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The effects of EMA and NMW on young people's education and employment choices

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Motivation

- Unemployment **rate** amongst 16-17 year olds approaching 40%
  - Though this is being driven by falling employment (and increasing education participation) rather than increasing unemployment
- Concern about the effects of macro-economic conditions and the policy environment on education and labour market choices
- Is the situation being made worse by:
  - The existence of a National Minimum Wage (NMW) for young people?
  - The abolition of the Education Maintenance Allowance (EMA)?

Research questions

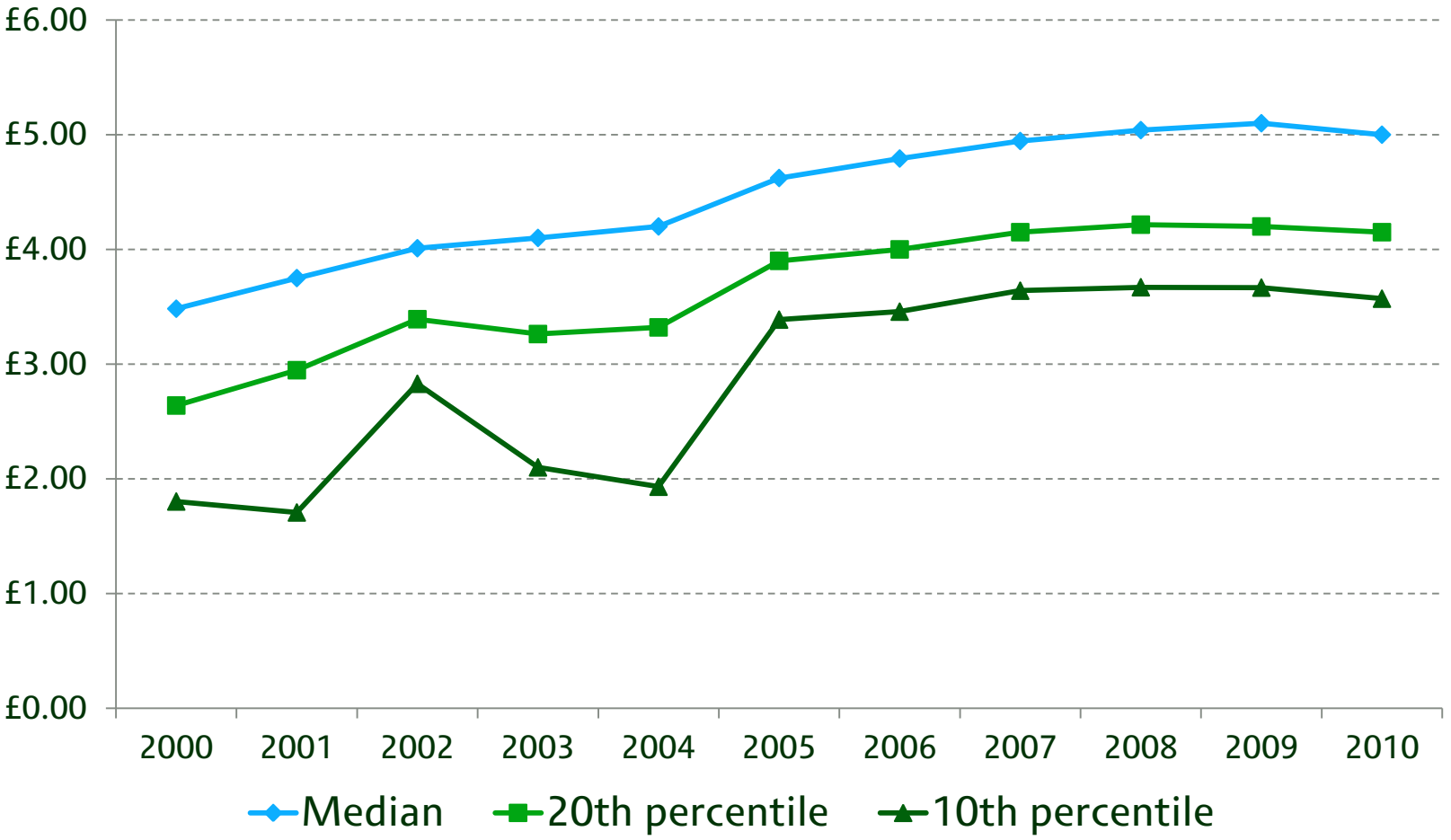
- Look back at the introduction of the NMW for 16-17 year olds and the national rollout of the EMA in September/October 2004
- Investigate the impact of this combined policy environment on:
  - Participation in full-time education
  - Not in education, employment or training (NEET)
  - Work conditional on being in full-time education
  - Work conditional on not being in full-time education
- Can we separately identify the effects of these two policies?

Policy background

- National Minimum Wage (NMW) introduced in April 1999 in UK
  - Development rate for 18-21 year olds: £3/hr
  - Adult rate for those aged 22+: £3.60/hr
- Separate rate for 16-17 year olds introduced in October 2004
  - £3/hr (compared to £4.10 for 18-21 year olds and £4.85 for adults)

- The Education Maintenance Allowance (EMA) was rolled out to all 16 year olds (in Sept 2004) and all 17 year olds (in Sept 2005)
  - Payments of up to £30/week for 16-18 year olds in further education with household income of less than £30,000/year
  - Now scrapped in England and reduced in other countries of the UK
  - Replaced by a potentially less generous bursary scheme in England

Nominal wages amongst 16-17 year olds



Source: authors' calculations based on data from the Annual Survey of Hours and Earnings

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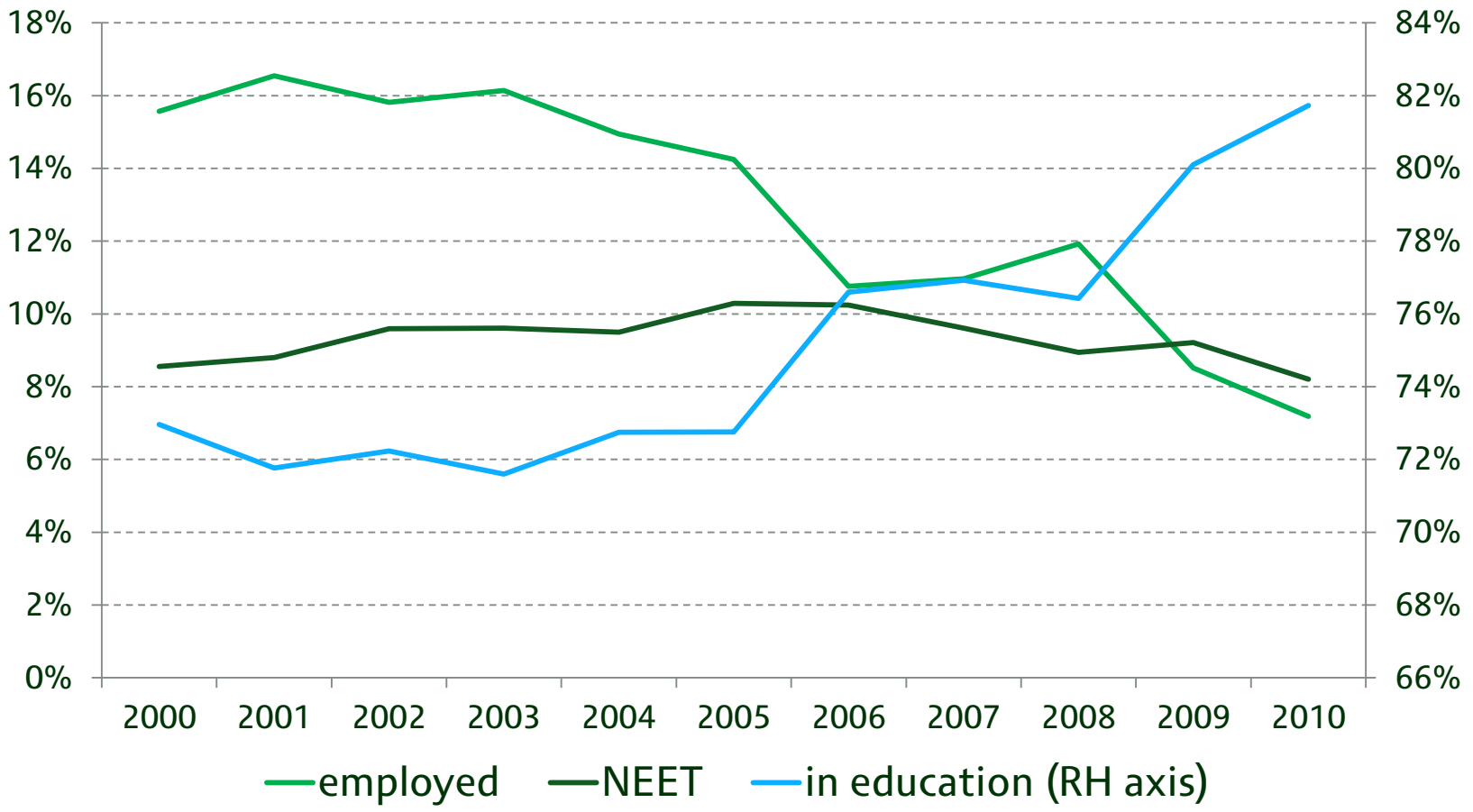
Main activities of 16-17 year olds



Source: authors' calculations based on Labour Force Survey data.

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Identifying the effect of the NMW

- Came at this from the perspective of trying to identify the impact of the NMW on education and labour market choices
- Strategy relies on regional variation in the "bite" of the NMW
  - Same approach used by lots of other studies in the US (e.g. Card, 1992; Neumark & Wascher, 1995) and the UK (e.g. Stewart, 2003)
- Classify areas by wage rate before the introduction of the NMW:
  - Treatment areas are initially low wage areas
  - Control areas are initially high wage areas
- Then use a difference-in-differences approach to identify the impact of the NMW on our various outcomes of interest

But is it just the effect of the NMW?

- If the EMA also had a differential effect in our treatment and comparison areas, then will be estimating the combined effect
- Plausible because:
  - The same amount of EMA would be more valuable in low price areas
  - Lower nominal wages → more likely to qualify for EMA
  - EMA is likely to affect the decision to stay in education, and the need to work part-time whilst studying

Our approach

- Use a sample of 16-17 year olds (who have finished compulsory schooling) from the UK Labour Force Survey
  - Quarterly household survey focusing on labour market activities
  - Contains approximately 3,000 16-17 year olds per quarter
- Focus on 8 quarters either side of NMW introduction/EMA rollout
- Define treatment and control areas using wages from ASHE immediately before the two policy changes (more in a minute)
- Run simple OLS regressions of the following form:

$$y_{it} = \alpha + \beta_1 after_t + \beta_2 treat_i + \beta_3 after_t * treat_i + x_{it}\delta + \varepsilon_{it}$$

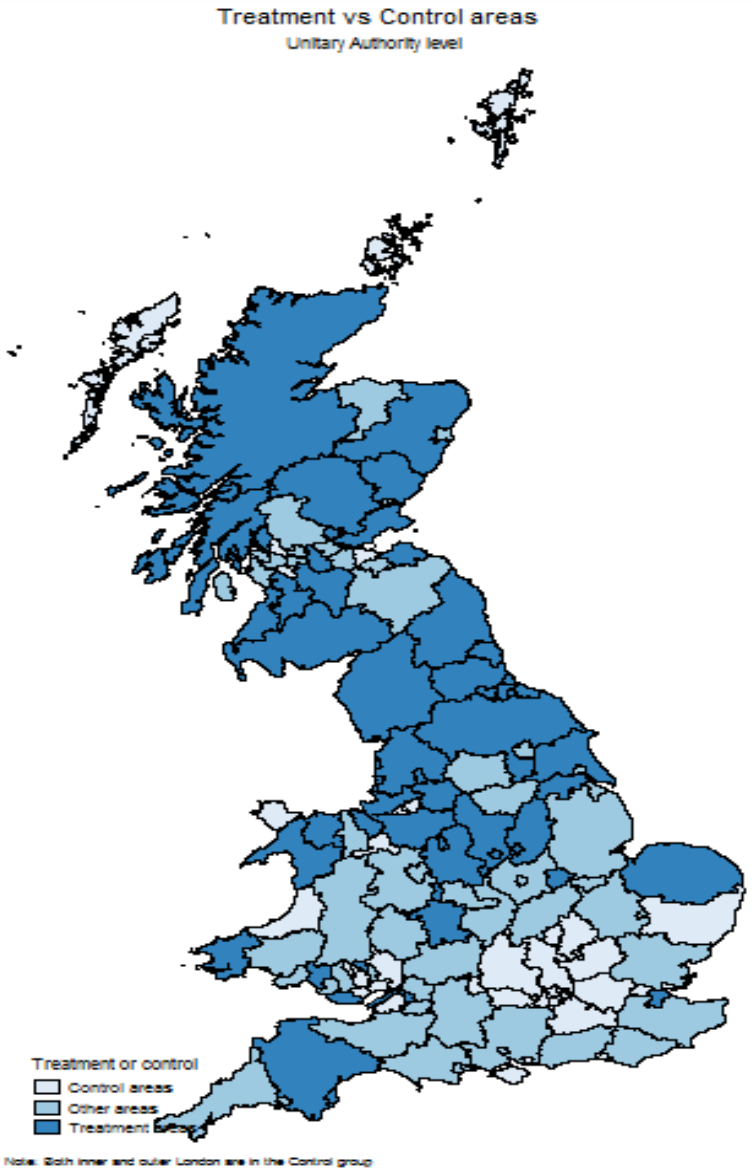
Defining treatment and control areas

- Choose a geography:
  - Need a level that exists in both ASHE and LFS and that offers sufficient numbers of individuals to calculate robust wage measures
  - Settled for 170 unitary authorities/counties/London boroughs
- Choose a local wage measure:
  - Most previous studies have used the proportion of individuals affected
  - Difficult to do that here, because the number of 16-17 year olds per area is very small, even pooling across years (1999-2003)
  - 10^{th} percentile of the local wage distribution among 16-21 year olds
- Rank areas by the local wage measure
  - 30% of young people from the lowest-wage [highest-wage] areas form the treatment [control] group

Treatment and control areas

- 10th percentile of wage distribution in treatment group in 2003: £3.54
- 10th percentile of wage distribution in control group in 2003: £4.03

- Results hold if we focus on England only or if we exclude London from our analysis



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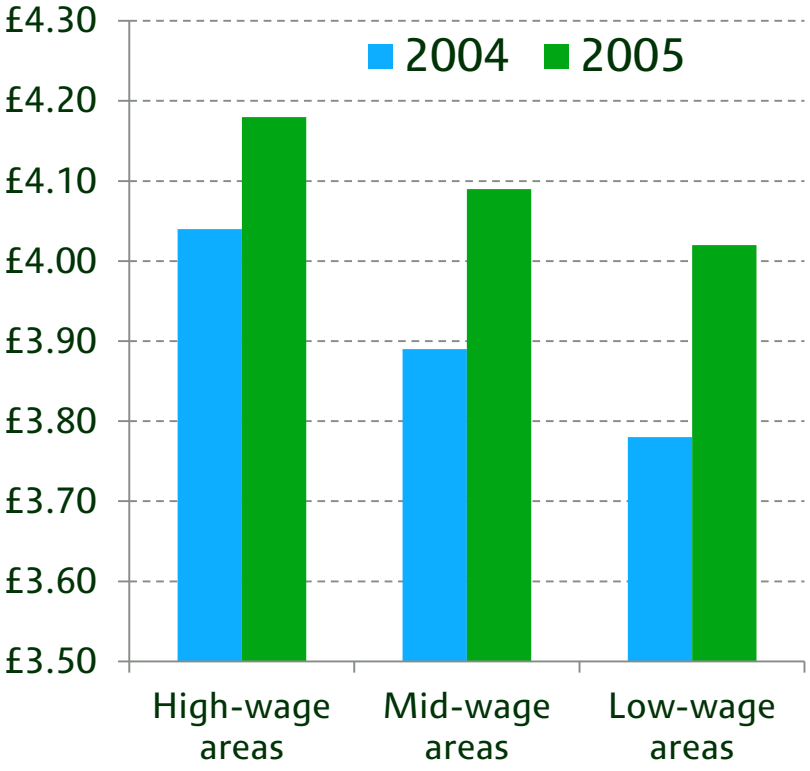
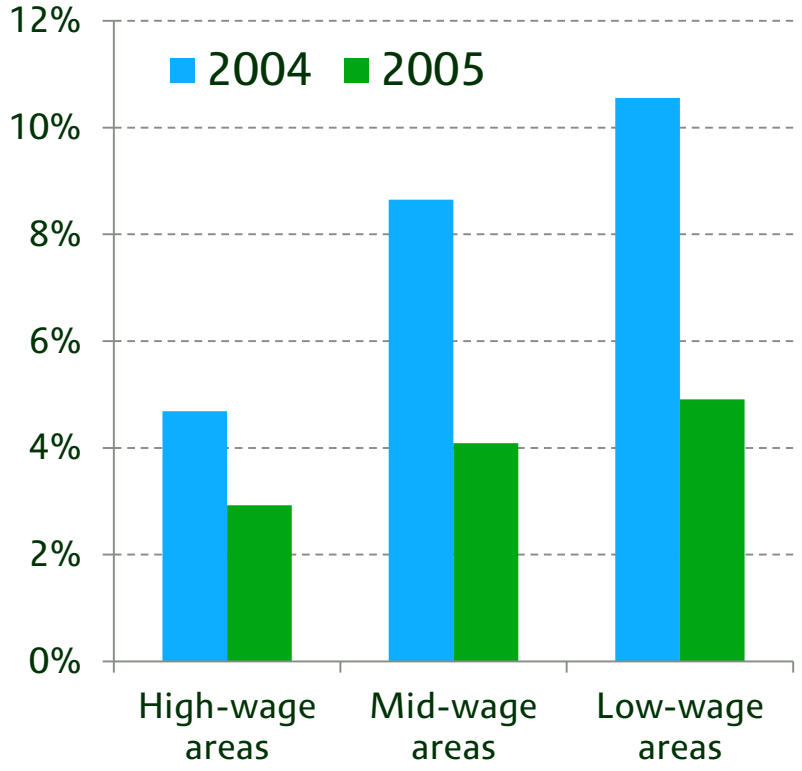
Our definitions are capturing real differences

Average hourly wage of 16-17 year olds paid below £5/hour



Proportion of 16-17 year olds paid below £3/hour



Based on ASHE 2004 and 2005 . Each bar is based on 600-850 observations

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Common trends?

- Test for common trends in the before period
  - Are the interactions between a series of quarterly dummies and the treatment dummy jointly significantly different from zero?

P-values of the hypothesis that the difference in outcomes between treatment and control areas was constant from October 2002 to September 2004

	F/T education	NEET	In work (conditional on not in education)	In work (conditional on education)
10th percentile of 16-21 wages	0.874	0.706	0.960	0.234

Notes: standard errors clustered at the individual level and shown in parentheses. ** indicates significance at the 1% level; * at the 5% level. Controls include gender, ethnicity, highest qualification level, a dummy for achieving 5 GCSEs at grades A*-C, parents' work status and highest qualification level, a dummy for living in a low wage area and a series of quarterly indicators.

- Employment rate for 18-25 year olds was also very similar in the treatment and control areas over this period

Combined effect of NMW and EMA on education and labour market choices of 16/17 year olds

	F/T education	NEET	In work (conditional on not in education)	In work (conditional on education)
Impact of NMW/EMA	0.011 [0.016]	-0.0005 [0.009]	0.022 [0.031]	0.041** [0.020]
Observations	23,317	23,317	6,660	16,499

Notes: standard errors are clustered at the individual level and shown in brackets. *** indicates statistical significance at the 1% level, ** at the 5% level. 'Low-wage' is the dummy for low-wage areas (ranked according to the 10th percentile of the 16–21 pay distribution in the area). The 'after' dummy = 0 for 2002Q4–2004Q3 and = 1 for 2004Q4–2006Q3. This table presents coefficients on the interaction between the 'low-wage' and 'after' dummies. Self-employed individuals and unpaid family workers are excluded in regressions of outcomes other than FTE and NEET. Controls include gender, ethnicity, age measured in months, whether academic age was 16 or 17, highest level of qualification, whether achieved at least five GCSEs at grades A*–C, yearly and monthly dummies, and parents' employment status, income quartile and qualification levels.

- Results suggest little impact of policy environment on young people's main choice between education and work
- But some evidence that it encourages those in FTE to work p/t

Summary of combined results

- Little evidence that the combined effect of the NMW and EMA matters for young people's main activity decisions
  - But some evidence that it encourages those in FTE to work part-time, which may be beneficial for them in the long run
- Subgroup analysis:
  - Effects on p/t work amongst those in FTE are larger for women, those with higher qualifications and those with at least one working parent
- Robustness checks:
  - Some evidence of anticipation effects (NMW announced in March)
  - Findings slightly sensitive to definition of treatment and control groups, but given fuzzy definitions, perhaps effects are under-estimates?

Can we separately identify effects of NMW/EMA?

- EMA:
  - Previous IFS research identified the impact of EMA on education participation and attainment using:
    - Comparison of pilot areas with selected comparison areas (Dearden et al, 2009)
    - Comparison of non-pilot areas with pilot areas at rollout (Chowdry et al, 2008)
  - Participation increased by 4.5ppts for 16 yr olds; 6.7ppts for 17 yr olds
  - Attainment of L2 and L3 qualifications each increased by 2 ppts

- NMW:
  - EMA was piloted in some local authorities before being rolled out
  - EMA was rolled out for 16 yr olds in 2004-05 and 17 yr olds 2005-06
  - This means that for 16 and 17 year olds in EMA pilot areas, and 17 year olds in 2004-05, the NMW is the only relevant policy change

Can we isolate the effects of the NMW?

	F/T education	NEET	In work (conditional on not in education)	In work (conditional on education)
	Combined effects of EMA and NMW for 16-17 year olds			
Impact of NMW/EMA	0.011 [0.016]	-0.0005 [0.009]	0.022 [0.031]	0.041** [0.020]
Observations	23,317	23,317	6,660	16,499
	16 and 17 year olds in EMA pilot areas			
Impact of 16-17 year old rate of NMW	0.034 [0.037]	-0.016 [0.025]	0.100 [0.064]	-0.010 [0.037]
Observations	4,519	4,519	1,364	3,127
	17 year olds in non-EMA pilot areas in 2004-05			
Impact of 16-17 year old rate of NMW	-0.018 [0.023]	0.004 [0.014]	-0.006 [0.046]	0.041 [0.033]
Observations	9,208	9,208	2,901	6,242

Notes: standard errors are clustered at the individual level and shown in brackets. *** indicates statistical significance at the 1% level, ** at the 5% level. 'Low-wage' is the dummy for low-wage areas (ranked according to the 10th percentile of the 16–21 pay distribution in the area). The 'after' dummy = 0 for 2002Q4–2004Q3 and = 1 for 2004Q4–2006Q3. This table presents coefficients on the interaction between the 'low-wage' and 'after' dummies. Self-employed individuals and unpaid family workers are excluded in regressions of outcomes other than FTE and NEET. Controls include gender, ethnicity, age measured in months, highest level of qualification, whether achieved at least five GCSEs at grades A*–C, yearly and monthly dummies, and parents' employment status, income quartile and qualification levels.

Summary of results on impact of NMW

- Nothing significantly different from zero, but point estimates are not exactly consistent!
  - Differences not entirely explained by age or period; suggests NMW may have a differential effect in EMA pilot and non-pilot areas
- At least doesn't look like NMW has had significant negative effects
  - Some young people slightly less likely to be in work, but effect is more than compensated for by higher likelihood of being in FTE
  - Amongst those in FTE, NMW appears to have encouraged p/t work
- Chimes with other research identifying effects of NMW on 18-21 year olds (e.g. Fidrmuc & Tena Horrillo, 2011; Stewart, 2004)
  - Little evidence of any significant negative effects on employment

Tentative conclusions and policy implications

- Little evidence that the combined policy effects of NMW and EMA matter for young people's main activity decisions
  - But some evidence that it encourages those in FTE to work part-time, which may be beneficial for them in the long run
- Well known from previous research that EMA alone has a positive impact on education participation and attainment
  - Can we expect a negative effect following its withdrawal in England?
  - Colleagues at IFS are investigating this now . . .
  - Will the recession mask any short-term negative effects?
- Separate estimates of NMW alone are not very robust
  - But, in line with other NMW research, we find no significant evidence of negative effects on employment and perhaps some positive effects