

Did the Massachusetts Health Care Reform Lead to
Smaller Firms and More Part-Time Work?

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Abstract::

The Massachusetts health care reform of 2006 dramatically increased health insurance coverage rates statewide. The legislation required employers with 11 or more full-time-equivalent employees to supply health insurance to their workers or face a tax. While research has shown improvements in coverage, there has been little examination of the impact on firm behavior as a result of these new obligations. Using data from the March Current Population Survey from 2003 to 2012, I examine how the reform impacted firm size and par-time work. My results suggest that while the reform did not impact these variables in aggregate, certain demographics – particularly low-skilled workers – were less likely to work for small firms and more likely to work part-time as a result of the reform.

to answer this important question. DD models, as used here, isolate the “treatment” effect of a shock like a policy change by comparing differences in averages over time between a control and treatment group over time and then taking the difference of those results (Woolridge 2013).

Using this method, I confirm the efficacy of the reform in raising insurance coverage rates and find that while there are not statistically significant aggregate effects for firm size and part-time work, certain demographic groups experience especially low skilled workers qualitatively large and statistically significant increases in both part time work and employment in smaller firms.

This paper will proceed as follows. Section 1 details the study design and data collection, while Section 2 provides confirmation on the general efficacy of the reform in increasing insurance rates in Massachusetts with reference to some existing literature along with an overview of the relevant dependent variables. Section 3 details experimental methodology and presents results. Section 4 concludes.

I. Study Design and Data Collection

A. Study Design

The study design is a straightforward difference-in-difference (DD) model, exploiting the shock to Massachusetts caused by the 2006 health care reform. In this case, I compare the changes in outcomes in Massachusetts over time to the same changes for the rest of New England. This latter groups serves as a control group that provides an estimate of the secular changes in outcomes that would have occurred in Massachusetts over time had there been no reform. I utilize three distinct outcomes to examine the possible effect of reform on firm behavior. The first is whether individuals have health insurance coverage. The estimates from

while having been insured at some point over the prior year. This variable is constructed by the State Health Assistance Database Center (SHADC) at the University of Minnesota and includes a number of modifications to the health insurance variables available in the raw CPS. For example, the SHADC edited pre-2005 data to reflect changes in the CPS related to the assignment of private health insurance coverage to non-policy holders.

To measure whether a respondent was employed full-time or part-time, I use the IPUMS FULLPART variable. Full-time work is defined as 35 or more hours per week and the variable indicates whether the respondent worked full-time or part-time in the previous year.

To measure firm size, I use the IPUMS FIRMSIZE variable, which indicates the total number of persons who worked for the respondent's primary employer during the previous year, including all locations where the employer operated. If the respondent is self-employed, the reported number is the number of the respondent's employees. Responses are grouped into ranges. For the purpose of this paper, I generate a dummy variable to indicate when firm size is less than 10 employees, non-inclusive. The IPUMS data is grouped as follows: under 10 employees, 10-24 employees, etc. Under the reform, the employer obligations go into effect once a firm has 11 employees, so the cutoff in the data set does not perfectly match the cutoff in the legislation. It is possible that this mismatch has a confounding effect on my DD results.

II. Replication of Previous Results and a Discussion of Dependent Variables

A. Replication of Previous Results

Figure 1 plots the fraction of non-elderly adults with in insurance in Massachusetts and the rest of New England from my analysis sample. These estimates shows that from 2003 to

(2008) pre-post model showed a drop of 5.6 percentage points for the same sample. My results are in-line with these findings.

Looking into demographic breakdowns, the effect is especially pronounced for groups that are generally more likely to be uninsured, including minorities, people under age 30, and people with lower levels of educational attainment. Note that all results are statistically significant at demanding levels.

B. Discussion of Dependent Variables

Figure 2 shows the percentage of working respondents that are employed by establishments with 10 or fewer employees for the treatment and comparison samples while Figure 3 shows the same for employees at establishments with 20 or fewer employees for reference. The percentage of people at firms with 10 or fewer employees falls from about 21% to 18% from 2007 to 2008 in Massachusetts. Given that the new obligations for firms became effective in 2007, one might expect to see a move in the opposite direction. This jump may be attributable to the most recent recession, which may have had the effect of shaking out some of the smaller firms. A similar, though less dramatic pattern is observed for the rest of New England.

Figure 4 shows the percentage of the working population that works on a full-time basis and Figure 5 shows the percentage of the working population that works on a part-time basis. In both cases, the levels fluctuate in the aftermath of the implementation of the reform in 2006 and 2007. The percentage of the population working part-time spikes to roughly 27% in 2010 before returning to pre-reform levels. It is difficult to gauge the effect of the reform on either of these

state effects and λ_t represents year effects. The variable X_{ist} represents a vector of observed characteristics, which in this case consist of age, sex, education, marital status, and race/ethnicity. The variable μ_{ist} is a random error term.

B. Results – Firm Size

Table 2 shows the DD estimates for the effects of the reform on firm size. At an aggregate level for all non-elderly adults, the treatment effect is minuscule and statistically insignificant with a p -value of 0.173. In short, there is no broad-based effect on firm size due to the reform. This comports with the inconclusive nature of the visual data shown in Figure 5. However, the DD estimates for specific demographic groups yield some interesting results. Non-Hispanic Blacks exhibit a statistically significant treatment effect of 5.1 percentage points with a p -value of 0.018, indicating that this group saw employment in firms with 10 or fewer employees increase by about 5 percentage points as a result of the reform. The Hispanic population experienced the opposite result with a statistically significant treatment effect of -12.7 percentage points at a p -value of 0.000.

The firm size results by educational attainment are also notable. While there are no statistically significant effects for those who report having attended or finished college, there are significant effects for those with lower levels of education. Individuals who completed high school show a statistically significant treatment effect of -2.9 percentage points at a p -value of 0.005. Those who failed to complete high school show a statistically significant treatment effect of -6.3 percentage points at a p -value of 0.003.

my DD estimates show, statistically significant effects begin to emerge once the data is broken down into demographic groups.

Impacts on individuals with lower levels of educational attainment are consistent across both the firm size and part-time employment DD models. In both cases, individuals who had at least some college experience were unaffected, while those with less education experienced significant effects. Individuals with less education found themselves less frequently working for firms with fewer than 10 employees. They also experienced an increase in part-time employment at the expense of full-time employment.

One possible explanation is that instituting more onerous requirements on firms with more than 10 full-time equivalent employees forced employers to make decisions on the margin about the level of skill required from their workers to operate. The employer obligations impose a penalty on inefficiency – the option of taking on additional employees as a means of improving performance becomes a more expensive proposition under the reform.

The effect on the different racial/ethnic groups is a bit more difficult to parse. The fact that the results are inconsistent across the two DD models is somewhat puzzling. An explanation related to marginal decisions based on skill level would be reasonable, but coming to a definitive conclusion would require more targeted research on those groups.

Based on the results from Massachusetts data, one can reasonably conclude that insurance coverage rates will improve nationally with the full implementation of the ACA. It is more difficult to draw conclusions on how the ACA will impact firm behavior, given that the ACA's employer obligation provisions feature a higher cutoff at 50 employees and a different penalty structure. Still, the Massachusetts data yields some interesting results which are worthy of additional research.

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FIGURE 4: PERCENTAGE WORKING POPULATION - FULL-TIME

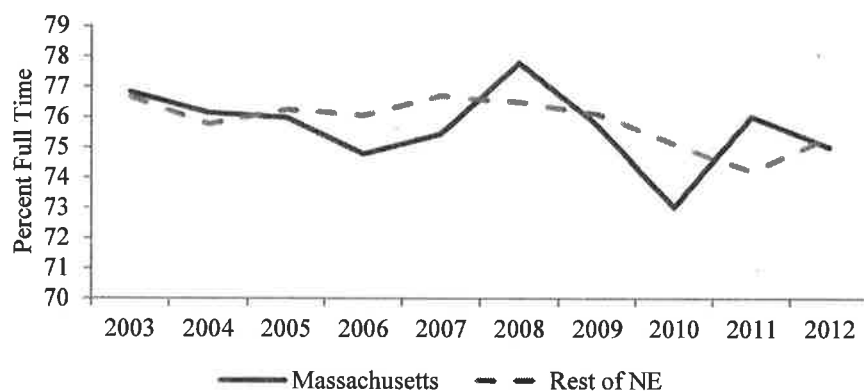


FIGURE 5: PERCENTAGE WORKING POPULATION - PART-TIME

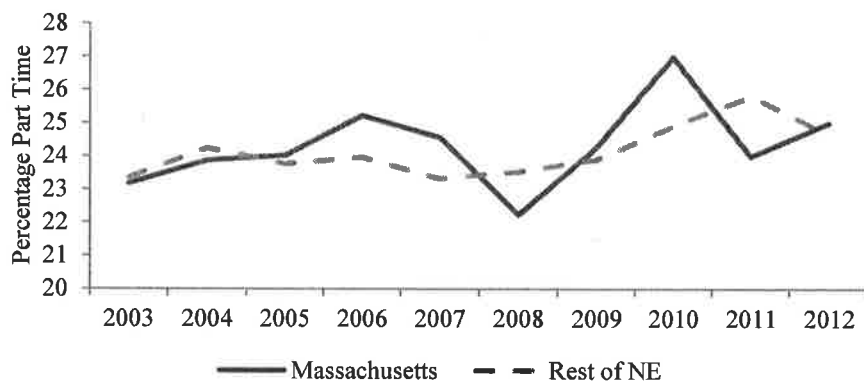


TABLE 2: DIFFERENCE-IN-DIFFERENCE ESTIMATES, TREATMENT EFFECT OF MA REFORM ON PERCENTAGE OF FIRMS WITH 10 OR FEWER EMPLOYEES, BY DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS

	<i>n</i>	Treatment Effect	<i>p</i> -values
All Adults 18-64	105,334	(0.0073) (0.0054)	0.173
By Race/Ethnicity			
White, Non-Hispanic	89,816	(0.0021) (0.0059)	0.722
Black, Non-Hispanic	3,903	0.0509 (0.0216)	0.018
Other, Non-Hispanic	4,672	0.0116 (0.0248)	0.641
Hispanic	6,943	(0.1272) (0.0213)	0.000
By Sex			
Male	53,427	(0.0185) (0.0079)	0.018
Female	51,907	0.0047 (0.0073)	0.517
By Marital Status			
Married	63,359	(0.0020) (0.0071)	0.781
Unmarried	41,975	(0.0131) (0.0083)	0.113
By Age Group			
Under 30	21,860	(0.0202) (0.0110)	0.066
Over 30	83,474	(0.0032) (0.0062)	0.600
By Educational Attainment			
High School	30,622	(0.0290) (0.0104)	0.005
Some College	18,645	0.0153 (0.0128)	0.233
College	48,495	0.0061 (0.0076)	0.423
Less than High School	7,572	(0.0627) (0.0213)	0.003