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

Claire Crawford
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
Main activities of 16-17 year olds

Source: authors’ calculations based on Labour Force Survey data.
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 $\rightarrow$ 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:

\[ y_{it} = \alpha + \beta_{1}after_{t} + \beta_{2}treat_{i} + \beta_{3}after_{t} \times treat_{i} + x_{it} \delta + \varepsilon_{it} \]
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)
  - 10th 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
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.
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**

<table>
<thead>
<tr>
<th></th>
<th>F/T education</th>
<th>NEET</th>
<th>In work (conditional on not in education)</th>
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<tbody>
<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt; percentile of 16-21 wages</td>
<td>0.874</td>
<td>0.706</td>
<td>0.960</td>
<td>0.234</td>
</tr>
</tbody>
</table>

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

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<td>Observations</td>
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<td>6,660</td>
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- 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?

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<td>-0.016</td>
<td>0.100</td>
<td>-0.010</td>
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<td>[0.037]</td>
<td>[0.025]</td>
<td>[0.064]</td>
<td>[0.037]</td>
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<td>Observations</td>
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<td>4,519</td>
<td>1,364</td>
<td>3,127</td>
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<tr>
<td><strong>17 year olds in non-EMA pilot areas in 2004-05</strong></td>
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<td>Impact of 16-17 year old rate of NMW</td>
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<td>2,901</td>
<td>6,242</td>
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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