



Pricing behaviour of nonprofit insurers in a weakly competitive social health insurance market

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ABSTRACT

In this paper we examine the pricing behaviour of nonprofit health insurers in the Dutch social health insurance market. Since for-profit insurers were not allowed in this market, potential spillover effects from the presence of for-profit insurers on the behaviour of nonprofit insurers were absent. Using a panel data set for all health insurers operating in the Dutch social health insurance market over the period 1996–2004, we estimate a premium model to determine which factors explain the price setting behaviour of nonprofit health insurers. We find that financial stability rather than profit maximisation offers the best explanation for health plan pricing behaviour. In the presence of weak price competition, health insurers did not set premiums to maximize profits. Nevertheless, our findings suggest that regulations on financial reserves are needed to restrict premiums.

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1. Introduction

During the last fifteen years several countries (e.g. Germany, the Netherlands and Switzerland) have introduced some form of managed competition in their social health insurance schemes. The goal of these reforms is increase incentives for efficiency while maintaining universal access to affordable health insurance.

An important question, that has not been addressed so far, is how competing health insurers set prices if they are not allowed to distribute profits. In other words, which factors determine nonprofit health insurers' pricing decisions? The answer to this question may have important implications for policy decisions to impose, maintain or remove restrictions on ownership type for health insurers.

In this paper we examine the pricing behaviour of health insurers in the Dutch social health insurance system where health insurers are allowed to compete for customers but – until 2006 – faced a legal non-distribution constraint. Given that prior to 2006 the market is purely nonprofit, health insurer behaviour in that

period could not have been affected by the presence of for-profit insurers. Hence, spillover effects from other ownership types were absent. This makes it possible to investigate the “pure” drivers of nonprofit insurers' price setting behaviour. Hence, the central question is whether nonprofit health insurers set premiums to maximize profits or do they behave differently?

The paper is organized as follows. Section 2 provides a brief description of the Dutch health insurance market. In Section 3, we discuss the potential impact of nonprofit ownership on insurers' pricing decisions, and describe an empirical model to examine the price setting behaviour of health insurers in this context. Next, we discuss which variables are likely to explain pricing behaviour of nonprofit insurers and we provide descriptive statistics as well as information about the sources from which the data were obtained. In Section 5 we present the estimation results of several estimation models. Finally, we discuss the implications of our findings for the role and regulation of ownership in competitive health insurance markets.

2. Dutch social health insurance market

During the 1990s, the Dutch social health insurance scheme was profoundly reformed by the gradual introduction of man-

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aged competition among health insurers. These health insurers originated from community-based nonprofit organizations, known as sickness funds. Since 1992, sickness funds (hereafter called health insurers) were allowed to compete on price for a legally standardised basic benefits package. Coverage was financed by a combination of community-rated premiums – set by the health insurers – and uniform income-related contributions – set by the government. A system of risk-adjusted premium subsidies was introduced to compensate health insurers for enrollees with predictable high medical expenses. This risk equalization system had to counteract incentives for risk selection stemming from community rated premiums and had to guarantee a level playing field for health insurers. Freedom of choice of health insurers was introduced by requiring health insurers to accept all eligible applicants. Initially (since 1992) open enrolment periods were biennial, but since 1996 people were allowed to switch health insurers once every year. Furthermore, in 1992 the legally protected territorial monopolies of health insurers were abolished and new health insurers were permitted to enter the market. Finally, to provide health insurers with the opportunity to manage care in 1992 the government abolished the obligation for health insurers to contract with any willing provider, except for hospitals and medical specialists. In 2006 the scope of managed competition model was broadened from about two thirds to the entire population by the introduction of a new Health Insurance Act. Since then former social health insurers (sickness funds) and former private indemnity insurers (mutual as well as for-profit companies) are allowed to compete for providing basic health insurance coverage. The new Health Insurance Act also created much more opportunities for health insurers to offer preferred provider policies and to manage care (Van de Ven and Schut, 2008).

The primary reason for the introduction of price competition and freedom of choice of health insurers was to increase the incentives for health insurers to improve the efficiency of health care. Prior to the reforms in the 1990s health insurers were completely retrospectively reimbursed for the medical expenses of their enrollees and consequently had no stake in a more efficient provision of medical care. Until 2006, all health insurers offering basic social health insurance (sickness funds) were required by law to be either a foundation or a mutual company, implying that they were not allowed to distribute profits. In addition they were required to have statutory provisions that guaranteed a “reasonable degree of influence” of the insured in the governance of the organization (Sickness Fund Act, Article 34).

3. Modeling pricing behaviour of nonprofit health insurers

In a competitive market with profit maximizing firms pricing behaviour is expected to be determined by the inverse elasticity pricing rule:

$$P = \frac{mc}{1 + (1/e)}. \quad (1)$$

According to this rule, price (P) is determined by willingness to pay and the demand elasticity (e) on the one hand, and the marginal cost (mc) of production on the other hand. If the market is perfectly competitive all competitors, irrespective of ownership type, have to pursue profit maximization in order to survive. In most markets, however, competition is imperfect and this offers the opportunity for firms to pursue other goals. Therefore, in markets in which both for-profit and nonprofit firms compete – as is typically the case in many insurance markets – both types of firms may display different pricing behaviours. For instance, in the context of the US health insurance market Barrish (2004) and Nudelman and Andrews (1996) argue that the lower operating margins reported

by nonprofit health insurers very likely reflect the organizations' corporate missions to serve their communities by minimizing the cost of coverage and their ability to invest all gains back into the company for the future benefit of their customers. Pricing differences may also reflect differences in the quality of care of for-profit and nonprofit health plans (Schneider et al., 2005). In case of strong price competition, however, nonprofit firms are forced to adapt their pricing behaviour to that of for-profit competitors. Empirical evidence from the US hospital sector shows that spillover effects can be significant. Kessler and McClellan (2002) find that the presence of for-profit hospitals induces significant expenditure savings among nonprofit hospitals, while Silverman and Skinner (2004) find that nonprofit hospitals are more inclined to upcoding in markets with a larger for-profit hospital share.

In the Dutch social health insurance market, prior to 2006 for-profit insurers were not allowed. Hence, until 2006 potential spillover effects from the presence of for-profit insurers were absent and “pure” nonprofit insurer pricing behaviour can be observed. In a market where all competitors are non-profit, pricing behaviour may not be driven by profit maximisation. If competition is strong, however, prices would be forced down to the competitive level, in which case there would presumably be little difference between pricing behaviour of nonprofit and for-profit insurers. Empirical studies show, however, that consumer price sensitivity in the Dutch social health insurance market was very low and therefore competitive pressure was rather weak (Schut and Hassink, 2002; Schut et al., 2003; Douven et al., 2007; Van Dijk et al., 2008). If competition is not sufficient to drive premiums down to the competitive level, the question becomes how nonprofit health insurers set premiums. Do they raise premiums to increase profits or do social motives play an important role and do they charge premiums that are just sufficient to cover average cost? Are there persisting differences among health insurers in costs and premiums over time? Do different health insurers follow different pricing strategies?

To answer these questions we investigate what factors could have explained pricing decisions by health insurers over the period 1996–2004. Health insurers operating in the social health insurance market during this period sell both mandatory basic insurance and voluntary supplementary coverage. Since basic insurance comprised about 95 percent of insurers' revenues, we focus on factors that explain the price setting of basic coverage. The basic benefits package is standardized by law and since health insurers were not actively involved in selective contracting or managing care, the basic insurance product is quite homogeneous (Lieverdink, 2001). Although insurers offered essentially the same basic insurance product, the cost of providing this product may vary across health insurers due to the different risk profiles of the insured population. To a large extent, the cost differences associated with different risk profiles were moderated by a system of risk equalization and by retrospective compensation payments (Van de Ven et al., 2004). Nevertheless, the remaining cost differences may have a substantial impact on insurers' pricing decisions. In addition, other factors that may determine price setting are the (statutory) goals of the nonprofit insurer (or corporate mission), the degree of competition in the relevant market, the level of financial reserves and government regulations, such as solvency requirements.

In general, the insurer's pricing model that will be estimated can be described as:

$$P_{it} = \mu_t + \alpha_i + X_{it}\beta + \varepsilon_{it}. \quad (2)$$

In this standard panel data model out-of-pocket-premiums, of insurer i at year t is explained by a set of fixed year effects, μ_t , and fixed insurer effects α_i . The explanatory variables are represented by X_{it} , and ε_{it} represents the error term. The error terms are robust

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