The impact of system contraction on the rural youth access to higher education in Poland

Dominik Antonowicz · Krzysztof Wasielewski · Jarosław Domalewski

Abstract
This paper explores the impact of the contraction of the mass HE system (after 2005) on rural youth who represent the biggest disadvantages group in Polish higher education. It provides empirical evidence that the system contraction is the major reason for widening access for rural youth to public (prestigious) higher education institutions. By doing so, it challenges a long established assumption that the HE system expansion reduced inequalities in access to higher learning. Instead, we argue that it was the contraction of HE system that widely opened university campuses to those previously underrepresented. The most prestigious public universities become more inclusive and less selective only when the traditional pool of students was exhausted and a big number of state’s funded places needed to be filled.

Keywords Education inequalities · Mass higher education · Rural youth

Introduction
The expansion of higher education is one of the major challenges since the mid of 20th century. Numerous scholars examined the expansion process (Trow, 1974) underlying its far reaching consequences for higher education including the structure (Gumport et al., 1997, Palfreyman and Tapper 2008), social diversity of students body (Altbach 1999, Iannelli and Gamoran and Paterson 2018), role of academic credentials (Brown et al., 2014; Collins, 1979) and model of governance (Bleiklie & Kogan 2012; Kwiek 2013). It is largely assumed that by definition expanding systems contribute to social inclusion enrolling broader pool of
Inequalities in access to higher education - main research areas

Inequalities in access to HE is regarded as universal phenomenon (Boudon, 1974; Shavit et al., 2007) and they are also constituting one of the most essential unresolved social problems of modern times (Frank, 1999; Jackson ed. 2013; Shavit et al., 2007; Waller et al., 2017). Studying educational inequalities in HE has a long tradition (Boudon, 1974; Bourdieu & Passeron, 1990; Bowles & Gintis, 1999; Collins, 1971) and it remains intriguing how they are manifested in systems that either have reached or are very close to Higher Participation Systems of higher education 1 (see Cantwell et al. 2018). The classical works show that the education system cannot eliminate inequalities resulting from the diversity of social structure (social origin at its start) (Boudon, 1974; Bourdieu & Passeron, 1990; Bowles & Gintis, 1999; Collins, 1971, 1979). The previous studies have focused on various forms of inequalities - diversity social origin, economic status or class belongings (Bathmaker et al. 2013; Konstantinovsky 2017; Liu et. al 2016; Lynch & O’riordan 1999; Treiman,
2012; Triventi, 2013a,b; Triventi and Trivelatto, 2008); gender, ethnic or racial differences (Jacobs, 1996; Lörz et al. 2011; Shah et al., 2016); age or disability (OECD, 2008; Peters, 2008); educational trajectories and school achievements (Neves et al. 2017; Teichler 2007); differentiation of fields of study and activities while studying (Iannelli et al. 2018; Lehmann 2006; Sheng, 2017; Tomlinson, 2008); prestige of universities and their place in local and global rankings (Marginson, 2004; Teichler, 2008). They all show that while expanding education has a positive influence on the access of pupils from socially disadvantage groups, the inequalities are largely re-introduced on higher level. The determining part is played by the cultural capital of the family (Bourdieu & Passeron, 1990) thanks to which those from higher classes have a significant advantage in going to more prestigious universities and enroll to more selective programs. Both factors translate into highly valued academic credentials, occupational positions and higher earnings. Numerous research (e.g. Raftery & Hout 1993) provide evidence that HE expansion does not always lead directly to reduction in inequality and it tends to reproduce existing social hierarchy. Complementing the above concept, Lucas (2001) noted that inequalities in educational attainment transform from vertical (difference in level of education) into horizontal (institutional prestige). He argues that representatives of upper classes seek opportunities to adhere and reproduce their privilege position stemming from their cultural capital what eventually increase their chances of taking a high socio-professional position on the labor market. It applies to both the choice of highly ranked universities (Reimer & Pollak, 2010; Shavit et al., 2007; Teichler, 2007, 2009) and prestigious programs which translate into better employment opportunities and higher return of education (Iannelli et al. 2018). Unchangeably affluent youth take advantage of new places available at the universities. It is only after saturating a given level of education with students from higher classes (maximally maintained inequality) increasing openness of education to young people from families with lower social status and lower cultural capital (Raftery & Hout, 1993).

But the previous studies did not investigate situation in which the expansion is followed by system contraction caused by student deficit and how this affects inequalities in access to higher education. This paper aims to contribute to the existing knowledge on the topic by examining the impact of contraction of the expanded systems on access to higher education students with disadvantage backgrounds. This study is inspired by two competing theoretical concepts that critically assert the impact of expansion of higher education on educational inequalities. First, the theory of maximum maintained inequalities (MMI) developed by Adrian Raftery and Michael Hout (1993). He underscores that in the Irish context educational expansion only seemingly improve educational inequalities as the system is growing and indicate that students with disadvantage backgrounds are enrolled into universities only when pool of candidates from families with privilege background has saturated. Second, the theory of effectively maintained inequalities (EMI) developed by Lucas (2001) that also sees expansion as an empty promise for equal access to education. He found that regardless of the expansion, educational inequalities are effectively preserved and only transform into different forms as those with privilege background use their advantages to secure quantitatively similar but qualitatively better education (Lucas, 2001: 1652). Both theories – frequently presented as competing – share a critical account of the HE expansion alike this study. However, this study aims to assess how the contraction of HE system affected rural youth access to higher education by examining the diversity of student cohort in various categories of universities depending on their location, academic prestige as well as selectiv-
ity of study programs. While most studies conducted elsewhere in Europe (e.g. Konstantinovsky 2017; Farkas, 2002; Liu and Green and Pensiero 2016; Reimer & Pollak 2010, Triventi & Triventi 2008, Triventi 2013; Xinxin 2019) are focused on the consequences of HE expansion, this analysis shed light on the impact of the HE system contraction access to higher education.

2. Rural youth as a disadvantage group in higher education

Educational inequalities might vary from one country to the next with respect to the nature of the disadvantaged group. They could refer to working-class youth, ethnic minorities, a particular gender, living in a specific area of the country. In Poland it is well-recognised that rural youth represents the biggest disadvantages group in HE (Gorlach 2004, Winclawski 1976), which is rather characteristic for sparse countries or territories such as Australia, China, Norway and US (e.g. Byun et al., 2012; Chesbro, 2013 Fleming and Grace 2014, McCauley 2019, Wang, 2014) (Postliglone et al. 2017, Yan and Wu 2020, Xie and Reay 2020).

In the mid-1960s, half of all Poles lived in the countryside but currently, the rural community accounts for approximately 40% of the Polish citizenry (Statistics 2019). Until the late 1990s, rural areas lagged behind the blossoming cities (Gorlach, 2001, Osiński 1977, Borowicz 1976) in many respects including education. It was mostly due to modernising processes taking place in the second half of 20th century, which were mostly concentrated onto cities. Unsustainable development affected disparities in education attainments between rural and urban kids. They were caused by infrastructural problems and a lack of good schools outside urban areas. In addition, previous studies stressed that, on average, rural schools employed teachers with relatively lower professional qualifications (Kwieciński, 1972) which resulted in low learning outcomes among rural kids (Kwieciński, 1995). Finally, the most important structural factor - the low cultural capital of rural families and (economic) poverty - negatively affected the chances of rural youth to see education as a window of opportunity for vertical mobility. Summing up, rural youth have been underrepresented in higher education due to low cultural capital, poor infrastructure, inferior schools and lower minimum teacher’s qualification requirements. Said so, they ‘inherited’ a low level of educational and professional aspirations, socialised the restricted language code (Berstein 1971) that negatively impact their educational trajectory. In Poland, rural youth represent de facto the largest group of socially and structurally disfavoured young people.

Said so, it shall not be a surprise that studies on inequalities in access to (higher) education has a long tradition and they used to be focus on rural youth. Even though the social sciences were suppressed under the communist regime, studies on educational inequalities enjoyed political favour and could be carried out relatively freely. This was mainly due to unhidden ideological agenda of the communist governments to make universities less ‘bourgeoisie’ (Szczepański, 1963; Zysiak, 2016). Thus, there is abundance of research on a wide range of aspects of educational inequalities including unique longitudinal studies (Kwieciński, 1995; Słomczyński and Wysmulek 2016; Szafraniec 2001; Tomescu-Dubrow et al., 2018). However, with the political and economic transformation (1990s) the research interest in educational inequalities faded away, mostly due to a popular assumption that the expansion of higher education diminished them (e.g. Misztal 2000). After the political
transformation in 1989 ‘educational inequalities’ has never became a serious policy issue in Poland. And while reforms need problems and the latter require a solid empirical studies, the lack of data largely undermined development of any serious policy measures and even political discussions about educational inequalities.

The expansion of higher education (1990–2004) increased the number of students with rural backgrounds, but as they were largely enrolled into the low-prestige institutions and fee-based programs transforming vertical inequalities into horizontal ones. As Kopycka (2020: 660) find out There is indeed evidence of a diversion of lower social origin students into less prestigious and lower quality educational programs offered mostly by the private tertiary education sector, which emerged and grew rapidly from the early 1990s. In 2006 the expanding trend reversed due to two factors combined (a) demographic decline commonly known as a ‘demographic tsunami’ (see: Antonowicz & Gorlewski 2011) and (b) the depletion of reservoir of ‘degree hunters’ who entered higher education in 1990s only to earn their credentials and re-lunch their professional career mostly in public administration and large public companies which restricted access to senior position only to those with degrees (Antonowicz et al., 2017). In 2006 the prior expanded system begun to contract, thus the student population dropped by 40% into a record-low level of 1.23 million in 2019 (Statistics 2019). Such a dramatic decline hit primarily the private HEIs that almost entirely rely on tuition fees but it also affected public universities. This is due to funding formula of public universities which calculates the amount of public subsidy for individual university largely based on student number. However, what appears pivotal for this study is that the system contraction might have exercised considerable influence on the rural youth access to higher education. The funding formula of public universities is based on number of students and could be easily summarized: merrier - bigger is public subsidy. During the expansion period most universities made substantial investments in educational infrastructure and new academic staff. Yet, the perspective of shrinking private (part-time) students and most importantly public revenues mobilized their efforts to attract students including (if not mainly) those hitherto underrepresented on the campuses.

Methods and data.
The study focuses exclusively on full-time programs at public universities. Studying full-time at Polish public universities is traditionally the selective, prestigious and—most importantly—tuition-free segment of higher education. Surprisingly, there is little knowledge about social composition of student cohort amid fragmented, inconsistent and incomplete data. This study tries to overcome these obstacles by deriving data from HEI that use similar software for student services known as USOS (University Study Service System). The system collects information about various aspects of students, including their background (urban or rural). For this analysis, we adopted a multi-case study approach (Creswell, 2008; Stake, 2006), which requires a maximal variation strategy to ensure that each case represents different categories, and can therefore capture various organisational perspectives. A multi-case study is a specific form of purposive sampling in which ‘the researcher selects sampling units based on his or her judgment of what units will facilitate an investigation’ (Adler & Clark, 2008, p. 121). So, from a pool of HEIs (that use USOS software) we purposively select a sample of universities to fill selected categories for public universities. The categories of the universities were based on two central variables. (1) institutional reputation measured by a position in university rankings, which takes three values into account: (1.1) universities with high prestige (flagship) (i.e. always occupying the high-
est positions in national university rankings and classified in the top-500 world universities); (1.2) medium prestige (i.e., occupying high positions in Polish rankings and classified in the top-1000 world rankings); and (1.3) universities with low prestige (i.e., ranking low in national university rankings and absent in world rankings) (Perspektywy 2019). The second variable refers to the size of the university-cities, which represents the economic capacity of the labour market; in this regard, we distinguished two separate categories (metropolitan and regional centres). Earlier studies (Antonowicz et al., 2011) found that these variables, although not directly related to quality of education, are essential factors when building the attractiveness of the university. Said so, we adapted this binary divide into the following categories: (2.1) ‘metropolitan centre’, which arbitrarily assumes in Polish conditions, a metropolitan centre means a population exceeding 500,000 residents; and (2.2) we classified all smaller cities as non-metropolitan centres. The combination of those two dimensions created a matrix of six categories of universities (Table 1). We assigned one (representative) university to each of the identified categories based on the criterion of representativeness for a specific category of university. Five universities were selected for analysis, which represented the categories of universities we identified and one category remained empty because there are no flagship universities located outside metropolitan centres in Poland.

Such a matrix allowed us to investigate (1) the impact of the system contraction on the presence of students of rural origin in HE, and in doing so, (2) identify the types of universities that are most open to rural students and (3) factors that influence the level of ruralisation (high percentage of rural youth) of universities.

As mention earlier the study is confined to the full-time programs in public universities. This is due to fact that these are the non-fees studies, regarded as prestigious, selective and traditionally populated by the urban middle class (Kopycka 2020). However, there are approximately 20 public comprehensive universities in Poland that offer a wide range of educational programs, among which both highly selective programs and low-selective ones and even programs that fail to attract students at all. In order to examine the distribution of rural youth, we selected two study programs with very different levels of selectivity: law and pedagogy.

We use them as second layer (after institutional) testing of the concept of EMI (Lucas, 2001). Previous studies onto transformation of Polish higher education (e.g. Zawistowska 2012) suggested that educational inequalities shifted from vertical to horizontal ones even within single institution. Students from unprivileged backgrounds are primarily admit to low-selective programs. Such claims, although popular, have not been empirically verified in a systematic way. To sum up this paper aims to address the fundamental research question of how the HE system contraction affected rural-youth access to

| Type of University | High prestige (flagship) | Medium scientific prestige | Low scientific prestige |
|--------------------|-------------------------|---------------------------|------------------------|
| Metropolitan       | M1                      | M2                        | M3                     |
| Regional           | —                       | R2                        | R3                     |

Table 1 Categories of universities

Source: Based on my own calculations.

1 In fact we have a rather limited choice due to fact that universities enjoy a considerable degree of autonomy when designing their curricula and also labelling their programs, which hinders conducting a comparative analysis.
public universities. In order to address this question, this paper will carry the analysis on two different levels: (a) the institutional level and (b) the level of educational programs.

Rural youth in different types of universities.

Since the peak of HE expansion (2006), Polish HE experienced a strong decline in student numbers. In order to fill that void universities started to seek candidates also in those segments of society that hitherto were underrepresented on campuses. As mentioned earlier the funding formula of public universities made them less selective and more inclusive, which produced the increasing numbers of students of rural origin. Unsurprisingly, in the beginning of the analysed period, the lowest proportion of rural youth was observed in the most prestigious university located in metropolitan areas (M1), with 8% of the total number of students coming from rural areas (Fig. 1). The university of medium academic reputation located in metropolis (M2) reported a slightly higher percentage (11.3%) of young rural students. However, further studies show that metropolitan location seems to be the bigger barrier for rural youth than institutional prestige of universities. The largest share (23%) of rural youth in the student population is reported in the university located in cities with just over 100,000 inhabitants, characterised by a low position in national rankings (R3).

Over the analysed 12-years period of system contraction, all categories of public universities reported a growth of rural youth in their student population. Figure 2 shows that the biggest increase was in the flagship metropolitan universities. Assuming 2006 was 100 (Fig. 2), in 2018, the proportion of rural youth in the student population at M1 increased more than 220% and by nearly 60% at a regional university of low prestige (R3). Overall, metropolitan universities (M1, M2)—traditionally the least accessible for rural youth—reported the biggest progress in this regard; therefore, it is fair to say that the demographic decline affected these HEIs the most with respect to accessibility to students of rural origin.

Furthermore, Fig. 2 shows that the increase in the percentage of rural youth in the student population has been slowing down since 2014. The first signs of university saturation with rural youth emerged in regional universities operating in smaller urban centres (R2, R3), and only two years later, a similar trend was observed in metropolitan universities with high and medium prestige (M1, M2).

In brief, we can say that a demographic decline caused marked changes in the participation of rural youth in public universities. In each category of universities, the number of students with rural backgrounds significantly increased. Unaspiringly, the highest number of

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2 The higher dynamics between the mid-prestige metropolitan university (M+ -) compared to the high prestige metropolitan university (M ++) is most likely due to the lack of competition on the local education market.
rural youth is reported in non-metropolitan universities and it decreases as the institutional reputation grows. However, in the period of HE system contraction (2006–2018) the highest increase of rural youth was in metropolitan universities (M1, M2). It shows that the demographic decline affected mostly the most prestigious and selective institutions by opening gates to students with unprivileged backgrounds. It remains no doubts, that they become less selective and more inclusive.

Rural youth in high- and low-selective programs.

The second layer of analysis refers to level of study programs the transformation from vertical into horizontal inequalities are most frequently linked to institutional prestige. But our preliminary investigation shows that they can equally refer to different types of study programs. This line of inquiry follows some of earlier findings (Wasielewski, 2013), which suggest that rural youth tend to choose non-selective programs. And by doing so, the investigation explores the distribution of rural youth between various types of programs. Making meaningful comparisons between different study programs is a challenge because there is no standard curriculum. In addition universities use catchy though often misleading labels to wrap up similar study programmes. Thus, for the purpose of this study, we selected two fairly standardised studies —law and pedagogy—as a proxy for highly selective and low-selective programs. Both were present in all the examined universities and also enrolled a substantial number of students.

The results show that the share of rural youth has significantly increased in both law and pedagogy; furthermore, the dynamics of this growth is similar. Contrary to our initial assumptions (and also a popular claim), the influx of rural youth has equally affected non-selective and highly-selective programs. Figure 3 demonstrates that in the contraction period of HE contraction (2006–2018) the share of rural students in law programs significantly increased in all categories of universities. It is extremely interesting considering that the total number of law students in the given period remained stable. This means that law programs essentially became more accessible to rural youth due to the demographic decline.

Clearly, the demographic decline that caused HE system contraction affected law programs in all categories of universities in similar way, leading to the enrolment growth of rural youth. Unchangeably, the smallest share of rural youth among all law students can still be observed at metropolitan universities with high and medium scientific prestige (M1, M2). But even those traditional bulwarks of the urban middle class opened their gates to rural youth. Similar trend can be observed in significantly less selective pedagogy programs. All categories of universities reported substantial increase in the number of rural youth.
Unchangeably, the share of rural youth in pedagogical programs was and still is higher than the average in all the analysed universities. It stays in line with previous findings that highlighted that low selective programs attract considerable more student with disadvantaged backgrounds. This still seems to be the case, as shown in Fig. 4.

The demographic decline and HE system contraction opened up pedagogical programs even more to the rural youth, making it even more accessible to them than in the past in all categories of universities. It largely confirms previous findings but with closer examination some interesting developments can be identified in respect to location of universities. The examination of pedagogical programs (even more than in the case of law) shows that metropolitan location of university becomes the most important factor affecting access to HE for rural youth. Metropolitan universities are less populated by rural youth and we can assume that this is due to self-selection process. The latter was earlier identified as one of major reasons affecting educational choices of rural youth (Wasielewski, 2013, Kopycka 2020). And simply comparative analysis of M2 and R2 universities shows that metropolitan location outweigh academic reputation as major barrier for the rural youth.

5. Discussion and conclusions

Overall, despite the substantial increase in the number of students, the HE expansion did not necessary contribute to more social equality in access to higher education (Herbst & Rivkin, 2013). Definitely not as much as the contraction of the expanded system. More specifically,
the rapid growth of private sector serves as a flagship example of revenue-driven development of ‘degree mills’ that largely offered nothing but (paid) credentials. Earlier findings (Lucas, 2001; Raftery & Hout, 1993) underscored that the expansion of HE widen access to education at a higher level but inequalities are effectively maintained. And Poland seems to resonate this trend as those socially and economically privileged individuals (urban youth) used their capital to secure their superior position by filling prestigious and tuition-free places at public universities.

So, the expansion of HE produced significant number of new places at universities but it had rather moderate impact on inequalities as they were vastly populated by the urban middle class. Duczmal (2006: 462) summarized it as the ‘paradox of public fund financing’, meaning ‘students from upper and middle classes enjoy free education in public institutions, while low income students are more often found in private providers where they pay full-cost tuition fees’. Overall, the concept of Effective Maintained Inequalities (EMI) by Lucas (2001) was re-affirmed in our findings as the HE expansion did not diminish educational inequalities but it only transformed them from vertical into horizontal ones. It has noticeably increased number of rural youth in HE although mostly in the fee-based programs and in private HEI. The most prestigious and selective full-time programs in public universities (e.g. law) remain heavily dominated by students with the privilege backgrounds.

However, the in-depth study reveals that the real increase of the number of rural youth in public universities came as the unintended effects of the HE system contraction. It was produced by the deep demographic decline combined with specific funding formula of public universities. The latter are primarily funded by the state through the lump-sum budgets calculated on the basis multiple factors among which considerable weight is given a number of full-time students. It created a strong initiative for public universities to maintain stable level of enrolment (if not increase one) in order to keep their books in good balance as the so called ‘demographic tsunami’ left universities with the deficit of students and shrinking financial revenues. It made universities to reach out potential students who were previously almost absent in public (prestigious) metropolitan HEI. In particular those, who would previously terminated their education in secondary school or would be enrolled to low-prestige and fee-based programs run by the private HEI. Indeed, our empirical findings show significant increase in a number of rural students in all categories of public universities as well as study programs. Proportionally, the HE system contraction strongly impacted the most prestigious universities and most selective programs. So, we could argue that the HE system contraction as a major (direct) factor contributing to opening a window opportunity for the rural youth. Empty places left in the prior expanded system were filled by new types of students. With shriveling pool of potential candidates public universities turned into those previously excluded. Inclusion was hardly a purpose for such a shift of recruitment strategy but nevertheless it produced real social outcomes. Yet, we underline that neither the HE expansion nor contraction alone could make universities more accessible to students from unrepresented groups. It was the combination of both processes facilitated by funding formula that produced strong initiatives for universities to become less selective and more inclusive. Also within universities – unlike anticipated by EMI theory – rural youth were enrolled into both type of study programs with a high level of selection (law) and a low level of selection (pedagogy). It must be acknowledged that there are also small exception as a few universities offer very small but extremely demanding and elite programs (in English) that are overwhelmingly dominated by urban middle-class youth.
Overall, such interesting unfolding was unintended results of spontaneous and largely uncontrolled transformation of Polish HE that after massive expansion experienced the severe reverse trend. Neither central governments nor university leaders have acknowledged that better access to higher education was on their agenda because it has not been a policy issue in Poland. Consequently, neither it was discussed nor any specific policy measures were developed to bring more rural youth into public universities. Notwithstanding it, despite the HE expansion, the inequalities have been largely preserved because emerging educational opportunities were primarily seized by the urban middle class. Those less privilege as the rural youth ended up in low prestige, fee-based universities (programs). The only real change came as unintended consequence of the effect of the HE contraction. The drying reservoir of those supplemented their education together with sharp demographic decline left universities no option but to attract candidates from outside its traditional reservoir (urban middle class). The pursuit for greater diversity and more social inclusion was not really a choice but a necessity. Such situation would not be possible without specific funding model which created strong initiative to maintain high enrollment level. Said so, we acknowledge strong need for more in-depth detail studies about the impact of the funding model on universities admission policy. In our study, we showed that it contributed to politically unintended albeit unquestionably outcomes of a growing access to public universities.

The Polish study challenges a long established assumption that the expansion is a major driver in reducing inequalities in access to higher education. Expanding HE system offered more education but educational equalities stayed in place only in different shape. And it was the system contraction that widely opened university campuses to those previously underrepresented. However, it is fair to acknowledge that without the prior massive expansion, public universities might not have sufficient capacity to absorb such a number of rural youth. It only shows how unpredictable is higher education dynamics and also sensitive to the influence of external and frequently uncontrolled factors.

Appendix 1

| Type of University | High prestige (flagship) | Medium scientific prestige | Low scientific prestige |
|--------------------|--------------------------|----------------------------|-------------------------|
| Metropolitan       | University of Warsaw     | University of Wroclaw      | Cardinal Stefan Wyszyński University in Warsaw |
| Name of university | M1                       | M2                         | M3                      |
| Regional           | Nicolaus Copernicus Uni-  | University of Opole         | University of Opole      |
| Name of university | versity in Torun         | R1                         | R2                      |
| Symbol             | R3                       |                            |                         |

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