Replacing the Education Maintenance Allowance with the 16-19 Bursary in England: Effect on Education Participation

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Background

- The EMA was a cash transfer paid to 16-19 year olds from low-income households in the UK, conditional on post-compulsory education participation.
  - Group 1: £30 per week if parental income < £20,817
  - Group 2: £20 per week if £20,818 < parental income < £24,030
  - Group 3: £10 per week if £24,031 < parental income < £30,810
- Replaced with the 16-19 Bursary in September 2011 in England.
  - Significant budget reduction from £560 million to £180 million.
  - Schools now given autonomy over distribution amongst applications. Students encouraged to apply 'if they need it'.

Background

- Aim of EMA was to increase participation amongst those from low-income backgrounds:
  - High long-run 'NEET' rate in UK.
  - Evidence of long run scarring from youth unemployment (Gregg & Tominey, 2004).
  - Fits with broader agenda of addressing social mobility and access to H.E.
- Evidence suggests EMA was broadly successful in raising participation:
  - EMA pilot increased participation amongst eligible 16-19 year olds by 4.5 percentage points (Dearden et al, 2009).

Outline

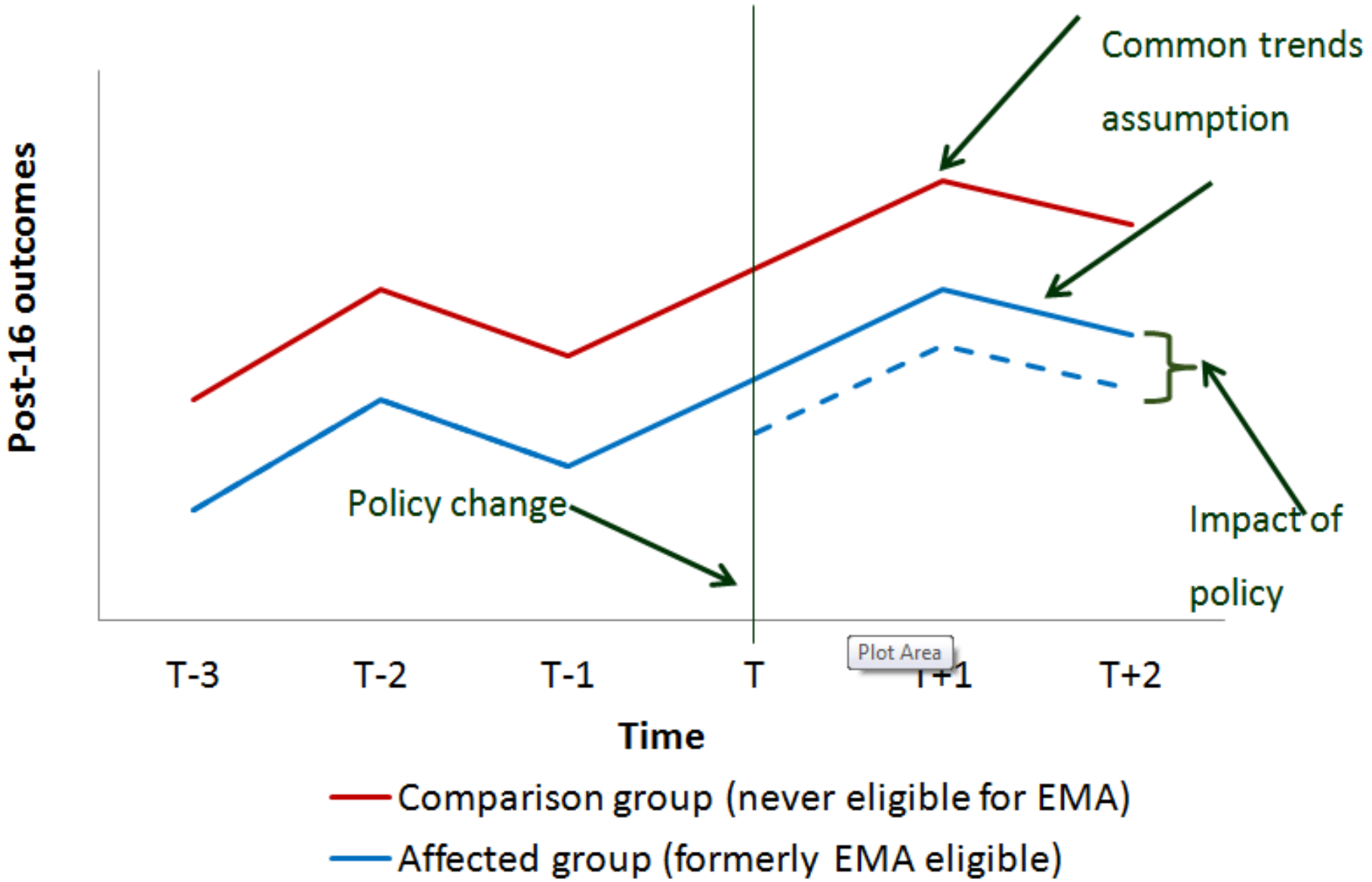
- Difference-in-Differences 1: Comparing England with Scotland and Wales
- Difference-in-Differences 2: Comparing those above the EMA eligibility threshold with those below
- Structural Approach

Diff-in-Diff 1

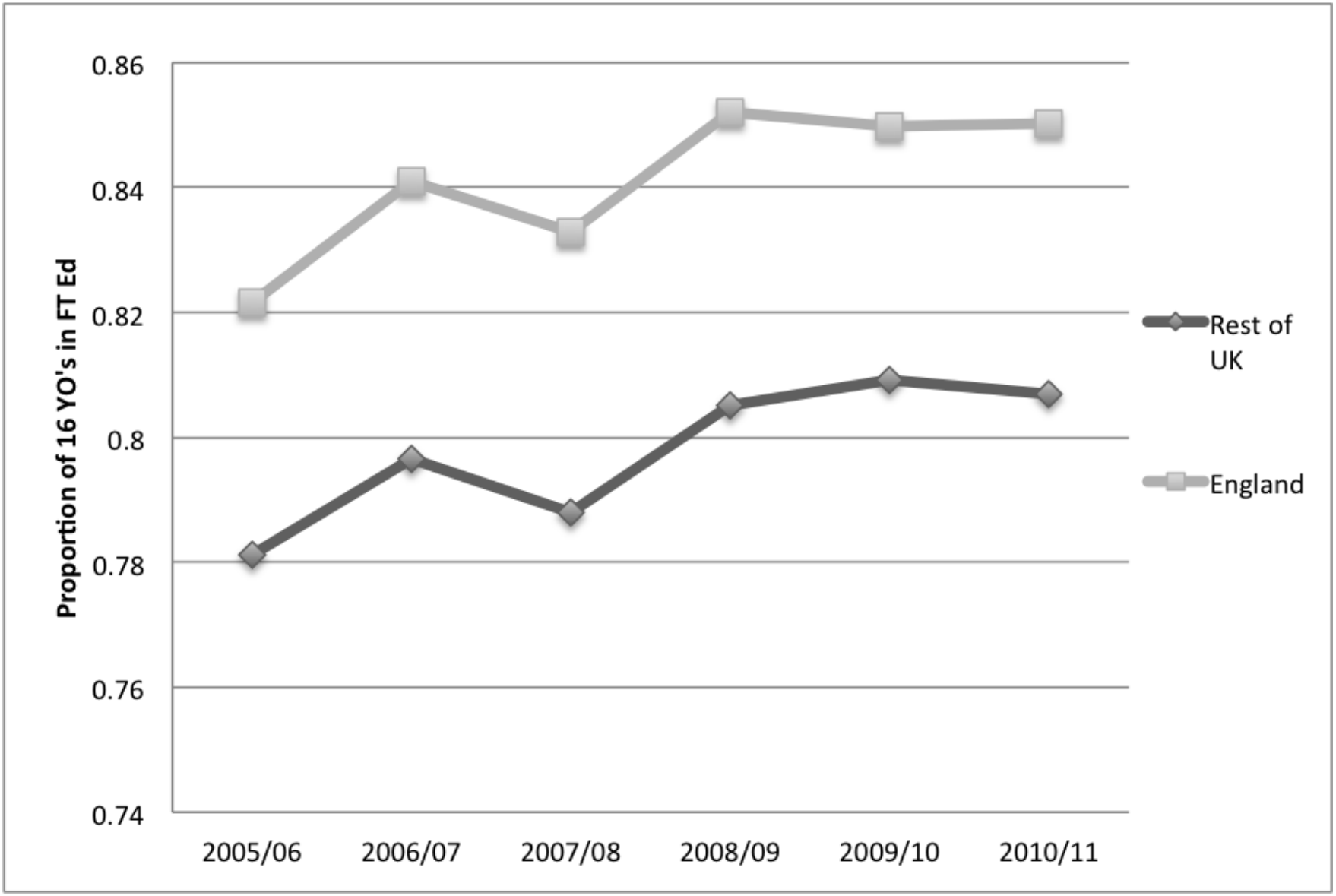
- EMA was preserved in both Scotland and Wales.
- Ideal control group for D in D analysis?
- Estimate overall effect on participation using LFS using the following model:

$$Ed_{it} = \beta_0 + \beta_1 Eng + \beta_2 Post + \beta_3 Post * Eng + \gamma' X + t + \epsilon_{it}$$

Diff-in-Diff 1: Common Trends



Diff-in-Diff 1: Common Trends



Diff-in-Diff 1: Results

Diff-in-Diff Estimate of Effect on Education Participation

	[1] Probit	[2] LPM	[3] Probit	[4] LPM
Treat	0.76***	-0.02***	-1.17***	-1.56***
	(0.00)	(0.00)	(0.11)	(0.17)
Eng	5.60***	5.71***	2.27***	2.82***
	(0.00)	(0.00)	(0.12)	(0.24)
Post	2.71***	3.27***	2.63***	3.27***
	(0.000)	(0.000)	(0.03)	(0.04)
Controls	No	No	Yes	Yes
R^2/Pseudo R^2	0.005	0.005	0.14	0.11
N	10,212	10,212	9,859	9,859

All data are from the LFS between 2003 and 2012. Controls for ethnicity, gender and high GCSE's are included as well as quarterly dummiers. * indicates significant at 10%, ** = significant at 5% and *** = significant at 1%. Standard errors clustered at country level are given in the parentheses. Observations are weighted using the LFS population survey weights.

Diff-in-Diff 1: Drawbacks

- LFS data limited for background characteristics.
  - Poor prediction of parental income, meaning we can't estimate EMA eligibility well.
  - Hence look at overall effect here only.
- Concern about common trends.
- And concerned about tuition fee changes in England.

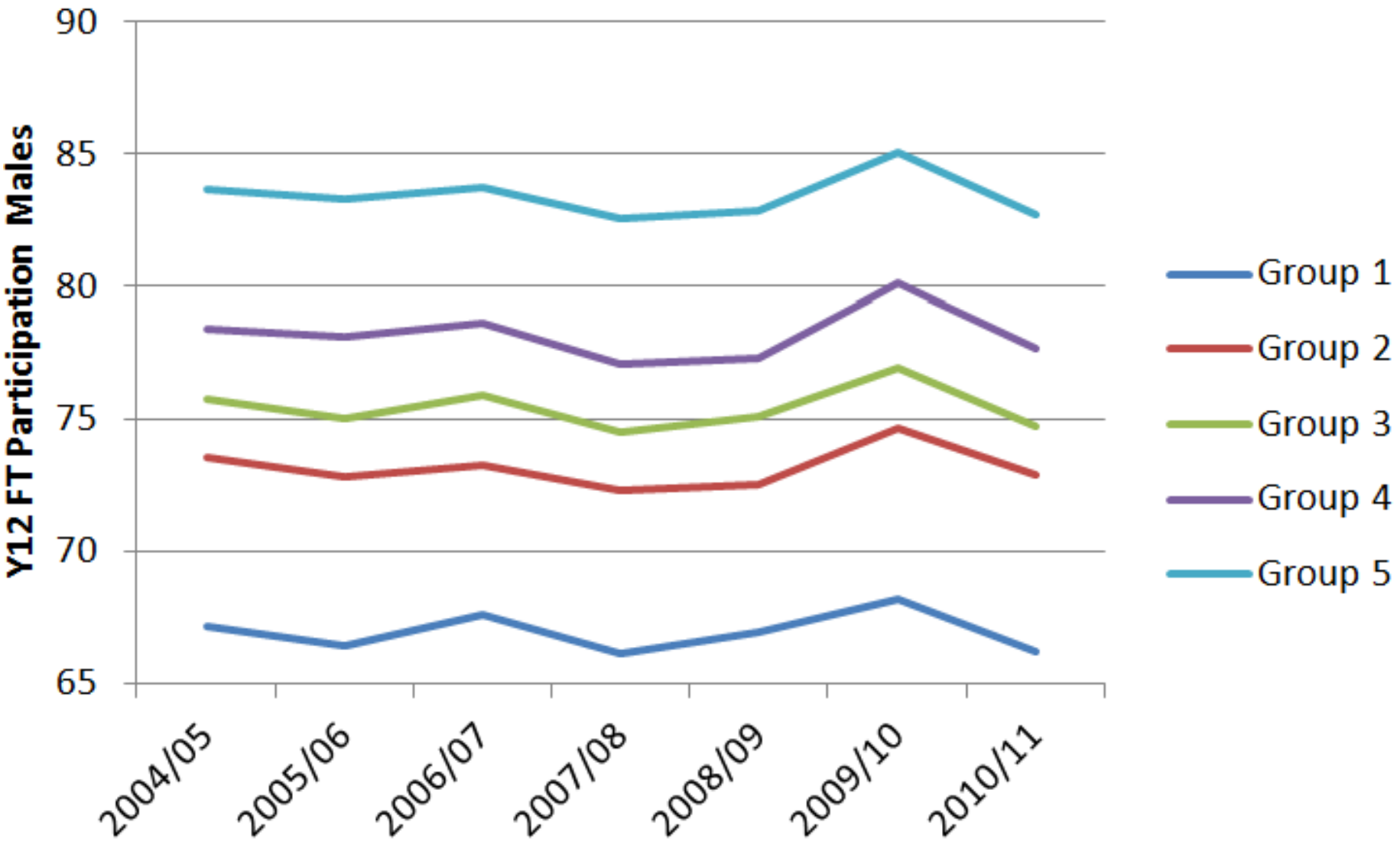
Diff-in-Diff 2

- Those slightly above the income eligibility should in theory be unaffected by the policy change.
- Ideal control group for D in D analysis?
- Estimate overall effect on participation using adminstrative English datasets (NPD,ILR,Pupil Census), using the following model:

$$Ed_{ist} = \beta_0 + \beta_1 Group1 + \beta_2 Group2 + \beta_3 Group3 + \beta_4 Group5 + \beta_5 Post + \beta_6 Post * Group1 + \beta_7 Post * Group2 + \beta_8 Post * Group3 + \beta_9 Post * Group5 + \gamma' X + t + u_s + \epsilon_{ist}$$

- Can investigate Year 12 and 13 Participation and Level 2 and 3 attainment.

Diff-in-Diff 2: Common Trends



Diff-in-Diff 2: Results

	Impact on lowest-income pupils (who would have been eligible for maximum EMA support)	Impact across all pupils who would have been eligible for any EMA support	Impact across cohort as a whole
Y12 FT participation	-1.65ppts	-1.07ppts	-0.65ppts (83.9%)
Y13 FT participation	-1.75ppts	-1.50ppts	-0.88ppts (69.7%)
L2 by 18 attainment	-1.83ppts	-1.52ppts	-0.90ppts (82.8%)
L3 by 18 attainment	-0.09ppts	-0.05ppts	-0.03ppts (48.0%)

Diff-in-Diff 2: Drawbacks

- Difficult to identify those just above the threshold.
- Even if people are correctly identified as being above the old threshold, they might still receive the Bursary (so may not be completely unaffected).
- Common trends seems ok... but changes to tuition fees might still be a problem.
- Potential concern over spillover (through composition effects) - more relevant for attainment.

Structural Approach: The Model

- Discrete Choice Dynamic Programming.
- Model of choices: individuals choose between three discrete choices (Work, School and Home) every year.
- Each is associated with a utility accrued in that period.
- Model is ‘dynamic’ in that current period choices affect future utility returns.
- Individuals know expected value of the future and make choices to maximise lifetime utility.

Structural Approach: The Model/Data

- In each of the 3 states receive the following utility in that period (where X_t & Y_t are accumulated experience and schooling at the start of period t):

$$W_t = exp(\beta_0 + \beta_1 X_t + \beta_2 Y_t + \epsilon_{1t})$$

$$S_t = s - tuition - rc + EMA + CB + \epsilon_{2t}$$

$$H_t = h + Benefits + \epsilon_{3t}$$

- Estimated using the BHPS.
- I use cohorts that are post-EMA, pre-recession (due to concerns that the recession affected structural parameters). So from 2004 to 2008.

Structural Approach: Model Fit

	Overall		
	Work	School	Home
Period 1	12.5	82.6	4.9
	(9.5)	(84.9)	(5.7)
Period 2	20.1	72.7	7.2
	(21.0)	(71.5)	(7.8)
Period 3	41.2	45.8	13.0
	(41.4)	(47.0)	(11.6)

True values from the BHPS dataset are given in the parentheses.

Structural Approach: Policy Simulations

	[1] Full EMA	[2] No EMA, No Bursary	[3] 16-19 Bursary	[4] Scrapping 16+ Child Benefit
Eligible				
Work	10.4	13.9	12.8	8.4
School	83.9	79.5	80.8	85.9
Home	5.6	6.6	6.3	5.5
Ineligible				
Work	8.8	8.8	8.8	8.3
School	88.9	88.9	88.9	88.4
Home	2.3	2.3	2.3	3.3
Overall				
Work	9.8	11.9	11.2	8.4
School	85.9	83.2	84.0	86.9
Home	4.3	4.9	4.7	4.7

Structural Approach: Drawbacks

- Question marks about inference using a pre-reform cohort only.
- Difficult to get meaningful confidence intervals.
- EMA eligibility difficult to estimate in the BHPS due to poor parental income measures.

Conclusion

- Presented 3 methods estimating the effect of policy replacing the EMA with the 16-19 Bursary in England.
- Estimated (overall) effect of -1.6pp, -0.65pp and -1.9pp for the 3 methods.
- Imply 2-3 pp drop amongst those eligible for the full EMA.
- Structural model can be extremely revealing for policy - even if the point estimate is not perfect.
- Combination of structural and reduced-form estimates is ideal: i.e constrain the model to replicate results from policy experiments.
- External validation also important.