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Who wants to go to school? Lessons from reforming (back and forth) the school entry age in Poland

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The goal of this paper – set in the context of the reform to lower the school starting age in Poland – is to investigate the determinants of parental decisions to enrol their six-year-old children in the 1st grade versus leaving them in preschool or preparatory class. It was found that starting school before the compulsory term occurs primarily in response to objective symptoms of a child's readiness for school, but there is also some evidence for a deliberate investment in education by parents with a higher socio-economic status. Finally, early enrolment may also be driven by a cost-reducing strategy. The discussion highlights the possible reasons for the political failure of school age reform, which was recently cancelled after having been gradually introduced for six years.

Keywords: school starting age; educational reform; parental decision; primary years.

School entry age and the experience of its reform across countries

No matter how good and protective schools are in dealing with small children, starting education is always a challenge for the youngest students. Some parents and teachers take a rather conservative view with respect to the desired school starting age, arguing that the possible benefits from earlier exposure to formal learning do not offset the emotional costs incurred by children. Empirical evidence from different countries shows that school starting age may have long lasting effects not only on students' performance at school, but also on their mental health, family life or earnings (Black, Devereux and Salvanes, 2011; Fredriksson and Öckert, 2014). At this point it is important to note that the effect of school starting age is distinct from the effect of receiving (or not) education at a given age. In the context of developed countries with easy access to preschools, it could rather be referred to as the consequence of the choice between enrolling in school versus remaining in a less formalised preschool environment for an additional year.

An often raised concern refers to whether the youngest children have a proper curriculum at school and whether the learning conditions, such as class size and the ancillary support provided, meet required standards. This debate is particularly vivid in countries where children tend to start school very early, for example in England and Wales (Sharp, 1988).

Changing (and specifically lowering) the school starting age is therefore very difficult from a political point of view. It is also a very demanding organisational challenge,

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as altering the size of school cohorts requires structural changes in teacher and staff employment, as well as investment in school infrastructure. Not surprisingly then, reforms of school starting age are very uncommon. In recent decades, there have been just a few such cases: Portugal lowered the school starting age from seven to six following profound education reform in 1973. In Northern Ireland, the compulsory age regulation was changed in 1989, with the entry age lowered from five to four (NFER, 2016). Slovenia reduced the school entry age from seven to six starting with the 1999/2000 school year, and Romania did the same in 2003/2004. Finally, in 2012, Turkey lowered the school starting age from six to five and half years of age. Since then, children who reach the age of five and one-half (66 months) before September 1st are obliged to enrol in school in that year. Before the reform, the cut-off age was 72 months (Sert, 2014).

Most countries choose to extend education to younger children by introducing compulsory, or at least commonly available preschool services (although sometimes taking place in school buildings), rather than lowering the age of starting school. For example, Denmark made pre-primary education compulsory for six-year-old children in 2008, and in Hungary, preschool attendance became compulsory from the age of three in 2015.

Poland, in turn, is a country in which broadening access to preschool education and lowering the school starting age took place in parallel. In fact, policymakers considered earlier enrolment in school as a key measure to increase participation in preschool education, since moving six-year-olds into 1st grade would release slots in preschools. In 2004, preschool education in Poland became compulsory for six-year-old children, and in 2011 – for five-year olds. However, as described in further sections of this article, both the change in school entry age, and requiring five-year-old children to attend preschool education were recently rescinded by the new government, established following the 2015 parliamentary election.

Another "soft" way of changing the compulsory school age is by easing regulations and increasing the autonomy of parents in deciding the best time for their children to start school. This may, of course, result in an increased share of both early entrants and deferred students, depending on many factors specific to a given country, society, and educational system. In some cases, noncompliance with the compulsory age is so common that the formal limit no longer reflects the general trend in a country. For example, in the beginning of the 1990s, the government of Finland decided that the general school starting age was to remain at seven years of age, but entry to school became more flexible to allow more variation in the school starting age according to pupils' readiness for school attendance and the wishes of parents (Fort, 2006). The Netherlands, in turn, has compulsory pre-primary schooling (ISCED-1) from age five, but virtually all children start education at age four (Eurydice 2013).

In Germany, as observed by Fertig and Kluve (2005), adherence to regulations on school entry age is not strictly followed, and both deferments and early enrolments are common. Also in the Czech Republic, where parents have the right to decide whether their six-year-old child is ready for school, a growing proportion of families are postponing the start of school for their children (Munich, 2014).

Different historical and cultural backgrounds and different regulatory approaches result in variations in the officially reported school starting age among European countries. Currently (2014/2015), most of the 37 countries listed in the Eurydice database have a school starting age of six. However, as shown in Table 1, some countries choose to set the cut-off at lower or higher ages.

Table 1
School starting age in European Countries

Age	Countries
4	Northern Ireland
5	Cyprus, England, Malta, Scotland, Wales
6	Austria, Belgium, Croatia, the Czech Republic, Denmark, France, Germany, Greece, Hungary, Iceland, Republic of Ireland, Italy, Liechtenstein, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Switzerland, Turkey
7	Bulgaria, Estonia, Finland, Latvia, Lithuania, Poland, Serbia, Sweden

Source: NFER (2016).

Lowering (and raising back) the school starting age in Poland

The decision to lower the school starting age in Poland was announced in February 2009. Initially, the reform assumed that parents of six-year-old children would be free to decide whether to enrol their child in the 1st grade of primary school or in a preparatory (preschool) class from 2009 to 2011. The compulsory enrolment of six-year-olds in 1st grade was planned to start in September 2012. However, despite some efforts from the government to convince stakeholders of the benefits of lowering the school starting age, the reform was strongly opposed from the outset by both parents and teachers. Its turbulent implementation took seven years (instead of the assumed four) – only to be cancelled after the new government came to power in 2015.

The first two years of implementation resulted in a very small proportion of parents sending their six-year-old children to school (see Table 2). In October 2011, in reaction to a media campaign launched by parents' organisations[1], the government decided to postpone the compulsory phase of the reform until September 2013. Three months later, following the change at the helm of the Ministry of Education, the voluntary phase was further extended. It was announced that all six-year-olds would be enrolled in 1st grade on an obligatory basis starting from September 2014. In February 2013, however, in response to unrelenting protests and the low rate of the voluntary enrolment of six-year-olds in schools, another modification was introduced. September 2014 was upheld as the starting date of the compulsory phase only with respect to children born in early 2008 (thus reaching the age of six before July 1, 2014). The other half of the cohort, unless sent to school voluntarily in 2014, was supposed to join the 1st grade in 2015, simultaneously with the whole cohort born in 2009. September 2015 is therefore the date when the reform to lower the school starting age finally became fully implemented.

Table 2 shows the percentage of six-year--children enrolled in the 1st grade between 2009 and 2015. The numbers suggest that social confidence in the reform was low throughout the whole period. The greatest percentage of voluntary enrolment was reached in 2011, when the original schedule of the reform seemed yet unthreatened. 2011 was supposed to be the last year of voluntary enrolment, so some parents opted for an earlier school start for their children to avoid the expected high enrolment in 2012, when the whole 2006 cohort would meet the majority of the 2005 cohort kept by parents

[1] The most active organisation was called "Save the little ones" (*Ratuj maluchy*).

Table 2
Share of six-year-old children enrolled in 1st grade

Year	Share of six-year olds enrolled in 1st grade (%)
2009	4.3
2010	9.4
2011	19.4
2012	17.6
2013	15.5
2014*	44.8
2015**	73.4

* Half of the 6-y.o. cohort was supposed to be enrolled in 1st grade on an obligatory basis.
** The entire 6-y.o. cohort was supposed to be enrolled in 1st grade on an obligatory basis.
Source: Education Information System (System Informacji Oświatowej, SIO), Ministry of Education.

in preschools. However, even with this incentive, less than 20% of parents were willing to send their six-year-old children to school in September 2011. Since the first postponement of the obligatory stage (in October 2011), the percentage of voluntary enrolment in the 1st grade shrank from one year to the next.

Abolition of the reform lowering the school starting age was one of the core commitments of the opposition in the parliamentary election campaign of 2015. As the conservatives acquired the majority of seats in parliament, resetting the school entry age back to seven years became a priority of the new government. The law reversing the school age reform was eventually approved by the lower chamber of the parliament in December of 2015.

Therefore, the reform ended up being a costly, temporary policy experiment, as the regulator failed to introduce a permanent change in school starting age. However, this experiment provides some inspiring evidence for researchers and policymakers. The turbulent history of the reform provokes many important policy questions. One of them relates to the aftermath of the voluntary enrolment of six-year-olds in schools. In the case of Poland, the freedom of choice was supposed to last only a few years, but many countries (as shown in the introductory part of this article) have flexible regulations on the school starting age on a permanent basis. It seems important to understand which characteristics of children, families, and their local environment influence the decision of whether to enter school earlier. One obvious reason is that the age of enrolment may affect achievements during the school years and beyond. The empirical evidence in this matter is rich and ambiguous. Many authors find evidence supporting a deferred start and thereby deem it beneficial for children (i.a. Altwicker-Hámori and Köllö, 2012; Datar, 2006; Konarzewski, 2014; Ponzo and Scoppa, 2014; Puhani and Weber, 2007; Schneeweis and Zweimüller, 2014). However, some studies support (or at least do not reject) the idea of sending children to school earlier (Chen, 2015; Deming and Dynarski, 2008; Fertig and Kluve, 2005; Herbst and Strawinski, 2016; West, Banfield and Varlaam, 1990).

Another reason to investigate this issue is that parental decisions on their children's age of enrolment may affect the class composition in different school cohorts. For example, if families with higher socio-economic status tend to enrol their children before it is required, then pupils born in the same year, but originating from different social strata, are unlikely to meet in one class. The rich literature on the effects of school and class composition on learning outcomes shows that self-selection to education may have important consequences for student performance, for instance through peer pressure.

More generally, the approach toward early enrolment may be considered an indicator of the perceived value of schooling in society. Because school is compulsory, we tend to consider it to be a natural stage in children's lives. However, introducing more flexible rules of school enrolment may reveal the real attitude of parents toward schooling

and their perception of the benefits and disadvantages of education.

Who wants to go to school: early investment vs redshirting

Redshirting is the practice of postponing entrance into the school system of age-eligible children. A popular belief is that redshirting is mostly the conscious choice of parents with high socio-economic status who try to secure an easy start and better position for their children in academic and labour-market competition (Konnikova, 2013).

Findings from studies on redshirting are valuable as a background for researching early entrance to school, as both types of parental decisions are based on a similar set of considerations and the same goal – to choose the enrolment time correctly in order to provide children with the best conditions for intellectual development. In this context, a decision to enrol children in school before they reach the compulsory age may be considered an early investment in education, while delayed entry – an investment in greater school readiness or more comfortable school experience (as competing with younger peers is easier). Naturally, the opposite outcome of parental considerations does not imply that the characteristics of a redshirting parent are the reverse of those of a parent opting for an early school start. One can expect the decision on admission to school to be driven by important factors other than parental socioeconomic status (SES), such as the individual traits of their children, the uniqueness of a school district, the quality of local public policies, etc.

Interestingly, the explanatory factors behind parental choice regarding children's enrolment age are rarely analysed in a careful way. In most cases, the non-randomness of parental strategies is considered only in the context of the endogeneity (selection) problem in estimating the effect of student age on educational achievement.

As for redshirting in the US (where most of the evidence is from), not all studies support the popular view on the nature of this phenomenon. Graue and DiPerna (2000) investigated a representative sample of Wisconsin school districts and noticed that, compared to other ethnic groups, African Americans are slightly more likely to enter school later. Contrary to common beliefs, children eligible for free or reduced price lunches were significantly more likely to be redshirted. However, in a more recent and nation-wide study, Bassok and Reardon (2013) found that male, white and high-SES children are most likely to delay kindergarten, and schools serving larger proportions of white and high-income children have far higher rates of delayed entry. Moreover, there was no evidence that children with lower cognitive or social abilities at age four were more likely to be redshirted, which suggests that parents' decisions to delay entry are driven by the desire to "game the system", rather than to respond to the actual deficits of the children.

The reform to lower the school starting age in Poland provides a unique context for making decisions pertinent to early enrolment in 1st grade (at the age of six), versus waiting until the child reaches the standard age of seven. As the survey used in this study was conducted in 2012/2013, and the compulsory school starting age ultimately was lowered not until 2014 (see Table 2), all the surveyed families faced a choice regarding the age of enrolment. However, when making a decision, parents had to take into account that the reform was already in progress, and this circumstance created some incentives in favour of both early enrolment and redshirting. Uncertainty regarding the actual readiness of schools to teach and take care of six-year-olds in the early stage of the reform may have discouraged parents from enrolling their six-year-old child in 1st grade. In turn, the awareness that many families delay the start of school may have worked as

an incentive to go against the trend in order to join a smaller cohort, to study in smaller classes, and to face less competition throughout their children's whole academic career. Moreover, such a decision could have been stimulated by the policy of local governments, many of which decided to limit the number of slots available in the final year of preschool education, thereby transferring resources to schools in order to prepare them for the enrolment of six-year-old pupils. With the lower availability of kindergarten, some families may have chosen early enrolment in the 1st grade, although they might have delayed the school start if preschool care had been more available.

As it turns out, the choice between enrolling early or at the "standard" term, in the context of the ongoing reform to lower school starting age, may be affected by numerous factors, and sometimes it may yield a different outcome than would be the case if policy measures were stable.

Data and empirical strategy

The research uses data from a survey administered by the Institute of Educational Research (IBE) in Warsaw in the fall of 2012 and spring of 2013. The sample consisted of 2859 observations of four categories of children:

(1) six-year-olds enrolled in preschools (n = = 589),
(2) six-year-olds enrolled in preparatory classes in schools (n = 581),
(3) six-year-olds enrolled in 1st grade in primary school (n = 532),
(4) seven-year-olds enrolled in 1st grade in primary school (n = 580),
(5) seven-year-olds enrolled in 2nd grade in primary school (n = 577).

Categories 3 and 5 refer to children whose parents voluntarily sent them to school at the age of six, while all remaining observations refer to children who either were or will be (in the school year following the research) enrolled according to the "old" schedule – thus, at the age of seven.

The sample was constructed in two steps. First, a larger number of children born in 2005 or 2006 (six or seven years old at the time of the research) was drawn randomly from the administrative register (PESEL). Later, observations were picked from the pool as long as the assumed quotas of children with different enrolment statuses were reached. The quotas intentionally did not reflect the proportions of enrolment statuses in the population, as early entrants to school were purposely overrepresented. The final sample differed slightly from the population also in terms of the regional distribution of students. To achieve the representativeness of the data, for the purpose of this study, a rim weight was imposed on the sample, reflecting the true distribution of students according to educational paths, region of residence, and affiliation to age cohort.

The research involved a survey of parents and aimed to collect all characteristics of pupils' families and contextual information about the child's environment, as well as a series of tests: in mathematics, reading, writing, and finally, an IQ test[2]. The test was administered shortly after the beginning of the 2012/2013 school year, therefore, shortly after the "tracking" of six-year-old children into 1st grade[3].

The empirical strategy of this paper relies on investigating the determinants of the parental decision to enrol their six-year-old child in the 1st grade versus leaving him/her in preschool or preparatory class. The goal is to understand who is more likely to enter school

[2] The test of cognitive skills in mathematics, reading, and writing was developed by the Educational Research Institute (Instytut Badań Edukacyjnych, IBE), under the name of Test of Skills at the Start of School (*Test umiejętności na starcie szkolnym*, TUNSS). See Kaczan and Rycielski (2014) for the methodology and detailed discussion on test outcomes.

[3] The students were examined again approximately six months later, in the spring of 2013; however, the results of the second test are not used in this study. The impact of enrolment age on educational achievement at the end of 1st grade is investigated in the article by Herbst and Strawiński (2016).

before the compulsory term, and whether we can observe any evidence for redshirting or deliberate investment in early enrolment.

The analysis is based on logit model estimation with three sets of explanatory variables, related respectively to the characteristics of the pupil, family and municipality (see equation 1).

$$\text{dec}_i = \alpha + \beta_1 PUPIL_i + \beta_2 FAMILY_i + \\ + \beta_3 DISTRICT_i + \varepsilon_i \quad (1)$$

The dependent variable reflects the parental decision to enrol their six-year-old child in the 1st grade of primary school. It equals 1 for all pupils who became 1st graders in the year they turned six, and it is 0 for all individuals enrolled in school at the age of seven. Pupil characteristics include sex, birth order, measure of physical development (height), IQ test performance, evidence of preschool experience, age (measured in days) at the start of the school year, and reported health issues. Family-related variables describe the educational attainment of parents, their employment status and age, family living conditions, and size of the family. Finally, district level variables depict the size (population) of the municipality, the unemployment rate in the local labour market, and the availability of preschool care for six-year-old children. Descriptive statistics of all variables used in the model specification are shown in Table 3.

Results

How selective was early enrolment in school?

As shown in the literature review section, there are two major (and opposing) mechanisms linking socio-economic status with the inclination towards early school start. First, more educated and affluent parents tend to have more confidence in schools and other public institutions compared to families located lower on the social ladder[4]. Therefore, they should be more willing to send their children to school even before the compulsory term. However, at the same time, better endowed parents may be more conscious of how their child's age determines his or her achievements and functioning in the peer group. This knowledge, and the desire to provide their child with better chances in school competition, may lead parents to delay the enrolment of their children in school (redshirting).

In 2011/2012, the share of children enrolled at the age of six was 13% among families with the mother having only primary or basic vocational education, but it exceeded 20% for mothers holding at least a bachelor's degree (see Table 4). It seems, therefore, that voluntary enrolment in school is more likely to occur in families with higher SES.

A comparison of the cognitive skills of six-year-old children in preschools and in the 1st grade, measured at the beginning of the school year, also shows that children enrolled in school perform significantly better, on average, in all kinds of tests than do their peers in preschools. This suggests that voluntary enrolment in schools is associated with strong positive selection. The largest gap is observed for writing, with the difference between means reaching 0.8 of standard deviation. The gap is smaller for reading (0.5 *sd*), and smallest, although still significant, with respect to mathematics and the IQ test (see Table 5).

The comparison of the average achievements of six-year-old and seven-year-old children also reveals that older pupils perform better by approximately 0.3 of standard deviation in all subjects tested.

[4] In the context of the Polish reform, such reasoning could be strengthened by acknowledging the adjustment in the school and preschool curricula being introduced in parallel to lowering the school starting age. A decision to keep a six year old child in preschool (instead of 1st grade enrolment) was equivalent to making him/her pass the same curriculum twice. This could have encouraged parents to opt for the early school start, rather than waste time repeating the same lessons two years in a row.

Table 3
Descriptive statistics (from pooled data on six- and seven-year-olds)

Variable	*M*	*SD*
Dependent variables		
Six-year-olds in 1st grade (dummy)	0.17	0.38
RAVEN (IQ) test score	0	1
Child characteristics		
Gender	0.49	0.50
Born in 2005 (dummy)	0.48	0.50
Birth_order	1.57	0.88
Problems with sight (dummy)	0.16	0.31
Problems with hearing (dummy)	0.02	0.14
Height (cm)	125.08	7.14
Preschool experience (years)	2.09	1.14
Preschool hours daily	5.77	2.52
Age in days on September 1	2 252.57	104.42
Family characteristics		
Number of children	1.89	0.99
Full family (dummy)	0.87	0.34
Mother with higher education (dummy)	0.36	0.48
More than 200 books for children	0.25	0.43
Separate room for child (dummy)	0.71	0.45
Mother under 30 (dummy)	0.18	0.39
Father under 30 (dummy)	0.08	0.27
Working mother (dummy)	0.66	0.47
Working father (dummy)	0.82	0.39
Father in managerial post (dummy)	0.30	0.46
Mother in managerial post (dummy)	0.16	0.37
District characteristics		
Percentage of children in preschools	69.21	18.06
Unemployment rate	8.31	3.82
Village or small town (dummy)	0.51	0.50
Log of population	10.23	1.57

What are the determinants of parental decision for starting school early?

The parental decision on whether to enrol a six-year-old child in the 1st grade is modelled using logistic regression. However, the logit procedure returns the variable coefficients in the form of log odds-ratios, which are difficult to interpret. Intuitively, the effect on the probability of early enrolment is what we are interested in, and not the odds ratios. Therefore, in addition to the logit coefficients and *p*-values, Table 6 includes the predicted probability contrasts for the exemplary values of the explanatory variables. The predicted probabilities have been calculated using the "margins" post-estimation command in Stata (see Williams, 2012).

The outcome of the logit model estimation suggests that the decision regarding voluntary enrolment of a six-year-old child in the 1st grade stems primarily from the

Table 4
Percent of children enrolled in the 1st grade at the age of six by mother's educational attainment

Enrolled as:	Primary	Basic vocational	Secondary vocational	Secondary general	Bachelor's	Master's	Total
Six-year-olds	13.26	13.06	15.54	18.95	22.67	21.36	17.51
Seven-year-olds	86.74	86.94	84.46	81.05	77.33	78.64	82.49
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

assessment of his/her level of physical and intellectual development. Early enrolment is positively and strongly associated with the child's IQ score, height, and age measured in days. This shows that that a rational evaluation of a pupil's readiness for school plays a crucial role in parental decisions (see Table 6). For example, an increase of one standard deviation in the child's IQ score is associated with a higher probability of enrolment in the 1st grade at the age of six by 2.6 percentage points. A one month difference in the birth date transforms, in turn, into a 2.2 point shift in the probability of early enrolment, and naturally, children born earlier in the year are less likely to enter school before the compulsory term.

There are, however, other important factors, ones not related directly to a child's abilities. Independent of IQ level or age, girls are 5 percentage points more likely to be enrolled at the age of six than boys. Well-educated parents are definitely more willing to experiment with an early start that those with low educational attainment. Statistically, a mother with a university degree "raises" the probability of an early school start by 5 percentage points. Therefore, of the two theoretical effects of parental SES on early school start, the deeper confidence syndrome seems to outweigh the redshirting strategy in Poland.

On the other hand, however, we observe early enrolment being more likely to occur in families with numerous children. This may be explained by the less protective attitude of parents towards children in such families, although the outcome may also stem from higher financial stress relating to preschool education expenses, compared to the cost of schooling[5]. A difference in the probability of entering school at the age of six between an only child and a child with two siblings

[5] Starting with 1st grade, public education is free of charge in Poland, while preschool attendance is associated with some fees, as well as not being universally available.

Table 5
Average test scores achieved by pupils enrolled in schools, preschools, and preparatory classes in the fall of 2012

Pupil category	Math	Reading	Writing	RAVEN_1
Six-y.o. in preschool	-0.35	-0.48	-0.64	-0.35
Six-y.o. in preparatory class	-0.47	-0.63	-0.74	-0.36
Six-y.o. in 1st grade	0.00	0.06	0.26	-0.03
Seven-y.o. in 1st grade	0.30	0.39	0.51	0.30
Seven-y.o. in 2nd grade	0.71	0.95	0.80	0.41
All pupils	0.00	0.00	0.00	0.00

Table 6
Determinants of early school start – the results of logit estimation (log odds ratios and predictive probabilities)

Variable	Log odds-ratios (*p*-value)	Predictive probability	
		Categories	Probability shift
Child characteristics			
Sex (girl)	0.35 (0.00)***	girl vs boy	0.05
Born in 2005	-0.29 (0.01)***	yes vs no	-0.04
Birth order	-0.07 (0.34)	2nd vs 1st	-0.02
Sight problems	0.18 (0.20)	yes vs no	0.02
Hearing problems	-0.32 (0.35)	yes vs no	-0.04
Height (cm)	0.03 (0.00)***	125 vs 130	0.02
N. of years in preschool	0.03 (0.67)	3 vs 0	-0.01
N. of hours daily in preschool	-0.04 (0.13)	8 vs 5.5	-0.01
Age in days on September 1	0.01 (0.00)***	2283 vs 2253	0.02
RAVEN IQ score	0.20 (0.00)***	0 vs 1	0.03
Family characteristics			
Number of children	0.26 (0.00)***	3 vs 1	0.12
Single parent	0.09 (0.53)	yes vs no	0.00
Mother with higher education	0.41 (0.00)***	yes vs no	0.05
More than 200 books for children	0.15 (0.15)	yes vs no	0.02
Child has own room	-0.01 (0.93)	yes vs no	0.00
Mother under 30	0.06 (0.66)	yes vs no	0.01
Father under 30	-0.08 (0.68)	yes vs no	-0.01
Working mother	0.16 (0.11)	yes vs no	0.02
Working father	0.02 (0.85)	yes vs no	0.01
Father at managerial post	-0.19 (0.05)**	yes vs no	-0.02
Mother at managerial post	0.11 (0.34)	yes vs no	0.02
District characteristics			
Preschool accessibility for six-year-olds	-0.00 (0.57)	87% vs 69%	-0.00
Unemployment rate	-0.01 (0.62)	12.2 vs 8.3	-0.00
Type of settlement	0.25 (0.08)*	Small town vs big city	0.03
Log population	0.10 (0.05)**	11.8 vs 10.2	0.02
Constant	-180.48 (0.00)		
Number of obs.	2 859		
Wald $chi^2(25)$	267.46		
Prob > chi^2	0.00		
Pseudo R^2	0.08[(a)]		
Log pseudolikelihood	-1 322.544		

[(a)] Although the interpretation of pseudo-R2 statistics in logistic regression is not straightforward and some statisticians even recommend not to report it (and certainly not to compare it with the R2 in the OLS regression), the observed low value of this test indicates that there exist other important determinants of parental choice, not included in the model specification.

Significance at: $^{*}\alpha = 0.1$, $^{**}\alpha = 0.05$, $^{***}\alpha = 0.01$.

is 12.3 percentage points: a much stronger effect compared to the one of a mother's university degree.

Enrolling a six-year-old in the 1st grade is more likely to occur in a rural environment or small town than in a larger city. This may suggest that parents living in small communities, where schools are more integrated in the local societies, tend to have more confidence in school as a good place for their children. On the other hand, however, the direct association between the probability of early enrolment and the municipality population number is positive.

There are a number of factors which seem not to have significant impact on parental decisions regarding when to enrol a child in the 1st grade. Perhaps most surprisingly, the decision is not associated with preschool experience (number of years and hours per day spent in preschool). One would expect parents whose children have already spent a lot of time in an educational facility to be more willing to send a six-year-old to the 1st grade. Nonetheless, there is no statistical evidence of such a regularity. There is also no clear effect of parents' age, employment status, nor an effect of single parent family.

While working on the model specification, it was assumed that parental decisions on starting school early may be in part caused by some external pressure, related to the availability of preschool care for the six-year-old. At the time of conducting the research, participation in some type of education program (1st grade of primary school, preparatory class or preschool class) was already compulsory for all six-year-olds. Many municipalities decided to limit the availability of preschools for children at this age, which made parents choose between a preparatory class and 1st grade. Both choices meant, in fact, transferring a child from a preschool to a school environment, as preparatory classes are operated in primary schools. Therefore, living in a municipality where six-year-old children have limited or no access to preschools might provide an incentive to enrol them in the 1st grade (since the child needs to change to a different facility anyway), while having the possibility of leaving a six-year-old child in preschool for another year provides a disincentive to sending that child to school before the compulsory term. However, the results of the regression analysis do not confirm the existence of such an effect. Preschool availability seems not to affect the probability of early enrolment in school.

Finally, there is no effect of the local labour market situation (unemployment rate) on the propensity of parents to voluntary enrol their six-year-old children in the 1st grade.

Conclusions

The reform to lower the school entry age in Poland from seven to six was divided into three phases. In the first phase, launched in 2009, the enrolment of six-year-old children into the 1st grade was voluntary, although parents were strongly encouraged to do so. Starting from September 2014, all six-year-olds born early in the year were supposed to become 1st graders on an obligatory basis, and since 2015, all children were supposed to enter school in the year in which they turn six.

During the phase of voluntary entrance, one could expect that the selection of six-year-olds to attend school would follow either the scheme of redshirting (parents with higher SES delaying the entrance of their children) or deliberate investment in education (children of educated parents are sent to school earlier), or a mix of the two.

It turned out that decisions on early enrolment were strongly related to objective symptoms of school readiness, such as age (in days) and degree of physical development. Children enrolled before the compulsory term were also, as soon as at the start of the school year, more adept in all subjects as compared to the six-year-olds who stayed

in preschool classes. The hypothesis of positive selection to school is also supported by the fact that families with a mother having a university degree were more likely to send children to school at the age of six.

On the other hand, there is some evidence suggesting that the decision on early enrolment is not so unanimously linked to high socioeconomic status, and may also be driven by a cost-reducing strategy (public school, as opposed to preschool, is free of charge). Growing up with numerous siblings (although not birth order) significantly increases the probability of entering school at the age of six. Moreover, families with a father holding a managerial post are less likely to enrol a child before the compulsory term. Surprisingly, a child's preschool experience does not affect parental decision on the age of a child's enrolment in school. Nor is place of residence – its size and labour market conditions – an important factor.

Independent of other individual and contextual characteristics, it turns out that girls are more likely to be enrolled in school before the compulsory term.

From a public policy perspective, it seems that introducing a more flexible approach to enrolment age (in the transition stage of the reform) resulted in creating an effective incentive to send children to school before the compulsory term for three different parental circles. First, schools attracted six-year-olds with high IQs, born early in the year, and physically well developed. The natural explanation of this fact is that parents tended to follow the objective symptoms of their children's readiness for school. Second, parents having completed tertiary education were more apt to send their children to school at the age of six, compared to parents with lower educational attainment. We may thus say that among highly educated families, in the circumstances created by the ongoing school age reform, the perception of an early start as an opportunity to invest in a child's development outweighed the lure of the redshirting strategy. Third, early enrolment was attractive to families with many children. In this case, one can imagine two possible mechanisms. Large families may be less protective towards children, and thus more willing to send them to school earlier, especially if there are older siblings already enrolled (and possibly in the same school). This explanation is not fully supported by the data, as it turns out that the propensity to enter school before the compulsory term is strongly affected by number of siblings, but not birth order. Alternatively, the effect of family size on early school start may be explained by a cost reducing strategy. As preschool care is generally more expensive for parents than school education, and access to public (less expensive) preschool is not universal, large families may opt for early enrolment simply for economic reasons.

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