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A Note on Law and Economics*
—Law against Retail Price Maintenance and Social Surplus—

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1. Introduction

In Miura (1997) the law against retail price maintenance has already been analyzed and it has clearly been explained that under retail price maintenance the retail price becomes higher than the optimal retail price. In Watanabe (2003) a following result has been derived; if the tax evasion of producer is taken into consideration the retail price becomes lower than the ordinal retail price as analyzed in Miura (1997). The purpose of this note is to study the law against retail price maintenance from the point of social surplus considering the tax evasion, [See Allingham and Sandmo (1972), Peacock and Show (1982), Kreutzer and Lee (1986), Watanabe (1986, 1987, 1988, 1989, 1996, 2001a, 2001b, 2003) for the tax evasion].

2. Retail Price Maintenance and Social Surplus

Using the same notation in Watanabe (1993) in this section it will be shown that the social surplus may become larger in Watanabe's model than in the Miura's model.

The social surplus in Watanabe's model can be straightforwardly shown as

$$s.s = \frac{1}{2b}\left\{a - \frac{a+c_M+c_R}{2} + \frac{t\,c_M}{8(1-t)F}\right\} \times \left\{a + \frac{a+c_M+c_R}{2} - 2(c_M+c_R) - \frac{t\,c_M}{8(1-t)F}\right\} \quad . \tag{1}$$

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On the other hand the ordinal social surplus as analyzed in Miura (1987) can also be shown as

$$\hat{s.s} = \frac{1}{2b}\left\{a-\frac{a+c_M+c_R}{2}\right\}\left\{a+\frac{a+c_M+c_R}{2}-2(c_M+c_R)\right\} \quad . \tag{2}$$

To simplify the comparison between two models the following assumption is made; $a > c_R+(1+\delta)c_M$.

Further from the analysis of Watanabe (2003) δ is equal to $\frac{1}{2F}$.

Hence if the tax rate t is less than 0.8, the following relation can be derived;

$$\begin{aligned} a &> c_R+\left(1+\frac{1}{2F}\right)c_M \\ &> c_R+\left\{1+\frac{t}{8(1-t)F}\right\}c_M \quad . \end{aligned} \tag{3}$$

From (3) we obtain

$$s.s > \hat{s.s} \tag{4}$$

Therefore we come to the conclusion that if the tax rate is less than 0.8, the social surplus of Watanabe's model becomes larger than that of Miura's model.

3. Concluding Remarks

In Watanabe (2003) a following result has been derived; if the tax evasion of producer is taken into consideration, the retail price in Watanabe's model becomes lower than the ordinal retail price as analyzed in Miura (1997).

In this note, in addition to the above result it has also been derived that even the social surplus in Watanabe's model can become larger than that in Miura's model.

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