The persistent legacy of the fallen empires. Assessing the effects of Poland's historical partitions on contemporary social norms towards education[1]

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Abstract

This paper refers to the historical experience of Poland to demonstrate the importance of former institutions on present regional differences in the norms towards education. Previous studies revealed significant gaps between the school achievements of students in different regions in Poland, ones that correspond to the 19th-century partition of the country by its three neighbours: Austria, Prussia, and Russia. In particular, students in the former Austrian partition perform better compared to the two other regions. In this study, a self-designed survey of parents is used to operationalize different kinds of norms towards education. As it turns out, parents from the region formerly under Austrian rule show more trust in educational institutions, more belief in the formative role of schooling, and less conviction in the material returns from education. The results show that contemporary interpretation of school achievements, as well as the design of educational policy should not be limited to material inputs, but it needs to take into account a broader cultural context of education.

Keywords: norms towards education; persistence; 19-th century

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1.Introduction.

Given the prominent role of education for both individual wellbeing and the socio-economic development of regions and countries, there is a need for understanding what makes an education system successful, and why educational achievements differ across territories. This fundamental issue has been repeatedly tackled from various academic perspectives – inter alia by economists, sociologists, educators, and anthropologists. One promising approach is to look at regional differences in educational performance from the perspective of cultural norms. Socio-economic phenomena are path-dependent – and not only due to the cumulative causative mechanisms as described by Myrdal (1957), but also as a consequence of institutional persistence. Much empirical research shows that institutional arrangements are very abiding and continue to affect the functioning of societies long after the disappearance of the formal authorities that had imposed them.

The goal of this paper is to better understand the importance of the long-forgotten borders between the 19th century's empires that passed through today's Poland on today's regional differences in educational achievements. As I will argue, there are reasons to believe that differing cultural norms established back in the 19th century still affect the performance of students within those old borders.

The existence of an educational gap between the territories formerly under Austrian, Prussian, and Russian rule has been proved in earlier studies by Herbst & Rivkin 2013 and Bukowski 2018. I do not intend to question these analyses, but to further investigate the institutional channels through which the bygone borders may still affect the quality of education. Although the effect of Poland's partitions on student achievement has already been measured, the attempts to explain this phenomenon were rather indirect and sometimes speculative, inviting further research.

The remaining part of this paper is organized as follows: Section 2 reviews the literature on how former institutions may affect different aspects of socio-economic development, education included. Section 3 introduces the historical background of the research, explaining the link between the history of Poland in the period 1795-1918, and the institutional diversity of today's Polish regions. This section also reviews some earlier studies on the effect of the partitions on educational quality in Poland. Section 4 describes our identification strategy, including the methodological approach and data used in the analysis. Section 5 presents the results of estimations, and section 6 is devoted to conclusions.

2. Evidence of the persistent effect of institutions on educational and socio-economic development

Cultural differences certainly exist between countries, but they are also observed within contemporary states. Even regions that have been functioning for many years under a uniform administrative and political system may still exhibit, due to their historical experience, distinct institutional and cultural features. This shows that socio-economic development is path-dependent. History matters, and we cannot understand present-day choices without reconstructing the evolution of institutions (North 1995).

No doubt the most recognized empirical work on the impact of historical norms on contemporary social attitudes is that of Putnam et al. (1993), who demonstrate the link between the medieval civic tradition and the quality of social capital in modern Italian regions. Recently some of Putnam's findings were confirmed in a more formal study by Guiso et al. (2016), which shows that Italian cities that experienced self-government in the Middle Ages indeed have a higher level of civic capital today than similar cities that did not.

In their seminal work Acemoglu et al. (2005) reach back to the 15th century to discuss the rise of the European superpowers and to understand the reasons for the divergent development of European countries in the subsequent centuries. The authors argue that the rise of Western

Europe from that century is largely due to growth in countries with access to the Atlantic Ocean and to substantial trade with the New World, Africa, and Asia via the Atlantic. However the long-term economic performance of those empires turns out to depend on the strength of domestic institutions predating the era of Atlantic trade. Where early political institutions placed significant checks on the monarchy, the growth of Atlantic trade strengthened merchant groups by constraining the power of the monarchy and helped merchants obtain changes in institutions to protect property rights. These changes were central to subsequent economic growth.

Another important aspect in the literature on the persistence of socio-economic differences between countries is devoted to the long-term effects of colonial institutions, such as legal systems, proprietary rights in land, or forced-labor systems, on the colonized countries (La Porta et al. 1997, 1998; Nunn 2009; Banerjee and Iyer 2005; Dell 2008)

It seems obvious that institutional outcomes are transmitted between generations through both formal, and informal norms. Norms may persist locally even if formal institutions in a territory have changed (due to shifted borders or political change). They may also move along with migrating peoples. Simpser (2013) compares individuals who share an institutional environment, but whose ancestors may have originated in different countries. This analysis shows that a proxy measure of past overall attitudes toward corruption in the country of ancestry explains substantial variation in attitudes toward corruption across the individuals in the sample, furnishing strong evidence of intergenerational transmission. One may expect that a similar mechanism is relevant for understanding the educational attainment of immigrant children.

A few years earlier Fernandez and Fogli (2007) had examined the work and fertility behavior of second-generation American women. Cultural heritage was proxied with past female labor-force participation and total fertility rates from the woman's country of ancestry. The authors

show that the cultural proxies have significant explanatory power even after controlling for education and spousal characteristics.

As with many other aspects of socio-economic life, education has been studied in the context of institutional differences emerging as a consequence of the colonial division of the world. Bertocchi and Canova (2002) demonstrate that, compared to other colonized nations, former British and French colonies tended to invest more in education after gaining independence. Huillery (2009) argues that the impact of the institutional approach in the early colonial era on subsequent socio-economic development can be observed even within a single former colonial empire. As she shows, differences in early investments in human capital and infrastructure between the districts in former French West Africa are still reflected in the current performance of these districts with respect to education.

The projection of historical borders on the maps of educational quality is also observed in Europe and North America. In Italy, a country that was unified in the mid-19th century, academic achievement is much higher in the northern region, in line with the differences in per capita income (Lynn 2010). The United States also exhibits significant inequality in achievement between the northern and southern states, again showing that students in richer regions tend to have higher education achievements, with family variables controlled (Parcel and Dufur 2009). The relationship between economic development and educational performance may be considered in the context of the 19th century's formation of public education systems, which happened earlier in the industrialized countries, as compared to lagging agricultural areas. According to some interpretations (Galor and Moav 2006), physical capital accumulation in the process of industrialization enhanced the importance of human capital in production and generated incentives for capitalists to support the provision of public education for the masses, triggering the demise of the existing class structure.

In light of the economic literature on the institutional determinants of various socio-economic phenomena, the most likely channel through which culture affects academic performance is motivation to study, which can be related to student identity, social pressure, and the perceived importance of education in realizing life projects. In other words, ingrained norms and social expectations affect the student effort at school. The prevalence of certain norms and attitudes in a given territory may be very persistent, as they are continuously transmitted between parents and their offspring. As demonstrated by Bisin and Verider (2001), parents are motivated to transmit their preferences to children motivated by a form of paternalistic altruism ("imperfect empathy"). At the same time, the parents' involvement in their children's education depends on the characteristics of the neighborhood. The complementarity of parental effort and the social norms prevailing in the neighborhood, demonstrated by Patacchini and Zenou (2011) on the basis of British data, may explain why the geography of academic achievements and educational attitudes is so persistent.

Sociological research reveals that social divisions and students' identities can be a dominant influence on school achievement (Coleman 1960, Akerlof and Kranton 2002). An education system will fail if its expectations toward students are inconsistent with the value system and personal goals of students themselves.

Although it seems that identity and social norms play an important role in determining student motivation to perform at school, cultural factors may also affect motivation to study by shaping the pecuniary and non-pecuniary returns to school. Chauvel (1999) notes that there are three large models for the social structure in Europe – the German, the Romance, and that of the less developed Catholic countries. The German model is characterized by limited stratification, and the low value of formal education. In turn, the Catholic model involves a strong link between education and socio-economic status.

3. Historical partitions, socioeconomic development, and educational performance in Poland

Poland is a valuable case for research on the impact of history on socio-economic development. The first reason for this is its turbulent history. Between 1772 and 1795, following a series of military defeats, Poland was divided among its three neighboring powers – Russia, Prussia, and Austria. This division took place in three stages and eventually involved the entirety of Polish territory. Up until the reunification of Poland in 1918 the three regions were exposed to very different political and administrative cultures and experienced very different rates of economic growth, with territories under Russian rule being generally less advanced economically and lagging in terms of the development of modern social and political structures.

Indeed, research show that territorial differences referring to many socioeconomic phenomena in today's Poland clearly reflect the historical partitions. Zarycki (1997, 2000) demonstrates that historical borders are reflected in the political choices of Polish voters. Voters in the post-Prussian territory, and generally in the west of Poland, tend to be more pro-European and liberal as compared with the post-Russian region, which in turn is more conservative. Grosfeld and Zuravskaya (2015) elaborate more on this subject, arguing that the political east-west split in Poland refers in reality to voters' attitude toward the communist past (western regions are more anti-communist), while the liberal-conservative axis runs rather from the north to the south (from the Congress Kingdom to Galicia)[2].

Becker et al. (2016) exploit the fact that in several Eastern European countries, communities on both sides of the long-gone Habsburg border have been sharing common formal institutions for a century now, ever since the demise of the Austro-Hungarian empire. Identifying individuals

[2] Congress Kingdom or the Kingdom of Poland is the name for Poland's territories under Russian rule used since the Vienna Congress (1815).

living within a restricted swath on either side of the former border, they find that historical Habsburg affiliation increases current trust and reduces corruption in courts and police.

Some of the existing research on the persistent trace of the fallen empires on Poland's territory refer directly to education and student achievements. All of these studies followed the introduction of the countrywide standardized tests in Poland (2002) and used the test scores as the main endogenous variable. Nonetheless, these studies are quite differentiated in their approach and methods. Early works, ones that exploited the first editions of the school tests, rely mostly on descriptive and cartographic analyses (Herczyński and Herbst 2002; Śleszyński 2003). Later attempts employ cross-section regressions (Herbst 2006; Czapiewski and Śleszyński 2007), fixed effects models (Herbst and Rivkin 2013), and geographical RDD (Bukowski 2018). All of the existing analyses were performed on the data aggregated to municipal or even higher level.

Summarizing the existing research on the geography of educational quality in Poland, most authors observe that, even when controlling for different educational inputs and local characteristics, Galicia (the partition under Austrian rule in the 19th century) outperforms other regions of Poland in terms of academic achievements, as measured by the standardized school tests (Herczyński and Herbst 2002; Bański, Kowalski, and Śleszyński 2002; Herbst 2006; Herbst and Rivkin 2013; Bukowski 2015). Some studies also acknowledge that the western territories of Poland, formerly under Prussian rule, perform surprisingly poorly, taking into account their dominant role the domestic economy (Herbst and Rivkin 2013).

The conclusions from the literature review are consistent with the pattern on figure 1 showing the municipal averages of 9th-grade students' test scores in mathematics (2015). The achievements in south-eastern Poland, which belonged to the Austro-Hungarian empire until 1918, are high compared to other regions of Poland. The average scores by historical partition are given in table 1, again showing that students in the ex-Austrian territory outperform those

living in other locations. The gap between the mean test scores in mathematics achieved in the Austrian and Prussian partitions account for about 0.25 of standard deviation, which is more than the post-Austrian territory's advantage over the Russian partition (0.13), and less than the gap between the Austrian partition and the territories acquired by Poland after World War II (0.34). The poor performance of students in the new (post-German) territories in the west and north of Poland is noted in most of the existing studies. In this context a recent work by Becker et al. (2018) has yielded rather surprising findings – namely, in showing that descendants of forced migrants (who account for the majority of the population in the acquired areas) tend to have on average one extra year of schooling, and are driven by a higher propensity to finish secondary and higher education.

Figure 1 here

Table 1 here

Although the high quality of education in the former Austrian partition is commonly recognized, things are worse in terms of understanding the mechanisms behind this phenomenon. The channels of persistence of the regional differences in educational achievement in Poland are a challenging and unsolved research puzzle. Herbst (2006) considered regional differences in returns to education as a promising subject for further research. Herbst and Rivkin (2013) elaborated on this channel, arguing that investment in education (and eventual migration) is generally more profitable in the eastern regions of Poland, which contributes to higher academic achievement, which contrasts with the low economic performance of this area.

More recently, Bukowski (2018) has attempted to explain the long-lasting regional differences in educational quality in Poland via the concept of identity and student motivation. Bukowski argues that the interaction between institutional and the individual's identity might be crucial for the formation of human capital. In the Austrian educational system, the positive framing of Polish identity (including the use of Polish as instructional language) might have created a

positive social norm toward education among the Poles. Conversely, in the Prussian and Russian systems Polish identity had a negative framing and it thus might have led to either a neutral or negative social norm.

The degree of cultural autonomy, as a factor shaping a positive attitude towards education in 19th-century Galicia, is emphasized also in the recent article by Herbst and Kaliszewska (2017). The authors also elaborate on some other institutional arrangements distinguishing the former Austrian partition from the territories ruled by the other imperial powers: the high social status of teachers, important role of the school as a mean of social advancement, and much higher scholarization rates in rural areas (especially compared to territories under Russian rule).

Although the works quoted above generally support the view that the persistent gap in educational achievements between the partitions is caused by different social norms towards education, the attempts to verify this claim are either qualitative insights, or indirect quantitative analyses based on circumstantial evidence (Herbst and Rivkin 2013, Herbst and Kaliszewska 2017, Bukowski 2018).

The most recent piece of such "patchwork" analysis is provided by Bukowski (2018), who demonstrates that the achievement gap between the Austrian and Russian partitions is higher with respect to 6th grade test scores (which is a low-stakes test), than in the case of 9th grade test score (high stakes, used as admission criterion to high school). According to the author, this shows that the high performance of students in Galicia is driven by long-standing social norms towards education rather than by expected returns from education. To investigate these norms Bukowski eventually uses data from three different surveys (of which two are large, general socio-economic surveys) turning selected education-related questionnaire items into dependent variables, and then regressing them on partition 'dummies' and control variables. The surveys are not specifically designed to study the norms towards education, and they do not allow us to deepen the analysis (as they typically include only 2-3 relevant questions). They are also based

on different methodological approaches, and have different targeting and sampling. For example, only one of the surveys is addressed to the parents of children at school age, while the two others were conducted on the adult population.

The results are somewhat puzzling. They suggest that, compared to other partitions, people from the former Austrian empire are more likely to declare that education is important in their life, and more likely to support higher government spending on education. On the other hand, they are less likely to desire higher education for their children and less trustful in education as a factor in life success. Bukowski convincingly argues that overall the results can be interpreted as an evidence for a positive social norm toward local education institutions in the former Austrian territory.

The goal of this work is to start where the previous research left off – that is, to directly address the questions concerning the norms through which history may affect present-day educational performance. I use the results of the self-designed survey of parents having 15-16 year-old children, aimed at assessing the attitudes towards education, institutions, and regional historical legacy in the three historical partitions of Poland. The conceptual framework of the analysis and the survey itself is described in the following section.

4. Conceptual framework and data

4.1. Measuring the effect of the former borders

As the first, preparatory phase of my work, I decided to measure the achievement gap at the former empires' borders on Poland's territory. Although I propose some enhancements to the earlier work by Bukowski (2018), this part of the analysis is to some extent replicative, and therefore it is discussed in Appendix 1 to this article. Overall, the result confirms the main findings of Bukowski, showing that students in the former Austrian partition outperform those

in the Russian partition by 0.4 of standard deviation when school and municipal characteristics are controlled, and by 0.13 of standard deviation in the value added specification, controlling additionally for student performance at the earlier stage of education. In contrast, there is no significant difference in achievement between students in the former Russian and Prussian partitions.

These findings, which are not surprising in the light of the existing studies, suggest that we focus on the differences between Galicia (the Austrian partition) and the remaining regions while investigating social norms towards education in the further part of the analysis.

4.2. Exploring the norms towards education

The empirical investigation on the norms towards education in the former partitions is based on the self-designed survey of parents. The survey covered 2,500 parents of students attending the 2nd or 3rd grade of middle school (gimnazjum). It was representative within each of the three partitions, and it did not include parents living in the territories acquired by Poland after World War II. The history of the latter territories (which included the expulsion of the local population, and forced resettlements) is very different compared to the regions within Poland's pre-war borders, and it is not possible to investigate the local norms towards education along with the 19th century's partition within the same research framework.

The sample was constructed in three steps. First, all middle schools in Poland were divided according to layers (partition, city size) to ensure that school locations in the sample reflects the structure observed in the population. Then I randomly drew 250 middle schools with the probability of this drawing being proportional to the school size. Finally, 10 parents in each of the picked schools were interviewed.

The collected data was used to operationalize the education related norms (ERNs) that correspond to the mechanisms of the "historical" effect on educational achievements postulated by the literature of the subject, and consulted within an interdisciplinary team[3].

More precisely, parents' responses allowed us to distinguish three types of attitudes towards education:

- **Perceiving returns to education as high**. Parents in this category pointed to education as one of the three most important factors for success in life. They were convinced that school education is beneficial for students. When asked about their guess of the average wage of a university professor in relation to the average wage of a secondary-school graduate, they estimated this ratio as higher than the median respondent in the sample. They also declared that it if secondary education was not funded by the state, they would be willing to pay a tuition fee for it. Finally, they were determined to make their children apply to a tertiary school in the future.
- **Expressing trust in educational institutions**. Parents in this category declare their trust in the education system as a whole. They also believe schools should have more autonomy. According to them, teachers belong to the elite of society and they are either underpaid or adequately rewarded (but definitely not overpaid). Parents in this category agree with the statement that children learn at school things they could not learn at home.
- **Recognizing the formative role of education**. Parents in this category believe that the role of school is more to shape the child's personality than to teach some directly applicable skills. In particular, when asked to choose the three subjects they care about most while monitoring their children school achievements, these parents included both history and Polish literature. Similarly, when prioritizing the goals of school education

[3] The members of the team were: Magdalena Smak (Educational Research Institute), Justyna Kościńska (University of Warsaw, Institute of Sociology, Anna Kaliszewska (University of Warsaw, Institute of History).

(again, by choosing three priorities from numerous possibilities), they pointed to formative values, such as tolerance, patriotism, critical thinking, and respect for the authorities, rather than "utilitarian" goals.

I use the logit model to determine the effect of living in a given partition on the probability of sharing the particular norm towards education. In particular, the estimated equation is:

$$(1)\ \log\frac{p(ERN_{j,i}=1)}{1-p(ERN_{j,i}=1)} = \beta_0 + \beta_1(Partition) + \sum_{j=2}^{p}\beta_j X_{ji} + \varepsilon_i$$

The control variables $X_{ji,}$ describe the respondent's gender, child's gender, city (town) size, whether the child lives with both parents, the number of children in the household, grade attended, whether somebody in the family is a teacher, the parents' educational attainment, and whether the respondent was born in the same neighborhood where she/he lives now.

In the next step the estimated β_1 values for each norm are transformed from the log odds into the predicted probabilities of sharing the norm conditional on living in a given partition[4].

5. Results

5.1.Norms towards education in the former partitions

The results in this section come from the logit estimations performed on data from the parental questionnaire, and from the post-estimation calculation of probabilities of expressing particular norms towards education, conditional on living in one of the three former partitions.

[4] This is made using the 'margins' command in Stata software

Table 2 shows descriptive statistics for the three subsamples of parents living in different partitions. The samples differ with respect to some characteristics, reflecting the actual differences between the populations of the three partitions[5].

TABLE 2 HERE

The former Prussian partition is the most urbanized of the three regions (the lowest percent of parents living in rural areas) but it also has the lowest percent of respondents from large metropolitan cities, with population exceeding 500,000. The Austrian partition is the one with the largest share of rural population.

The sample is quite balanced with respect to the gender of the children. However, respondents (parents) themselves were predominantly women (in all partitions). One reason may be that compared to men, women in Poland are less professionally active, and therefore they were more available for the pollsters. However, this does not explain the gap between women's (87%), and men's (13%) share in the sample. It seems that mothers are also more engaged in children's educational issues, and frequently they were more natural interlocutors in the subject of school education than the fathers.

The average number of children per family ranges from 1.85 in the former Russian partition to 2.02 in the territory once belonging to Prussia. The Russian partition also has the largest share of families with just a single child (40.5%).

Table 2 also shows some important distinct characteristics of the former Austrian partition, ones which need to be controlled in the further analysis. Parents in Galicia are less mobile: 71% of them still live in the town where they were born (compared to 60-62% in the two other regions). There are also more likely to have a teacher as a family member. The latter may be consistent

with the hypothesis of the relatively high social status of the teaching profession in the former Austrian partition (Herbst and Kaliszewska 2017), as more prestige cause more people to become teachers. However, but from the perspective of this research it is important to bear in mind the possible reverse causation: having a teacher as a family member makes respondents more likely to declare trust towards schooling and teachers.

Finally, in the context of school achievements, a meaningful difference between the partitions refers to mothers' educational attainment. Women in the former Austrian partition are significantly more likely to reach the MA education level than their counterparts in the remaining two regions. This immediately brings to mind the question whether school achievements in Galicia are driven by different social norms towards education across all socioeconomic strata, or more directly, by the fact that more children have educated mothers. Similarly, one may wonder to what extent the norms towards education are themselves the consequence of educational attainment, independent of the region of residence and cultural heritage. At this point it is worth recalling that all earlier research found that differences in educational attainment fail to explain the achievement gap between the former Austrian partition and the remaining parts of Poland (Herbst and Rivkin 2013, Bukowski 2018). This is also so in the case of my own measurement of the gap, performed in Appendix 1 to this article. Nonetheless, there is no doubt that parental education needs to be carefully controlled for while estimating the effect of partitions on the norms towards education.

Equation (1) was estimated three times, each time including a dummy variable associated with a different partition, and considering parents in the remaining two partitions as a reference group. However, when discussing the results I focus on the 'Austrian vs rest' model in the article, as my major motivation is the wish to explain the high educational achievements in the former Austrian partition compared to the remaining two historical regions of Poland. As

mentioned earlier, territories acquired by Poland after World War II were not covered by the survey, so the reference group consists of parents from the Russian and Prussian partitions.

Table 3 includes the results of logit model estimation in which residency in the Austrian partition is used to explain the propensity to follow different norms towards education

The control variables include student and family characteristics, as explained in detail in section 4. Columns 1-3 represent the specifications with three different education-related norms used as dependent variables. The model from column 1 seeks to explain what makes parents consider material returns on education to be high. In column 2 the dependent variable identifies parents valuing the formative role of education above its practical usefulness. Columns 3 in turn refers to trust in educational institutions.

Table 3 HERE

As the coefficients in logit estimation are reported in the form of log odds ratios, they are difficult to interpret. However, a few observations can be made looking at table 3. First, the attitudes towards education differ significantly between the former Austrian partition and the remaining two territories. While parents in the former Austrian territory consider education less profitable (in terms of pecuniary benefits) as compared to their counterparts in the former Russian and Prussian partitions, they are more prone to emphasize the formative role of education, and they express higher trust towards educational institutions.

Second, most of the student and family characteristics are not correlated with parental norms towards education, but there are exceptions from this rule. Parents of girls are more likely to recognize the material returns on education, as compared to parents of boys. This seems rational, as much research show that salary benefits from education in Poland are indeed higher for female than male students (OECD 2010). The child's gender is however irrelevant for the parents' norm toward formative education and for their general trust in educational institutions.

Interestingly, the perceived return on education is also the only norm that is influenced by parental education level, and in particular – by mother's education. Families with more educated mothers consider monetary reward from studying higher, compared to mothers without a degree, but parental education is not correlated with either trust towards school, or belief in the formative role of school education.

The attitude towards education is also clearly dependent on having a relative who works as a school teacher. In families having a teacher as a relative, the perceived material benefits from education are significantly higher, and so is trust towards educational institutions. In contrast, there is no clear effect of the affinity with a teacher on the attitude towards the formative role of school.

The first row in table 3 shows the coefficients by the variable indicating parents' residence in the former Austrian partition. As one can see, the Austrian legacy has a significant effect on each of the three norms under consideration, even controlling for the family characteristics as discussed above. It positively affects the parental attitude towards the formative role of school, and the level of trust in educational institutions. It is in turn negatively associated with the belief in monetary returns on schooling.

As said before, the logarithms of odds are difficult to interpret in terms of the actual effect of explanatory variables on the probability of an event taking place. In order to assess the magnitude of these effects, let's now consider table 4, in which log odds from table 3 are transformed into predicted probability contrasts, conditional on living in the former Austrian partition, with other territories serving as a reference category. As we can see, the most pronounced difference refers to the level of trust in educational institutions. Residents of Galicia (the ex-Austrian region) are 10.3 percentage points more likely to express such trust, which is a notable gap (column 3 in table 4).

Table 4 HERE

Parents living in the former Austrian partition are also more likely to recognize the formative function of education. This norm, involving the preferential attitude towards educational activities focused on promoting the common cultural heritage, but also allowing the school to shape students' system of values, is 6.6 percent more likely to be observed in Galicia than in the remaining regions (column 2 in table 4).

Finally, parents from the former Austrian partition are less prone to consider education as an investment. Despite their high general trust in the education system, they are 4% less likely to expect high returns from education, whether in monetary terms, or in terms of success in a "professional career" (column 1 in table 4).

6. Conclusions

In this work I have investigated the institutional legacy of the Austrian empire as the possible explanation of the high academic achievements of students in the south-east of Poland. The persistence of former institutions and their impact on present-day socio-economic life is well documented by interdisciplinary research the world over. However, we do not fully understand the channels through which the historical experience determines within a country the regional diversity that we observe today, and in particular – the diversity of educational achievements.

In the first stage the RDD was used to verify the existence of an educational gap between the neighbouring territories that belonged to different countries in the period 1795-1918. The results (discussed in Appendix 1) confirmed the findings of the earlier studies, showing that students from Galicia perform significantly better than those in the former Russian partition, while there is no significant difference between the former Prussian and Russian territories. My major goal was to address directly the questions concerning the institutional channel through which history may affect present-day educational performance. Based on suggestions from the

interdisciplinary literature of the subject, I decided to investigate the social norms towards education in different partitions as a possible explanation for the observed gap in achievements. I conducted a self-designed survey of parents having 15-16 year-old children, aimed at assessing their attitudes towards education, public institutions, and regional historical legacy. Survey items were then used to classify parents according to their compliance with three different norms related to education. Next I performed logit estimations, and post-estimation prediction of probabilities of compliance with particular norms towards education, as conditional on living in former Austrian partition.

All three norms proved significantly different between the former Austrian partition and the remaining territories of Poland. The most pronounced difference referred to trust towards educational institutions. Parents in Galicia (the former Austrian territory) were about 10% more likely to express trust in schooling than their counterparts at the other side of the former border. This result proved robust for the sensitivity tests. Adding variables depicting parents opinion on their child's school, their attitude towards the partitions as historical events, and their general openness (general trust question), did not depress the estimated impact of Austrian legacy on trust towards educational institutions.

Besides having more trust in schooling, parents in Galicia are also 7% more likely to care about the formative role of school, and 4% less likely to recognize the monetary returns on education.

The results are very much in line with findings by Becker et al. (2016), who demonstrate that living in regions formerly under Habsburg rule increases the level of trust and reduces the perceived corruption in courts and police. In this context schools may be considered another type of public institution. The findings also support the earlier suggestions of Bukowski (2018) and Herbst and Kaliszewska (2017), who point to social norms and degree of identification with public institutions as possible sources of high educational performance in the former Austrian partition. However, differently from what is suggested by these studies, a positive attitude

towards education in Galicia is not primarily driven by personal experience, and it is not limited to the familiar, local school system, but it applies to education in general. Similarly, a higher trust in education it is not associated with the promise of material success or social advancement, but it rather stems from the conviction that the school is important for personal development.

The research shows that the intergenerational transfer of long-inculcated norms may have a powerful impact on territorial patterns of socio-economic development, even if the administrative and political divisions that were at the foundation of these norms vanished a long time ago. this supports the findings of Bisin and Verdier (2001), and Patacchini and Zenou (2011) on how parental effort combined with local social norms contributes to the petrification of regional differences in educational performance. With respect to educational policy, our results show that traditional measures of coping with inequalities, relying on redistribution of resources, providing extra teaching hours, or intensified evaluation of achievements may be ineffective if deeply rooted local norms towards education are not taken into account, and if policies fail to address different generations, and not just students at schools.

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Table 1. Mean values and standard deviations of the scores on 9th-grade test in mathematics (2015)*

	Mean	Sd
Austrian partition	0.180	0.904
Prussian partition	-0.072	0.980
Russian partition	0.053	1.021
Territories acquired after WWII	-0.163	1.020
All territories	0.000	1.000
N	6,304	

*Descriptive statistics refer to scores aggregated at the school level, weighted by number of students, and standardized at the country level

Table 2. Distributions of independent variables by partition.

	Austrian	Prussian	Russian	Total
Living in metropolis (% yes)***	11.11	5.97	14.73	11.6
Living in countryside (% yes)***	48.15	29.85	35.66	36.8
Parent's gender (%)				
Female	88.52	85.97	86.43	86.76
Male	11.48	14.03	13.57	13.24
Student's gender (%)*				
Female	49.26	56.57	51.32	52.28
Male	50.74	43.43	48.68	47.72
Living with both parents (% yes)***	91.67	83.58	86.28	86.72
No of children in the family (%)*				
1	36.11	33.13	40.47	37.56
2	44.07	47.16	41.01	43.32
3	14.44	14.48	14.65	14.56
4 or more	5.38	5.23	3.9	4.56
Middle school grade (%)				
8^{th}	52.22	50.9	48.37	49.88
9^{th}	47.78	49.1	51.63	50.12
Mother's education (%)***				
Primary	1.85	2.84	3.18	2.8
Basic vocational	20.19	31.49	21.24	23.76
General secondary	14.07	19.7	16.67	16.92
Secondary vocational	26.48	20.45	25.27	24.24
Bachelor	7.78	5.37	7.83	7.16
Master or higher	29.07	19.55	25.58	24.72
Unspecified	0.56	0.6	0.23	0.4
Father's education (%)**				
Primary	3.52	4.18	4.89	4.4
Basic vocational	34.26	43.58	35.66	37.48
General secondary	6.3	6.87	8.53	7.6
Secondary vocational	33.15	24.93	26.74	27.64
Bachelor	4.07	3.28	5.66	4.68
Master or higher	17.41	15.67	17.05	16.76
Unspecified	1.29	1.49	1.47	1.44
Teacher in the family (% yes)***	29.07	18.51	24.65	23.96
Still living in the birthplace (% yes)***	71.48	60.75	62.48	63.96
School satisfaction***	26.48	17.91	18.68	20.16
Attitude towards partitions***	42.78	43.13	25.81	34.12
General trusts variable***	33.33	29.70	23.80	27.44

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ refer to the Chi^2 test of independence between the explanatory variable and the partition

Table 3. Attitudes towards education in Austrian vs. other partitions. Results of logit estimation

	(1) High perceived returns to education	(2) Priority to formative education	(3) Trust in educational institutions
Main explanatory variable			
Austrian partition	-0.336*	0.576***	0.682***
	(0.141)	(0.142)	(0.124)
Individual & family characteristics			
Living in metropolis	-0.200	-0.139	-0.0120
	(0.185)	(0.217)	(0.183)
Living in countryside	-0.0845	0.0960	-0.199
	(0.122)	(0.139)	(0.124)
Parent's gender (male)	-0.220	0.411*	-0.0103
	(0.172)	(0.173)	(0.166)
Student's gender (male)	-0.491***	-0.126	0.0886
	(0.112)	(0.127)	(0.111)
Living with both parents	0.0690	-0.198	0.0628
	(0.168)	(0.181)	(0.169)
No of children in the family	0.0613	-0.0890	0.0142
	(0.0405)	(0.0691)	(0.0440)
Grade (9^{th} vs 8^{th})	-0.0895	-0.177	-0.0315
	(0.109)	(0.126)	(0.110)
Having teachers in the family	0.543***	-0.309	0.428**
	(0.127)	(0.168)	(0.133)
Living in the birthplace	-0.268*	0.0138	-0.0871
	(0.115)	(0.136)	(0.118)
Parental education (vs. primary or basic vocational)			
Mother: General secondary	0.535**	-0.108	-0.284
	(0.206)	(0.233)	(0.204)
Mother: Secondary vocational	0.467*	0.207	-0.0587
	(0.186)	(0.191)	(0.170)
Mother: Bachelor	1.154***	0.0411	0.0562
	(0.234)	(0.298)	(0.248)
Mother: Master or higher	0.725***	0.328	0.0223
	(0.210)	(0.242)	(0.207)
Father: General secondary	-0.109	-0.278	-0.104
	(0.247)	(0.299)	(0.252)
Father: Secondary vocational	0.237	-0.133	-0.221
	(0.151)	(0.175)	(0.156)
Father: Bachelor	0.234	-0.156	-0.673*
	(0.264)	(0.336)	(0.337)
Father: Master or higher	0.240	-0.151	0.0421
	(0.193)	(0.243)	(0.203)
_cons	-1.150**	-1.848***	-1.816***
	(0.361)	(0.404)	(0.358)
N	2500	2500	2500

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Effect of Austrian partition on norms towards education: predicted probability contrast

	(1) High perceived returns to education	(2) Priority to formative education	(3) Trust in educational institutions
Not Austrian partiton	0.184***	0.103***	0.141***
	(0.00859)	(0.00687)	(0.00786)
Austrian Partition	0.141***	0.169***	0.244***
	(0.0146)	(0.0165)	(0.0188)
Austrian vs Not Austrian probability contrast	-0.0431*	0.0659***	0.103***
	(0.0171)	(0.0180)	(0.0205)

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

Figure 1. Municipal average scores on 9th-grade test in mathematics (2015) as a percent of maximum achievable score