ABSTRACT The Affordable Care Act changed the regulations governing small firms’ health insurance premiums. However, small businesses can avoid many of the new regulations by self-insuring or maintaining grandfathered plans. If small firms with healthy and lower-cost enrollees avoid the regulations, premiums for coverage sold through insurance exchanges could be unaffordable. In this analysis we used the RAND Comprehensive Assessment of Reform Efforts microsimulation model to predict the effects of self-insurance and grandfathering exemptions on coverage and premiums available through the exchanges. We estimate that Affordable Care Act regulations restricting employers’ ability to offer grandfathered plans will result in lower premiums on plans available through the exchanges and will have small negative effects on enrollment in the exchanges. Our results suggest that these regulations are essential to keeping premiums on the Small Business Health Options Program (SHOP) exchanges affordable. Our analysis also found that Affordable Care Act regulations limiting self-insurance will reduce enrollment in the exchanges somewhat, without substantially affecting exchange premiums.

The Affordable Care Act of 2010 changed the regulations governing health insurance premiums for employers with 100 or fewer workers. Beginning in 2014, insurers will be able to vary premiums for enrollees at these small employers only by enrollees’ age, geographic region, family size, and whether or not they are tobacco users, and the degree of variation will be limited. Importantly, insurers will be unable to charge different premiums based on employees’ sex, health status, or previous claims history.

The goal of these regulations is to spread the financial risk associated with insuring unusually sick or high-cost enrollees across a wide pool of employers. This type of risk spreading tends to reduce premiums for firms with sicker and higher-cost enrollees, while increasing premiums for firms with healthier and lower-cost enrollees.

The new regulations will apply both inside and outside of the health insurance exchanges, which were also created by the Affordable Care Act. However, certain small-employer health plans are exempt from the regulations. Plans that existed on or before March 23, 2010, are exempt from most of them under a “grandfathering” exception. Through grandfathering, employers can continue to offer health insurance policies that were in place prior to the enactment of the Affordable Care Act, as long as the policy does not make major changes in its cost-sharing requirements, the scope of services covered, or employees’ premium contribution rates.

Firms can also avoid the new regulations by “self-insuring,” or paying for their employees’ health care expenses directly or through a trust. Because self-insured firms bear the risk associated with employees’ unanticipated, large health
expenditures, self-insurance is currently more common at large firms, which can spread this risk across many enrollees. However, self-insured firms can also purchase “stop-loss” coverage, a type of reinsurance that protects firms against unexpectedly high enrollee spending.

Some policy experts have argued that stop-loss coverage may make self-insurance an attractive option for small firms, particularly after the Affordable Care Act’s rating regulations take effect. In fact, industry reports suggest that stop-loss insurers are developing products specifically in response to the act.

If small employers with relatively healthy workers and dependents avoid the new regulations by self-insuring or by maintaining grandfathered plans, premiums on the regulated Small Business Health Options Program (SHOP) exchanges may become unaffordable. However, regulations that increase premiums for lower-cost workers may cause these workers and their firms to forgo insurance altogether.

In this analysis we consider how grandfathering and self-insurance options affect small firms’ decisions to offer health insurance, total insurance enrollment, and exchange premiums. We predict outcomes using the RAND Comprehensive Assessment of Reform Efforts (COMPARE) model, a microsimulation that estimates how households and firms will respond to health care policy changes based on economic theory and existing evidence.

Study Data And Methods
The Comprehensive Assessment of Reform Efforts model uses data from the 2001–02 Survey of Income and Program Participation; the 2008 Kaiser Family Foundation/Health Research and Educational Trust Employer Health Benefit Survey; and the Medical Expenditure Panel Survey, Household Component, to create a synthetic population of people, families, and firms with realistic behaviors. The core data come from a relatively old version of the Survey of Income and Program Participation. However, we aged the population over time to reflect Census Bureau estimates of population growth by age, sex, and race or ethnicity. We also accounted for health care cost growth based on factors reported by the Centers for Medicare and Medicaid Services, and we matched workers into firms based on the 2008 Kaiser Family Foundation data.

Individuals and families in the model make health insurance decisions by weighing the benefits of available options, such as reduced out-of-pocket spending, against the costs, such as higher premiums. In making these choices, people consider an array of factors, including their eligibility for Medicaid and exchange subsidies, the generosity of their employer’s benefits, their expected health spending, and penalties associated with forgoing insurance.

In the model, firms make decisions about whether or not to offer insurance and what type of plan to offer by considering the overall value that workers place on the plan, the costs associated with it, and any penalties the firm would face for not offering insurance. As a simplifying assumption, we allowed firms to offer no more than one plan, which could be fully or self-insured. Small firms that offered coverage before the Affordable Care Act became law had the option in the model to retain a grandfathered plan or to move into the SHOP exchanges—the new markets regulated by the act.

When deciding whether or not to self-insure, firms also consider the financial risk associated with unpredictable and potentially large claims. We estimated this risk with a Monte Carlo simulation that used data from the Medical Expenditure Panel Survey, Household Component, to predict variation in expenditure for firms of different sizes. In making decisions, firms consider the possibility that some workers would prefer not to receive an offer of health insurance, so that they would be eligible for exchange subsidies. Premiums were estimated using the predicted expenditure of enrollees in each health insurance plan. Where applicable, we limited premium variation based the Affordable Care Act’s rating requirements.

We assumed that all self-insuring small firms purchased stop-loss coverage. We derived assumptions about the contracting terms of stop-loss policies through a series of discussions with experts undertaken for a related study. These experts included representatives of self-insured companies, stop-loss insurers, health insurers, and third-party administrators. We later validated these assumptions by comparing them to results of the 2011 Kaiser Family Foundation annual employer benefit survey.

Both the expert discussions and the Kaiser Family Foundation data suggested that most stop-loss policies insure small firms against enrollee expenditures exceeding $75,000, up to a $2,000,000 annual maximum. We assumed that these policies could be obtained at an administrative cost comparable to that of a fully insured small-employer plan.

Full details regarding the COMPARE model and stop-loss assumptions can be found in the online Appendix and in reports published elsewhere. For the analyses presented here, we refined previous methods by assuming that the individual and SHOP exchange markets were
split for the purposes of risk pooling, and by setting the actuarial value equal to 0.80 for all employer plans in place before the enactment of the Affordable Care Act.

**FOUR SCENARIOS FOR 2016** To assess the effects of grandfathering and self-insurance decisions on insurance enrollment and premiums, we considered four alternative scenarios for outcomes in 2016.

In the first scenario, we assumed that the Affordable Care Act had not taken effect.

In the second scenario, we assumed that a baseline Affordable Care Act had taken effect. We also assumed that many small employers’ plans lost their grandfathered status over time, based on predicted erosion rates cited in the Federal Register. Extrapolations based on these figures suggest that by 2016, 88 percent of small firms will have lost their grandfathered plans. Firms allow plans to lose their grandfathered status because they find it infeasible to continue to offer current coverage without making changes to cost sharing, employees’ premium contributions, or services covered. Once a firm loses its grandfathered plan, its workers must accept plans governed by the Affordable Care Act’s rating regulations.

In the third scenario, we assumed “strong” and durable grandfathering—that is, no erosion of grandfathering took place. Because the grandfathering regulations imply that few firms will be able to maintain grandfathered plans, this scenario is meant as a sensitivity analysis to show the effects of these grandfathering provisions on premiums and exchange enrollment.

In the fourth scenario, we assumed that no self-insurance was possible for firms with 100 or fewer workers.

**LIMITATIONS** A limitation of this analysis is that we had to match workers in the Survey of Income and Program Participation to firms in the 2008 Kaiser Family Foundation data, based on a limited set of observed characteristics, including firm size, insurance offer status, industry, and region. With these assumptions, we estimated that self-insured workers had lower health insurance costs relative to wages than their fully insured counterparts—a pattern that seems reasonable but that cannot be verified with existing data sources.

The lack of data linking firms and workers is a general limitation that affects all health insurance simulation models. Better data on how workers’ characteristics such as income and health status correlate with firms’ offer rates would enable more-nuanced modeling of behavior.

We also had limited data on whether and how the stop-loss market might change in response to the Affordable Care Act. In the current market, self-insurance exempts firms from state benefit mandates, state premium taxes, and state small-group regulations. However, relatively few small firms find these incentives compelling enough to outweigh the financial risks associated with self-insurance. An unanswered question is whether the Affordable Care Act will induce stop-loss insurers to offer more-attractive policies geared specifically toward small firms that wish to avoid regulation.

**Study Results**

**FIRMS’ OFFER RATES** Exhibit 1 shows the predicted share of small businesses offering coverage in 2016 under the four scenarios described above. In the baseline Affordable Care Act scenario, small firms increase their offer rates over what would have been expected without the law: The estimated share of firms offering coverage rises from 62 percent to 68 percent. The increase is driven by the individual mandate, which increases workers’ demand for insurance, coupled with the preferential tax treatment of employer-sponsored coverage.

As noted above, some workers might prefer that their employer not offer coverage so that they could obtain coverage instead through the individual exchanges, where they would be eligible for new federal subsidies to defray coverage costs. However, firms must make a decision that reflects the preferences of their workers as a group. Overall, we predict that more small businesses will prefer to offer coverage than to drop it, a pattern that seems reasonable but that cannot be verified with existing data sources.

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The scenarios have little effect on the overall number of people with coverage.

In response to the Affordable Care Act.

In the strong-grandfathering scenario (Exhibit 1), the share of small businesses offering coverage increases to 69 percent. In the context of the current grandfathering regulations, a small number of firms opt not to offer coverage once they conclude that they must make changes to the coverage they offer and that maintaining a grandfathered plan thus becomes infeasible. When we in effect relax the grandfathering constraints, so that the firms could make some coverage changes, these firms continue to offer coverage.

The strong-grandfathering scenario also has a dramatic effect on small firms’ choices about what type of insurance plan to offer (Exhibit 1). In this scenario, more than half of small employers that offer coverage offer a grandfathered plan. When the option to offer a grandfathered plan is limited because of regulatory constraints, as it is in the baseline Affordable Care Act scenario, most firms that would have offered a grandfathered plan choose to offer coverage on the SHOP exchanges instead.

Removing the option to self-insure, our fourth scenario, causes small-employer offer rates to fall to 66 percent—a decline relative to the baseline Affordable Care Act scenario (Exhibit 1). Both the third and fourth scenarios' results indicate that when an option is eliminated, some firms choose not to offer coverage. However, our model predicts that the self-insured firms’ decisions to offer insurance or not will be more sensitive to the set of available options, compared to the decisions of firms with grandfathered plans. In contrast to the grandfathering results, when the option to self-insure is eliminated, most previously self-insuring small firms drop coverage instead of offering a plan on the regulated market.13

This finding reflects the fact that self-insured firms are very different from other small firms. For example, the ratio of expected health spending to wages is 50 percent lower at self-insured small firms than at fully insured small firms. The lower spending-to-wage ratio reduces the value of insurance for self-insured workers because being uninsured is less risky. In other words, as modeled, self-insured workers at small firms value insurance less because they are healthier and have greater means to pay for health care out of pocket compared to workers at fully insured small firms. Self-insured small firms are also far less likely than fully insured small firms to be unionized.

A caveat is that firm-level analyses can be heavily influenced by the behavior of very small businesses. To address this concern, Exhibit 2 shows the percentage of workers employed by small businesses that offer coverage under our four scenarios. The worker-weighted results are very similar to the firm-level results, with the share of workers at small businesses that offer health insurance increasing from 69 percent in the first scenario—without the Affordable Care Act—to 72 percent in the baseline Affordable Care Act scenario.

In the strong-grandfathering scenario, the increase in the share of workers employed by firms that offer insurance is more marked, rising to 74 percent (Exhibit 2). In contrast, the scenario with no self-insurance leads to a large decline—to 62 percent—in the share of workers employed by small businesses that offer health insurance coverage.

**HEALTH INSURANCE ENROLLMENT** The scenarios described above lead to measurable changes in small businesses’ rates of offering insurance. However, they have little effect on the overall number of people with coverage. Exhibit 3 shows the predicted share of the nonelderly population with health insurance in the four scenarios. In the scenario without the Affordable Care Act, the coverage rate is 81 percent. It rises to 91 percent in the baseline Affordable Care Act scenario.

Compared to the baseline scenario, about 400,000 additional people are covered in the strong-grandfathering scenario, and about one million fewer people are covered in the scenario with no self-insurance (Exhibit 3). Although in absolute terms these numbers are noteworthy, they represent a small fraction of the 277 million nonelderly people in the model. As a result, the coverage rate for the nonelderly is approximately 91 percent in all three scenarios that include the Affordable Care Act.

The stability of these results reflects the fact that with the Affordable Care Act, people have multiple options for obtaining health insurance, and the individual mandate gives them incentives to obtain coverage. Specifically, the incentive to avoid the penalty created by the mandate may tip the scales in favor of insurance for people who otherwise marginally prefer to forgo insurance. When the option to enroll in employer-sponsored coverage is eliminated, people re-
people are insured through the SHOP exchanges than in the strong-grandfathering scenario (Exhibit 3). However, self-insurance regulations for small firms have little effect on overall sources of coverage. This is primarily because self-insurance is uncommon at small firms, and consequently very few workers are enrolled in these plans. We estimate that of the ninety-one million people enrolled in self-insured plans, fewer than four million get coverage from a small employer.

Moreover, because most self-insured small firms do not offer any coverage if the option to self-insure is eliminated, people who would have enrolled in these plans are spread across multiple options—including the SHOP exchanges, the individual exchanges, other employer coverage, Medicaid, and having no insurance (Exhibit 3). As a result, the elimination of small employers’ option to self-insure has no noticeable effect on the overall distribution of coverage.

**Exchange Premiums** Exhibit 4 shows how SHOP exchange premiums are influenced by grandfathering and self-insurance rules. Because of rate banding—that is, the limits set on the amounts by which insurers can vary premiums on the exchanges—average SHOP exchange premiums reflect both the age composition and the average expenditure of enrollees. To isolate the change in premium that could be expected for a person of a given age, Exhibit 4 shows premiums for an age-standardized population.

In the strong-grandfathering scenario, SHOP exchange premiums are approximately 9 percent more expensive than in the baseline Affordable Care Act scenario (Exhibit 4). This relatively large difference reflects the fact that firms with healthier, less expensive enrollees opt to retain their grandfathered plans when given that option. Despite the large changes in SHOP exchange premiums under different assumptions about grandfathering, overall health insurance enrollment remains relatively constant (Exhibit 3). This is because of the multiple insurance options available to people after the Affordable Care Act takes full effect and the relatively inelastic demand of people remaining in the SHOP exchanges in the strong-grandfathering scenario.

The influence of grandfathering on SHOP exchange premiums suggests that government spending on premium tax credits for small businesses would be higher without limitations on grandfathering. However, these credits are available only to low-wage businesses with fewer than twenty-five workers. Thus, they represent a small share of the federal costs related to the Affordable Care Act. Because we modeled outcomes in 2016, we assumed that these credits—which
are available for up to two years—had largely expired. In contrast, eliminating the option to self-insure has almost no effect on exchange premiums (Exhibit 4). Although self-insured enrollees tend to be healthier and have lower health care spending than exchange enrollees, a very small percentage of small businesses offer self-insured plans. Moreover, the small number of enrollees who lose their self-insured plan when this option is eliminated become distributed across a variety of alternative options. As a result, the elimination of small firms’ option to self-insure does not have a major impact on premiums in the SHOP exchanges.

Conclusion

New regulations governing health plans available to small firms may raise premiums for small businesses with healthy, inexpensive enrollees and create incentives for these firms to find alternative, less-regulated ways to offer insurance. Two such alternatives include offering a grandfathered or self-insured plan—options not subject to the small-employer rating rules included in the Affordable Care Act. Given current regulations, we expect that few firms will be able to offer grandfathered policies by 2016, but the option to self-insure will be available to all firms.

We found that a regulatory change protecting the option to offer a grandfathered plan could lead to a great deal of adverse selection on the exchange markets. In that scenario, many small businesses continue to offer grandfathered coverage; relatively healthy workers remain with those plans; and, as a result, premiums on SHOP exchange plans are higher. Compared to a scenario in which grandfathered plans become unavailable over time, only about half as many people are enrolled in the SHOP exchanges when the option to offer grandfathered plans is strongly protected (Exhibit 3). Furthermore, SHOP exchange premiums are 9 percent higher when small firms are able to maintain grandfathered plans (Exhibit 4).

Current regulations stipulate that a plan will lose its grandfathered status—and thus become subject to the Affordable Care Act’s rating requirements—if it makes substantial changes to cost sharing or the scope of services covered, or if employees’ premium contributions are increased. With these rules, the Departments of the Treasury, Labor, and Health and Human Services predict that 50–80 percent of small firms’ plans will lose their grandfathered status before the exchanges even go into effect in 2014.5

Our modeling results suggest that these regulations are essential to keeping premiums on the SHOP exchanges affordable. However, limiting grandfathering also appears to have a small, secondary effect on overall insurance enrollment, with approximately 400,000 fewer people insured compared to a scenario in which grandfathered plans are widely available.

Eliminating the option to self-insure has a slightly larger effect on insurance coverage, reducing the number of enrollees by almost 1 million. However, eliminating the option to self-insure does not substantially reduce premiums on the SHOP exchanges (Exhibit 4). This is because when self-insurance is not an option, most firms that would otherwise have self-insured decline to offer coverage rather than moving to the exchanges.

In our model, this result is driven by the assumption that self-insured workers have low health insurance costs relative to wages. Although the majority of people who would otherwise have enrolled in their employers’ self-insured plans find coverage elsewhere, these enrollees are spread out across other employer policies, individual exchanges, SHOP exchanges, and Medicaid. As a result, they have little effect on the cost of premiums.

A potentially important caveat is that attractively priced stop-loss policies could induce small firms with healthy workers to self-insure. In sensitivity analyses using the microsimulation model, we did not observe the phenomenon of a “death spiral”—extreme premium growth leading healthier workers to drop out, and thus to ever-higher premiums for those who remain—caused by changes in stop-loss availability. However, data limitations make it difficult to model the stop-loss market thoroughly. For example, we do not have good information on the prevalence of “lasering”—which occurs when reinsurers companies omit severely ill employees from

### Exhibit 4

<table>
<thead>
<tr>
<th>Coverage tier</th>
<th>Baseline</th>
<th>Strong grandfathering</th>
<th>No self-insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable Care Act</td>
<td>$3,304</td>
<td>$3,605</td>
<td>$3,298</td>
</tr>
<tr>
<td>Bronze</td>
<td>3,855</td>
<td>4,206</td>
<td>3,848</td>
</tr>
<tr>
<td>Silver</td>
<td>4,405</td>
<td>4,807</td>
<td>4,398</td>
</tr>
<tr>
<td>Gold</td>
<td>4,956</td>
<td>5,408</td>
<td>4,948</td>
</tr>
<tr>
<td>Platinum</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Change, relative to baseline scenario | $–$9.1% | –0.2% |

**Source:** Authors’ estimates using the RAND Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model (Note 3 in text). **Notes:** Premiums are averaged over an age-standardized population. The coverage tiers vary in the amount of cost sharing required, with bronze plans requiring the most cost sharing and platinum plans requiring the least. *Not applicable.*
coverage—or other practices that may reinforce adverse selection. Reports that stop-loss insurers are offering new products in response to the Affordable Care Act raise the concern that these insurers may aggressively market products to firms with the lowest expected costs.14

At the same time, our results point to a potential drawback of policies intended to combat adverse selection. Eliminating or restricting options may cause some firms to stop offering coverage altogether. And if the remaining options are less attractive than their previous coverage, some people may choose to be uninsured. Although the effects are not large, policies to address adverse selection should be mindful of such potential unintended consequences.

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NOTES

11 To access the Appendix, click on the Appendix link in the box to the right of the article online.
In this month’s *Health Affairs*, Christine Eibner and coauthors describe their use of the Comprehensive Assessment of Reform Efforts (COMPARE) microsimulation model to analyze the impact of small businesses’ either self-insuring or maintaining “grandfathered” health plans that predate the Affordable Care Act. They model the impact on enrollment and premiums, and they conclude that regulations currently in place will reduce enrollment somewhat and will have mild-to-moderate effects on premiums.

Eibner is an economist and director of the COMPARE Microsimulation Modeling Initiative at the RAND Corporation in Arlington, Virginia. She won the RAND President’s Award in 2011. Eibner received both a master’s degree and a doctorate in economics from the University of Maryland at College Park.

Carter Price is an associate mathematician at RAND in Arlington. He holds a master’s degree and a doctorate in mathematics from the University of Maryland at College Park.

Raffaele Vardavas is an associate mathematician at RAND in Santa Monica, California. He earned a master’s degree and a doctorate in physics from Imperial College, in London.

Amado Cordova is a senior engineer at RAND in Santa Monica. He was awarded the RAND Bronze Merit Bonus Award in 2010. The holder of twenty-four US patents, Cordova earned a doctorate in electrical engineering from Stanford University.

Federico Girosi is an associate professor at the University of Western Sydney’s School of Medicine, in Australia, and an adjunct staff member at RAND, where until recently he was a senior policy researcher. Girosi has two doctoral degrees, one in health policy from Harvard University and the other in physics from the University of Genoa, in Italy.