fees and enrollment).

Table 4. Pre-tertiary indicators in selected OECD countries^a

Country	Conservative							Liberal					Social-democratic				Visegrad			
	AU	FR	DE	NL	IT	CH	BE	CA	US	AUS	NZ	UK	SE	DK	NO	FI	CZ	SK	PL	HU
Earliest age of selection (years) [selection_age]	10	15	10	12	14	15	12	16	16	16	16	14	16	16	16	16	11	11	16	10
Proportion in upper secondary general education (%) [general_up_sec]	23.2	55.7	48.5	33	40	33.8	27	94.4	71.2 ^b	52.5	69.9	67.9	43.9	53.5	46.1	30.3	26.9	28.7	51.8	74.2
Proportion in upper secondary vocational education (%) [voc_up_sec]	71	44.3	51.5	67	60	66.2	73	5.6	27.8 ^b	47.5	26.1	32.1	55	46.5	53.9	69.7	73.1	71.3	48.2	15.4

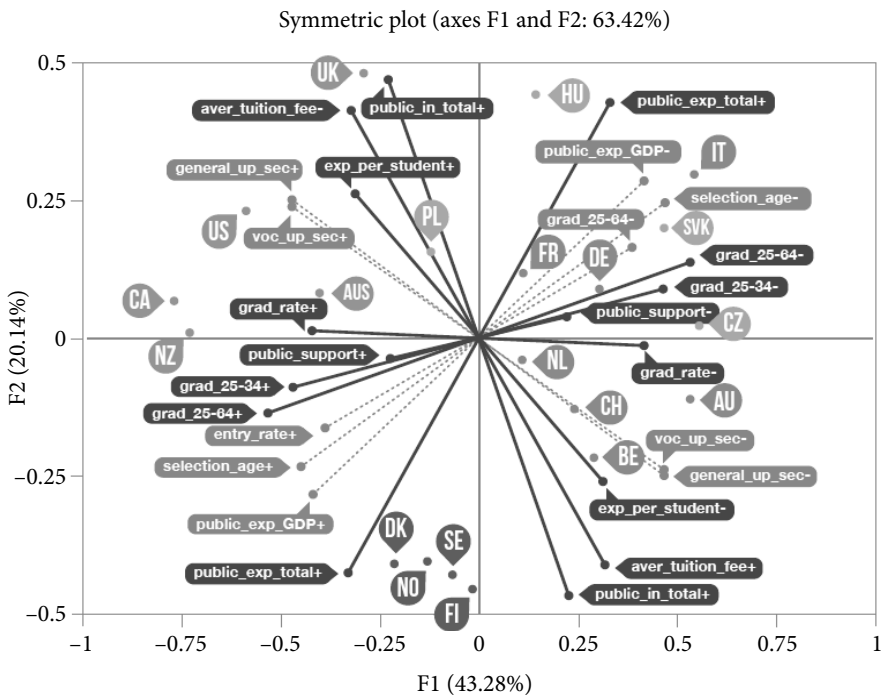
^a Data sources: [OECD 2012], 'Earliest age of selection' after [Pechar & Andres 2011], supplemented with [Eurydice 2013] for the Visegrad countries.

^b Data not available due to complexity of the secondary school system in the United States. An average value of the liberal regime was imputed.

5. Results

The analysis of the data with slightly modified sub-variables generally upholds Pechar and Andres' [2011] finding that there a correspondence exists between higher education policies and welfare regime although there is still some variation within each group and partial overlap amongst the three regimes. Since drawing conclusions from re-examination of that is not a central concern of this article, only differences in results will be commented on.

Examination of the horizontal axis that accounts for 43.28% of total inertia shows nearly identical results, with only conservative countries lying on the right (Finland this time aligned more closely to other social-democratic countries). What differentiates them is the vertical axis that accounts for less total inertia (20.14%), with Netherlands, Switzerland, Austria and Belgium located below and others located in the upper part (Italy as the outlier mostly because of low public expenditures). This group shows the largest variation,



Correspondence analysis of countries and tertiary, pre-tertiary, educational expenditure, and tuition and student financial-aid indicators

but is still distinguishable. The smallest variation can be observed amongst social-democratic countries placed close to the centre of the horizontal axis and far down in respect of the vertical axis. The group of liberal countries is also easily noticeable with all of them lying to the left of the horizontal axis and uppermost on the vertical one.

When rows (variables) are considered, graduation rates, public support and the proportion of the 25–34 years and 25–64 years age population with tertiary credentials are best matched along the horizontal axis. Since public support encompasses loans there are no differences here from the original analysis, with the exception of graduation rates which were not included in CA by Pechar and Andres because of missing data. Therefore indicators of participation in tertiary education are mostly associated with this axis, with ‘less expansion’ matching the countries on the right and ‘more expansion’ with countries on the left. Financial incentives to study also play a big part here.

With respect to the vertical axis four row profiles are most obvious. Again these are the share of public relative to private expenditures on tertiary education and average tuition fees, but also the level of public support (which seems to diversify the countries the most) and, to a lesser extent, public tertiary educational expenditures as a percentage of total public expenditure and annual expenditure per student. Therefore this dimension can be called the ‘tertiary education funding dimension, the same as in Pechar and Andres’ [2011] analysis.

In sum, slight changes in the operationalisation of the research did not have a significant impact on the graphical representation of the relationship between liberal, social-democratic and conservative countries and four general variables. Also the contribution of each dimension to the total inertia is slightly higher.

The analysis of column profiles together with the ‘post-communist’ countries changed the relative positions of all countries along both axes. The countries that contribute mostly to the horizontal axis are Canada and New Zealand on the left (more expansion – especially very high entry rates and the proportion of the population with higher education diplomas) and Italy, the Czech Republic, Austria and Slovakia on the right (less expansion – Italy has the lowest entry and graduation rates, other countries are outliers especially in terms of the proportion of the population with higher education diplomas). The countries contributing the least are the Nordic countries (where higher education is perceived as a social right and equal access is an important political goal), France, Netherlands, Poland and Hungary.

The vertical axis mainly contrasts the United Kingdom and Hungary (located high up) with the Nordic countries. The UK, although having an av-

verage level of public expenditures on education, strikes very low in public versus private spendings and quite low in average tuition fees. Hungary has very low public expenditures per GDP and the lowest age of first selection. The Nordic countries score high in every public spending-related variable and they charge no tuition fees, except Norway. At the same time they provide a generous student support both in the form of grants and loans. It is worth noting that if the fact that in the United States loans are provided in a more access-restricting mortgage-type form would have been taken into account, this country might end up as the outlier of the category, along with the UK.

Finally, I consider the relative position of the group of 'post-communist' countries. Their entry and graduation rates, ranging from 64% to 84% and from 37% to 56%, align them most closely to social-democratic regime, although more variation inside the group is observable, with Poland having very high entry rate (84%) and a relatively higher proportion of population aged 25–34 with tertiary education diplomas (37%). The latter, along with the 'adult population aged 25–64 years who have attained tertiary level credentials' indicator,⁵ locates the group more closely to the conservative cluster. Thus, the indicator of participation in tertiary education shows specificity of the group as a mix of social-democratic- and conservative-like outcomes of higher education policy.

Except for Poland the Visegrad countries conduct the first selection in the educational system early, similar to Austria and Germany. This might be attributed to strong historical and political connections between those countries. With respect to other pre-tertiary variables there is a significant variation within the group with only the Czech Republic and Slovakia exhibiting similar patterns, that are similar to Austria and Belgium.

However, not much differentiation is observed in educational expenditures. Except for the share of public expenditures in total educational spendings, Poland exhibits the highest amounts and Slovakia the lowest. In comparison with the three regimes the Visegrad Group is the closest to conservative regimes with a similar range of variation in each sub-variable.

The third variable – tuition fees and financial support – largely differentiates the Visegrad countries. This is especially because of the amount of public support available to students, relatively average in the context of all analysed countries in Slovakia and Hungary and almost non-existent in Poland

⁵ Its low value is mostly due to relatively late massification of higher education in the Visegrad countries.

and the Czech Republic. Similarly the average tuition fees, which do not exist in the Czech Republic, and which are on a relatively average level in other countries and are especially noteworthy, higher than in all conservative countries, except Italy.

Looking at the CA diagram, one cannot find a separate grouping of the Visegrad/'post-communist' countries, which confirms the above analysis of tabular data. Poland distorts the picture the most with its slight liberal leaning. The Czech Republic and Slovakia might be considered to belong to the conservative regime although when they are looked at along with Hungary, it is clear that all three countries stand out of that grouping with lower public spending, a higher average age of first selection (on average) and higher average tuition fees. Hungary is also specific for its high annual expenditure per student. These three countries represent a kind of upper-right wing of the conservative grouping on the map, however they still exhibit a substantive variation between each other.

Summing up, the Visegrad countries show a consistent specificity only with regard to the first general variable (participation in tertiary education). In the third (tuition fees and student financial support) and the fourth (pre-tertiary stratification) the variation is significant and in the second (educational expenditures) they align closely to conservative regime countries. In general they represent a larger variation than any of the three, 'classical' regimes and therefore one cannot speak about the 'post-communist' regime of higher education policy when it is regarded as a part of welfare state policy.

Additionally, the analysis confirms the existence of three clusters identified by Pechar & Andres [2011] with only minor changes in the position of single countries that might be a consequence of policy changes in the last four years or, more likely, some modifications in the way the comparative study has been designed and conducted.

Conclusions

This paper uses the concept of welfare regimes as the analytical tool which allows for trans-national comparisons of different approaches to higher education participation and funding. Their strong relationship with a given welfare regime (social-democratic, liberal or conservative) has been re-examined and confirmed.

Concerning the main research question, no regular pattern of higher education policy has been found amongst the four 'post-communist' countries belonging to the Visegrad Group. Thus, as far as this policy is concerned as a part of welfare policies, one cannot identify the existence of a distinct 'post-communist' welfare regime. This does not necessarily mean though that the concept of welfare regimes cannot help a better understanding of the policies in those countries. Patterns typical for other regimes might be discovered as model solutions for policy makers (this could possibly explain the Polish leaning towards the liberal cluster) or might be a source of path dependency (historical influence of political institutions of conservative countries like Germany and Austria on the Czech Republic, Slovakia and Hungary). Further examination of these issues would need a shift of attention from dependent variable to factors that drive institutional changes. Only then the variation among the 'post-communist' countries could be explained.

References

- Adascalitei, D., 2012, *Welfare State Development in Central and Eastern Europe: A State of the Art Literature Review*, Studies of Transition States and Societies, vol. 4, no. 2, pp. 59–70.
- Aidukaite, J., 2009, *Old Welfare State Theories and New Welfare Regimes in Eastern Europe: Challenges and Implications*, Communist and Post-communist Studies, no. 42, pp. 23–39.
- Aidukaite, J., 2011, *Welfare Reforms and Socio-economic Trends in the 10 New EU Member States of Central and Eastern Europe*, Communist and Post-Communist Studies, vol. 44, no. 3, pp. 211–219.
- Arts, W., Gelissen, J., 2002, *Three Worlds of Welfare Capitalism or More?*, Journal of Europea Social Policy, vol. 12, no. 2, pp. 137–158.
- Barr, N., 2012, *Economics of the Welfare State*, Oxford, Oxford University Press.
- Bernardi, F., Ballarino, G., 2012, *Participation, Equality of Opportunity and Returns to Tertiary Education in Contemporary Europe*, European Societies, DOI:10.1080/14616696.2012.750729.
- Busemeyer, M.R., Nikolai, R., 2010, *Education*, in: Castles, F.G., Leibfried, S., Lewis, J., Obinger, H., Pierson, Ch. (eds.), *The Oxford Handbook of the Welfare State*, Oxford University Press, Oxford.
- Callender, C., Jackson, J., 2005, *Does the Fear of Debt Deter Students from Higher Education?*, Journal of Social Policy, vol. 34, no. 4, pp. 509–540.
- Castles, F.G., Mitchell, D., 1993, *Worlds of Welfare and Families of Nations*, in: Castles, F.G. (ed.), *Families of Nations: Patterns of Public Policy in Western Democracies*, Dartmouth Publishing Company, Aldershot.

- Castles, F.G., Obinger, H., 2008, *Worlds, Families, Regimes: Country Clusters in European and OECD Area Public Policy*, West European Politics, vol. 31, no. 1–2, pp. 321–344.
- Deacon, B., 1992, *The Future of Social Policy in Eastern Europe*, in: Deacon, B. (ed.), *The New Eastern Europe: Social Policy Past, Present and Future*, Sage Publications, London, pp. 167–192.
- Esping-Andersen, G., 1990, *The Three Worlds of Welfare Capitalism*, Princeton University Press, New Jersey.
- European Commission, 2012, *National Student Fee and Support Systems 2011/2012*.
- Eurydice, 2013, www.eacea.ec.europa.eu/education/eurydice.
- Federal Office for Professional Education Federal Office for Professional Education, 2012, *Federal and Cantonal Funding in the Education, Research and Innovation Sector 2004–2016*, Bern.
- Fenger, H., 2007, *Welfare regimes in Central and Eastern Europe: Incorporating Post-Communist Countries in a Welfare Regime Typology*, Contemporary Issues and Ideas in Social Sciences, vol. 3, no. 2, pp. 1–30.
- Greenacre, M., 2007, *Correspondence Analysis in Practice*, Chapman & Hall, Boca Raton, FL.
- GUS (Polish Central Statistical Office), 2010, *Notatka na temat szkół wyższych w Polsce*, Gdańsk, http://www.stat.gov.pl/gus/5840_8864_PLK_HTML.htm [access: 24.06.2013].
- GUS (Polish Central Statistical Office), 2012, *Szkoły wyższe i ich finanse w 2011 r.*, Warszawa.
- Hacker, B., 2009, *Hybridization instead of Clustering: Transformation Processes of Welfare Policies in Central and Eastern Europe*, Social Policy and Administration, vol. 43, no. 2, pp. 152–169.
- Hall, P.A., Soskice, D., (eds.), 2001, *Varieties of Capitalism. The Institutional Foundations of Comparative Advantage*, Oxford University Press, Oxford.
- Hega, G.M., Hokenmaier, K.G., 2002, *The Welfare State and Education: A Comparison of Social and Educational Policy in Advanced Industrial Countries*, German Policy Studies, vol. 2, no. 1, pp. 1–28.
- <http://studentskefinancie.sk/univerzita/rebricek-2012>, Access date 24.06.2013.
- Jæger, M., 2006, *Welfare Regimes and Attitudes Towards Redistribution: The Regime Hypothesis Revisited*, European Sociological Review, vol. 22, no. 2, pp. 157–170.
- Książopolski, M., 2013, *Between Guarantees of Communism and a Paternalistic-market hybrid. Polish Social Policy at the Turn of the 20th Century*, Poznań University of Economics Review, vol. 13, no. 3, pp. 23–41.
- Mills, M., Blossfeld, H.-P., 2003, *Globalization, Uncertainty, and Changes in Early Life Courses*, Zeitschrift für Erziehungswissenschaft, vol. 6, no. 2.
- Ministry of Higher Education and Research, 2010, *The State of Higher Education and Research in France*, no. 4.
- OECD, 2012, *Education at a Glance*.

- Pechar, H., Andres, L., 2011, *Higher Education Policies and Welfare Regimes: International Comparative Perspectives*, Higher Education Policy, no. 24.
- Willemse, N., de Beer, P., 2012, *Three Worlds of Educational Welfare States? A Comparative Study of Higher Education Systems across Welfare States*, Journal of European Social Policy, vol. 22, no. 2.