

# Prospective Effects of the Affordable Care Act on Entrepreneurship

## A Preliminary View from State Experience

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A Preliminary View from State Experience**

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## Summary

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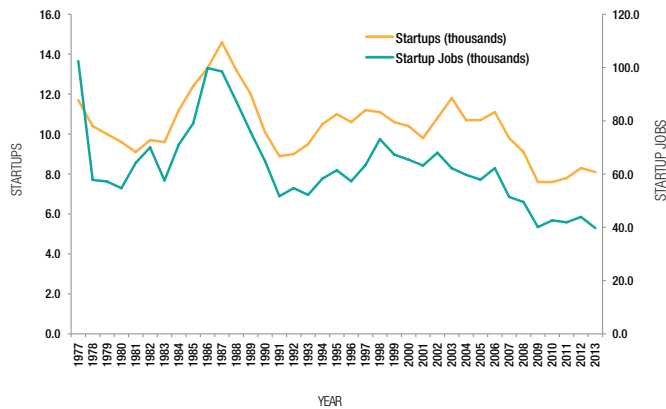
Many claims about the prospective effects of the Patient Protection and Affordable Care Act (ACA)--positive, negative, and sometimes both---were made before and after its enactment on March 23, 2010. Those assertions sometimes were based upon analytic findings, and sometimes on little more than political calculations. The actual effects cannot be known until the law is implemented fully and ensuing adjustments are completed both in the health care and health coverage markets, and in the U.S. economy more broadly. That is likely to consume many years; and so it is important in the interim to examine the effects of the ACA as they unfold and to apply inference that might be available from experiments in the states, however crude they might be as analogues.

This study examines the impact of the ACA on entrepreneurship, that is, on startup activity. The prospective impact of the ACA on entrepreneurship is important for both employment and GDP growth. The modern economic literature finds that it is new and young businesses---startups---that contribute disproportionately to both gross and net employment creation. This prospective effect of the ACA cannot be known in advance, as several hypotheses are equally plausible but yield contrasting implications.

Because the ACA has not been implemented fully---and because ensuing adjustments to it in the private sector will take years---the effect on startup activity cannot be measured directly or fully. But three states---Massachusetts, New Jersey, and Tennessee--- have implemented health coverage reforms similar in greater and lesser degrees to the ACA, and an examination of startup activity in those states over time provides some insights that can inform our thinking about this question.

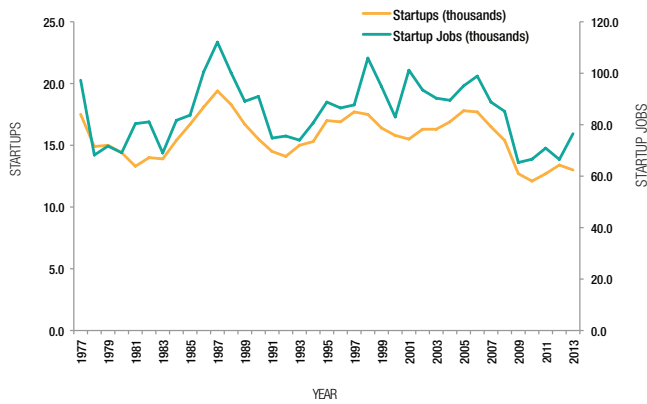
Massachusetts implemented its reform program in 2006 under then-Governor Mitt Romney. Figure S1 illustrates the paths of startup activity and net job creation by startups for the period 1977-2013. Figures S2 and S3 present the same data for New Jersey and Tennessee, respectively, which implemented their programs in 1993 and 1993-2005.

**FIGURE S1**  
Massachusetts Startups and Net Startup Job Creation



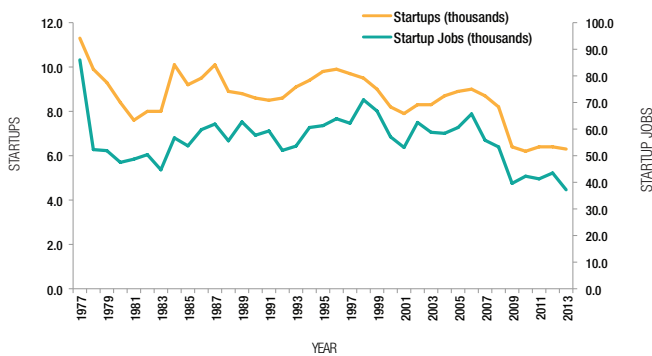
Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

**FIGURE S2**  
New Jersey Startups and Net Startup Job Creation



Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

**FIGURE S3**  
Tennessee Startups and Net Startup Job Creation



Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

The paths illustrated in the three figures do not suggest a perceptible effect of the state programs on startup activity, although correlation obviously is not causation. Accordingly, a two-stage econometric analysis is applied in this study, and the central finding---however tentative---is confirmed. Health coverage programs more-or-less similar to that of the ACA have not yielded effects on entrepreneurship, whether positive or negative.

And so then-Speaker of the House of Representatives Nancy Pelosi was correct in her argument that the ACA had to be passed in order to “find out what is in it,” that is, to discover its actual effects in terms of entrepreneurship and a number of other parameters.



## I. Introduction

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The Patient Protection and Affordable Care Act (ACA) was signed by President Barack Obama in March of 2010. Only two weeks earlier, then-Speaker of the House of Representatives Nancy Pelosi commented rather famously (or infamously in the view of some) that “we have to pass the bill so that you can find out what is in it, away from the fog of the controversy.”<sup>1</sup> That statement can be interpreted in ways both varied and conflicting, but the larger reality is indisputable: The legislation was detailed and complex, with a large number of mandates, taxes, incentives, thresholds, requirements, definitions, constraints, and other such provisions intended to shape individual and group behavior in the markets for health care, health coverage, labor, and many other dimensions of U.S. economic performance.<sup>2</sup>

Accordingly, at a minimum Speaker Pelosi was correct with respect to one crucial parameter. Notwithstanding the many assertions about the future effects of the ACA in terms of health care costs, the number of insured individuals, incentives for hiring and workforce participation, hours of employment, *ad infinitum*: Such prospective impacts of the ACA could not be known in advance, certainly in terms of the respective magnitudes, and even directionally with respect to some important provisions. The bill would have to be passed in order to determine its effects, that is, to “find out what is in it.”

One such important parameter is the effect of the ACA on entrepreneurship, defined as the annual number or growth rate of startup businesses. The prospective impact of the ACA on entrepreneurship is important for both employment and GDP growth. The modern economic literature finds that it is new and young businesses---startups---that contribute disproportionately to both gross and net employment creation.<sup>3</sup> Moreover, in research sponsored by the Kauffman Foundation and published by the Pacific Research Institute in 2013<sup>4</sup>, a two-stage econometric analysis utilizing a dataset comprising 49 states for the period 1977-2010 found that:

- An increase in the number of startup firms does not affect gross state product or its growth rate; but
- An increase in net job creation by startups has a positive effect on gross state product that is significant both economically and statistically; and

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1 See Tommy Christopher, “The Context Behind Nancy Pelosi’s Famous ‘We Have to Pass the Bill’ Quote,” November 17, 2013, at <http://www.mediaite.com/tv/the-context-behind-nancy-pelosis-famous-we-have-to-pass-the-bill-quote/>. See also Jonathan Capehart, “Pelosi Defends Her Infamous Health Care Remark,” *Washington Post*, June 20, 2012, at [http://www.washingtonpost.com/blogs/post-partisan/post/pelosi-defends-her-infamous-health-care-remark/2012/06/20/gJQAqch6qV\\_blog.html](http://www.washingtonpost.com/blogs/post-partisan/post/pelosi-defends-her-infamous-health-care-remark/2012/06/20/gJQAqch6qV_blog.html).

2 For a detailed economic analysis of the provisions and attendant incentive effects of the ACA, see Casey B. Mulligan, *Side Effects: The Economic Consequences of the Health Reform*, Flossmoor, IL: JMJ Economics, 2014, available at <http://www.acasideeffects.com/>.

3 See Ryan Decker, John Haltiwanger, Ron Jarmin, and Javier Miranda, “The Role of Entrepreneurship in U.S. Job Creation and Economic Dynamism,” *Journal of Economic Perspectives*, Vol. 28, No. 3 (Summer 2014), pp. 3-24. See also John Haltiwanger, Ron S. Jarmin, and Javier Miranda, “Who Creates Jobs? Small vs. Large vs. Young,” working paper, August 2011, at [http://econweb.umd.edu/~haltiwan/size\\_age\\_paper\\_R&R\\_Aug\\_16\\_2011.pdf](http://econweb.umd.edu/~haltiwan/size_age_paper_R&R_Aug_16_2011.pdf), Figure 5; and Steven J. Davis and John Haltiwanger, “Gross Job Flows,” in Orley C. Ashenfelter and David Card, eds., *Handbook of Labor Economics*, Vol. 3, New York: North Holland, 1999, Figures 2, 3, and 8. For a nontechnical discussion of the underlying economic processes, see Martin A. Sullivan, “Start-Ups, Not Small Businesses, Are Key to Job Creation,” *Tax Analysis*, January 9, 2012, at <http://taxprof.typepad.com/files/134tn158.pdf>. See also Giuseppe Moscarini and Fabien Postel-Vinay, “The Contribution of Large and Small Employers to Job Creation in Times of High and Low Unemployment,” *American Economic Review*, Vol. 102, No. 6 (October 2012), pp. 2509-2539. They find “a negative correlation... between the net job creation rate of large employers and the level of aggregate unemployment that is much stronger than for small employers.”

4 Benjamin Zycher, “Startup Businesses and the Growth of Real State Gross Product,” monograph, Pacific Research Institute, May 2013, at [http://www.pacificresearch.org/fileadmin/documents/Studies/PDFs/2013-2015/StartUp\\_Zycher\\_r2.pdf](http://www.pacificresearch.org/fileadmin/documents/Studies/PDFs/2013-2015/StartUp_Zycher_r2.pdf).

- Each net job created by startup firms is estimated to increase gross state product by almost \$1.2 million in a given year; and
- There does not seem to be an effect of net job creation by startups on the growth rate of gross state product, a finding that implies that job creation by startups shifts the trend line of gross state product upward, but does not increase its slope.

In short, startup activity---entrepreneurship---has important implications for employment and for aggregate economic performance. And the prospective effect of the ACA on startup activity cannot be predicted in advance. A few alternative hypotheses about the effects of the ACA on startup activity can be summarized as follows:

- Aspiring entrepreneurs, guaranteed access to health coverage under the ACA, are encouraged to create startup businesses, due to the reduced (or low) risk of losing health insurance.
- Aspiring entrepreneurs are deterred from the creation of startup businesses because of the (sometimes subsidized) costs of coverage under the ACA, due in part to its extensive (and expensive) list of required coverage benefits.<sup>5</sup>
- Aspiring entrepreneurs are deterred from the creation of startup businesses, or from some hiring, due to such ACA provisions as the 50-employee and 30-hour thresholds for employer mandates and penalties and “full-time” employee designations.<sup>6</sup>
- Older (perhaps middle-aged) workers choose earlier retirement rather than entrepreneurship because of guaranteed coverage through a state or federal health care exchange under the ACA.
- The Small Business Health Options Program (SHOP), part of the ACA, induces entrepreneurship by offering tax credits for small/startup businesses offering health coverage to their employees.
- The SHOP program hinders entrepreneurial activity by denying eligibility to self-employed individuals with no employees, by requiring that coverage be offered to all full-time employees, and by requiring that at least 70 percent of the full-time employees enroll in the SHOP plan.

The central point here is that the many effects of the ACA cannot be known in advance, an obvious truth that applies to startup activity in particular. This paper attempts to explore that question in a preliminary fashion, as the ACA has not been implemented fully; for example, the employer penalties for failure to offer coverage did not take effect until January 1, 2015 for employers with 100 or more employees, and will not take effect until the following January 1 for employers with 50-99 employees. Moreover, even for the provisions that have taken effect, it is reasonable to expect that private-sector adjustments will occur over some number of years.

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5 For an analysis of the cost and coverage implications of such health insurance mandates, see Benjamin Zycher, “Entrepreneurs’ Coverage: An Alternative Health Policy Reform,” monograph, Pacific Research Institute, January 2010, at <http://www.pacificresearch.org/article/entrepreneurs-coverage-an-alternative-health-policy-reform/>.

6 A useful summary of the provisions of the ACA can be found at <http://kff.org/health-reform/fact-sheet/summary-of-the-affordable-care-act/>.

Section II presents an overview of the recent U.S. record on startup activity, and a summary of a few of the various hypotheses explaining it. That discussion is followed by a review of the recent literature on the effect of health coverage generally on entrepreneurship, and by a brief summary of some provisions of the ACA that can be predicted to affect startup activity. Section III presents some evidence from the state experience with programs crudely similar to the ACA, while section IV offers tentative conclusions.

## II. Recent Trends in U.S. Startup Activity

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“Entrepreneurship,” as noted above, usually is defined at least in part as startup activity, whether in absolute or relative terms; and startup activity sometimes is used as a proxy for economic “dynamism,” or some similar concept.<sup>7</sup> Hathaway and Litan present data showing a long-term decline in entrepreneurial activity, defined as firms less than a year old as a percentage of all firms, from over 14 percent in 1978 to about 8 percent in 2011.<sup>8</sup> Their data show that the number of business failures has kept pace “with the overall level of businesses in the economy, but the level of business births did not---it held relatively steady before dropping significantly in the recent downturn.” They note also that “business deaths now exceed business births for the first time in the thirty-plus-year history of our data.”

Whether the startup rate is a useful definition of “dynamism” is an interesting question; long-established firms can display high levels of “dynamism” and entrepreneurial innovation as well.<sup>9</sup> But startup activity is crucial in terms of employment growth, as noted above, and the longer-term relative decline in startup activity is real, as shown in Table 1 and illustrated in Figure 1.

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7 See, e.g., Ryan Decker, John Haltiwanger, Ron. S. Jarmin, and Javier Miranda, “The Secular Decline in Business Dynamism in the U.S.,” working paper, June 2014, at <http://faculty.chicagobooth.edu/workshops/appliedecon/pdf/haltiwangersecular.pdf>. They define “business dynamism” in terms of trends in gross job creation and job destruction, alternative measures of establishment and firm level volatility, and the trend in the firm startup rate.

8 Ian Hathaway and Robert E. Litan, “Declining Business Dynamism in the United States: A Look at States and Metros,” Brookings Economics Studies, May 2014, at <http://www.brookings.edu/research/papers/2014/05/declining-business-dynamism-litan>.

9 For a short discussion, see James Pethokoukis, “If Washington Isn’t Behind the Decline in U.S. Startups, Then What Is?,” American Enterprise Institute, February 18, 2015, at <https://www.aei.org/publication/washington-isnt-behind-decline-us-startups/>, in which the case of the Ford Motor Company and the leadership of Alan Mulally is discussed as an example.

**TABLE 1**

## U.S. STARTUP FIRMS, NET STARTUP JOB CREATION (FIRMS LESS THAN ONE YEAR OLD)

Year	Startups (thousands)	Jobs Created (thousands)	Jobs/Startups
1977	565	3717	6.6
1978	504	2706	5.4
1979	498	2844	5.7
1980	451	2492	5.5
1981	454	2882	6.3
1982	449	2993	6.7
1983	434	2480	5.7
1984	503	2788	5.5
1985	509	2929	5.8
1986	522	3134	6.0
1987	544	3279	6.0
1988	489	3058	6.3
1989	473	2956	6.2
1990	480	2919	6.1
1991	470	2716	5.8
1992	464	2815	6.1
1993	475	2637	5.6
1994	497	2915	5.9
1995	513	2964	5.8
1996	515	2977	5.8
1997	520	3040	5.8
1998	515	3415	6.6
1999	497	3199	6.4
2000	482	3091	6.4
2001	471	2947	6.3
2002	503	3321	6.6
2003	507	3163	6.2
2004	526	3152	6.0
2005	549	3396	6.2
2006	561	3536	6.3
2007	529	3023	5.7
2008	490	2806	5.7
2009	409	2383	5.8
2010	388	2410	6.2
2011	401	2323	5.8
2012	410	2368	5.8

Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age and economy-wide).

**FIGURE 1**  
U.S. STARTUPS AND NET STARTUP JOB CREATION



Startup activity shows essentially no trend after the mid- to late 1980s until a sharp downturn beginning around 2007. The same is true for net job creation by startup firms; the simple correlation between the two series is high, at 0.864. (A change of one unit in one of the variables is associated with a change of 0.864 units in the other, in the same direction.) Note that these more-or-less flat trends occurred during a period in which real U.S. GDP grew from about \$6.5 trillion to about \$16.7 trillion, both in year 2014 dollars.<sup>10</sup> Accordingly, startup activity has become less important proportionately as the U.S. economy has grown.

Decker *et. al.* note “the decline in business startups and the associated decline in the share of business activity accounted for by younger businesses” as a component of “a pervasive decline in indicators of business dynamism over the last several decades.”<sup>11</sup> They disaggregate the data in several ways, among them into “Mom and Pop” or “subsistence” entrepreneurs, retail trade and service sectors, and the information and high tech (“high growth”) sectors, and also into before- and after year 2000 time periods. They describe the changes in dynamism and startup hiring before- and after 2000, both across and within industries, with an emphasis on the statistical properties (skewness) of the growth rates of businesses, but do not discuss in detail the underlying conditions that might have yielded the decline in startup activity observed over many years. Hathaway and Litan disaggregate the data on national trends in startup activity by state and metropolitan area, and find that the startup decline has afflicted all fifty states and all but one of 366 metropolitan areas.<sup>12</sup>

10 See the U.S. Bureau of Economic Analysis at <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=1&isuri=1>, Tables 1.1.6 and 1.1.4; and author computations.

11 Decker, *et. al.*, *op. cit.*, fn. 7 *supra.*, at 29.

12 Hathaway and Litan, *op. cit.*, fn. 8 *supra.*

But the literature does not offer a clear explanation for this long-term, broad-based decline in startup activity. One common hypothesis is the expanding scope and cost of regulation; but the literature is not uniform with respect to the effect of increasing regulation or precisely how regulation has a depressing effect on startup activity.<sup>13</sup> One possible source is the difficulty startups and small firms face in terms of acquiring H-1B visas for hiring highly-skilled immigrants; larger competitors have the resources to file hundreds or thousands of applications for the limited number of such visas available. Whatever the mechanism through which regulation affects startup activity, Bailey and Thomas find that industries regulated more heavily created fewer new firms and displayed slower employment growth than less-regulated sectors during 1998-2011.<sup>14</sup> Their central finding is that a 10 percent increase in regulatory activity results in a 0.5 percent reduction in startup activity, and a 0.9 percent decline in hiring for all firms.

On the other hand, Goldschlag and Tabarrok find empirically that federal regulation “has had little to no effect on declining dynamism.”<sup>15</sup> They offer the hypothesis that more entrepreneurship might be occurring at older, established firms, particularly through outsourcing; but it would seem that an increase in outsourcing ought to yield an increase in startup activity. Another hypothesis is that the U.S. population share of those between 35 and 45 years of age---the prime entrepreneurial age group---has been declining, and with it startup activity. The problem is that the recent data on that population share and the startup rate do not correlate well.<sup>16</sup> Another hypothesis is that network effects---the more that people use a given technology (e.g., Facebook), the more valuable it becomes for others to use it, and thus the more difficult it becomes for startups (new entrants) to challenge it.<sup>17</sup>

Whatever the relative strengths of the various hypotheses, the more-central issue here is the effect of the availability of health coverage on entrepreneurship. The relevant literature on those effects offers mixed findings. Using data from the *Current Population Survey*, Fairlie, Kapur, and Gates examine the effect of employer-provided health coverage through spouses on business creation. They find a larger negative effect of health coverage demand on business creation for those lacking coverage through separate spousal employment than for those with such coverage; in other words, the availability of coverage through a spouse’s employment encourages entrepreneurship, an intuitively reasonable finding.<sup>18</sup> They find also a significant increase in startup activity for those newly eligible for Medicare coverage, an effect absent with respect to such other factors as eligibility for Social Security or pension benefits, retirement, and the like..

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13 This ambiguity is noted by Ian Hathaway in an interview with James Pethokoukis of the American Enterprise Institute, at <http://www.aei.org/publication/startups-qa-ian-hathaway-decline-us-entrepreneurship/>.

14 James Bailey and Diana Thomas, “Regulating Away Competition: The Effect of Regulation on Entrepreneurship and Employment,” Mercatus Center Working Paper, September 2015, at <http://mercatus.org/sites/default/files/Bailey-Regulation-Entrepreneurship.pdf>.

15 Nathan Goldschlag and Alexander Tabarrok, “Is Regulation to Blame for the Decline in American Entrepreneurship?,” at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2559803](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2559803).

16 See the chart at <https://twitter.com/BrookingsInst/status/497015255847809025>.

17 See James Pethokoukis, “Where Are all the Startups? More on America’s Economic Calcification,” November 19, 2014, quoting JPMorgan economist Michael Feroli, at <https://www.aei.org/publication/startups-americas-economic-calcification/>.

18 Robert W. Fairlie, Kanika Kapur, and Susan M. Gates, “Is Employer-Based Health Insurance a Barrier to Entrepreneurship?,” *Journal of Health Economics*, Vol. 30, Issue 1 (January 2011), pp. 146-162.



DeCicca examines the effects of the New Jersey Individual Health Coverage Plan, implemented in August 1993.<sup>19</sup> He finds a significant increase in self-employment for those benefiting from certain coverage benefits similar to those enacted in the ACA; community rating for setting premiums and other features increased the relative entrepreneurship effect for unmarried, older, and less-healthy individuals. Adams, using data from the *Current Population Survey*, finds a significant downward effect of employer-provided coverage on labor mobility, that is, a job lock effect, in particular for those without alternative possible coverage through a spouse's employment, a finding similar to that of Fairlie, Kapur, and Gates.<sup>20</sup> Note that labor mobility---movement among alternative employments---and entrepreneurship are overlapping but different phenomena.

Wellington, also using data from the *Current Population Survey*, finds that the availability of health insurance through a spouse increases the likelihood of self-employment, by 2.3-4.4 percentage points for husbands and 1.2-4.6 percentage points for wives.<sup>21</sup> Gumus and Regan find statistically-significant effects of health coverage on entry into self-employment from wage or salary employment, but not the reverse.<sup>22</sup>

Garthwaite, Gross, and Notowidigdo find a large increase in employment and private coverage stemming from a one-time mass disenrollment in Medicaid in Tennessee in 2005, and a significant employment lock effect of private coverage.<sup>23</sup> This suggests that public coverage programs have the effect of reducing labor supply, with impacts on startup activity that are ambiguous in that public coverage might lead workers to leave private employment in favor of either self-employment or non-employment. Gruber and Madrian in a review of the literature find that health insurance is a central factor determining retirement decisions, labor market participation by secondary earners, and labor mobility.<sup>24</sup>

One problem with this body of empirical literature is the dominant (but not exclusive) focus on the relationship between private (employer) coverage and labor mobility and/or self-employment. There are important differences between that sort of coverage emerging from a competitive process and that mandated by the ACA, with its various mandates, coverage requirements, and constraints. In particular, the larger policy role inherent in the ACA in terms of shaping coverage parameters, provider networks, and the like---both explicitly and implicitly in the form of price constraints---is likely to mean that coverage under the ACA implies less "access" to actual health care services than is the case for traditional employer-provided coverage. Accordingly, inferences about the effect of employer coverage on self-employment---entrepreneurship---derived from the existing empirical literature may be mis-

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19 Philip DeCicca, "Health Insurance Availability and Entrepreneurship," Upjohn Institute Working Paper No. 10-167, 2010, at [http://research.upjohn.org/cgi/viewcontent.cgi?article=1184&context=up\\_workingpapers](http://research.upjohn.org/cgi/viewcontent.cgi?article=1184&context=up_workingpapers).

20 Scott J. Adams, "Employer-Provided Health Insurance and Job Change," *Contemporary Economic Policy*, Vol. 22, No. 3 (July 2004), pp. 357-369.

21 Alison J. Wellington, "Health Insurance Coverage and Entrepreneurship," *Contemporary Economic Policy*, Vol. 19, No. 4 (October 2001), pp. 465-478.

22 Gulcin Gumus and Tracy L. Regan, "Self-Employment and the Role of Health Insurance in the U.S.," *Journal of Business Venturing*, Vol. 30, Issue 3 (May 2015), pp. 357-374.

23 Craig Garthwaite, Tal Gross, and Matthew J. Notowidigdo, "Public Health Insurance, Labor Supply, and Employment Lock," *Quarterly Journal of Economics*, Vol. 129, Issue 2 (May 2014), pp. 597-652.

24 Jonathan Gruber and Brigitte C. Madrian, "Health Insurance, Labor Supply, and Job Mobility: A Critical Review of the Literature," National Bureau of Economic Research Working Paper No. 8817, February 2002, at <http://www.nber.org/papers/w8817>.

leading in the context of that effect attendant upon the ACA.<sup>25</sup> At the same time, Bailey finds that the ACA dependent care requirement---19-25-year-olds are able to obtain coverage under their parents' policies, and thus independent of their employment---has resulted in an increase in self-employment of 13-24 percent for those in that age group and eligible for this dependent coverage.<sup>26</sup>

The ACA imposes an employer penalty of \$2000 per full-time equivalent employee beginning with the thirty-first worker, for employers with more than fifty full-time equivalent employees and that do not offer "affordable" health coverage. The definition of "affordable" health coverage is somewhat complex, but at a simplified level limits the premiums paid by employees to about 9.5 percent of a given employee's earnings.<sup>27</sup> Because this penalty is not deductible for the employer, it must be paid with after-tax dollars, and thus is equivalent to a salary cost of over \$3100 for employers with more than fifty employees, under a set of simplifying assumptions.<sup>28</sup> Because small employers are not subjected to this requirement or penalty, the ACA bestows an advantage upon them in the form of greater flexibility in terms of the mix of wages and non-wage benefits (health coverage in this context) that they can offer so as to attract workers. With respect to startup activity, new firms overwhelmingly are small: Well over 90 percent of startups have fewer than fifty employees, and approximately a quarter of firms with fewer than fifty employees are three or fewer years old.<sup>29</sup>

Accordingly, it may be reasonable to hypothesize *ex ante* that the ACA would increase startup activity. On the other hand, the employer penalty taken in isolation might have the effect of inducing some who otherwise might start businesses instead to seek out employment offering health coverage.<sup>30</sup> In short: The net effect of the ACA on startup activity is an empirical matter, and given that the law will not be implemented fully until 2016, and private-sector adjustments to the law are likely to be observed over some period after that year, we must look at rough analogues to explore this question, the topic of section III.

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25 See, e.g., Adam Janofsky, "Small Businesses Snub Health Exchanges for Coverage," *Wall Street Journal*, January 7, 2015, at <http://www.wsj.com/articles/small-businesses-are-bypassing-health-exchanges-for-coverage-1420671638>. See also Sam Batkins, Ben Gitis, and Conor Ryan, "ObamaCare's Impact on Small Business Wages and Employment," American Action Forum research paper, September 2014, at [http://americanactionforum.org/uploads/files/research/Impact\\_of\\_ACA\\_on\\_Small\\_Business\\_PDF\\_Format.pdf](http://americanactionforum.org/uploads/files/research/Impact_of_ACA_on_Small_Business_PDF_Format.pdf).

26 James Bailey, "Health Insurance and the Supply of Entrepreneurs: New Evidence From the Affordable Care Act's Dependent Care Mandate," March 2013, at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2230099](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2230099).

27 See the Internal Revenue Service discussion at <http://www.irs.gov/Affordable-Care-Act/Employers/Questions-and-Answers-on-Employer-Shared-Responsibility-Provisions-Under-the-Affordable-Care-Act#Liability>.

28 See Mulligan, *op. cit.*, fn. 2 *supra.*, at Table 3.2.

29 See the U.S. Bureau of Census, Business Dynamics Statistics database, at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html), firm age by firm size.

30 See Casey B. Mulligan, "The ACA's Unintended Consequences," *City Journal*, May 14, 2015, at <http://www.city-journal.org/2015/eon-0514cm.html>.

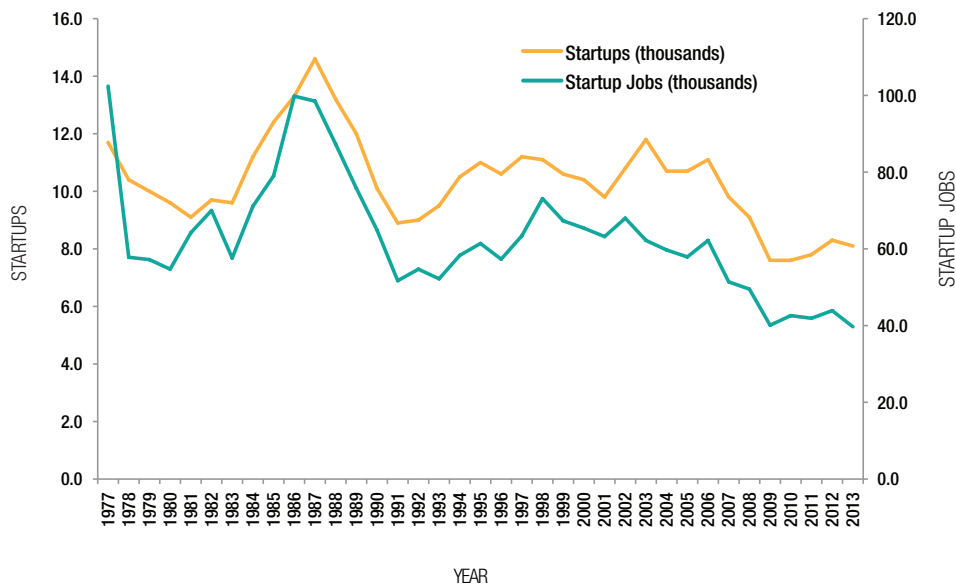


### III. Some State Experience With Policies Crudely Analogous to the ACA

As just noted, the ACA has yet to be implemented fully, particularly in terms of the employer mandates, and so this empirical issue must be examined by analogy with other types of public or public-mandated coverage, in particular at the state level. For those firms with 100 or more employees, the mandate took effect on January 1 of this year, and the employer must cover 70 percent of its full-time employees. That percentage rises to 95 percent in 2016. For employers with 50 to 99 employees, the employer mandate will take effect on January 1, 2016. Two states, Massachusetts and New Jersey, have implemented health coverage policies with some features similar to those characterizing the ACA; and a third state, Tennessee, implemented a large expansion in Medicaid, the joint state/federal program for Americans earning less than 133 percent of the federal poverty level. These state policies may offer some insights with respect to the effects of expanded coverage availability on startup activity.

*Massachusetts Commonwealth Care.* Massachusetts enacted in 2006 a health coverage reform system with several features similar to those of the ACA: an individual mandate (the “minimum creditable coverage” requirement) to obtain health insurance, an employer mandate (or, alternatively, penalties) for firms with eleven or more full-time equivalent employees, an exchange (the Commonwealth Health Insurance Connector) in which individuals and small business can obtain coverage, guaranteed issue provisions, community rating, and premium subsidies for those with incomes below 300 percent of the federal poverty level.<sup>31</sup> Table 2 presents data on startup activity and net startup job creation for Massachusetts for 1977–2013, data that are plotted in Figure 2 below.

**FIGURE 2**  
MASSACHUSETTS STARTUPS AND NET STARTUP JOB CREATION



31 Links to the various provisions of the law can be found at <http://www.loc.gov/law/help/statehealthplans/massachusetts.php>.

**TABLE 2**  
**MASSACHUSETTS STARTUP FIRMS, NET STARTUP JOB CREATION**  
**(FIRMS LESS THAN ONE YEAR OLD)**

Year	Startups (thousands)	Jobs Created (thousands)	Jobs/Startups
1977	11.7	102.4	8.7
1978	10.4	57.8	5.6
1979	10.0	57.2	5.7
1980	9.6	54.7	5.7
1981	9.1	64.2	7.1
1982	9.7	70.0	7.2
1983	9.6	57.6	6.0
1984	11.2	71.1	6.3
1985	12.4	79.0	6.4
1986	13.3	99.8	7.5
1987	14.6	98.5	6.8
1988	13.2	87.3	6.6
1989	12.0	75.8	6.3
1990	10.1	64.9	6.4
1991	8.9	51.7	5.8
1992	9.0	54.7	6.1
1993	9.5	52.2	5.5
1994	10.5	58.3	5.6
1995	11.0	61.4	5.6
1996	10.6	57.3	5.4
1997	11.2	63.4	5.7
1998	11.1	73.1	6.6
1999	10.6	67.3	6.3
2000	10.4	65.4	6.3
2001	9.8	63.2	6.5
2002	10.8	68.0	6.3
2003	11.8	62.2	5.3
2004	10.7	59.7	5.6
2005	10.7	57.9	5.4
2006	11.1	62.2	5.6
2007	9.8	51.4	5.2
2008	9.1	49.5	5.4
2009	7.6	40.1	5.3
2010	7.6	42.6	5.6
2011	7.8	41.9	5.3
2012	8.3	43.9	5.3
2013	8.1	39.7	4.9

Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

The simple correlation between startup activity and net startup job creation for Massachusetts is 0.879. From Table 2 and Figure 2, those parameters display no obvious increase (or slowing decrease) after 2006, and may show a declining trend, although a simple correlation obviously is not causation, in particular in this case with the deep U.S. recession of 2008-2009. Because correlation is not causation, an econometric analysis of the relationship between startup activity and the adoption of health coverage policies is appropriate. Both total state employment and startup activity are endogenous variables. We posit here a simple two-stage model in which total state employment<sup>32</sup> is determined by the number of startup firms<sup>33</sup>, the size of the labor force<sup>34</sup>, gross state product<sup>35</sup>, total personal income<sup>36</sup>, the poverty rate<sup>37</sup>, and the growth rate of real GDP for the U.S.<sup>38</sup>

The number of startup firms is determined by:

- gross state product;
- total personal income;
- total state and local government outlays;<sup>39</sup>
- the size of the state labor force;
- total state employment as predicted by the instrumental variable estimated in the regression first stage;
- a zero-one (“dummy”) variable denoting whether the governor is a Republican;
- a dummy variable denoting whether the upper legislative chamber is controlled by the Republicans;<sup>40</sup>
- a dummy variable denoting whether the lower legislative chamber is controlled by the Republicans;<sup>41</sup>
- the growth rate of real GDP for the U.S.; and
- a dummy variable for the years in which health coverage policies similar to those of the ACA were in effect.<sup>42</sup>

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32 Data obtained from the U.S. Census Bureau at <http://www.census.gov/govs/local/> for 1992-2013; from Benjamin Zycher files for work referenced in fn. 4 *supra.*, for 1977-1991; author computations; [www.census.gov/prod/www/abs/statab1951-1994.htm](http://www.census.gov/prod/www/abs/statab1951-1994.htm); the U.S. Bureau of Economic Analysis at <https://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1>; and private communications with BLS staff.

33 See data source listed in Table 2, *supra.*

34 Data obtained from the U.S. Bureau of Labor Statistics at <http://www.bls.gov/lau/staadata.txt>.

35 Data obtained from the Bureau of Economic Analysis at <http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrden=2#reqid=70&step=4&isuri=1&7003=900&7001=1900&7002=1&7090=70>.

36 *Ibid.*

37 U.S. Census Bureau at <https://www.census.gov/hhes/www/poverty/data/historical/people.html>, Table 21.

38 Data obtained from the U.S. Bureau of Economic Analysis at <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=1&isuri=1>, Table 1.1.1.

39 *Op. cit.*, fn. 32 *supra.*

40 Data from U.S. Census Bureau at [https://www.census.gov/compendia/statab/cats/elections/gubernatorial\\_and\\_state\\_legislatures.html](https://www.census.gov/compendia/statab/cats/elections/gubernatorial_and_state_legislatures.html); and Benjamin Zycher, *op. cit.*, fn. 38 *supra.*

41 *Ibid.*

42 For Massachusetts, this period is 2006-2013. For New Jersey, 1993-2013; and for Tennessee, the TennCare Medicaid expansion of interest lasted from 1993 through most of 2005.

By hypothesis, employment is determined in part by the number of startup firms, which in turn is determined in part by employment, by the presence or absence of ACA-type policies, and by the other variables just noted. Accordingly, a two-stage econometric model is the appropriate estimation technique in the face of this “endogeneity” condition. Consider a police force that assigns heavier patrol duty in high-crime areas. In the absence of an equation predicting those patrolling decisions, a simple econometric model explaining crime rates as a function of the intensity of patrols (and other variables) is likely to predict that more police patrols are a cause of crime, because the econometric model will encounter a strong positive correlation between crime and police patrols, and the remaining variables controlling for the other factors that drive crime rates are unlikely to control for the decisionmaking of the police departments.<sup>43</sup>

In accordance with standard practice, the results of the first-stage analysis---the prediction of total state employment---are not reported here separately because the statistical consistency of the second-stage estimates of interest (the number of startup firms) does not depend upon the consistency of the first stage.<sup>44</sup> Only the statistical independence of the employment variable is needed, and the use of the predicted employment variable produced in the first-stage estimation process satisfies that condition.<sup>45</sup>

For the second-stage equation predicting startup activity, gross state product is included as a crude measure of the magnitude of the opportunities available to entrepreneurs; total personal income is intended to serve as a different measure of the same conceptual parameter, and as a measure of the aggregate state demand for goods and services. Total state and local government outlays is included as another measure of opportunities for startups, particularly given that states and localities generally have formal or informal policies granting contracting preferences to new or small businesses. The state labor force is included as a control for the size of the labor market, in order to avoid scale effects; while total state employment is included as a control for aggregate competition for workers in self-employment versus ordinary employment. In addition, a larger employment pool also is likely to be more diverse in terms of skills and productivity, perhaps offering a better environment for the success of startups. The three “Republican” zero-one variables are assumed to serve as a group of proxy variables for the tax and regulatory climate affecting startup activity. The growth rate of U.S. GDP is intended as measure of general economic conditions. Finally, the dummy variable for the presence or absence of policies crudely similar to those of the ACA is included so as to test for the effect of direct interest here.

Table 3 presents the econometric findings for Massachusetts.

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43 Another simple example would be an analysis of the effect of an insecticide on farmland infestations. Because farmers are likely to use insecticides more intensively on acres with greater infestations, a simple econometric model analyzing the effect of the insecticide on infestations is likely to find that the insecticide is healthful for the insects. The behavior of the farmers must be included in the model.

44 The specifics of those estimated equations are available from the author upon request, at [benzycher@zychereconomics.com](mailto:benzycher@zychereconomics.com). Estimates derived using Stata 13.1.

45 See Harry H. Kelejian, “Two-Stage Least Squares and Econometric Systems Linear in Parameters but Nonlinear in the Endogenous Variables,” *Journal of the American Statistical Association*, Vol. 66, Issue 334 (June 1971), pp. 373-374. See also, Joshua D. Angrist and Alan B. Krueger, “Instrumental Variables and the Search for Identification From Supply and Demand to Natural Experiments,” National Bureau of Economic Research, Working Paper 8546, September 2001, at <http://www.nber.org/papers/w8456>.

**TABLE 3**  
**MASSACHUSETTS: ECONOMETRIC FINDINGS FOR STARTUP ACTIVITY**

Explanatory Variable	Estimated Coefficient	T-Statistic
Gross state product	00001	0.92
Total personal income	-.00004	-3.17
State and local outlays	.00001	0.52
State labor force	-.019	-2.37
Total state employment	.023	2.48
Republican governor 0/1	.790	1.35
Republican upper leg chamber 0/1	-----	-----
Republican lower leg chamber 0/1	-----	-----
U.S. GDP growth	.0734	0.66
ACA similar policies 0/1	-.3262	-0.37
constant term	3.38	0.40
pseudo adj.R2	0.693	0.693

Source: author computations. Republican legislative zero/one variables omitted because values were zero for all years for Massachusetts.

Increases in total personal income have very small negative effects on the number of startups; the same is true for increases in the state labor force and total employment. The other variables display effects that are not statistically significant, including the presence of coverage policies similar to those of the ACA.

*New Jersey Individual Health Coverage Program (IHC) and Small Employer Health Benefits Program (SEH).* These two programs took effect in 1993, intended to “guarantee access to health coverage for individuals and small employers, regardless of health status, age, claims history, and any other risk factor.”<sup>46</sup> Table 4 presents the basic data on startup activity and net startup job creation for the state, while Figure 3 presents a plot of the data.

46 For descriptions of the programs, see [http://www.state.nj.us/dobi/division\\_insurance/ihcseh/index.html](http://www.state.nj.us/dobi/division_insurance/ihcseh/index.html), [http://www.state.nj.us/dobi/division\\_insurance/ihcseh/ihcmain.htm](http://www.state.nj.us/dobi/division_insurance/ihcseh/ihcmain.htm), and [http://www.state.nj.us/dobi/division\\_insurance/ihcseh/sehmain.htm](http://www.state.nj.us/dobi/division_insurance/ihcseh/sehmain.htm).

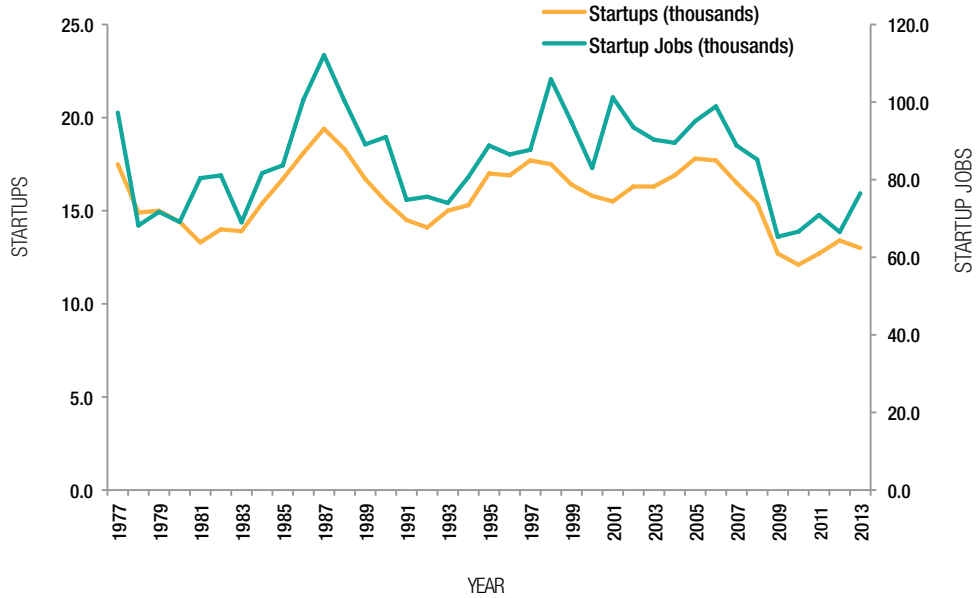
**TABLE 4**

NEW JERSEY STARTUP FIRMS, NET STARTUP JOB CREATION  
(FIRMS LESS THAN ONE YEAR OLD)

Year	Startups (thousands)	Jobs Created (thousands)	Jobs/Startups
1977	17.5	97.3	5.6
1978	14.9	68.2	4.6
1979	15.0	71.7	4.8
1980	14.4	69.1	4.8
1981	13.3	80.4	6.0
1982	14.0	81.1	5.8
1983	13.9	69.0	5.0
1984	15.4	81.7	5.3
1985	16.7	83.7	5.0
1986	18.1	100.6	5.5
1987	19.4	112.1	5.8
1988	18.3	100.2	5.5
1989	16.7	89.1	5.3
1990	15.5	91.0	5.9
1991	14.5	74.8	5.2
1992	14.1	75.6	5.3
1993	15.0	74.0	4.9
1994	15.3	80.7	5.3
1995	17.0	88.8	5.2
1996	16.9	86.5	5.1
1997	17.7	87.7	5.0
1998	17.5	105.9	6.1
1999	16.4	94.8	5.8
2000	15.8	83.0	5.3
2001	15.5	101.2	6.5
2002	16.3	93.5	5.7
2003	16.3	90.3	5.5
2004	16.9	89.5	5.3
2005	17.8	95.1	5.3
2006	17.7	98.9	5.6
2007	16.5	88.8	5.4
2008	15.4	85.2	5.5
2009	12.7	65.3	5.2
2010	12.1	66.6	5.5
2011	12.7	70.9	5.6
2012	13.4	66.5	5.0
2013	13.0	76.5	5.9

Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

**FIGURE 3**  
NEW JERSEY STARTUPS AND NET STARTUP JOB CREATION



The simple correlation between startup activity and net startup job creation for New Jersey is 0.861. From Table 4 and Figure 3, those parameters may display an increase beginning around 1993, but a declining trend beginning in 2006-2007, likely to have been due at least in part to the national economic slowdown. Again, a simple correlation is not causation, and so Table 5 presents the results of the same econometric analysis for New Jersey as that described above for Massachusetts.

**TABLE 5**  
NEW JERSEY: ECONOMETRIC FINDINGS FOR STARTUP ACTIVITY

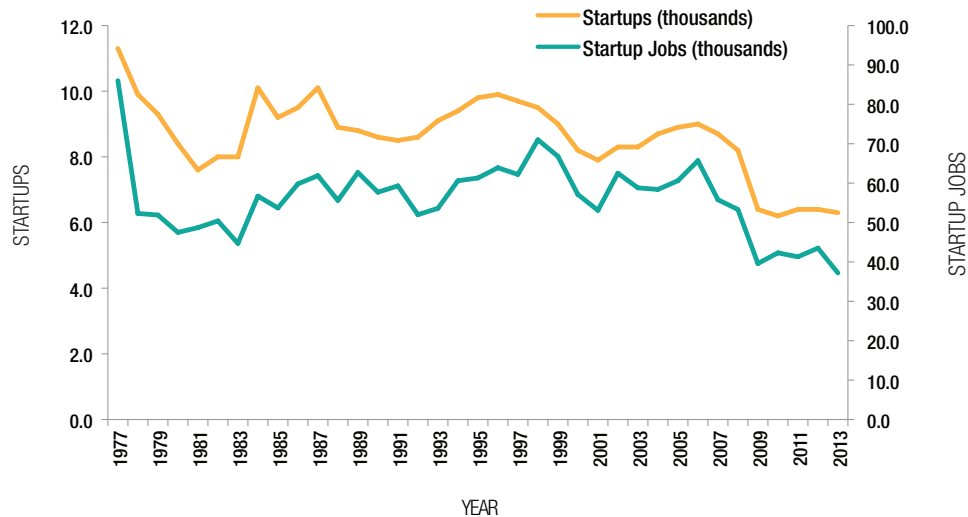
Explanatory Variable	Estimated Coefficient	T-Statistic
Gross state product	.00001	0.80
Total personal income	-.00002	-1.74
State and local outlays	.00001	1.58
State labor force	-.0196	-4.07
Total state employment	.0202	4.56
Republican governor 0/1	.725	2.06
Republican upper leg chamber 0/1	-1.316	-2.60
Republican lower leg chamber 0/1	.817	1.91
U.S. GDP growth	.0324	0.39
ACA similar policies 0/1	.3633	0.57
constant term	19.314	1.92
pseudo adj. R2	0.737	

Source: author computations.

As in the Massachusetts case, increases in total personal income have very small negative effects on the number of startups, but the coefficient is significant statistically only at about an 8 percent significance (92 percent confidence) level. Increases in the state labor force and total employment have very small negative effects. Republican governors have a positive effect of about 725 startup firms, other factors held constant; while Republican control of the upper and lower legislative chambers has negative and positive effects, respectively. The other variables display effects that are not statistically significant, again including the presence of coverage policies similar to those of the ACA.

*Tennessee and the Expansion of Medicaid.* Tennessee implemented a dramatic increase in eligibility for its Medicaid program---TennCare---in 1993, by enrolling the entire Medicaid population in capitated managed care. Coverage under the program increased from about 900,000 to about 1.4 million.<sup>47</sup> This obviously differs from the ACA, as the central non-Medicaid provisions of the latter are aimed at the non-Medicaid population; but it still is interesting to see if the expanded availability of coverage outside of the system of employer-provided insurance yielded a change in startup activity. Table 6 and Figure 4 show those data.

**FIGURE 4**  
TENNESSEE STARTUPS AND NET STARTUP JOB CREATION



47 For a description of the program, see Christina J. Bennett, *TennCare, One State's Experiment with Medicaid Expansion*, Vanderbilt University Press, 2014.



**TABLE 6**  
**TENNESSEE STARTUP FIRMS, NET STARTUP JOB CREATION**  
**(FIRMS LESS THAN ONE YEAR OLD)**

Year	Startups (thousands)	Jobs Created (thousands)	Jobs/Startups
1977	11.3	86.0	7.6
1978	9.9	52.3	5.3
1979	9.3	51.9	5.6
1980	8.4	47.5	5.7
1981	7.6	48.7	6.4
1982	8.0	50.4	6.3
1983	8.0	44.7	5.6
1984	10.1	56.7	5.6
1985	9.2	53.7	5.8
1986	9.5	59.8	6.3
1987	10.1	61.9	6.1
1988	8.9	55.6	6.2
1989	8.8	62.7	7.1
1990	8.6	57.7	6.7
1991	8.5	59.3	7.0
1992	8.6	52.0	6.1
1993	9.1	53.6	5.9
1994	9.4	60.6	6.4
1995	9.8	61.3	6.2
1996	9.9	63.9	6.4
1997	9.7	62.2	6.4
1998	9.5	71.0	7.5
1999	9.0	66.8	7.5
2000	8.2	57.1	7.0
2001	7.9	53.1	6.7
2002	8.3	62.5	7.5
2003	8.3	58.8	7.1
2004	8.7	58.4	6.7
2005	8.9	60.6	6.8
2006	9.0	65.7	7.3
2007	8.7	55.8	6.4
2008	8.2	53.3	6.5
2009	6.4	39.6	6.2
2010	6.2	42.3	6.8
2011	6.4	41.3	6.5
2012	6.4	43.5	6.8
2013	6.3	37.2	5.9

Source: U.S. Bureau of the Census, Business Dynamics Statistics database at [https://www.census.gov/ces/dataproducts/bds/data\\_firm.html](https://www.census.gov/ces/dataproducts/bds/data_firm.html) (firm age by state).

The simple correlation between startup activity and net startup job creation for Tennessee is 0.814. Startup activity increased beginning in the early 1990s, and then declined after the late 1990s, more-or-less monotonically. Table 7 presents the econometric findings for Tennessee.

**TABLE 7**  
**TENNESSEE: ECONOMETRIC FINDINGS FOR STARTUP ACTIVITY**

Explanatory Variable	Estimated Coefficient	T-Statistic
Gross state product	.00002	1.45
Total personal income	-.00003	-1.12
State and local outlays	.00001	0.27
State labor force	-.0132	-2.23
Total state employment	.0127	1.69
Republican governor 0/1	-.083	-0.41
Republican upper leg chamber 0/1	.283	0.63
Republican lower leg chamber 0/1	-.532	-0.53
U.S. GDP growth	.130	2.29
ACA similar policies 0/1	.160	0.61
constant term	12.60	3.94
pseudo adj. R <sup>2</sup>	0.670	

Source: author computations.

Increases in the labor force and total state employment have opposite effects; that may be unsurprising in that an increase in the labor force holding employment constant might suggest some movement into entrepreneurship rather than only an increase in unemployment. U.S. GDP growth is the only other variable with a coefficient statistically significant. As with Massachusetts and New Jersey, the ACA-similar coverage policy variable does not have an effect differing from zero.

## IV. Conclusion

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Many claims about the prospective effects of the Patient Protection and Affordable Care Act---positive, negative, and sometimes both---were made before and after its enactment. Those assertions sometimes were based upon analytic findings, and sometimes on little more than political calculations. The actual effects cannot be known until the law is implemented fully in 2016 or 2018 when the “Cadillac” tax on highly generous employer coverage plans is scheduled to be implemented; and when the ensuing adjustments are completed both in the health care and health coverage markets, and in the U.S. economy more broadly. That is likely to consume many years; and so it is important in the interim to examine the effects of the ACA as they unfold and to apply inference that might be available from experiments in the states, however crude they might be as analogues.

With respect to the impact of the ACA on entrepreneurship---startup activity---we cannot know that net effect in advance because various incentive effects of the ACA are likely to yield impacts that conflict. As noted at the outset: Aspiring entrepreneurs might be encouraged to start businesses because the ACA offers coverage not tied to traditional employment; or they might opt for retirement. And similar conflicting outcomes are plausible in the context of other incentive effects related to those, but different in some central respect. But analysis must begin somewhere; we examine the effects on startup activity attendant upon three state programs analogous in greater and lesser degrees to the ACA.

We find no effect of those programs on startup activity in any of the three states. And so then-Speaker of the House of Representatives Nancy Pelosi was correct in her argument that the ACA had to be passed in order to “find out what is in it,” that is, to discover its actual effects in terms of entrepreneurship.

## About Benjamin Zycher

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Dr. Benjamin Zycher is the John G. Searle chair and resident scholar at the American Enterprise Institute, a senior fellow at the Pacific Research Institute, and a member of the advisory board of the quarterly journal *Regulation*.

He is a former associate in the Intelligence Community Associates program of the Office of Economic Research, Bureau of Intelligence and Research, U.S. Department of State; a former senior fellow at the Manhattan Institute for Policy Research; a former senior economist at the RAND Corporation; a former member of the Board of Directors of the Western Economic Association International; a former adjunct professor of economics at the University of California, Los Angeles; a former adjunct professor of economics and business in the MBA program at the California State University, Channel Islands; a former vice president for research at the Milken Institute; the founding editor of the quarterly public policy journal *Jobs & Capital*; a former senior staff economist at the President's Council of Economic Advisers; and a former member of the advisory board of *Consumer Alert*.

He holds a Ph.D. in economics from the University of California, Los Angeles and a Master of Public Policy from the University of California, Berkeley. He has done a substantial body of work on energy and environmental policy, on health care policy and the economics of the pharmaceutical sector, on the economics of the insurance sector, and on such varying topics in international economics as counterterrorism policy, resource dependence, and the risk of "shocks." He has done a substantial amount of work as well on the economic and political effects of government regulation, taxation, spending, and debt, on benefit/cost analysis of public expenditures, on the effects of economic institutions and performance upon economic growth and resource use, on long-term trends in economic performance and military capability, on the use of trade policy in pursuit of foreign policy goals, and on measures of burdensharing within alliances.

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