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Pricing health benefits: A cost-minimization approach

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Abstract

We study the role of health benefits in an employer's compensation strategy, given the overall goal of minimizing total compensation cost (wages plus health-insurance cost). When employees' health status is private information, the employer's basic benefit package consists of a base wage and a moderate health plan, with a generous plan available for an additional charge. We show that in setting the charge for the generous plan, a cost-minimizing employer should act as a monopolist who sells "health plan upgrades" to its workers, and we discuss ways tax policy can encourage efficiency under cost-minimization and alternative pricing rules.

JEL classification: D42; D82; I10; J30

Keywords: Employer-provided health insurance; Benefits pricing; Adverse selection

1. Introduction

In the United States, employer-provided health benefits comprise an important part of employees' total compensation. In 2003, approximately 69% of the population received private health insurance, and for 88% of them this insurance was employment based (DeNavas-Walt et al., 2004). The prevalence of employment-based health insurance is largely attributable

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to the cost of health insurance payments made through one's employer being exempt from taxation, and to employment-based group insurance being less expensive than individual (non-group) coverage due to lower per-capita administrative expenses and reduced adverse selection. Assuming workers value health insurance, these advantages make employer-provided health benefits an efficient means of compensation.

This paper analyzes how an employer should design and price its health benefits when it cannot observe workers' health care needs, given the goal of minimizing the total compensation cost of its workers. We consider an employer who offers two plans, a moderate plan, such as an HMO, and a more generous plan, such as a PPO or indemnity plan. The employer's compensation scheme therefore consists of a base wage paid to all employees, and an additional surcharge imposed on those who elect the more generous health plan instead of the moderate one.[1]

Although the employer may have an incentive to vary its base wage in order to influence the makeup of its workforce, in this analysis we take the employer's workforce as given in order to focus on how the employer should set the surcharge for generous coverage.[2] The employer's cost-minimizing surcharge depends on several factors. When an employee elects generous coverage, he pays the surcharge to the employer, which effectively decreases that employee's wage. However, since the generous plan is more expensive than the moderate one, this wage savings is partly offset by the additional cost of the employee's health insurance. In addition, as the employer increases the surcharge, fewer workers choose the generous plan, and this effect must also factor into the employer's decision.

The main insight of the cost-minimization approach is that in optimally balancing these effects, the cost-minimizing employer should act as a monopolist who sells "health plan upgrades" to its employees. The optimal program involves equating the appropriate concepts of marginal revenue and marginal cost.

While the employer's monopoly power leads it to enroll too few workers in the generous plan (from a social perspective), the fact that the cost of employer-provided health benefits is not taxable induces the employer to lower the charge for generous coverage and enroll more workers in the generous plan than it would if these expenditures were treated as taxable income to the workers. When health status is private information and the employer is unable to base an employee's wage on his health status, the benefit of the preferential tax treatment is shared between the employer and the workers.

An important concern with employer-provided health benefits is that an employer that offers plans of differing intensity exposes itself to adverse selection, which may jeopardize the plans' viability. Given the choice of plans, those workers who expect to have the highest health care needs are drawn to the generous option. This adverse selection increases the average cost associated with that plan, leading the insurer to demand a higher per-worker premium from the employer. If the employer passes this price increase on to its employees, further adverse selection will result. Those in the generous plan with the lowest expected

[1] Use of the term surcharge is intended to emphasize that it is a charge in addition to the charge for the moderate plan. It is not intended to imply that this charge is unfair.

[2] In particular, by decreasing its base wage, the employer lowers the wage paid to all of its employees but also increases its expected health care costs (because it attracts a sicker mix of workers). See Miller (2005) for an analysis of the employer's incentives to vary the base wage in order to affect the composition of its workforce.