Welfare Reform and Lone Parents Employment in the UK

Paul Gregg and Susan Harkness
Aims

- What has happened to lone parents employment since 1997?
- How much of the change can be attributed to policy change?

- Single Mothers
- Married Mothers
- Single childless women

- New Labour pledged to abolish child poverty.
- Central to this aim was raising income and employment among lone parent households.
- A target lone parent employment rate was set at 70 percent.
- “Twin-track” approach:
  - Improve financial incentives (Working Families Tax Credit).
  - Active caseload management / personal advisors (New Deal).
- In contrast to US approach:
  - No time limits on welfare receipt.
  - Searching for work voluntary.
  - Benefits paid to lone parent families increased for both those in and out of work.
Data

- **Household Labour Force Survey (HLFS):**
  - constructed from the Spring Labour Force Surveys from 1992, and since 1996 also includes the Autumn LFS.
  - 60,000 households of which just over 5,000 contain lone parents.

- **General Household Survey (GHS):**
  - 6,000-8,000 households with 500-700 lone parent families.
Methodology

- Impact of policy $Y$ is difference in post policy outcome $E_1$ and the outcome that would have occurred without policy changes $E_0$.

  $$Y = (E_1 \mid L=1) - (E_0 \mid L=1)$$

- To identify $(E_0 \mid L=1)$ we construct a counterfactual of what would have happened in absence of policy reform.
Methodology

- Ideal counterfactual group:
  - not experienced the policy shock of interest.
  - same observed and unobserved attributes.
- two comparison groups:
  - couples with children
  - singles without children.
Methodology

Two strands to our approach:
- Account for observable differences between the lone parent and non-lone parent populations using propensity score matching.
- Then use difference-in-difference estimator to account for unobservables, and to assess the impact of policy.
Rosenbaum and Rubin (1983) show matching can be done using predicted propensity that an individual is a member of the treatment group:

\[ P(X) = \Pr(L=1,X) \]

- Estimate logit models of being a lone parent from the populations of lone parents and singles without children.
  - Variables include gender, age and education, both interacted with gender, ethnicity, region of residence and housing tenure type.
- We use a local linear matching estimator shown to be computationally efficient by Fan (1992).
  - Averages across all observations falling within a window around an observation of interest, with a weight derived from the closeness of the outcomes.
Constructing a Counterfactual (ii) Accounting for Unobservables

Heckman, Ichimura and Todd (1997):

- In non-randomised matched samples a conditional difference-in-difference estimator mimics the desirable features of an ideal comparator group.

- Assume unobserved characteristics generate differences between the focus group and benchmark group prior to policy change. Assuming this gap is constant, then:

\[
( E_0 | X, L = 1) = ( E_0 | X, L = 0) + K
\]

- We can relax the assumption that the gap does not vary across time as labour market conditions change by introducing a time trend:

\[
(E_0 | X, L = 1) = (E_0 | X, L = 0) + K + b \text{ (Time)}
\]

<table>
<thead>
<tr>
<th></th>
<th>1978-80 (1)</th>
<th>1985-87 (2)</th>
<th>1991-93 (3)</th>
<th>Change 1979-86 (4) = (2)-(1)</th>
<th>Difference (from 4, compared to lone parents) (5)</th>
<th>Change 1986-92 (6) =3-2</th>
<th>Difference (calculated from (6), compared to lone parents) (7)</th>
<th>Difference in difference (8)=(7)-(5)</th>
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</thead>
<tbody>
<tr>
<td>Lone parents</td>
<td>.513</td>
<td>.443</td>
<td>.418</td>
<td>-.075 (-.011)</td>
<td>-</td>
<td>-.025 (-.004)</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Matched sample</td>
<td>.669</td>
<td>.592</td>
<td>.595</td>
<td>-.077 (-.011)</td>
<td>.002 (.000)</td>
<td>.003 (.000)</td>
<td>-.028 (-.005)</td>
<td>-.030 (-.005)</td>
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<tr>
<td>(all)</td>
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<tr>
<td>Matched single</td>
<td>.738</td>
<td>.663</td>
<td>.642</td>
<td>-.075 (-.011)</td>
<td>.000 (.000)</td>
<td>-.021 (-.004)</td>
<td>-.004 (-.001)</td>
<td>-.006 (-.001)</td>
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<tr>
<td>no kids</td>
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<tr>
<td>Matched couples</td>
<td>.616</td>
<td>.537</td>
<td>.544</td>
<td>-.079 (-.011)</td>
<td>.004 (.001)</td>
<td>.007 (.001)</td>
<td>-.032 (-.005)</td>
<td>-.036 (-.006)</td>
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<tr>
<td>with kids</td>
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<tr>
<td><strong>All Employed</strong></td>
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<tr>
<td>Lone parents</td>
<td>42.05</td>
<td>43.89</td>
<td>46.59</td>
<td>53.19</td>
<td>4.540 (0.757)</td>
<td>6.600</td>
<td>5.050</td>
<td>1.550 (0.387) P value =0; 0.001</td>
</tr>
<tr>
<td>Single no kids</td>
<td>65.16</td>
<td>66.04</td>
<td>68.62</td>
<td>70.17</td>
<td>3.460 (0.577)</td>
<td>1.080</td>
<td>1.550</td>
<td>5.050 (1.263) P value =0; .001</td>
</tr>
<tr>
<td>Matched, single no kids</td>
<td>63.25</td>
<td>64.00</td>
<td>66.13</td>
<td>66.77</td>
<td>2.880 (.480)</td>
<td>1.660 (0.277) P value =0; 0.323</td>
<td>0.640 (0.160)</td>
<td>5.960 (1.490) P value =0; 0.004</td>
</tr>
<tr>
<td><strong>Alternative Comparison Groups</strong></td>
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<tr>
<td>All non-lone parents aged 16-59</td>
<td>73.3</td>
<td>74.1</td>
<td>76.2</td>
<td>77.1</td>
<td>2.900 (0.483)</td>
<td>1.640 (0.273) P value =0; 0.078</td>
<td>0.900 (0.225)</td>
<td>5.700 (1.425) P value =0; 0.000</td>
</tr>
<tr>
<td>Women in Couples with kids</td>
<td>60.35</td>
<td>63.47</td>
<td>66.39</td>
<td>67.84</td>
<td>6.040 (1.007)</td>
<td>-1.500 (-0.250) P value=0; 0.252</td>
<td>1.450 (0.363)</td>
<td>5.150 (1.288) P value =0; 0.010</td>
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<tr>
<td><strong>Employed 16+ Hours</strong></td>
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<tr>
<td>Lone Parents 16+ hours</td>
<td>34.07</td>
<td>37.11</td>
<td>38.86</td>
<td>48.47</td>
<td>4.790 (0.798)</td>
<td>9.610</td>
<td>4.820</td>
<td>6.150 (1.538) P value =0; 0.000</td>
</tr>
<tr>
<td>Matched, single no kids</td>
<td>60.00</td>
<td>60.20</td>
<td>63.27</td>
<td>64.55</td>
<td>3.270 (0.545)</td>
<td>1.520 (0.253) P value =0; 0.273</td>
<td>1.280 (0.320)</td>
<td>8.300 (2.083) P value=0 (0.088)</td>
</tr>
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</table>

P values in parentheses.
## Difference in Difference Estimates: Impact of Welfare Reform on Lone Parent Employment by Education

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<tbody>
<tr>
<td><strong>O level or lower</strong></td>
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<td></td>
</tr>
<tr>
<td>Lone parents</td>
<td>35.30</td>
<td>36.38</td>
<td>38.98</td>
<td>43.39</td>
<td>3.680 (0.613)</td>
<td>1.450 (0.242)</td>
<td>4.410 (0.242)</td>
<td>6.160 (1.540)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P value = 0.018</td>
<td></td>
<td></td>
<td>P value = 0.000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.198 (1.298)</td>
<td></td>
<td></td>
<td>P value = 0.000</td>
</tr>
</tbody>
</table>

| **Matched, single no kids** |      |      |      |      |                |            |               |            |
|                            | 56.40| 56.21| 58.63| 56.88| 2.230 (0.372)  | -1.750 (-0.438) |               |            |

| **A Level and higher**    |      |      |      |      |                |            |               |            |
| Lone Parents              | 61.44| 64.00| 64.01| 69.73| 2.570 (0.428)  | -1.470 (-0.245) | 5.720 (1.430) | 5.410 (1.430) |
|                          |      |      |      |      | P value = 0.077 |            |               | P value = 0.000 |

| **Matched, single no kids** |      |      |      |      |                |            |               |            |
|                            | 74.40| 77.42| 78.44| 78.75| 4.040 (0.673)  | 0.310 (0.078)  |               |            |

**Difference-in-difference (annual change x 4 years)**

- O level or lower Lone parents: 5.198 (1.298)
- Matched, single no kids: 6.390 (1.598)
Kernel Density Distribution of Lone Parents’ Hours of Work

1992

1998

2002
## Average Hours of Work and Median Weekly Earnings among Lone Parents (2002 prices)

<table>
<thead>
<tr>
<th>Average Hours of Work</th>
<th>1998</th>
<th>2002</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Lone Parents</td>
<td>11.7</td>
<td>14.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Working Lone Parents</td>
<td>27.3</td>
<td>28.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Working Lone Parents 16+ hours</td>
<td>32.1</td>
<td>30.9</td>
<td>-1.2</td>
</tr>
<tr>
<td>Matched Lone Parents 1998-2002</td>
<td>32.0</td>
<td>31.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>Predicted Entrants</td>
<td>-</td>
<td>29.5</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Median Weekly Earnings among Lone Parents</th>
<th>1998</th>
<th>2002</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Lone Parents</td>
<td>149</td>
<td>203</td>
<td>36.2</td>
</tr>
<tr>
<td>Working Single Women without Children</td>
<td>274</td>
<td>311</td>
<td>13.5</td>
</tr>
<tr>
<td>Working Lone Parents 16+ hours</td>
<td>197</td>
<td>219</td>
<td>11.2</td>
</tr>
<tr>
<td>Predicted Entrants</td>
<td>-</td>
<td>206</td>
<td>-</td>
</tr>
</tbody>
</table>
Dynamic Employment Effects
Job-Entry Probabilities 1992-2003

Probability of Entering Work

Rolling Time Period 1993-2003

Entry rate; non-lone parents
Entry rate; lone parents
Job-exit Probabilities 1992-2003
Lone Parents and Non Lone Parents

Rolling Time Period 1993-2003

Probability of Exiting Job

Exit Rate, Non-Lone Parents
Exit Rate, Lone Parents
Differences in Lone Parent Employment Entry and Exit Rates 1992-2003

-8% -6% -4% -2% 0% 2% 4% 6% 8% 10%
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1
94-95 95-96 96-97 97-98 98-99 99-00 00-01 01-02 02-03

Rolling Time Period 1993-2003

Difference in Exit Rates
Difference in Entry Rates
Percentage Point Difference between Lone Parents and Non-lone parents
Contribution of Change in Entry and Exit Rate to Overall Change in Employment

- 1992: Entry rate 11.5%; Exit Rate 14.0%.
  - Steady state employment rate 45 percent.
- A rise in the job entry rate to 15 percent (2002 rate) leads to a predicted steady state employment rate of 52 percent.
- Fall in exit rate to 10 percent leads to a rise in employment to 60 percent.
Conclusions

- Policy reform has increased employment among lone parents by 4½ to 5 percentage points (75-85,000 families).
- The policy impact of moving people into work of at least 16 hours is somewhat larger at 7 percentage points.
- Gains in employment have NOT been concentrated on least well educated.
- Gains have been achieved in spite of large increases in benefits for those out of work.
- Gains in earnings and hours of work have helped reduce lone parent poverty rates (in absolute and relative terms).
- Lone parents are now successful in finding work compared to other populations.
- But lone parents are leaving work at far greater rates than non-lone parents.
- Job exits are related to low pay, especially when linked to part-time work, and ill health.
- Pace of change does not look sufficient for the governments target of 70% lone parent employment by 2010 to be met. Ensuring lone parents entering work move into high quality, sustainable jobs may be an effective route for policy.
Job Entry Differences: LP and Matched Sample

Difference in Job Entry Rates: Lone Parents and Matched Sample

Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1
99-00 00-01 01-02 02-03
Job Exit Differences: LP and Matched Sample

Difference in Job Exits: Lone Parents and Matched Sample, Personal Characteristics

Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1
94-95 95-96 96-97 97-98 98-99 99-00 00-01 01-02 02-03

Difference