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# ABSTRACT

# Should You Meet the Parents? The Impact of Information on Non-test Score Attributes on School Choice<sup>\*</sup>

Understanding parental response to non-test score attributes is crucial to design effective school choice systems. We study an intervention providing parents with hard-to-find information on the school environment while holding information on school performance constant. The provision of this information decreases the outflow to private institutions by 17% and increases enrollment at local state schools, particularly among high-income and high-performing students. This intervention encourages parents to expand their state-school search without affecting their taste for academic performance, generating increased competition for schools with desirable attributes. These findings imply that simple, low-cost interventions may improve state schools' finances and composition.

JEL Classification:	I24, I28, H75
Keywords:	school choice, non-test score school attributes, information
	intervention

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## **1** Introduction

Over the past few decades, there has been a rapid and broad adoption of policies aimed at expanding parental school choice (Musset, 2012).<sup>1</sup> School choice advocates argue that this approach, aligning school incentives with parental preferences, improves school quality and boosts student achievement through competition (Hoxby, 2003). However, recent empirical evidence suggests that when choosing a school parents consider factors beyond schools' causal impact on achievement, such as peer quality and proximity (see MacLeod and Urquiola, 2019, for a review).

Additionally, the choices parents make may reflect the information available to them rather than their underlying preferences. Information interventions in education have been shown to shift individual choices and affect the equilibrium levels of school quality (Andrabi et al., 2017). Previous studies have focused on information about school value-added or performance (e.g., Ainsworth et al., 2020). Despite the relevance of the non-test score dimensions of school quality for students' long-term outcomes (Beuermann et al., 2022), little is known about the effects of providing information on attributes other than school performance indicators based on academic achievement.

We study whether enrollment choices respond to hard-to-find information about attributes other than test scores. We exploit an intervention called "Meet The Parents" (MTP), which targets prospective secondary school parents and students in a context where information on test scores is already widespread and not affected by the treatment. We examine how information on the "school environment" (e.g., school atmosphere, school discipline, safety, food quality, inclusive ethos) shifts parents' enrollment choices, especially those from relatively advantaged backgrounds who are already well-informed on school quality.

The program we study consists of meetings between primary and secondary school parents and students in the London Borough of Camden. MTP events are based in a primary ("host") school and involve a panel discussion with parents and children from local secondary ("participating") schools. Launched in 2012, MTP aimed to address the outflow of local students from

<sup>&</sup>lt;sup>1</sup>Examples of these policies are vouchers reducing tuitions at private schools (Epple et al., 2017), promotion of alternative state school models (e.g., charter schools in the US or academies in the UK), or "open enrollment" programs, whereby households can apply to any state school and are assigned based on preference. Introduced in the 1980s, open enrollment in England allows parents to rank up to six preferred schools at application.

state to private education in the primary-to-secondary school transition. We study 85 MTP meetings organized between 2012 and 2018 in 30 host schools, corresponding to 60% of local schools.

We begin by documenting that MTP meetings provide hard-to-find information on non-test score school attributes. First, a text analysis of the meeting minutes shows that the discussion overwhelmingly focused on attributes related to the school environment rather than academic performance or teachers. Second, surveyed participants reported placing a high value on the soft, non-test score attributes of the school environment, which represents the main focus of MTP, and commonly mentioned MTP among the information sources they relied on most for school choice. As a result of the meetings, more than 70% reported changing their minds about the schools they were considering.

We evaluate the impact of MTP on enrollment choices using a difference-in-differences design. We link data on the staggered implementation of MTP with student-level administrative records on the universe of children enrolled in state-funded schools and track students' choices as they move from primary to secondary education. Our research design compares changes in secondary enrollment outcomes for students in primary schools where an MTP meeting is organized (treatment) to those of students in primary schools that do not participate in MTP (control) before and after the start of the initiative. The control group consists of students enrolled in untreated schools in Camden or bordering districts, which are arguably facing the same secondary school market. Since admission depends on the distance to the school, we further exploit granular data on children's locations to control for residence. The identifying assumption is that absent MTP, changes in students' secondary enrollment would have been similar in treated and control schools, consistent with null pre-treatment estimates.

MTP increases the probability of students enrolling at a local state-funded rather than a private secondary school. We estimate a 2.4 percentage point (p.p.) effect, corresponding to 1 additional student per school year opting for the public sector and to a 17% reduction in the outflow to the private sector. Treatment effects are driven by parents with high socio-economic status and high-ability students. This result is consistent with the intervention's target and implies a positive effect on peer quality at local state-funded institutions.

Our findings are consistent with parents who are exposed to MTP generally re-considering

the public education sector as a whole rather than targeting the participating schools. Information on non-test score attributes may influence parental decision-making in two ways, (i) by directing parents toward schools presented at the meetings, or (ii) by providing a comprehensive overview of state-funded education. As MTP's impact on public-sector enrollment has more than twice the effect on participating schools, empirical evidence supports the latter. MTP improves parents' overall opinion of state-funded education, thus encouraging them to widen their consideration set and expand their search among state schools.

The effects we estimate are a lower bound of MTP's direct impact, given the competition for local secondary school seats. We identify MTP's indirect effect by estimating the enrollment impact of local exposure to MTP (i.e., the share of treated parents residing in a student's census block) for both treated and untreated parents. As commonly found in information interventions (Bettinger et al., 2022), information spreads through word-of-mouth to local untreated parents, who are also more likely to enroll in participating schools. As a result, treated parents living in areas with higher exposure to MTP face greater competition for limited seats, reducing their enrollment in participating schools by 1 p.p.

Finally, we estimate how MTP interacts with parental preferences over traditionally studied school inputs. We build a student–secondary school-level dataset, varying the definition of school consideration sets. Consistent with the existing literature (e.g. Hastings and Weinstein, 2008), parents hold a strong preference for high-achieving schools closer to where they live. We find, however, that MTP did not alter preferences for school performance, confirming that MTP held information on school quality constant. As a result of the intervention, parents choose schools that were farther away and had a higher proportion of disadvantaged students, trading distance and school composition for a seat in their preferred schools.

Our findings contribute to the literature on the effect of information on school choice, which has mainly studied the provision of information on school performance indicators.<sup>2</sup> In contrast, we take advantage of a unique institutional setting where school rankings and information on school performance are widely diffused and arguably held constant, and we focus on the impact of information on non-test score attributes. Furthermore, while prior work has predominantly

<sup>&</sup>lt;sup>2</sup>Burgess and Greaves (2021) review the school accountability literature. Based on insights from behavioral economics, Lavecchia et al. (2016) review the existing evidence on interventions providing information in education and other policy realms. The existence of a gradient between information and socio-economic status is widely accepted in the literature.

focused on households with low socio-economic status, we examine an intervention that targets medium-high SES families who at baseline are more informed due to their lower cost of information gathering and greater investment in education (Hastings and Weinstein, 2008; Jensen, 2010; Kessel and Olme, 2017; Allende et al., 2019).

Our work is also related to studies that investigate parental preferences for schools. A growing body of literature has shown that parents may not value schools' impact on test scores (Rothstein, 2006) while they respond to attributes such as peer quality, proximity to residence, and long-term student outcomes (Hastings et al., 2010; Burgess et al., 2015; Glazerman and Dotter, 2017; Beuermann and Jackson, 2020; Abdulkadiroglu et al., 2020). Beuermann et al. (2022) show that parents prefer schools that improve non-test score long-term outcomes, which do not necessarily overlap with schools' impact on test scores. Our results add to this literature by demonstrating that parents also value the non-test score dimensions of the school environment, which so far have been overlooked in academic and policy discussions. Our findings imply that parental choices – on which the effectiveness of school choice policies hinges – are not necessarily well-informed on such attributes.

The policy implications of this paper are immediate. Since state school funding is largely based on enrollment counts, any outflow from the public sector reduces local schools' resources, thereby increasing educational inequality and harming students remaining in the public sector, especially those from disadvantaged backgrounds (Jackson et al., 2016; Gibbons et al., 2017; Lafortune et al., 2018). We quantify that MTP generated a net increase in financial resources of £318,945 for the public school sector during the first five years of the program. Moreover, the inflow of high-SES students may affect educational outcomes over and beyond a direct resource effect. An improved composition of the student body may generate positive peer effects and increase teachers' effort, parental participation, or the schools' ability to raise additional resources (Altonji et al., 2015). Overall, our findings imply that simple and relatively inexpensive interventions that target prospective parents may weaken concerns about the adverse effects of school choice on educational stratification and inequality (Hsieh and Urqiuola, 2006; Laverde, 2022).

## 2 Context and Data

### 2.1 The Education System and School Choice in England

In England, primary education is mainly provided by public-sector schools, with about 93% of primary school-age children enrolled in state tuition-free schools (DfE, 2016). The majority of students attend schools over which the school district (or Local Authority; hereafter, LA) retains full or partial control. State primary education in England is organized in two phases, Key Stage 1 (KS1; grades 1 and 2) and Key Stage 2 (KS2; grades 3 to 6), and in the final year of KS2 (age 11), students sit national standardized tests (SATs) in mathematics and English.

At the beginning of the final year of primary school, parents apply for seats in secondary schools. Admission to state schools is regulated by a Deferred Acceptance mechanism. Parents can rank up to six schools, inside or outside their district of residence and are assigned their most-preferred school that they can access. In cases of oversubscription, children are mostly prioritized based on the distance between home and school distance.<sup>3</sup> While primary schools are small and seats are typically rationed, implying very narrow catchment areas, secondary schools are much bigger. In London, the context we study, primary schools enroll on average 48 students per cohort, with a home–school distance of around 1 kilometer, while secondary schools have an average grade enrollment of 140 and enroll students who live on average 2.1 kilometers from school.

Information on average school performance and the characteristics of school intakes are public and freely available to parents online. Every year, the Department for Education (DfE) publishes School Performance Tables that report achievement indicators for state primary and secondary schools. These include hard information on standardized test scores, pupils' demographics, and value-added measures for each state-funded institution and are used to form school rankings. Additionally, the Office for Standards in Education (Ofsted) collects information about hard performance and school quality through regular inspections at schools, and based on that information formulates school ratings that are widely disseminated.<sup>4</sup>

Private schools, often called "independent schools," are not bound by the national curricu-

<sup>&</sup>lt;sup>3</sup>Appendix Table A.1 documents admission priorities used by secondary schools participating in MTP.

<sup>&</sup>lt;sup>4</sup>This link shows an example of a School Performance table for a secondary school participating in MTP, while this link offers an example of an Ofsted report for the same school.

lum. They are generally organized in three phases: pre-preparatory (age 4 to 7), preparatory (age 8 to 11 or 13), and senior (age 11 or 13 to 18). Independent schools enjoy substantial freedom in terms of the subjects they teach and other educational practices. Average annual fees amounted to around  $\pounds 5,000$  in the period of analysis, with substantial geographical variation. They typically feature small class sizes, high-quality facilities, and above-average academic performance (see, e.g., Independent Schools Council, 2019). Unlike state schools, private schools do not participate in the centralized assignment mechanism, so they may select students based on ability or other criteria.

### 2.2 The Meet The Parents (MTP) Initiative

MTP was launched in 2012 by a group of parents concerned about the impacts of the transition from primary to secondary school on the local community. The project started in the London borough of Camden, where a substantial share of parents enroll their children outside the local state sector at the end of primary education. Before the intervention, on average, 10% of students opted for private education after attending a state primary school in Camden and around 25% opted for a school in other districts (the averages in London are 9% and 17%, respectively).<sup>5</sup> Proponents of the MTP initiative were mainly concerned that the outflow of students from more advantaged socio-economic backgrounds could generate disruptive effects on local secondary schools, students, and communities.<sup>6</sup>

MTP consists of primary school-level meetings where primary school parents and children learn about the school choice and experience of their peers at local secondary schools. Events are typically one hour long and involve a panel discussion guided by a moderator (see Figures A.1 and A.2). On average, meetings are attended by panelists from four different secondary schools, which contribute to the organizers' costs through a flat fee (£380) for each meeting. The typical participating secondary school is present at one or two different meetings per year, with substantial variation (up to five). Meetings are scheduled at the beginning of the academic

<sup>&</sup>lt;sup>5</sup>Camden residents have on average a relatively high income (see LA-level data).

<sup>&</sup>lt;sup>6</sup>Since school funding is mainly based on enrollment counts, fewer resources may weaken financial stability at state-funded schools, especially harming disadvantaged students (Jackson et al., 2016). The outflow of well-supported pupils may worsen the socio-economic composition of local schools, since in the presence of non-linear peer effects disadvantaged pupils benefit from proximity to well-supported peers without affecting the latter's achievement (Carrell et al., 2009; Bertoni et al., 2020).

year, a few weeks before last-grade parents apply for secondary school seats. The average event is attended by 17 primary school parents, about 40% of the average cohort size, most with children in the last two grades (grades 5 and 6).<sup>7</sup>

Each meeting follows a standardized outline. In the first part, panelists are asked the following questions: (i) Why did you choose your secondary school? (ii) What do you like about your school? (iii) What would you change? The second part is open to discussion. Discussion topics typically include day-to-day school life, the reasons they chose their school, and the overall assessment of their choice. Importantly for our setting, panelists never mention school performance indicators. Events aim to provide an honest assessment of local secondary schools from "insiders" with no advertising intent (e.g., school leaders are not invited).<sup>8</sup>

Overall, MTP provides information on qualitative, non-test score school dimensions, which are more difficult for parents to gather. We consider this "hard-to-find" information on non-test score attributes as information referring to the "school environment." Because information on school quality is easily accessible and widely publicized, parents are likely already informed on peer quality indicators such as test scores, and their preferences strongly respond to these measures.<sup>9</sup> Building on this existing evidence, we leverage the fact that in our context parents are already very well-informed about typical school inputs to identify the effect of the information on non-test score attributes, which may be difficult for parents to access otherwise. MTP provides, therefore, the ideal setting to study the provision of information on non-test score attributes while holding the information on school performance constant.

### **2.3** Data

We use the National Pupil Database (NPD), which includes administrative records on the population of students in primary and secondary state-funded schools from 2006 to 2019. We track individual school enrolment throughout compulsory education. We observe individual characteristics (gender, ethnicity, language spoken at home, eligibility for free school meals,

<sup>&</sup>lt;sup>7</sup>Data on parental participation are available for 67% of meetings. We impute parental participation in missing years using school-level averages at institutions with consistent availability of data, increasing coverage to 83%.

<sup>&</sup>lt;sup>8</sup>MTP organizers describe the program as "filling a gap between slick open days and playground rumors." See the MTP website for further details.

<sup>&</sup>lt;sup>9</sup>In England, few papers show that parents respond to information on school quality made available through Ofsted reports (Greaves and Hussain, 2021; Greaves et al., 2023) and school Performance Tables (Gibbons and Machin, 2003; Gibbons and Machin, 2006; Gibbons et al., 2013; Battistin and Neri, Forthcoming).

special education needs), residence at the census block level,<sup>10</sup> teacher assessments at the end of the first phase of primary school (Key Stage 1 scores, age 7), and test scores from national standardized exams at the end of primary school (Key Stage 2 scores, age 11).<sup>11</sup>

Students attending private schools are not recorded in the NPD. We code a student attending the last year of primary school as enrolling into a private institution if she is not tracked in the dataset one year later. This yields a private school enrollment rate in London of about 10%, consistent with official statistics.<sup>12</sup> Other reasons for disappearance from the dataset could be that a student leaves the country or is taken out of school for medical reasons. Note that grade retention would not imply disappearance from the dataset, as we would observe the student repeating the same school grade one year later. By observing each pupil's enrollment outcome only once, we build a repeated cross-section of pupils. Any measurement error in private school enrollment is unlikely to be affected by MTP and is then addressed in our difference-in-differences strategy. Students leaving state education are noticeably selected, as expected, achieving 0.5 standard deviations (SD) higher than peers opting for state secondary schools.

We combine administrative data with records on MTP meetings provided by the organizers. Data include time, location, secondary schools represented, and the number of participants at each event.<sup>13</sup> MTP organizers had also previously surveyed participants about how MTP changed their school choices. We complement this with a more detailed survey given to participating parents that we administered in 2019 collecting their child's grade and the type of schools they were considering. We collected 195 survey responses from the 2019 meetings, which reported opinions from 20 primary schools and were submitted by about 50% of parents who participated in the meetings. We also asked about the sources of information parents use, and the school features they value the most (see Figures A.3 and A.4). Finally, we use the meeting minutes from the 2014<sup>°</sup>2018 MTP rounds to describe the informational content of the

<sup>&</sup>lt;sup>10</sup>We define census blocks as Lower Layer Super Output Areas (LSOAs), created by the Office for National Statistics (ONS) for statistical purposes. An LSOA includes 800 households on average, around 1/3 the size of a US census block, spanning about 0.25 square miles. In London, 17 pupils per grade on average live in each LSOA.

<sup>&</sup>lt;sup>11</sup>In addition, the NPD is matched to administrative data on centralized assignment to schools, including, for each student, the ranking of preferred schools and the school offered. We use offers to proxy school capacity and obtain over-subscription indicators. Because pre-program data are not available (preference records start in 2014), we consider enrollment rather than preferences as our main outcome.

<sup>&</sup>lt;sup>12</sup>According to the available aggregate figures, in 2011 about 10% of secondary school-aged students were attending a private school (link).

<sup>&</sup>lt;sup>13</sup>MTP participants cannot be individually linked to administrative data.

meetings.

MTP was launched in 2012 and progressively rolled out, as shown in Figure 1. Meetings were hosted by 30 primary schools between 2012 and 2018. Initially run in one pilot host school, the program was extended to include up to 20 primary schools (Panel A) and up to 17 secondary schools (Panel B) per year. The initiative is concentrated in the district of Camden (Figure 2). 60% of the primary schools in the district hosted at least one meeting (25 out of 42). Secondary schools are less concentrated, reflecting larger catchment areas, with 9 out of 22 participating schools located in Camden (70% of secondary schools in the district), while the remaining schools are located in bordering LAs. Participating secondary schools enroll larger cohorts of students (163 versus 40 students per grade) than host primary schools, in line with the organizers' concerns about the transition to secondary education.

Primary schools decide every year whether to host an MTP meeting, potentially depending on factors such as the interest of parents or school leaders about secondary school choice. There are no monetary costs involved and no monetary incentives for host schools to select into MTP based on its impact on local secondary enrollment. Primary host schools are positively selected in terms of student intake characteristics with respect to other Camden schools, displaying a remarkably lower share of students eligible for free school meals (FSM) and higher average test scores (Table 1). We deal with potential systematic differences between treated and control schools in our research design (Section 4). On the contrary, the student composition in participating secondary schools is worse than in nearby non-participating schools (columns (4)-(6) of Table 1), although these differences are not always statistically significant. Except for a very small number of non-participating schools located in Camden, they generally enroll a larger share of FSM and students with lower performance than in non-participating schools.

Secondary schools are recruited every year and may target meetings at their preferred primary schools. Since our treatment varies at the primary school level, the selection of secondary schools into MTP does not pose identification issues. Rather, it helps to interpret the effects we observe, as they may be driven by a selected pool of secondary schools. We first examine the joint distribution of academic performance between host and participating schools by terciles of final-year test scores (Table A.2). We observe that participating secondary schools target a similar share of primary schools with higher or lower scores (40% versus 30%). Additionally, we evaluate the selection of participating secondary schools by comparing the characteristics of schools that choose to participate in MTP to those that do not (Table A.3). Our findings indicate that participating schools are not selected based on baseline characteristics nor short-or long-term trends.

## **3** Interpreting the Effect of MTP on School Choice

What do families learn from the meetings–and to what extent are they useful for their school choices? We use meeting minutes to describe the content of the discussion, and survey data to illustrate how valuable this information is to parents.

Attributes related to the school environment are those most mentioned during MTP meetings, which supports our interpretation that parents attending the meetings learn about school dimensions other than test scores. Figure 3 summarizes this evidence, documenting that, on average, about 68% of the words used during MTP meetings relate to the school atmosphere and environment at the participating schools (Panel A).<sup>14</sup> Specific attributes discussed at the meetings include student behavior and support, bullying, school clubs and sports activities, socialization at the school, and lunch policies (Panel B).

Student performance and composition at participating schools are not the main focus of the meetings. Panel A of Figure 3 confirms that only around a quarter of the words mentioned refers to student performance, while the remaining 7% concerns teachers. This is not surprising, as information on academic performance and school composition is already public and salient. Parents–particularly those who are relatively advantaged and targeted by MTP–are therefore likely to be already aware of the distribution of these characteristics across local schools.

Survey evidence further supports the interpretation of MTP as an information treatment. About 40% of respondents list MTP as one of the most valuable sources of information, similar to other parents' opinions, with only school open days scoring higher (Panel A, Figure 4). 72% of respondents report having widened the set of schools they were considering as a result of the meetings, suggesting that learning about the environment at local schools reportedly shifts parental preferences.

<sup>&</sup>lt;sup>14</sup>Words are extracted from meeting minutes from 2014<sup>\*</sup>2018 MTP rounds. We categorize words in three main groups: "School environment," "Performance," and "Teachers." A complete description of the extraction process, text selection, and word categorization is provided in Appendix C.2.

Parents value a wide array of school attributes beyond academic performance.<sup>15</sup> Our definition of academic performance is broad enough to encompass any aspect of learning and curricula (see Figure C.2 for a list of the most-mentioned words on school performance). Nonetheless, our data show that the most sought-after school attributes include, for example, a welcoming atmosphere, inclusive ethos, or pastoral care, while academic performance is among the least frequently mentioned (Panel B, Figure 4). Combined with the results in Panel A, where school Performance Tables are not among the most-cited sources of information, survey evidence confirms that parents seek to learn about hard-to-find non-test score school attributes. Based on the findings of both text and survey analyses, we conclude that MTP informs parents about soft school attributes that they are likely to value when choosing a school.<sup>16</sup>

Information on non-test score school attributes can impact parental decision-making in two ways. First, parents may respond directly to information presented about specific schools at the meetings, which may result in increased enrollment in participating schools only. Second, the provision of a comprehensive overview of state-funded education may improve parental understanding of the secondary education sector as a whole. In this case, parents may apply heuristics that simplify the decision process (Tversky and Kahneman, 1974) and extrapolate school attributes they learn about to *non-participating* state-funded schools. Alternatively, if their perception of the state sector improves as a result of MTP, the likelihood that they will search for state schools that are not participating in their meeting may increase. In both cases, enrollment at state schools would respond to the treatment over and beyond MTP's impact on the choice of participating secondary schools. We test these hypotheses in our empirical analysis to shed light on the mechanisms at work.

<sup>&</sup>lt;sup>15</sup>Parental choice responds to quality indicators like test scores (Hastings and Weinstein, 2008; Abdulkadiroglu et al., 2020). However, non-test score school attributes may also play a role. Burgess et al. (2015) show that a "general good impression" of the school is the most frequently cited reason for choosing schools besides proximity. Beuermann and Jackson (2020) and Beuermann et al. (2022) find that parents value school effectiveness on an array of long-term socio-economic outcomes often uncorrelated with school impact on test scores. To assess such impacts, parents may look beyond measurable school characteristics. In Appendix C.1, we present a stylized conceptual framework to describe how MTP affects school choice. In Equation (C.1) we parametrize with the index  $E_j$  the information content provided by MTP on non-test score characteristics of secondary school *j*.

<sup>&</sup>lt;sup>16</sup>An alternative way to interpret the treatment is that it facilitates interaction with peers, who provide information on the school environment through their actions and conversations regardless of the specific school attributes discussed. As our results indicate that parents also respond to the meetings' content, this interpretation is complementary to MTP as an information treatment. An additional interpretation is that MTP enables parents to coordinate their school choice regardless of the information discussed during the meetings. However, we find this explanation to be unlikely because primary school cohorts are small, parents reside close to one another, and they have been interacting for the previous five to six years. MTP can hardly impact their chance to network.

## 4 Empirical Strategy

Our goal is to estimate MTP's causal effect on parental enrollment choices. We design a difference-in-differences (DD) strategy that exploits variation in participation in MTP meetings across primary schools and over time. Our treated group consists of students enrolled in the last grades (grades 5 and 6) at a school that organizes an MTP meeting.<sup>17</sup> To internalize plausible spillovers, we define all students in a school cohort with an MTP meeting as treated. This choice is backed by survey evidence, since 97% of participating parents state that they plan to discuss the meeting's content with their peers. The implicit assumption is that information gathered through MTP spreads within a school grade.<sup>18</sup> This criterion yields 3,906 treated students. Our control group is formed by students attending primary schools that never hosted an MTP meeting, and which are located in Camden or one of the bordering LAs. This group of schools arguably belongs to the same secondary school market as treated schools.<sup>19</sup> Control schools display some cross-sectional differences in private school enrolment rate, test scores, and student composition (see Table 2). Treated students are substantially more likely to enroll at a private secondary school at baseline (14% against 10%) consistent with the concerns that sparked the initiative. Nonetheless, they are likely to be exposed to changes similar to those in the local education system and therefore to have similar trends in terms of enrollment outcomes.

Our exercise compares the enrollment outcomes of students attending their final years of primary education in schools that held MTP meetings with those of students attending their final years in local schools that did not hold MTP meetings. We estimate the following two-

<sup>&</sup>lt;sup>17</sup>In our main analysis, we allow for primary schools exiting the treatment. This may raise concerns if host schools endogenously choose to stop participating in MTP based, for example, on expected gains. In Appendix B, we estimate an "Intention-To-Treat" (ITT) specification where we consider schools as treated for the entire period, finding similar results to those documented in Section 5.

<sup>&</sup>lt;sup>18</sup>We consider all students in grades 5 and 6 as treated, accounting for about 90% of the participants (Figure A.5). Conducting an informational experiment on student behavior, Bettinger et al. (2022) find large spillovers within classrooms, similar to treatment effects for directly exposed students. We would expect similar spillovers because the typical primary school cohort has just one or two classes.

<sup>&</sup>lt;sup>19</sup>93% of students in participating schools attended primary school in Camden or a bordering LA. 96% of students living in Camden or a bordering LA rank a school located in such LAs among their top three choices. We test the robustness of our choice by considering alternative control groups as detailed in Appendix **B**.

way fixed effect (TWFE) model:

$$Y_{i} = \alpha_{1} MTP_{s(i)} \cdot Post_{t(i)} + X'_{i,t(i)} \zeta + W'_{s(i),t(i)} \delta + \phi_{s(i)} + \phi_{t(i)} + \phi_{l(i)} + e_{i},$$
(1)

where  $Y_i$  is the outcome for pupil *i* enrolled in either of the last two grades of primary school s in year t, and residing in block l.  $s(\cdot), t(\cdot)$  and  $l(\cdot)$  are functions that uniquely map student i to the corresponding school, year, and block. Our main outcomes of interest are indicators for school-sector enrollment in secondary schools (i.e., private versus public), and for enrollment at participating secondary schools.  $MTP_{s(i)}$  is the treatment indicator, equal to 1 for primary schools organizing an MTP meeting.  $Post_{t(i)}$  is a dummy equal to 1 in the year t when student *i* attends grade 5 or 6.  $X_{i,t(i)}$  and  $W_{s(i),t(i)}$  are vectors of individual and school time-varying covariates, respectively. School and year fixed effects ( $\phi_{s(i)}$  and  $\phi_{t(i)}$ ) isolate DD variation in our treatment variable, with school fixed effects controlling for any unobserved attribute at the school level that may affect enrollment, such as correlated choices among schoolmates or the presence of a head-teacher who is particularly motivated to engage with parental choice. Census block fixed effects ( $\phi_{l(i)}$ ) control for unobserved effects of student residence on school enrollment. This is particularly relevant in our context, as residential sorting may affect the choice set of available state-funded schools (see Black and Machin, 2011, for a review). We cluster standard errors at the school level to account for intra-school correlation. Under the assumption that absent MTP, treated and control students would have followed similar trends in secondary enrollment decisions, the parameter  $\alpha_1$  identifies the causal effect of MTP on school enrollment.

Recent econometric literature has highlighted several issues with TWFE estimators in the presence of variation in the treatment timing and heterogeneous treatment effects.<sup>20</sup> In our context, different schools enter treatment in different years, and we cannot rule out some degree of treatment effect heterogeneity. To deal with pitfalls in the TWFE estimation, we adopt a "stacked-by-event" design and build "placebo" events for control schools following Deshpande and Li (2019). First, we create a separate dataset for each treatment wave. We build five datasets, corresponding to the five treatment waves (see Appendix Figure A.6), excluding the

<sup>&</sup>lt;sup>20</sup>See, among others, De Chaisemartin and d'Haultfoeuille (2020); Baker et al. (2021); Borusyak et al. (2021); Callaway and Sant'Anna (2021); Goodman-Bacon (2021); Sun and Abraham (2021).

first pilot primary school, which started MTP in 2012. In each dataset, all schools hosting an MTP meeting in the considered year form the treatment group, and schools in Camden or bordering districts that never hosted an MTP meeting serve as a control. Second, in each dataset, we define the time-to-event relative to the year when treatment starts.<sup>21</sup> Third, we stack all datasets into one. In this procedure, the same student enrolled at a never-treated school serves as a control multiple times (i.e., for each treatment wave).

We use the stacked-by-event design to provide an indirect test of the parallel trends assumption in a regression framework. We estimate the following model:

$$y_{iw} = \sum_{k=-7}^{3} \beta_k MT P_{s(i),w} \cdot D_{t(i)}^k + \sum_{k=-7}^{3} \gamma_k D_{t(i)}^k + \eta_{s(i)} + \eta_{t(i)} + \eta_{l(i)} + v_{iw},$$
(2)

where treatment waves are indexed by *w*, and  $D_{t(i)}^k$  are event-time dummies equal to 1 if period *t* is *k* years from entry into MTP. Notation otherwise follows Equation 1. The stacked-by-event design allows us to separately identify the year and event-time fixed effects, eliminating event time trends that do not appear in calendar time. We bin relative periods before -7 and after 3, where the sample of schools is unbalanced and therefore the estimates could be affected by compositional changes following Sun and Abraham (2021). The coefficients of interest are the  $\beta_k$ 's, which identify treatment effects *k* years from MTP entry. Pre-treatment coefficients (i.e., with k = -1, ..., -7) can be interpreted as placebo estimates of the MTP effect. Because enrollment outcomes are observed once per student when they enter secondary education, posttreatment coefficients (i.e., with k = 1, ..., 3) are not meant to estimate the evolution of MTP's effect over time. Instead, they capture MTP's differential effects across student cohorts. We further implement the estimator proposed by Borusyak et al. (2021) to test the robustness of the estimates obtained with the stacked-by-event design.<sup>22</sup>

Estimates of pre-treatment coefficients are close to zero, and are not statistically significant for all main outcomes, supporting the validity of the identifying assumption. Figure 5 plots the point estimates of  $\beta_k$ 's for public-sector enrollment obtained using the stacked-by-event design and the Borusyak et al. (2021) estimator. We cannot reject that pre-treatment coefficients are

<sup>&</sup>lt;sup>21</sup>The stacked-by-event design defines MTP as an absorbing treatment, and it is therefore robust to the potentially endogenous exit of host schools from MTP.

<sup>&</sup>lt;sup>22</sup>Results are also robust to the inclusion of treatment wave (or "dataset") fixed effects and the use of a balanced sample of schools -5/+3 years from MTP entry. These results are available upon request.

jointly equal to zero.<sup>23</sup> This finding is consistent with the observation that MTP started as a grass-roots movement that could hardly be anticipated by parents at the time of their children's enrollment into primary school. We discuss how treatment effects obtained using the TWFE specification in (1) are consistent with the estimates from the stacked-by-event specification in (2) in Section 5.

## **5** Results

### 5.1 Enrolment outcomes

We find that exposure to MTP increases enrollment at state-funded compared to private secondary schools. Panel A in Table 3 presents estimates of  $\alpha_1$  in Equation (1), where the outcome is an indicator of enrollment at a state-funded secondary school, conditional on the different sets of controls outlined in Section 4. Conditional on the area of residence, the correlation between MTP and public-sector enrollment is close to zero and not statistically significant (column (1)). The estimate increases and gains statistical significance once we condition on the primary school (column (2)), suggesting that even within the same local area, students opting for different primary schools have different unobserved enrollment choices. Estimates are barely affected when including controls for individual and primary school characteristics (column (3)). Our preferred specification shows that on average, parents exposed to MTP are 2.4 p.p. (2.8%) more likely to enroll their pupils at a state-funded school.<sup>24</sup> As the baseline private school enrollment rate is 0.14, this results in a 17% reduction in the primary school students' outflow to private education and one additional student per each MTP meeting enrolling in state-funded schools.<sup>25</sup> The average effect might incorporate potential spillovers onto untreated families living in proximity to treated parents, who were therefore "at risk" of being affected via either an information or a competition channel. We return to this issue in Section 5.2.

Public-sector enrollment starts diverging across treated and control schools right after the

<sup>&</sup>lt;sup>23</sup>We find no pre-trends for MTP-participating secondary school enrollment as well (Figure A.7).

<sup>&</sup>lt;sup>24</sup>This number is obtained by applying the estimated coefficient to the average baseline cohort size in the last grade of treated schools (40, see Table 1). We obtain similar results (available upon request) using enrollment into the second secondary school grade (Year 8). This finding suggests that families do not "regret" their choice and drop out of secondary school after one year.

<sup>&</sup>lt;sup>25</sup>We show in Appendix Table B.4 that treatment effects do not depend on the extent of parental participation in MTP meetings, suggesting that MTP did not facilitate the creation of new networks among parents.

MTP treatment starts. Figure 5 plots the post-treatment estimates using the stacked-by-event design in Equation (2) and the estimator proposed by Borusyak et al. (2021). On average, estimates of public-sector enrollment are positive and significant across the three cohorts of students beginning when a school enters MTP. Post-treatment coefficients are stable, suggesting very little heterogeneity across cohorts. This is in line with the idea that MTP follows a standardized format across schools and cohorts (see Section 2). Given that MTP is defined as an absorbing treatment, the coefficients for the second and third cohorts after a school starts MTP may be a lower bound of the true effect, since they would not take into account schools exiting treatment.

We turn here to investigate MTP's impact on enrollment at secondary schools that participate in the meetings. In Panel B of Table 3, the outcome is defined as an indicator of enrollment at any secondary school participating in at least one MTP meeting over our sample period. Exposure to MTP increases the probability of enrolling at a secondary school represented at the meetings by 1.4 p.p., and the estimate is not statistically different from zero (Column (3)).<sup>26</sup>

The comparison between the results in Panel A and Panel B is informative on the mechanism through which MTP is likely to work. If parents mostly respond to school-specific information, MTP should have a greater impact on enrolling children at participating schools than at any state-funded schools. Alternatively, if parents respond to MTP by reconsidering public education in general, then the impact of MTP will be greater at state-funded institutions. We find that the effect on state-funded schools is more than twice the magnitude of the effect on participating schools (although the two coefficients are not statistically different).<sup>27</sup> Parents are likely to perceive the information provided by MTP as a broad picture of what a state school generally looks like, and extrapolate such information to non-participating state schools (Tversky and Kahneman, 1974). Additionally, by improving parents' overall opinions of state-funded education, MTP may encourage parents to expand their search among state schools. As we

<sup>&</sup>lt;sup>26</sup>One concern may be that we are jointly considering the 22 schools participating in at least one MTP meeting rather than the significantly fewer schools a student is informed about at their specific meeting. The reason is that this set of schools varies across treated students only and therefore cannot be assigned to control students. As a result, our estimates of the impact on enrollment at participating schools may be diluted. We show in Appendix B.2 that a stacked-by-meeting design that considers only schools of which the child is informed delivers similar results (see Table B.5).

<sup>&</sup>lt;sup>27</sup>The fact that MTP's impact on enrollment is not driven by participating schools does not fully support the claim that secondary school principals may decide to participate in MTP based on primary school year-specific unobserved returns (e.g., unmet demand).

documented in Section 2, 72% of survey respondents state that after MTP they would consider schools they had not previously planned to consider. By widening their search, parents are more likely to find a good match in the public sector but not necessarily at a participating school.<sup>28</sup>

We further scrutinize the data to examine heterogeneous responses to MTP. MTP effects are driven by high-performing and high-SES students. Figure A.8 and A.9 report the estimated effects of MTP by student subgroup on enrollment in any state school and in participating secondary schools, respectively. Students who are not eligible for FSM are 3.6 p.p. more likely to choose a state-funded school and 2.7 p.p. more likely to enroll in a participating secondary school. While we detect no effects for students in the bottom quartile of KS2 scores, topperforming students exhibit positive and sizeable effects on enrollment (5 times and 10 times larger than the average effect, respectively). Similarly, treated parents in the lowest deprivation quartile are 6 p.p. more likely to enroll their children at a public-sector school (and 5 p.p. more likely to enroll their children at a participating school), while the impact declines with local deprivation and is zero in the top quartile (Panel B). These results are consistent with the program's target of relatively advantaged students and imply that, on top of the enrollment count, MTP increases peer quality at local state-funded institutions. These findings align with the literature on school accountability, which reveals that low-SES families respond less to information interventions on school quality due to higher information costs and lower expected returns to education (Hastings and Weinstein, 2008; Hastings et al., 2015; Dizon-Ross, 2019). In addition, MTP affects the choices of students whose parents are likely to have limited information on local schools, further supporting the interpretation of MTP as an information treatment. Larger-than-average effects are estimated among non-native speakers and students who recently moved their residence, who are likely to be less rooted in the local education system.

## 5.2 Competition VS Information

We next examine whether MTP generates spillovers through geographical proximity to treated parents. Living in a block with a higher share of treated parents (i.e., those exposed to MTP in

<sup>&</sup>lt;sup>28</sup>In a similar vein, Arteaga et al. (2022) show that searching for schools is costly and that providing information on admission chances encourages parents to continue their costly search and broaden the set of schools they are considering.

their child's school) may affect enrollment outcomes via two different channels. First, parental interest in local secondary schools could increase through the spread of information about participating institutions ("information" channel). Second, since MTP increases enrollment at local schools, proximity to treated parents may result in greater competition for available seats. As long as schools are oversubscribed, this "competition" channel decreases the probability of enrolling at local state schools.

We separately identify the competition from the information channel by exploiting variation in the share of treated students across neighborhoods. Following Autor et al. (2014), we measure the intensity of exposure to treatment for student i as the share of students directly exposed to MTP in a census block l:

$$MTPI_{l(i),t} = \frac{\sum_{i} MTP_{s(i),t} \cdot \mathbb{1}(L_{it} = l)}{\sum_{i} \mathbb{1}(L_{it} = l)}$$

where s(i) is the primary school attended by student *i* enrolled in grade 5 or 6 in year *t*. With a slight abuse of notation, we re-define  $MTP_{s(i),t}$  as an indicator equal to 1 if school *s* organized an MTP meeting in year *t*, and  $L_{it}$  denotes an indicator for the census block where *i* resides in year *t*.

We estimate spillover effects through the following specification:

$$y_{i} = \tau_{1} MTP_{s(i),t(i)} + \tau_{2} MTPI_{l(i),t(i)} + \tau_{3} MTP_{s(i),t(i)} \cdot MTPI_{l(i),t(i)} + \eta_{s(i)} + \eta_{t(i)} + \eta_{l(i)} + \varepsilon_{it}$$
(3)

where  $MTPI_{l(i),t(i)}$  is the MTP exposure index at the time student *i* completes primary school. The notation otherwise follows Equation (1) and omits  $X_{i,t(i)}$  and  $W_{s(i),t(i)}$  to simplify it.  $\tau_1$  estimates the direct effect of MTP on treated parents in hypothetical areas where no other neighboring parent is treated (Autor et al., 2014). The indirect effect of MTP, captured by exposure intensity MTPI, is allowed to vary by treatment status: the indirect impacts on untreated and treated parents are estimated by  $\tau_2$  and  $\tau_3$ , respectively. To interpret our results, we assume that treated parents are not additionally affected by the spread of information from other treated neighbors. It follows that  $\tau_3$  purely reflects the competition channel of MTP, while  $\tau_2$  captures a combination of the competition and information channels. Table 4 presents estimates from Equation (3) for all state-funded and participating schools (Panel A and Panel B, respectively). The spread of information generated by MTP impacts the school choice of untreated parents living in proximity to treated peers. Estimates of  $\tau_2$  are positive on average and, for participating schools, strongly significant for oversubscribed institutions (columns (1) and (2)). The estimate in Column (1), Panel B implies that a one SD higher exposure to treated peers increases enrollment at a participating school by about 0.6 p.p. These results could reflect both channels of MTP spillovers, combining the information and competition effects. Since competition effects are found to be negative, estimates of  $\tau_2$  can be interpreted as a lower bound of the information effect. Assuming that, on average, the competition effect is similar between exposed and unexposed parents, a one SD higher exposure to treated peers increases the enrollment of non-treated parents at participating schools by 1.5 p.p. (= 0.55 + 0.95), about half the size of the program's direct impact.

MTP increases competition for seats at local secondary schools. Estimates of  $\tau_3$  for participating schools are negative and statistically significant (Column (1), Panel B). A one SD higher exposure to treated peers lowers enrollment at a participating school by 1 p.p. Unsurprisingly, this competition effect is found only at oversubscribed schools (columns (2) and (3)).<sup>29</sup> Greater competition for participating schools implies that MTP's direct impact on enrollment is larger than the net effect. Indeed, our estimate of  $\tau_1$  in Equation (3) is 3.6 p.p., roughly three times larger than the net impact in Table 3, Panel B.<sup>30</sup>

We conclude that MTP meetings have significant information spillover effects on untreated parents living in close contact with treated peers. The results suggest that coefficient estimates for participating schools presented in the previous sections are likely underestimated since they do not factor in i) the increase in enrollment into participating schools stemming from untreated parents exposed to treated parents living in their neighborhood; and ii) competition effects due to oversubscription in sought-after schools. Moreover, the results suggest that parents value their peers' opinions on school choice and resort to word-of-mouth to inform their decision, which is consistent with the qualitative evidence from survey responses that show that other

<sup>&</sup>lt;sup>29</sup>We define a school as oversubscribed if the number of available seats is greater than the number of applicants who rank it as first choice (37% of secondary schools in London). This is a lower bound of actual oversubscription as applicants excluded from higher-preference schools are also on the list for admission. We proxy school-year capacity with the number of offers issued. The oversubscription indicator is computed in 2014, the first year for which preference data are available.

<sup>&</sup>lt;sup>30</sup>Consistent with the fact that a seat in a state-funded school is guaranteed by law, the competition effect on enrollment at any public-sector institution is a precisely estimated zero, and the direct impact is remarkably similar to the net effects (Panel A of Table 4).

parents are one of the most-cited sources of information (Panel A of Figure 4).

### 5.3 Choice among state-funded schools

In the previous sections, we examined how MTP impacts enrollment in state-funded schools or at specific schools that attended the meetings. We now explore how MTP interacts with parental preferences over school attributes, such as proximity, type, student composition, and academic performance, within the state sector.

We compare the characteristics of the school at which a student enrolls with those of other schools that are not chosen by their parents.<sup>31</sup> We first build a dataset at the student-*secondary* school level, and we build measures of school attributes and distance to the student's residence at baseline. We consider parental choice among local secondary schools, and we define the choice set as either all local secondary state-funded schools or only participating schools.<sup>32</sup> We estimate the following specification:

$$Y_{ip} = \pi_0 MTP_{s(i),t(i)} + \sum_{k=1}^K \omega_k W_{p,t(i)}^k + \sum_{k=1}^K \pi_k MTP_{s(i),t(i)} \cdot W_{p,t(i)}^k + \phi_{s(i)} + \phi_{t(i)} + \phi_{l(i)} + u_{ip}, \quad (4)$$

where our outcome of interest is a dummy equal to 1 if student *i* enrolls at secondary school *p*. We include interactions between MTP exposure and *k* secondary school attributes  $(W_{p,t(i)}^k)$  with k = 1, ..., K measured in the year when student *i* completes primary education. The notation otherwise follows equations (1) and (3). Coefficients  $\omega_k$ 's represent parental *taste* for school attribute *k* regardless of MTP. We are interested in the coefficients  $\pi_k$ 's, which reflect the *change* in revealed preferences for school attribute *k* induced by MTP. The source of identifying variation remains the same as in our main design, with school and year dummies ( $\phi_{s(i)}$  and  $\phi_{t(i)}$ , respectively) isolating a difference-in-differences comparison of parents exposed or not exposed to MTP.

<sup>&</sup>lt;sup>31</sup>In Appendix C.1, we outline the utility function framework that guides this exercise.

<sup>&</sup>lt;sup>32</sup>We consider 19 out of 22 participating schools in the dataset since the remaining institutions opened after MTP began.

#### **School attributes**

We report estimates of the impact of school attributes on parental enrollment at secondary schools in Table 5. We consider the choice set of all state-funded schools in Camden and neighboring districts in columns (1)–(3), and restrict it to schools participating in MTP in columns (4)–(6).

Consistent with the school choice literature (e.g., Burgess et al., 2015), we find that longer distances to school discourage enrollment, while academic performance and peer composition are the most sought-after school attributes. We first examine the uninteracted coefficients of school attributes,  $\omega_k$ 's in Equation (4), to gain insights into parental preferences for traditionally studied school inputs.<sup>33</sup> The uninteracted coefficients on distance and school quality are negative and positive, respectively, suggesting that, unsurprisingly, parents prefer schools within shorter distances, and with higher-than-median school quality. We progressively include other school attributes in columns (2)–(3) and (5)–(6). Conditional on distance and performance, at baseline parents are less likely to enroll at religious schools and schools serving a larger proportion of FSM-eligible and non-white (Asian) students.

The impact of MTP on the travelling choices of parents differs across schools. Estimates of the interaction with distance to school are positive across all state-funded schools. As willingness to travel is often used in the literature to measure parental preferences (e.g., Bertoni et al., 2020), this suggests that parents are willing to travel longer distances to enroll at the chosen school. The estimates become negative for participating schools. To make sense of this result, we non-parametrically describe the relationship between distance, parental choice, and MTP exposure differently from the linear parametrization adopted in Table 5. Figure A.10 presents estimates from a specification similar to Equation (4) where MTP exposure interacts with a set of indicator variables for 500-meter-wide bands of distance to school. As expected, MTP increases enrollment at participating schools for parents living closer to them. Conditional on residing within 500 meters from a participating school, treated parents are about 3 p.p. more likely to enroll at that institution (Panel A). This estimate more than doubles the average result

<sup>&</sup>lt;sup>33</sup>Estimates of the uninteracted MTP coefficient in Table 5 are hard to interpret as they extrapolate the effect to a hypothetical school with all characteristics equal to 0. The positive enrollment impacts uncovered in the previous subsection, therefore, are heterogeneous depending on the school's characteristics and parental preference for them.

in Table 3, even if it is imprecisely estimated. The effect fades out rapidly with distance, dropping to zero beyond 1 km from the school.<sup>34</sup> Because parents who reside closer to their school of choice are more likely to gain admission, results are also in line with the competition effect documented in Section 5.2.

Consistent with the evidence presented in Section 3, MTP held parental preferences for school performance constant. We estimate the interaction of the MTP indicator with a dummy equal to one if the school is in the top quartile of the test scores distribution. Estimates are small and not statistically significant in all specifications. However, MTP prompts parents to choose schools in the state sector that have less-advantaged intakes. Taken together with the results discussed in the previous paragraph, as a result of MTP parents are more willing to trade distance and school composition for a seat in their preferred school. Among participating schools, MTP makes parents more likely to choose single-sex education, an attribute that is often found in the private sector. Overall, the analysis of school attributes backs our claim that MTP held parental information on school performance and parents' preference for this attribute constant.

## 6 Cost-Benefit Analysis

We now turn to the question of how the program's benefits for the secondary state-school system compare to the program's costs. Beyond providing parents with information they value, programs such as MTP represent an opportunity for secondary schools to raise additional resources and improve their finances. The calculations we present here represent merely an accounting exercise that abstracts from any general welfare statement. Full details on cost-benefit calculations can be found in Appendix C.3, and benefit-cost ratio estimates can be seen in Table C.1.

The positive impact of MTP on enrollment at state schools implies an increase in funding available in the public sector. On average, one additional student enrolls at state-funded schools per MTP meeting. The 2020 - 2021 London average of the per-pupil secondary school funding allocation stands at £6,913. Assuming a constant effect of MTP throughout the period of

<sup>&</sup>lt;sup>34</sup>Figure A.10 Panel B focuses on oversubscribed participating schools (5 out of 19, which explains the drop in precision). The effect persists at farther distances, even if imprecisely estimated. Estimates drop to zero only from 2.5 km to the school, indicating that parents are willing to travel more to get a seat in top schools.

our analysis after the pilot phase (2014 - 2018), we obtain an overall increase in funding of £587,605.

Increased enrollment also drives an increase in school costs. However, it is reasonable to assume that, at least in the short-term, it is not possible for schools to expand capacity, and therefore we abstract from spending on teaching and general staff and other "fixed costs," such as building maintenance. Under these assumptions, one additional pupil drives an increase of about £1,520 in running costs (£129,200 overall). Finally, secondary schools pay £380 to enter each meeting.

Overall, this exercise suggests that the state-school sector has largely benefited from MTP, with a net gain of about £318,945 over the five years of the program. The increase in school resources can benefit all state-school students and mitigate concerns about schools' financial viability. Simple and low-cost interventions that provide parents with valuable information about school attributes they value can improve state-school finances and reduce concerns about school choice's adverse effects on educational stratification and inequality.

## 7 Conclusion

This paper investigates the impact of hard-to-find information on non-test score attributes on school choice. We evaluate an intervention in the London Borough of Camden named Meet The Parents, which provided parents with information on the school environment at local state-funded secondary schools, which is usually difficult to obtain through conventional sources of information. We use survey evidence and text analysis of MTP meeting minutes to document the school attributes parents value and the topics discussed during the meetings.

Using a difference-in-differences design, we find that MTP increased the probability of enrolling at state-funded secondary schools by approximately 2.4 p.p. (2.8%). This corresponds to a 17% reduction in the outflow to the private sector. However, this effect underestimates the true shift in parental preferences, as the program intensified competition for limited seats in nearby state schools. The effect of MTP was particularly pronounced among high-achieving and socio-economically advantaged students. Additionally, the program shifted demand toward state schools with a more diverse student body, suggesting that parents were willing to sacrifice proximity and peer composition to secure a seat in a school that offered the preferred "soft" attributes. Our interpretation is that parents do not value private schools *per se* but are rather interested in a number of school attributes such as discipline, inclusiveness, or safety, and providing them with information on these traits can sway their decisions in favor of state-funded schools.

Our findings have important policy implications, as low-cost interventions like MTP can facilitate information exchange and improve state-school finances and student composition. MTP-style interventions can therefore weaken concerns about the adverse effects of school choice on educational stratification and inequality. We conclude with two final notes. First, beyond its impact on parental choice, MTP may also affect achievement outcomes. Unfortunately, for the time being, the lack of available data on end-of-high school exams prevents us from investigating this question. Second, although a scale-up of MTP is likely to financially benefit the state-education sector, whether this would also be beneficial from a welfare perspective depends on the general equilibrium effects of a program's expansion. Although studying these two issues goes beyond the scope of the present paper, we hope to address them in future work.

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# **Tables**

	Primary schools		Secondary schools			
-	Host schools	Non-host schools in Camden	Non-host schools in bordering LAs	Participating schools	Non-participating schools in Camden	Non-participating schools in bordering LAs
	(1)	(2)	(3)	(4)	(5)	(6)
% Free school meal eligible	0.34	0.448	0.301	0.388	0.616	0.334
5	(0.168)	(0.166)	(0.165)	(0.142)	(0.257)	(0.179)
% With special education needs	0.26	0.412	0.319	0.255	0.781	0.398
-	(0.089)	(0.288)	(0.189)	(0.078)	(0.439)	(0.307)
% White	0.508	0.334	0.39	0.388	0.389	0.361
	(0.184)	(0.181)	(0.226)	(0.155)	(0.212)	(0.203)
% Native speaker	0.603	0.426	0.566	0.507	0.552	0.516
	(0.205)	(0.173)	(0.218)	(0.183)	(0.263)	(0.212)
End of school score in English (std)	0.188	-0.139	-0.081	0.09	-0.61	0.112
	(0.366)	(0.421)	(0.427)	(0.436)	(2.228)	(0.746)
End of school score in math (std)	0.157	-0.123	-0.042	0.12	-0.648	0.2
	(0.32)	(0.414)	(0.439)	(0.376)	(1.982)	(0.805)
Average school-home distance (km)	0.816	0.862	0.964	1.972	3.413	2.724
	(0.351)	(0.473)	(0.413)	(0.791)	(0.595)	(1.608)
Enrolment count per grade	39.627	29.29	46.077	162.719	52.277	141.186
	(13.632)	(16.481)	(22.182)	(42.019)	(86.998)	(80.652)
Observations	30	17	377	22	4	108

#### Table 1. Descriptive statistics for primary and secondary schools

*Note:* This table shows descriptive statistics of primary and secondary school characteristics. Statistics are computed as school-level averages over the 2007–2013 period, preceding the introduction of MTP. Columns (1)–(3) describe primary schools, while columns (4)–(6) describe secondary schools. Host primary schools (column (1)) are state-funded schools organizing at least one MTP event between 2013–2018. Other primary schools in Camden and in bordering local authorities are described in column (2) and column (3), respectively. Column (4) shows statistics of state-funded secondary schools participating in at least one MTP meeting between 2013–2018. Other secondary schools in Camden and in bordering local authorities are described in column (2) and column (3), respectively. Column (5) and column (6), respectively. End-of-school test scores are end-of-KS2 and end-of-KS4 test scores for primary and secondary schools, respectively. Standard deviations are reported in parentheses.

	Students in treated schools		Students in control schools	
	mean (1)	S.D. (2)	mean (3)	S.D. (4)
Enrolment outcomes	(-)	(-)	(-)	(1)
Participating secondary	0.718	0.450	0.155	0.362
State-funded secondary	0.857	0.350	0.900	0.300
State-funded secondary in Camden	0.602	0.489	0.055	0.228
State-funded secondary in Camden or Islington	0.671	0.470	0.153	0.360
Distance to secondary school (km)	1.759	4.501	2.452	3.422
Pupils' characteristics				
Female	0.492	0.500	0.492	0.500
Free school meal eligible	0.345	0.475	0.317	0.465
Special Education Needs	0.258	0.437	0.299	0.458
Native speaker	0.607	0.488	0.566	0.496
White	0.509	0.500	0.392	0.488
Asian	0.161	0.367	0.167	0.373
Black	0.170	0.376	0.246	0.431
Changed residence during KS2	0.250	0.433	0.282	0.450
KS2 test score in mathematics (std)	0.119	0.965	-0.013	1.017
KS2 test score in reading (std)	0.191	0.972	-0.018	1.020
Distance to primary school (km)	0.879	0.843	1.002	0.926
Income deprivation index (LSOA level)	0.401	0.184	0.403	0.212
Observations (2007-2013)	9,438		98,943	

## Table 2. Student-level descriptive statistics

*Note:* This table shows descriptive statistics of students' characteristics. The sample is a repeated cross-section of students completing primary education in Camden or bordering school districts. Statistics are computed considering the 2007–2013 period, preceding the introduction of MTP. Treated primary schools are those holding at least one MTP meeting between 2013–2018. Control schools are schools located in Camden or in the neighboring LAs which never held an MTP meeting.

	Dependent variable: enrolment indicator at secondary school		
	(1)	(2)	(3)
	Panel A: State-funded schools		
MTP	0.006	0.025**	0.024**
	(0.011)	(0.010)	(0.010)
	Panel B: Participatin		
MTP	0.126***	0.015	0.014
	(0.022)	(0.013)	(0.012)
Observations	180,398	180,398	180,398
Year FE	Y	Y	Y
Census block (LSOA) FE	Y	Y	Y
Primary school FE	Ν	Y	Y
Individual and primary school characteristics	Ν	Ν	Y

## Table 3. Average effects of MTP

*Note:* The table shows DID estimates of the impact of MTP on the probability of attending a secondary state-funded school (Panel A) and a participating school (Panel B). Column (1) controls for year and census block (LSOA) fixed effects; column (2) adds school fixed effects; column (3) adds controls for individual characteristics (gender, ethnicity, language spoken at home, FSM eligibility, and special educational needs), school and block characteristics (quadratic polynomials in enrollment and number of children, respectively), and mean (log) house prices at the census block level. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	Dependent variable: enrolment indicator at secondary school			
	All schools	Oversubscribed schools	Undersubscribed schools	
	(1)	(2)	(3)	
	Pa	Panel A. State-funded schools		
MTP	0.0228**	0.0302	-0.0302	
	(0.0104)	(0.0248)	(0.0248)	
MTPI	0.0008	0.0056	-0.0056	
	(0.0014)	(0.0035)	(0.0035)	
MTP*MTPI	-0.0002	-0.0056	0.0056	
	(0.0024)	(0.0042)	(0.0042)	
	Pa	anel B. Participating sch	ools	
MTP	0.0361	0.0443**	-0.0293	
	(0.0222)	(0.0218)	(0.0259)	
MTPI	0.0055*	0.0090***	-0.0038	
	(0.0032)	(0.0028)	(0.0044)	
MTP*MTPI	-0.0095**	-0.0100***	-0.0005	
	(0.0045)	(0.0034)	(0.0056)	
Observations	164,938	144,198	144,198	
Year FE	Y	Y	Y	
Census block (LSOA) FE	Y	Y	Y	
Primary school FE	Y	Y	Y	
Individual and primary school characteristics	Y	Y	Y	

#### Table 4. Direct and indirect effects of MTP

*Note:* The table shows DID estimates of the direct and indirect effects of MTP on the probability of attending a secondary state-funded school (Panel A) and a participating school (Panel B). Dependent variables in columns (2) and (3) are indicators for enrollment into oversubscribed and undersubscribed schools, respectively. We define a school as oversubscribed if the number of available seats is greater than the number of applicants who rank it as a first choice (37% of secondary schools in London). All columns control for year, census block (LSOA), and school fixed effects, as well as controls for individual characteristics (gender, ethnicity, language spoken at home, FSM eligibility, and special educational needs) and school and block characteristics (quadratic polynomials in enrollment and number of children, respectively). Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.
Dependent variable:	Enrolment indicator at:						
	St	ate-funded schoo	ls	Pa	articipating scho	ools	
	(1)	(2)	(3)	(4)	(5)	(6)	
MTP	-0.0104**	-0.0045	-0.0737***	0.0222***	0.0188**	0.0109	
	(0.005)	(0.008)	(0.024)	(0.007)	(0.008)	(0.022)	
Distance (in km)	-0.0384***	-0.0548***	-0.0553***	-0.0329***	-0.0357***	-0.0361***	
( )	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	
MTP*Distance (in km)	0.0038***	0.0034*	0.0073***	-0.0094***	-0.0092***	-0.0081***	
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	
Fop performing	0.0337***	0.0161***	0.0045	0.0088**	0.0113***	0.0022	
op performing	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.002)	
MTP*Top performing	-0.0070	0.0072	-0.0023	0.0088	0.0070	-0.0008	
iii iop performing	(0.006)	(0.007)	(0.005)	(0.007)	(0.006)	(0.005)	
Faith	(0.000)	-0.0175***	-0.0155***	(0.007)	-0.0088***	-0.0084***	
atti		(0.004)	(0.004)		(0.003)	(0.002)	
Single sex		-0.0031	-0.0023		-0.0020	-0.0050	
single sex		(0.003)	(0.003)		(0.003)		
TD*Eaith		-0.0151	-0.0055		-0.0042	(0.004) -0.0018	
MTP*Faith							
MTP*Single sex		(0.010) -0.0098*	(0.010)		(0.006) 0.0136**	(0.006)	
			-0.0073			0.0150*	
		(0.005)	(0.005)		(0.006)	(0.008)	
Share of FSM			-0.0450***			-0.0467**	
			(0.014)			(0.020)	
Share of natives			-0.0084			-0.0050	
			(0.012)			(0.018)	
Share of Asian			-0.0592***			-0.0532***	
			(0.011)			(0.016)	
Share of Black			-0.0118			0.0123	
			(0.017)			(0.028)	
MTP*Share of FSM			0.0857***			-0.0250	
			(0.024)			(0.044)	
MTP*Share of natives			0.0946***			0.0423	
			(0.022)			(0.027)	
MTP*Share of Asian			-0.1079***			-0.0501*	
			(0.034)			(0.027)	
MTP*Share of Black			0.0333			0.0496	
			(0.033)			(0.051)	
Dbservations	2,786,175	1,928,736	1,920,836	1,254,369	1,090,428	1,090,428	
Year FE	Y	Y	Y	Y	Y	Y	
Census block (LSOA) FE	Y	Y	Y	Y	Y	Y	
Primary school FE	Y	Y	Y	Y	Y	Y	
Individual and primary school characteristics	Y	Y	Y	Y	Y	Y	

#### Table 5. School attributes and parental enrolment

*Note:* The table shows DID estimates of the impact of MTP on parental enrollment choices for attributes of local state-funded schools (columns (1)–(3)) or participating schools (columns (4)–(6)). The data are constructed at the student-school level and each observation represents a different attribute of each school. The dependent variable is a dummy indicating student enrollment at the considered school at Year 7. All specifications include control variables similar to column (4) of Table 3. School composition variables are computed in 2009, before the first treated cohort begins the final year of KS2. Top-performing schools are schools whose average KS4 test scores are above the 75th percentile in the sample. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# Figures

Figure 1. Rollout of MTP



Panel A. Primary ('host') schools





*Note:* The figures show the number of primary schools (Panel A) and secondary schools (Panel B) participating in the MTP program by meeting year.



Figure 2. Geographical location of participating primary and secondary schools

*Note:* The figure shows the geographical location of primary and secondary schools participating in MTP as well as non-participating primary and secondary state-funded schools. Location is based on school postcode centroids. Represented are the borough of Camden, where the MTP initiative was launched, and the neighboring boroughs (in clockwise order, Islington, Lambeth, Westminster, Brent, Barnet, Haringey). Among the 30 participating primary schools, 25 were located in the district of Camden, two in Islington, and three in Haringey.





Panel A. Topics discussed during MTP meetings

Panel B. Most-mentioned words on atmosphere and environment



*Note:* The figure shows the share of words concerning the school environment relative to performance and teachers by participating secondary school (Panel A) and the cloud of most-mentioned words in the "school environment" category (Panel B). Words were extracted from 2014 2018 MTP meeting minutes. Meeting minutes are available for a subset of participating secondary schools (22). Uncategorized words (e.g., verbs) are excluded from the analysis. The total number of words considered is 7,362; the number of words regarding "school environment," "performance," and "teachers" are 4,971, 1,744, and 647, respectively. "School environment" includes all words that can be traced to the following categories: welcoming atmosphere, neighborhood characteristics, inclusive ethos, pastoral care, discipline, extra activities, and facilities. "Performance" includes achievement, curriculum, and how the school challenges high achievers. See Appendix C.2 for details.



Figure 4. Information sources and school attributes in parental choice Panel A. Sources of information

Panel B. School attributes valued by parents



*Note:* The figure shows the fraction of parents valuing different sources of information (Panel A) and different school attributes (Panel B) when they choose a secondary school for their children. Panel A plots the share of respondents who answered 5 to the following question: "How much do you rely on the following sources of information? 1 = not at all and 5 = a lot". Panel B plots the share of respondents who answered 5 to the following question: "How much do you value the following features in your choice of secondary school? 1 = not at all and 5 = a lot". Answers were collected through a survey administered to parents attending MTP meetings in 2019. See Appendix Figure A.4 for the template of the questionnaire.



Figure 5. Event study of enrolment at state-funded schools

*Note:* The figure shows the event graph of student enrollment in state-funded schools around the time of entrance into the MTP program. Time on the horizontal axis is computed by subtracting the year when a given school entered MTP from the year of the observation. The figure plots the time-specific coefficient of MTP treatment effect estimated from Equation (2), along with 95% confidence intervals using the stacked design (Deshpande and Li, 2019) and the estimator developed by Borusyak et al. (2021) with light blue and gray bars, respectively. For the latter, we use periods before -6 as the reference group. P-values of the F-test for the joint significance of pre-conversion coefficients are 0.35 (stacked design) and 0.27 (Borusyak et al., 2021). When applying the stacked design, we bin relative times for k < 7 and k > 3, assuming constant treatment effects within the bin, as suggested by Sun and Abraham (2021). See Section 4 for details.

# Appendix A Additional Tables and Figures

School	Admission	Sex	Banding			Pr	iority:		
School	authority	Sex	Банцінд	First	Second	Third	Fourth	Fifth	Sixth
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Parliament Hill School (PHS)	LA	All	NO	LA children	Siblings	Social/medical need	Staff		
Acland Burghley School (ABS)	LA	All	NO	LA children	Siblings	Social/medical need	Staff		
William Ellis School (WES)	LA	All	NO	LA children	Siblings	Social/medical need		Staff	
Arts & Media School Islington (AMSI)	LA	All	NO	LA children	Siblings	Social/medical need			
Holloway	LA	All	NO	LA children	Siblings	Social/medical need			
Central Foundation Boys School	School	Boys	YES	LA children	Siblings	Social/medical need			
Elizabeth Garrett Anderson School (EGA)	LA	Girls	NO	LA children	Siblings	Social/medical need			
The London Nautical School	School	All	NO	LA children	Siblings	Social/medical need			
Regent High School (RHS)	LA	All	NO	LA children	Siblings	Social/medical need			
The UCL Academy (UCLA)	School	All	NO	LA children	Siblings	Social/medical need		Staff	
Haverstock School	LA	All	NO	LA children	Siblings	Social/medical need			
Hampstead School	LA	All	NO	LA children	Siblings	Social/medical need		Staff	
Camden School for Girls (CSG)	School	Girls	YES	LA children	Siblings	Social/medical need			
Maria Fidelis (MF)	School	All	NO	Catholic LA	Catholic practice	Baptised	LA children	Orthodox Churches	Other Christians
St Mary's and St John's School (SMSJ)	School	All	YES	Feeder school	LA children	Social/medical need	Siblings	Staff	Catholic children (50%
St. Augustine's High School	School	All	YES	LA children	Catholic/christian practice	Social/medical need	Religious practice	Feeder school	Siblings
Fortismere School (FORT)	School	All	NO	LA children	Social/medical need	Siblings	Staff		
Greig City Academy	School	All	NO	LA children	Social/medical need	-			
Highgate Wood School (HW)	LA	All	NO	LA children	Social/medical need	Siblings		Staff	
Hornsey Girls School (HSG)	LA	Girls	NO	LA children	Social/medical need	Siblings		Staff	
The Archer Academy (AA)	School	All	NO	LA children	Founders' children	Siblings	Staff	Catchment area (stratified)	
Whitefield School	School	All	NO	LA children	Social/medical need	Siblings	Staff	· · · · · · · · · · · · · · · · · · ·	

Table A.1.	Oversubscription	criteria for	participating	secondary schools
	T T T T T T T T		r · · · · · · · · · · · · · · · · · · ·	

*Note:* This table shows oversubscription criteria of secondary schools participating in MTP meetings. The admission authority is the LA or the school's governing body. Schools with banding admit equal shares of children from different ability bands (typically four) assessed by ad-hoc tests to represent a diverse intake. Looked-after children are a small group of particularly vulnerable children whose prioritization is required. Among children with equal priorities, most schools break ties using home-school distance. There are few exceptions to the proximity criterion: siblings of current students; religion (in faith schools only); SAT performance (in grammar schools only, virtually absent in our context). Secondary schools are sometimes linked to "feeder" primary schools, whose pupils gain admission priority to the linked secondary school. Among those participating in MTP, only one secondary school has a feeder institution (St Mary's and St John's School). Other exceptions are the London Nautical School, which runs a lottery, and St Augustine's High School, which has an additional priority given to other Catholic primary schools.

	Host p			
Participating secondary school test scores	1st tercile	2nd tercile	3rd tercile	
1st tercile	20	19	10	49
2nd tercile	13	20	13	46
3rd tercile	13	18	12	43
	46	57	35	138

## Table A.2. MTP meetings by hosting and participating schools' test scores

*Note:* The table shows frequency counts of MTP meetings by test scores of participating secondary and host primary schools. Each observation represents a host-participating group pair. Both groups of schools are grouped in terciles of final-year academic performance (KS2 scores for host schools, KS4 scores for participating schools) computed using observations for the baseline period (i.e., before 2013).

Dep. Var.: Participation to MTP		Characteristics:	
	Level (baseline)	2007-2012	2010-2012
	(1)	(2)	(3)
% Free school meal eligible	-0.104	-0.001	-0.022
70 The school mean engine	(0.082)	(0.069)	(0.059)
% White	-0.118	-0.080	0.022
	(0.090)	(0.073)	(0.043)
% Asian	-0.046	0.046	0.079
	(0.070)	(0.066)	(0.071)
% Black	-0.136	-0.011	0.032
	(0.098)	(0.030)	(0.022)
% Native speaker	-0.075	0.099	0.040
	(0.037)	(0.064)	(0.063)
End of school score in English (std)	-0.004	0.002	0.018
	(0.070)	(0.054)	(0.037)
End of school score in mathematics (std)	-0.054	0.062	0.058
	(0.067)	(0.085)	(0.051)
Observations	82	68	72
Fixed effects	LA	LA	LA

#### Table A.3. Selection of participating secondary schools into MTP

*Note:* The table shows estimates of regressions that correlate baseline school characteristics with the decision of a secondary school to participate in MTP. The dependent variable is an indicator variable taking a value of 1 for secondary schools that participate in MTP. Column (1) presents regression estimates obtained by regressing this indicator variable on school characteristics measured in levels at baseline (2007). Columns (2) and (3) consider instead short-term (2010-2012) and long-term (2007-2017) changes in the same characteristics, respectively. All columns control for LA fixed effects. All independent variables are standardized to have zero mean and unit variance. Standard errors are clustered on LAs and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# Figure A.1. MTP Meetings



*Note:* The figure shows an example of an MTP meeting.

Figure A.2. MTP Meetings: panellists and attendees



Panel A. Parents and students in the panel

Panel B. Parents and students in the audience



*Note:* The figure shows an example of the structure of MTP meetings.

## Figure A.3. Questionnaire administered to parents during MTP meetings (page 1)

Cuthorand reason on the manufactured	Meet the Parents Pa	
Your child's school and year group:		
Event venue:		
Date:		
Your name:		
Your email:		
Your phone number:		
Schools represented in tonight's panel	- please tick	
<ul> <li>Acland Burghley</li> <li>Archer Academy</li> <li>Arts &amp; Media School Islington</li> <li>Beacon High</li> <li>Central Foundation for Boys</li> <li>City of London Highgate Hill</li> <li>Elizabeth Garrett Anderson</li> </ul>	<ul> <li>Fortismere</li> <li>Greig Academy</li> <li>Hampstead</li> <li>Haverstock</li> <li>Highgate Wood</li> <li>Hornsey School f</li> <li>Maria Fidelis</li> </ul>	<ul> <li>Mary Magdelene Academy</li> <li>Parliament Hill</li> <li>Regent High</li> <li>St Mary &amp; St Johns</li> <li>UCL Academy</li> <li>or Girls</li> <li>William Ellis</li> </ul>
The following 4 questions refer to your	child	
1. Gender:	□ Female □ Male□ C	Other
2. Eligibility for Free School Meals:	□ Yes □ No	
3. Language spoken at home: 🛛 Eng	lish 🛛 Other than English	I Contraction of the second
4. Ethnicity:		
African Any Other Asian Background Any Other Black Background Any Other Ethnic Group Any Other Mixed Background Any Other Mixed Background Any Other White Background	<ul> <li>□ Bangladeshi</li> <li>□ Caribbean</li> <li>□ Chinese</li> <li>□ Gypsy / Romany</li> <li>□ Indian</li> <li>□ Irish</li> </ul>	<ul> <li>Pakistani</li> <li>White and Asian</li> <li>White and Black African</li> <li>White and Black Caribbean</li> <li>White British</li> </ul>
What type of school are you considering	g for your child? Please select	all that apply.
□ Academy	Free School	🗌 Roman Catholic School
Non-academy School     Grammar School	□ Church of England Sc	hool 🛛 Other Faith School

*Note:* The figure shows the template of the questionnaire administered to parents (page 1).

## Figure A.4. Questionnaire administered to parents during MTP meetings (page 2)

	1	2	3	4	5
Overall quality of teaching					
Broad curriculum including arts & sport					
Pastoral care					
Results					
Quality of facilities					
Extra curricular activities					
Inclusive ethos					
Discipline					
School neighbourhood safety					
Welcoming atmosphere / environment					
Stretching high achievers					

How much do you rely on the following sources o	of information?	1 = not of	at all and	l 5 = a la	ot
	1	2	3	4	5
Meet the Parents meetings					
Other parents					
Neighbours					
Relatives					
School open days					
School websites					
Performance tables					
Other material (e.g. leaflets, brochures)					

These questions are crucial feedback for this project.

Has this event made you look round a school you had not previously planned to? If so, please name the school.
How useful was this event from 1-5? (1=not at all useful and 5=very useful).
How many MTP meetings have you attended or do you plan to attend?
Do you plan to discuss what you have learnt from this meeting with non-participating parents?
We welcome any comments

We will not pass on your personal information to any other organisation. We will keep your survey responses in accordance with the Data Protection Act, but you can also contact us any time if you don't want us to store your survey response

*Note:* The figure shows the template of the questionnaire administered to parents (page 2).



Figure A.5. Participation in MTP meetings by year group

*Note:* The figure shows the fraction of children whose parents attended an MTP meeting by grade (year group) of enrollment. Answers were collected through a survey administered to parents attending MTP meetings in 2019. See Section 2 for details.



Figure A.6. Number of schools entering and leaving MTP

Note: The figure shows the number of schools entering and leaving MTP by year.

#### Figure A.7. Event study of enrollment at participating schools



Panel A. Participating schools

*Note:* The figures show the event graph of student enrollment in participating schools around the time of entrance into the MTP program. Time on the horizontal axis is computed by subtracting the year when a given school entered MTP from the year of the observation. The figures plot time-specific coefficients of MTP treatment effect estimated from Equation (2), along with 95% confidence intervals, using the stacked design (Deshpande and Li, 2019) and the estimator developed by Borusyak et al. (2021) with light blue and gray bars, respectively. For the latter, we use periods before -6 as the reference group. When applying the stacked design, we bin relative times for k < 7 and k > 3, assuming constant treatment effects within the bin, as suggested by Sun and Abraham (2021). See Section 4 for details.



24 = Yes = No 5 <u>~</u> coefficient and 95% CI .15 12 60 00 8 0 03 TOP actievers Natives Movers FSM PI

Panel A. Effects by individual characteristics





*Note:* The figures show DID estimates of the impact of MTP on the probability of enrolling at a state-funded secondary school. The sample is formed by students completing primary education in Camden or bordering school districts. In Panel A, the first bar shows the average treatment effect of MTP (corresponding to column 3 of Table 3). All the estimates in the other columns are obtained by stratifying the sample based on the specified student characteristics. Top achievers are students whose standardized test scores are above the 75th percentile. We define "movers" as students whose postcode of residence changed during years 3 to 6 of primary school (25% of our sample). Panel B plots quartiles of local area deprivation on the horizontal axis. Deprivation is measured by the IDACI index, based on average family income in the LSOA and measured in 2011. All regressions control for year, census block (LSOA), and school fixed effects, as well as individual characteristics (gender, ethnicity, language spoken at home, FSM eligibility, and special educational needs), school and block characteristics (quadratic polynomials in enrollment and number of children, respectively), and mean (log) house prices at the census block level. Standard errors are clustered on schools.



24 = Yes = No 5 <u>8</u> coefficient and 95% Cl 03 .06 .09 .12 .15 . 0 .03 TOPachievers Natives FSM Movers PI Panel B. Effects by local area deprivation 2 ∽. 08 Coefficient and 95% CI 0 .02 .04 .06 -.02 -.04 -.06 4 2 ġ. Quartile of local deprivation

Panel A. Effects by individual characteristics

*Note:* The figures show DID estimates of the impact of MTP on the probability of enrolling at a participating secondary school. The sample considered is formed by students completing primary education in Camden or bordering school districts. In Panel A, each estimate is obtained by stratifying the sample based on the specified characteristic. Top achievers are students whose standardized test scores are above the 75th percentile. We define "movers" as students whose postcode of residence changed during years 3 to 6 of primary school (25% of our sample). In Panel B, the quartile of local area deprivation is plotted on the horizontal axis. Deprivation is measured by the IDACI index, based on average family income in the LSOA and measured in 2011. All regressions control for year, census block (LSOA), and school fixed effects, as well as individual characteristics (gender, ethnicity, language spoken at home, FSM eligibility, and special educational needs), school and block characteristics (quadratic polynomials in enrollment and number of children, respectively), and mean (log) house prices at the census block level. Standard errors are clustered on schools.





Panel A. Participating schools





*Note:* The figure shows DID estimates of the impact of MTP on the probability of attending a participating school by distance to the school. We plot coefficients from regressions similar to (4), augmented with interactions between MTP indicator and home-school distance band indicators. Distance bands considered are 500 meters wide and coefficients are plotted at the central point of each band (e.g., the 0–500 meters coefficient is reported at a value of 250 on the x-axis). Students residing farther than 5 km from the school are not included. The outcome variable is a dummy indicating enrollment at the participating school considered, where Panel A includes all participating institutions and Panel B restricts to oversubscribed participating schools. We define a school as oversubscribed if the number of available seats is greater than the number of applicants who rank it as first choice (37% of secondary schools in London). The 95% confidence interval for each coefficient is plotted.

# **Appendix B** Robustness checks

#### **B.1** Alternative specification, treatment and control groups

We turn here to explore the sensitivity of our results to alternative empirical specifications and potential threats to the validity of our estimates. First, because participation in the program is voluntary on an annual basis, schools (and the students they serve) can in principle leave and re-enter treatment, possibly more than once. The majority of schools entered treatment by 2015 (1 in 2012, 9 in 2014, 11 in 2015, and 8 in 2016–18). Over the years considered, 10 out of 30 primary schools left treatment before the end of the sample period: 2 in 2017, 5 in 2016, 2 in 2015, and 1 in 2014 (see Figure A.6). Moreover, one school exited treatment in 2017 and re-entered in 2018. In our main specification (Equation 1), we keep all entries and exits as the nature of MTP can lead to year-specific effects. However, exiting the program may happen endogenously as a result of the program's effectiveness. We therefore estimate Equation (1) by assigning to treatment all schools starting from the first year in which an MTP meeting was conducted, and we consider them treated thereafter regardless of whether they exited the program. This procedure yields an "intention-to-treat" estimate of MTP's effect. The results on main enrollment outcomes are substantially unchanged, as shown in Table B.1.

Second, the choice of the control group—which we define as students attending untreated primary schools in Camden or the bordering districts—is a priori unclear. Hence, we test the sensitivity of our results by broadening the control group to include all students attending any state-funded primary school in London. Indeed, as secondary schools include large cohorts and students located farther away from the schools themselves, the choices of the parents do not necessarily need to be restricted to the local districts. MTP's effects on enrollment using this alternative control group are similar to those presented in Table 3 (see Table B.2).

We then explore the sensitivity of our estimates to choices concerning the treatment group. First, we estimate Equation (1) without considering the first two years of the program, 2012 and 2013, when MTP events were held only at one school and the initiative was at the pilot stage. Results from this approach mirror our main findings and are presented in Table B.3. Second, to provide evidence in support of the assumption that the entire cohort of students was exposed to the treatment, we estimate heterogeneous effects by parental school participation. We augment Equation (1) with an interaction term between the treatment indicator and an indicator variable equal to 1 if i) the number of parents participating in the meeting is above the median; and ii) the share of parents in relation to cohort size is above the median. As seen in Table B.4, the interaction terms are small and not statistically significant for all outcomes considered. This result implies that, in line with our assumption, MTP affects parental choice regardless of actual participation in the meetings, most likely due to informational spillovers among parents in the same school grade. Finally, we investigate whether the treatment effect depends on the size of the meetings, and we augment Equation (1) with an interaction term between the treatment indicator variable equal to one the number of secondary schools sitting in the panel at the meetings (Column 3 of Table B.4).

	Dependent variable: enrolment indicator at secondary school			
	(1)	(2)	(3)	
	Pa	nel A: State-funded scho	pols	
MTP	0.004	0.024**	0.021**	
	(0.009)	(0.010)	(0.009)	
	Pa	nel B: Participating scho	ools	
MTP	0.135***	0.018	0.016	
	(0.022)	(0.013)	(0.012)	
Observations	180,398	180,398	180,398	
Year FE	Y	Y	Y	
Census block (LSOA) FE	Y	Y	Y	
Primary school FE	Ν	Y	Y	
Individual and primary school characteristics	Ν	Ν	Y	

Table B.1. Intention-to-treat effects of MTP

*Note:* The table shows DID estimates of the intention-to-treat impact of MTP on secondary school enrollment. The specifications and table structure follow those of Table 3. Here we keep all students in the treatment group once their school enters the program, regardless of early exit from MTP. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	Dependent variable: enrolment indicator at secondary school			
	(1)	(2)	(3)	
	Panel A: State-funded schools			
MTP	0.014	0.033***	0.031***	
	(0.011)	(0.010)	(0.010)	
	Pa	nel B: Participating scho	ools	
МТР	0.137***	0.028**	0.027**	
	(0.022)	(0.012)	(0.012)	
Observations	1,070,291	1,070,291	1,070,291	
Year FE	Y	Y	Y	
Census block (LSOA) FE	Y	Y	Y	
Primary school FE	Ν	Y	Y	
Individual and primary school characteristics	Ν	Ν	Y	

## Table B.2. Effects of MTP with an alternative control group

*Note:* The table shows DID estimates of the impact of MTP on secondary school enrollment. The table follows the structure and specifications of Table 3 and considers all students completing primary education in untreated schools in Greater London as the control group. See Section 5 for details. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	Dependent variable: enrolment indicator at secondary school			
	(1)	(2)	(3)	
	Panel A: State-funded schools			
MTP	0.008	0.025**	0.024**	
	(0.010)	(0.010)	(0.01)	
	Pa	nel B: Participating scho	ols	
MTP	0.124***	0.013	0.012	
	(0.022)	(0.013)	(0.012)	
Observations	180,284	180,284	180,284	
Year FE	Y	Y	Y	
Census block (LSOA) FE	Y	Y	Y	
Primary school FE	Ν	Y	Y	
Individual and primary school characteristics	Ν	Ν	Y	

#### Table B.3. Effects of MTP ignoring the pilot stage

*Note:* The table shows DID estimates of the impact of MTP on secondary school enrollment obtained excluding the 2012 and 2013 waves, when the program was at a pilot stage. We drop school-year observations from the only primary institution where meetings were organized in 2012 and 2013. Specifications and table structure follow those of Table 3. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Dependent variable:	Enrolment at secondary school			
	(1)	(2)	(3)	
	Panel A: State-funded schools			
MTP	0.030***	0.028***	0.037	
	(0.011)	(0.011)	(0.037)	
MTP * High parental participation	-0.018			
	(0.011)			
MTP * High parental participation (share)		-0.010		
		(0.014)		
MTP*# Participating secondaries		. /	-0.003	
			(0.008)	

#### Table B.4. Effects of MTP by participation in the meetings

МТР	0.017	0.015	0.023
14111	(0.013)	(0.013)	(0.025)
MTP * High parental participation	-0.009	()	(0.000)
	(0.016)		
MTP * High parental participation (share)		-0.003	
		(0.016)	
MTP*# Participating secondaries			-0.002
			(0.008)
Observations	180,398	180,398	180,398
Year FE	Y	Y	Y
Census block (LSOA) FE	Y	Y	Y
Primary school FE	Y	Y	Y
Individual and primary school characteristics	Y	Y	Y

Panel B: Participating schools

*Note:* The table shows DID estimates of the heterogeneous impact of MTP on secondary school enrolment by participation in the meeting. Dependent variables and controls follow those in Equation (1). Columns (1) and (2) report estimates obtained from Equation (1) augmented with an interaction term between the MTP treatment indicator and a dummy variable equal to 1 if the number of parents or the share of parents (with respect to cohort size) participating in the meeting are above the median. Column (3) adds the interaction with the number of secondary schools participating in the meeting. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## **B.2** Stacked-by-meeting design

The estimates of MTP's impact on enrollment at participating schools presented in Section 5.1 are robust to considering only the schools participating in the single meeting to which a

student is exposed. We build a stacked-by-meeting design that averages across DD comparisons involving each of the 85 MTP meetings. Similar to the stacked-by-event design presented in Section 4, which is stacked by event year, we build a separate dataset for each MTP meeting (i.e., a school-year combination that is exposed to MTP). In each dataset, we select treated students as year 5 and year 6 students in the school year during which the meeting takes place. We then select our control group as year 5 and year 6 students completing primary education in schools with no meetings but located in the same LAs (i.e., Camden, Islington, Lambeth, Westminster, Brent, Barnet, and Haringey) as the treated students. Finally, we stack all datasets.

The stacked-by-meeting design allows us to investigate enrollment at the few schools (four on average, see Section 2) that participate in a given meeting. We define our outcome of interest as an indicator equal to 1 if a student enrolls at one of the schools participating in their meeting. Note that this set of schools varies across meetings and therefore across datasets. We then estimate the following augmented version of Equation (1):

$$y_{im} = \theta_1 MT P_{s(i),m} * \text{Post}_{t(i),m} + \sum_{k=-7}^{3} \gamma_k D_{t(i)}^k + \eta_{s(i)} + \eta_{t(i)} + \eta_{l(i)} + \nu_{iwm},$$
(5)

where meetings are indexed by m,  $MTP_{s(i),m}$  is a time-invariant indicator equal to 1 if student i's school organized meeting m, and  $Post_{t(i),m}$  is an indicator equal to 1 if meeting m takes place in the year t when student i is enrolled in the last grade of primary school or later. We include dummies for event time  $(D_{t(i)}^k)$ , indicating that t(i) occurs k years after meeting m), year, school, and block FE. Vectors of individual and school-level controls are omitted for clarity. Table **B.5** (Panel B) shows that results for participating schools are very similar to those obtained in Section 5.1. Panel A replicates for consistency the main results for any state school using this alternative approach. Also, in this case, this alternative stacked design leads to results that are very similar to the main ones we presented in Table 3.

	Dependent variable: enrolment indicator at secondary school			
_	(1)	(2)	(3)	(4)
	Panel A: State-funded schools			
МТР	-0.032**	0.010	0.018*	0.018*
	(0.013)	(0.010)	(0.010)	(0.010)
	Panel B: Participating schools			
MTP	0.046***	0.009	0.011*	0.011*
	(0.015)	(0.006)	(0.006)	(0.006)
Observations	754,844	754,844	749,551	749,551
Year FE	Y	Y	Y	Y
Census block (LSOA) FE	Y	Y	Y	Y
Primary school FE	Ν	Y	Y	Y
ndividual and primary school characteristics	Ν	Ν	Y	Y
Meeting FE	Ν	Ν	Ν	Y

#### Table B.5. Average effects of MTP using the stack-by-meeting design

*Note:* The table shows DID estimates of MTP's impact on the probability of attending a participating school (Panel A) and a secondary state-funded school (Panel B) using the stacked-by-meeting dataset. Column (1) controls for year and census block (LSOA), primary school fixed effects; column (2) adds controls for individual characteristics (gender, ethnicity, language spoken at home, FSM eligibility, and special educational needs), school and block characteristics (quadratic polynomials in enrollment and number of children, respectively), and mean (log) house prices at the census block level. Column (3) adds meetings' fixed effects. Standard errors are clustered on schools and reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# Appendix C

#### C.1 A Conceptual Framework for the Effect of MTP on School Choice

We present a stylized framework to outline how we interpret MTP's effect on school choice. Borrowing from Hastings et al. (2010), we describe school choice as a utility maximization problem. Parent *i* chooses the secondary school *j* that maximizes her utility function  $(U_{ij})$ subject to a feasibility constraint. We describe preferences for schools as:

$$U_{ij} = \beta_i^q Q_j + X_j' \beta_i^x + \beta_i^e E_j - C_j + v_{ij},$$
(C.1)

where  $v_{ij}$  is an idiosyncratic component.  $Q_j$  denotes school academic performance, while  $X_j$  is a vector of school characteristics such as peer socio-economic composition and distance from the residence. The index  $E_j$  summarizes a bundle of non-test score characteristics we label "school environment." These include attributes such as the discipline policy enforced in a school, school safety, food quality, or inclusiveness, on which information is hard to find. Finally, private schools charge tuition fees that enter parental utility as a pecuniary cost  $C_j$ , with  $C_j = 0$  at state-funded schools.

Parents enroll their children at the highest-utility school available. Formally, the chosen institution j is such that  $U_{ij} > U_{ik}$ ,  $\forall k \in J_i$ , where  $J_i$  is the set of schools that parent i can access based on parental demand and admission criteria. The choice set  $J_i$  is the combination of state-funded and private schools accessible to parent i:  $J_i = J_i^{state} \cup J_i^{private}$ .

Even if applying for a place is always possible, parents may not have *de facto* access to some schools because of admission criteria or other entry barriers. For example, tuition fees must be paid to enroll at private institutions, and admission to state schools is prioritized by distance, penalizing parents who cannot afford to reside close to popular schools. We assume that each parent considers the full set of schools available to them and that  $J_i$  is fixed at the time of the intervention.

We interpret  $\beta$ 's in Equation (C.1) as the weights parents assign to each school attribute. These may reflect either the genuine parental preference or the stock of available information on a particular trait. Intuitively, parents will not be able to properly account for a certain attribute when choosing a school if they have limited information about it regardless of their taste. Therefore, weak preference and lack of information for a school trait are observationally equivalent when analyzing school choice. To visualize this distinction, for a generic school attribute *a*, the parental weight can be written as:

$$\beta_i^a = \delta_i^a * \tau_i^a, \tag{C.2}$$

where  $\delta_i^a$  reflects parent *i*'s taste for attribute *a*, while  $\tau_i^a$  represents the extent to which the parent is informed on *a*.

In this setting, we interpret the effect of MTP as providing hard-to-find information on nontest score attributes, represented by  $E_i$  in Equation (C.1). The intervention enables parents to learn about the environment at local state-secondary schools through interactions with peers attending these institutions. Information on academic performance and other measurable attributes, instead, is already public and salient, and parents, especially those who are relatively advantaged and targeted by MTP, are likely already aware of their distributions across local schools.<sup>1</sup> In addition, information on school performance or composition is never discussed at the meetings. At the same time, MTP cannot shift preferences over other important attributes such as distance to school. Therefore, we view its effect as working through increased information on the school environment, holding other attributes valued by parents constant. Parental utility can significantly change as a result of the intervention only if parents also have a genuine preference for  $E_i$ . Otherwise, the information shock provided by MTP would hardly shift parental utility enough to change their school choice. MTP's impact on school choice, therefore, reflects parental taste for the school environment over and beyond academic performance. In Section 5, we apply the utility function framework to study parental preferences for school characteristics and how these are impacted by MTP.

#### C.2 Text analysis of MTP meeting minutes

We obtained the minutes of MTP meetings from eight MTP rounds (2014<sup>2</sup>2021), tracking the comments from secondary school panelists regarding participating schools. Consistent with

<sup>&</sup>lt;sup>1</sup>School Performance tables provide information on school performance ( $Q_j$  in Equation C.1), and several intake characteristics as a share of the total roll: pupils with a special educational need, gender, pupils whose first language is not English, pupils eligible for FSM ( $X_j$  in Equation C.1).

our sample, we consider meeting minutes from 2014 to 2018. The following secondary schools participated in at least one meeting held during this period: the Archer Academy (AA), Acland Burghley School (ABS), the Camden School for Girls (CSG), Fortismere (FORT), Hampstead School, Haverstock, Hornsey School for Girls (HSG), Highgate Wood (HW), Maria Fidelis (MF), Parliament Hill School (PHS), Regent High School (RHS), the UCL Academy (UCLA), and the William Ellis School (WES). Meeting minutes are organized by secondary school and report what was said regarding the school during MTP meetings; they did not include all participating secondary schools in our final sample (22).

We create a words dataset using the following procedure:

- i. We extract all words except stop words (e.g., articles, prepositions, pronouns, conjunctions) from each secondary school's meeting minutes document;
- We append all words left after (i) and create a dataset containing all words included in the meeting minutes and the line of the document in which the word was found. In this dataset, each word is an observation;
- iii. We remove *observations* referring to the first row of a document, which is used to title each document. This leaves us with 12,473 words (excluding numbers);
- iv. We categorize the words following the categories of school attributes valued by parents as in Figure 4. At this stage, we drop from the dataset 5,111 words that could not be categorized, such as neutral words (e.g., "department," "easy," "form," "email"). The complete allocation of raw words, including uncategorized words, can be found at the following link.

We compute shares in Figure 3 using categorized words only (7,362). We group subcategories of Figure 4 in three broad categories, "school environment" (4,971 words), "performance" (1,744 words), and "teachers" (647 words). Figures C.1, C.2, and C.3 show the frequency of single words belonging to school environment, performance, and teachers, respectively. Figure C.4 documents by how much each subcategory contributes to the first two categories (within teachers, we do not define multiple subcategories). "School environment" includes all words that can be traced to the following categories: welcoming atmosphere, neighborhood characteristics, inclusive ethos, pastoral care, discipline, extra activities, and facilities. "Performance" includes words related to achievement, curriculum, and how the school challenges high achievers.



Figure C.1. Frequency of most-mentioned words on the school environment

*Note:* The figure shows the count of words with at least 20 mentions within the school environment category.



Figure C.2. Frequency of most-mentioned words on school performance

Note: The figure shows the count of words with at least 10 mentions within the performance category.



Figure C.3. Frequency of most-mentioned words on teachers

Note: The figure shows the count of words with at least 2 mentions within the teacher category.





Panel A. School environment

*Note:* The figure shows how much each subcategory contributes to "school environment" (Panel A) and "performance" (Panel B).

#### C.3 Cost-Benefit Analysis

Estimates of the benefit-cost ratio can be seen in Table C.1. On average, one additional student enrolls in state-funded schools per MTP meeting. To exemplify, considering 2014, the first year in which MTP was scaled up to reach several local primary schools, this would imply 10 additional students opting for the state sector. The 2020~2021 London average of the per-pupil secondary school funding allocation stands at about £6,913. During the period of our analysis after the pilot phase (2014~2018), 85 meetings were organized (see Figure 1). Assuming a constant effect of MTP throughout the period and multiplying £6,913 by 85, we obtain an overall increase in funding available to secondary schools of £587,605.<sup>2</sup>

As far as the increase in school costs is concerned, it is reasonable to assume that, at least in the short term, it is not possible for schools to expand capacity by increasing the number of classes and teaching staff. For our computations, we assume that one additional student i) does not drive an increase in school spending on teaching and general staff and ii) does not drive an increase in school "fixed costs," such as building maintenance. We quantify that "fixed costs" represent about 32% of "running costs," or school expenses, excluding staff.<sup>3</sup> We calculate the share of "fixed costs" over the total "running costs" using aggregate figures for England. Among running costs, we include cleaning and care-taking, water and sewerage, energy, rates, other occupation costs, learning resources (not ICT), ICT learning resources, examination fees, administrative supplies, other insurance premiums, and catering supplies. We exclude building and grounds maintenance and improvement, special facilities, agency supply teaching staff, bought-in professional services-curriculum, bought-in professional services-other, loan interests, community-focused extended school staff, and costs. Under these assumptions, one additional pupil drives an increase of about £1,520 in running costs (£129,200 overall). We obtain the latter figure by multiplying £1,340 by 0.68 (the share of non-fixed running costs) and then convert the resulting amount in 2021 pounds using the CPI deflator.<sup>4</sup> Finally, secondary

<sup>&</sup>lt;sup>2</sup>Updated LA and school funding allocations can be found here: https://commonslibrary.parliament .uk/school-funding-2021-22-find-constituency-and-school-level-allocations/. The publicly available data can be used to compute the increase in resources that corresponds to different funding allocations. To exemplify, using the average 2021 school funding allocation outside Greater London (about £5,786) would imply an overall increase in resources available of about £491,810.

<sup>&</sup>lt;sup>3</sup>We follow the categorization of school expenditures provided by the DfE; see, e.g., https:// www.gov.uk/government/statistics/expenditure-on-education-children-and-young-peoples -services-academic-year-2011-to-2012.

<sup>&</sup>lt;sup>4</sup>We use per-pupil estimates obtained here: https://assets.publishing.service.gov.uk/

schools pay £380 to enter each meeting, and many schools participate in multiple meetings (see Section 2 for details). Over 2014<sup>2</sup>018, the total number of school/meeting combinations was 367.

Benefits	
Per-pupil school funding	6,913
One additional student per meeting ( $N = 85$ )	587,605
Costs	
School non-fixed running costs	1,520
One additional student per meeting $(N = 85)$	129,200
Meeting participation fee	380
N = 367 school/meeting combinations	139,460
Net benefits	318,945

Table C.1. Cost-Benefit Analysis

*Note:* The table shows the main figures used for the cost-benefit computation. Details on the different figures are provided in Appendix Section C.3. Benefits and costs figures are in 2021 pounds.

government/uploads/system/uploads/attachment\_data/file/219504/sfr35-2012\_001.pdf.