

# Absence and attainment: Evidence from pandemic policy

**Steve Gibbons – LSE**

**Sandra McNally – University of Surrey and LSE**

**Piero Montebruno**

# Motivation and questions

- Pandemic years 2020-2021 in England saw periods of school closure, restrictions on social contact, working from home.
- What we know:
  - Absence has gone up and achievement down after the pandemic
  - Ongoing research, including others presented here
- What we don't know:
  - Were these changes due to the pandemic in general?
  - School closures?
  - Government social and economic restrictions?
  - Something else?
- Here we provide some answers using quantitative analysis of large-scale administrative data.

## Our research answers

- Local restrictions (Tiers) influenced absence even when schools were open
  - Quasi-experimental shock that shifted attitudes to absence
- Different effects for students from different backgrounds
- Absenteeism during the pandemic is linked to high levels of absence in later years
- Local restrictions reduced achievement at primary school level – partly, but probably not entirely due to high absence rates
- Our conjecture: signals created by restrictive government policy changed attendance and other behaviour that later affected achievement

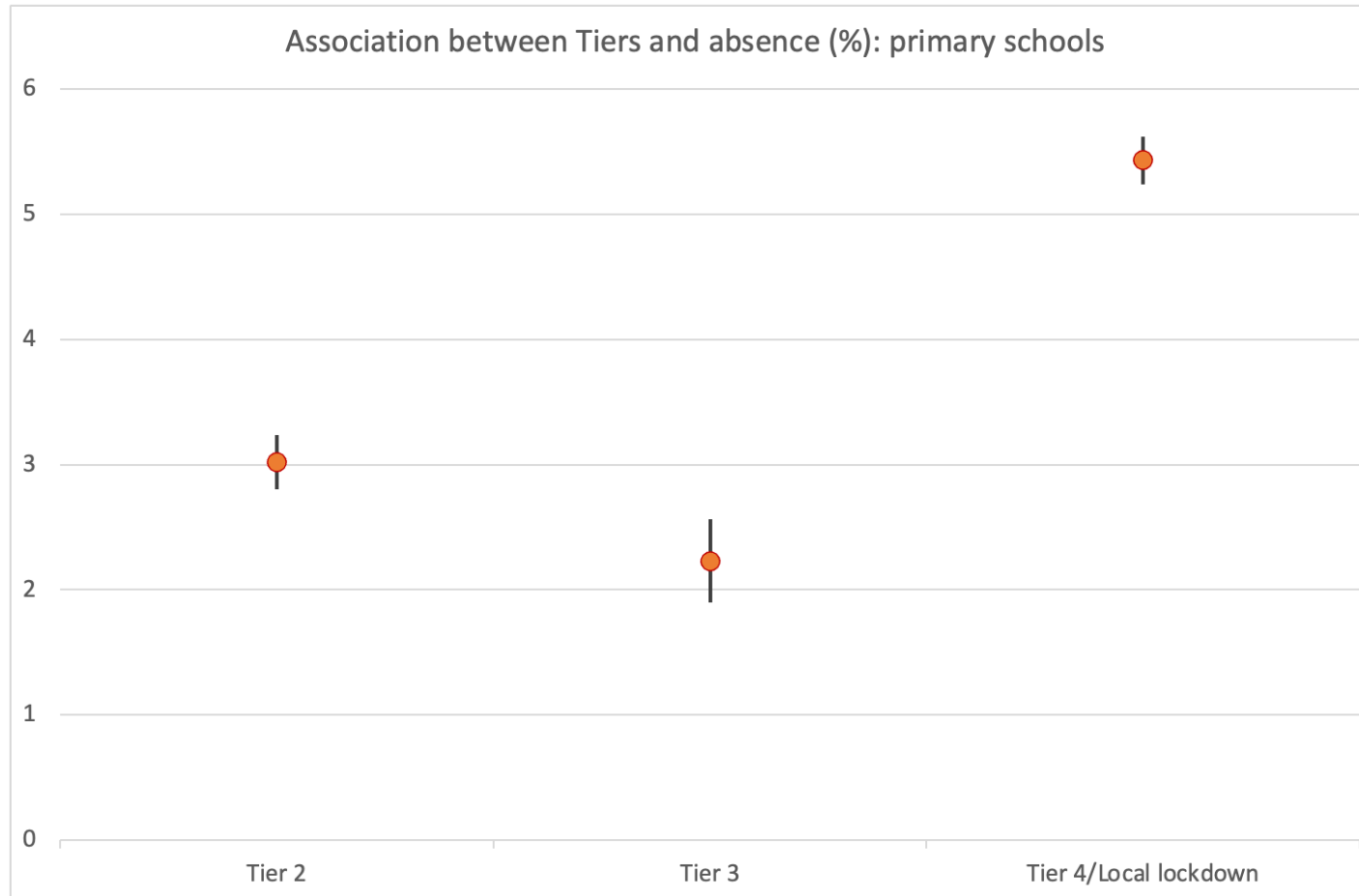
# How do we get to these results?

- DfE COVID-19 Establishment Level Attendance data during the pandemic period gives us daily attendance rates
- National Pupil Database: pupil data pre pandemic (2017/18, 2018/19) and post pandemic (2020/21, 2021/22)
- Data from web on local policies that varied across schools – Tier Regulations in autumn 2020, LA policy on re-opening in summer 2020
- Other data on local (MSOA) unemployment rates, COVID case and death rates
- Regression analysis

## Two studies

- Gibbons, McNally, Montebruno 2023 estimates the effects of local COVID policies on pupil absence
  - Uses school-by-day survey data on absence linked to info on policy location and timing
  - We find effects on absence from COVID restrictions, even when schools ostensibly open to all students
  - Difference in effects by pupil background (deprivation index - IDACI, FSM, urban etc.)
- Gibbons, McNally, Montebruno 2024 estimates the effects of absence during autumn 2020 on absence and achievement in 2021/2022 using administrative pupil level data
  - Note: Data limitations - no test data during 2020 and 2021, no absence data during Spring/Summer terms 2019/2020.

# Some findings from DfE school level survey



- Higher local deprivation (or FSM) amplifies the effects of Tiers on absence in autumn 2020
- Similar, but less pronounced effects in secondary school

# Findings from the NPD analysis

# Basic descriptives for absence rates

Absence autumn term, pre and post pandemic				
	2018/19		2021/22	
	Mean	s.d.	Mean	s.d.
Absence (half days)	3.53	5.33	9.23	11.38
Unforced absence	3.53	5.33	7.69	10.75
Forced (code X) absence	0	0	1.76	3.63
Last year's absence	3.66	5.11	13.51	15.16
Unforced absence	0	0	5.61	10.23
Forced (code X) absence	0	0	8.67	11.70
Observations	3772718		3754898	

Autumn absence	More than 10% missed	More than 20% missed	More than 40% missed
Mean pre- pandemic	0.080	0.014	0.002
Mean post- pandemic	0.341	0.103	0.023



## Average days in local Tiers (autumn 2020)

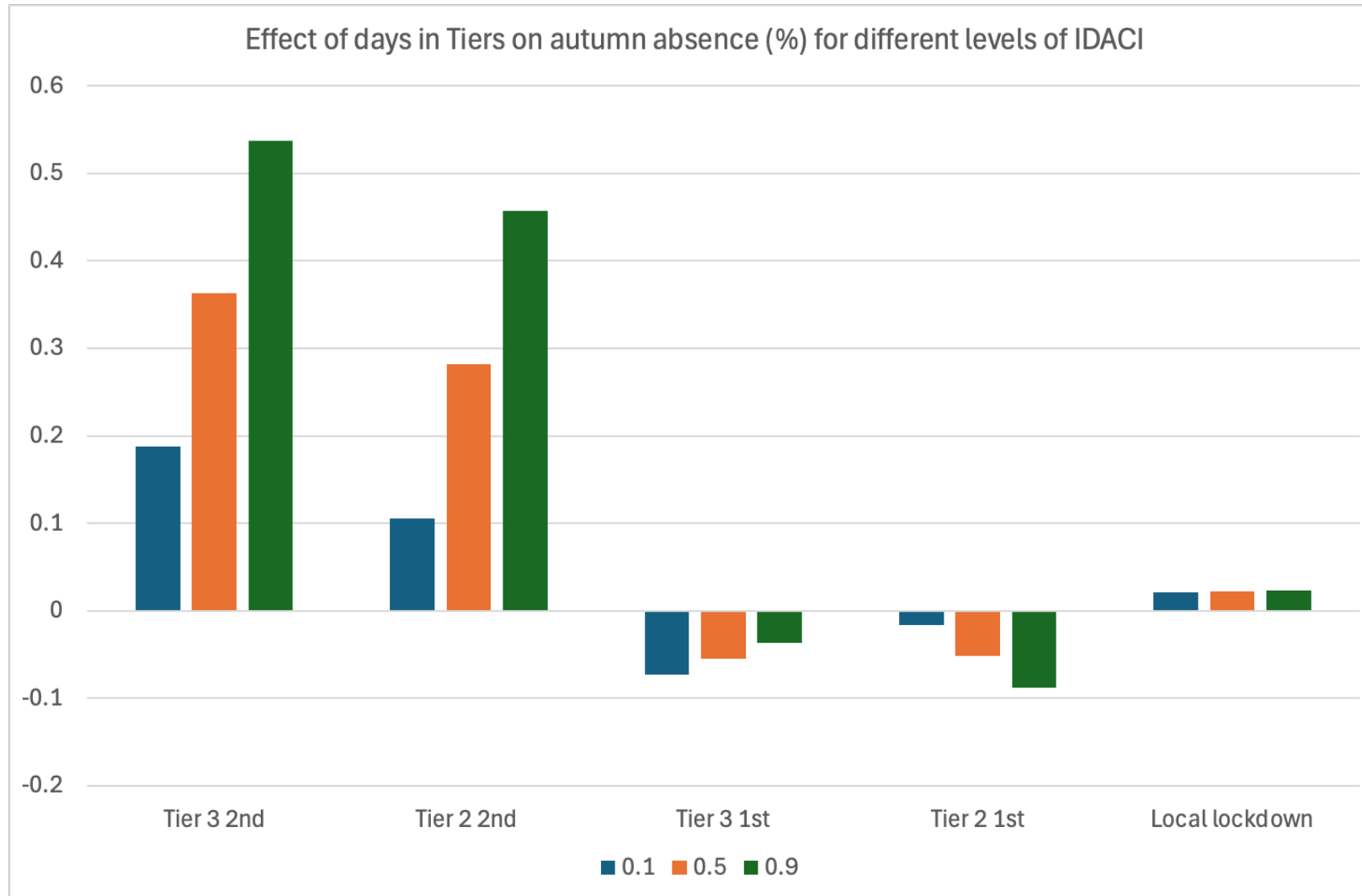
*Policy variables for 2020/21*

---

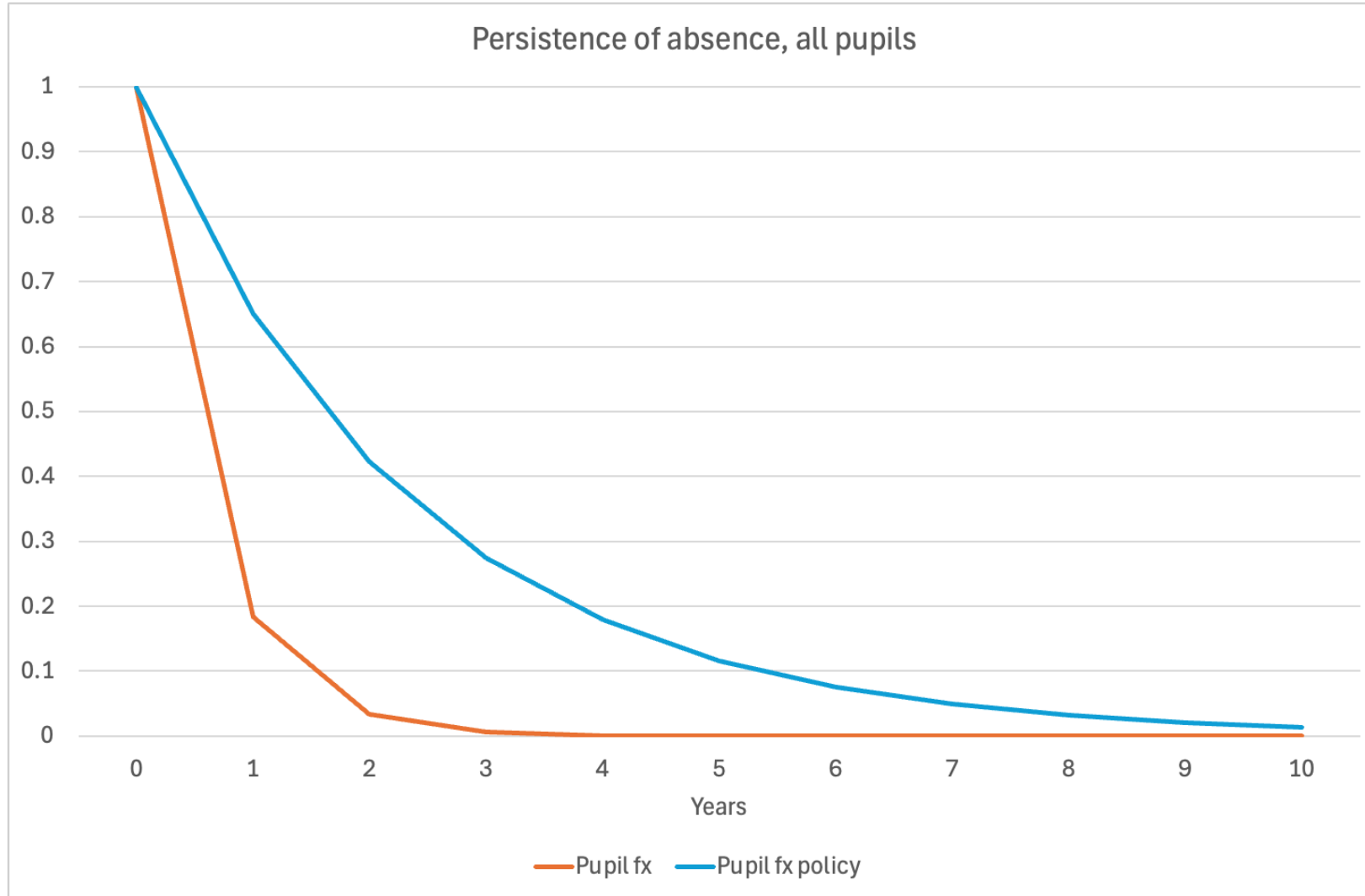
Local lockdown (days)	7.39	13.70
Tier 1, 1 <sup>st</sup> tier regs (days)	10.57	10.12
Tier 2, 1 <sup>st</sup> tier regs (days)	9.02	9.20
Tier 3, 1 <sup>st</sup> tier regs (days)	2.41	5.76
Tier 1, 2 <sup>nd</sup> tier regs (days)	0.21	1.85
Tier 2, 2 <sup>nd</sup> tier regs (days)	8.62	8.03
Tier 3, 2 <sup>nd</sup> tier regs (days)	8.17	8.02

---

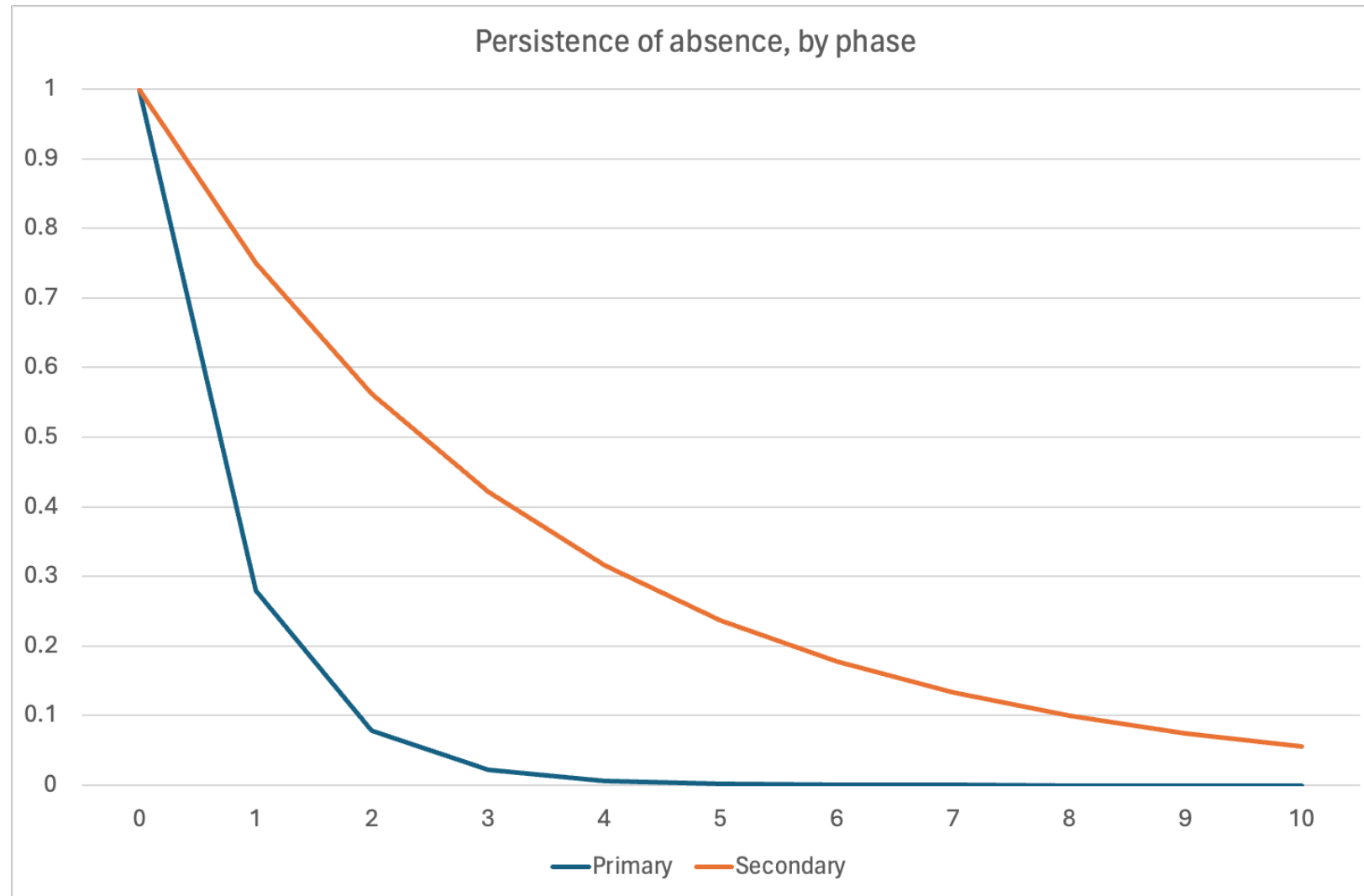
# Effect of Tiers on autumn 2020 absence, by deprivation index



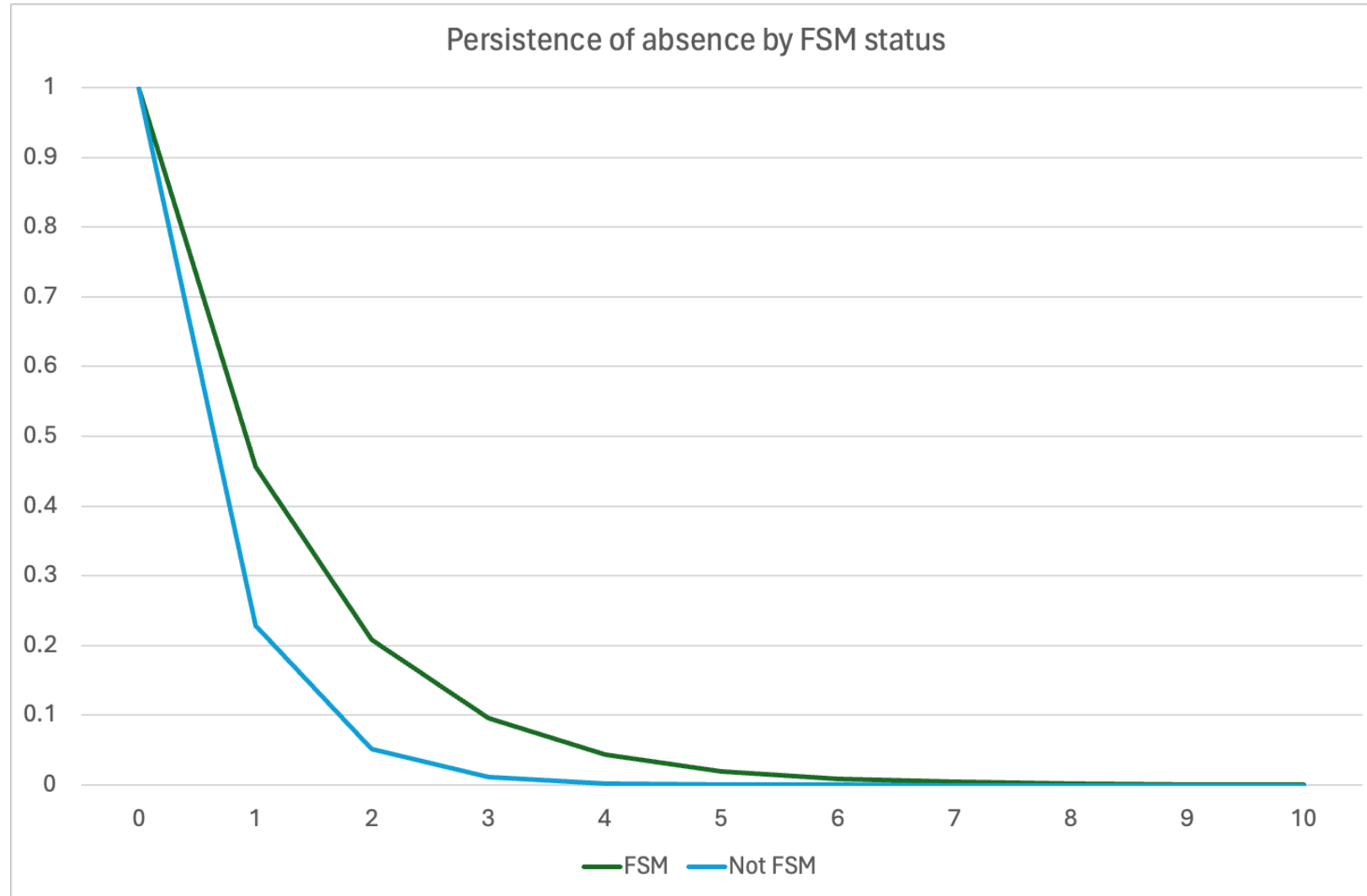
# Autumn absence – estimated persistence



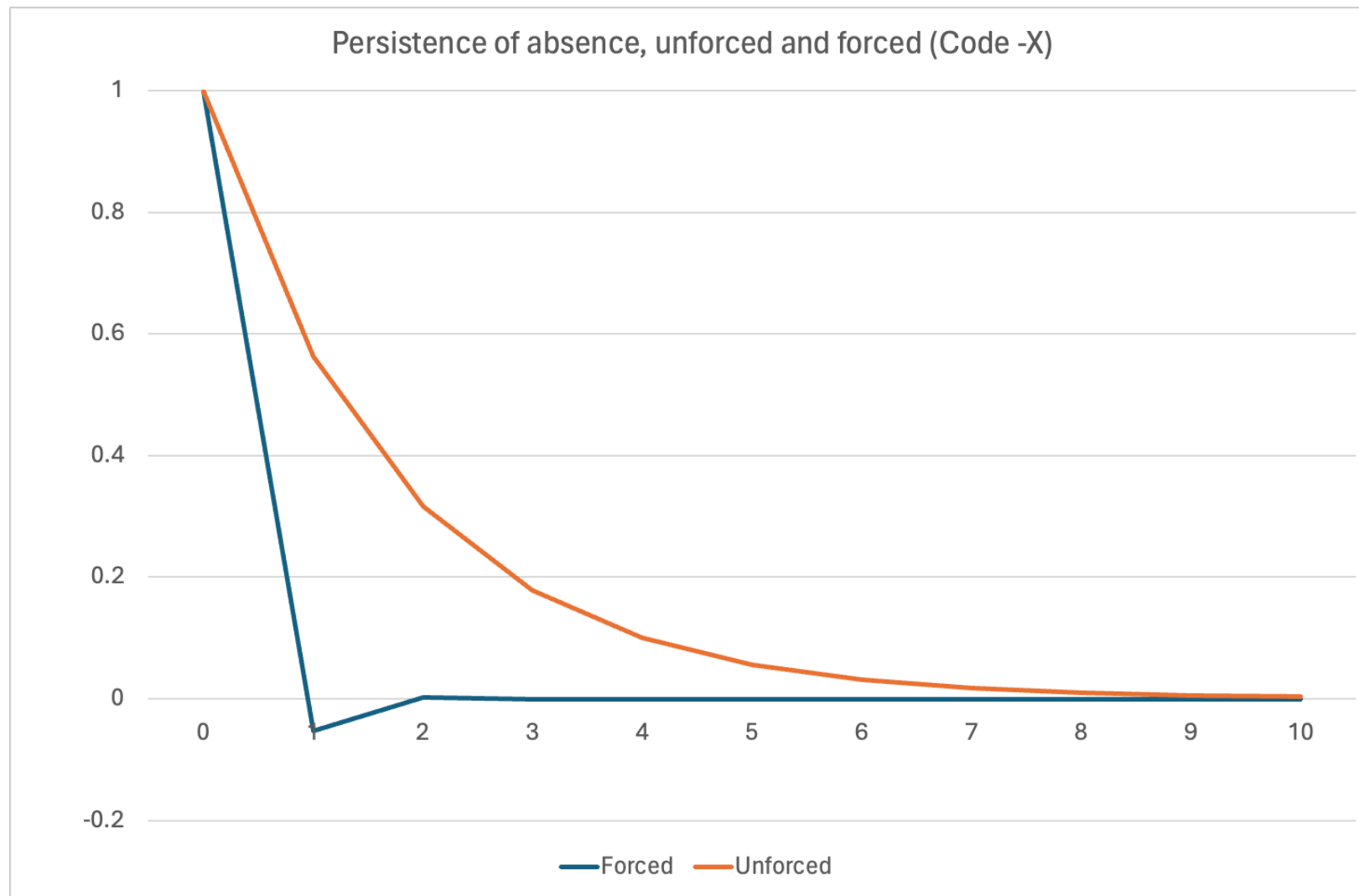
... by phase



... by FSM status



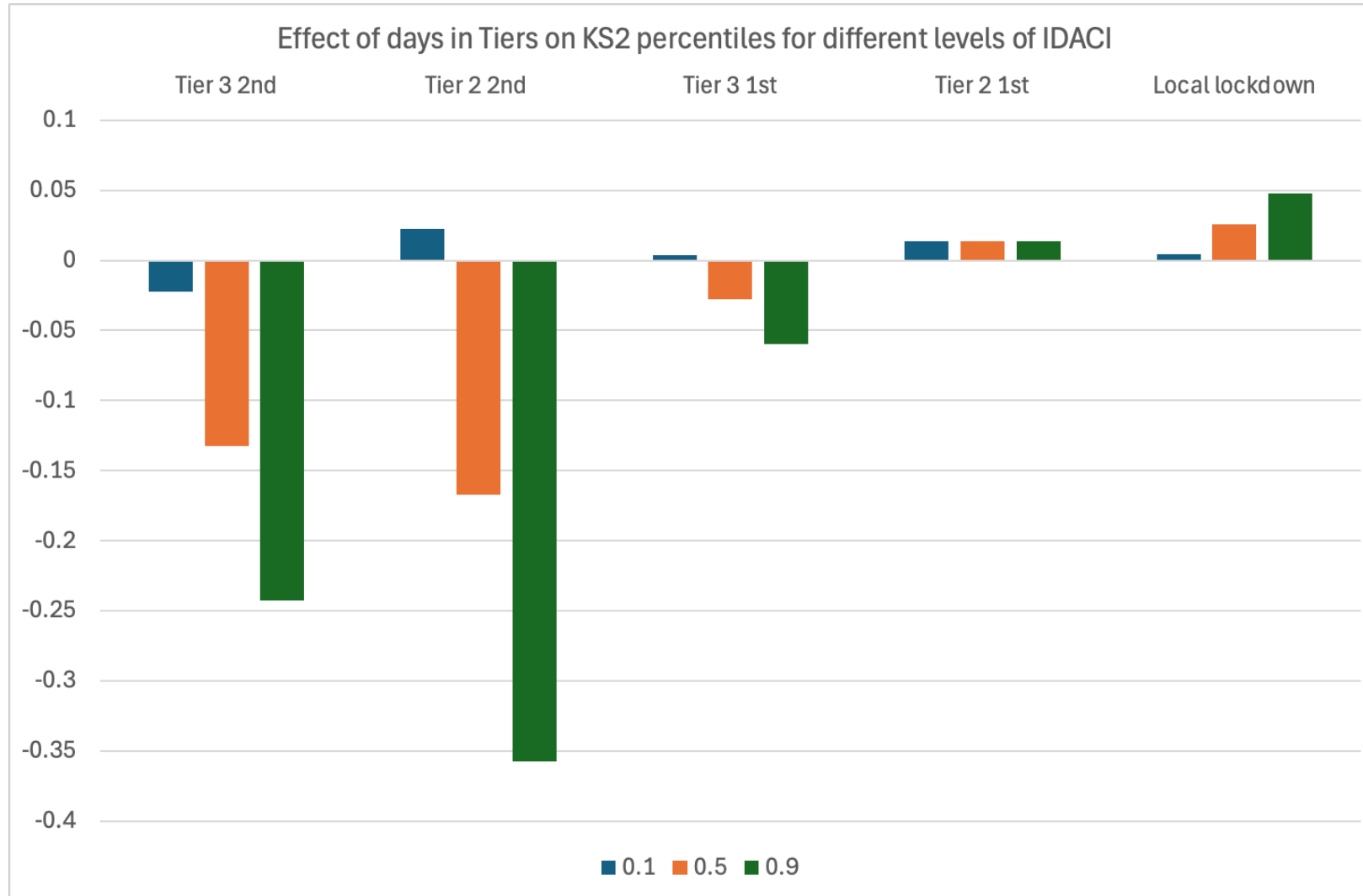
... by forced/unforced absence



# Impact on chronic absence

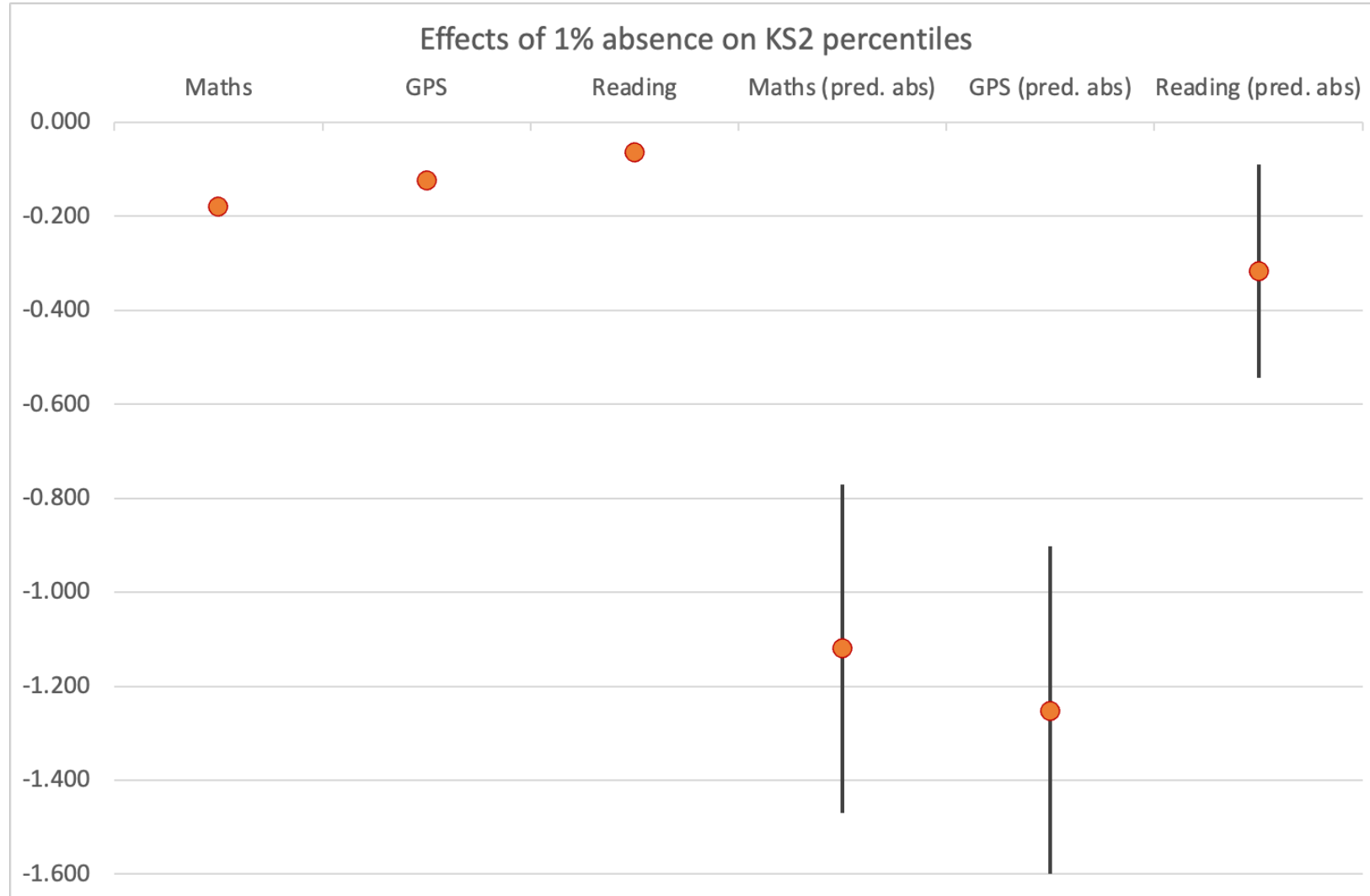
- Average change in autumn 2020 absence implies:
- a 4.6-percentage point increase in the proportion of pupils absent for more than 10% of the following autumn term
- a 7.5-percentage point increase in the proportion absent more than 20%
- a 2.3-percentage point increase in the proportion of pupils absent 40% of the time.
- Knock-on effects of absence in autumn 2020 explain all (or nearly all) of the increase in over-20% and over-40% absence rates, and a substantial proportion of the increase in over-10% absence rates

# Effect of Tiers on Key Stage 2 (2022), by deprivation index





# Autumn absence Year 5 on Key Stage 2



# Conclusions and discussion

- Local pandemic policies affected absence in Autumn 2020 and had heterogeneous impacts
  - 16 days in either Tier 2 or Tier 3 in the second half of autumn term implies 2.9 percentage points (one and a half days) more absence over that term (compared to Tier 1)
  - Bigger impact on disadvantaged students
- Increases in absence were/are highly persistent, especially in secondary schools and for disadvantaged pupils
  - Good news: Policy that improves attendance could also be persistent

# Conclusions and discussion

- Large impacts on achievement (KS2) in primary school, but not GCSEs:
  - 1% increase in absence reduces ks2 scores in Maths and Grammar/Punctuation/Spelling by over 1 percentiles (0.3 percentiles in Reading)
- Contrast between small impact of Tiers on later absence and big impact on achievement for primary pupils
  - Most likely, the Tiers are working through other channels too – mental health etc.
- Overall, local social and restrictions had unintended consequences for students

## Future work

- This project: Look at effect of Tier Regulations on other child and family health and behaviour (Understanding Society)
- In the future: Look at actual persistence in absence and achievement effects with more years of data

## Additional reference slides

# COVID policy timeline

March 2020		
02	Warnings	Open
09	Warnings	Open
16	Reduce activities	Open
23	1st National lockdown	Key worker children only
30	1st National lockdown	Key worker children only

April 2020		
06	1st National lockdown	Easter holiday
13	1st National lockdown	Easter holiday
20	1st National lockdown	Key worker children only
27	1st National lockdown	Key worker children only

May 2020		
04	1st National lockdown	Key worker children only
11	1st National lockdown	Key worker children only
18	1st National lockdown	Key worker children only
25	1st National lockdown	Key worker children only

June 2020		
01	Phased re-opening	Phased reopening (prim)
08	Phased re-opening	Phased reopening
15	Phased re-opening	Phased reopening (sec)
22	Phased re-opening	Phased reopening
29	Phased re-opening	Phased reopening

July 2020		
06	Reopening, local lockdowns	Phased school reopening
13	Reopening, local lockdowns	Phased school reopening
20	Reopening, local lockdowns	Phased school reopening
27	Reopening, local lockdowns	Summer holiday

August 2020		
03	Reopening, local lockdowns	Summer holiday
10	Reopening, local lockdowns	Summer holiday
17	Reopening, local lockdowns	Summer holiday
24	Reopening, local lockdowns	Summer holiday
31	Reopening, local lockdowns	Summer holiday

September 2020		
07	Reopening, local lockdowns	Open with restrictions
14	Local lockdowns, rule of 6	Open with restrictions
21	Local lockdowns, wfh	Open with restrictions
28	Local lockdowns, wfh	Open with restrictions

October 2020		
05	Local lockdowns, wfh	Open with restrictions
12	1st Tier regs (3 Tiers)	Open with restrictions
19	1st Tier regs (3 Tiers)	Open with restrictions
26	1st Tier regs (3 Tiers)	Half term

November 2020		
02	2nd National Lockdown 5/11	Open with restrictions
09	2nd National Lockdown	Open with restrictions
16	2nd National Lockdown	Open with restrictions
23	2nd National Lockdown	Open with restrictions
30	Lockdown ends 2/12	Open with restrictions

December 2020		
07	2nd Tier Regs (3 Tiers)	Open with restrictions
14	2nd Tier Regs (3 Tiers)	Open with restrictions
21	2nd Tier Regs (4 Tiers)	Christmas holiday
28	2nd Tier Regs (4 Tiers)	Christmas holiday

January 2021		
04	3rd National Lockdown 6th	Open with restrictions
11	3rd National Lockdown	Key worker children only
18	3rd National Lockdown	Key worker children only
25	3rd National Lockdown	Key worker children only

February 2021		
01	3rd National Lockdown	Key worker children only
08	3rd National Lockdown	Key worker children only
15	3rd National Lockdown	Key worker children only
22	3rd National Lockdown	Key worker children only

March 2021		
01	3rd National Lockdown	Key worker children only
08	Re-opening step 1, stay home	Open with restrictions
15	Re-opening step 1, stay home	Half term
22	Re-opening step 1, stay home	Open with restrictions
29	Re-opening step 1	Open with restrictions

April 2021		
05	Re-opening step 1	Easter holiday
12	Re-opening step 2	Easter holiday
19	Re-opening step 2	Open with restrictions
26	Re-opening step 2	Open with restrictions

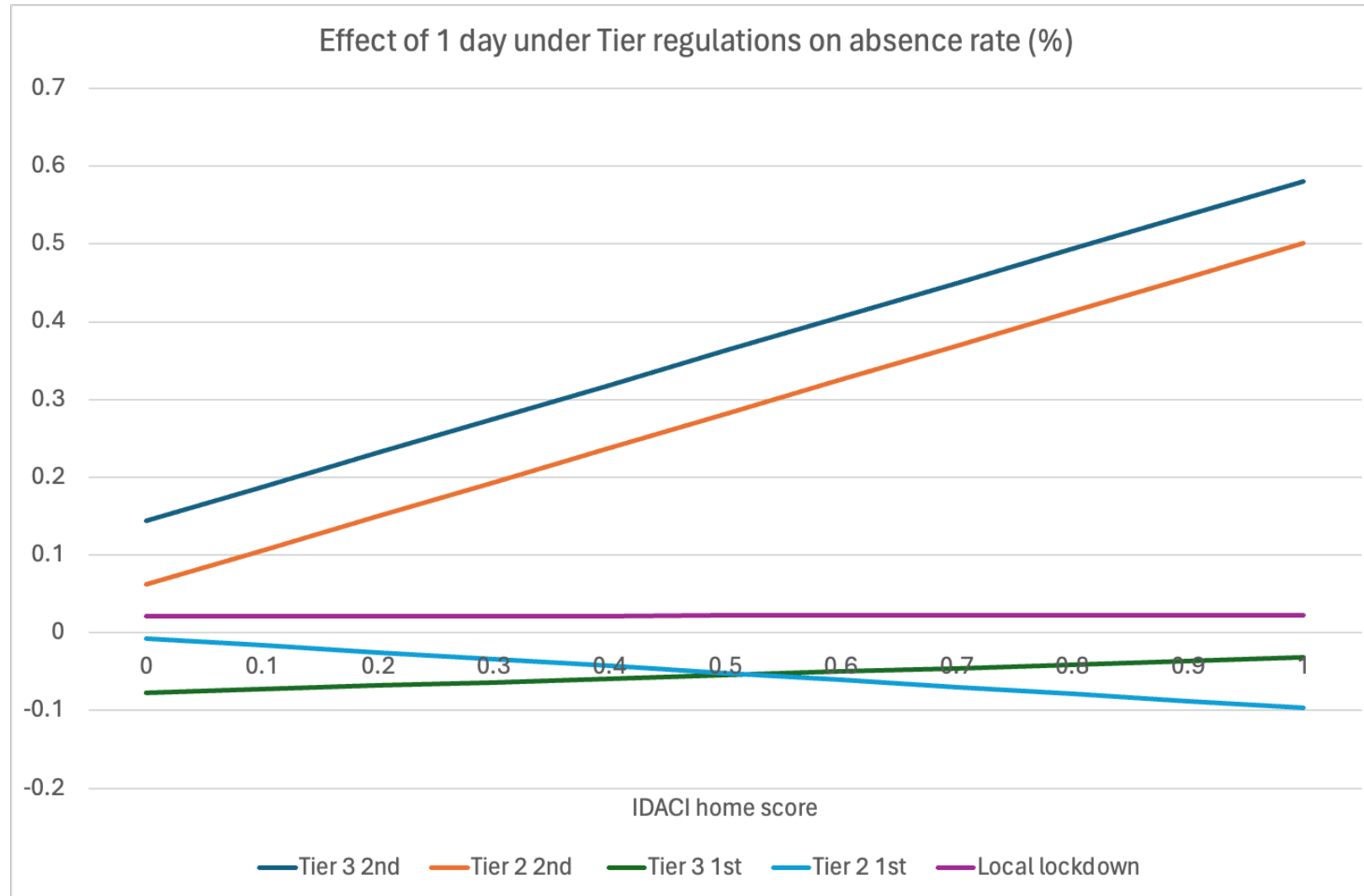
May 2021		
03	Re-opening step 2	Open with restrictions
10	Re-opening step 2	Open with restrictions
17	Re-opening step 3	Open with restrictions
24	Re-opening step 3	Open with restrictions
29	Re-opening step 3	Open with restrictions

# Time periods and cohorts

- Yeargroups are like US ‘grades’: Yeargroup 1 = age 5/6
- Cohort 5/8 ks2 data (green), cohort 10/13 ks4 data (blue)
  - Older cohorts act as control group for younger cohorts affected by pandemic
- Pink cohorts: absence data

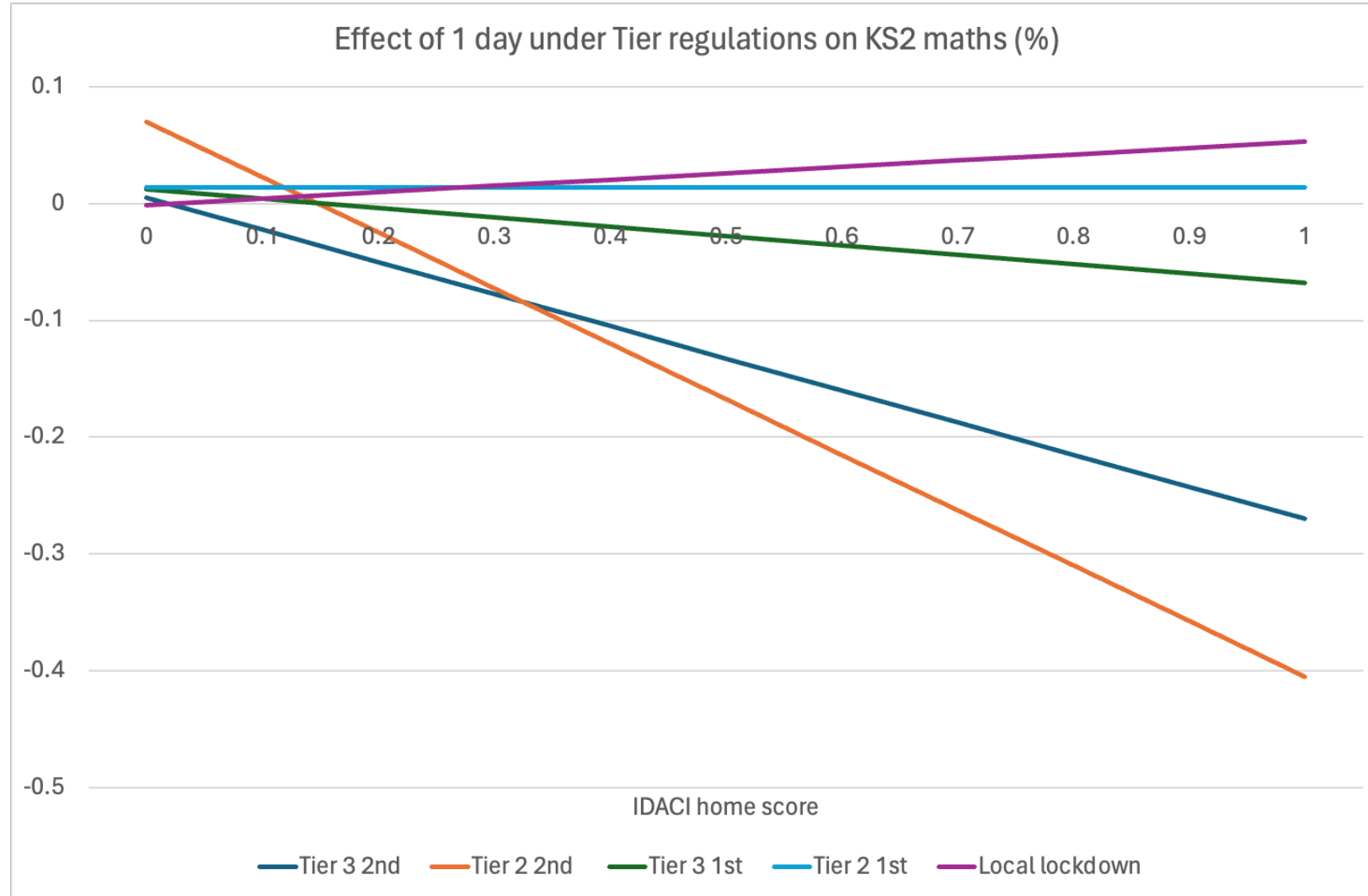
Year	Term	Cohort 4 Yeargroup	Cohort 5 Yeargroup	Cohort 6 Yeargroup	Cohort 7 Yeargroup	Cohort 8 Yeargroup	Cohort 9 Yeargroup	Cohort 10 Yeargroup	Cohort 11 Yeargroup	Cohort 12 Yeargroup	Cohort 13 Yeargroup	Pandemic	Data
2017/18	Autumn	1	2	3	4	5	6	7	8	9	10	Pre	KS and absence
2017/18	Spring	1	2	3	4	5	6	7	8	9	10	Pre	KS and absence
2017/18	Summer	1	2	3	4	5	6	7	8	9	10	Pre	KS and absence
2018/19	Autumn	2	3	4	5	6	7	8	9	10	11	Pre	KS and absence
2018/19	Spring	2	3	4	5	6	7	8	9	10	11	Pre	KS and absence
2018/19	Summer	2	3	4	5	6	7	8	9	10	11	Pre	KS and absence
2019/20	Autumn	3	4	5	6	7	8	9	10	11		Pre	No data
2019/20	Spring	3	4	5	6	7	8	9	10	11		Post	No data
2019/20	Summer	3	4	5	6	7	8	9	10	11		Post	No data
2020/21	Autumn	4	5	6	7	8	9	10	11			Post	No KS data
2020/21	Spring	4	5	6	7	8	9	10	11			Post	No KS data
2020/21	Summer	4	5	6	7	8	9	10	11			Post	No KS data
2021/22	Autumn	5	6	7	8	9	10	11				Post	KS and absence
2021/22	Spring	5	6	7	8	9	10	11				Post	KS and absence
2021/22	Summer	5	6	7	8	9	10	11				Post	KS and absence

# Effect of Tiers on autumn 2020 absence





# Effect of Tiers on Key Stage 2 (2022)



# Background characteristics and absence

