Politics of access to higher education and demographic changes in Central and Eastern Europe: What are the strategic options for the future? (draft)

Panel: The Impact of Changing Knowledge Policies (P411)

10 September 11:00

European Consortium for Political Research General Conference

Charles University in Prague, 7-10 September 2016

Karel Šima

Charles University, Faculty of Arts, Prague

Centre for Higher Education Studies, Prague

simacsvs.cz

1. Introduction

Central and Eastern European (CEE) countries as well as their educational systems have undergone significant changes since the fall of state-socialist regimes. However, their common cultural, political and societal heritage has made their post-socialist development similarly path-dependent. Nowadays they are facing challenges that are linked not only to EU context and Bologna process, but most importantly to the global context. One of these “critical junctures” is demographic structure and trends that have indiscutable impact on the educational systems and in consequence on competitiveness of national economies and sustainability of societies in the region. CEE countries underwent rapid massification (M. Trow) since 1990s and at the same time significant demographic decline following the fall of communist regimes. The mutual dynamics of these two trends has brought major challenges for higher education access policies in recent years. Governments and higher education institutions had to find strategies both how to maintain rich university traditions of CEE countries and at the same time how to balance fluctuation between high demand and low supply in massification phase and low demand and high supply due to impact of demographic decline.

After showing the CEE context in the higher education policy and demographic changes based on quantitative comparative approach I will follow by showing the policy challenges that these trends pose for CEE countries, especially Slovakia, Hungary, Poland and Czech Republic.

In attempt to find relevant responses to these challenges and general trends in higher education today I will conclude with scenario analysis, methodologically grounded in future research (as applied eg. by G. Reger and D. Mietzer), identifying scenarios for future development of access policies in CEE
countries. Following the OECD “University Futures” project, but considerably revising and adapting the results to present CEE context I will analyse four scenarios with regard to two axes – global/local and state/autonomy - as independent variables. These scenarios are designated as “European”, “world-class”, “regional” and “entrepreneurial” models and will show what are the strategic options for the future access policies in CEE.

2. What are the main demographic challenges for higher education in CEE countries?

2.1. What are the Central and Eastern European (CEE) countries and what is specific about their higher education policies?

Even if Central and Eastern Europe (CEE) has been widely considered as a geographical framework for higher education policy analysis, there is no consensus on the precise delimitation of this frame. This has been result of the fact that CEE has not been usually defined as a geographical notion only, but as a more complex socially, culturally and economically homogenous space. Therefore the CEE is mostly understood as the former Eastern bloc countries in general. For instance the OECD uses the regional division into Eurasia with three subgroups of countries – CEE, Caucasus and Central Asia – but at the same time it has developed special policies towards the South Eastern Europe including some ex-Yugoslav countries and EU member states Romania/Bulgaria. Within the EU framework the CEE has been related to three accession waves including Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Poland, Hungary, Slovenia, Bulgaria, Romania and Croatia. Within some international economic initiatives even the other former Soviet republics are sometimes grouped into CEE countries. I will therefore use pragmatically the broad definition and I will try to find countries that differ from the common trends regarding my main issue – access to higher education and demographic change.

Regarding the higher education policy in particular Peter Scott noted in his reflection on higher education reforms in CEE in 2002 that this is far from being homogenous (Scott 2002). Even if they have the common heritage of Soviet dominion their prior traditions are highly diverse, their approach to sovietisation was very different and their road to transition during 1990s differed significantly too. While some of these countries had well developed Humboldtian university system before the World War II, others inclined towards the Napoleonic model (Romania, Bulgaria) and some countries did not even developed modern type of university systems. Much of this heritage persisted post-war period that was rather "self-sovietization" as pointed out J. Connelly (2000).

In 1960s the higher education systems in CEE underwent rapid expansion followed by slow growth in some countries and even stagnation in others in 1970s and 1980s. On the eve of the fall of communist regimes all higher education systems in CEE lacked equally behind in massification in comparison with Western Europe, but they did have very different characteristics regarding the ideological control and even isolation from world behind the Iron Curtain.
Beginning the 1990s themes of the reform policy process were framed within the post-communist “transitional” discourse. Thus key policy problem was the closing the gap towards the Western European countries. First the question of expansion of higher education systems reaching the level access of developed Western countries was addressed. Second the question of uniformity vs diversity was discussed and made an agenda of different CEE higher education reforms. The CEE countries approached these challenges in rather pragmatic way with ad hoc reaction to merely spontaneous massification and restructuring of the systems (including emergence of private sector). This led to various strategies with different dynamics and distinct results. Furthermore in recent decade the CEE higher education policies entered the phase of neoliberal reforms that were more or less successful which further extended differences based on the common communist legacy.

As an example I would like to refer to analysis by Dobbins (2011) who showed that, based on famous Clark’s triangle, Czech Republic, Poland, Bulgaria and Romania underwent very different reform process. Different pathway of reform processes in CEE countries had different starting situation, some countries followed similar trends, but in different dynamics ending in different situations in 2000s.
Having in mind this diverse situation in CEE countries Dobbin’s analysis showed also that there are common legacies and trends in those CEE societies that had Humboldtian model universities before WW II and went through the return to this tradition in early 1990s. This is mostly the case of higher education systems in Central Europe: Poland, Slovakia, Czech Republic and Hungary.

2.2. Demographic background of higher education and trends in CEE

Interrelation of education systems and demographic characteristics of population has been studied either from the point of view of impact of education level on demographic characteristics of population or the other way round the impact of population change on education systems (Hannum
In the first case the questions such as what is the influence of maternal education on fertility, what is women’s education’s impact on labour force participation or how are parental education and innovative demographic behaviour related, are analysed. In this paper I will focus on the latter case ie. the analysis of demographic changes and their impact on higher education systems because these changes enter into higher education policy discourse and in some cases – as I show later – become major policy problem both for governments and for institutions.

As the key impact of demographic changes on higher education the trend in size of age cohorts has been studied because this size represents the overall population for measuring the access to higher education (OECD 2008). Three factors have been identified that have the key impact on the size of these “higher education cohorts” – fertility, mortality and migration. However, as the contribution of the mortality has very limited impact, the main indicators that have been analysed relates to fertility and migration.

Based on the OECD data the level of fertility in European countries has changes significantly in recent decades. While the change was significant in all European countries the biggest change took place in CEE countries.

**Figure 1.10. Total fertility rate in 1955-60 and 2000-05 in EU countries**

![Map of Europe showing fertility rates](source:OECD 2008)

When we look closer to CEE countries on basis of United Nations demographic data the trends become clear with major waves during the post-war period. In the first phase nearly all CEE countries underwent the stage three of the second demographic transition that was characterized besides other trend by decreasing the birth rates. However since late 1960s the trend turned up and the CEE countries reached the peak of birth rate again around 1980. Steady decrease in 1980s was followed by rapid fall in 1990s. Historically this can be explained by strong pro-fertility policies in Soviet bloc countries during 1970s that strengthen the trend caused by the post-war baby boomers starting to have children in this period. Later the political and economic stagnation during 1980s caused slow decline and furthermore the transition period brought quick drop due to instability, increasing
economic activity and opening the post-soviet societies. Combination of all these trends resulted in more dynamical demographic changes in comparison to Western European countries.

*Fertility change in CEE countries since 1950*

While the main problem concerning the migration and education in literature is the educational level of migrants and their access to (rather lower levels of) education (OECD 2008), regarding the size of “higher education” age cohorts and thus the dynamics of access to higher education, the migration rate is more relevant. The net migration rate that represents the difference of immigrants and emigrants of an area in a period of time, divided per 1,000 inhabitants, shows that there was relatively stable level of migration in CEE countries with slightly negative numbers (with exception of Balkan countries) in recent decades. Since 2000 the rate increased slowly with Czech Republic and Slovakia reaching the positive numbers.

While excluding Balkan countries the overall level of migration has been until now too low to have meaningful impact on access to higher education in these countries. The low level of the rate could reduce slightly the relevant age cohorts during the demographic decline in this region in 1980s, but since the overall migration reached usually not more than several thousandths of countries’ population, its impact on access has been so far very limited. It has to be noted here though that the reverse trend in recent years opens a new challenges for CEE countries in near future.

*Net migration rate in CEE*
2.3. Challenges for higher education policy

As mentioned above the direct impact of demographics on higher education is represented in the size of the relevant “higher education” age cohort. The definition of this cohort differs among different sources of statistical data (Kaiser, O’Heron 2005). OECD uses as the “crown” indicator the net entry rate that is based on synthetic age cohort summing up the entry rates of all age cohorts. However, vast majority of students enter into higher education in typical age that can vary in different countries, but fall down typically into the interval 15 to 24 years. As the size of this typical age cohort represents the whole population out of which the students are mostly recruited it is the very important input into the higher education access policies.

The general trend in size of this age cohort in CEE countries follow largely the trend in fertility rates with corresponding delay. First peak in early 1970s mirrors the corresponding age of the post-war baby boomers and the second wave in 1990s shows their children coming into relevant age. It has to be noted that in this period the pathways of different CEE countries started to diverge with typical course followed by Slovakia, Poland, Czech Republic, Hungary and Serbia. All of these countries has undergone steep fall of this age cohort after 2000.

Source: United Nations data 2012
When we compare the size of the relevant age cohort in this selected group of CEE countries with dynamics of student enrolment (see below) in the last period we see the opposite trend until 2005 for Hungary and until 2010 for other countries respectively. This delay shows how higher education policy-makers ignored the demographic dynamics for nearly a decade. Following the policy of expanding the access to higher education from 1990s they escalated the tensions described in Martin Trow’s classical massification theory (Trow 2010). Trow showed clearly that when expanding the higher education systems go through deep transformation process that reaches every attribute of higher education (defined in ten dimensions). This fast massification caused by the combination of demographic development and expansion policy posed extreme challenges for higher education institutions in these CEE countries. On one hand they had to deal with rapidly changing student population in the expansion phase and on the other hand this expansion policy motivated building of large capacities even in the period of decreasing the relevant age cohort leaving them unprepared for the years after the trend change.

*Change of student enrolments in CEE*
This result is even more surprising as the demographic characteristics have advantage that they could be projected with reliable accuracy based on projection of younger age cohorts. Although these projections are methodologically complex calculations, they give relatively reliable trend that can be important evidence for higher education policies.

The most detailed analysis of interrelation between demography and higher education made by OECD in 2008 can give a picture about the situation in CEE and especially above mentioned countries.

**Figure 2.1. Population projections for the 18-24 age group in 2015 and 2025**

*Source: United Nations, median projections (2006 revision).*
relevant population in 2025 in comparison with year 2005. This means that these countries and their higher education institutions will face further decrease in higher education demand in next decade. Since the OECD projection was based on trends more than decade old and did not comprise other CEE countries I present my calculation of the demographic projection for the relevant age cohort and CEE countries based on United Nations data. Extension of the projection line shows that the trend will turn up after 2025 with exception of Czech Republic, Estonia and Latvia where the turnaround will take place around 2020.

*Projection of the age cohort 18-22*

![Graph showing demographic projection for CEE countries](image)

*Source: UN data 2012*

The presented trends in CEE countries pose important challenges for their higher education policy for the future. It is not only the overall capacity of student enrolment. These trends open crucial questions of level of public funding of higher education, teacher recruitment policies, relation between public and private higher education institutions and last but not least the very nature of teaching and learning process because of the rapidly changing student population. The example of CEE countries shows that higher education policies are far to be so flexible to address such a high volatility in demographic characteristics. Especially in the Central European countries (Czech Republic, Poland, Slovakia, Hungary) with still largely Humboldtian model of higher education (see 2.1) the governments do not have enough momentum to shape effectively higher education policies with regard to demands of societies, even in the case of transparent and clearly evidenced demographic dynamics. However, also higher education institutions that follow the Humboldtian idea of university with its state-dependence, high academic autonomy and self-government are not best adapted for quick changes in student population. Long-term institutional stability that is needed for development of both academic research and relevant and advanced teaching has to be balanced with dynamics of student demand and national and international policy context. This situation needs smart scenario analysis that can identify relevant strategies for future development of access policies.
3. Four scenarios for strategies on access to higher education in CEE

3.1. Scenario analysis and future research

Scenario analysis has been established as a prime technique for future studies providing both government planners and corporate managers with various futures used as a powerful tool for decision making in the face of uncertainty (Reger, Mietzer 2005). Originally based in military planning after the World War II and developed in corporate sector since 1970s the scenarios help to establish futures and open alternative paths for decisions. Scenarios are most commonly defined as “synthesis of different paths that lead to possible futures” (Godet, Roubelat 1996). They are useful to communicate speculative thoughts about future and to elicit the discussion about it. They can be based on qualitative as well quantitative information.

In this section I will apply basic scenario building on the higher education access policy that I described in the previous section. First I will build upon the identification of four scenarios for future developed by the OECD and I will adapt it for the context of CEE. Secondly I will apply these scenarios for the possible future reactions of higher education access policies in CEE.

3.2. Higher education policy as a field for scenario building

Higher education systems are complex set of actors, relations, processes and structures etc with its own dynamics and with multiple links to other systems. Therefore the field of the scenario related to specific purpose has to be delimited to the clear problem field that could be address in simplified set of characteristics. In my case the scenario will be built on the identification of the general trends that will shape the future of higher education presented by D. van Damm (OECD 2008) and coming out of the OECD/CERI project on ‘University Futures’ (See eg. Vincent-Lacrin 2006). This project took into consideration not only basic demographic characteristics, but also general trends in international higher education policy.

Key factors that were identified for this scenario building were related to two main axes. Firstly the difference between global and local plays important role in the general orientation of the higher education policy. This differentiation is transversal dimension that goes through all areas of higher education policy. Whether the problem of quality assurance, relevance of higher education, employability of graduates or modes of knowledge production, the global vs. local perspective “makes difference”.

Secondly the very relation of higher education institutions to the state is to be the important factor that has the impact on possible future of higher education. This relation does not concern only institutions and their particular relationship towards particular (national) state, but it involves general characteristics of higher education systems that could rage from state-centred governance structures with low autonomy and responsibility of institutions to highly autonomous network of institutions with only minor regulative role of the state. This perspective usually (but not necessarily) takes into account also the private or public status of the institutions.
Four scenarios that come out of the combination of these axes represent the possible futures of higher education policy on system level and also on institutional level. Scenarios presented by OECD (2008) were conceived within the global context that comprised very diverse higher education traditions, political as well as economic contexts, different governance structures and level of internationalisation. This approach had as a result rather radical scenarios that sharpened main characteristics. For the purpose of adapting this model for the CEE context also the basis for the scenario building has to be reduced and the characteristics of particular scenarios re-defined for the relatively homogenous four CEE countries. The basic characteristics are shown in the table.

<table>
<thead>
<tr>
<th>State authority</th>
<th>Institutional autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GLOBAL</strong></td>
<td></td>
</tr>
<tr>
<td>European model</td>
<td>World-class model</td>
</tr>
<tr>
<td>- Public internationalisation agenda</td>
<td>- Global competition both in education and research</td>
</tr>
<tr>
<td>- European harmonisation</td>
<td>- Mostly in English</td>
</tr>
<tr>
<td>- High mobility</td>
<td>- Specialisation of mission globally</td>
</tr>
<tr>
<td>- Extensive use of English</td>
<td>- Struggle for student demand globally (migration)</td>
</tr>
<tr>
<td>- Important role of EU funding</td>
<td>- Struggle for high-tech researchers globally</td>
</tr>
<tr>
<td>- Open for demand</td>
<td></td>
</tr>
<tr>
<td><strong>LOCAL</strong></td>
<td></td>
</tr>
<tr>
<td>Regional leadership model</td>
<td>Entrepreneurial model</td>
</tr>
<tr>
<td>- Mission towards regional economy and community (expertise, education for regional labour market)</td>
<td>- Building its own business model</td>
</tr>
<tr>
<td>- Important role of public funding from regional authorities</td>
<td>- Strict competition on national level, finding the niche on regional level</td>
</tr>
<tr>
<td></td>
<td>- Prevalence of private funding, cost-sharing (tuition fees, contract research)</td>
</tr>
<tr>
<td></td>
<td>- Strong accountability systems</td>
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</tbody>
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Based on D. Van Damm (OECD 2008), reconceptualised and applied on CEE

3.3. Policies on access to higher education and scenarios for CEE countries?
When we look at the four CEE countries (Poland, Slovak Republic, Czech Republic and Hungary) that are facing most significant demographic changes now, we have to consider the level of state authority/institutional autonomy first. In all of these countries that have common heritage in Austrian-Hungarian empire and where the return to Humboldtianism with its academic freedom and autonomy was the key driving force of the first reform wave in 1990s (File, Goedegebuure 2003). The substantial withdrawal of the state from the higher education policy has been present during the whole decade and formed very strong ideological framework for all actors within the policy sphere until today. This is also the reason why some attempts to implement neoliberal reforms with New Public Management agenda ran into problems and were mostly unsuccessful (eg. Czech Republic). This shift was hindered by the academic representative bodies on national level and in many cases simplistically identified with international higher education initiative as Bologna process and EU “modernising universities” agenda. However even if some of the reform agenda was successfully implemented, it has not brought state-centred policies, but rather emphasis on new institutional autonomy in terms of financial autonomy with performance based funding mechanisms, project funding and enlarging private funding for research and teaching.

In my view, this is a positive result of rather radical swings of post-communist higher education policies. Since it helped to retain basic stability for higher education institutions on one hand and take advantage of high institutional autonomy on the other hand. This situation is a good ground for smart higher education policy on national level with diversified agenda leaving enough room for institutions to develop their own strategies towards the key challenges. This means to open possible future scenarios for the institutions and provide them with mechanisms, structures and sources for finding their own position within them. As in case of every scenario building these possible options are rather ideally-typical pathways for solving the key problems of institutions, not directions or even guidelines.

The demographic decline combined with rapid expansion of student capacity in 1990s and 2000s put higher education institution in CEE into situation that urgently need a change of institutional policies. Financial sustainability on one hand and development of its own mission on the other hand means adapting the institutional policy on access to higher education and particularly student recruitment policy. In the four aforementioned scenarios institutions will have different options for this policy. In the table I present possible ways how to address the discrepancy coming from the demographic change and massification in recent decade and in near future.
<table>
<thead>
<tr>
<th>European model</th>
<th>World-class model</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ to adapt study offer for international demand</td>
<td>▪ to orient towards international applicants for research-intensive study programmes</td>
</tr>
<tr>
<td>▪ to mobilize the cross-border regional demand (eg. within Euroregions)</td>
<td>▪ to attract talented applicants from the CEE region and/or emerging economies (eg. BRICS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional leadership model</th>
<th>Entrepreneurial model</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ to adapt the study offer for regional labour market</td>
<td>▪ to focus on comparative advantage of own study offer</td>
</tr>
<tr>
<td>▪ to enhance flexibility of study programmes development with significant role of regional actors</td>
<td>▪ to develop own niche markets</td>
</tr>
<tr>
<td></td>
<td>▪ student as client approach</td>
</tr>
</tbody>
</table>
References:


KAISER, Frans a Herb O’HERON. *Myths and methods on access and participation in higher education in international comparison*. 1. Enschede: Center for Higher Education Policy Studies, 2005.


