Commuting patterns of preschool children in metropolitan Stockholm

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Abstract
This full population study of travel-to-preschool patterns of the youngest children (< 6 years old) in metropolitan Stockholm analyses how school markets, even at an early stage, reproduce inequalities related to social and geographical distances. Our findings show that families with foreign backgrounds tend to convert educational capital into social capital by sending their children to preschools in more socio-economically favourable neighbourhoods. Furthermore, we detect avoidance behaviour among the majority population in ethnically mixed neighbourhoods, which indicate that some native families are inclined to avoid preschools with high shares of non-native peers.

KEYWORDS
commuting patterns, preschool, school market, segregation

JEL CLASSIFICATION
I24; J13

1 | INTRODUCTION

In the early 1990s, Sweden launched an extensive school reform that paved the way for deregulation, privatization and marketization within the publicly funded school system (Dovemark et al., 2018). Today, the public school system in urban Sweden comprises extensive school markets, offering a large supply of different educational options and providers. This transformation has also turned families into customers who need to develop strategies and take action in all parts of the educational system – all the way from preschool to upper-secondary and adult education.
Furthermore, the geography of these urban school markets is structured by the distribution of people's different kinds of resources in social space, making some schools very attractive while others are avoided (cf. Fjellman, 2019; Forsberg, 2018).

Alongside family background and economic resources, mobility has become an important aspect of what shapes families' educational strategies, particularly in urban settings (cf. Andersson et al., 2012; Lubienski et al., 2009; Poupeau et al., 2007; Raveaud & van Zanten, 2007). Most studies on this matter pay attention to compulsory or secondary education, while few have examined the expanding preschool sector. In this paper, we analyse the travel-to-school patterns of the youngest children (< 6 years old) in metropolitan Stockholm in order to understand how urban school markets, even at an early stage, shape and reshape social and geographical inequalities. The question in this paper regards what makes parents commute past their closest preschool(s) and have their children attend a preschool further away from home.

The Swedish preschool system comprises different types of providers. Public preschools are run by the municipalities and is the most common form of preschools. In addition, there are several types of private providers, who operates with either for-profit or non-profit interests. The former type ranges from preschools of larger for-profit driven business firms to small companies with only one preschool. Among the non-profit providers, parental and staff co-operatives are the most common In parental co-operatives, it is common that parents share the responsibility for cleaning or help out as staff in various capacities. Parents make up the co-operative that owns the preschool while the staff own and run the staff co-operatives. There are also other forms of non-profit providers such as preschools driven by different types of foundations or congregations. All preschools need to follow the national education act and the curricula for preschools. The difference between the types of preschools, besides the owning arrangements, are the for-profit character of some preschools and the parental involvement in others. It is also common that, especially private, preschools develop pedagogical profiles such as Montessori, Reggio Emilia and others.

In this paper we ask how common commuting past the closest preschools is, and to what extent the family's cumulative assets, the preschool's composition of resources and the local preschool market's supply and geographical distribution can explain parts of the variation in urban preschool enrolment. These questions address important aspects of how children's socialization is affected by segregation and by families' educational strategies. For example, Frankenberg et al. (2016) note that preschool children develop racial bias at around the age of five years, and preschool is important for subsequent choices to the compulsory school (Karsten et al., 2003). These individual and societal level consequences of childcare make the preschool sector an important research topic as well as a topic for public debate.

Theoretically, we work within a Bourdieusian tradition, focusing on how families' volume and composition of assets are related to their positions and dispositions in social space. In this case, drawing on registry-based data of the total population, we take note of families' composition and volume of educational and economic assets (cf. Bourdieu, 1979). Andersson et al. (2012) identify two important factors for school choice: children's ability to commute, which is associated with costs (money and time), and individuals' socio-economic positions. Furthermore, on a collective analytical level, families are part of larger social groups who occupy different positions in social space. It is conceivable that these different positions lead to different educational strategies (Bourdieu, 1994). At the same time, such strategies are subject to geography with regard to locations, time and distances (Hägerstrand, 1982), especially when it comes to local school markets (Poupeau & François, 2008). In relation to this, we explore the occurrence of white/native avoidance (for a Swedish compulsory school context; see Andersson et al., 2012; Bunar & Kallstenius, 2005).

Accordingly, we combine theoretical perspectives from both geography and sociology in order to outline a study that investigates how social groups' assembled assets and social position reflect geographical mobility related to preschool commuting. The study contributes to and complements the international research and debate on school choice by providing a unique insight into school travel and choice among the youngest children.

We begin the paper by discussing research on school choice and commuting. Thereafter, we briefly introduce the Swedish preschool system. The analytical strategy, data and variables are presented in the methods.
section followed by the results section in which we examine commuting to preschools. In a final concluding section, we summarize our findings and discuss policy implications.

2 | LITERATURE ON SCHOOL CHOICE AND COMMUTING

As far as we know, there is a lack of larger quantitative studies on preschool children's travel-to-preschool patterns. Thus, we will mainly develop our knowledge on school choice and commuting on the basis of research on older children.

In research on compulsory school, findings indicate that higher status families are more likely to actively choose schools (Musset, 2012), and that free choice tends to increase segregation (Hsieh & Urquiola, 2006). In contexts where free school choice may influence travel-to-school distance, studies focusing on (spatial) acting capacity are of importance. Andersson et al. (2012) find that the average distance travelled to schools increased over time, but those with foreign background travelled shorter distances, at least those whose parents had less education (see also Bunar & Kallstenius, 2005). They attribute the differences to the possession of spatial capital, which opens up the possibility for some socio-economically more affluent families to commute with their children, or a lack of spatial capital that restricts some families' choice of schools. Commuting may be caused by the desire to send children to high-achievement schools. However, it is not straightforward to evaluate the extent to which high achievement is caused by socially stratified enrolment or actual contributions by the school and its teachers (Brandén & Bygren, 2018). Schools that do not perform very well in terms of grade point averages (GPA) tend to recruit children from much shorter distances, while well-performing schools have a broader geographical area of recruitment (Butler et al., 2007). Indicators of quality is of course even more difficult to evaluate in preschools.

In Sweden, the deregulation of the educational system and the introduction of an extensive free-choice reform have strengthened the patterns of ethnic segregation (Andersson et al., 2010). Such patterns are also visible in preschools, even if concentration by educational background is even more pronounced in preschools (based on data from one year, Alm Fjellborg & Forsberg, submitted). In relation to the present study on preschool commuting, and in the absence of preschool segregation studies (for Oslo see Drange & Telle, 2020 for one important exception), it is important to note the impact that ethnic background, socio-economic status and parents' educational level have on school choice in general (e.g., Andersson et al., 2012; Burgess & Wilson, 2005; Karsten et al., 2003; Noreisch, 2007). Findings from Oslo, Norway, reveal that, in a preschool setting clustering of socio-economically well-off households take place even in a system with high subsidies for childcare (Drange & Telle, 2020). By comparing actual enrolment with different catchment areas, they show a substantial reduction in levels of segregation for immigrants if households were to attend the closest preschool. They also find evidence of cherry-picking among private preschools indicating that there are problems of choice and admissions rules even in a system with universal preschool admission.

Even in a context with far-reaching free (pre)school choice, some selection bias is expected. For example, some studies show that parents choose schools by their ability to take out mortgages (e.g., Lindbom & Almgren, 2007; Walford, 2003). School segregation is then mirrored by households' settlement patterns. These residential settlement patterns are increasingly dependent on income in Sweden as in many other countries (Fjellborg, 2020; Vogiazides, 2018). The Tiebout hypothesis connects individual choices of residential location to the quality of local public goods. This may be an important part of preschool commuting. If higher quality preschools, or preschools demanded by higher income groups, are located near their homes, commuting in this group is likely to be low. However, there could be groups that do not have the economic strength to find housing in desirable neighbourhoods where their preschool alternatives of choice are located, for these groups commuting is likely higher.

Given that Drange and Telle (2020) find that the enrolment in preschools increases ethnic segregation in Oslo we test the hypothesis of white flight/avoidance. The concepts of flight and avoidance were developed in relation to residential segregation in the USA (e.g., Frey, 1979; Galster, 1990; for Sweden, Bråmå, 2006) and have been applied in school choice debates (in the USA, Lareau & Goyette, 2014; in France, Broccolichi & Zanten, 2000). In relation to
preschools, flight behaviour might appear if children of the majority population start to commute to other preschools when the share of children with foreign background increase at the local preschool, just as in relation to housing, out mobility rises in the majority population if there is an inflow of minority residents to the neighbourhood. Avoidance behaviour appears if the preschool/neighbourhood composition is not satisfactory, and families choose a different preschool due to the risk that the closest preschool will resemble the socio-economic and ethnic composition of the immediate neighbourhood.

We argue that social and ethnic avoidance is a highly relevant topic to study in the context of preschools. We argue that it is especially suitable to estimate avoidance behaviour in the preschool market because of the lack of other key structuring factors of choice, except the social and ethnic background factors argued to be at the centre of the theory of white/native flight and avoidance. There is also a strong expectation that families will choose the closest preschool to make their everyday routines as convenient as possible. However, other aspects could influence the preschool enrolment; parents' work related commuting, divorced parents' housing arrangements, and a lack of available preschool slots at the closest preschool. With the available data for our analysis we control for parents who live together. But, to fully understand how these factors structures family's preschool choice other type of data and analysis are necessary.

2.1 | A brief introduction to the Swedish preschool system

Education in Sweden is publicly funded and caters to everyone, from small children to young adults. Children normally attend preschool between the ages of 1–5. From the age of one, children are entitled to a slot in a preschool and from the age of three, families have the right to receive a minimum of 525 hours of childcare per year. According to public statistics, 510,000 children were registered in the Swedish preschool system in 2017, which is equivalent to approximately 84% of all children aged 1–5. Families pay a heavily subsidized fee for having their children in preschool. The amount differs between municipalities but is regulated by maximum fees stipulated by The Education Act.

The organization and regulation of preschool admissions might differ to some extent between the municipalities. The admissions system for public preschools also encompasses the majority of privately owned preschools. In the City of Stockholm, several interrelated criteria, deriving from The National Education Act, decide preschool enrolment, which reflects the general procedure in most Swedish municipalities. In the queuing system parents are able to rank preschools in order of preference, and compete with each other based on time in the queue and available slots. Tie-breaking is resolved according to priorities in the following order: (i) children with special needs; (ii) children at risk of not receiving the guaranteed slot at the age of one; (iii) children with siblings in the same preschool; and (iv) queue time. If a tie remains, older children have priority over younger children. Some private preschools manage their own admissions, usually through a queue system based on time in line.¹

Setting up a new independent/private preschool involves less bureaucracy than a general school. In some respects, this could lead to locational biases for some type of preschools. For instance, private preschool providers could establish themselves in high status neighbourhoods in order to avoid social problems that might be negative for their operation.

To sum up, the Swedish preschool system includes the majority of children and is publicly funded. Nevertheless, the system is based on parents' active choices, and preschool providers need to adapt to market incentives and to conditions imposed by administrative requirements and legislation.

2.2 | Our methodology

This paper deals with preschool commuting in metropolitan Stockholm. We make use of a subset of the rich registry data from Statistics Sweden compiled in the SEC-database at Uppsala University, covering information on family
background and preschool for all children between the ages of one and five. In all, the data comprise 501,604 children. The database includes a range of demographic, economic and educational variables for parents and the geographical location of preschools and residence of children and their families (on a 250 by 250 square metre grid). The data comprise every child in Greater Stockholm (N = 112,291, of which 106,899 attend preschool) – here defined as Stockholm County with its 26 municipalities. There are some problems with registry data on Swedish preschool children in the years before 2017, hence we use cross-sectional data from 2017, which limits the possibility to investigate the durability of the patterns revealed.

Our focus is on enrolment in preschools, we exclude very small units (e.g., childminders). From the data used, it is not possible to discern whether a child’s attendance at a particular preschool was an active choice by the parents or a necessity brought about by a lack of local preschool options. The latter may force parents to commute with their children just to gain access to a preschool. However, the data does allow us to study every child’s home neighbourhood and preschool location, making it possible to tease out larger structural aspects of preschool enrolment and geographical distances between home and preschool. Unlike Andersson et al. (2012), we are not modelling distance, but we do use distance in robustness checks. Instead, we use a count variable, by ranking available preschool choices by Euclidian distance from home. The calculations of distance are based on co-ordinates where preschools are located and where children live. However, since the co-ordinate grid is 250 by 250 square metres it is possible to have several preschools as the closest. The rankings then display if the child attends any of the closest preschools based on the distance between co-ordinate centroids. We calculate distance to the 50 closest preschools, hence our dependent count variable has a maximum value of 50 (mean = 3.6, SD = 4.9, variance = 24.248). All observations of children attending preschools further away are excluded because these are likely due to children living where they are not registered, for instance in the case where the parents are divorced.

Our statistical models show the extent to which preschool commuting is influenced by the families’ accumulated assets, neighbourhood context, preschool characteristics and market supply, which makes it possible to draw a rather detailed picture of factors shaping preschool enrolment, and in turn what shapes preschool segregation. We model the effect of independent variables on the dependent variable using a negative binomial regression (since the dependent count variable is over-dispersed with a variance-to-mean ratio of 6.6). This will estimate the effect of independent variables on the likelihood of commuting to a preschool further away. Thereafter we stratify the models by Swedish- (i.e., born in Sweden with at least one Swedish-born parent) and foreign-background (i.e., born abroad or born in Sweden with two foreign-born parents). This allows the analysis to probe avoidance behaviour as well as to bring an understanding of strategies that could be different between these broad groups. The fact that natives are more likely to be able to convert social and economic capital into favourable housing locations than the non-native part of the population (e.g., Vogiazides, 2018) could have an effect on the propensity to commute to preschools. Indicators of such effects will accordingly emerge in the analyses.

### 2.3 Data and classifications

Table 1 displays descriptive statistics for the variables used in the regression analysis, by which preschool the children attend and the last column displays the whole population.

Table 1 specifies the definitions of the variables, some of which need further clarification. Public preschools are by far the largest preschool type and for-profit companies (registered as limited companies) have a large share of preschool children in Greater Stockholm (27% compared to approximately 14.3% nationwide [The National Agency for Education, 2013]). Parental co-operatives are usually run as economic associations; these are registered juridical entities formed for the purpose of serving their members’ economic interests. There is no profit-seeking motive in this form of preschool, and the parents are the owners of the association. In the group other, we find staff co-operatives, foundations, preschools driven by religious organizations and other smaller staff-owned preschools.
**TABLE 1** Descriptive statistics of variables used in regressions. Total population of children attending preschool in Stockholm County 2017

| Variables                          | Child attends nth preschool | 1 | 2–3 | >3 | Total |
|------------------------------------|-----------------------------|---|-----|----|-------|
|                                   | N  | %  | N   | %  | N   | %  | N   | %  |
| N Total                           | 44,811 | 42% | 32,277 | 30% | 30,333 | 28% | 107,421 | 100% |
| Preschool provider                | Parental co-operation       | 1,300 | 31% | 1,175 | 28% | 1,777 | 42% | 4,252 | 4% |
|                                   | Other (e.g., staff co-operative) | 716 | 38% | 549 | 29% | 641 | 34% | 1,906 | 2% |
|                                   | For-profit                   | 11,354 | 39% | 8,220 | 28% | 9,475 | 33% | 29,049 | 27% |
|                                   | Public                       | 31,441 | 44% | 22,333 | 31% | 18,440 | 26% | 72,214 | 67% |
| Gender                            | Boys                         | 23,135 | 42% | 16,649 | 30% | 15,503 | 28% | 55,287 | 51% |
|                                   | Girls                        | 21,676 | 42% | 15,628 | 30% | 14,830 | 28% | 52,134 | 49% |
| Ethnic background child           | Born abroad                  | 1,519 | 38% | 1,215 | 31% | 1,249 | 31% | 3,983 | 4% |
|                                   | Foreign background (two foreign-born parents) | 10,474 | 46% | 6,770 | 29% | 5,763 | 25% | 23,007 | 21% |
|                                   | Swedish background (one parent born in Sweden) | 7,692 | 40% | 5,660 | 30% | 5,677 | 30% | 19,029 | 18% |
|                                   | Swedish background (two Swedish born parents) | 25,126 | 41% | 18,632 | 30% | 17,644 | 29% | 61,402 | 57% |
| Highest education in household    | Father                       | 22,577 | 42% | 16,160 | 30% | 14,797 | 28% | 53,534 | 50% |
|                                   | Mother                       | 22,234 | 41% | 16,117 | 30% | 15,536 | 29% | 53,887 | 50% |
| Family class fraction             | Working class (no HE and <= 4th income decile) | 7,147 | 42% | 5,051 | 29% | 5,001 | 29% | 17,199 | 16% |
|                                   | Lower middle class (less than 4 years of HE and <= 7th income decile) | 17,013 | 42% | 11,794 | 29% | 11,380 | 28% | 40,187 | 37% |
|                                   | Middle class (4–5 years of HE and <= 9th income decile) | 12,955 | 42% | 9,497 | 31% | 8,540 | 28% | 30,992 | 29% |
|                                   | Upper middle class (educational fraction) (more than 5 years of HE and any income decile) | 3,686 | 39% | 2,967 | 32% | 2,702 | 29% | 9,355 | 9% |
|                                   | Upper middle class (economic fraction) (less than 5 years of HE and 10th income decile) | 4,010 | 41% | 2,968 | 31% | 2,710 | 28% | 9,688 | 9% |
| Family occupation type            | Executives, engineers, academics (science) | 5,666 | 40% | 4,430 | 31% | 3,974 | 28% | 14,070 | 13% |
|                                   | Teachers, culture producers, physicians, mid-level specialists | 7,306 | 40% | 5,565 | 31% | 5,235 | 29% | 18,106 | 17% |
|                                   | Economics, IT, mid-level civil servants | 17,940 | 41% | 13,078 | 30% | 12,255 | 28% | 43,273 | 40% |
**TABLE 1** (Continued)

| Variables | Child attends nth preschool | Child attends nth preschool | Child attends nth preschool | Child attends nth preschool | Total |
|-----------|----------------------------|----------------------------|----------------------------|----------------------------|-------|
|           | N  | %  | N  | %  | N  | %  | N  | %  | N  | %  |
| **Worker, lower level health workers** | 13,899 | 43% | 9,204 | 29% | 8,869 | 28% | 31,972 | 30% |
| **Family type** | | | | | | | | | | |
| Single parent no | 40,446 | 43% | 28,854 | 30% | 25,593 | 27% | 94,893 | 88% |
| Single parent yes | 4,365 | 35% | 3,423 | 27% | 4,740 | 38% | 12,528 | 12% |
| **Neighbourhood by median income** | | | | | | | | | | |
| Low income (decile 1–3 by median income level) | 14,934 | 42% | 10,627 | 30% | 9,899 | 28% | 35,460 | 33% |
| Mid income (decile 4–7 by median income) | 15,064 | 42% | 10,698 | 30% | 10,362 | 29% | 36,124 | 34% |
| High income (decile 8–10 by median income) | 14,813 | 41% | 10,952 | 31% | 10,072 | 28% | 35,837 | 33% |
| **Continuous variables** | | | | | | | | | | |
| Preschool | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Nth preschool | 1 | 0 | 2.35 | 0.47 | 8.9 | 6.7 | 3.63 | 4.89 |
| Distance to preschool (unit = 100 meters Euclidian distance) | 339.2 | 484.62 | 609.79 | 686.86 | 1,658.43 | 1,961.91 | 793.02 | 1,278.3 |
| N children at preschool | 75.03 | 30.73 | 74.32 | 32.38 | 72.9 | 33.56 | 74.21 | 32.06 |
| **Individual characteristics** | | | | | | | | | | |
| Mean age parents | 36.86 | 5.16 | 36.93 | 5.17 | 36.54 | 5.25 | 36.79 | 5.19 |
| Birth year child | 2014 | 1.31 | 2014 | 1.32 | 2014 | 1.32 | 2014 | 1.32 |
| **Neighbourhood (DeSO)** | | | | | | | | | | |
| Share co-op housing (owned housing primarily in multi-family housing) | 31% | 30% | 34% | 30% | 34% | 30% | 33% | 30% |
| Share employed in neighbourhood | 81% | 8% | 81% | 8% | 81% | 8% | 81% | 8% |
| Share high education (>2 years at uni.) | 34% | 14% | 35% | 14% | 35% | 15% | 35% | 14% |
| Share couples with children (of neighbourhood population) | 29% | 13% | 28% | 13% | 27% | 13% | 28% | 13% |
| Share foreign background (in neighbourhood) | 34% | 22% | 34% | 21% | 33% | 21% | 34% | 21% |
| Share of own-group population in neighbourhood | 62% | 24% | 62% | 23% | 61% | 24% | 62% | 24% |
| **Closest preschool** | | | | | | | | | | |
| Share foreign staff | 29% | 19% | 30% | 19% | 23% | 23% | 29% | 19% |
| Children per educated preschool teacher | 18% | 10% | 17% | 9% | 17% | 9% | 17% | 9% |

*Source:* authors' calculations, SEC database.
In order to determine, or estimate, the social origin of the children's family, we draw on Bourdieu's concept of capital and the notion of social space. This holds that the agency of different social groups depends on their composition and the volume of their accumulated and inherited assets, which provide them with different positions from which to act, think and encounter the world in relation to each other (Bourdieu, 1979, 1994). However, to align with our methodological approach we have limited our analytical division of social groups to the dimensions of income and education, namely, cultural and economic capital. In the Bourdieusian stream of research, a distinction often emerges between social groups for whom cultural and/or educational capital is more important for their social position and dispositions in social space, and those for whom economic capital is more important (Blasius et al., 2020; Börjesson et al., 2016; Bourdieu, 1979; Forsberg, 2018; Schmitz et al., 2018). In order to operationalize such an approach, we have employed a scheme of five class fractions. This classification scheme distinguishes, especially for the more affluent groups, between families characterized by their educational investment prior to their economic outcomes and those with less educational investments. We use the families' highest level of education as an indicator of institutionalized cultural capital, and disposable income in deciles as an indicator of economic capital (definitions in Table 1). Finally, we control for a set of grouped occupational categories inspired by a Bourdieusian social classification scheme (Waddling et al., 2019). Altogether, these social background variables provide both width and precision when analysing how families' commuting patterns relate to their social position.

In line with the white/native avoidance hypothesis, a range of neighbourhood context variables are used in the statistical models. In this context, the neighbourhoods are Statistics Sweden's demographic statistical areas (DeSO). These areas were constructed by Statistics Sweden and launched in 2018. The DeSO areas take into account physical barriers in the built environment such as water, railways, streets and the extent of built-up areas as well as categorizations based on main housing type. In Greater Stockholm there are 1,247 DeSO areas with a mean population of 1,817.

Already at this point, it is worth noting that preschool children who do not attend their closest preschool to a larger degree attend non-public preschools, and especially parental co-operatives and for-profit preschools. Commuting also seems more common among them with a Swedish-background and among children living with single parents. While there are small differences between class fractions and occupational groups, it seems as if commuters attend preschools with fewer children and fewer children per teacher. There is also a slight over-representation of commuters among the educational fraction of the upper-middle class, and among children of parents within the occupational categories' teachers, artists, health care workers, and mid-level specialists. There thus seems to be more commuting among families belonging to higher-income social groups with higher levels of cultural capital, which is in line with corresponding findings from compulsory school (Andersson et al., 2012).

3 | RESULTS

We start the analysis by presenting characteristics of the different preschool types in Greater Stockholm (Table 2). Parental co-operatives and other co-operatives have fewer children per educated teacher, while for-profit preschools have the highest number of children per teacher. Most common in all groups, when dividing the population by class fractions is to attend a public preschool, as expected given the large share of such schools. However, both upper-middle class fractions are overrepresented in parental co-operatives, other co-operatives and for-profit schools. Similarly, children born in Sweden with Swedish-born parents are overrepresented in the same types of preschools, while there also is a slight overrepresentation of foreign-born children in for-profit preschools.

The relative overrepresentation of the upper-middle classes in some types of preschools could be explained by choices of where to open non-public preschools. As shown in Table 3, the upper-middle classes most often live in higher income neighbourhoods, while the working class tends to live in lower-income neighbourhoods alongside the
lower-middle class. It is notable that public preschools are relatively evenly distributed across neighbourhood types, except for the slightly lower shares in high-income neighbourhoods. For-profit preschools are much more common in higher income neighbourhoods than in other neighbourhoods with similar patterns for parental co-operatives. Other co-operatives, on the other hand, are more common in low-and middle-income neighbourhoods. The socio-economic difference in enrolment patterns thus also seems to be dependent on the locations of the type of preschool, with the over-representation of non-public preschools in higher income neighbourhoods as the most noticeable aspect.

This means that if there was no commuting beyond the closest preschools, more upper-middle class children would attend parental co-operatives and for-profit preschools, as these households and preschools tend to be located in the same neighbourhoods. This is in fact the case, as shown in Table 3. Households make choices about whether their children will commute, and some commuting is related to where parents are able to get their children admitted to preschools, as queuing could restrict their free choice. Table 4 displays some differences in characteristics between the closest preschool and the preschool that children attend. Thus, Table 4 displays a few initial and rudimentary indicators of social stratification of school enrolment and effects across social groups.

It is notable that all class fractions except for the working class have fewer children per educated teacher at the preschool where they are enrolled than at their closest preschool. One interpretation of this is that the enrolment patterns tend to reduce the child-to-teacher ratio at the preschools, compared to if there was no free choice and all children attended the closest preschool. Apart from the economic fraction of the upper-middle class, the differences are rather small when it comes to the effect of enrolment patterns on child-to-teacher ratio. Similarly, all groups

| Preschool type | Parental co-operative | Other co-operative | For-profit | Public |
|----------------|-----------------------|--------------------|------------|--------|
|                | Mean   | SD    | Mean   | SD    | Mean   | SD    | Mean   | SD    |
| Children per teacher     | 15.3   | 7.2   | 13.3   | 5.7   | 19.3   | 11.8  | 16.9   | 7.9   |
| Share foreign background staff | 17.9   | 16.5  | 14.4   | 18.8  | 27.9   | 19.5  | 31.3   | 18.1  |
| Working class | 231    | 1.3   | 250    | 1.5   | 3,883  | 22.6  | 12,835 | 74.6  |
| Lower middle class | 1,355  | 3.4   | 670    | 1.7   | 10,203 | 25.4  | 27,959 | 69.6  |
| Middle class          | 1,457  | 4.7   | 548    | 1.8   | 9,256  | 29.9  | 19,731 | 63.7  |
| Upper middle class (educational fraction) | 537    | 5.7   | 183    | 2     | 2,814  | 30.1  | 5,821  | 62.2  |
| Upper middle class (economic fraction) | 672    | 6.9   | 255    | 2.6   | 2,893  | 29.9  | 5,868  | 60.6  |
| Foreign-born            | 108    | 2.7   | 36     | 0.9   | 1,142  | 28.7  | 2,697  | 67.7  |
| Foreign-born with Swedish parent | 370    | 1.6   | 260    | 1.1   | 4,953  | 21.5  | 17,424 | 75.7  |
| Born in Sweden with foreign parents | 853    | 4.5   | 318    | 1.7   | 5,162  | 27.1  | 12,696 | 66.7  |
| Born in Sweden with Swedish parents | 2,921  | 4.8   | 1,292  | 2.1   | 17,792 | 29    | 39,397 | 64.2  |
| Low-income neighbourhood | 733    | 2.1   | 678    | 1.9   | 7,322  | 20.6  | 26,727 | 75.4  |
| Mid-income neighbourhood | 1,543  | 4.3   | 710    | 2     | 8,890  | 24.6  | 24,981 | 69.2  |
| High-income neighbourhood | 1,976  | 5.5   | 518    | 1.4   | 12,837 | 35.8  | 20,506 | 57.2  |
| Total                   | 4,252  | 4     | 1,906  | 1.8   | 29,049 | 27    | 72,214 | 67.2  |

Note: "a" = weighted by n children at the preschool.
Source: SEC database authors’ calculations.
except for the working class tend to choose preschools with fewer foreign-background staff members than the closest preschool.

3.1 | Regressions

From the literature review and the descriptive tables, it seems that some groups benefit from free school choice, while others do not. Simultaneously, it might be expected that households living in neighbourhoods with an
overrepresentation of private preschool options do not commute in the same extent because more desirable choices in the preschool market are available in their close vicinity. The regression model estimates the impact of various background characteristics on the dependent variable that shows how many preschools there are between the child's home and the preschool that the child attends. Hence, positive values in the regression tables indicate an increased likelihood of commuting further.

In the first model (Table 5) a set of individual characteristics are used to assess the impact on commuting for preschool children. The findings show that those belonging to the occupational category comprising economists, IT and mid-level civil servants are less likely to commute longer distances than the category of workers. This is expected, given that earlier literature suggests that higher social classes make more use of private school alternatives, and the descriptive analysis in this paper shows that there is an overrepresentation of these types of preschools in neighbourhoods where households with greater socio-economic resources tend to live. The class fraction variable corroborates these findings, in so far as it is shown that the upper-middle class economic fraction tends to be less likely to commute than the lower-middle class, while other group differences are not significant, indicating small differences between social groups in this regard.

Only small differences can be identified when it comes to the effect of children's and parents' age on commuting. Table 5 shows that children who were born in other countries than Sweden, or whose parents were born abroad, are more likely to commute. Furthermore, the type of preschool that the child attends affects commuting. The co-operatives increase the likelihood of commuting which may be an effect of these preschools being less geographically spread. The interpretation of these individual-level characteristics and their direction of impact does not change when adding neighbourhood level and preschool characteristics in models (2)–(4).

Commuting is less common in neighbourhoods with higher shares of well-educated residents, high employment rates and higher shares of couples with children. It may also be noted that commuting is more common in high-income neighbourhoods than other neighbourhood types.

When it comes to the characteristics of the closest preschool (model (3)), it seems that those living near a co-operative preschool are more inclined to commute than those who live close to other types of preschools. This might be due to the characteristics of co-operative preschools, which require some amounts of mandatory work from the parents. It may also be an effect of the relatively small size of these preschools. There may simply be too few slots for all children whose closest preschool is a parental co-operative. These preschools do not suit everyone, and the findings indicate that some avoid them while others commute to them. Further, few children per teacher in the closest preschool reduces commuting. As shown in the descriptive part of the paper, the upper-middle class (economic fraction) seem to be those who pay the most attention to the composition of preschool staff. A higher share of foreign-background staff at the closest preschool increases the inclination to commute, even if the coefficient is small.

In the fourth model, we add the variable ethnic similarity to neighbourhood. The results show that if the household's ethnic background is similar to the neighbourhood's ethnic composition (e.g., Swedish background in a predominantly Swedish neighbourhood) the inclination to commute is reduced, and vice versa. These results might be a sign of ethnic avoidance. The class avoidance is estimated with the interaction term class fraction*neighbourhood income. This interaction shows that the middle and upper-middle classes are more likely to commute if they live in low-income neighbourhoods, relative to the reference group of working class living in high-income neighbourhoods. It is obvious that socio-economic differences between a household and the surrounding neighbourhood increase the likelihood of enrolment in a preschool further away.

Some nuances and variations in the ethnic background variable warrant further attention. Unexpectedly, there is a higher likelihood of commuting among the foreign-born category. This could be a consequence of working-class families' choice to commute – perhaps out of necessity rather than an active desire. In order to analyse the ethnic differences displayed, we stratified the model above by foreign- and Swedish-background.
TABLE 5  Results from negative binomial regression (log-link) estimating the likelihood of commuting to the nth preschool. Stockholm County 2017 (N = 107,421)

| Variables                                     | Model (1)                        | Model (2)                        | Model (3)                        | Model (4)                        |
|-----------------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                                               | B(S.E) sig.                      | B(S.E) sig.                      | B(S.E) sig.                      | B(S.E) sig.                      |
| Intercept                                     | 20.61(5.461)***                  | 22.434(5.486)***                 | 23.492(5.494)***                 | 24.7(5.496)***                   |
| Individual level variables                    |                                  |                                  |                                  |                                  |
| Gender (girl = ref.)                          | 0.006(0.007)                     | 0.006(0.007)                     | 0.005(0.007)                     | 0.005(0.007)                     |
| Foreign-born                                   | 0.199(0.019)***                  | 0.176(0.019)***                  | 0.180(0.019)***                  | 0.070(0.021)**                   |
| Foreign-born with Swedish parent              | -0.008(0.01)                     | -0.052(0.011)***                 | -0.044(0.011)***                 | -0.127(0.013)**                  |
| Born in Sweden with foreign parents           | 0.052(0.009)***                  | 0.038(0.01)***                   | 0.046(0.01)***                   | -0.072(0.013)**                  |
| Born in Sweden with Swedish parents (ref.)    | Ref.                             | Ref.                             | Ref.                             | Ref.                             |
| Father highest education (yes = 1)            | -0.014(0.007)*                   | -0.014(0.007)*                   | -0.014(0.007)                    | -0.014(0.007)*                   |
| Couples (ref. = single parents)               | -0.396(0.011)***                 | -0.38(0.011)***                  | -0.394(0.011)***                 | -0.387(0.011)***                 |
| Parents age                                   | -0.01(0.001)***                  | -0.009(0.001)***                 | -0.01(0.001)***                  | -0.009(0.001)***                 |
| Birth year                                    | -0.009(0.003)***                 | -0.01(0.003)***                  | -0.011(0.003)***                 | -0.011(0.003)***                 |
| Class fraction                                |                                  |                                  |                                  |                                  |
| Lower middle class (working class = ref.)     | -0.004(0.011)                    | 0.01(0.011)                      | 0.008(0.011)                     | 0.008(0.011)                     |
| Middle-class (working class = ref.)           | -0.018(0.013)                    | 0.018(0.013)                     | 0.007(0.013)                     | 0.009(0.013)                     |
| Upper middle-class (cultural fraction) (working class = ref.) | -0.011(0.017)                   | 0.018(0.017)                     | 0.013(0.017)                     | 0.008(0.017)                     |
| Upper middle-class (economic fraction) (working class = ref.) | 0.012(0.016)                    | 0.049(0.016)**                   | 0.031(0.016)                     | 0.032(0.016)                     |
| Executives, engineers, academics (science) (ref. = worker, lower level health workers) | -0.038(0.014)**                 | -0.011(0.014)                    | -0.018(0.014)                    | -0.019(0.014)                    |
| Teachers, culture producers, physicians, mid-level specialists (ref. = worker, lower level health workers) | 0.007(0.012)                    | 0.026(0.012)**                   | 0.03(0.012)*                     | 0.027(0.012)*                    |
| Economics, IT, mid-level civil servants (ref. = worker, lower level health workers) | -0.017(0.01)                     | 0.008(0.01)                      | 0.004(0.01)                      | 0(0.01)                          |
| Preschool type                                |                                  |                                  |                                  |                                  |
| Parental co-operation (public = ref.)         | 0.515(0.017)**                   | 0.523(0.017)**                   | 0.511(0.017)**                   | 0.512(0.018)**                   |
| Other (public = ref.)                         | 0.206(0.026)**                   | 0.206(0.026)**                   | 0.169(0.026)**                   | 0.176(0.026)**                   |
| For-profit (public = ref.)                    | 0.248(0.008)**                   | 0.259(0.008)**                   | 0.253(0.008)**                   | 0.251(0.008)**                   |
| Neighbourhood income level                    |                                  |                                  |                                  |                                  |
| Low income neighbourhood (high income neighbourhood = ref.) | -0.091(0.019)**                 | -0.038(0.019)*                   | -0.064(0.019)**                  | -0.064(0.019)**                  |
TABLE 5 (Continued)

| Variables                                      | Model (1)                      | Model (2)                      | Model (3)                      | Model (4)                      |
|------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                                 | B(S.E.)sig.                    | B(S.E.)sig.                    | B(S.E.)sig.                    | B(S.E.)sig.                    |
| Mid income neighbourhood (high income          | −0.027(0.011)*                 | −0.021(0.011)                  | −0.037(0.012)**                |                                |
| neighbourhood = ref.)                          |                                |                                |                                |                                |
| Share foreign background                       | 0.083(0.037)*                  | 0.233(0.04)**                  | 0.286(0.041)***                |                                |
| Share employed                                  | −0.225(0.104)*                 | −0.109(0.105)                  | −0.343(0.107)**                |                                |
| Share co-op housing                             | −0.076(0.018)***               | 0.003(0.018)                   | 0.003(0.018)                   |                                |
| Share high education (>2 years at uni.)        | −0.177(0.043)***               | 0.176(0.046)***                | 0.164(0.046)***                |                                |
| Share couples with children                    | −0.482(0.049)***               | −0.379(0.049)***               | −0.339(0.049)***               |                                |
| Closest preschool                               |                                |                                |                                |                                |
| Closest preschool: Public (ref. parental       | −0.1(0.015)**                  | −0.103(0.015)***               |                                |                                |
| co-operative)                                   |                                |                                |                                |                                |
| Closest preschool: For-profit (ref. parental   | −0.083(0.015)***               | −0.087(0.015)***               |                                |                                |
| co-operative)                                   |                                |                                |                                |                                |
| Closest preschool: Other (ref. parental co-    | −0.001(0.02)                   | −0.002(0.02)                   |                                |                                |
| operative)                                      |                                |                                |                                |                                |
| Distance to closest preschool (100 meters)     | 0.023(0.001)***                | 0.024(0.001)***                |                                |                                |
| Staff to children ratio at closest preschool   | −0.015(0.004)***               | −0.016(0.004)***               |                                |                                |
| (per 100 children)                             |                                |                                |                                |                                |
| Share foreign background staff at nearest      | 0.002(0)***                    | 0.002(0)***                    |                                |                                |
| preschool (%)                                   |                                |                                |                                |                                |
| Ethnic similarity to neighbourhood             |                                |                                | −0.283(0.021)***               |                                |
| Likelihood ratio Chi-Square                    | 3555.474                      | 3842.33                        | 5298.173                       | 5478.491                       |
| Df                                             | 18                             | 25                             | 31                             | 32                             |
| Sig.                                           | 0.000                          | 0.000                          | 0.000                          | 0.000                          |
| N                                              | 107,421                        | 107,421                        | 107,421                        | 107,421                        |
| BIC                                            | 516192.877                     | 515987.112                     | 514600.776                     | 514432.043                     |

Note:
***p < 0.001 **p < 0.01 *p < 0.05
Source: Authors’ calculations using SEC database.
| Variables | Model (6a) foreign background | Model (6b) Swedish background | Model (7a) foreign background | Model (7b) Swedish background | Model (8a) foreign background | Model (8b) Swedish background |
|-----------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|           | B(S.E.)sig.                   | B(S.E.)sig.                   | B(S.E.)sig.                   | B(S.E.)sig.                   | B(S.E.)sig.                   | B(S.E.)sig.                   |
| Intercept | 29.467(8.258)***              | 13.227(7.301)***              | 27.622(8.286)***              | 18.743(7.35)*                 | 28.537(8.293)***              | 20.539(7.365)**               |
| Individual level variables | | | | | |
| Gender (girl = ref.) | −0.002(0.011) | 0.012(0.009) | −0.001(0.011) | 0.013(0.009) | −0.003(0.011) | 0.012(0.009) |
| Foreign-born | 0.157(0.02)*** | 0.156(0.02)*** | 0.156(0.02)*** | 0.151(0.02)*** | 0.151(0.02)*** | 0.151(0.02)*** |
| Foreign-born with Swedish parent | −0.028(0.012)* | −0.046(0.013)** | −0.046(0.013)** | −0.043(0.013)** | −0.043(0.013)** | −0.043(0.013)** |
| Born in Sweden with foreign parents | | | | | |
| Born in Sweden with Swedish parents (ref.) | | | | | |
| Father highest education (yes = 1) | −0.021(0.011) | −0.011(0.009) | −0.02(0.011) | −0.011(0.009) | −0.019(0.011) | −0.011(0.009) |
| Couples (ref. = single parents) | −0.327(0.019)*** | −0.457(0.016)*** | −0.326(0.015)*** | −0.415(0.016)*** | −0.332(0.015)*** | −0.436(0.016)*** |
| Parents age | −0.008(0.001)*** | −0.01(0.001)*** | −0.008(0.001)*** | −0.009(0.001)*** | −0.008(0.001)*** | −0.009(0.001)*** |
| Birth year | −0.014(0.004)*** | −0.006(0.004) | −0.013(0.004)** | −0.008(0.004)* | −0.013(0.004)** | −0.009(0.004)* |
| Class fraction | | | | | |
| Lower middle class (working class = ref.) | 0.011(0.014) | −0.036(0.017)* | 0.015(0.014) | −0.007(0.018) | 0.01(0.014) | −0.005(0.018) |
| Middle-class (working class = ref.) | 0.034(0.019) | −0.065(0.019)*** | 0.045(0.019)* | −0.018(0.019) | 0.042(0.019)* | −0.02(0.019) |
| Upper middle-class (cultural fraction) (working class = ref.) | 0.025(0.024) | −0.085(0.025)*** | 0.038(0.025) | −0.042(0.025) | 0.035(0.025) | −0.043(0.025) |
| Upper middle-class (economic fraction) (working class = ref.) | 0.021(0.028) | −0.015(0.022) | 0.034(0.029) | 0.036(0.022) | 0.018(0.029) | 0.021(0.022) |
| Variables                                                                 | Model (6a) foreign background | Model (6b) Swedish background | Model (7a) foreign background | Model (7b) Swedish background | Model (8a) foreign background | Model (8b) Swedish background |
|---------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Executives, engineers, academics (science) (ref. = worker, lower level health workers) | 0.047(0.022)*                 | -0.116(0.019)**              | 0.065(0.023)**                | -0.085(0.019)**              | 0.052(0.023)*                 | -0.086(0.019)**              |
| Teachers, culture producers, physicians, mid-level specialists (ref. = worker, lower level health workers) | 0.05(0.019)**                 | -0.053(0.016)**              | 0.065(0.019)**                | -0.029(0.016)                | 0.065(0.019)**                | -0.022(0.017)                |
| Economics, IT, mid-level civil servants (ref. = worker, lower level health workers) | 0.03(0.014)*                  | -0.082(0.014)**              | 0.044(0.014)**                | -0.05(0.014)**               | 0.041(0.014)**                | -0.052(0.014)**              |
| Preschool type                                                            |                               |                               |                               |                               |                               |                               |
| Parental co-operation (public = ref.)                                     | 0.523(0.031)**                | 0.508(0.021)**                | 0.534(0.031)**                | 0.51(0.021)**                 | 0.528(0.031)**                | 0.497(0.021)**                |
| Other (public = ref.)                                                     | 0.138(0.046)**                | 0.231(0.032)**                | 0.148(0.046)**                | 0.225(0.032)**                | 0.127(0.046)**                | 0.189(0.032)**                |
| For-profit (public = ref.)                                                | 0.303(0.012)**                | 0.207(0.01)**                 | 0.311(0.012)**                | 0.217(0.01)**                 | 0.304(0.013)**                | 0.211(0.011)**                |
| Neighbourhood income level                                                |                               |                               |                               |                               |                               |                               |
| Low income neighbourhood (high income neighbourhood = ref.)               | -0.128(0.03)**                | -0.124(0.025)**               | -0.099(0.03)**                | -0.054(0.025)**               |                               |                               |

(Continues)
| Variables                                | Model (6a) foreign background | Model (6b) Swedish background | Model (7a) foreign background | Model (7b) Swedish background | Model (8a) foreign background | Model (8b) Swedish background |
|------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Mid income neighbourhood (high income  | −0.045(0.02)*                 | −0.057(0.014)**              | −0.045(0.02)*                 | −0.044(0.014)**              |                                |                               |
| neighbourhood = ref.)                   |                               |                               |                               |                               |                               |                               |
| Share foreign background                | 0.264(0.054)***              | 0.047(0.053)                  | 0.327(0.058)**                | 0.275(0.058)***              |                                |                               |
| Share employed                          | 0.206(0.146)                 | −1.091(0.156)***             | 0.234(0.147)                  | −0.962(0.158)***             |                                |                               |
| Share co-op housing                     | −0.079(0.024)**              | −0.086(0.026)*****           | −0.046(0.024)                 | 0.052(0.026)*                |                                |                               |
| Share high education (>2 years at uni.) | −0.112(0.072)                | −0.228(0.055)*****           | 0.135(0.076)                  | 0.149(0.059)*                |                                |                               |
| Share couples with children             | −0.277(0.077)***             | −0.541(0.065)*****           | −0.308(0.077)*****           | −0.297(0.066)***             |                                |                               |
| Closest preschool                       |                               |                               | −0.06(0.024)                  | −0.132(0.019)***             |                                |                               |
| Closest preschool: Public (ref. parental |                               |                               | −0.054(0.025)*                | −0.104(0.019)***             |                                |                               |
| co-operative                            |                               |                               |                               |                               |                                |                               |
| Closest preschool: For-profit (ref.     |                               |                               |                               |                               |                                |                               |
| parental co-operative                   |                               |                               |                               |                               |                                |                               |
| Closest preschool: Other (ref. parental  |                               |                               |                               |                               |                                |                               |
| co-operative                            |                               |                               |                               |                               |                                |                               |
| Distance to closest preschool (100      |                               |                               |                               |                               |                                |                               |
| meters)                                 |                               |                               |                               |                               |                                |                               |
| Staff to children ratio at closest      |                               |                               | −0.015(0.006)*                | −0.015(0.005)**              |                                |                               |
| Variables                                | Model (6a) foreign background | Model (6b) Swedish background | Model (7a) foreign background | Model (7b) Swedish background | Model (8a) foreign background | Model (8b) Swedish background |
|------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                                          | B(S.E.) | sig.                  | B(S.E.) | sig.                  | B(S.E.) | sig.                  | B(S.E.) | sig.                  | B(S.E.) | sig.                  |
| preschool (per 100 children)            | 0.001(0)*** | 0.002(0)***           | 1514.375 | 2265.346           | 1578.879 | 2664.838           | 1934.965 | 3775.517           |
| Share foreign background staff at nearest preschool (%) | | | 17 | 15 | 24 | 22 | 30 | 28 | 0.001(0)*** | 0.002(0)*** |
| Likelihood ratio Chi-Square             | 0.000 | 0.000                 | 0.000 | 0.000                 | 0.000 | 0.000                 | 0.000 | 0.000                 |
| Df                                       | 46.019 | 61.402                | 46.019 | 61.402                | 46.019 | 61.402                | 46.019 | 61.402                |
| N                                        | 222808.188 | 293286.297             | 222818.842 | 292963.981             | 222527.176 | 291919.454             |

Note:

***p < 0.001  **p < 0.01  *p < 0.05

Source: Authors' calculations using SEC-database.
3.2 Ethnic differences

The individual-level characteristics by foreign- and Swedish-background display similar results as with the original model. Interestingly, there are no significant differences between social groups within the foreign-background group (except for the positive coefficient for the middle-class in relation to the working class when controlling for neighbourhood characteristics), while the Swedish-background group displays a significantly lower inclination to commute among the cultural fraction of the middle- and upper-middle class. However, the latter result is not significant when controlling for neighbourhood characteristics. For the economic fraction, signs of a reduced likelihood of commuting in high-income neighbourhoods, and a higher likelihood in middle-income neighbourhoods, are detected among the Swedish background population.

We ran interactions between class background and neighbourhood showing that working-class children with foreign backgrounds to a higher degree attend preschools in low-income neighbourhoods compared to their Swedish-background counterparts. This indicates that not everyone has access to, or are able to navigate, the educational market, and the differences between the middle class and the working class is larger within the ethnic minority group in Sweden.

The foreign-background part of the population has not had the possibility to choose where to live to the same extent (e.g., Fjellborg, 2020) as those with a Swedish background. Instead, they try to navigate the educational market. This is even more clearly visible when analysing across occupational groups (Table 6). The higher social positions that might come with the occupational categories executives, engineers, academics (science) are associated with a lower inclination to commute for the Swedish-background group, while it displays a higher likelihood of commuting for the foreign-background category.

4 ALTERNATIVE MODELLING STRATEGIES

Some concerns might be raised regarding the operationalization of the concept of commuting. When using only children attending > 3rd preschool, and when using a MNL regression model with three outcomes (attending closest, second or third or fourth and above) we find similar results as in the empirical section. Last, we ran an OLS regression with distance to preschool as the dependent variable. The results are similar to the empirical material presented. Families travel further if their children attend parental co-operatives or other co-operatives. The more affluent social groups tend to travel shorter distances. The findings are also robust for avoidance; families living in neighbourhoods where they are different from the majority population tend to travel further to preschools.

5 CONCLUSIONS

In this paper, we present what is, to the best of our knowledge, the first full population study of preschool children's commuting in a large region. To begin with, children commuting to preschool occurs in all social groups investigated in the study. However, all social groups except the working class reduce the children-to-teacher ratio at their enrolled preschool, compared to their closest preschool. Furthermore, we see that parents within occupational categories that signal high volume of cultural capital are more likely to commute with their children to preschools compared to the working class. Parental co-operatives are perhaps the most distinctive type of preschool that attracts commuters, primarily from the upper-middle class. However, these are also bypassed by parents choosing a longer commute, most likely because these preschools demand a certain level of parental involvement, or that they often are small, and may not be able to accommodate all the children in their surroundings.

We find some social avoidance behaviour as far as the inclination to commute tends to increase for higher-income families living in lower-income neighbourhoods, and vice versa. Interestingly, these results are more often
significant for the group with a foreign-background. We further show signs of ethnic avoidance. This shows, in our view, that parents tend to make active choices based on anticipated composition of the preschools closest to home and avoid preschools that are not in line with their preferences. When analysing ethnic differences further, we see that the groups with foreign-background is more prone to commute, while families with foreign-background belonging to social groups with less economic resources are relatively more “stuck” in their own low-income neighbourhoods compared to their peers with Swedish-background.

We find less impact from social groups than anticipated, however this could be explained by the selectiveness of preschool locations, especially among the co-operative and for-profit preschools. We display how high volume of cultural capital increases commuting, especially in the group with foreign-background. Here we find that the middle- and upper-middle class fractions within the broadly defined foreign-background group are able to navigate the preschool market and use strategies to pursue upward social mobility. In line with the Tiebout hypothesis, preschools that attract social groups with higher-income are often located in higher status neighbourhoods, forcing parents with a foreign-background and a preference for such preschools to commute to them.

Our four main conclusions are: (i) educational/cultural capital affects the inclination to commute and (ii) this is especially important for groups that have yet to convert different forms of capital to more attractive neighbourhoods, in line with the Tiebout hypothesis; (3) we detect ethnic avoidance, but also higher inclination to commute among the group with foreign-background from neighbourhoods with a high share of foreign-background households; and (iv) preschool commuting seems to be a conscientious act, in that families often reduce the children-to-teacher ratio when they commute. However, a large social clustering in the preschools is observed which corroborates findings from Norway (e.g., Drange & Telle, 2020).

We draw out three policy recommendations from our empirical analysis; (i) All social groups, but the working class, improve their children-to-teacher ratio when comparing the preschools that they are enrolled in with the closest preschool. This shows how enrolment distributes resources more unevenly compared to the actual geographical distribution of resources. Since rules are in place for the teacher-to-child ratios, the differences probably arise from prioritizing expenditures at preschools. Hence, more information to working class families could help them make more informed choices but allocation of resources to preschools with more children per teacher could be needed. (ii) The high likelihood of commuting among the more affluent group with a foreign-background could be understood as a conversion strategy. This group often lack economic capital, or the possibility to use it, and thus have difficulties competing in the housing market. The preschool market enables them to convert educational capital into social capital (preschool type and location) by commuting their children. In this sense free preschool choice is beneficial, however the group with low education and a foreign-background do not use this possibility which indicates a need for targeted interventions. Finally, (iii) it is interesting in itself that commuting to preschools even occurs, indicating that families are aware of differences in quality between preschools, which should be the core discussion forming policy and location of preschools. This is in line with the Tiebout hypothesis, and shows that choices of types of preschools and composition of peers is important, working to desegregate preschools should encompass preschool locations as well as residential mix.

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ENDNOTES

1. Private preschools may provide automatic access to the owners’, often attractive, compulsory school. But since there are no available public data on privately owned schools’ queue systems and administration it is difficult to estimate how common it is.

2. Table outputs are available on request to the authors

3. Tables are available on request to the authors

4. Tables are available on request to the authors

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