A comment on Neudeck and Podczeck's "adverse selection and regulation in health insurance markets"

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Abstract

Using the Grossman equilibrium concept, Neudeck and Podczeck [Journal of Health Economics 15 (1996) 387] show that imposing a minimum standard on a perfectly competitive insurance market can result in anti-competitive effects: decreased welfare with some insurers earning positive profits. However, the Grossman concept precludes an insurer from offering two separating, cross-subsidizing health plans. When an insurer can offer multiple plans (as under both the Nash and Miyazaki–Wilson equilibrium concepts), I show that minimum standards result in a doubleton equilibrium, never allow positive total profits, and increase welfare. This is of interest since in 1997 more than half of establishments in the US offering choice of multiple plans did so through a single insurer. Published by Elsevier Science B.V.

1. Introduction

Many recent health insurance reforms in the US involve some type of minimum standard on coverage or benefits. Neudeck and Podczeck (1996, p. 400) (NP) examine the effects of minimum insurance standards on perfectly competitive insurance markets. They find that minimum standards may decrease total welfare and facilitate collusion at the minimum standard so that some insurers earn positive profits even though the market is perfectly competitive. Given the recent use of minimum standards in many US states under Patients' Bill of Rights initiatives, this anti-competitive prediction of NP warrants special attention.

In this comment, I show that NP's anti-competitive equilibrium under minimum standards is not robust and is simply a result of using the Grossman equilibrium concept. In

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particular, I show that minimum standards are never anti-competitive and do increase welfare (compared to no regulation) under the two more common equilibrium concepts of Nash and Miyazaki–Wilson. Rather than discuss all the technical nuances between these three different equilibrium concepts, I will focus on the main driving qualitative difference: Grossman does not allow an insurer to offer two separating, cross-subsidizing (doubleton) health plans. [1] In contrast, the Nash and Miyazaki–Wilson equilibrium concepts allow insurers to offer such doubleton health plans in which losses on the high risks' plan are internally offset with profits on the low risks' plan.

Why is it so important to allow doubleton plans to be offered? Clearly, in an unregulated, perfectly competitive market such cross-subsidizing doubleton plans are never Nash equilibria (the reason is that the low risks can always be skimmed-off for a positive profit without attracting the high risks). But, when a minimum standard is imposed, doubleton plans play an important role. To see this, first note that without a minimum standard, the Rothschild and Stiglitz (1976) zero profit non-subsidized separating equilibrium (Nash and Grossman) calls for the low risks to receive much lower coverage than the high risks so as to not attract the high risks. However, once a regulator imposes a minimum standard on the market, the coverage on the low risks has to be increased up to the minimum standard. Under a zero profit constraint, this increase in coverage for the low risks would attract the high risks. To avoid this adverse selection, the price of the low risks' plan must also be increased enough so that the high risks are no longer attracted. However, this price increase breaks the zero profit constraint and results in a positive profit being earned on the low risks at the minimum standard. This is the Grossman equilibrium, as studied by NP. The only way to dissipate these profits is to either decrease coverage or to use the profit to cross-subsidize the high risks through a doubleton plan. However, the minimum standard prevents a decrease in coverage and the Grossman equilibrium concept does not allow doubletons.

In contrast, under the Nash and Miyazaki–Wilson equilibrium concepts, doubleton health plans can be used to dissipate this profit under the minimum standard. That is, the positive profit can be used to cross-subsidize the high risks until the average profit across both risk types in the doubleton is zero. Moreover, the minimum standard allows the doubleton plan to now possibly be a second-best efficient Nash equilibrium (since the minimum standard prevents the low risks from being skimmed-off by a plan with lower coverage and a lower price), as well as a Miyazaki–Wilson equilibrium. Also, total welfare increases in the zero profit doubleton equilibrium under minimum standards, compared to no regulation. Thus, minimum standards are never anti-competitive under the Nash and Miyazaki–Wilson equilibrium concepts. This is illustrated in more detail below.

2. No regulation

Under perfect competition and no regulation, no doubleton Nash equilibrium exists. In Fig. 1, we have the case where the Grossman, Nash, and Miyazaki–Wilson equilibria are

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[1] This restriction is not realistic in the context of the US health care system. In 1997, more than half of employer establishments that offered choice between multiple plans did so through a single insurer (Marquis and Long, 1999).