YOUNG INVINCIBLES TO YOUNG INSURABLES: INSURANCE UPTAKE BY THE HEALTHY, WEALTHY AND EMPLOYED

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Abstract

One of the fundamental provisions in the Patient Protection and Affordable Care Act (ACA) is the allowance that people 26 or under may remain under their parents' health insurance policies. Based on data from the Survey of Income and Program Participation (SIPP) we use difference-in-differences estimate to examine whether the ACA enactment increased insurance uptake among the young. Furthermore, we evaluate the heterogeneous uptake patterns across health status, wealth quintiles and employment status. Our results show that the ACA led to an increase in insurance coverage among those between the ages of 19 and 25. More importantly, the results suggest that insurance uptake was higher in the wealthy and health population. Our findings highlight the success of ACA in increasing overall coverage and increasing the participation of well off individuals in the insurance risk pools. Notwithstanding, the reform did not increase the protection of the already less healthy and poor, and the magnitude of increased uptake are modest. This study emphasizes the role that governments have in addressing important insurance market failures; nevertheless future reforms should seek to increase coverage of those less well off.

1 Introduction

On March 2010, the US government enacted one of the most ambitious health reforms in recent decades, the Patient Protection and Affordable Care Act (ACA). This reform was motivated by the increasing fraction of uninsured population. Statistics from the National Health Interview Survey show that in 2010 approximately 48 million citizens did not have any insurance, i.e. one fifth of the total US population (Adams et al., 2011). More importantly, young adults aged 19 to 24 were most likely to be uninsured and accounted for about 10 million of the total uninsured in the country. This is not surprising since a significant fraction of young adults have historically lacked insurance coverage (Levy, 2007). In

response, the ACA aimed to expand overall insurance coverage to 25 million Americans by 2023, focusing mostly on the young adult population.

To expand coverage among young adults the ACA established that healthcare plans offering dependent coverage should extend their duration until the individual reaches the age of 26 (Protection Act, 2010). This provides young adults with the opportunity to remain insured while reducing their financial burden. Additionally, this financial opportunity is coupled with a tax penalty for any individual who remains uninsured. The combination of both aspects seeks to reinforce insurance uptake behavior among those aged 19 to 26.

Expanding coverage among the young is important for several reasons. First, even though young adults are a healthy population group it has been proven that lack of insurance disrupts access to healthcare and may have long term consequences on health. Several studies have shown that lack of insurance introduces barriers to access and therefore uninsured individuals are more likely to forego medical care (Callahan & Cooper, 2005; Collins, 2004; Collins et al., 2006). Furthermore, uninsured young adults reported higher financial burdens due to medical bills (Collins et al., 2006). Second, from an economic perspective health insurance increases social welfare by allowing individuals to transfer health risks to a more risk neutral agent (Nyman, 2003). A second hand consequence of the latter is the increase in disposable income that individuals will have.

Although the benefits are clear, there are many reasons why young adults lack insurance coverage. On one hand, less fortunate young adults have consistently faced difficulties in purchasing health insurance especially in recent years due to the economic recession. The Commonwealth Biannual Survey found that about 11% of individuals 19 to 29 were unemployed, and of those over 60% lacked health insurance (Collins et al., 2012). Financial constraints that young adults suffer have limited their purchasing capacities of health insurance (Himmelstein et al., 2005). Although it is commonly believed that young adults do not value health insurance, current evidence dismisses this reason. Recent surveys show that more than 75% of young adults purchase health insurance if it is offered at reasonable prices,

this is only slightly lower than general uptake rates of 82% (Collins et al., 2012; Collins et al., 2006). The on going financial barrier for the less favored young adults has been a source for many policy debates. In response the ACA attempts to improve coverage in this population by enlarging the set of opportunities through which they can obtain health insurance coverage.

On the other hand, wealthy and healthy young adults are at lower risk and therefore self select out of insurance in what is defined as adverse selection (Akerlof, 1970). Evidence has indeed shown that insurance rates are lower among healthy and wealthy individuals who have the possibility to purchase insurance than among those less well off with the same possibility (Adams et al., 2011). Furthermore, some studies even suggest that high income and healthy individuals are more price sensitive (Holahan & Cook, 2005). This contrast can be explained by the fact that less favored individuals might not be able to find other insurance. Furthermore individuals that are better off may underestimate the risk of ill health and thus forego purchasing insurance (Kahneman & Tversky, 1979). Increasing insurance coverage for this group is based on an efficiency argument. The seminal literature on health insurance shows that risk pooling increases the efficiency of health insurance providers (Rothschild & Stiglitz, 1992). Thus, the ACA reform sought to increase insurance efficiency by incorporating those in better health to the insurance risk pool.

The myriad of factors that affect health insurance uptake among young adults emphasizes the interest that currently exists in evaluating the coverage consequences of the ACA. This has led to a number of studies in recent years. An initial study on the subject used difference in differences and found that the enactment of ACA increased insurance coverage, highlighting the increase in dependent insurance coverage (Sommers et al., 2013; Sommers & Kronick, 2012). Other studies using a similar methodology have found supporting results (Antwi et al., 2013; Cantor et al., 2012). While all studies suggest an increase in take-up of insurance, none of them appropriately address the question of who is accountable for the increase in insurance uptake. Antwi et al. (2013) attempt to explain the increase using coarse categories for health and wealth and find no differential uptake in insurance. Since

the ACA had the objective of increase insurance uptake by the wealthy and healthy in the quest of pooling efficiency, greater attention must be given to this question.

In this paper, we evaluate whether there is a differential purchasing of health insurance by health status, wealth and employment status. To do this, we improve the methodology developed by Antwi et al.(2013) by relaxing the strict time trend and allowing for a more comprehensive and assumption free model. Using data from the Survey of Income and Program Participation (SIPP) from 2008 to 2011 we use the enactment period as a quasi experiment to estimate the difference in differences comparing those targeted by the mandate - 19 to 25 year old - and those slightly younger and older. This paper is organized as follows. Section 2 presents the data used and provides some descriptive statistics of the sample that we study. Section 3 presents the methodology we use and discusses in detail previous assumptions and their limitations. Section 4 presents the results of our models distinguishing insurance take up by employment, health and wealth. Section 5 provides a discussion of our results and presents some conclusions that can be drawn from this study and used in future policy making.

2 Data and Descriptive Statistics

To analyze the effect of ACA implementation and selection effects we use data from the Survey of Income and Program Participation (SIPP) for the years 2008 to 2011. SIPP is a multi-stage stratified household based survey and contains data for U.S non-institutionalized population. Each panel ranges from 2.5 years to 4 years and includes 14,000 to 50,000 households. We use the 2008 panel including the intervention year of 2010 for the estimation of pre and post trends. We use data for 16-29 year olds with 19-25 year olds as our treatment group and 16-24 year olds and 27-29 year olds as control groups.

We denote insurance coverage through binary variables and form four distinct categories: covered by (a) parents' employer sponsored insurance (ESI) as parents' dependent (b)own-name non-group individually purchased insurance, (c) own employer health insurance, and

(d) publicly provided government insurance. We also combine all four categories to indicate insurance through any source. Table 1 shows descriptive statistics for our sample. Column 1 shows the statistics for the entire sample whereas columns 2-4 show statistics for the treatment and control groups. The table shows that 87% of group 1 (16-18 year olds) has any insurance and this decreases by 20% points to 68% in the treatment group of 19-25 year olds. The proportion is only slightly higher at 69% for the control group 2 (27-29 year olds). As expected employment status is lowest for 16-18 year olds and increases with increase in age. Similarly education also exhibits increasing trend with age. Self-reported health declines with progression in age.

Table 1: Descriptive Statistics

	All Obs	Age 16-18	Age 19-25	Age 27-29
Insurance Coverage				
Any health insurance (HI)	0.73	0.87	0.68	0.69
Employer dependent coverage (through parents)	0.27	0.52	0.26	0.02
Individually purchased insurance in own name	0.03	0.01	0.03	0.04
Own employer HI	0.20	0.02	0.19	0.39
Government HI	0.16	0.26	0.13	0.13
Employment Status				
Employed	0.57	0.25	0.63	0.75
Unemployed	0.08	0.06	0.09	0.08
Demographics				
Age	22.2	17.0	21.9	28.0
White	0.60	0.57	0.61	0.60
African-American	0.14	0.15	0.14	0.13
Hispanic	0.19	0.20	0.18	0.20
Married	0.18	0.013	0.14	0.44
Education				
Student	0.18	0.01	0.14	0.43
Less than high school	0.42	0.88	0.36	0.08
High school graduate	0.26	0.77	0.10	0.10
Some college	0.33	0.05	0.45	0.35
College graduate	0.11	0.00	0.11	0.22
Self-reported health is less than excellent	0.58	0.49	0.60	0.66
Average family yearly income	64,411	74,267	63,885	55,735

Table 1: Descriptive Statistics

	All Obs	Age 16-18	Age 19-25	Age 27-29
Number of person-month observations	150,997	39,886	78,212	32,899
Corresponding number of unique persons	28,853	9,618	16,803	8,441

Table 2 focuses on our variables of interest: health, wealth and employment and presents descriptive statistics for them by type of insurance. Self-reported health is classified into five categories ranging from excellent to poor health and we note that close to 80% of those in excellent health have insurance coverage whereas only 68% of those in poor health have any insurance. The composition of insurance also varies by health as those in excellent health are largely covered by parental insurance whereas those in poor health are mostly covered by government insurance. Individually purchased non-group insurance is low across all categories of health whereas coverage from own employer is highest for those in very good and excellent health.

Table 2: Distribution of Health, Wealth and Employment by Insurance Type

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Health Status					
Excellent	0.798	0.364	0.032	0.193	0.122
Very Good	0.721	0.253	0.028	0.215	0.147
Good	0.653	0.178	0.022	0.187	0.207
Fair	0.664	0.135	0.023	0.132	0.323
Poor	0.675	0.109	0.033	0.089	0.388
Wealth					
1st Quintile [Lowest]	0.578	0.114	0.037	0.072	0.297
2nd Quintile	0.628	0.117	0.027	0.212	0.22
3rd Quintile	0.728	0.222	0.024	0.258	0.141
4th Quintile	0.806	0.347	0.025	0.251	0.084
5th Quintile [Highest]	0.886	0.527	0.027	0.195	0.053
Employment					
Employed	0.726	0.205	0.031	0.33	0.089

Note: Table shows mean values for each category

Table 2: Distribution of Health, Wealth and Employment by Insurance Type

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Full Time	0.742	0.108	0.022	0.483	0.064
Part-Time	0.719	0.347	0.031	0.056	0.204
Variable Hours	0.672	0.282	0.032	0.179	0.11
Change Job Status	0.669	0.283	0.033	0.147	0.129
Change Employer	0.67	0.256	0.032	0.219	0.096

Note: Table shows mean values for each category

With regards to wealth, there is a strong correlation between wealth and insurance coverage as only 58% of those in the bottom quintile have any coverage as compared to almost 89% in the highest quintile. The wealthiest are mostly covered through their parents (53%) whereas government provides majority of coverage for the poorest. Lastly, we observe that 72.6% of those who are employed have any form of insurance and majority of it is through their own employer. If we further segregate the employed into full-time and part-time employed, we observe considerable heterogeneity. As expected the full-time employed are mostly covered through employer-based insurance whereas part-time employees are covered mainly through parental insurance. Those who work variable hours closely resemble the part-time workers in their distribution across insurance types. Those adults who recently changed job-status (from full time to part-time or vice-versa) and those who have changed employers are mostly covered through parental insurance.

3 Methods

Causal identification of the impact of the ACA on health insurance uptake critically depends on the functional form assumptions about time underlying the model itself. The difference-in-difference identification strategy estimates the difference in the take up levels and/or rates among people who were eligible versus those who were not after the ACA policy took place.

A simplistic specification would be to create dummy variables representing the average levels of insurance before and after the ACA took effect, a dummy for those who were eligible, and the interaction between the two, which we will refer to as the levels approach. Alternatively, we specify a regression which observes the change in projected rates of insurance uptake, and take the interaction terms as above, which we will refer to as the trends approach. Finally, we combine the two approaches.

Trend assumptions are critical to estimating the counterfactual that the ACA's implementation did not have significant effect on insurance uptake by the young adults. While ideally we would wish to remove the impact of time non-parametrically, such as including a dummy variable for each period of time, all of the time-related diff-in-diff covariates would also be subsumed into these dummies. As a result, some assumptions need to be made as to trends in health insurance uptake. As we will see in the following sections, results and implications from regression results are highly sensitive to changes in these assumptions.

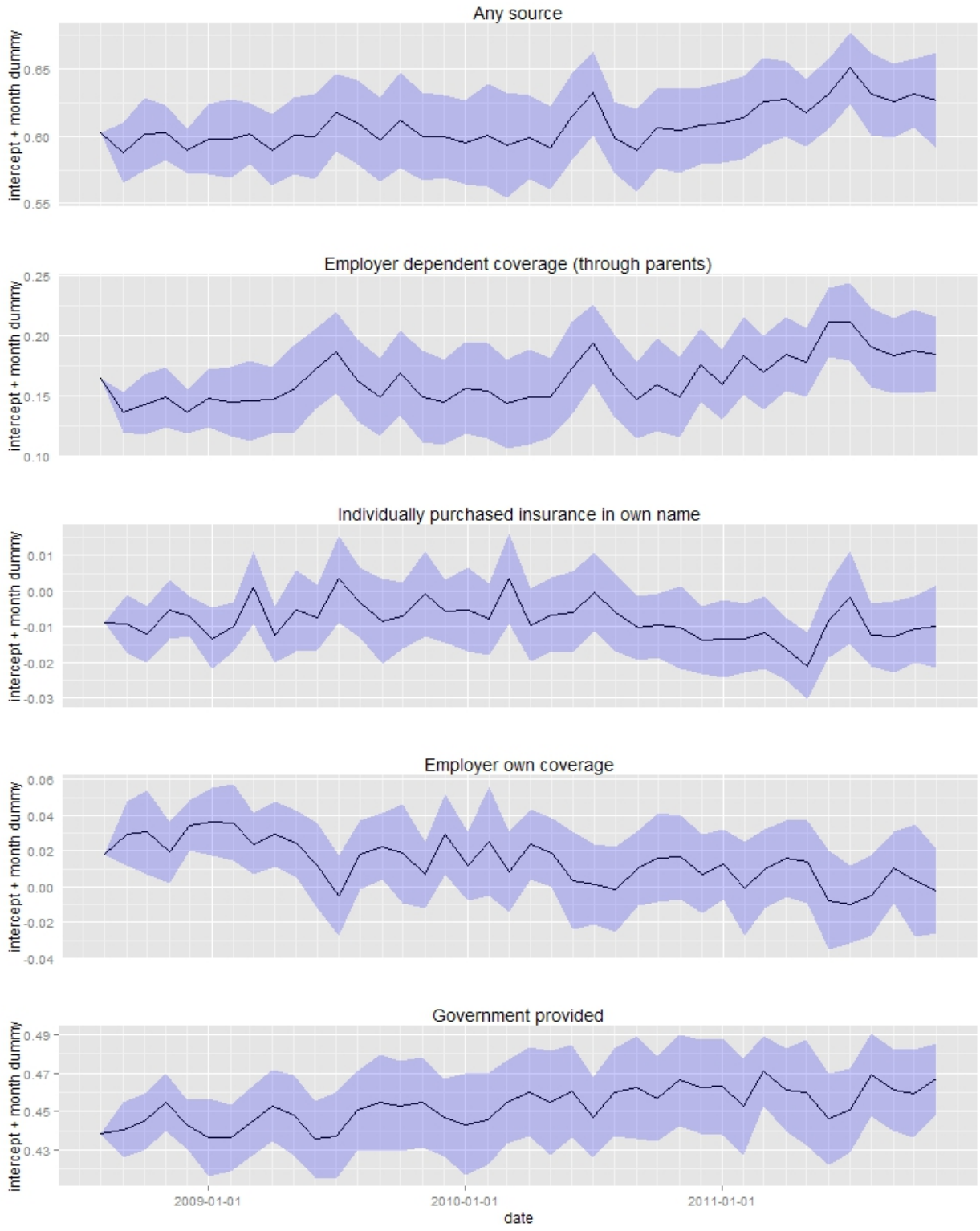
Figure 1 shows the values of the intercept and month dummies from the following regression:

$$y_{it} = \beta_0 + \beta_1 eligible_{it} + \sum_{t=1}^{T} \beta_{2t} month_t + \beta_3 X_{it} + \epsilon_{it} \tag{1}$$

where T is the total months in the dataset, eligible is defined as ages 19-25, and X is a vector of control covariates including age dummies from 17-29, gender, race dummies, student, married, state unemployment rate, proportion under federal poverty level in the state and its square, and unemployment rate in 19-25 year olds.

Figure 1 shows the national average level of uptake of each of our five classifications of

Figure 1: Time Trends for Different Sources of Insurance



health insurance for each month, controlling for our set of control variables. Confidence intervals for each of the month dummies are shown in the blue bands. One item that is immediately apparent is that the shapes on each of the five outcomes variables are different from one another. While insurance from any source appears to be relatively flat, with a spike at August 2010, and a gentle increase after 2010, employer own coverage appears to be steadily declining over the full course of our dataset. Furthermore, it is not immediately apparent what is the most appropriate functional form of the trend. While others, such as Antwi, 2013 assume a linear form; there is no reason to believe that this strict assumption holds. Indeed, any change in trends could be entirely due to differential non-linearity in already-occurring trends which have little to do with the impact of the ACA.

As discussed above, we would expect at least two effects from the policy reform: a *level* shift in the proportion of individuals who have insurance and/or a change in the uptake *rate* of insurance. Table 3 shows several potential specifications of two of our five selected outcomes. For our models we use the least restrictive regression as follows:

$$y_{it} = \beta_0 + \beta_1 eligible_{it} + \beta_2 post_t + \beta_3 post_t * eligible_{it} + \beta_4 trendpost_t + \beta_5 trendpost_t * eligible_{it} + \beta_{6s} \sum_{s=1}^{S} statetrend_{st} + \beta_{7s} \sum_{s=1}^{S} statetrend_{st}^2 + \beta_8 X_{it} + \epsilon_{it} \quad (2)$$

4 Results

4.1 General Results

Table 3 presents the results from the regression equation mentioned above. The first column contains the regression results with the simple *levels* model. The variable of interest is the interaction between the post (After Mar 2010) and eligible variables, which shows a 2.09% point reduction in the probability of being insured by any source or a 5.52% point reduction

of employer dependent coverage through parents. This does not appear to be sensitive to controlling for state level linear trends, as seen in the second column, nor to the addition of the state linear trend squared term, as expected (column 3).

Results for the differences in trends analysis (column 5-7) differ substantially from the levels regression (columns 2-4). Here we find a significant, but very small 0.22% point increase in the annual rate of uptake of any health insurance for eligible group, with a 0.49% point increase in coverage through parents per year (column 5). The results are not sensitive to the addition of linear or quadratic state trends (columns 6-7). Finally, we show the fully flexible model, including both levels and rates (columns 8-9). For both outcomes, we observe statistically significant, but very small, increases in the rates of uptake per year after the ACA takes effect. There also appears to be a small downward level shift in the insurance levels for parental health insurance. Given the inconsistency across different specifications, we choose the most flexible model (column 9) to be carried forward in subsequent analyses.

Table 3: Effect of ACA on Insurance Coverage of Young Adults - Time Trends

	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Any Source								
Eligible	-0.1124	-0.1151	-0.1152	-0.138	-0.1401	-0.1404	-0.1442	-0.1441
	(0.0213)***	(0.0212)***	(0.0212)***	(0.0197)***	(0.0195)***	(0.0195)***	(0.023)***	(0.023)***
After March 10	0.0045	-0.0247	-0.0166				-0.0054	-0.0024
	(0.0042)	(0.005)***	(0.0053)***				(0.0044)	(0.0047)
After March 10 * Eligible	-0.0209	-0.0209	-0.0208				0.0038	0.0035
	(0.0064)***	(0.0063)***	(0.0063)***				(0.0079)	(0.0079)
Trend after March 10				0.0005	0.0011	0.0015	0.0005	0.0012
				(0.0003)**	(0.0006)*	(0.0016)	(0.0008)	(0.0015)
Trend after March 10 * Eligible				0.0022	0.0022	0.0022	0.0024	0.0024
				(0.0005)***	(0.0005)***	(0.0005)***	(0.0007)***	(0.0007)***
Employer dependent coverage (through parents)								
Eligible	-0.2965	-0.2983	-0.2984	-0.3606	-0.3617	-0.3619	-0.3498	-0.35
	(0.0248)***	(0.0248)***	(0.0248)***	(0.0251)***	(0.025)***	(0.025)***	(0.026)***	(0.0259)***
After March 10	-0.0095	-0.0436	-0.037				-0.0124	-0.012
	(0.0043)**	(0.0064)***	(0.0065)***				(0.0057)**	(0.0061)**
After March 10 * Eligible	-0.0552	-0.0552	-0.0552				-0.0116	-0.0115
	(0.0061)***	(0.006)***	(0.006)***				(0.007)*	(0.007)*
Trend after March 10				-0.0005	0.0001	0.0014	0	0.0015
				(0.0003)*	(0.0006)	(0.0014)	(0.0006)	(0.0014)

Table 3: Effect of ACA on Insurance Coverage of Young Adults - Time Trends

	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trend after March 10 * Eligible				0.0049 (0.0005)***	0.0049 (0.0005)***	0.0049 (0.0005)***	0.0043 (0.0006)***	0.0043 (0.0006)***
State linear trends	No	Yes	Yes	No	Yes	Yes	Yes	Yes
State linear trends^2	No	No	Yes	No	No	Yes	No	Yes

The results from the general model in Table 4 show that individuals between the ages of 19 and 25 had a 14.4% point lower insurance coverage from any source. Column 2 shows that the coverage of employer dependent insurance through parents was 35% points lower for this population when compared to the control group. On the contrary, coverage from individually purchased insurance and own employer was 6.05% and 30.8% points higher than the coverage for individuals younger than 19 and older than 26. Furthermore, the coverage rate of government provided insurance was 15.2% points lower among individuals between ages 19 and 25.

Table 4: General Results

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Eligible	-0.1441 (0.023)***	-0.35 (0.0259)***	0.0605 (0.0116)***	0.3075 (0.0268)***	-0.1522 (0.0216)***
After March 10	-0.0024 (0.0047)	-0.012 (0.0061)**	0.0001 (0.0023)	0.0003 (0.0057)	0.0119 (0.0062)*
After March 10 * Eligible	0.0035 (0.0079)	-0.0115 (0.007)*	-0.0049 (0.0032)	0.0109 (0.0065)*	0.0087 (0.0052)*
Trend after March 10	0.0012 (0.0015)	0.0015 (0.0014)	-0.0013 (0.0006)**	0.0008 (0.0016)	0.0001 (0.0013)
Trend after March 10 * Eligible	0.0024 (0.0007)***	0.0043 (0.0006)***	-0.0009 (0.0002)***	-0.0016 (0.0005)***	0.0003 (0.0004)
State linear trends	Yes	Yes	Yes	Yes	Yes
State linear trends^2	Yes	Yes	Yes	Yes	Yes
Treatment, before ACA enactment	0.665	0.234	0.035	0.204	0.123

Table 4: General Results

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Control, before	0.781	0.28	0.023	0.208	0.182
Treatment, after ACA implementation	0.702	0.307	0.026	0.171	0.133
Control, after	0.783	0.263	0.023	0.21	0.2

From the first two rows we can see that the enactment of ACA did not have an impact on the immediate level change of any source insurance. However the results in the fifth row suggests an overall increase in the insurance uptake rates from any source insurance by the treated population. As we can see, ACA increased the uptake rate of insurance for the treated by 0.24% points. Disentangling the effect by source of insurance shows that this increase is mainly due to the uptake of employer dependent coverage through parents which was 0.43% points higher in individuals aged 19 to 25. Additionally, the results in column 3 and 4 show that coverage rates from individually purchased insurance and employer own coverage decreased by 0.09% and 0.16% points respectively. Finally, column five suggests that ACA had no effect on the uptake rates of government provided insurance in any group.

4.2 Selection Issues: Health, Wealth and Employment

Tables 3 and 4 showed that insurance coverage by any source increased for the treatment group immediately after the enactment of the ACA. In this section, we explore whether the increase in insurance coverage could be explained by self-selection based on health status, household wealth and individual's employment status.

4.2.1 Health

Table 5 presents the stratified results of the model by health status. Column 1 shows that individuals reporting excellent health and the treatment group had a 0.23% points

higher insurance uptake rate after the ACA enactment. The magnitudes are similar for other reported health status, however as self-reported health becomes worse the confidence intervals become larger. Thus, it is not possible to reject the hypothesis that the trend improvements of insurance uptake were null for treated populations reporting to be in fair and poor health. This means that the uptake trends for the treated and control groups are not statistically different.

Table 5: Main Health Effects

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Trend after March2010					
Excellent Health	-0.0003	0.0023	-0.0012	-0.0014	-0.0005
	(0.0017)	(0.0013)*	(0.0007)	(0.0016)	(0.0011)
Very Good Health	0.0001	0.0019	-0.0018	-0.0013	0.0004
	(0.0017)	(0.0017)	(0.0007)**	(0.0016)	(0.0012)
Good Health	0.0003	0.0034	-0.0012	-0.0015	-0.0005
	(0.0021)	(0.0013)**	(0.0008)	(0.0021)	(0.0015)
Fair Health	0.0027	0.0021	-0.0013	-0.0018	0.0021
	(0.0027)	(0.0024)	(0.001)	(0.0026)	(0.0025)
Poor Health	-0.0028	-0.0005	0.0008	-0.0034	-0.0018
	(0.0054)	(0.0049)	(0.003)	(0.0033)	(0.0071)
Trend after March2010 Eligible:*					
lExcellent Health	0.0023	0.0046	-0.0012	-0.0021	0.0005
	(0.0007)***	(0.0007)***	(0.0004)***	(0.0009)**	(0.0007)
Very Good Health	0.0023	0.0046	-0.0005	-0.0018	0.000
	(0.0014)	(0.001)***	(0.0004)	(0.0009)**	(0.0009)
Good Health	0.003	0.0038	-0.0008	-0.0019	0.0014
	(0.0018)*	(0.0013)***	(0.0005)*	(0.0011)*	(0.0012)
Fair Health	0.0006	0.0003	0.0005	0.0003	-0.0004
	(0.003)	(0.0022)	(0.001)	(0.0024)	(0.0033)
Poor Health	0.0045	0.0037	-0.0036	0.0028	0.0036
	(0.0082)	(0.0073)	(0.0045)	(0.0046)	(0.0115)
State linear trends	Yes	Yes	Yes	Yes	Yes
State linear trends^2	Yes	Yes	Yes	Yes	Yes

Column 2 shows the effects of ACA enactment on insurance uptake trends for employer dependent coverage through parents. The uptake trends for the treated groups were 0.46%,

0.46%, and 0.38% points higher in the excellent, very good health, and fair health reporting populations respectively. Similar to the case of any source of insurance we can see that uptake rates do not improve among the treated populations reporting fair and poor health.

As was the case of the general results, column 3 shows the uptake rate of individually purchased insurance and employer own coverage was lower among young adults aged 19 to 25 after ACA enactment. Concerning individually purchased insurance, only the treated trend estimates for excellent health and good health are statistically different from zero. As for employer own coverage, the results in column 4 show that there was a higher uptake of insurance for treated individuals reporting to be in excellent, very good, and good health. From these results, the ACA does not seem to have an effect on the uptake of government provided insurance among individuals aged 19 to 25 in any category of health status.

4.2.2 Wealth

The trend estimates for the wealth-stratified models are presented in Table 6. Column 1 shows that ACA enactment led to an increase in the uptake rate of health insurance from any source. Among individuals in the wealthiest quintile, young adults between the ages of 19 and 25 had a 0.43% points higher uptake rate, than those younger or older. Similar results are found for the second and third wealth quintiles where the treated population had a 0.31% and 0.36% point higher uptake rate. The results for the two lower quintiles are not statistically different than zero suggesting that ACA may not have an effect on uptake trends of insurance for the lower quintile groups.

Table 6: Main Wealth Effects

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided

Table 6: Main Wealth Effects

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Trend after March2010					
SES 1 [Lowest]	0.0017	0.0013	-0.0013	0.001	-0.0004
	(0.0016)	(0.0015)	(0.0008)*	(0.0019)	(0.0018)
SES 2	0.0017	0.0021	-0.0012	0.0012	-0.0003
	(0.0015)	(0.0015)	(0.0007)	(0.0019)	(0.0017)
SES 3	0.0005	0.0015	-0.0012	-0.0009	0.0015
	(0.002)	(0.0015)	(0.0008)	(0.0016)	(0.0013)
SES 4	0.0017	0.0006	-0.0013	0.0023	0.0002
	(0.0015)	(0.0015)	(0.0006)**	(0.0015)	(0.0014)
SES 5 [Highest]	0.0003	0.0007	-0.0011	0.001	0.0002
	(0.0016)	(0.0019)	(0.0006)*	(0.0014)	(0.0014)
*Trend after March2010 * Eligible:*					
SES 1 [Lowest]	0.0014	0.0013	-0.0008	-0.0004	0.0019
	(0.0016)	(0.0009)	(0.0006)	(0.0008)	(0.0018)
SES 2	-0.0008	0.0014	-0.001	-0.0027	0.0013
	(0.0018)	(0.0009)	(0.0004)**	(0.0013)**	(0.0011)
SES 3	0.0036	0.0042	-0.0005	0.0008	-0.0014
	(0.0011)***	(0.001)***	(0.0005)	(0.0012)	(0.0011)
SES 4	0.0031	0.0058	-0.0008	-0.0033	0.0002
	(0.0012)**	(0.0013)***	(0.0004)*	(0.001)***	(0.0007)
SES 5 [Highest]	0.0043	0.0079	-0.0015	-0.0022	-0.0001
	(0.0007)***	(0.0012)***	(0.0004)***	(0.0012)*	(0.0006)
State linear trends	Yes	Yes	Yes	Yes	Yes
State linear trends^2	Yes	Yes	Yes	Yes	Yes

The results for employer dependent coverage show that young adults between the ages of 19 and 25 in the wealthiest quintile had a 0.79% point higher uptake rate than their

younger and older peers. We also observe that the effects in uptake trends are lower for treated individuals in the second and third wealth quintile, however in both cases the uptake rates are 0.58% and 0.42% points higher than their respective controls. These results further confirm that ACA led to a decrease in the uptake rates of individually purchased insurance and employer own coverage and the decrease in the uptake rates was more pronounced in the first, second, and fourth wealth quintiles. Finally, in line with previous results there seems to be no effect of ACA in the uptake rates of government insurance.

4.2.3 Employment

Table 7 shows the results of the insurance uptake by employment status. Column 1 shows that ACA enactment led to an increase in the uptake rate of health insurance from any source by 0.29% points among the employed individuals. The increase in the coverage rate was mostly driven by increase in insurance through parents (0.32% points increase) and government provided insurance (0.26% points). These results also indicate that the young employed had switched from insurance individually purchased in their own names and through their own employer. The latter had a small and insignificant decline suggesting that insurance through parents may not be a strong substitute for employer provided coverage for the employed. However, this may not be the case when we segregate the employed into those with full-employment and part-time employment. Column 1 indicates that those with full-employment suffered a decline in any insurance and this was mostly driven by substitution from government provided insurance (reduction of 0.38% points) and employer provided coverage (0.31% points) into the parental insurance (0.24% points). For those working part-time, coverage through parents increased by 0.5% points, thereby increasing the total coverage by 0.2% points. This may suggest that vulnerable group with unstable income

(part-time workers and those with variables hours) reaped the benefit of the legislation as they can increased their insurance coverage through their parents.

Table 7: Employment Selection Effects

	Any Source	Employer dependent coverage (through parents)	Individually purchased insurance in own name	Employer own coverage	Government provided
Trend after March2010					
Employed	-0.0007	0.0005	0.0011	0.0001	-0.0019
	(0.001)	(0.0012)	(0.0006)*	(0.0007)	(0.0011)*
Full Time	0.0019	0.0032	-0.0026	-0.0029	0.0032
	(0.002)	(0.0021)	(0.0012)**	(0.002)	(0.0016)**
Part Time	0.0013	0.0046	-0.0016	-0.0035	0.0001
	(0.0017)	(0.0018)***	(0.0009)*	(0.0017)**	(0.0011)
Variable Hours	0.0003	-0.0027	0.0021	-0.0001	-0.0005
	(0.0024)	(0.0019)	(0.0008)**	(0.0008)	(0.002)
Change Job Status	-0.0008	0.0017	-0.0025	0.0001	0.0007
	(0.0031)	(0.0026)	(0.001)**	(0.0022)	(0.0029)
Change Employer	-0.0021	-0.0017	-0.0006	-0.0002	0.0003
	(0.0017)	(0.0015)	(0.0009)	(0.0018)	(0.0017)
Trend after March2010 Eligible:*					
Employed	0.0029	0.0032	-0.0024	-0.0005	0.0026
	(0.0014)**	(0.0015)**	(0.0008)***	(0.0009)	(0.0013)*
Full Time	-0.0019	0.0024	0.002	-0.0031	-0.0038
	(0.0016)	(0.0018)	(0.0009)**	(0.0015)**	(0.0014)***
Part Time	0.002	0.005	-0.0014	0.0004	-0.0006
	(0.0029)	(0.0021)**	(0.0011)	(0.0014)	(0.0026)
Variable Hours	0.0007	-0.0029	0.0015	0.0008	0.0001
	(0.0036)	(0.0032)	(0.0014)	(0.0024)	(0.0034)
Change Job Status	0.0016	0.0031	0.0004	-0.0006	-0.0008
	(0.0028)	(0.0028)	(0.0014)	(0.0021)	(0.0017)
Change Employer	0.0065	-0.0419	0.0162	0.0352	-0.0084
	(0.0189)	(0.0202)**	(0.0105)	(0.0117)***	(0.0188)
State linear trends	Yes	Yes	Yes	Yes	Yes
State linear trends^2	Yes	Yes	Yes	Yes	Yes

5 Discussion and Conclusion

Our results generally show an increase in the uptake rate of health insurance among 19-25 year olds. We found that the increase in insurance was largely driven by an increase in those obtaining health insurance through their parents. The increase among 19-25 year olds is most likely due to the provision that allows individuals from 18-26 to remain on their parents health insurance. However, we do find some moderate decrease in employer-provided and individually purchased health insurance. While our conclusions broadly agree with those found in the existing literature, we are able to identify and characterize some of the more subtle aspects of the ACAs impact on health insurance through stratification by type of insurance. We find that measuring the impact of the ACA on health insurance rates strongly depends on the functional form of the regression itself. Observing difference-in-differences in the levels before and after introduction of the ACA implies a slight reduction in uptake due to the law, while observing changes in trends implies a small increase in the linear trend rate of uptake. This differs strongly from Antwi et al., 2013s conclusions, which were based on multiple level dummies. The instability of results from different specifications suggests that results generated from any one specification are likely to be misleading. As such, we chose to base our conclusions on specifications which impose minimal assumptions on the functional form of the impact of the ACA. While this sacrifices interpret-ability of results, it avoids potentially misleading results based on untestable functions. Further study and more robust methodologies will need to be employed in order to generate policy based on conclusions as to the impact of the ACA on health insurance uptake.

We also analyzed the uptake of insurance by self-reported health status of the young adults, their household wealth and employment status. We find that individuals who are both healthier and wealthier are more likely to increase health insurance uptake due to the ACA. Healthier individuals entering into the health insurance market strongly counters the hypothesis that the ACA will feature adverse selection based on health. Instead, we find that,

by and large, healthier people were more likely to gain health insurance. The less healthy people are also less likely to change their pre-existing insurance coverage due to expected increase in premium due to their poor health. The wealth effect may partially be due to the fact that the poorest quintiles may already be insured by Medicaid and other public health insurance programs for the poor. Secondly, the very wealthy are also more able to afford to self-insure. Decreasing the comparative cost of formal vs. self-insurance would therefore be more likely to impact the wealthy than the poor, resulting in an increased likelihood that the wealthy would uptake due to the ACA than the poor. We also noted that those who are employed part-time or have variable job-hours increase their health insurance uptake and this increase is mostly through parental coverage. This does allude to the protective feature of ACA, that those with insufficient means are more likely to be covered under the new legislation thereby reducing their exposure to economic distress in face of adverse health events. While ACA has been able to increase insurance coverage for those with unstable income, we believe policy measures could be undertaken to increase uptake among the less healthy and wealthy to reduce their financial distress.

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