Segregation and school enrolment policy

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Abstract

We evaluate the effect of a change in school enrolment policy on segregation between Kindergarten schools in Flanders. By reserving school places for both advantaged and disadvantaged students, a diversity objective was incorporated in the school enrolment procedure. To evaluate its effect on segregation, we exploit regional variation in capacity constraints, which determines the policy's impact. First of all, the policy change was only made mandatory in certain regions. Second and more important, the effect depends on whether capacity constraints are binding in at least some schools. If this is not the case, everyone is allocated to the school of their first choice. We conclude that the policy change contributed to a sizeable decline in school segregation in Flanders. However, the cost of this reform, in terms of commuting distance, seems to be borne by disadvantaged students.

1 Introduction and literature review

In this contribution, we aim to evaluate the impact of school enrolment policy on segregation. This first section starts with a short and partial overview of the relevant literature on desegregation initiatives. We list the reasons why they are pursued and which policies are available. Section 2 and 3 contain the empirical work. We show how school segregation has increased in Flanders and introduce the desegregation policy (section 2). We investigate whether this policy, centered around the concept of reserving places for both advantaged and disadvantaged students, has decreased school segregation (section 3).

1.1 Why desegregation?

Many people and policymakers feel school segregation (the degree to which schools differ in ethnic or socio-economic composition), when it is outspoken, is a problem that should be addressed. We distinguish between two lines of argument to counter school segregation: the first one focuses on social cohesion, the second one on learning outcomes. According to the first line of argument, segregation should be avoided because it impedes social cohesion. For students to be able to function in a diverse society, schools should be integrated. Causal evidence on the relationship between school desegregation and social cohesion is scarce. There exists a large literature on the relationship between overall ethnic diversity and social cohesion ¹. However, this is not of interest here. Instead, we are interested in the potential benefits (and costs) of school (de)segregation, given the level of ethnic and socio-economic diversity in society at large.

In the school context, studies typically investigate the effect of diversity on friendships and on attitudes related to social cohesion. Investigating the effect on friendships is relevant, since it has been shown that inter-ethnic contact helps to reduce

¹Van der Meer and Tolsma [28] conclude in a recent overview study that these two variables often show a negative relationship, but that ethnic diversity is not linked to interethnic social cohesion.

ethnic prejudice (Pettigrew & Tropp [22]). In an overview study, Thijs and Verkuyten [26] conclude that ethnic diversity has on average a positive effect on interethnic student relationships.

With respect to social cohesion, research focuses on outcomes as inter-group trust or tolerance and civic engagement. With respect to ethnic tolerance, Janmaat [12] finds positive effects of ethnically mixed schools in Sweden and Germany, but not in England, while Kokkonen and Esaiasson [16] find no effect in Sweden. In Denmark, Dinesen [6] finds a positive effect on out-group trust. Overall positive effects on out-group attitudes were found in studies on primary schools in Northern-Ireland, where ethno-religious conflict runs along Catholic and Protestant lines (Hughes et al [10], McGlynn et al [19], Paolini et al [20], McClenahan et al [18]). Keating and Benton [15] find no impact of school ethnic diversity on students' attitudes and behaviour related to community cohesion. One potential explanation for the absence of significant effects is that school diversity may not always translate into diversity at the classroom level.

The second line of argument focuses on learning outcomes, working through school composition effects. These include the influences on behaviour and educational performance by a student's peers, with whom he or she shares the school (or neighbourhood) context. Research shows that cognitive peer effects are usually small and dominated by the effect of individual background variables; non-cognitive, behavioural effects tend to be stronger (see Thrupp et al [27] and Sacerdote [23] for reviews). Other effects are of a more indirect nature: in contrast to schools with very low socio-economic compositions, more socially mixed schools are characterised by higher degrees of parental involvement. This effect stems from the presence of middle class parents, who tend to monitor school quality more actively (Cucchiara & Horvat [3], Lee & Bowen [17]). Socially mixed schools on average also employ better qualified teachers who, as a result of the school composition, have higher expectations on their students' learning outcomes (Kahlenberg [13], Boyd et al [2]). If school composition effects are significant, the distribution of learning outcomes will be different in

highly segregated societies. From the first perspective, high degrees of segregation are always objectionable. From the second perspective, segregation only matters in so far as it impedes efficient learning outcomes and equality of opportunity.

1.2 Which desegregation policies?

An good overview of desegregation policies in different countries and regions is bundled in the book "International perspectives on countering school segregation". For the US, Kahlenberg [14] draws three conclusions. First, desegregation policy should be broad and maximally encompassing. Schools can only reflect the composition at the neighbourhood level if other schools do so as well. Second, broad popular support is necessary. It is preferable to have involved parents who make an active school choice, rather than to install a top-down allocation system (without choice) or a policy of busing, which affects goodwill for desegregation negatively. In a framework of controlled choice, both parental preferences and their effects on segregation are taken into account. The Cambridge controlled choice programme, which successfully reduced ethnic school segregation, is a fitting example (Willie et al [29]). Third, Kahlenberg emphasizes the importance of residential policy. There exists a natural link between neighbourhood segregation and school segregation.

With respect to the Netherlands, Peters and Walraven discuss two kinds of initiatives [21]. The first kind concerns controlled choice programmes as the ones observed in Cambridge in the US. Deventer and Nijmegen are Dutch examples. Later, a similar allocation system was introduced in Amsterdam [4]. However, these studies do not look into the effects on segregation. The allocation mechanisms also do not take segregation into account. One possible side-effect is that parents are encouraged by these systems to discover neighbourhood schools. This may be because schools rank students according to a distance criterion or because parents who would othersie consider only 1 or 2 schools are now incentivized to submit multiple schools to the system. The second kind of initiatives discussed by Peters and Walraven [21] concerns bottom-up parental intiatives. Highly educated parents organize themselves

and enroll together in good school with poor student compositions. In Flanders ("School in Zicht") and Denmark ("Brug Folkeskolen"), similar ad hoc initiatives exist. While these initiatives do convince many higher educated parents to consider schools with poorer student bodies, it is unclear to what extent this model of desegregation is robust [1]. One concern is whether groups can be kept together over multiple years in a context of high student mobility.

Until recently, the situation in Flanders was characterized by rather soft and voluntary measures to counter segregation and discrimination (Sierens et al [25]). Given the historical importance of freedom of education (entailing a freedom to establish schools and to choose schools), the government was hesitant to intervene. Now, this situation has changed. As we will document in section 2, in some regions more binding rules on school enrolment are now a reality.

In Wallonia, the other main region in Belgium, social mix is also an explicit policy objective. Demeuse and Friant [5] distinguish between two types of interventions. One is enrolment policy, the other one concerns school financing. Similar to the evolution in Flanders, a first step consisted in countering discrimination. Two years later, Wallonia experimented with a centralized school allocation system, giving priority to students living nearby and taking into account the social mix. The authors conclude that the mere installation of a system of centralized allocation can create an impression of scarcity. It is also easily perceived as a violation of free school choice. Unfortunately, we are not yet aware of policy evaluations measuring the effect on segregation itself. Interventions on school financing are not likely to decrease school segregation by much. While schools may receive supplementary resources for students from poorer backgrounds, it is politically very difficult to penalise school for not achieving the right social mix (especially when schools are formally not allowed to select students themselves).

Lastly, we consider the situation in France, where addresses are linked to public school priority access (Schiff et al [24]). While it is relatively simple to redefine this mapping of students to schools in order to decrease segregation, in reality this is far

less simple. The existence of private schools gives parents an outside option if they do not prefer the school they are matched to. Lastly, the authors warn for a negative labelling effect. When the government singles out a set of schools that require extra resources and monitoring, middle class parents may be even less likely to consider these schools.

1.3 School enrolment policy and diversity objectives

From the above overview, it is clear that enrolment policy should be an important part of any comprehensive desegregation policy. If not, it risks to be ad hoc, to have only temporary effects or to stigmatize individual schools as problematic, in case the policy is very selective rather than encompassing. There are different ways in which a desegregation objective can be incorporated in school enrolment policy. We distinguish between 3 categories of enrolment systems: quota, reserves and free school choice. One could remark that there is another category: one in which no choice is available at all. In many countries and regions, students are allocated to schools based on residential location. Such a system, however, could be fit in one of the other categories, adding a priority rule based on distance to school.

In a quota system, a particular school place is put aside for students of one type and can never be taken by a student from another type. We also place systems with hard bounds in this category. In this case, students of different types are complements (Ehlers et al [8]). The probability that one is admitted to a school depends on the number of students from other groups that are interested. In a system based on reserves, priority is given to those students that are underrepresented, but not at all costs. Students can take places that were reserved for the other type in case there is not enough interest from that side (see, i.a. Echenique and Yenmez [7]). Lastly, in a system of free school choice, no diversity objective is taken into account.

Our interest here is not in the properties of these systems or mechanisms, but in their effect on segregation. We are not aware of any studies that look into this effect. Of course, when students are assigned to schools in a central way (e.g. via an electronic register), the effect of segregation under different allocation systems can be precisely determined once preferences are registered. The new Flemish system can be categorized as a reserves-based one, but the allocation is done in a decentralized way. No overarching central register exists. We discuss the new enrolment policy in further detail in section 2.2.

2 Increasing school segregation and desegregation policy in Flanders

We now discuss the Flemish enrolment policy and investigate whether it has been effective in countering school segregation. First, we document how school segregation is measured and how it has evolved in recent years in Flanders. Then, we introduce the policy change of 2013 and trace effect on segregation. At the end of this section, we take a closer look at the mechanism through which segregation was reduced and find that disadvantaged students were affected stronger than their advantaged peers.

2.1 Measuring school segregation

We conceptualise segregation as the uneven distribution of students from different socio-economic backgrounds across schools. The instrument we use to measure this phenomenon is the Hutchens (H) or Atkinson index [11]. This index satisfies a list of desirable properties from the literature on segregation measurement (Frankel & Volij [9]). In the definition below, for the two-group case, s_1^n represents the share of students from group 1 that attend school n. If for all schools n it holds that $s_1^n = s_2^n$, segregation is minimal (H = 0). If every school only has students from one of the groups, segregation is maximal (H = 1).

$$H = 1 - \sum_{n} \sqrt{s_1^n s_2^n} \tag{1}$$

The Hutchens index varies between 0 (absence of segregation) and 1 (complete

segregation). The more the composition of schools differs from each other in the geographic area under investigation, the higher the degree of segregation in this area. We stress that segregation is a property of a geographic area, not of individual schools. It is important to specify the unit of analysis, how school composition is defined, and which is the relevant geographic area.

Unit of analysis. When studying school segregation, the logical units are schools. Often, schools have campuses at multiple locations. In such cases, we consider each campus as a separate school.

School composition. We are interested in socio-economic segregation, since this is the type of segregation that the government tried to reduce via its enrolment policy. These relevant groups are advantaged and disadvantaged students. In order to distinguish between these groups, two indicators are used: family income and maternal education level. If family income is below a certain threshold level, the student qualifies for a school grant. This criterion is close to the free school meals criterion in England. If the student's mother does not have any higher education degree of qualification, she is considered lowly educated. The government definition of a disadvantaged student is a student who gets a school grant and/or has a lowly educated mother. The socio-economic data are available since 2007, but if we make the assumption that these variables are constant for each individual, we can trace the evolution of segregation back to 2001.

Geograpic reference area. Segregation is always a relative phenomenon. The reference area is the area which composition we compare to the composition of schools, in order to make a judgment on the level of segregation in the area. A school with a high proportion of disadvantaged students can be a good reflection of the neighbourhood it is located in. At the same time, however, it can contribute strongly to segregation at a higher level (if the proportion of disadvantaged students in that larger region is much lower). In our analysis, the relevant geographic unit will be the municipality.

Figure 1 below shows the evolution of segregation in Kindergarten in the different

provinces of Flanders (plus Brussels, where the Flemish community organises and finances schools as well). In almost all provinces, except for Brussels, an increasing segregation trend can be observed from 2001 to 2012. In the last school year, 2013, segregation has stabilised and even declined in some regions. In the remainder of this text, we study whether this is an effect of the change in school enrolment policy. We remark that in figure 1, all Kindergarten students are considered, not only those that make an initial enrolment.

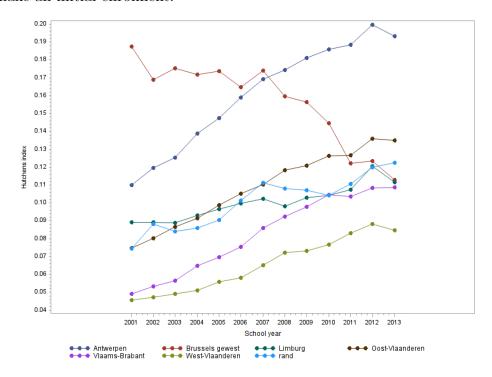


Figure 1: The evolution of school segregation by province (Kindergarten)

2.2 Change in Flemish school enrolment policy

For the school year 2013², the enrolment policy changed. In some areas, Kindergarten, primary and secondary schools (first grade) were obliged to comply with new

 $^{^{2}2013}$ refers to the school year 2013-2014. For simplicity, we only write the year in which the school year starts.

priority rules aiming at a reduction in school segregation. In practice, a reserves system was put in place. Each school has to reserve some of its places for disadvantaged students, while reserving the rest for advantaged students. The ratio between these reserves is determined by the socio-economic composition of the neighbourhood or community in which the school is located. When one of these two reserves is not filled up, the remaining places are allocated to students from the other group. Priority within these groups remains the same as before the policy change (i.e. first come first serve in most schools and distance to school in some cities where a centralized allocation system was already in place). This change in enrolment policy was made mandatory in the most densely populated areas. In other areas it could be adopted voluntarily.

This reserves-based policy clearly puts some weight on desegregation, while still putting parental preferences central. If demand for places at a school is lower than the supply, every 'applicant' will be allocated a place. This implies a crucial dependence of the desegregation effect on parental preferences. If not enough parents actually prefer to select a school where their group is strongly underrepresented, little will change.

Furthermore, the full effect is unlikely to kick in immediately. The main reason is that some students enjoy absolute priority, for instance students who have a sibling at the school or (the much smaller group) whose parent(s) work at the school. In some schools, no places are left after these students have exercised their priority. Sometimes, schools also give priority to students progressing from Kindergarten to primary school when they stay within the school (group). For this reason, we focus on Kindergarten schools, where this factor does not come into play.

Another condition to observe any effect is that schools are more segregated than neighbourhoods. If not, there is just no "room" for desegregation. This turns out not to be a problem. Figure 2 below shows that the curve for neighbourhood segregation lies above the one representing school segregation for the province of Antwerp ³. For

³In order to make this comparison, we define neighbourhoods such that their number equals the

other provinces we come to qualitatively similar findings: school segregation is not the mere reflection of neighbourhood segregation in schools.

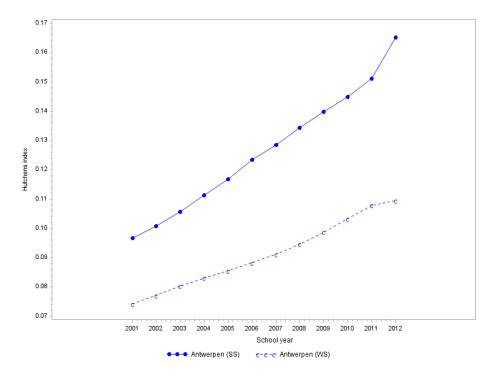


Figure 2: School segregation (full line) and neighbourhood segregation (dashed line) in the province of Antwerp.

3 Effect on school segregation

From figure 1, we learn that the increase in school segregation has recently come to a halt. In this section, we study wether this is related to the change in enrolment policy which took effect in the same school year. We focus on those students whose parents make an intitial school choice (i.e. they were not in education/Kindergarten before), and on those municipalities where the change in enrolment policy was made number of schools. If not, neighbourhood segregation would be artificially inflated compared to school segregation.

mandatory. It is for these students and schools that the most significant effect is to be expected.

3.1 Varying capacity constraints

The dependent variable in our first analysis is a double difference in the segregation (Hutchens) index (DDH): the first differences are year-on-year changes in segregation, between 2013 and 2012 and between 2012 and 2011. The second difference is between these first ones: $DDH = (H_{2013} - H_{2012}) - (H_{2012} - H_{2011})$. If DDH is positive, it means that segregation increased more (or decreased less) between 2013 and 2012 than between 2012 and 2011. This (dependent) variable is represented on the vertical axis of figure 3. Every dot represents a municipality (or a part of it for the larger ones).

We exploit variation in the difference school capacity (supply) and demand for places to estimate the impact of the policy change. In those areas where the margin between supply and demand is very small, more students will face binding capacity constraints at some schools. Only in these schools, the reserves-based enrolment policy can have an actual effect on socio-economic diversity. The relevant data on this variable are from the Capacity Monitoring research project. Some capacity constraints are observed directly. Schools in areas where capacity constraints are often binding were queried schools regarding their number of available places. For the other schools, capacity was imputed by taking the maximum number of students at these schools and multiplying this number by 1.30, to take into account that these schools were not running at maximum capacity. The capacity margin ("CM", supply minus demand, expressed as a percentage of demand) is depicted on the horizontal axis in figure 3. This variable can be interpreted as the share of places that is not taken in a certain region. In this representation, no area is characterized by overdemand. This follows artificially from the simple observation that no school can admit more students than the number of places it has available. Fortunately, this is not relevant. What counts is the distribution of municipalities according to their capacity margin.

As a result, we estimate the following simple equation using OLS. The subscript c stands for the municipality level, at which this analysis is done. The parameter of interest is β_{CM} , which we expect to be positive. The more places are available, the smaller the policy effect and the larger the increase in segregation we expect.

$$DDH_c = \alpha + \beta_{CM} * CM_c \tag{2}$$

In figure 3, we do not find evidence for a significant relationship between the capacity margin and the double difference in segregation (DDH) (coefficient=0.17; p=0.16). This relationship is represented by the full regression line. The dashed line concerns the most recent change in segregation $(H_{2013} - H_{2012})$, the dotted line is associated with the previous change $(H_{2012} - H_{2011})$.

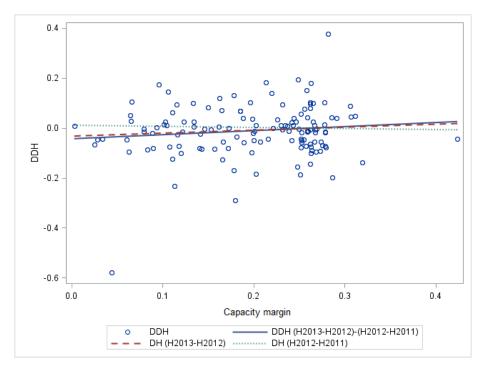


Figure 3: DDH vs capacity margin. Dots=municipalities.

Even when the analysis is restricted to a subset of areas, for instance those with

a relatively high number of schools (more than 5 or 10), or those where segregation is high $(H_{2012} > 0.07 \text{ or } H_{2012} > 0.12)$, no significant effect is observed.

Since we cannot find evidence for a clear link between a change in school segregation and the change in enrolment policy at the municipality level, we investigate whether it is the case for segregation between municipalities. This is done in figure 4. Every dot again represents a municipality, for which the capacity margin can be found on the horizontal axis. However, on the vertical axis, we now represent changes in segregation (DDH) in a larger area: the municipality and its direct neighbours.

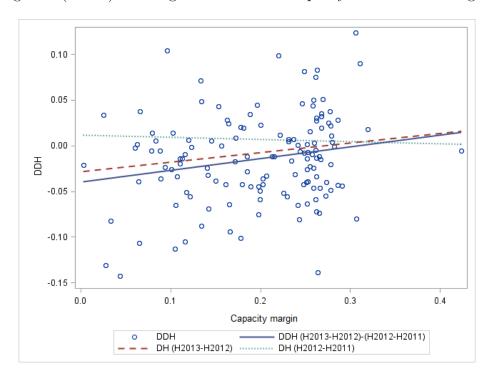


Figure 4: DDH (municipalities and their direct neighbours) vs capacity margin (municipalities).

In figure 4, we now observe a significant relationship (coefficient=0.13; p=0.02). Compared to a larger reference area (the municipality and its direct neighbours) schools resemble each other more than before (dashed line), and the more so when capacity constraints are binding. The change in the period before is of little impor-

tance (full line). This relationship can be explained mostly by differences in school composition between municipalities. This is made more explicit in figure 5, where we change the unit of analysis from schools to municipalities (i.e. we pretend there exists only 1 school per municipality). The ensuing relationship is again significantly positive (coefficient=0.08; p=0.02). In areas where capacity constraints are binding, school population at the municipality level resembles school population in neighbouring municipalities more in 2013 than in 2012 (relative to the change in the previous period). The decrease in school segregation can thus partly be explained from changes in commuting patterns between municipalities.

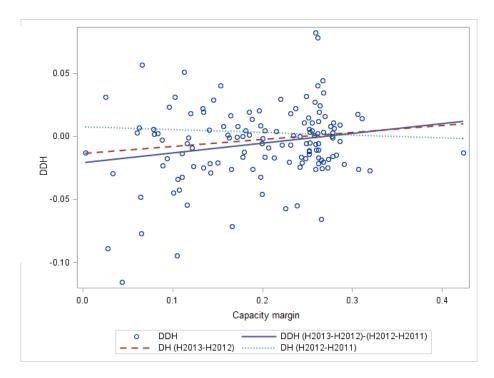


Figure 5: DDH (between municipalities and their direct neighbours) vs capacity margin (municipalities).

3.2 Commuting patterns

From the analysis in the previous section, we conclude that segregation (between municipalities' school populations) has declined as a result of the change in enrolment policy. In this section, we try to confirm these findings with evidence at the microlevel.

We conduct a (pooled) logistic regression. The response variable is the decision to select a school outside (1) or inside (0) the municipality where the student lives. We again consider Kindergarten schools and school years 2012 (no change in enrolment policy) and 2013 (change in enrolment policy). We look for the determinants of the probability that parents select a school outside their own municipality. Table 1 presents 3 models, all with the same binary response variable. The table presents odds ratios and their standard errors. We go through the first model and its variables (shown in equation 3 below).

$$Y_i = f(RelComp_{ic}, Disadv_i, EP_c, Cap_c, Dist_i)$$
(3)

Variable $RelComp_{ic}$, which indicates the relative weight of the student's own group (advantaged or disadvantaged) in her community, relative to the weight in neighbouring municipalities. A positive value thus means the student's own group is better represented in her own community than in the neighbouring ones. The more students from one's own socio-economic group living in a certain municipality (relative to the composition in neighbouring municipalities), the smaller the chance one will select a school outside this municipality, ceteris paribus. Students prefer the presence of their own group at school.

Disadvantaged students ($Disadv_i$) are less likely to select a school outside of their municipality. This variable is interacted with $RelComp_{ic}$, rendering an odds ratio larger than 1. Disadvantaged students are more likely than advantaged students to look for schools outside of their own municipality when the proportion of their group gets larger. This is not surprising; high concentrations of disadvantaged students will at some point cancel out the positive same-group effect ($RelComp_{ic}$).

 EP_c is a dummy variable indicating whether the change in enrolment policy is applicable to the municipality the student lives in. As a result, this dummy takes the value of 0 in every municipality in 2012, and 1 in some municipalities in 2013. We thus exploit an additional source of variation compared to the analysis in section 3.1. We do not find a direct effect of EP_c , but some interaction effects are significant. In those areas affected by the policy change, students are more likely to find a school outside their municipality if their own group is relatively well represented there $(EP_c*RelComp_{ic})$, and disadvantaged students are more likely to stay in their municipality $(EP_c*Disadv_i)$.

The next significant variable is Cap_c , a dummy indicating whether capacity constraints are binding. We say capacity constraints are binding when less than 10% of the estimated number of places remains available (see section 3.1 for the way school capacities are constructed). As expected, we find that binding capacity constraints are linked to a higher probability to select a school outside the municipality. This variable is subsequently interacted with the relative student composition in the municipality and the policy change dummy, without giving rise to significant effects. The following interaction term is of greater importance. The sign of $Cap_c*EP_c*RelComp_{ic}$ indicates whether pupils in areas where the policy change is mandatory and where capacity constraints are binding, are more likely to commute outside the municipality if their group is relatively overrepresented. This is what can be expected when the policy change has an effect. In areas where places are scarce, priority will be granted to students of the underrepresented group. The regression results confirm that this is linked to an increased likelihood of an outflow by the overrepresented group.

We add a last control variable, the distance to the closest school outside one's own municipality $(Dist_i)$. The larger this distance, the smaller the chance students will look for schools outside their municipality.

	Model 1	Model 2	Model 3
	OR (SE)	OR (SE)	OR (SE)
Relative presence own group	0.150***	0.155***	0.720**
(RelComp)	(0.0174)	(0.0183)	(0.119)
Disadvantaged student (Disadv)	0.746***		
	(0.0136)		
Disadv*RelComp	5.431***		
Disady Relecting	(1.043)		
	(====,		
New enrolment policy mandatory	1,034	1.063**	0.927*
(EP)	(0.0212)	(0.0225)	(0.0306)
EP*RelComp	0.537**	0.697	0.807
	(0.118)	(0.158)	(0.239)
EP*Disadv	0.916*		
EP DISauv	(0.0323)		
	(0.0323)		
EP*Disadv*RelComp	1,634		
	(0.563)		
Binding capacity constraints (Cap)		1.145***	
	(0.0374)	(0.0464)	(0.0633)
Can*PalComp	0.901	0.625	2 122
Cap*RelComp	(0.281)		2,123 (1.184)
	(0.201)	(0.233)	(1.101)
Cap*EP	1,020	0.921	1,103
	1	(0.0576)	(0.0908)
Cap*EP*RelComp	3.878**	0.972	7.124*
	(1.889)	(0.629)	(5.704)
Distance neighbouring commune	0 507***	0.593***	0.573***
Distance neighbouring commune (Dist)	1		(0.00733)
Dist	(0.00307)	(0.00-37)	(0.00733)
Sample	All	Adv	Disadv
Pseudo-R ²	0.063	0.063	0.064
N	143675	101355	42320
*** p<0,01; ** p<0,05; * p<0,10			

Table 1: Logistic regression: determinants of out-of-municipality school choice.

We also split the sample into advantaged (column 2) and disadvantaged (column 3) students. The effect of the policy change is entirely explained by the latter group. It seems the disadvantaged students are the only group whose commuting patterns change as a result of the change in enrolment policy. If only disadvantaged students are forced to move and pay a cost in the form of higher commuting costs, the equity aspect of this reform can be questioned.

4 Conclusion

School segregation is an issue in many countries and regions. In this paper, we evaluated the impact of a change in school enrolment policy in Flanders, introduced in 2013. The reform entails that in some areas, schools are forced to take diversity into account when enrolling students, although parental preferences (freedom of school choice) are still the starting point. We find that segregation in Kindergarten schools has declined as a result. We find evidence for a between-municipality desegregation effect.

One might have expected a more significant change. There are some reasons, however, why the full extent of the effect might not be visible yet. First of all, if people prefer segregated schools (i.e. people like to be with others from their own group), an enrolment system with reserves (as the one that was introduced in Flanders) might not change segregation significantly. Second, schools grant absolute priority to siblings of children that are already at the school. This implies the current socio-economic school composition will be reflected in the next one.

Using two categories (e.g. advantaged vs disadvantaged students) makes for a relatively transparent system. However, this also has drawbacks. Although our analysis indicates a sizeable desegregation effect, it may be hard to notice in practice. Anecdotal evidence shows that, sometimes, the least disadvantaged students in a school get replaced by the least advantaged from the other group.

References

- [1] S. C. Andersen, M. Jeppesen, M. Kirk, C. L. Rasmussen, and R. Slot. *International perspectives on countering school segregation*, chapter School segregation in Danish public schools, pages 99–113. Antwerpen/Apeldoorn: Garant, 2010.
- [2] D. Boyd, H. Lankford, S. Loeb, and J. Wyckoff. Analyzing the determinants of the matching of public school teachers to jobs: Disentangling the preferences of teachers and employers. *Journal of Labor Economics*, 31(1):83–117, 2013.
- [3] M. B. Cucchiara and E. M. Horvat. Perils and promises: Middle-class parental involvement in urban schools. *American Educational Research Journal*, 46(4):974–1004, 2009.
- [4] M. de Haan, P. A. Gautier, H. Oosterbeek, B. van der Klaauw, et al. The performance of school assignment mechanisms in practice. Technical report, CEPR Discussion Papers, 2015.
- [5] M. Demeuse and N. Friant. International perspectives on countering school segregation, chapter School segregation in the French Community of Belgium, pages 169–187. Antwerpen/Apeldoorn: Garant, 2010.
- [6] P. T. Dinesen. Me and jasmina down by the schoolyard: An analysis of the impact of ethnic diversity in school on the trust of schoolchildren. *Social science research*, 40(2):572–585, 2011.
- [7] F. Echenique and M. B. Yenmez. How to control controlled school choice. American Economic Review, 105(8):2679–2694, 2015.
- [8] L. Ehlers, I. E. Hafalir, M. B. Yenmez, and M. A. Yildirim. School choice with controlled choice constraints: Hard bounds versus soft bounds. *Journal of Economic Theory*, 153:648–683, 2014.

- [9] D. Frankel and O. Volij. Measuring school segregation. *Journal of Economic Theory*, 146(1):1–38, 2011.
- [10] J. Hughes, A. Campbell, S. Lolliot, M. Hewstone, and T. Gallagher. Inter-group contact at school and social attitudes: evidence from northern ireland. Oxford Review of Education, 39(6):761–779, 2013.
- [11] R. Hutchens. One measure of segregation. *International Economic Review*, 45(2):555–578, 2004.
- [12] J. G. Janmaat. The effect of classroom diversity on tolerance and participation in england, sweden and germany. *Journal of Ethnic and Migration Studies*, 38(1):21–39, 2012.
- [13] R. D. Kahlenberg. All together now: Creating middle-class schools through public school choice. Brookings Institution Press, 2004.
- [14] R. D. Kahlenberg. *International perspectives on countering school segregation*, chapter Combating school segregation in the United States, pages 13–31. Antwerpen/Apeldoorn: Garant, 2010.
- [15] A. Keating and T. Benton. Creating cohesive citizens in england?: exploring the role of diversity, deprivation and democratic climate at school. *Education*, *Citizenship and Social Justice*, 8(2):165–184, 2013.
- [16] A. Kokkonen, P. Esaiasson, and M. Gilljam. Ethnic diversity and democratic citizenship: evidence from a social laboratory. *Scandinavian Political Studies*, 33(4):331–355, 2010.
- [17] J.-S. Lee and N. K. Bowen. Parent involvement, cultural capital, and the achievement gap among elementary school children. American Educational Research Journal, 43(2):193–218, 2006.

- [18] C. McClenahan, E. Cairns, S. Dunn, and V. Morgan. Intergroup friendships: Integrated and desegregated schools in northern ireland. *The Journal of Social Psychology*, 136(5):549–558, 1996.
- [19] C. McGlynn, U. Niens, E. Cairns, and M. Hewstone. Moving out of conflict: The contribution of integrated schools in northern ireland to identity, attitudes, forgiveness and reconciliation. *Journal of Peace Education*, 1(2):147–163, 2004.
- [20] S. Paolini, M. Hewstone, E. Cairns, and A. Voci. Effects of direct and indirect cross-group friendships on judgments of catholics and protestants in northern ireland: The mediating role of an anxiety-reduction mechanism. *Personality* and Social Psychology Bulletin, 30(6):770–786, 2004.
- [21] D. Peters and G. Walraven. *International perspectives on countering school segregation*, chapter The Netherlands: interventions to counteract school segregation, pages 13–31. Antwerpen/Apeldoorn: Garant, 2010.
- [22] T. F. Pettigrew and L. R. Tropp. A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology*, 90(5):751, 2006.
- [23] B. Sacerdote. Peer effects in education: How might they work, how big are they and how much do we know thus far? *Handbook of the Economics of Education*, 3:249–277, 2011.
- [24] C. Schiff, G. Felouzis, and J. Perroton. International perspectives on countering school segregation, chapter Combating School Segregation: the case of France, pages 189–204. Antwerpen/Apeldoorn: Garant, 2010.
- [25] S. Sierens, P. Mahieu, and W. Nouwen. *International perspectives on countering school segregation*, chapter The desegregation policy in Flemish primary education: is distributing migrant students among schools an effective solution?, pages 151–168. Antwerpen/Apeldoorn: Garant, 2010.

- [26] J. Thijs and M. Verkuyten. School ethnic diversity and students' interethnic relations. *British Journal of Educational Psychology*, 84(1):1–21, 2014.
- [27] M. Thrupp, H. Lauder, and T. Robinson. School composition and peer effects. International journal of educational research, 37(5):483–504, 2002.
- [28] T. van der Meer and J. Tolsma. Ethnic diversity and its effects on social cohesion. Annual Review of Sociology, 40:459–478, 2014.
- [29] C. V. Willie, R. Edwards, and M. J. Alves. Student Diversity, Choice and School Improvement, chapter Controlled Choice in Cambridge, pages 48–60. Greenwood Publishing Group, 2002.