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The optimality of contingent fees in the agency problem of litigation

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Abstract

Linear contracts are of particular interest to economists. They have a simple structure, yet they are very popular in practice. In this regard, plaintiff–lawyer contractual relationships are of particular interest. Lawyers' fees are mostly paid by a sharing rule and they are typically a fixed proportion of the recovery across all lawsuits of the same type and this fixed proportion typically stays constant for many years. Such a simple and stable form of contract is puzzling to contract theorists. This paper presents a simple agency model with a risk-averse principal and a risk-neutral agent. We show that the observed puzzling features of contracts in litigation are in fact optimal behaviors, if a lawyer's effort has a constant marginal cost.

JEL classification: K00; K13

Keywords: Litigation; Contingent fees; Agency problem

1. Introduction

Linear contracts are of particular interest to economists. They have a very simple structure and they are very popular in practice. In theory, however, economists are only able to show the optimality of a linear contract if both the principal and agent are risk neutral (double risk neutrality).[1] This may not be consistent with most real-world cases involving linear contracts, for which double risk neutrality does not seem to be an appropriate assumption. One such case is litigation in courts, where we expect the plaintiff to be risk averse, and yet linear contracts are a very popular form of contracts between lawyers and plaintiffs.

More specifically, a fixed sharing rule is the most popular method of calculating lawyers' fees in the United States, by which the lawyer receives a pre-determined share of the recovery if the case is won, and nothing if the case is lost. As pointed out by Kakalik and Pace (1986), Fisher (1988) and Dana and Spier (1993), 96% of individual plaintiffs involved in tort litigation in the United States pay their lawyers on a sharing-rule basis. Furthermore, lawyers' fees are typically fixed share of the recoveries across all lawsuits of the same type, although there is a large variation across different types of lawsuits. As indicated by Hay (1996, Table 6), the lawyer's fee is typically 29% for auto accidents, 32% for medical malpractice, 34% for asbestos injury, and 17% for aviation accidents.

An immediate question is why such a simple sharing rule is chosen by the overwhelming majority of plaintiffs and lawyers. Is the sharing rule optimal? Further, why must it be a fixed proportion of the recovery across many different cases, typically one-third?

An answer to these questions may shed some light on our understanding of the popularity of linear contracts in many other cases and on contract theory in general. In theory, linear contracts are known to be optimal if and only if both the principal and the agent are risk neutral. But Kim and Wang (1998) show that even if there is a tiny bit of risk aversion, linear contracts are far from optimal. Thus, the existing contract theory cannot explain the popularity of linear contracts in practice. Because the sharing rule is so pervasive in practice, many published papers in the existing literature simply impose linearity on contracts, even though the linear contract is not optimal within the framework of their models. In particular, although there is a large literature on litigation,

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[1] Bhattacharyya and Lafontaine (1995) are the first to provide such a result for an additive output process of the form $x = a + \varepsilon$, where a is effort and ε is a random shock. Kim and Wang (1998) provide a general result.

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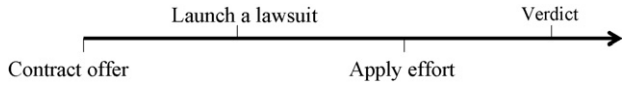

Fig. 1. The timing of events.

the particular form and the key features of the sharing rule adopted in litigation has never been shown to be optimal in theory.

This paper presents a simple agency model with a risk-averse principal (the plaintiff) and a risk-neutral agent (the lawyer). Under the assumption of a constant marginal cost of a lawyer's effort, we present four results: (1) the optimal contract is a sharing rule; (2) the share of the sharing rule is fixed, in the sense that it is independent of the recovery; (3) the share is also independent of the plaintiff's preferences, that is, the lawyer may charge the same share for all clients involved in the same type of cases; and (4) such a sharing rule is efficient (the first best). Therefore, our simple agency model explains the key features of the sharing rule in litigation.

This paper proceeds as follows. Section 2 presents our agency model of litigation. Section 3 derives the results. Section 4 discusses various issues. Finally, Section 5 concludes with a few concluding remarks. All the proofs are in the Appendix.

2. The model

The plaintiff and his lawyer first access the validity of the case and the potential recovery R and then decide their strategy. If the case is valid, they can either sue or to seek an out-of-court settlement. If an early out-of-court settlement fails and the lawyer and plaintiff decide to bring the case to a court, the lawyer and plaintiff enter into a contractual relationship for the lawsuit.

This paper deals with the lawsuit only, after a case is proven valid and worthwhile to pursue and after an early out-of-court settlement has failed. The timing of events in the lawsuit is as follows, as shown in Fig. 1. First, the plaintiff offers a contract to the lawyer, and after the lawyer accepts the contract, the lawsuit is launched. During the process of lawsuit, the lawyer applies effort that affects the winning chance. A court ruling finally arrives and the lawyer is then paid according to the contract.

Given a recovery $R \geq 0$, let p be the winning probability, by which the outcome is[2]

$$\tilde{R} = \begin{cases} R, & \text{with probability } p, \\ 0, & \text{with probability } 1-p. \end{cases}$$

We write this lottery in a simple form: $\tilde{R} \equiv (R, p; 0, 1-p)$. The R may be fixed or random. That is, conditional on winning the litigation, there may be further uncertainty on the size of recovery. In fact, we consider three possible situations for R. This R may be fixed and known; it may be random with a known density function that is independent of the lawyer's effort; and it may be random with a known density function that is dependent on the lawyer's effort.

Suppose that the lawyer can exert effort a to achieve certain winning probability p. Assume that the winning probability is an increasing function $p(a)$ of effort a. That is, more effort from the lawyer improve the winning chance. By this, the lawyer can effectively control the winning probability by applying proper effort. Because of this one-to-one relationship between winning probability and effort, we can equivalently assume that the lawyer chooses a winning probability instead of certain effort. That is, instead of dealing with an effort variable, we will deal with the probability variable p directly. And, we call p either the winning probability or effort.

Let $C(p,R)$ be the cost associated with the effort for achieving a winning probability p for a recovery R. For a larger recovery, we expect the cost of effort for the same winning probability to be higher. Hence, we assume that $C(p,R)$ is increasing in p and R. In fact, we choose a simple form for the cost function as defined in Assumption 1.

Assumption 1 *(Constant MC)*. Assume a constant marginal cost of effort:

$$C(p, R) \equiv cpR, \tag{1}$$

where $c \in (0,1)$ is a fixed constant.

Note that, if $c \geq 1$, even with 100% winning probability, it will not be worth launching the lawsuit. Hence, the condition $c < 1$ ensures the plaintiff's individual-rationality condition.

The key for the cost form in (1) is that the marginal cost $\partial C(p,R)/\partial p$ of effort is fixed in terms of effort p. This assumption substantially reduces the complexity of our presentation and derivation of the main results. We have further chosen a simple form cR for this marginal cost.

Assume that the lawyer's effort is not verifiable, which, in the context of our model setting, is equivalent to saying that the winning chance p is not verifiable. This means that the plaintiff needs to provide sufficient incentive to induce the lawyer to work hard. Assume also that the recovery R is observable and verifiable, which means that the contract between the lawyer and the plaintiff can be based on the recovery.

Since there are two possible events, the pay scheme takes two possible values α_w and α_l depending on the court outcome. That is,

$$\text{lawyer fee}: \quad s = \begin{cases} \alpha_w, & \text{if the case is won,} \\ \alpha_l, & \text{if the case is lost,} \end{cases}$$

where $\alpha_l,\ \alpha_w \in [0,\ R]$. Here, conditions $\alpha_l \geq 0$ and $\alpha_w \geq 0$ are limited-liability conditions for the lawyer and conditions

[2] The recovery R in our model is the actual recovery and it may include punitive damages.