# Online Appendix for

## "Effects of Federal Policy to Insure Young Adults: Evidence from the 2010 Affordable Care Act's Dependent-Coverage Mandate"

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**Appendix Table A1. Test for Equality of Pre-Reform Trends between Control and Treatment Groups**

|  | Any source | Employer dependent coverage (through parents) |
|---|---|---|
| Interaction of time trend and | 0.0011 | 0.0006 |
| a dummy variable for treatment group | (0.0009) | (0.0010) |

Note: Sample weighted estimates for the period from August 2008 to February 2010, which is prior to the passage of the ACA in March 2010. Number of observation is 77,188. We regress an indicator for any coverage (or ESI dependent coverage through parents) on a linear measure for time trend (number of months since August 2008), an interaction of the time trend and a dummy variable for the treatment group (age 19-25, vs. the control group age ranges), and all other explanatory variables included in our main specification. The coefficient reported is from the interaction of the time trend and the treatment group, which shows whether there was a different time trend for the control vs. the treatment group in the period prior to policy enactment.

\*\*\* Significant at the 1 percent level.
\*\* Significant at the 5 percent level.
\* Significant at the 10 percent level.

**Appendix Table A2. The Availability of Parent's Information, by Age and Age Group, Post Reform Enactment**

| Age | Availability of parent's information |
|---|---|
| 16 years old | 94.3% |
| 17 years old | 93.6% |
| 18 years old | 91.7% |
| 19 years old | 88.4% |
| 20 years old | 82.9% |
| 21 years old | 75.9% |
| 22 years old | 66.2% |
| 23 years old | 57.6% |
| 24 years old | 48.8% |
| 25 years old | 39.9% |
| 27 years old | 29.0% |
| 28 years old | 24.4% |
| 29 years old | 21.1% |

| Age group | Availability of parent's information |
|---|---|
| 16-18 years old | 93.2% |
| 19-25  years old | 67.0% |
| 27-29  years old | 24.8% |

Data: pooled waves of the 2008 SIPP panel. Note: Estimates from March 2010 to November 2011.

**Appendix Table A3. DD Results for sample with Parental Health Insurance Status**

| | Any source | Employer dependent coverage (through parents) | Individually-purchased insurance in own name | Employer own coverage | Government-provided |
|---|---|---|---|---|---|
| ACA enactment effect (Mar-Sep, 2010) | -0.0110 | 0.0142 * | 0.0014 | -0.0026 | -0.0229 *** |
| | (0.0066) | (0.0081) | (0.0037) | (0.0060) | (0.0078) |
| ACA implementation effect (Oct-, 2010) | 0.0379 *** | 0.0686 *** | -0.0077 ** | -0.0142 ** | -0.0116 |
| | (0.0076) | (0.0092) | (0.0031) | (0.0066) | (0.0074) |
| Dependent variable means | | | | | |
| Treatment, before ACA enactment | 0.682 | 0.362 | 0.032 | 0.139 | 0.104 |
| Control, before | 0.827 | 0.476 | 0.015 | 0.071 | 0.214 |
| Treatment, after ACA implementation | 0.725 | 0.402 | 0.025 | 0.131 | 0.115 |
| Control, after | 0.823 | 0.427 | 0.017 | 0.091 | 0.235 |

Notes: (1) Number of observations is 91,743.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 16-29 (except for the removal of 26 years olds) for whom parent's information is available. Only 4th reference month observations from the SIPP are used in the regression.

(3) See Notes (2)-(3) and (5)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Appendix Table A4. The Effect of the ACA Dependent Provision on Parent's Own ESI Coverage**

|  | Parent has ESI |
|---|---|
| ACA enactment effect | 0.0122 |
| (Mar-Sep, 2010) | (0.0084) |
| | |
| ACAI Implementation Effect | 0.0071 |
| (Oct, 2010-) | (0.0079) |
| | |
| Dependent variable means | |
| Treatment, before ACA enactment | 0.689 |
| Control, before | 0.666 |
| Treatment, after ACA implementation | 0.667 |
| Control, after | 0.634 |

Notes: (1) Number of observations is 91,743.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 16-29 (except for the removal of 26 years olds) for whom parent's information is available. Only 4th reference month observations from the SIPP are used in the regression.

(3) Dependent variable is an indicator variable that equals 1 if individual's parent has employer sponsored insurance and 0 otherwise.

(4) See Notes (2)-(3) and (6)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Appendix Table A5. Descriptive Results of Marginal Cost Analysis: Family vs. non-family coverage (August 2011- November 2011)**

|  | % of young adults with dependent coverage through parents after the mandate | N |
|---|---|---|
| Family coverage | 39.2% | 242 |
| Non-family coverage | 28.0% | 533 |

Data: pooled waves of the 2008 SIPP panel. Notes: (1) The population is young adults (19-25 years old) who meet the following two criteria: (a) their parents had ESI during the four-month period before the passage of ACA (November 2009 -February 2010), (b) they do not have dependent coverage through parent's ESI during the period, and (c) their parents had ESI in the current month.

(2) Rows indicate types of parent's ESI obtained from the information on siblings in the SIPP. The first row is family coverage (coverage that includes a spouse and children), and the second row is non-full family coverage.

**Appendix Table A6. Placebo Test Results: Randomly Selected Months between September 2008 and January 2010**

| | Distribution of the coefficients of the placebo laws | | Number of coefficient estimates that are significant in the placebo law regressions (out of 17 estimates for each row) | | Estimated effects in Table 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | Standard deviation | Significant at 5 percent level | Significant at 10 percent level | Enactment effect (Mar-Sep 2010) | | Implementation effect (Oct 2010-) | |
| Any source | 0.0081 | 0.0097 | 1 | 2 | -0.0018 | | 0.0318 | *** |
| Employer dependent coverage (through parents) | 0.0028 | 0.0079 | 0 | 0 | 0.0239 | *** | 0.0702 | *** |
| Individually-purchased insurance in own name | 0.0042 | 0.0060 | 1 | 0 | 0.0025 | | -0.0080 | *** |
| Employer own coverage | -0.0013 | 0.0021 | 0 | 0 | -0.0173 | *** | -0.0312 | *** |
| Government-provided | 0.0007 | 0.0046 | 0 | 0 | -0.0106 | * | -0.0025 | |

Data come from August 2008 to February 2010 of the SIPP 2008 panel. Note: We select each possible month between September 2008 and January 2010 one at a time. We then estimate the main model using each separate placebo date for defining the "Implement" variable. We show here the means and standard deviations of the coefficients we obtain. The last two columns repeat estimates from Table 2 for comparison.

*** Significant at the 1 percent level.
** Significant at the 5 percent level.4
* Significant at the 10 percent level.

**Appendix Table A7. DD Results using Aggregated Quarterly Data and Wild Cluster Bootstrap-t Procedure**

| | Any source | | Employer dependent coverage (through parents) | | Individually-purchased insurance in own name | | Employer own coverage | | Government-provided |
|---|---|---|---|---|---|---|---|---|---|
| ACA enactment effect | | | | | | | | | |
| (March-Sep, 2010) | 0.007 | | 0.039 | ** | 0.001 | | -0.019 | ** | -0.014 |
| p-value | 0.118 | | 0.040 | | 0.432 | | 0.022 | | 0.126 |
| | | | | | | | | | |
| ACA implementation effect | | | | | | | | | |
| (October 2010-) | 0.037 | *** | 0.092 | *** | -0.009 | ** | -0.036 | *** | -0.007 |
| p-value | 0.001 | | 0.001 | | 0.017 | | 0.003 | | 0.243 |

Data: pooled waves of the 2008 SIPP panel. Note: Dependent variables are the fraction of those with each insurance type calculated at year-quarter level for treatment and control groups. Number of observations is 28. Explanatory variables are an indicator for the quarters after the mandate, an indicator for treatment group, and an interaction of these two terms. We cluster on year-quarter and perform wild cluster bootstrap-t test with 999 replications, following an example in Cameron, Gelbach and Miller (2008).
*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

# Unreported Tables

## Table 1. Effect of ACA on Spousal Coverage

|  | Employer dependent coverage (through spouse) | Employer dependent coverage (through spouse) |
|---|---|---|
| ACA Enactment Effect (Mar-Sep, 2010) | 0.0028 | 0.0148 |
|  | (0.0025) | (0.0109) |
| ACA Implementation Effect (Oct, 2010-) | 0.0045 | 0.0140 |
|  | (0.0028) | (0.0155) |
| <u>Dependent Variable Means</u> |  |  |
| Treatment, before ACA enactment | 0.026 | 0.168 |
| Control, before | 0.054 | 0.239 |
| Treatment, after ACA implementation | 0.020 | 0.163 |
| Control, after | 0.048 | 0.219 |
| Population | All young adults | Married young adults |

Notes: (1) Number of observations is 150,997 in the first column and 26,084 in the second column.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011.

(3) Dependent variable is an indicator variable that equals 1 if individual is covered by spousal ESI coverage and 0 otherwise.

(4) See Notes (2)-(3) and (6)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Table 2. Effect of ACA on Coverage of Young Adults 19-25 years: Only Younger Control Group Used**

| | Any source | | Employer dependent coverage (through parents) | | Individually purchased insurance in own name | | Employer own coverage | | Government provided | |
|---|---|---|---|---|---|---|---|---|---|---|
| ACA Enactment Effect (Mar-Sep, 2010) | -0.0198 | ** | 0.0195 | ** | 0.0028 | | -0.0163 | *** | -0.0204 | ** |
| | (0.0082) | | (0.0082) | | (0.0037) | | (0.0051) | | (0.0083) | |
| ACA Implementation Effect (Oct, 2010-) | 0.0189 | ** | 0.0742 | *** | -0.0058 | ** | -0.0392 | *** | -0.0067 | |
| | (0.0087) | | (0.0096) | | (0.0024) | | (0.0052) | | (0.0082) | |
| Dependent Variable Means | | | | | | | | | | |
| Treatment, before ACA enactment | 0.665 | | 0.234 | | 0.035 | | 0.204 | | 0.123 | |
| Control, before | 0.863 | | 0.537 | | 0.012 | | 0.019 | | 0.241 | |
| Treatment, after ACA implementation | 0.702 | | 0.307 | | 0.026 | | 0.171 | | 0.133 | |
| Control, after | 0.875 | | 0.509 | | 0.009 | | 0.030 | | 0.267 | |

Notes: (1) Number of observations is 118,098.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 16-25 (except for the removal of 26 years olds).

(3) See Notes (2)-(3) and (5)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Table 3. Effect of ACA on Coverage of Young Adults 19-25 years: Only Older Control Group Used**

| | Any source | | Employer dependent coverage (through parents) | | Individually purchased insurance in own name | | Employer own coverage | | Government provided |
|---|---|---|---|---|---|---|---|---|---|
| ACA Enactment Effect (Mar-Sep, 2010) | 0.0145 | * | 0.0259 | *** | 0.0026 | | -0.0178 | ** | -0.0010 |
| | (0.0073) | | (0.0054) | | (0.0039) | | (0.0076) | | (0.0064) |
| ACA Implementation Effect (Oct, 2010-) | 0.0432 | *** | 0.0627 | *** | -0.0097 | ** | -0.0208 | ** | 0.0018 |
| | (0.0086) | | (0.0069) | | (0.0038) | | (0.0088) | | (0.0079) |
| Dependent Variable Means | | | | | | | | | |
| Treatment, before ACA enactment | 0.665 | | 0.234 | | 0.035 | | 0.204 | | 0.123 |
| Control, before | 0.698 | | 0.018 | | 0.035 | | 0.400 | | 0.122 |
| Treatment, after ACA implementation | 0.702 | | 0.307 | | 0.026 | | 0.171 | | 0.133 |
| Control, after | 0.692 | | 0.022 | | 0.037 | | 0.386 | | 0.136 |

Notes: (1) Number of observations is 111,111.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 19-29 (except for the removal of 26 years olds).

(3) See Notes (2)-(3) and (5)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Table 4. Effect of ACA on Coverage of Young Adults 19-25 years:  States That Passed State Dependent Coverage Laws During August 2008 to February 2010 Are Excluded**

| | Any source | | Employer dependent coverage (through parents) | | Individually purchased insurance in own name | | Employer own coverage | | Government provided | |
|---|---|---|---|---|---|---|---|---|---|---|
| ACA Enactment Effect (Mar-Sep, 2010) | -0.0034 | | 0.0222 | *** | 0.0041 | | -0.0146 | ** | -0.0133 | ** |
| | (0.0078) | | (0.0064) | | (0.0039) | | (0.0058) | | (0.0058) | |
| ACA Implementation Effect (Oct, 2010-) | 0.0267 | *** | 0.0675 | *** | -0.0060 | ** | -0.0267 | *** | -0.0071 | |
| | (0.0087) | | (0.0077) | | (0.0024) | | (0.0070) | | (0.0059) | |
| Dependent Variable Means | | | | | | | | | | |
| Treatment, before ACA enactment | 0.645 | | 0.219 | | 0.036 | | 0.203 | | 0.116 | |
| Control, before | 0.765 | | 0.267 | | 0.025 | | 0.208 | | 0.177 | |
| Treatment, after ACA implementation | 0.681 | | 0.294 | | 0.029 | | 0.167 | | 0.123 | |
| Control, after | 0.769 | | 0.255 | | 0.024 | | 0.201 | | 0.200 | |

Notes: (1) Number of observations is 146,585.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 16-29 (except for the removal of 26 years olds) who reside in states that did not pass state dependent coverage laws during August 2008 to February 2010. Only 4th reference month observations from the SIPP are used in the regression.

(3) See Notes (2)-(3) and (5)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**Table 5. Effect of ACA on Coverage of Young Adults 19-25 years: Massachusetts Is Excluded**

| | Any source | | Employer dependent coverage (through parents) | | Individually purchased insurance in own name | | Employer own coverage | | Government provided | |
|---|---|---|---|---|---|---|---|---|---|---|
| ACA Enactment Effect (Mar-Sep, 2010) | -0.0013 | | 0.0238 | *** | 0.0028 | | -0.0163 | *** | -0.0109 | * |
| | (0.0064) | | (0.0057) | | (0.0032) | | (0.0053) | | (0.0055) | |
| ACA Implementation Effect (Oct, 2010-) | 0.0326 | *** | 0.0690 | *** | -0.0080 | *** | -0.0298 | *** | -0.0023 | |
| | (0.0076) | | (0.0070) | | (0.0024) | | (0.0059) | | (0.0059) | |
| Dependent Variable Means | | | | | | | | | | |
| Treatment, before ACA enactment | 0.659 | | 0.232 | | 0.035 | | 0.202 | | 0.121 | |
| Control, before | 0.778 | | 0.278 | | 0.023 | | 0.207 | | 0.181 | |
| Treatment, after ACA implementation | 0.698 | | 0.304 | | 0.026 | | 0.171 | | 0.131 | |
| Control, after | 0.780 | | 0.261 | | 0.023 | | 0.210 | | 0.199 | |

Notes: (1) Number of observations is 146,585.

(2) Data: pooled waves of the 2008 SIPP panel. We use the data for period from August 2008 to November 2011. The population is young adults aged from 16-29 (except for the removal of 26 years olds) who reside in states other than Massachusetts. Only 4th reference month observations from the SIPP are used in the regression.

(3) See Notes (2)-(3) and (5)-(7) under Table 2.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.