Not Just Test Scores: Parents' Demand Response to School Quality Information

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December 2013

School choice: the role of information constraints

- Emerging evidence on the empirical importance of information barriers.
- Studies focus on disclosing test score information – or report cards derived from test scores (Figlio and Lucas, 2004, AER).
- Field experiments where information on test scores is presented directly to participants (Hastings and Weinstein, 2008, QJE).
- Three issues:
  - Parents likely care about aspects other than test scores.
  - Test scores may reflect peer quality as much as quality per se (Rothstein, 2006, AER).
  - Concerns about saliency and suggestion in the field experiment studies.

This paper

- Exploits data on subjective school quality measures collected and disclosed by independent evaluators.
- Effect of evaluator ratings on demand, over and above any effects of test scores.
  - Reduced form effects on enrolment ('market share').
  - Discrete choice model estimating tradeoffs families face in school choice decisions.
- Provide evidence on the causal effect of a novel school quality measure.
- Estimated effect of ratings is in response to information that is available in the public realm.
- Hence the results are less susceptible to concerns about saliency and suggestion (a la RCTs).

Outline

1. The setting

2. School-level analysis: effect on enrolment

3. Student-level analysis: discrete choice model

Institutional Context: the English School Inspection Regime

- School accountability is a big deal all around the world.
- England complements testing with an independent, high stakes inspection regime.
- Inspections carried out by the Office for Standards in Education, Ofsted.

Main objectives (Johnson, 2004):

1. Offer feedback to the school principal and teachers.
2. Provide information to parents to aid their decision-making process.
3. Identify schools which suffer from 'serious weakness'

- Inspection grades based on:
  - 'hard' data: test scores.
  - qualitative evidence gathered during an inspection visit to the school.
- Inspection visits are at very short notice (maximum of three days)
  - should limit disruptive 'window dressing' in preparation for the inspections.
- Inspections take place throughout the academic year, September to July.

- A key element of an inspection is classroom observation:

  "The most important source of evidence is the classroom observation of teaching and the impact it is having on learning. Observations provide direct evidence for [inspector] judgements..." (Ofsted, 2011)

- Interviews with school leadership team, middle leaders, students and parent survey.

- School is given an explicit headline grade: 1 = Outstanding, 4 = Fail.

- Inspection report made available to parents and posted on the Internet.

- Over the relevant period for this study
  - 13% schools rated 1, ‘Outstanding’
  - 81% rated ‘Good’ or ‘Satisfactory’
  - 6% rated 4, ‘Fail’

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1. The setting

2. **School-level analysis: effect on enrollment**

3. Student-level analysis: discrete choice model

Effect of inspection ratings on enrolment: empirical strategy

- Key question: what is the effect of an inspection rating on demand as measured by log enrolment?
- The identification problem:
  - E.g. Regress enrolment on 'Fail' rating (+ control variables)
  - Schools rated Fail may be contracting even in the absence of a Fail rating
  - So, even with panel data, may get severely biased estimates of the true effect.

Treatment = Fail

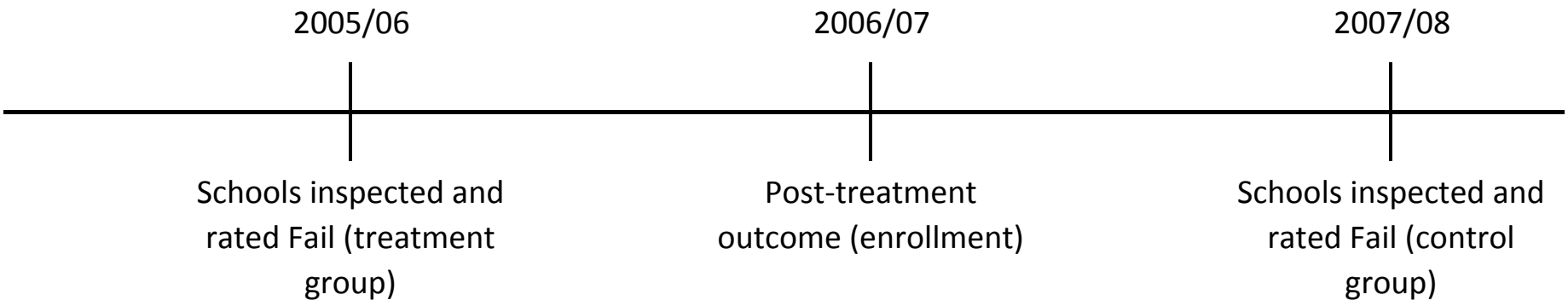
- Ideal experiment: inspect all schools and randomly publish reports for some and not others.
- Compare outcomes for schools disclosed to be failing and schools inspectors judged to be failing but report not disclosed.

This study: exploit variation in timing of release of information on quality of schools.

- Idea: compare early (treatment group) and late (control) inspected schools.

- Schools are inspected every 4 to 5 years.
- Example: schools rated Fail in 2006 or 2008.
- Idea is that both sets of schools are 'bad' schools, it just happens that information is released earlier for one set than the other.
- The schools failed in 2006 are the treatment group and schools failed in 2008 are the control group.
- Difference-in-differences model: compare the change in enrolment between 2005 and 2007 for schools failed in 2006 and 2008.

Example time line showing treatment and control groups for evaluating the effect of a Fail inspection rating on school enrollment



- Key identifying assumptions:
  - Timing of inspections is exogenous (need to explain why some schools inspected earlier than others - are they really comparable?)
  - DID assumption: in the absence of a fail rating in 2006, the trend in enrolment for these schools would have been same as that observed for schools failed in 2008.
  - Can investigate whether this common trends assumption holds in the pre-treatment period.

- Let's see if the two groups look comparable on observables.
- Data:
  - Administrative primary school data: age 7 and 11 test scores; school / student characteristics;
  - merged with Ofsted inspection grades.

Table 1: Descriptive Statistics for Schools by Inspection Year and Inspection Rating

	Inspected 2006 ('treatment' group)	Inspected 2008 ('control' group)	p-value for t-test of difference in means
Panel A: Outstanding schools Grade in 2006 or 2008 inspection: Outstanding (= Grade 1)			
Previous inspection year	2000.4 *0.1*	2003.6 *0.1*	0.00
Previous inspection rating (range: 1-4)	1.75 *0.07*	1.62 *0.05*	0.12
% of students attaining Mathematics and English competency, age 11, 2005	88.0 *0.8*	83.4 *0.9*	0.00
% students entitled to free school meal, 2005	19.2 *1.7*	18.8 *1.4*	0.86
% students white British, 2005	73.9 *2.9*	78.5 *2.1*	0.19
Total enrolment	295.1 *12.6*	309.6 *9.7*	0.35
Number of schools	130	172	

	Inspected 2006 ('treatment' group)	Inspected 2008 ('control' group)	p-value for t-test of difference in means
Panel B: Fail schools Grade in 2006 or 2008 inspection: Fail (= Grade 4)			
Previous inspection year	2000.3 *0.1*	2003.5 *0.1*	0.00
Previous inspection rating (range: 1-4)	2.35 *0.05*	2.24 *0.06*	0.20
% of students attaining Mathematics and English competency, age 11, 2005	61.0 *1.3*	64.7 *1.4*	0.05
% students entitled to free school meal, 2005	29.1 *1.8*	29.1 *1.7*	0.99
% students white British, 2005	78.2 *2.5*	76.4 *2.7*	0.62
Total enrolment	293.4 *10.5*	308.0 *10.5*	0.33
Number of schools	122	109	

More formally, the DID model is implemented by estimating the following regression model:

$$y_{st} = \alpha + \gamma D_{st} + \delta.post_{07} + \lambda.EarlyInspected_s + u_{st}$$

- Unit of observation is the school.
- Sample selection: schools inspected and Failed (for the first time) in 2006 or 2008.
- y_{st}: log enrolment for school s in year t.
- D_{st}: binary treatment variable, equal to 1 in the post period (2007) for schools rated Fail in 2006, 0 otherwise.
- The dummy $post_{07}$ is turned on in 2007; $EarlyInspected_s$ is turned for school s if it is inspected in 2006.
- Regression results below also control for time-varying school characteristics $+$ school fixed effects.

Results

Table 2: The Effect of Inspection Ratings on Enrollment

(Outcome: log enrolment; schools inspected in 2006 or 2008)

	(1)	(2)	(3)	(4)	(5)
	Basic DID	DID with school fixed effects			
		Basic FE	Full set of controls	Local growth in student pop. below national median	Local growth in student pop. below bottom quartile
Inspection grade: Outstanding					
2007 x early inspected	0.0255**	0.0255**	0.0252**	0.0398**	0.0593*
	(0.0075)	(0.0075)	(0.0074)	(0.0102)	(0.0228)
2007	-0.0054	-0.0054	-0.0055	-0.0234**	-0.0191
	(0.0053)	(0.0053)	(0.0051)	(0.0072)	(0.0122)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	604	604	604	328	126
Number of schools	302	302	302	164	63
R-squared	0.005	0.043	0.048	0.089	0.123

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Inspection grade: Fail

2007 x early inspected	-0.0433**	-0.0433**	-0.0439**	-0.0439**	-0.0411
	(0.0127)	(0.0127)	(0.0127)	(0.0161)	(0.0294)
2007	-0.0552**	-0.0552**	-0.0557**	-0.0649**	-0.0729**
	(0.0094)	(0.0094)	(0.0097)	(0.0112)	(0.0262)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	464	464	464	268	100
Number of schools	232	232	232	134	50
R-squared	0.016	0.416	0.421	0.515	0.599

Inspection grade: Fail

2007 x early inspected	-0.0433**	-0.0433**	-0.0439**	-0.0439**	-0.0411
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Number of schools	232	232	232	134	50
R-squared	0.016	0.416	0.421	0.515	0.599

Probing the common trends assumption

- Is there a 'treatment effect' in the pre-treatment period?

Table 3: Effect of Inspection Ratings on Enrolment in Pre-Treatment Years (Faslification Test)

(Outcome: log enrolment; schools inspected in 2006 or 2008)

	(1)	(2)	(3)	(4)	(5)
	Basic DID	DID with school fixed effects			
		Basic FE	Full set of controls	Local growth in student pop. below national median	Local growth in student pop. below bottom quartile
Inspection grade: Outstanding					
2005 x early inspected	0.0087	0.0087	0.0079	0.0142	0.0143
	(0.0075)	(0.0075)	(0.0075)	(0.0107)	(0.0135)
2005	-0.0047	-0.0047	-0.0043	-0.0196**	-0.0246**
	(0.0052)	(0.0052)	(0.0052)	(0.0066)	(0.0086)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	578	578	578	316	152
Number of schools		289	289	158	76
R-squared	0.003	0.005	0.009	0.053	0.115

Inspection grade: Fail

2005 x early inspected	-0.0092	-0.0092	-0.0083	-0.0107	0.0189
	(0.0138)	(0.0138)	(0.0142)	(0.0218)	(0.0397)
2005	-0.0415**	-0.0415**	-0.0428**	-0.0546**	-0.1226**
	(0.0097)	(0.0097)	(0.0096)	(0.0137)	(0.0290)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	428	428	428	204	82
Number of schools		214	214	102	41
R-squared	0.021	0.177	0.181	0.264	0.415

Effect of 'Good' and 'Satisfactory' ratings

- Evidence suggests little response.

Appendix Table A2: Effect of 'Good' and 'Satisfactory' Ratings

(Outcome: log enrolment; schools inspected in 2006 or 2008)

	(1)	(2)	(3)	(4)	(5)
	Basic DID	DID with school fixed effects			
		Basic FE	Full set of controls	Local growth in student pop. below national median	Local growth in student pop. below bottom quartile
Inspection grade: Good (Grade 2)					
2005 x early inspected	0.0007	-0.0026	0.0006	0.0018	-0.0036
	(0.0038)	(0.0042)	(0.0038)	(0.0054)	(0.0096)
2005	-0.0132**	-0.0101**	-0.0130**	-0.0195**	-0.0238**
	(0.0028)	(0.0033)	(0.0028)	(0.0040)	(0.0072)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	2920	2920	2920	1662	656
Number of schools	1460	1460	1460	831	328
R-squared	0.030	0.008	0.031	0.058	0.097
Inspection grade: Satisfactory (Grade 3)					
2005 x early inspected	-0.0044	-0.0013	-0.0047	-0.0051	-0.0109
	(0.0053)	(0.0059)	(0.0053)	(0.0071)	(0.0127)
2005	-0.0347**	-0.0367**	-0.0346**	-0.0494**	-0.0535**
	(0.0037)	(0.0042)	(0.0037)	(0.0052)	(0.0089)
School FE	No	Yes	Yes	Yes	Yes
Full set of controls	No	No	Yes	Yes	Yes
Observations	2390	2390	2390	1370	482
Number of schools	1195	1195	1195	685	241
R-squared	0.139	0.025	0.144	0.243	0.286

Effect of simplified inspection reports

- Reform of reporting style from Sep 2005 onwards.
- Old style reports: dense booklets, with no overall rating up-front.
- New style reports: punchy, clear, with headline rating on first pages of main text.

Table 4: Effects of Simplified Inspection Reports Versus Older Reporting Style

	(1)	(2)	(3)
	Basic (school fixed effects; full controls)	Local growth in student pop. below national median	Local growth in student pop. below bottom quartile
Inspection grade: Outstanding			
Inspected in 2004 and 2006:			
2005 x early inspected	-0.0089	-0.0103	-0.0073
	(0.0071)	(0.0104)	(0.0151)
Inspected in 2005 and 2007:			
2006 x early inspected	0.0085	0.0045	0.0089
	(0.0083)	(0.0109)	(0.0174)
Inspected in 2006 and 2008:			
2007 x early inspected	0.0252**	0.0398**	0.0593*
	(0.0074)	(0.0102)	(0.0228)
Inspection grade: Fail			
Inspected in 2004 and 2006:			
2005 x early inspected	-0.0442*	-0.0482*	-0.0459
	(0.0176)	(0.0223)	(0.0425)
Inspected in 2005 and 2007:			
2006 x early inspected	-0.0524*	-0.0350	-0.0511
	(0.0250)	(0.0318)	(0.0424)
Inspected in 2006 and 2008:			
2007 x early inspected	-0.0439**	-0.0439**	-0.0411
	(0.0127)	(0.0161)	(0.0294)

Summary of school-level analysis

- Schools expand and contract in response to top and bottom ratings.
- No action in the middle range.
- This may be because choice is constrained; underlying demand may be stronger.
- Suggestive evidence that simplifying the reports had effects at the top end of inspection ratings (Outstanding).

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Individual-level analysis

- Aggregate school-level analysis limited because:
  - may understate true demand if little capacity or incentives for schools to grow and shrink.
  - nothing on how parents' response varies with the availability of possible alternatives.
  - does treatment effect vary by family background?
- Student-level analysis speaks to these issues.

Data

- Ranked preferences data from a London borough.
- Applications for primary schools, made in fall 2006, 2007 and 2008.
- Data includes applicant's home postcode and whether spot offered at listed school.
- For secular schools assignment is on the basis of distance between home and school.
- No information on religious affiliation; so cannot determine whether religious school is in choice set.
- Exclude religious schools and applicants who select a religious school.

- Use GIS software to determine distance between home and each school in choice set.
- Merge in school characteristics (test scores, % free lunch, ethnic composition)

Summary statistics for applicants

Female	0.50
	(0.50)
White British	0.42
	(0.49)
Older sibling in a local primary school	0.42
	(0.49)
Number of schools available (full choice set)	30.4
	(1.4)
Observations	6467

Summary statistics for first choice school and schools in the choice set

	1st choice school	Nearest 3 schools	All available schools in borough
Distance from home (km)	1.09	0.92	5.25
	(1.38)	(0.77)	(3.11)
Distance rank	2.91	2.00	15.75
	(3.85)	(0.82)	(8.84)
Latest inspection rating (range:1-4)	2.11	2.32	2.50
	(0.76)	(0.79)	(0.78)
English and Mathematics decile	5.59	4.78	4.04
	(2.70)	(2.90)	(2.59)
% Eligible free lunch decile	5.54	6.44	7.39
	(2.44)	(2.38)	(1.97)
% White British	45.0	42.5	42.7
	(26.4)	(25.0)	(23.9)
Log enrollment	5.82	5.75	5.72
	(0.40)	(0.43)	(0.44)
Observations	6,467	19,401	196,907

Conditional logit model and identification

- Standard conditional logit model (McFadden 1974).
- Parents of student i choose amongst the available set of schools, $j \in \{1, 2, .., J\}$, to maximize utility,

$$U_{ij} = \sum_r \delta_r D_{jr} + x_{ij}^{'} \beta + e_{ij}$$

- D_{jr}: dummy set to 1 if school j receives inspection rating r ($r = 1, .., 4$).
- $x_{ij}^{'}$: school characteristics (distance, average test score, % students eligible for free lunch; inspection rating).
- Random component of utility, e_{ij}, assumed to be i.i.d. and type I extreme value.

- Yields the conditional logit model, where probability student i chooses school j is given by

$$\Pr(Y_i = j \mid x_{ij}^{'}) = \frac{\exp(\delta_1 D_{j1} + \delta_3 D_{j3} + \delta_4 D_{j4} + x_{ij}^{'}\beta)}{\sum_l \exp(\delta_1 D_{l1} + \delta_3 D_{l3} + \delta_4 D_{l4} + x_{il}^{'}\beta)}.$$

- Model includes dummies for whether the school received an 'Outstanding', 'Satisfactory', or 'Fail' rating.

- 'Good' is the omitted category.

- Identification is a concern here.
- E.g. the estimated coefficient on the 'Outstanding' rating may reflect omitted variables (even after controlling for test scores, % free lunch, etc.)
- Hence model does not necessarily identify the causal effect of ratings.

- Instead, I focus on *the additional effect* of the simplified reports.
- Exploit the gradual introduction of new style inspection reports.
- First introduced in Sep 2005.
- Example: families applying for schools in autumn 2007 have two nearby schools:
  - one is rated Outstanding in the old style report;
  - and the other rated Outstanding in the new style report.
  - Both are really excellent schools; the only difference is that the information on one is more transparent than for the other.

- For this analysis, include the rating as well as the rating interacted with a dummy for whether the inspection report is in new, simplified form.
- E.g. 'Outstanding', as well as the interaction term 'Outstanding x new-style-report'.

$$\Pr(Y_i = j \mid x_{ij}^{'}) = \frac{\exp(\sum_{r=1,3,4} \delta_r D_{jr} + \sum_{r=1,2,3,4} \gamma_r D_{jr} * New_j + x_{ij}^{'}\beta)}{\sum_l \exp(\sum_{r=1,3,4} \delta_r D_{jl} + \sum_{r=1,2,3,4} \gamma_r D_{jl} * New_l + x_{il}^{'}\beta)}.$$

- Claim is that coefficient on this interaction term identifies the additional effect of simplifying the reports on consumer demand.

Rollout of old and new style inspection reports

	Latest inspection ratings for schools at the end of academic year:		
	2005/06	2006/07	2007/08
Outstanding	9	10	6
o/w Outstanding, new style	2	6	5
Good	22	24	24
o/w Good, new style	5	14	22
Satisfactory	20	16	19
o/w Satisfactory, new style	6	12	18
Fail	1	2	2
Total number of schools	52	52	51

Results

Effect of inspection ratings on school choice: conditional logit estimates

(Outcome: first choice school)

	(1)	(2)	(3)
Outstanding		0.062	0.007
		(0.041)	(0.070)
Satisfactory		-0.614***	-0.274***
		(0.042)	(0.067)
Fail		-1.071***	-0.993***
		(0.103)	(0.109)
Outstanding x new style report			0.258***
			(0.073)
Good x new style report			0.105*
			(0.055)
Satisfactory x new style report			-0.388***
			(0.065)
Distance	-1.739***	-1.714***	-1.706***
	(0.025)	(0.025)	(0.025)
Distance squared	0.083***	0.082***	0.081***
	(0.003)	(0.003)	(0.003)
English and Maths decile	0.135***	0.053***	0.053***
	(0.007)	(0.009)	(0.009)
% Eligible free lunch decile	-0.245***	-0.264***	-0.276***
	(0.009)	(0.009)	(0.009)
% White British	-0.011***	-0.011***	-0.011***
	(0.001)	(0.001)	(0.002)
% White British x applicant white British	0.019***	0.020***	0.020***
	(0.002)	(0.002)	(0.002)
Observations	196,907	196,907	196,907

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			(0.055)
Satisfactory x new style report			-0.388***
			(0.065)
Distance	-1.739***	-1.714***	-1.706***
	(0.025)	(0.025)	(0.025)
English and Maths decile	0.135***	0.053***	0.053***
	(0.007)	(0.009)	(0.009)
% Eligible free lunch decile	-0.245***	-0.264***	-0.276***
	(0.009)	(0.009)	(0.009)

Effect of inspection ratings on school choice: conditional logit estimates

(Outcome: first choice school)

	(1)	(2)	(3)
Outstanding		0.062	0.007
		(0.041)	(0.070)
Satisfactory		-0.614***	-0.274***
		(0.042)	(0.067)
Fail		-1.071***	-0.993***
		(0.103)	(0.109)
Outstanding x new style report			0.258***
			(0.073)
Good x new style report			0.105*
			(0.055)
Satisfactory x new style report			-0.388***
			(0.065)
Distance	-1.739***	-1.714***	-1.706***
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English and Maths decile	0.135***	0.053***	0.053***
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% Eligible free lunch decile	-0.245***	-0.264***	-0.276***
	(0.009)	(0.009)	(0.009)

Robustness checks

- Effects of interaction terms really driven by simplification of reports?
- Econometric concerns:
  - Effect of new style reports reflects response to a 'fresh' report (more up-to-date signal of quality)
  - Changing school quality over time (e.g. old Satisfactory school is better than newly rated Satisfactory school)

Effect of ratings by years since inspection

(Outcome: first choice school)

	(1)	(2)
Outstanding	0.007	0.010
	(0.070)	(0.070)
Satisfactory	-0.274***	-0.267***
	(0.067)	(0.068)
Fail	-0.993***	-0.978***
	(0.109)	(0.109)
Outstanding x new style report	0.258***	0.187
	(0.073)	(0.134)
Good x new style report	0.105*	-0.011
	(0.055)	(0.086)
Satisfactory x new style report	-0.388***	-0.391***
	(0.065)	(0.092)
Outstanding x new style report		0.042
x years since new style inspection		(0.064)
Good x new style report		0.082*
x years since new style inspection		(0.044)
Satisfactory x new style report		0.013
x years since new style inspection		(0.046)

Robustness checks

- Effects of interaction terms really driven by simplification of reports?
- Econometric concerns:
  - Effect of new style reports reflects response to a 'fresh' report (more up-to-date signal of quality)
  - **Changing school quality over time (e.g. old Satisfactory school is better than newly rated Satisfactory school)**

Evolution of inspection ratings for schools receiving the same rating in the old style and new style report

	Latest inspection ratings for schools at the end of academic year:		
	2005/06	2006/07	2007/08
Outstanding	2	2	2
o/w Outstanding, new style	2	2	2
Good	10	10	10
o/w Good, new style	1	5	10
Satisfactory	7	7	7
o/w Satisfactory, new style	0	5	7
Fail	0	0	0
Total number of schools	19	19	19

Effect for schools receiving the same rating in the old style and new style report

(Outcome: first choice school)

	(1)	(2)
Satisfactory	-0.326***	-0.153*
	(0.063)	(0.090)
Good x new style report		-0.005
		(0.085)
Satisfactory x new style report		-0.298***
		(0.090)
Distance	-1.733***	-1.734***
	(0.025)	(0.025)
Distance squared	0.083***	0.083***
	(0.003)	(0.003)
English and Maths decile	0.125***	0.124***
	(0.007)	(0.007)
% Eligible free lunch decile	-0.245***	-0.247***
	(0.009)	(0.009)
% White British	-0.012***	-0.013***
	(0.001)	(0.001)
% White British x applicant white British	0.020***	0.020***
	(0.002)	(0.002)
Observations	196,907	196,907

Heterogeneous effects

- Free lunch status
- Mixed logit estimates
- Older sibling enrolled in primary school

Heterogenous effects: poverty status

(Outcome: first choice school)

	Student eligible for free lunch	Student NOT eligible for free lunch
Outstanding	0.097	-0.046
	(0.145)	(0.080)
Satisfactory	-0.193	-0.378***
	(0.126)	(0.081)
Fail	-0.718***	-1.085***
	(0.206)	(0.130)
Outstanding x new style report	-0.066	0.337***
	(0.162)	(0.084)
Good x new style report	0.068	0.073
	(0.127)	(0.061)
Satisfactory x new style report	-0.179	-0.382***
	(0.120)	(0.079)
English and Maths decile	0.062***	0.048***
	(0.020)	(0.010)

Heterogenous effects: poverty status

(Outcome: first choice school)

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Table 12: Mixed logit estimates

(Outcome: first choice school)

Mean	
Outstanding	-0.089
	(0.060)
Satisfactory	-0.756***
	(0.058)
Fail	-1.252***
	(0.116)
Distance	-2.320***
	(0.052)
English and Maths decile	0.067***
	(0.010)
Standard deviation	
Outstanding	0.829***
	(0.173)
Satisfactory	0.956***
	(0.143)
Fail	0.070
	(0.310)
Distance	1.171***
	(0.037)
English and Maths decile	0.033
	(0.025)

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	(0.143)
Fail	0.070
	(0.310)
Distance	1.171***
	(0.037)
English and Maths decile	0.033
	(0.025)

Heterogeneous effects: sibling status

(Outcome: first choice school)

	Older sibling in primary school?	
	No	Yes
Outstanding	0.064	-0.078
	(0.094)	(0.105)
Satisfactory	-0.312***	-0.249**
	(0.093)	(0.098)
Fail	-1.170***	-0.811***
	(0.156)	(0.153)
Outstanding x new style report	0.362***	0.115
	(0.098)	(0.113)
Good x new style report	0.155**	0.040
	(0.074)	(0.083)
Satisfactory x new style report	-0.438***	-0.307***
	(0.090)	(0.094)
Distance	-1.738***	-1.686***
	(0.034)	(0.036)
English and Maths decile	0.074***	0.024*
	(0.012)	(0.013)

Conclusion

Effects of providing parents with information on school quality (other than test scores) remains an open question.

Presented a study of school choice with the following key features:

- Use a novel measure of school quality - better captures multifaceted nature of school quality.
- Exploit a policy reform which led to a major simplification of the reporting style.
- Strategy delivers causal effects of inspection ratings
  - in a setting where test scores are readily available.

- First set of results: schools expand and contract in response to positive and negative ratings.
- For the vast majority of schools in the middle of the quality distribution there is little consequence as measured by the enrolment outcome.
- This finding: may reflect:
  - muted parental response, or
  - limited choice available to parents in the English public schooling system / weak incentives for public schools to expand.

- Individual-level analysis reveals that there is a strong response to all ratings, not just those at the extreme.
- I.e. strong 'underlying demand'.
- Simplification in the presentation style of the reports:
  - had large effect on demand on average;
  - but poorer families unresponsive (except to Fail rating).