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On the Alternative Resolution of Tax Disputes

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Abstract

The purpose of this paper is to show the economic implications of tax law complexity concerning the parties who face a tax dispute. While the tax auditor tries to prevent tax evasion and to ensure that taxpayers pay the right amount of tax, there are times when the auditor and the taxpayer do not agree on what legal amount of tax is. As the result of analyzing this situation in which a taxpayer and an auditor interact strategically, (1) the divergence between the amount of tax increases through the complex of the law. With the complexity, (2) some parties can agree on what amount of a revised return is.

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1. Introduction

When parties in Japan need to resolve a tax dispute, they must turn to the method of ADR: abbreviate trial procedures in tax tribunal. Obtaining the accurate knowledge about this legal system in tax disputes is important for making desirable policy-decisions. Despite the importance of this issue, little economic (in particular, "law and economics") literature exists except for econometric analysis by Ramseyer and Rasmusen [1999] [1].

This paper studies the effect of the method on the parties' incentives concerned with a tax dispute. The ADR of tax disputes in Japan is characterized as follows[2]: when the contents shown on the tax return are inconsistent with the findings of an audit, tax office can amend a taxpayer's self-assessment (General law of national taxes article, hereafter Article, 24). Then, a taxpayer can object to an assessment imposed by the tax office, litigation must be filed with national tax

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[1] Traditionally, in the theoretical literature, the tax compliance/enforcement models involved taxpayers/auditors have been treated. See, for example, Cowell[1987,1990] , Mookherjee[1997], and Androni et.al.[1988].

[2] For the method of tax dispute resolution, see also the website of National Tax Agency(http://www.nta.go.jp/category/english/index.htm.).

tribunal and cannot be pursued until all administrative protests have been finished (Article75, 85 and 115).

In this paper, we will show that this legal process can select the types of taxpayers: while the tax auditor tries to ensure that taxpayers pay the right amount of tax, there are times when the auditor and the taxpayer do not agree on what legal amount of tax is, the divergence between the amount of tax increases through the complex of the law. With the tax complexity, some parties can agree on what amount of a revised return is[3].

In the next section, we consider the effect of the complexity in a simultaneously-move game between a taxpayer and an auditor. Section 3 examines the range of settlement in the context of the tax disputes. In the section 4, we incorporate the heterogeneous types of taxpayer into tax disputes. Section 5 concludes the implication of the alternative resolution method of the tax disputes.

[3] According to Miceli[6,ch.8], in the settlement-trial decision model involved the two types of plaintiffs, this is referred to as a "separating strategy".

2. Tax Disputes

Our model has the same underlying structure as Sato[1999] and Farber [1980] with the addition of dispute costs[4]. In our model, we assume that parties (or "players", in the terminology of the game theory) will behave "rationally", i.e., each party attempts to maximize his or her own payoff from the game. Consider a taxpayer who calculates the amount of income tax that he or she has to pay and a tax auditor who concerns the amount. Both parties determine offers independently, denoted by t_i and t_j, respectively. Nothing but the arbitrator can decide the right amount of tax. For simplicity, we omit the case that is partially decided in favor of the taxpayer. Let $t_i(\text{resp.}\, t_j)$ be the amount that a taxpayer (resp. auditor) calculated, where $0 < t_i < t_j$. Furthermore, let $\theta \in (t_i, t_j)$ be a right amount of taxes.

Assume that both parties know probabilistic distribution of θ, which is denoted by a continuously differentiable function F associated with density function f. Neither of them knows θ due to the complex of the

[4] Farbar [4] develops a model of the final-offer arbitration (FOA) process. According to Young [10], unlike conventional arbitration (CA), under FOA, the arbitrator is not permitted to compromise the final offers of each side.

tax law. Assume further that the arbitrator chooses the offer that is closer to θ : If $\theta - t_i < t_j - \theta$, then the condition that t_i is right amount is $\theta < (t_i + t_j)/2$. On the other hand, if $\theta - t_i > t_j - \theta$, then the condition that t_j is right amount is $\theta > (t_i + t_j)/2$. Let the expected amount of taxes be Φ . Given these assumptions, this value is as follows:

$$\Phi(t_i, t_j) = t_i F(\theta) + t_j (1 - F(\theta)) \qquad (1)$$

For simplicity, we assume that both parties are risk-neutral. The definitions of best responses and equilibrium are as follows: A best response for a taxpayer to any given t_j is strategy $t_i^*(t_j)$ such that $\Phi(t_i, t_j^*) \leq \Phi(t_i, t_j)$ for all other strategies t_i . Similarly, a best response for the tax auditor to a given strategy t_i for a taxpayer is a strategy $t_j^*(t_i)$ such that $\Phi(t_i, t_j^*) \geq \Phi(t_i, t_j)$ for all other strategies t_j .

An equilibrium, therefore, is a pair of strategies (t_i^*, t_j^*) such that $t_i^* = t_i(t_j^*)$ and $t_j^* = t_j(t_i^*)$. That is, a taxpayer minimizes the expected amount of taxes and a tax auditor maximizes this amount. The pair of offers (t_i^*, t_j^*) is to be Nash equilibrium of the game such as $t_i^* = \arg\min_{t_i} \Phi(t_i, t_j^*)$ and $t_j^* = \arg\max_{t_j} \Phi(t_i^*, t_j)$.

When the distribution function is continuous and increasing, the first-order conditions of the equilibrium (t_i^*, t_j^*) implies that the average of equilibrium strategies must equal the median of these strategies and that the gap between equilibrium strategies must equal to the reciprocal value of the density function at the median of strategies[5].

In particular, when θ is normally distributed with mean, m ,and variance, σ^2, in this case, the median of the distribution equals the mean of the distribution [6]. Therefore, the equilibrium (t_i^*, t_j^*) is $(m - \frac{\sigma\sqrt{2\pi}}{2}, m + \frac{\sigma\sqrt{2\pi}}{2})$, where standard deviation, σ, is positive.

In Figure 1, immediately, we obtain the following proposition:

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[5] (t_i^*, t_j^*)must solve the first-order conditions for the parties' optimization problems: $F\left(\frac{t_i^* + t_j^*}{2}\right) + (t_i^* - t_j^*) f\left(\frac{t_i^* + t_j^*}{2}\right) / 2 = 0$ and $1 - F\left(\frac{t_i^* + t_j^*}{2}\right) + (t_i^* - t_j^*) f\left(\frac{t_i^* + t_j^*}{2}\right) / 2 = 0$. Integrating these conditions yields $F\left(\frac{t_i^* + t_j^*}{2}\right) = 1/2$. Substituting this result into either of the first-order conditions yields $t_i^* - t_j^* = \left(f\left(\frac{t_i^* + t_j^*}{2}\right)\right)^{-1}$.

[6] Given m and σ, the density function is $f(\theta) = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(\theta - m)^2}{2\sigma^2}}, \sigma > 0.$

Proposition 1. For all $\sigma > 0$, $t_j^*(\sigma) - t_i^*(\sigma)$ is increasing in σ.

With the tax law complexity, there are times when a taxpayer and an auditor do not agree on what right amount of tax is.

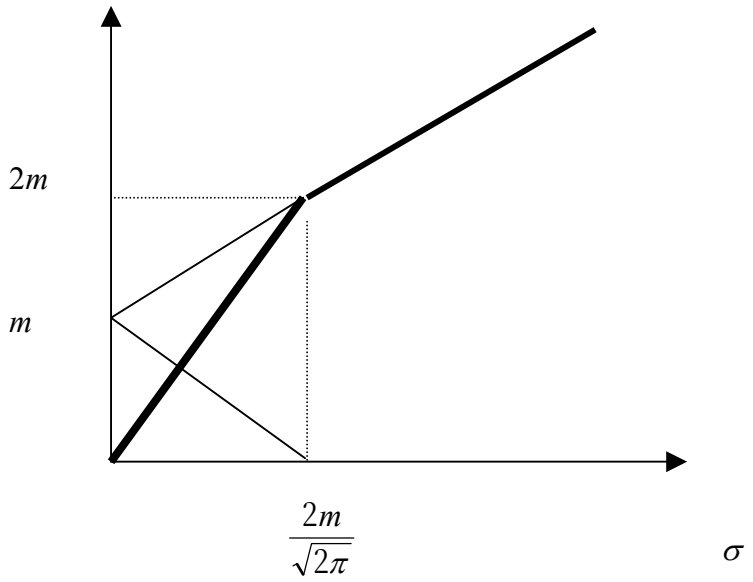

Figure 1.

3. Resolution of tax disputes

This section extends the analysis of the way a modification can reduce tax dispute incentives. In the section 2 we noted that our explanation for a revised return is based on the fact that parties have different expectations about the outcome of a resolution. When parties try to obtain better than what they expect, the bargaining, or revised return, will be mutually beneficial.

Assuming that risk-neutral parties maximize their expected payoff, the parties engage in bargaining that results in the taxpayer making a payment $S > 0$ to the tax office. If they fail to bargain, the process of tax dispute resolution and trial would ensure.

First, consider the problem of the tax office. We regard the payoff as additional tax revenue. The tax office expects the probability of winning (resp. losing) at trial with $1-F(\theta^*)$ (resp. $F(\theta^*)$). Then, additional tax revenue is $t^* = t_j^* - t_i^*$ (resp. zero) ,where t^* increases in $\sigma > 0$.

Let $C_j > 0$ be tax office's dispute costs. Under this concept is included a cost such as dispute term. Then, the office's expected payoff when the bargaining do not be concluded is $(1-F(\theta^*))t^*(\sigma)+F(\theta^*) \cdot 0 - C_j = (1-F(\theta^*))t^*(\sigma) - C_j$.

On the other hand, let $R_j > 0$ be office's bargaining cost. We assume that the amount of bargaining cost is not large enough to be worth taking a trial. The expected payoff when bargaining is concluded is $S - R_j$. Therefore, the condition that the office accepts the payment is

$$S > (1 - F(\theta^*))t^*(\sigma) - C_j + R_j \qquad (2)$$

Next, consider the taxpayer's problem. We regard his payoff as additional credit: $t^* = t_j^* - t_i^*$. The taxpayer expects his probability of winning (resp. losing) at trial with $F(\theta^*)$ (resp. $1 - F(\theta^*)$). Then, his or her payoff when he or she wins (resp. loses) is t^* (resp. zero)[7]. Let $C_i > 0$ be his or her litigation costs. This cost also can be interpreted into office's litigation cost. When the bargaining is not be concluded, her expected payoff is $F(\theta^*)\ t^*(\sigma)$ +($1 - F(\theta^*)$) · 0 − $C_i = F(\theta^*)\ t^*(\sigma) - C_i$.

On the other hand, let $R_i > 0$ be her bargaining cost. When the bargaining is concluded, her expected payoff is $t^*(\sigma) - S - R_i$. The condition that this taxpayer makes payment is

[7] This definition reflects the principle of administrative protests, which means an initial payoff of each taxpayers must be protected until all administrative protests are finished.

$$S < (1 - F(\theta^*))t^*(\sigma) + C_i - R_i \qquad (3)$$

Here, we assume that $C_h > R_h, h = i, j$. Then, $C_h - R_h > 0$ means additional cost when bargaining does not be concluded.

Combining with equation (2) and (3), in Figure 2, the "range" of payment (Miceli [1997], ch.8)) exists if the following condition holds:

$$\sum_h C_h - R_h > 0, h = i, j. \qquad (4)$$

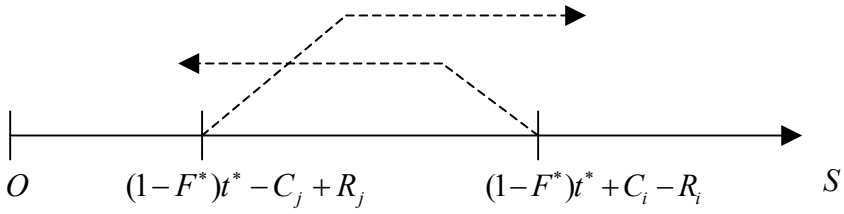

Figure 2

From this result, we obtain the following proposition:

Proposition 2. For any $\sigma > 0$, if $\sum_h C_h - R_h > 0, h = i, j$ then $S > 0$.

This proposition implies that, with tax law complexity and costly resolution, even though additional litigation cost is small amount, a revised return as the payment from taxpayer to tax office is sure to take place and parties avoid involvement in dispute.

Tax auditor is authorized to carry out criminal investigations of taxpayers suspected of tax evasion. While the tax enforcement policies seek to prevent tax evasion and ensure that taxpayers pay the legal amount of tax, in practical situations, there are times when the agency and the taxpayer do not agree on what legal amount of tax is. There are two ways in which a taxpayer can object to an assessment imposed by the tax auditor, namely, administrative protest and litigation. These disagreements or tax disputes are apt to be taken with uncertainty of taxable incomes. With "Nash assumption" in which rational taxpayer and auditor interact strategically, we can show that uncertainty of taxable incomes yields disagreements on what legal amount of tax is, and that the parties avoid involvement in disputes.

Here, possible payment does not necessarily mean an attempt at bribery. Indeed, in our model, we can say that, if the behavior of tax enforcement is hidden, tax auditor is willing to take a bribe, but he or she does not approach the taxpayer with the offer of a bribe.

4. Selection of tax disputes

We will need to be more careful that the assumption of homogeneity makes it impossible for parties to condition the decision-making of going to law on type levels[8].

Let $v \in [\underline{v}, \bar{v}]$ be a parties's preference to trial, where $\underline{v}$ is non-negative. This value may reflect his or her available evidences, ability to persuade, and the knowledge of the law[9].

Let $F(v)$ and $f(v)$ be the distribution and the density function, respectively. For the case of our model, a tax office makes a single(or "take-it-leave-it) offer $S \in [\underline{v}, \bar{v}]$ to all taxpayers. Then, taxpayers with $v \leq S$ will accept the offer. On the other hand, the taxpayers with $v > S$ will reject it. The latter case means the case proceeds to trial phase.

Assume that the tax office does not observe the type of the individual taxpayer but observe the distribution of types, and that the structure of costs (C_i, C_j) is common knowledge.

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[8] See also Ramseyer and Rasmusen [1999], who points out the risks in keeping judges independent in tax disputes.

[9] Also, the parties' preferences may reflect their wealth levels.

Given a offer $S \in [\underline{v}, \bar{v}]$,with probability $\int_{\underline{v}}^{s} f(v)dv$, the case is settled(or the case does not proceed to trial), on the other hand, with probability $\int_{s}^{\bar{v}} f(v)dv$,the case is proceeded. (Recall that $C_i > 0$ be taxpayer's dispute resolution costs.) Therefore,the taxpayer's expected costs, Ω , are given by

$$\begin{aligned}\Omega(S) &= S\int_{\underline{v}}^{S} f(v)dv + C_i\int_{S}^{\bar{V}} f(v)dv \\ &= SF(S) + C_i\int_{S}^{\bar{v}} f(v)dv \end{aligned} \quad (5)$$

From the assumption, the tax office can expect the value of Ω in choosing offers.The first-order condition for the optimal offer to minimize the taxpayer's expected costs is given by

$$F(S) + (S - C_i)f(S) = 0. \quad (6)$$

Using the implicit function theorem, as far as $f'(S) = 0$, $\frac{dS}{dC_i} > 0$.

This result say the following policy implications: if an observable C_i decrease(resp.increase), then "optimal" offer to taxpayers also decreases(resp. increases).

In the case of a uniform distribution[10], it is clarified that the tax office's offer which satisfied with condition (6) will be "rationally" accepted by taxpayers: there exists an unique offer S^* such that taxpayers rationally accept:

$$S^* = \frac{\underline{v} + C_i}{2} \tag{7}$$

It follows that ,as far as the tax office has relatively small value to trial($v \le S^*$), the case will be settled(or, the tax office "rationally"offers S^*). On the other hand, those who with $v > S^*$, the case proceeds to trial.

Therefore, the set of types is separated into two groups: taxpayers with $v \le S^*$ will be settled, and taxpayers with $v > S^*$ is proceeded to trial. Hence, those who are treated in the process of trial (or ADR) are relatively "high" type's taxpayers. Therefore, we could mention that this alternative resolution method plays a role of type-selection (or screening) mechanism concerning tax disputes.

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[10] In this case, $F(S) = \frac{S - \underline{v}}{\bar{v} - \underline{v}}$ and $f = \frac{1}{\bar{v} - \underline{v}}$.

5. Conclusion

In this paper we consider the economic implications of tax law complexity concerning the "rational" parties who face a tax dispute. The following results are obtained: First, while the tax auditor tries to prevent tax evasion and to ensure that taxpayers pay the right amount of tax, there are times when the auditor and the taxpayer do not agree on what legal amount of tax is. Second, the divergence between the amount of tax increases through the complex of the law. Third, our consideration suggests that abbreviate trial procedures in tax tribunal plays a role of types-selection, or screening, mechanism.

Finally, it should be noted that our model has abstructed from the general risk-preferences. The risk-preferences seems to be closely related to the "range" of payments. This task is left for future work.

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