

## INTRODUCTION

Child overweight and obesity a worldwide public health problem with serious implications for health, healthcare and productivity. In England:

- Almost 1 on 4 children overweight or obese at age 4/5
- More than 1 in 3 children aged 10/11 overweight or obese

Children consume a large fraction of their food energy at school → school meal provision possible lever to increase rates of healthy weight among children.

## RESEARCH QUESTION

Can providing free, high quality lunches to all children in school contribute to tackling childhood obesity?

We study a switch is from targeted to universal school lunch provision in England and speak to lit on:

- effects of school meal provision
- advantages of means-testing vs universalism
- role of in-kind transfers in promoting child welfare

## MAIN RESULTS

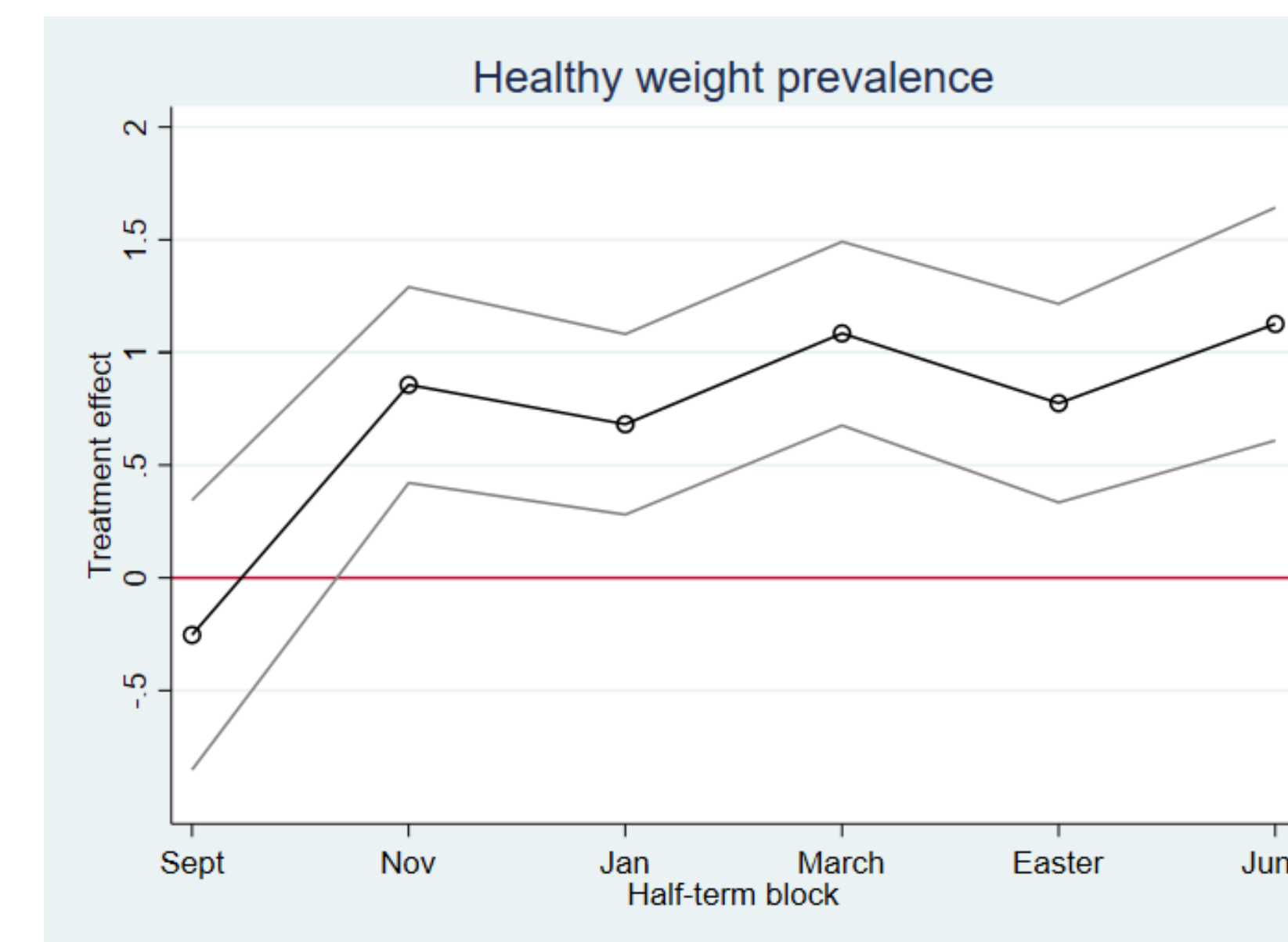


Figure 1: ITT effects on normal weight

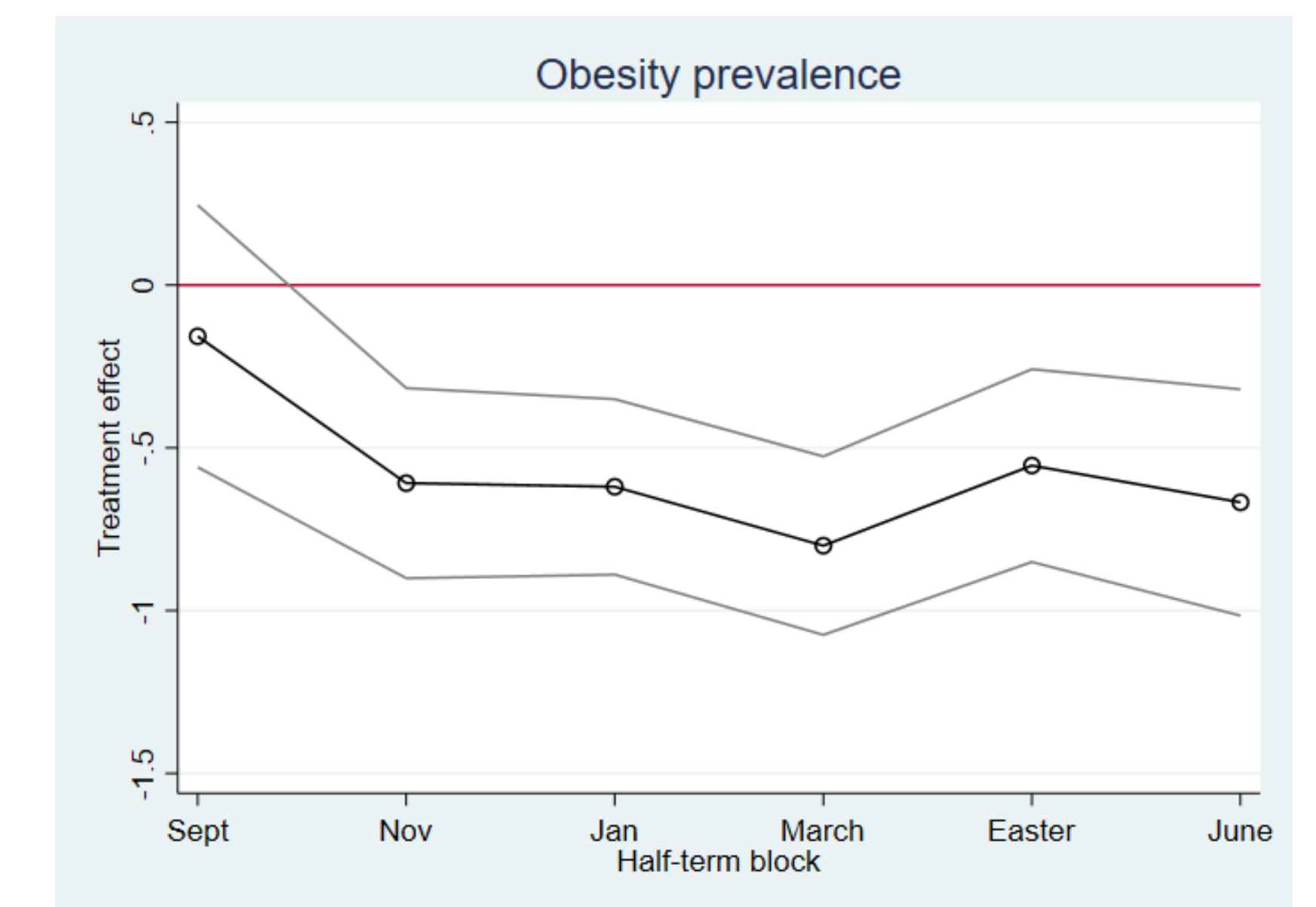


Figure 2: ITT effects on obesity

→ by end of school year treated children 1 ppts more likely to be normal weight; 0.75 ppts less likely to be obese; have a 4.2% of a SD lower BMI  
 → small effect but larger than other UK school-based interventions  
 → implied ToT effects considerably larger given incomplete take-up

## SETTING & DATA

### Setting (England)

- Means-tested free meals available since 1940's. Linked to receipt of income support
- 18% of children eligible for free meals pre 2014
- From 2014 free lunch for all children during first 3 years of schooling (age 4-7)
- High nutritional standards introduced 2006-2008. Max energy: 530 kcal
- Alternative meal: lunch made at home, mean energy 624 kcal (Evans et al., 2010)

### Data

National Child Measurement Programme data 2008-18

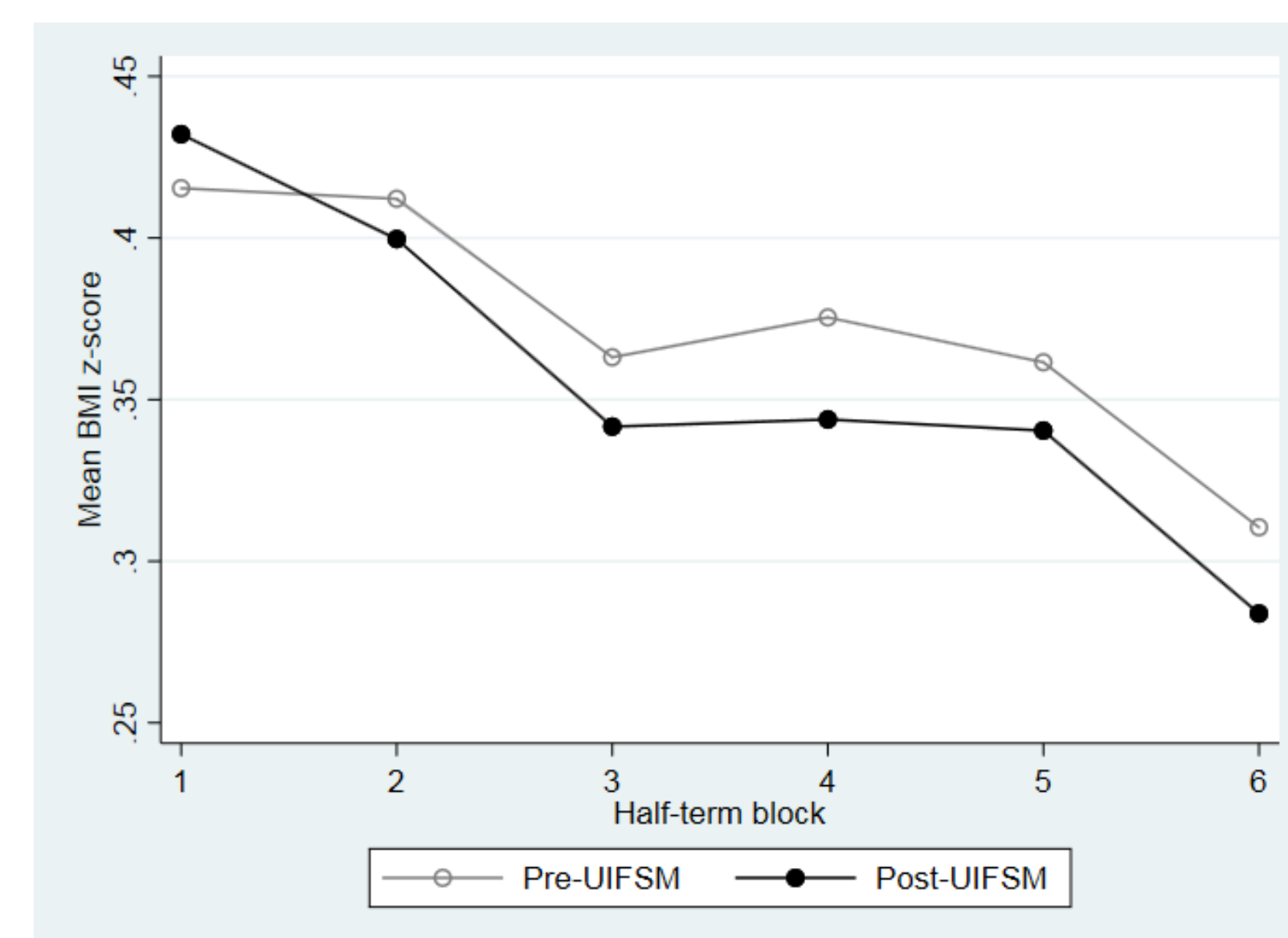
Height and weight measurement taken during school visits in 16,000 primary schools at ages 4-5.

Anonymised school-level data including

- % obese, % normal weight, mean BMI z-score
- Date of measurement in school
- Student, neighbourhood, school, local authority level characteristics

## EMPIRICAL STRATEGY

- Variation in date of school measurement leads to different duration of exposure throughout first school year of school
- Expect greater effect for children exposed for a year (190 meals) than just entering school (0 meals)
- Difference to pre-policy years should get larger in the course of the school year



Estimate a DiD model that compares change in children's weight outcomes over the school year before and after the introduction of universal free lunches.

## IDENTIFYING ASSUMPTIONS

### Random timing of measurement

- measurements representative only if timing random across half terms
- bias if any pattern in timing changed between pre & post years

### Parallel trends

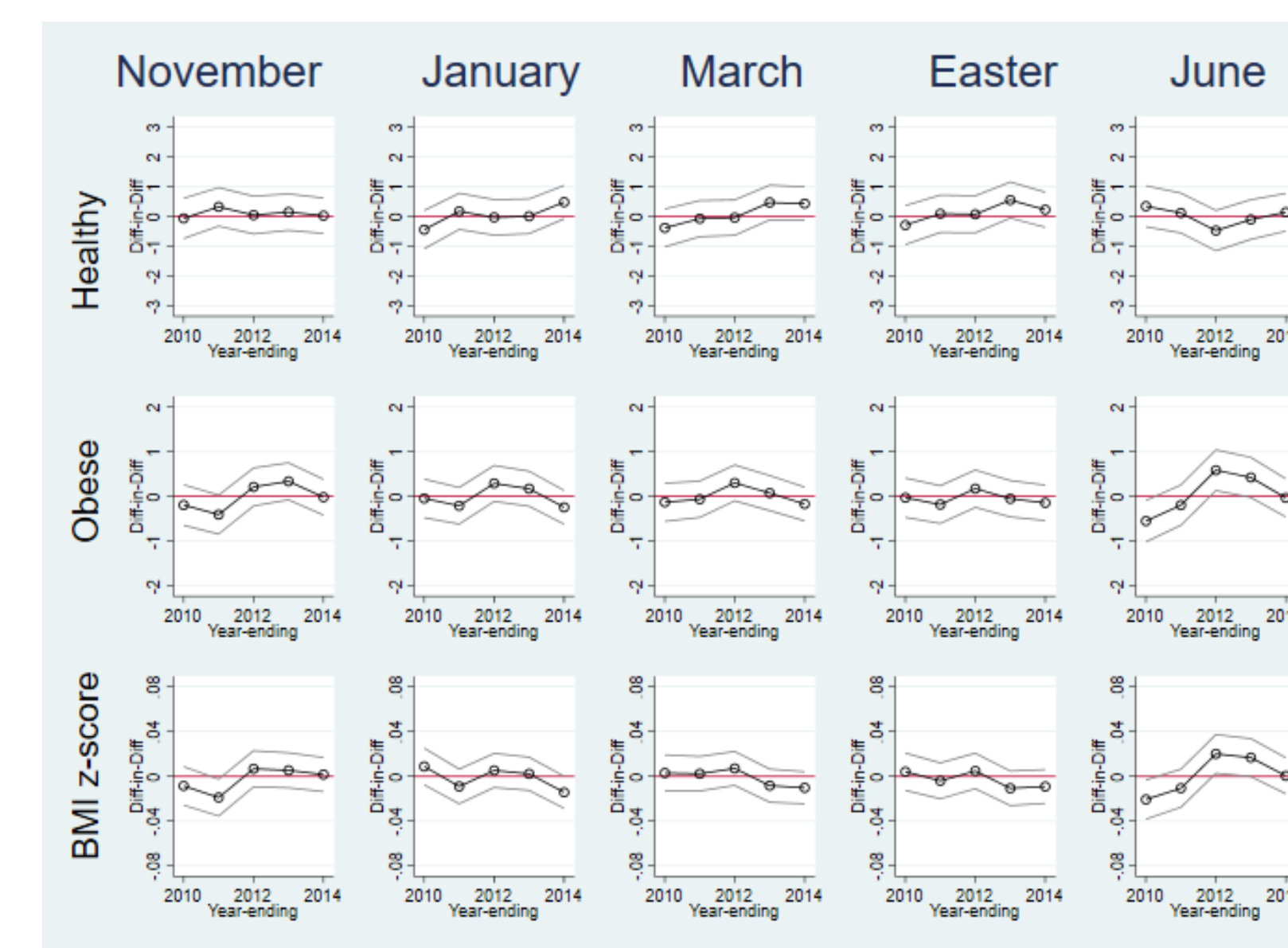


Figure 3: Parallel trends

## MECHANISMS

Are the effects driven by increased take-up among low-income students? Or benefits among higher income children newly eating lunches?

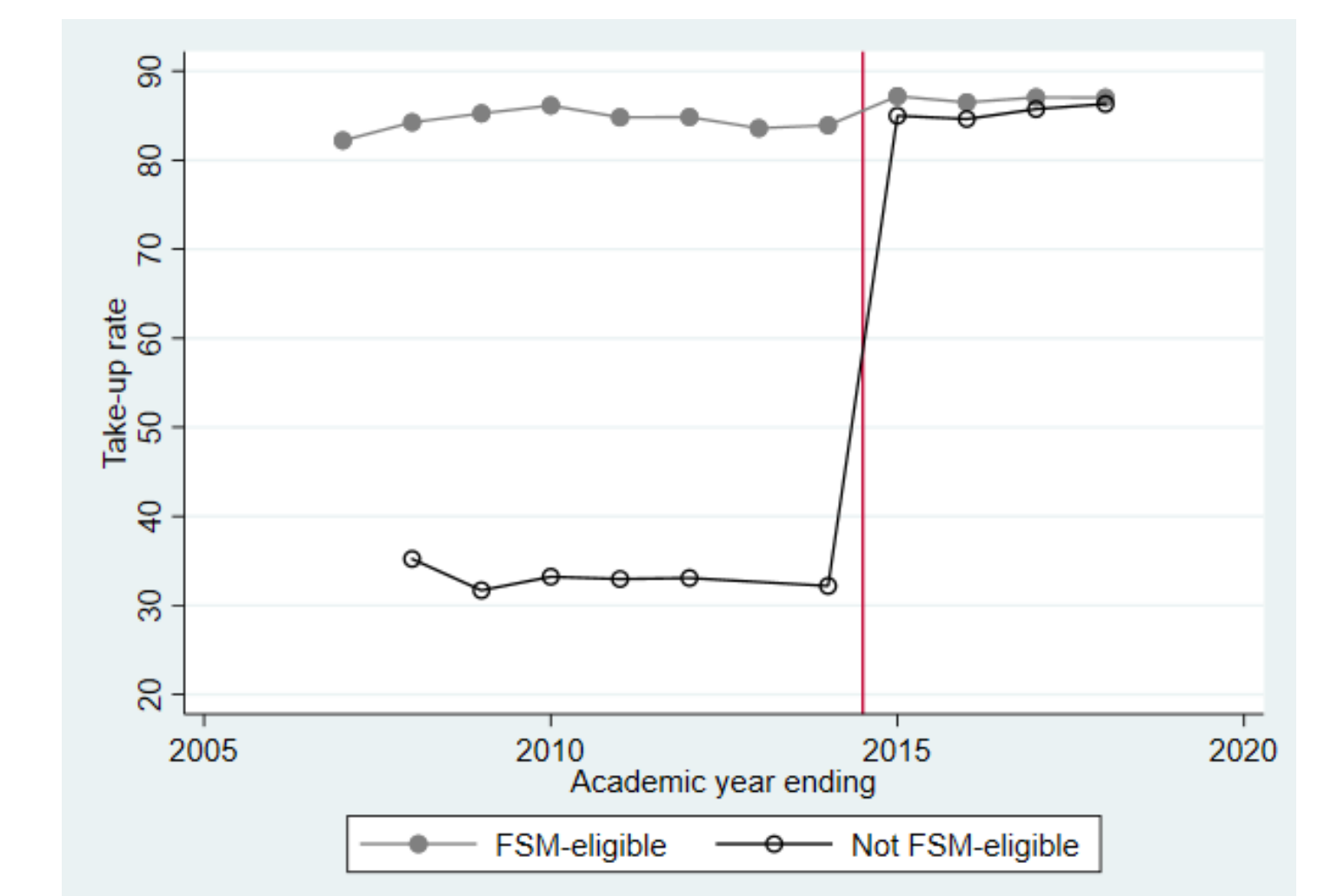


Figure 4: Take-up analysis

→ small increase among FSM kids suggests no previous stigma effect of school lunches.  
 → effects likely driven by newly eligible, suggests diets of relatively well-off students can be improved.

## CONCLUSIONS

1) Find (small) benefits of expanding eligibility from 18% to 100% on weight outcomes, driven by benefits on newly eligible children.

2) Could justify in-kind transfer to higher income students affected by information & time constraints of parents.

3) But: deadweight of >30% among newly eligible children reduces value-for-money.

## CONTACT INFORMATION

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