

Health Insurance and the Supply of Entrepreneurs: New Evidence from the Affordable Care Act's Dependent Coverage Mandate*

James Bailey

Kauffman Dissertation Executive Summary[†]

Abstract

Is the difficulty of purchasing health insurance as an individual or small business a major barrier to entrepreneurship in the United States? I answer this question by taking advantage of the natural experiment provided by the Affordable Care Act's dependent coverage mandate, which allowed many 19-25 year-olds to acquire health insurance independently of their employment. A difference-in-difference strategy finds that the dependent coverage mandate led to a 13-24% increase in self-employment among the treated group. An instrumental variables strategy finds that those actually receiving health insurance coverage as dependents were much more likely to start businesses.

Category: Economics: Health

Keywords: Health Insurance; Entrepreneurship; Affordable Care Act; Dependent Coverage Mandate

*This research was funded in part by the Ewing Marion Kauffman Foundation. The contents of this publication are solely the responsibility of James Bailey

[†]Derived from a dissertation submitted and successfully defended in March 2013 to the faculty of the College of Liberal Arts at Temple University in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

1 Introduction

The Affordable Care Act was signed on March 23rd, 2010. The dependent coverage mandate took effect six months later, requiring health insurance plans offering dependent coverage to extend coverage until the 26th birthday. Antwi et al. [2012] estimate that the mandate led 2 million young adults to gain health coverage through their parents. I use the mandate as a quasi-random natural experiment in breaking the link between health-insurance and employment for these young adults, a link that remains strong for most Americans. I investigate the extent to which Americans are reluctant to leave their wage-earning job and start their own business because it is relatively difficult and expensive to acquire health insurance as an individual or small business. Using a difference-in-difference approach and American Community Survey data from 2005-2011, I find that the dependent coverage mandate lead to a 13-24% increase in self-employment among the treated group (19-25 year olds).

This result is robust to a variety of tests novel to the small literature on health insurance and entrepreneurship, including the use of rare events estimators and a continuous definition of self-employment. I find that the result is largely driven by an increase in self-employment among women and an increase in unincorporated businesses. Using an instrumental variables strategy, I show the bias in simple approaches to estimating the effect of health insurance on self-employment. I show that receiving dependent coverage makes an individual two to three times more likely to start a business, a much larger effect than previous work has found.

2 Background

2.1 Health Insurance in the United States

Currently, most Americans receive health insurance through their employers. A large company is able to pool the risks of its employees, allowing it to self-insure without risking a high variance of claims or to purchase insurance without insurers fearing adverse selection. Because of this, people who work for large businesses are more likely to have insurance and pay lower premiums for equivalent policies than those working for small businesses. Conversely, those looking for insurance as individuals or small businesses find insurance at significantly higher prices or not at all, as documented by Pauly and Lieberthal [2008]. Be-

cause of this, Americans may be pushed toward working for large businesses and refrain from starting their own businesses out of concern for health insurance. A recent poll found that 9% of Americans under age 35 saw access to health insurance as a key barrier to starting a business (Kauffman Foundation 2011).

2.2 The Affordable Care Act's Dependent Coverage Mandate

The Affordable Care Act (ACA) of 2010 provides a unique opportunity to estimate the causal effect of access to health insurance on entrepreneurship. The ACA introduced many changes to the US health care system, but most of its major provisions (the individual mandate, partial community rating, and guaranteed issue) do not take effect until 2014 or later. In contrast, the dependent coverage mandate (section 2714 of the Patient Protection and Affordable Care Act) was one of the first major provisions to go into effect, on September 23rd 2010. It requires insurers to offer coverage to the young adult (age 19-25) children of policyholders. Specifically, the law requires group plans that offer any coverage for children to extend coverage until their 26th birthday.

This dependent coverage mandate resulted in an increase of over 3 million in the number of insured young adults according to Sommers [2012]. Many states had previously passed similar dependent coverage laws, but the ACA mandate has had a much larger effect. One reason for this is that self-insured plans (which cover roughly half of those with employer-based health insurance, according to the Medical Expenditure Panel Survey) are exempt from state mandates, whereas essentially all plans are subject to the federal mandate. A second reason is that the federal mandate is much broader. State laws had many restrictions: requiring the young adults to be full-time students, unmarried, or dependents for tax purposes, among other restrictions. The federal mandate applies to those age 19-25 who have not been offered insurance through their own employer. Antwi et al. [2012] found that the ACA dependent coverage mandate led to a 30% increase in the likelihood that young adults were on their parents' insurance.

2.3 Previous Research

2.3.1 ACA Dependent Coverage Mandate

Two papers have used the Affordable Care Act’s Dependent Coverage Mandate to study labor market outcomes. Slusky [2012] studies the effect of the mandate on labor supply and employment using a difference-in-difference approach on March Current Population Survey (CPS) data, and finds no significant effect. Depew [2012] also studies the effect of the mandate on labor supply and employment. He uses a difference-in-difference approach on data from the Survey of Income and Program Participation, and finds that the mandate significantly reduces labor supply and employment among 19-25 year olds.

2.3.2 Health Insurance and Entrepreneurship

Many previous papers have examined the effect of health insurance on job-to-job mobility. A survey by Gruber and Madrian [2002] showed that roughly half of these papers found significant evidence of “job-lock”, reduced labor mobility due to the employer-based health insurance system. Most of these papers specifically excluded the self-employed from study. Only a handful of papers have examined the effect of health insurance on transitions to entrepreneurship specifically; this previous work has found mixed evidence for the hypothesis that lack of access to health insurance deters entrepreneurship. Gruber and Madrian [2002] presented a simple theoretical model explaining how employer-provided health insurance can lead to inefficiently low labor mobility. Holtz-Eakin et al. [1996], using data from the Panel Study of Income Dynamics and the Survey of Income and Program Participation, found that those who have health insurance through their spouses are not significantly more likely to start businesses than those who do not. Wellington [2001] used the same approach with data from the Current Population Survey and found that those with access to a spouse’s health insurance are in fact 1.2-4.6% more likely to start a business. Fairlie et al. [2011], using data from the Current Population Survey, found that those with access to a spouse’s health insurance are more likely to start businesses than those without. They also found that those just over age 65 (with access to Medicare) start more businesses than do those just under age 65.

Another strand of the literature, exemplified by Heim and Lurie [2010] and Gruber and Poterba [1994], has examined the effect of changes in the tax deductibility of health insurance for the self-employed. Federal tax deductibility of

health insurance for the self-employed increased in a series of steps from 0% before the Tax Reform Act of 1986 to 100% after 2003. These papers found that increases in tax deductibility led to substantial increases in self-employment. Their focus on changes in tax law does a great deal to overcome endogeneity problems present in other work. But taxes were only one of several barriers to self-employed individuals obtaining insurance. Others, such as adverse selection and search costs, remain even after tax treatment has equalized.

My dissertation estimates the size of the remaining barriers to health insurance, and does so using a quasi-random natural experiment to overcome endogeneity.

3 Methodology

3.1 Theoretical Model

I develop a simple theoretical model of the decision to become self-employed or work for wages. Individuals choose between the independence offered by self-employment and the relatively cheap and accessible large-group health insurance offered to wage workers. In this model, the dependent coverage mandate reduces the value of employer-based health insurance. For some workers, this reduces the value of wage work to be below the value of self-employment, leading them to transition to self-employment.

3.2 Data

The paper uses several datasets to take advantage of each one's individual strengths. The primary dataset used is the Integrated Public Use Microdata Series (IPUMS) compilation of the American Community Survey (ACS) from 2005 to 2011. It has information about labor market outcomes (including self-employment) as well as extensive demographic controls. Its comparative advantage is its huge size: the ACS surveys over 3 million individuals per year. This is important because of my focus on a small subgroup: self-employed individuals aged 19-25. The full ACS dataset has over 21 million individuals but contains just under 50,000 self-employed individuals age 19-25. For some robustness checks I use the smaller Current Population Survey (CPS). One major advantage of the CPS is that it has information about the month in which individuals were surveyed. This allows me to look directly at the point in time when

the law took effect (September 2010). The CPS also has a semi-panel structure, following individuals for a short time. This allows me to examine changes in self-employment at the individual level.

In both the ACS and CPS, individuals are coded as self-employed if they work more hours for their own business than for others.

For most specifications, the universe includes only 19-33 year olds. It is very rare for workers age 18 and under to be self-employed, and those over age 33 may be too different from 19-25 year olds to provide appropriate controls. Robustness checks show that the results are not sensitive to this narrowing of age groups.

3.3 Difference-in-Difference Estimation

The basic strategy of the dissertation is to use difference-in-difference estimation to determine the effect of the dependent coverage mandate on self-employment. This means comparing people covered by the dependent coverage mandate (those age 19-25 after the mandate took effect in September 2010) to those not covered by the mandate. 26-year-olds are dropped from most regressions because they can be considered both treated and un-treated (the mandate does not apply to them, but at the same time as the mandate was implemented, tax deductibility of dependent coverage was extended until the 27th birthday). In effect, the difference-in-difference strategy uses control groups (19-25 year olds before the mandate took effect, and 27-33 year olds) to isolate the true effect of the mandates. This helps to prevent attributing to the mandate what is really due to changing economic conditions or due to young adults consistently starting fewer businesses than their older counterparts.

4 Results

4.1 Main Results

The results of the main regressions are shown in Table 1. The coefficients for the variable *Treated* give the estimate of the treatment effect of the dependent coverage mandate. These specifications find that the mandate significantly increases the likelihood that 19-25 year olds are self-employed. Depending on the specification, the increase in self-employment is between 0.32 and 0.58 percentage points. The average rate of self-employment among 19-25 year olds over

the entire period is about 2.4%, so the estimates imply a 13-24% increase. Because our dependent variable is binary (the ACS counts respondents as either self-employed or not), the linear probability model is less appropriate than the others, so more weight should be given to the logit and probit estimates of a 13-16% increase.

Table 1: Regression Difference-in-Difference Effect of Dependent Coverage Mandate on Self-Employment

	Linear Probability	Logit	Probit
Treated	.0058*** (.0007)	.0032** (.0008)	.0038*** (.0007)
After Mandate	-.0031*** (.0009)	-.0015* (.0008)	-.0017** (.0008)
Age 19-25	-.0038*** (.0006)	-.0059*** (.0006)	-.0050*** (.0006)
Observations	2,637,376		

Controls include age, number of children, state-year employment, and a time trend along with dummies for race, high school and college completion, marital status, and state fixed effects. Data is from the 2005-2011 IPUMS compilation of the American Community Survey. Data from 26 year olds and from the year 2010 have been dropped because they can be classified as being in both the treatment and control groups. The universe consists of 19-33 year olds who have ever worked. Robust standard errors clustered by household are given in parentheses. Coefficients reported for logit and probit regressions are the average marginal effects.

4.2 Alternative Results

The full paper explains in great detail how the dependent coverage mandate affected self-employment among various groups, and how sensitive the main results are to various decisions made in the analysis. I find that the increase in self-employment caused by the dependent coverage mandate is greatest for women, 19-22 year-olds (who have more years until their dependent coverage runs out), unincorporated businesses, and non-high-tech occupations. The effect of the federal ACA mandate is also stronger in states that had not passed their own version of a dependent coverage mandate. The main results are robust to using alternative estimation techniques such as rare events estimators and alternative measures of standard errors. I show that hours worked by self-employed individuals increased by 10% among those affected by the mandate.

Finally, I use instrumental variables estimation and the mandate to de-

termine the individual-level effect of non-employer health insurance on self-employment. The difference-in-difference estimates described above are aggregate estimates, answering the question of how the dependent coverage mandate affected self-employment overall. It is good to know the effect of this one policy change, but it would be better to know the answer to the more general question, “how much does an individual gaining access to non-employer health insurance increase their probability of self-employment?”. Instrumental variables estimation can answer this more general question. It has the further advantage of incorporating information on health insurance status. The difference-in-difference estimates did not necessarily prove a direct link between health insurance and self-employment: they leave open the possibility that there was some other change affecting 19-25 year-olds around September 2010 that was the true cause of their self-employment. By contrast, an instrumental variables approach using the Affordable Care Act dependent coverage mandate as an instrument for health insurance can demonstrate the link directly. My instrumental variable results show that access to non-employer coverage increases a young adult’s probability of being self-employed by 3.5 to 7.8 percentage points (77%-172%). These results stand in sharp contrast to the simple negative correlation between self-employment and non-employer health insurance, which could be misinterpreted as implying that non-employer health insurance makes people less likely to be self-employed.

5 POLICY IMPLICATIONS

The preponderance of evidence presented in the dissertation suggests that a statistically and economically significant number of potential entrepreneurs are deterred from self-employment by the current employer-based health insurance system. When 19-25 year-olds gained access to health insurance unrelated to their employment, many chose to start businesses. But most people over age 25 do not get the same opportunity. This means that the health insurance system still discourages many people from starting their own businesses.

This thesis takes no stand on the optimal number of self-employed people. It is possible that there are other distortions in the economy pushing people toward self-employment, such as principal-agent problems and regulations that apply only to large firms, and that these outweigh distortions in the other direction, leaving overall self-employment too high. This would mean that the

distortions caused by the health insurance system are actually beneficial. In the absence of other distortions though, the evidence in the dissertation suggests that the health insurance system leads to too few self-employed Americans. This thesis leaves open the question of the best way to reduce the distortions of employer-based health insurance, except to say that the ACA dependent coverage mandate did increase self-employment. But there are many other policies that would allow people to find insurance outside of the employer-based system.

One commonly discussed alternative is government provision of insurance. This is already done for the poor (Medicaid) and elderly (Medicare). Fairlie et al. [2011] found that Americans are 13.8% more likely to own a business at age 65 than at age 64, and attributed this difference largely to the fact that Medicare eligibility starts at age 65, allowing people access to health insurance even when they leave their large-company jobs to start a business.

Another alternative is to make individual health insurance competitive with employer health insurance. One step toward this would be to equalize the tax treatment of individual and employer-based plans. Under current law employer-based plans are almost entirely exempt from income taxes, while most individual plans are not. Making individual and small-group plans competitive with large-group plans also means finding ways around the adverse selection problem. The Affordable Care Act of 2010 attempts to solve this problem with an individual mandate (everyone must buy health insurance, even if healthy) and guaranteed issue (insurers must sell policies to everyone, even if sick), which take effect in 2014.

A final alternative solution would be to enact health reforms that reduce the perceived necessity of health insurance. This could mean reductions in total health care spending, or the introduction of policies such as health savings accounts which make it easier to pay out of pocket. Any policy alternative that reduces the importance of employer-based health insurance is likely to increase self-employment, although this should be examined in detail for each proposed policy.

6 CONCLUSION

The dissertation's main difference-in-difference specification finds that the Affordable Care Act's dependent coverage mandate led to a 13-24% increase in self-employment among 19-25 year olds. This growth has been driven by women

and the young (19-22 year olds). The mandate appears to have had a substantial aggregate impact on self-employment, despite the fact that it led relatively few young adults to acquire dependent coverage (approximately 10%). Using an instrumental variables approach, I find that the individuals who actually received dependent coverage are 2-3 times more likely to become self-employed. These results are large relative to the previous literature on self-employment and health insurance that has examined coverage from spouses and government programs. However, the businesses started as a result of the mandate may differ from other businesses in their social benefits. Most of the new businesses are unincorporated, which may indicate that they will be slower-growing and will hire fewer workers.

The results presented in this paper suggest that “entrepreneurship lock” is a real and economically significant phenomenon. The employer-based health insurance system in its current form deters many Americans from starting their own business. This is apparent even among young adults, who have low health care and individual health insurance costs relative to older individuals; the employer-based health insurance system is even more likely to deter older individuals from starting businesses.

References

- Yaa Akosa Antwi, Asako S. Moriya, and Kosali Simon. Effects of federal policy to insure young adults: Evidence from the 2010 affordable care act dependent coverage mandate. Working Paper 18200, National Bureau of Economic Research, June 2012. URL <http://www.nber.org/papers/w18200>.
- Briggs Depew. Expanded dependent health insurance coverage and the labor supply of young adults: Outcomes from state policies and the affordable care act. Technical report, University of Arizona, 2012. URL <http://www.u.arizona.edu/bdepew/Research.html>.
- Robert W. Fairlie, Kanika Kapur, and Susan Gates. Is employer-based health insurance a barrier to entrepreneurship? *Journal of Health Economics*, 30 (1):146–162, 2011. ISSN 0167-6296. doi: 10.1016/j.jhealeco.2010.09.003. URL <http://www.sciencedirect.com/science/article/pii/S0167629610001207>.
- Jonathan Gruber and Brigitte C. Madrian. Health insurance, labor supply, and job mobility: A critical review of the literature. Working Pa-

per 8817, National Bureau of Economic Research, February 2002. URL <http://www.nber.org/papers/w8817>.

Jonathan Gruber and James Poterba. Tax incentives and the decision to purchase health insurance: Evidence from the self-employed. *The Quarterly Journal of Economics*, 109(3):701–733, 1994. doi: 10.2307/2118419. URL <http://qje.oxfordjournals.org/content/109/3/701.abstract>.

Bradley T. Heim and Ithai Z. Lurie. The effect of self-employed health insurance subsidies on self-employment. *Journal of Public Economics*, 94(11-12):995 – 1007, 2010. ISSN 0047-2727. doi: <http://dx.doi.org/10.1016/j.jpubeco.2010.08.007>. URL <http://www.sciencedirect.com/science/article/pii/S0047272710001131>.

Douglas Holtz-Eakin, John R. Penrod, and Harvey S. Rosen. Health insurance and the supply of entrepreneurs. *Journal of Public Economics*, 62(1-2):209–235, October 1996. URL <http://ideas.repec.org/a/eee/pubeco/v62y1996i1-2p209-235.html>.

Mark V. Pauly and Robert D. Lieberthal. How risky is individual health insurance? *Health Affairs*, 27(3):w242–w249, 2008. doi: 10.1377/hlthaff.27.3.w242. URL <http://content.healthaffairs.org/content/27/3/w242.abstract>.

David Jason Gershkoff Slusky. Consequences of the expansion of employer sponsored health insurance to dependent young adults. Technical report, Princeton University Center for Health and Wellbeing, 2012. URL <http://www.princeton.edu/slusky/research.html>.

Benjamin D. Sommers. Number of young adults gaining insurance due to the affordable care act now tops 3 million. Technical report, U.S. Department of Health and Human Services, 2012.

Alison J. Wellington. Health insurance coverage and entrepreneurship. *Contemporary Economic Policy*, 19(4):465–478, 2001. ISSN 1465-7287. doi: 10.1093/cep/19.4.465. URL <http://dx.doi.org/10.1093/cep/19.4.465>.