

# Unexpected School Reform: Academisation of Primary Schools in England

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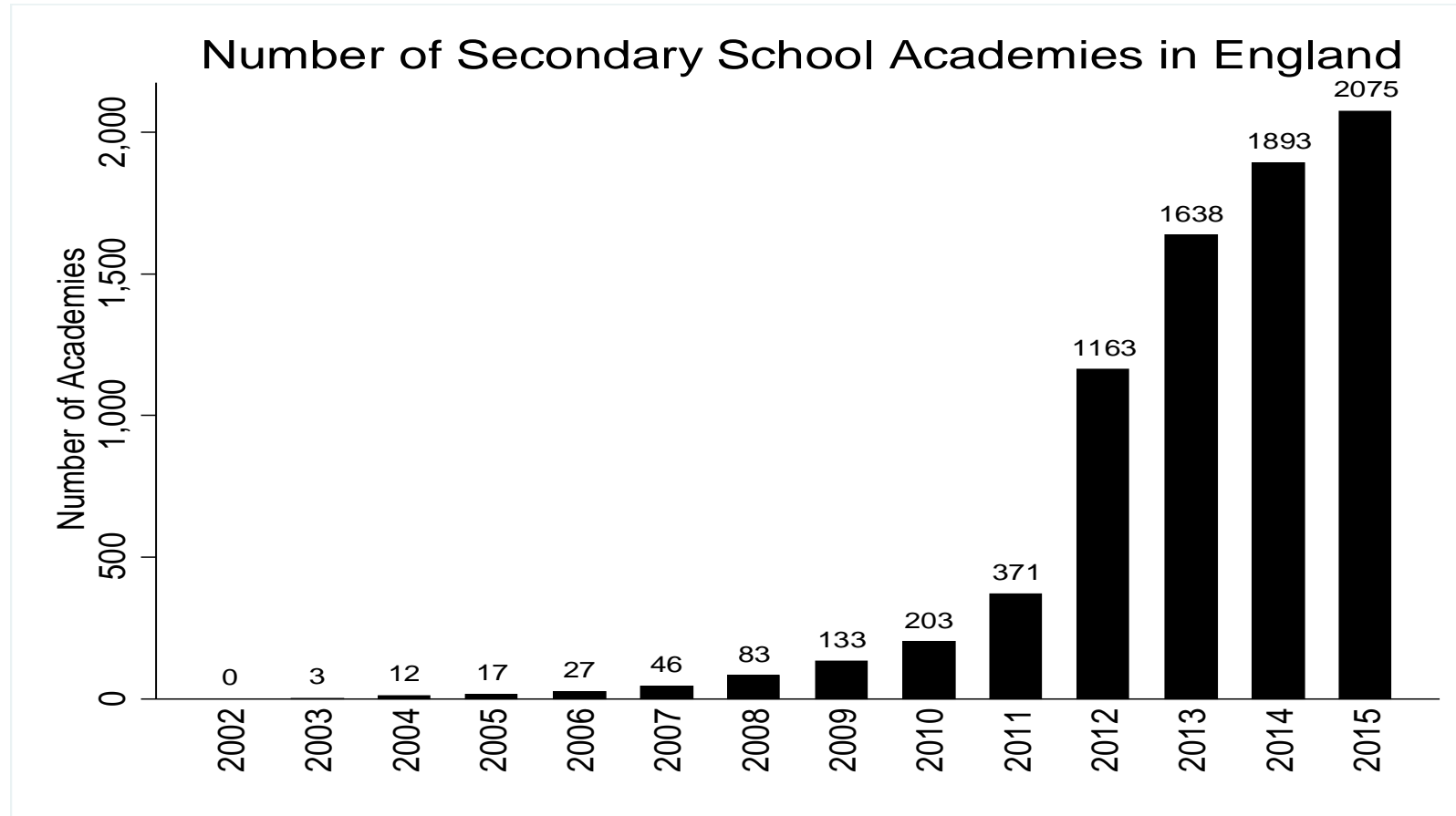
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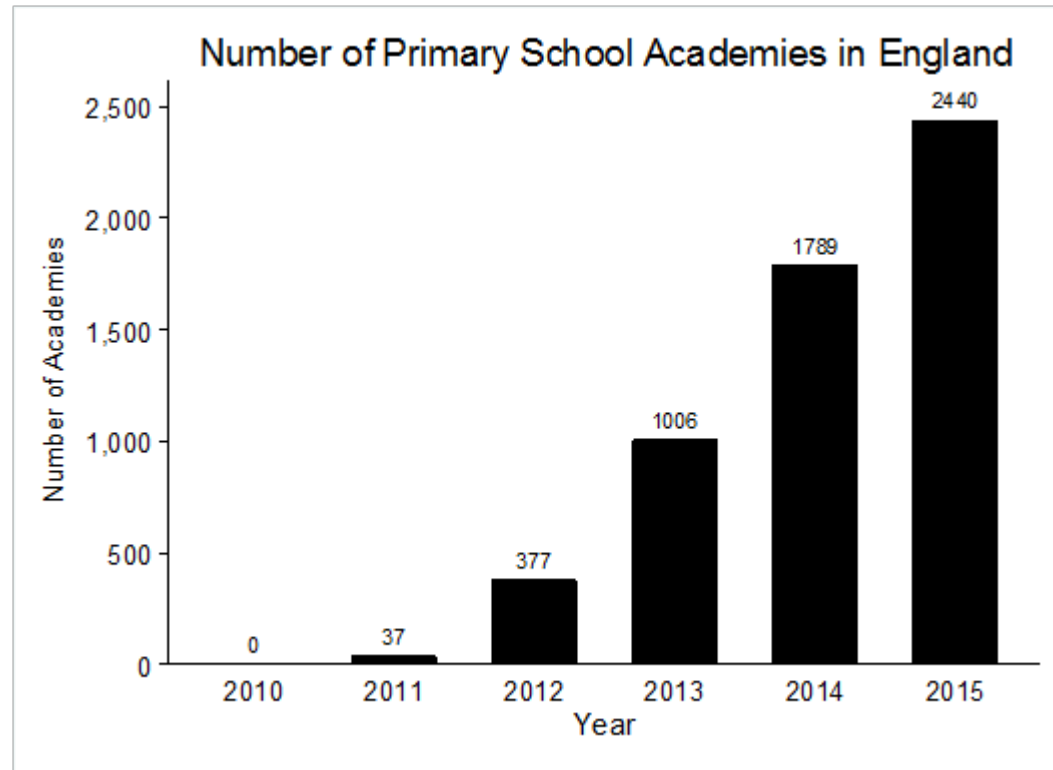
# Introduction

- Since 2010, the educational landscape has changed completely. All schools are now encouraged to become 'Academies' (autonomous schools).
- Before 2010, there were only 200 secondary school academies: a school improvement policy for failing schools in disadvantaged areas.
- Now, 2/3s of secondary schools and 1/5 of primary schools have become academies.
- Research question addressed here: has academy status improved performance for primary school pupils 3 or 4 years after their schools converted?

# The Evolution of Secondary School Academies (so far)



# The Evolution of Primary School Academies (so far)



# Outline

- School organisation in England; What is an academy?
- Related literature
- Data
- Methodology
- Results
- Preliminary conclusions and next steps

# School organisation in England: LEAs

- Schools organised into 152 Local Education Authorities (LEAs)
- LEA responsibilities:
  - Build and maintain schools
  - Allocate funding
  - Provide support services; act in an advisory role; implement initiatives
  - Appoints one or two school governors
  - Administrative and management functions (training, personnel, financial services)
  - In Community schools (the majority), LEAs are the statutory employers of school staff, owner of the buildings, and manage school admissions.

# Academies

- School is governed outside the LEA and is overseen and funded directly by central government
- School is like a company (with charity status) with principal as chief executive and governors as trustees/directors
- Responsible for financial management, governance, admissions.
- Not legally required to use national curriculum
- Ability to set own pay and conditions for staff and more freedom in hiring decisions.
- No funding is withheld by the LEA for central services.

# Should we expect positive effects?

- School autonomy in process and personnel decisions may have positive effect on outcomes because of superior information held by local decision makers (Hanushek and Woessmann, 2011).
- Why do all schools not want it?
- Looking at effects for schools that volunteered to become academies as soon as they were allowed to. Good and outstanding schools were prioritised.



## Related literature

- ‘New Labour’ academies (conversion of 200 secondary schools, mostly underperforming). Eyles and Machin (2015).
- Free schools in Sweden (e.g. Bolhmark and Lindahl, 2015).
- Many papers on charter schools in the US:
  - Studies using lotteries usually find positive effects (Abdulkadiroglu et al. 2011, Angrist et al. 2010, Angrist et al. 2013, Dobbie and Fryer, 2013, Hoxby et al. 2009). Gleason et al. does not find positive effects on average.
  - Most quasi-experimental studies have not found evidence of positive effects (Betts et al. 2006; CREDO, 2009, 2013).
  - Most similar to our paper: Abdulkadiroglu et al. (2014) who look at school conversions in Boston and New Orleans; Fryer (2014) who looks at ‘injection’ of charter school practices into public schools in Euston.

# Our contribution

- Involves the conversion of existing schools and not the creation of new schools (similarly to Eyles and Machin, 2015; and Abdulkadiroglu et al. 2014). Reform was completely unanticipated.
- Voluntary contribution of more highly performing schools (not forced conversion of schools serving disadvantaged communities).
- Focus is on primary schools (whereas much of the literature relates to middle/high school)

# Data

- National Pupil Database: near census of all pupils in England.
- Can link school to data of opening of an academy and to its Ofsted inspection grade (2007-2010).
- Key Stage 2 ( age 11) test scores in English and maths are the outcome variables. Use data from 2006/07 to 2013/14
- Control for Key Stage 1 teacher assessments (age 7), demographics and school fixed effect

# Methodology

- 1) Compare pupils in schools that became academies in the first two waves (2010-12) with pupils in schools that became academies later (2015-16).
- 2) Because Ofsted grade as an important factor influencing the speed of adoption, we either interact all variables by OfSTED grade or estimate regressions within Ofsted grade
- 3) We consider pupils who are enrolled in the school who have completed Key Stage 1 before the school converts to an academy
- 4) We limit the event study to a maximum of 4 years post conversion

# Value added model

$$KS2_{ist} = \alpha_s + \alpha_t + \theta_1 A_{ist} * I(E \geq t=c) + \sum_{j=1}^J \pi_{1j} X_{jist} + \varphi_1 KS1_{ist} + v_{1ist}$$

Where X denotes control variables.

Event year  $E(t=c)$  is when school first admits new pupils as an academy

Restrict analysis to pupils enrolled in pre-conversion school

BUT: not all pupils who end up taking KS2 at a school were enrolled in the school pre-conversion. Some pupils leave before taking KS2.

# Use ITT as an instrument for academy conversion $Z$

Define  $Z_{ist} = A_{ist} * I(E \geq t = c)$

**First stage:**

$$Z_{ist} = \alpha_s + \alpha_t + \theta_2 ITT_{ist} * I(E \geq t = c) + \sum_{j=1}^J \pi_{2j} X_{jist} + \phi_2 KS1_{ist} + v_{2ist}$$

**Reduced form:**

$$KS2_{ist} = \alpha_s + \alpha_t + \theta_3 ITT_{ist} * I(E \geq t = c) + \sum_{j=1}^J \pi_{3j} X_{jist} + \phi_3 KS1_{ist} + v_{3ist}$$

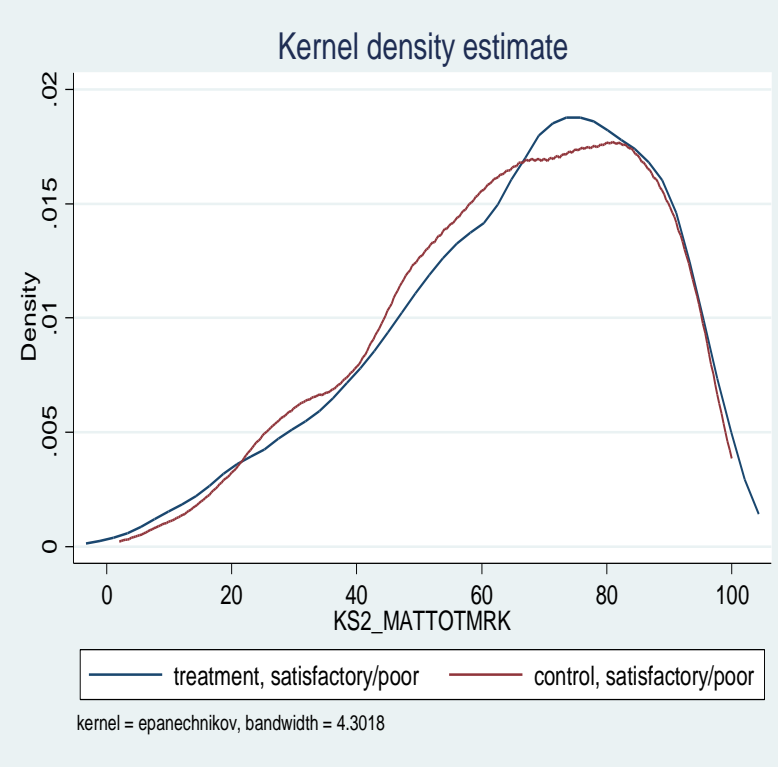
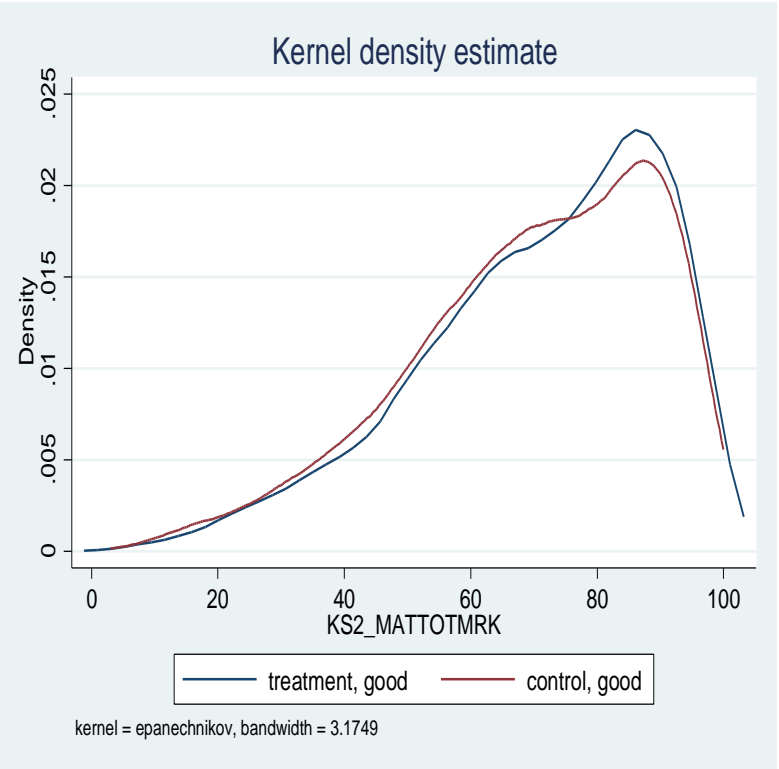
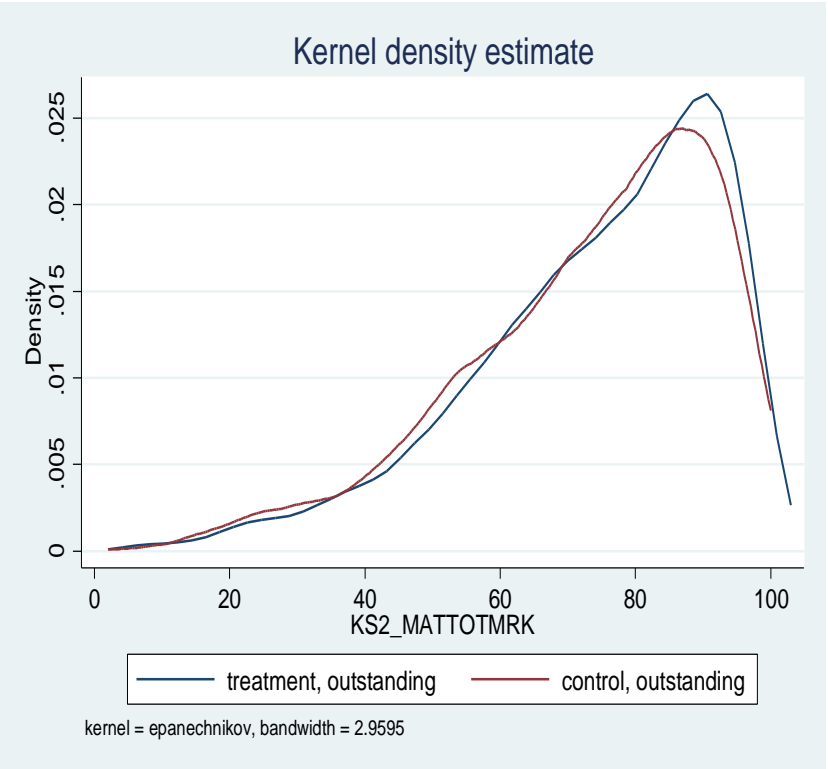
# Baseline characteristics (2007/08)

	All treatment and control			W1 treatment v comparison			W2 treatment v comparison		
	T	C	p-value	T	C	p-value	T	C	p-value
Number of schools	270	395		46	395		224	395	
English is first language	0.92	0.93	0.543	0.91	0.93	0.361	0.93	0.93	0.763
White British	0.83	0.85	0.347	0.83	0.85	0.577	0.83	0.85	0.401
Eligible to receive free school meals	0.10	0.12	0.049	0.13	0.12	0.644	0.09	0.12	0.013
Male	0.51	0.51	0.577	0.51	0.51	0.727	0.51	0.51	0.608
KS2 English	0.07	-0.06	0.000	-0.04	-0.06	0.698	0.10	-0.06	0.000
KS2 Maths	0.09	-0.08	0.000	0.03	-0.08	0.144	0.10	-0.08	0.000
KS1 English	0.61	-0.05	0.000	-0.07	-0.05	0.823	0.09	-0.05	0.000
KS1 Maths	0.05	-0.04	0.002	-0.07	-0.04	0.642	0.07	-0.04	0.000

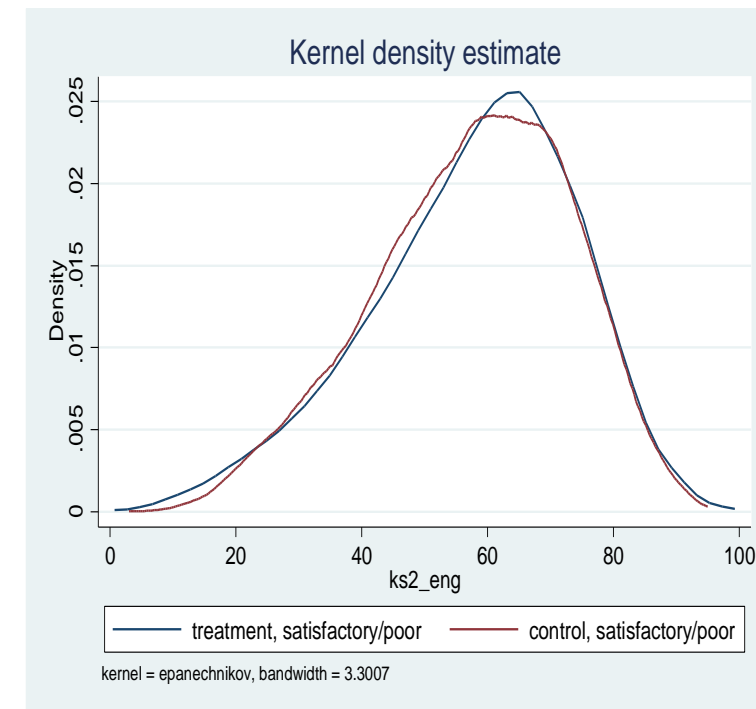
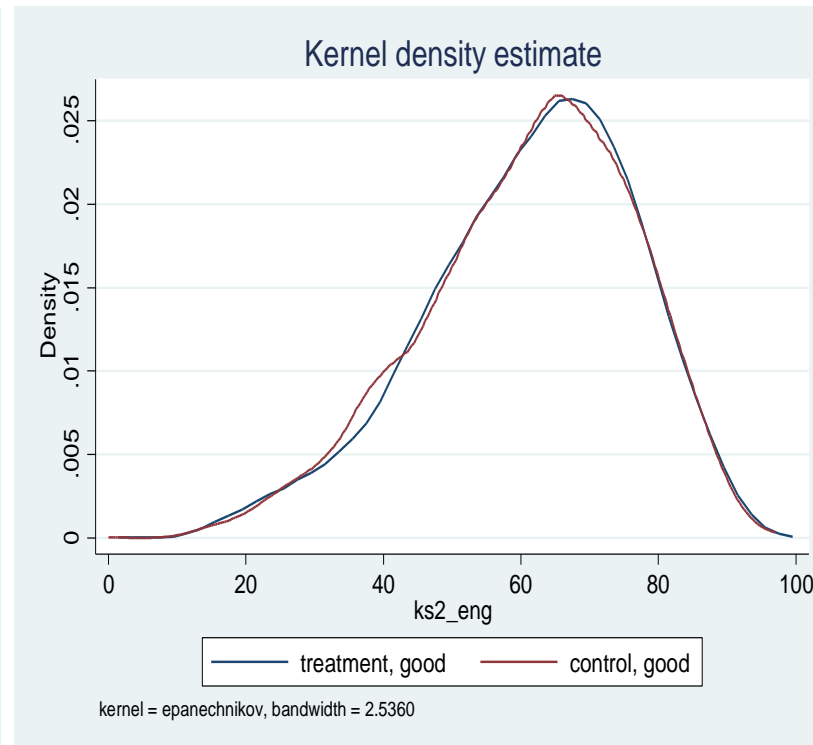
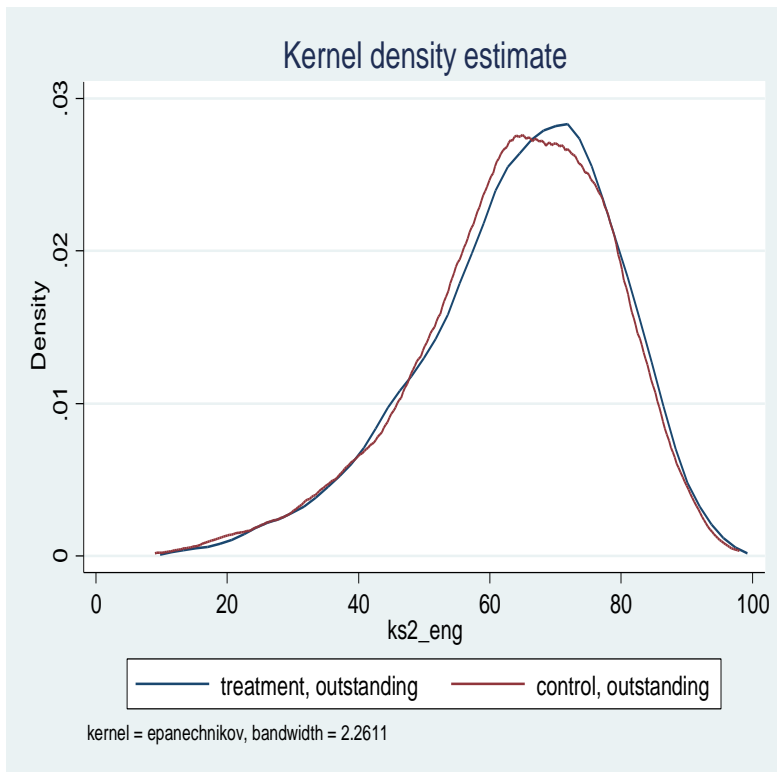




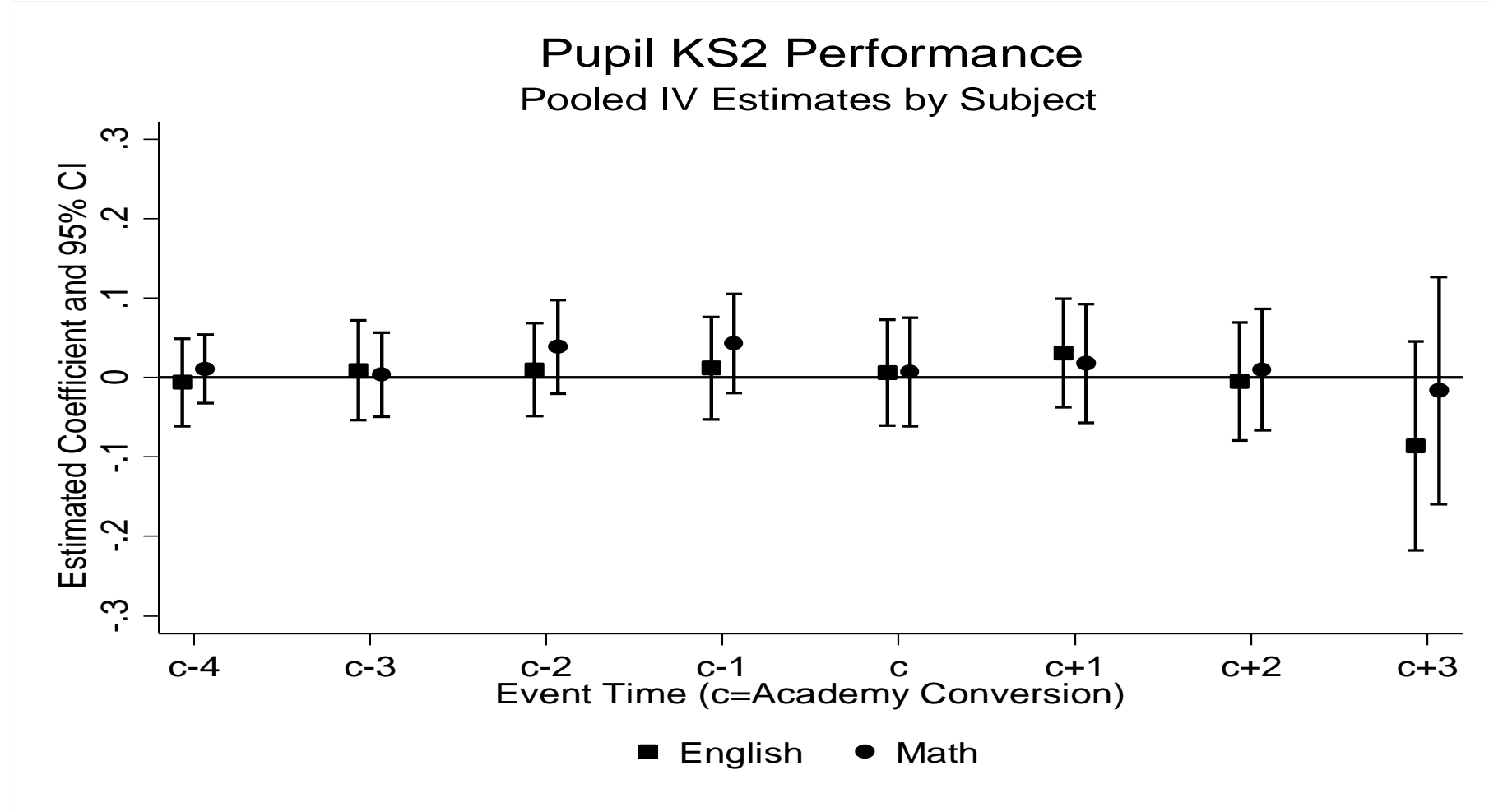
# Pupil distribution in Maths scores 2009/10 by treatment status, within OfSTED category



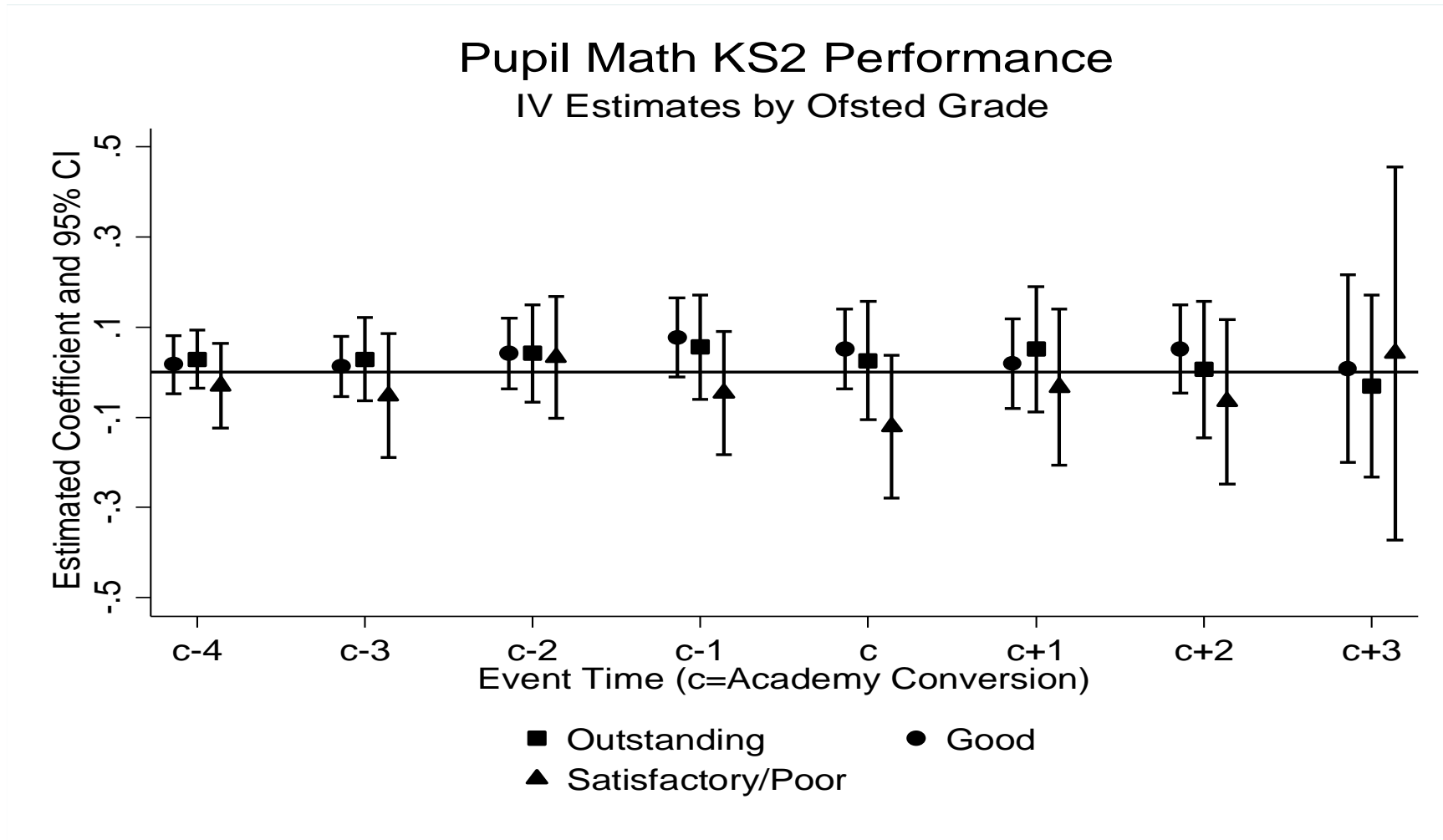
# Pupil distribution in English scores 2009/10 by treatment status, within OfSTED category



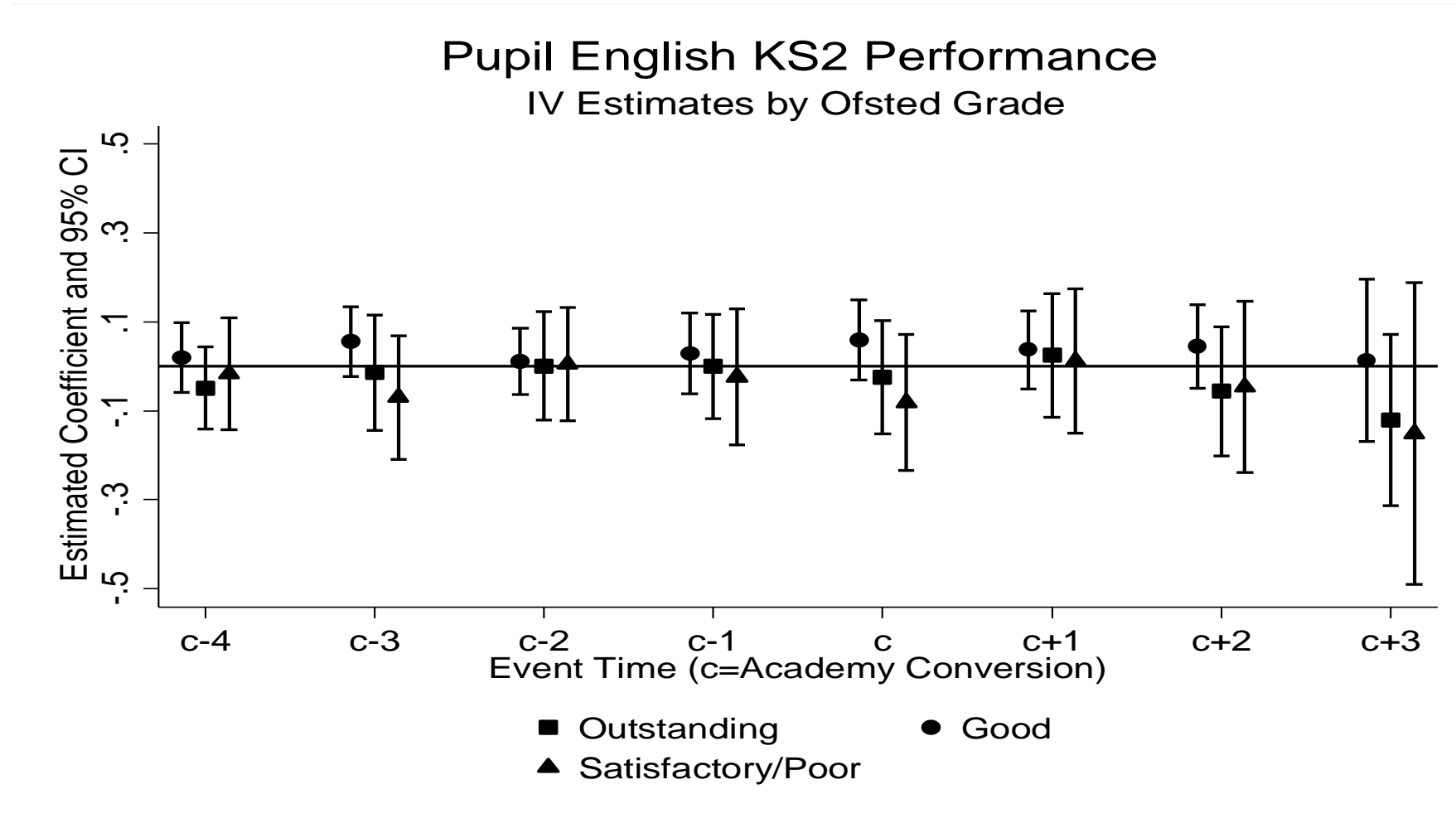
# Event study Estimates: Pre- and post- Academy conversion



# Event study Estimates by (Pre-Intervention) Ofsted grade: Maths



# Event study Estimates by (Pre-Intervention) Ofsted grade: English



# The Effect of Treatment on KS2 Test Scores

	ITT (Incidence)			2SLS (Incidence)			ITT (Exposure)			2SLS (Exposure)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	2011	2012	Pooled	2011	2012	Pooled	2011	2012	Pooled	2011	2012	Pooled
Maths	-0.050 (0.053)	0.001 (0.022)	-0.011 (0.023)	-0.057 (0.058)	0.001 (0.023)	-0.012 (0.025)	-0.021 (0.019)	0.004 (0.009)	-0.005 (0.010)	-0.023 (0.021)	0.004 (0.010)	-0.005 (0.011)
English	-0.048 (0.053)	0.018 (0.021)	0.000 (0.022)	-0.053 (0.058)	0.020 (0.022)	0.000 (0.024)	-0.023 (0.017)	0.008 (0.009)	-0.004 (0.009)	-0.025 (0.018)	0.008 (0.010)	-0.004 (0.010)
N	126459	187481	313940	126459	187481	313940	126459	187481	313940	126459	187481	313940
No. schools	441	619	666	441	619	666	441	619	666	441	619	666
First stage coefficient	0.915 (0.007)	0.937 (0.003)	0.932 (0.003)				0.910 (0.008)	0.937 (0.003)	0.928 (0.004)			

# The Effect of Treatment on KS2 Test Scores: Outstanding Schools

	Outstanding			
	(1)	(2)	(3)	(4)
	ITT	2SLS	ITT	2SLS
	Incidence	Incidence	Exposure	Exposure
Maths	-0.014 (0.046)	-0.015 (0.049)	-0.009 (0.019)	-0.010 (0.020)
English	-0.014 (0.044)	-0.015 (0.049)	-0.011 (0.017)	-0.012 (0.018)
N		73631		
No. schools		159		
First stage coefficient	0.942 (0.004)		0.938 (0.005)	

# The Effect of Treatment on KS2 Test Scores: Good schools

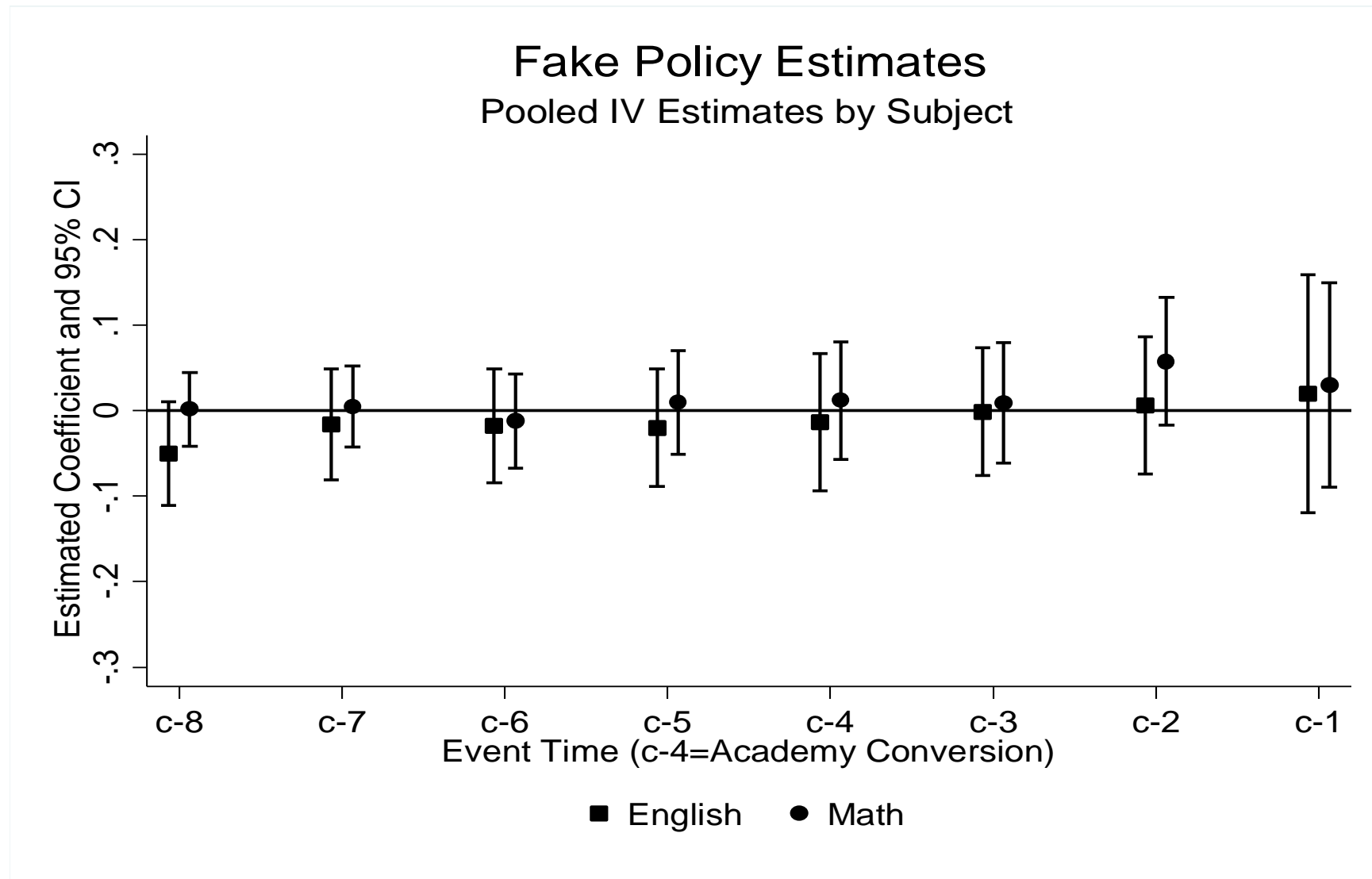
	Good			
	(5)	(6)	(7)	(8)
	ITT Incidence	2SLS Incidence	ITT Exposure	2SLS Exposure
Maths	0.008 (0.028)	0.008 (0.030)	0.002 (0.012)	0.002 (0.013)
English	0.020 (0.027)	0.021 (0.029)	0.006 (0.011)	0.006 (0.012)
N No. schools		143156 303		
First stage coefficient	0.937 (0.004)		0.934 (0.005)	



# The Effect of Treatment on KS2 Test Scores: Satisfactory/Poor schools

	Satisfactory/Unsatisfactory			
	(9)	(10)	(11)	(12)
	ITT Incidence	2SLS Incidence	ITT Exposure	2SLS Exposure
Maths	-0.042 (0.053)	-0.047 (0.058)	-0.007 (0.023)	-0.008 (0.025)
English	-0.018 (0.049)	-0.020 (0.054)	-0.004 (0.009)	-0.006 (0.023)
N No. schools			97153 203	
First stage coefficient		0.906 (0.007)	0.898 (0.010)	

# Falsification test



# Interpretation and next steps

How to interpret zero effect?

- Schools already doing well within the system.
- Schools are not serving predominantly disadvantaged students
- Insufficient change within the schools?
  
- Does zero effect matter?