Journal of Health Economics 47 (2016) 81–106

Contents lists available at ScienceDirect

Journal of Health Economics

journal homepage: www.elsevier.com/locate/econbase

Mandate-based health reform and the labor market: Evidence from the Massachusetts reform☆

Jonathan T. Kolstad[a,c], Amanda E. Kowalski[b,c,*]

[a] Haas School, University of California, Berkeley, United States
[b] Department of Economics, Yale University, United States
[c] NBER, United States

ARTICLE INFO

Article history:
Received 28 July 2014
Received in revised form 20 January 2016
Accepted 26 January 2016
Available online 24 February 2016

JEL classification:
H5
I1
J2

Keywords:
Affordable Care Act
Massachusetts health reform
Welfare effects
Labor market
Individual mandate

ABSTRACT

We model the labor market impact of the key provisions of the national and Massachusetts "mandate-based" health reforms: individual mandates, employer mandates, and subsidies. We characterize the compensating differential for employer-sponsored health insurance (ESHI) and the welfare impact of reform in terms of "sufficient statistics." We compare welfare under mandate-based reform to welfare in a counterfactual world where individuals do not value ESHI. Relying on the Massachusetts reform, we find that jobs with ESHI pay $2812 less annually, somewhat less than the cost of ESHI to employers. Accordingly, the deadweight loss of mandate-based health reform was approximately 8 percent of its potential size.

1. Introduction

The Affordable Care Act (ACA) of 2010 and the Massachusetts health reform of 2006 focus on expanding health insurance coverage to near-universal levels. These "mandate-based" reforms rely on three key provisions to expand coverage: (1) a mandate that individuals obtain coverage or pay a penalty, (2) a mandate that employers offer coverage or pay a penalty, and (3) expansions in publicly subsidized coverage. While regulatory policy has long relied on mandates (for example, command and control regulation of technologies to reduce pollution), public policies that mandate that individuals purchase privately supplied goods have little precedent. Such mandates are sufficiently unprecedented that uncertainty about whether the individual mandate was constitutional at the national level was not resolved until the Supreme Court upheld it in June 2012. Despite the resolution of legal questions around mandate-based policy, the question of economic efficiency remains.

We develop a simple model of mandate-based health reform. Our model incorporates the three key features of the national and Massachusetts health reforms. Using this model, we characterize the compensating differential for employee-sponsored health insurance (ESHI)—the causal change in wages associated with gaining ESHI—and we derive a set of sufficient statistics that capture the

☆ We thank Iris Chan, Toby Chaiken, Erin Taylor, and especially Michael Punzalan and Aditi Sen for excellent research assistance. Amitabh Chandra, John Friedman, Jonathan Gruber, Ben Handel, Samuel Kleiner, Lauren Nichols, Matt Notowidigdo, and Hugh Gravelle provided helpful conference discussions. This project has benefited greatly from comments from Joseph Altonji, Priyanka Anand, Bjoern Bruegemann, Tom Buchmueller, Marika Cabral, Joseph Doyle, Jesse Edgerton, Jason Fletcher, Bill Gale, Alex Gelber, Michael Grossman, Martin Hackmann, Lisa Kahn, Charles Kolstad, Kory Kroft, Ilyana Kuziemko, Fabian Lange, Anup Malani, Amanda Pallais, Mark Pauly, Vincent Pohl, Ebonya Washington, Heidi Williams, and Clifford Winston. We are also grateful for comments by seminar participants at Brookings, Brown, BU/Harvard/MIT Health Econ Workshop, the Bureau of Economic Analysis, FRB Richmond, Harvard, HEC Montreal, Olin, Penn, University of California–Berkeley, the Urban Institute, University of Texas–Austin, Stanford, Yale School of Public Health, the ASSA meetings, the Duke Empirical Microeconomics Jamboree, the European Econometrics and Health Economics Workshop, iHEA, the Midwestern Health Economics Conference, the National Tax Association annual meeting, the NBER Public Economics Program Meeting, the NBER Summer Institute, the New York Health Economics Workshop, and the Utah Winter Business Economics Conference. Funding from the National Institute on Aging grant #P30 AG012810, the Leonard Davis Institute for Health Economics, the Robert Wood Johnson Foundation, the W.E. Upjohn Institute for Employment Research, and the Wharton Dean's Research Fund are gratefully acknowledged. During work on this project, Kowalski was the 2011–2012 Okun Model Early Career Fellow at the Brookings Institution.

* Corresponding author at: Department of Economics, Yale University, Box 208263, New Haven, CT 06520-8264, United States. Tel.: +1 202 670 7631.
E-mail address: amanda.kowalski@yale.edu (A.E. Kowalski).

http://dx.doi.org/10.1016/j.jhealeco.2016.01.010
0167-6296/

impact of the reforms on the labor market and on welfare. Although these sufficient statistics arise from difficult-to-measure structural parameters that determine individual health insurance and labor supply decisions, we can recover them from easily measured changes in labor market outcomes. Our model builds on the work of Summers (1989) who models a full-compliance employer mandate. We apply the model to current policy by allowing for a pay-or-play employer mandate and adding a pay-or-play individual mandate and expansions in subsidized coverage. The interaction between the employer and individual mandates changes the predictions of the Summers model. The central result that an employer mandate reduces deadweight loss relative to a tax does not hold if there is already an individual mandate in place. This theoretical result is relevant for policy, given that as of this writing, the ACA employer mandate has not yet been enforced.

Based on the structure implied by our theory, we then estimate the relationship between ESHI and the labor market, allowing us to empirically assess the impact of health reform on welfare. Using variation induced by the Massachusetts health reform—which mirrors the national reform in all of the elements of our model—we estimate the empirical analog of our model. We first estimate the compensating differential for health insurance. Our empirical strategy relies on exogenous shifts into and out of ESHI induced by reform. Using longitudinal data from the Survey of Income and Program Participation on wages, employment, and hours worked, we study changes in labor market outcomes for individuals who switch to and from ESHI over the reform period. We incorporate individual fixed effects to control for time-invariant attributes that determine an individual's labor market outcomes, and we incorporate variation between Massachusetts and other states to control for national trends. We also incorporate variation in firm size to allow some firms to be exempt from the employer mandate and to control for variation in the Massachusetts labor market that is unrelated to the reform. Combining all of these sources of variation and the reform allows us to obtain causal estimates of the compensating differential associated with health insurance.

Adding a small amount of structure to the estimated compensating differential for health insurance, we estimate the sufficient statistics that determine the welfare impact of health reform. Once we demonstrate that these parameters are sufficient statistics for welfare analysis, we use our estimates to compute the deadweight loss associated with the mandate-based reform in Massachusetts. We also compare our estimated deadweight loss to the deadweight loss of a counterfactual tax-based insurance expansion that would involve levying a wage tax to pay for the provision of health insurance directly.

We find a compensating differential for ESHI that is of the expected theoretical sign though somewhat smaller in magnitude than the full cost of health insurance, suggesting high average valuation of the benefit among the newly insured. Consistent with the large compensating differential, we find a small hours differential between jobs with and without ESHI, also suggesting high average valuation of the benefit among the newly insured. Translating our estimated compensating and hours differentials into sufficient statistics for welfare analysis, we find that mandate-based reform is a relatively efficient way to expand coverage. We estimate that mandate-based coverage expansion in Massachusetts resulted in a deadweight loss due to distortion of the labor market that was only 7.7 percent of the distortion associated with instead providing health insurance through a tax on wages that workers do not link to receiving insurance. The relative efficiency of mandate-based reform follows from the high estimated valuation of the newly insured; because people were willing to work for ESHI as well as wages, the distortion to the labor market of mandating insurance was relatively small. We examine the robustness of our estimates to a variety of alternative specifications. Although our estimates vary, they always show that mandate-based reform is substantially more efficient than tax-based reform because our finding that individuals value ESHI is very robust.

Apart from our theoretical contributions, our findings contribute to the empirical literature on the incidence of fringe benefits, with health insurance as the largest of those benefits. Typically, the endogeneity of fringe benefits and labor market outcomes leads researchers to find wrong-signed compensating differentials for fringe benefits (see Gruber (2000) and Currie and Madrian (1999) for reviews); most studies find that individuals who receive more fringe benefits also receive higher wages. Existing studies that do not find wrong-signed compensating differentials for health insurance rely on *incremental* changes in the cost of health insurance, such as premium increases due to the addition of mandated maternity benefits (Gruber, 1994) or increasing malpractice costs (Baicker and Chandra, 2005). By using variation from the Massachusetts reform, we find a compensating differential for the *full* cost of health insurance; individuals who receive ESHI receive wages that are lower by approximately the amount their employer spends on ESHI.

In the next section, we discuss the provisions of Massachusetts and national reforms that are likely to affect the labor market. Section 3 incorporates these provisions into a theory of mandate-based health reform that we use to characterize the compensating differential for ESHI and the welfare impact of mandate-based health reform relative to tax-based health reform; Section 4 discusses identification and estimation. Section 5 introduces the data. Section 6 presents results and discusses robustness, and Section 7 concludes.

2. Massachusetts Health Reform, the Affordable Care Act, and the Labor Market

The Massachusetts health reform, passed in April 2006, and the federal Patient Protection and Affordable Care Act (the ACA), passed in March 2010, contain a number of similar provisions that are likely to affect the labor market. We provide a side-by-side comparison in Appendix A. The cornerstone of both reforms is the individual mandate to purchase health insurance. Unlike traditional full-compliance mandates, the individual mandate in both reforms is a "pay-or-play" mandate that allows individuals to pay a penalty if they choose not to comply. The penalty in Massachusetts for those who were unable to demonstrate they had coverage when they filed their taxes was initially $219 per person per year, and it increased to 50 percent of the cost of the least generous ("Bronze") plan available in the Massachusetts health insurance exchange ("the Connector") in 2008.[1] The penalty associated with the ACA individual mandate is the higher of $695 per uninsured member of the household (up to three) or 2.5 percent of household income. Compliance with the individual mandate in Massachusetts has been high—over 97 percent of tax filers submitted the tax form to comply with the individual mandate in 2008, and less than 2 percent reported any spell of uninsurance (Massachusetts Health Connector and Department of Revenue, 2010).[2]

[1] According to the Massachusetts Connector website in 2010, in the zip code 02138 (Cambridge, MA), the cost of a Bronze plan for a family in Cambridge with two 40-year-old parents was $11,000 annually. For a couple with two individuals aged 35, the Bronze plan cost $6600 annually. A 31-year-old purchasing a Bronze would expect to pay $2868.

[2] To satisfy the mandate, health insurance must meet or exceed a specific value (called "minimum creditable coverage"). See Kaiser Family Foundation (2009)