Satisfaction with Preliminary Injunctions and Merits
– A Behavioral Economics Approach –

Koki Arai *

I. Introduction

There have been a number of major preliminary injunction cases recently in Japan,¹ and it is clear that the system of preliminary injunctions (hereafter PIs) is being used as an alternative to merits litigation. This trend, as well as arguments concerning the role and essence of PIs, has attracted the interest of both legal practitioners and academics. It seems paradoxical that the more accurate and cautious court decisions made in merits cases are less likely to be accepted, while the faster and simpler dispute settlement provided by PIs is easily accepted.

In the present paper, we examine the reasons for this trend from an economics perspective, which is linked to the costs of legal processes for PIs and merits. Furthermore, given the low probability of winning litigation in the appeals court, we find it useful to apply behavioral economics (which involves the analysis of irrational decision making) to this issue. We consider the difference in the appeals rate following the loss of a

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¹ For example, the “Livedoor” case (Tokyo District Court, decision of 11 March 2004), Bank of Tokyo – Mitsubishi & UFJ v. Sumitomo Trust and Banking (Supreme Court of Japan, decision of 30 August 2004), and “the Roman Holiday” copyright case (Tokyo District Court, decision of 11 July 2006).
PI case and that following the loss of a merits case by using a behavioral approach in addition to using standard cost and probability analysis. This increases the precision of the analysis of each player’s decisions and incorporates future institutional arrangements. Seki (1999, 2003) first discussed PIs as an alternative to merits and their expansion. This issue has been a major topic in recent debate, and it has been argued that now is the time to discuss this topic because there are useful arguments available and realizable beyond simple case taxology or rule-making practices. In this paper, we aim to contribute to providing a foundation for this topic based on a mechanism for expectations and costs that incorporate individual decision making.

In this paper, we analyze whether a plaintiff who loses a PI suit would proceed with merits litigation. The paper is organized as follows. In Section II, we explain PIs as an alternative to merits. In Section III, we present the model. In Section IV, we discuss the model’s implications. In Section V, we extend the model to incorporate the low success rate of litigation in the appeals court. In Section VI, we present concluding remarks.

II. THE EXPANSION OF PIs

Although PI in Japan (kari-shobun) is similar to that in France (référé), the Japanese system differs from the US system. Kari-Shobun is a request from the plaintiff made to prevent an irreparable injury occurring in a merits court proceeding, whereas a motion for PI in the US is issued before or during a trial to prevent an irreparable injury occurring before the court has a chance to decide the case. However, the principle and the economic implications are the same under both the Japanese (and French) and the US systems. Therefore, although we treat PI (rule nisi) as being equivalent to the Japanese

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2 H. Seki, Kari no chi’i o sadameru kari-shobun no hon’an daitai-ka genshô – tokubetsu soshô-teki sokumen no kenzai ka ni tomonau sono jansô kaiketsu kinô; ryô’iki no kakudai, hozen to hon’an no yakuwari bantun no ryûdô-ka – [The phenomenon of the alternation of the merits of the case by preliminary injunctions determining the provisional status – Expansion of fields, Features of dispute resolution entailed by the manifestation of special litigatory aspects; fluidization of the role allocation of provisional remedies and merits of the case], in: Hanrei Taimuzu 1001 (1999) 4 ff.; H. Seki, Kari no chi’i o sadameru karishobun (manzoku-teki kari-shobun) no tokubetsu soshô-ka sairon sono konkyo, kanren no rippô-ron oyobi hozen no shinri taishô-ron to no kakawari [Reconsidering preliminary injunctions determining the provisional status (satisfying preliminary injunctions) of special cases: Their justification, the implications of discussions on the relevant legislation and on the object of investigation], in: Hanrei Taimuzu 1105 (2003) 4 ff.

3 PIs in patent suits are analyzed by J.O. Lanjouw / J. Lerner, Tilting the Table? The Use of Preliminary Injunctions, in: Journal of Law and Economics 44 (2001) 573 ff.

4 A PI is a “temporary injunction issued before or during trial to prevent an irreparable injury from occurring before the court has a chance to decide the case.” (Black’s Law Dictionary, 7th Ed.). “The traditional standard for granting a preliminary injunction requires the plaintiff to show that in the absence of its issuance he will suffer irreparable injury and also that he is likely to prevail on the merits.” (Doran v. Salem Inn, Inc., 422 US 922, 931 (1975)). See also FEDERAL RULES OF CIVIL PROCEDURE (2005), Rule 65. “Injunctions”.
PI system, we incorporate the role and essence of the US system in this context. This paper’s contribution is twofold: we apply economics tools to analyze court processes, and incorporate irrational thinking in the court process in the absence of limitations in the legal system.

The expansion of PI has been explained as a “phenomenon of actualizing to replace merits litigation with PI for ultimate results, and as it turned out, making less effort to win in the process of merits litigation pending a case which should have been discussed accurately and cautiously.” The background to this phenomenon comes from an increasing social understanding of PI, and thus, attorneys on both sides consider using PI if this might resolve a dispute.

In this regard, it is worth analyzing why there is a smaller rate of appeals for PI cases than for merits cases. To concentrate on this issue, instead of analyzing whether to seek a PI or go straight to a merits case, we will focus on examining the difference in the appeals rate following the loss of a PI case and that following the loss of a merits case.

III. THE FORMALIZED MODEL

In the US, there is extensive legal literature examining PIs in the light of the criteria used by judges to grant permission to proceed with a PI motion case, namely, those of irreparable harm and public good as well as the likelihood of winning. These criteria have attracted little attention in the law and economics literature except from Lanjouw/Lerner (2001), who develop a model in which differences in financing costs drive the use of PIs. They explore the implications of this legal remedy for ex post efficiency and ex ante incentives and obtain findings that are consistent with their empirical analysis of patent cases.

The present model is an example and extension of Proposition 1 of Shavell (1982), which states that “a risk-neutral plaintiff will bring a suit if and only if his estimate of

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5 SEKI (2003), supra, note 2.
7 Supra, note 3.
the expected value of the trial judgment exceeds his estimate of the expected legal costs he would bear.” We use a similar simple decision-making model. A risk-neutral party brings a PI or a merits suit. We analyze a plaintiff’s choice between giving assent to a losing judgment of a PI (withdrawal of the case) and bringing consecutive merits litigation based on its probability and payoff, and giving assent to a losing merits litigation and taking the case to the appeals court. Consequently, a plaintiff who loses or wins a PI case must decide whether to continue or withdraw the case. Selection effects are negligible in this model under the risk-neutral players.

Note that the payoff incorporates not only economic benefits but also aspects of conscience including, for example, perceptions of human rights, prestige, and paranoia. We assume that the plaintiff is rational (irrational decisions are analyzed in Section V). The party knows the payoff and the probability when a decision is made. We also assume that the levels of proof in PI and merits (or appeals) are approximately equal, in which case their burdens of proof are similar.

If the probability of winning for the plaintiff of a merits case following a PI is \( p \), then the probability of losing is \( 1 - p \). The payoff from winning is \( x \), and that of losing is normalized to zero. The cost of each legal process (including attorneys’ fees, opportunity costs, and discount factors) is \( l_c \), which, for simplicity, is assumed to be the same for the appeals process. The difference in costs between a PI case and a judgment in a consecutive merits case is \( kl_c \); thus, the cost of obtaining only the PI is \((1 - k) l_c \). The impact of different attorneys’ fee systems is analyzed in Section V.

We assume that the probability of winning in the appeals court is represented by the coefficient \( d \); the probability of losing is thus \((1 - dp)\). The probability of winning in the Supreme Court is \( d^2 \); that of losing is \((1 - d^2p)\).

The structure of the model is shown in the following tree diagrams. The trees on both sides, labeled PI and Merits, indicate that everything is the same once a merits suit has been brought. We focus on the difference in behavior between losing a PI case and losing a merits case without PI.\(^{11}\)

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\(^{10}\) Whether the defendant brings the case to the appeals court is another problem relating to appeals. The crucial simplification I make here is to assume that the defendant is a mirror image of the plaintiff, in which defendant is no specific condition other than plaintiff. Although detailed analysis is postponed for future research, our preliminary study shows that a defendant’s behavior could be incorporated into the plaintiff’s payoff (\( x \)). See S. Shavell, The Appeals Process as a Means of Error Correction, in: Journal of Legal Studies 25 (1995) 493 ff., and A.F. Daughety / J.F. Reinganum, Appealing judgments, in: RAND Journal of Economics 31 (2000) 502 ff.

\(^{11}\) Although it is a dominant strategy to seek a PI without considering an irreparable loss at the filing stage when \( px - (1 - k)l > 0 \), we attempt to explain why the actual appeals rate is higher for merits than for PI.
When a PI case is lost (at ), the expected payoff of the sequence processes is as follows:

$$PI = px + (1 - p)(dp + (1 - dp)(d^2p - l_c) - l_c) - kl_c$$

When a merits case is lost (at ), the expected payoff of the sequence processes is:

$$M = dp + (1 - dp)(d^2p - l_c) - l_c$$

These equations can be rewritten as follows:

$$PI = d^4x^3 - (d^2x + dx + d^2x + dx + dl_c)p^2 + (dx + dx + dx + dx + dl_c + x + 2l_c)p - (2 + k) \quad (1)$$

$$M = -d^4x^3 + (dx + dx + dl_c)p - 2l_c. \quad (2)$$
When a PI case is lost, the losing party should continue to fight if and only if PI is positive, as follows:

\[ \text{PI} = p x + (1-p)M - k l_c > 0 \]  \hspace{2cm} (3)

Our objective is to determine the condition under which the appeals rate is greater under merits than under PI. According to (3), the rate of appeals for PI cases exceeds that for merits cases if and only if PI − M is positive.\(^{12}\) Hence, the following equation applies from equation (1) and (2):

\[ \text{PI} - M = d^3 x p^3 - (d^2 x + dx + dl_c) p^2 + (x+2l_c)p - kl_c = D(p). \]

The term \( D(p) \) depends on too many variables for its value or range to be determined exactly. Thus, in the next section, we will use some sample values to analyze the relationship between PI and M.

IV. DISCUSSION

To facilitate understanding of the value of \( D(p) \) with regard to \( p \), several graphical figures can be drawn to illustrate the probability, \( p \in [0, 1] \), on the horizontal axis, in which the other parameters vary. As shown in Graphs 1 through 7, if PI is not considered urgent, and if the cost of the legal process is comparatively high, then \( D(p) \) is negative.\(^{12}\)

Suppose that \( d = 1, x = 1, \) and \( k = 1, \) for \( 0 < p < 1, \) the sign of \( D(p) \) ( = PI − M) is given by \( l_c; \) the relevant equations and derivatives are as follows:

\[ D(p) = p^3 - (2+ l_c)p^2 + (1+2l_c)p - l_c; \]

\[ D'(p) = 3p^2 - (2+ l_c)p + (1+2l_c) = \{3p - (1+2l_c)\}(p-1), \]

where \( l_c < 1, \) the local minimum value is \( D(p) = 1 \) for \( p = 0, \) and the local maximum value arises when \( p = (1 + 2 l_c) / 3. \) Given that we assume that \( x = 1, l_c \) is interpreted as the ratio of the cost of the legal process to the payoff (\( x \)), and if \( 0 < p < l_c, \) then \( D(p) < 0. \)

This means that the ratio of the cost of the legal process to the payoff is the probability of a negative payoff, accounting for, for example, attorneys’ fees, opportunity costs, and discount rates.

For example, if the cost of the legal process is more than half the payoff, then the expected payoff is negative.\(^{13}\) To support the understanding of the above results from the inequality, we provide several simulations based on appropriate parameter values in Graphs 1 to 4. The value on the vertical axis is the margin between the payoff from PI and that from merits (\( D(p) \)); the value on the horizontal axis is \( p \) (the probability of winning for the plaintiff).\(^{14}\) If the ratio of costs to payoff is 0.1, then the payoff is −0.1 (see Graph 1). For ratios of 0.25 and 0.7, see Graphs 2 and 4, respectively.

\(^{12}\) Condition (3) does not appear to play a significant role in the subsequent analysis.

\(^{13}\) See Graph 3.

\(^{14}\) Unless otherwise stated, this also applies to subsequent graphs.
Graph 1 \( x = 100, \ l = 10, \ d = 1 \)

The value on the vertical axis represents the margin between the payoff from PI and that from merits \( D(p) \); the value on the horizontal axis represents \( p \) (the probability of winning for the plaintiff).

Graph 2 \( x = 100, \ l = 25, \ d = 1 \)
Graph 3  \( x = 100, l = 50, d = 1 \)

Graph 4  \( x = 100, l = 70, d = 1 \) (in the case of higher costs of the legal process)

Some other practices (such as increasing the winning ratio by 10%, if additional legal costs are required) are illustrated in Graphs 5 to 7.
Graph 5  \( x = 100, d = 1, l = 15 + p \times 10 \)
(to increase the winning ratio by 10%, if additional legal costs are required)

\[
\begin{align*}
D(p) & = 100, \\
d & = 1, \\
l & = 15 + p \times 10 \\
\end{align*}
\]

Graph 6  \( x = 100, d = 1, l = 25 + p \times 100 \)
(for winning to require further additional cost)

\[
\begin{align*}
D(p) & = 100, \\
d & = 1, \\
l & = 25 + p \times 100 \\
\end{align*}
\]
Graph 7 The case in which winning requires a discrete additional attorney’s fee.

\[ x = 100, \ d = 1, \ l = 10 \ (p < 20), \ l = 20 \ (20 < p < 30), \ l = 30 \ (30 < p < 40), \]
\[ l = 40 \ (40 < p) \]

It is important for lawyers to discuss substantive verity and *bona fide* from the viewpoint of identifying parties’ rights when discussing the system of legal processes that incorporate PI without considering costs. Therefore, it is difficult for a practicing lawyer who does not bear legal costs to consider incorporating costs into the legal process; thus, the expansion of PI seems paradoxical.

We review Seki’s proposal based on the above analysis in terms of the stance of each related party in response to the expanding PI. It is illustrated by using the analytical cost and probability approach that the expanding PI generally has the following effects:

(i) The parties involved are willing to accept an expansion of PI for the purpose of alleviating their heavy costs during the legal process;
(ii) The court and its officials, including judges, are willing to accept the expansion of PI because agreeing to the court’s tentative ruling exempts the involved parties from the full costs of the litigation process;
(iii) Attorneys resist the expansion of PI because litigants expect to pay lower attorneys’ fees;
(iv) Academics are unwilling to support an expansion of PI because a wider use of PIs would make it hard for them to obtain significant final legal decisions.

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15 It is proposed from another viewpoint; see B. DEPOORTE, Increasing Access to Justice: A Proposal, in: ExpressO 2008.
V. THE APPEALS COURT (BASED ON BEHAVIORAL LAW AND ECONOMICS)

In this section, we apply behavioral economics to address situations that are more realistic. We suppose that one of the plaintiffs makes decisions irrationally because of a behavioral way of thinking, which generates a sunk cost effect and an anchoring effect.

Against this background, we discuss the appeals court, in which there is generally a lower probability of winning than in the lower court: $d < 1$. One practitioner in Japan has pointed out that although in many appeals a different decision is reached by different judges, in many other cases the same decision is reached by different judges because of a lack of evidence or because of unreasonable complaints (Seki, 2003).

This situation is illustrated in Graphs 8 and 9, in which $D(p)$ is positive over a large interval. The objective logic behind a positive $D(p)$ is that the expected payoff at the time of the PI decision is higher than that at the time of the merits decision. This is because the payoff after the appeal is low because of the low probability of winning in the appeals court. If this is a realistic situation, why is the appeals rate for lost merits cases greater than that for lost PI cases even though appeals for lost merits cases have smaller positive payoffs than do appeals for lost PI cases?

Graph 8  $x = 100, l = 15, d = 0.8$  (a case that is hard to win in an appeals court)

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16 In fact, the dismissal decision rate in total appeals is around 75% (74.5% in 2005; 75.1% in 2004; 75.3% in 2003) (from: 司法統計年報: 平成 14, 15, 16 年版—民事・行政事件編 [Annual Judicial Statistics 2005, 2004 and 2003] respectively). In general, this situation is familiar to the legal community.
When considering this question, it is appropriate to introduce ideas from behavioral economics, which incorporates irrational players. The reason why there is a higher appeals rate for merits cases than for PI cases is that the behavior of plaintiffs in lost merits cases changes from rational (objective) to irrational (subjective). The objective circumstance of a positive \( D(p) \) is that the expected payoff from a lost PI case is higher than that from a lost merits case. However, subjectively, a party pursuing litigation having lost a merits case engages in a misguided and costly legal process for two reasons:

(i) The sunk cost effect: When a party loses a merits decision, the party may choose to continue the litigation process because the accumulated cost of the litigation is too high for the party to end the process. This effect can be attributed to the framing effect in social psychology.

(ii) The anchoring effect: A party persists with a complaint during the merits litigation because pursuing the suit causes the party to adhere to the complaint (and to distort the expected payoff) after the merits decision has been lost. This effect can be attributed to the heuristic model in cognitive psychology.

Previously, we assumed that a player behaves rationally based on an objective expectation. However, in that case, based on the objective probability of winning on appeal, it is difficult to explain the finding from court statistics that merits losers are more likely to appeal than are PI losers. Therefore, in an attempt to explain this, we incorporate irrationality on the part of the plaintiff who loses a merits case.
In addition to behavioral reasons, there are other reasons for players pursuing misguided litigation. Postponement of the judgment/damages arising from losing a case in which a party chooses to appeal is another example in which the litigant’s feelings affect the decision-making process; in this case, payment of the damages following a loss is postponed until after the ruling has been made on appeal (procrastination). In practice, such postponement is an important determinant of whether parties decide to appeal.17

Another example of the effect of the litigant’s feelings is the tendency to attribute a loss to some fault in the attorney, such as a lack of preparation or morals. Because the litigation process tends to be carried out by an agent (attorney) rather than by the litigant personally, it is easy to blame a loss on the agent; likewise, a losing attorney might attribute a loss to the inability of the judge. Thus, the principal fails to make a fair decision for the district court’s judgment because of cumulative (possibly subconscious) moral problems (the agency problem).

Both of these factors are important for understanding the standard economic analysis of court proceedings. These issues are typically addressed by applying the method of postponement or by examining moral hazard. However, it is acknowledged that these concepts are of limited applicability because of their arbitrariness (ad hoc application) and because of the lack of supporting statistical evidence. Therefore, to avoid these shortcomings, we develop a new framework that is based on sunk cost effects and anchoring effects. Although these effects cannot be used to obtain substantive proof without making technical assumptions, they are supported by statistical evidence.

1. Sunk Cost Effect

Sunk cost effects arise because of the non-recoverability of fixed costs. Because the sunk cost effect reflects the attempt by the litigant to obtain a subsequent win to offset a previous loss, this effect incorporates previous losses that should not be counted as future payoffs. We can incorporate this effect into our model. If a party considers the sunk cost, \( l_c \), as the minimum subjective required payoff from litigation, then the party can reevaluate \( l_c \) as a positive payoff. Subjectively, the party reassesses this payoff, \( l_c \), as a positive payoff despite the probability data. Because it is difficult to prove this hypothesis theoretically, we use plausible parameter to demonstrate this effect. Graph 10 shows the results of this reassessment, which is based on reevaluating the cost, \( l_c \), as a positive payoff.

\[ \text{Graph 10} \]

Prospect theory in behavioral economics explains the sunk cost effect (Kahneman/Tversky, 1979\textsuperscript{18}), and the psychological background has been discussed in many articles (see, for example, Arkes/Blumer, 1983\textsuperscript{19}). In addition, many recent papers also support this theory (see, for example, Carmichael/MacLeod, 2003\textsuperscript{20}).

This effect is illustrated by the data in Graph 11, which shows the distributions of a sorted segmentation of judicial decisions between district courts and appeals courts. A litigant in the appeals process should choose judgment rather than settlement because the sunk cost of appeals plus merits is larger than the cost of a merits suit alone. Therefore, a party in the appeals process tends to be reluctant to compromise because of the sunk cost. Because judgment is a more official and formal decision than settlement, the party seeks judgment. Graph 11 shows that appeals courts have a higher judgment ratio than do district courts, based on Japanese data from 2002 to 2004.

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2. Anchoring Effect

This effect arises from the litigant’s delusional (positive) estimation of his or her probability of winning. Despite the fact that the objective probability of winning on appeal is lower in district courts, the subjective probability of winning is higher; although the objective value of $d$ is less than unity, the subjective value of $d$ exceeds unity. Because it is difficult to support this hypothesis theoretically, we choose plausible parameter values to analyze this effect. Graph 12 (see next page) illustrates results based on $d = 1.2$.

The anchoring effect has been acknowledged in the behavioral economics of decision making under risky or uncertain situations since the seminal work of Tversky/Kahneman (197421). Furthermore, this effect explains human behavior in terms of escalation situations (Staw/Ross, 198922). Evidence to support this interpretation of the effect is provided by activity in online auctions (see, for example, Dodonova Khoroshilov, 200423).

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Graph 12 \( x = 100, \ l = 15, \ d = 1.2 \)
(the litigant expects an easy win in the appeals court)

Our modeling of this effect is confirmed by the data shown in Graph 13, which illustrates distributions of the sorted segmentation of the length of the legal process of only one court (if it is in the appeals court, not including the first court) between district courts and appeals courts. A litigant in an appeals court should insist on receiving a judgment because litigation takes longer than in a district court. Graph 13 shows that the litigation process in an appeals court is quite lengthy in comparison with that in a district court.
Graph 13  Distributions of a sorted segmentation of the length of the legal process of only the court (not including the first court) between district courts and appeals courts (from Annual Judicial Statistics, 2003, 2004, 2005, 司法統計年報: 平成14,15,16年版—民事・行政事件編—).
3. **Hybrid Effect**

In making the decision to initiate an appeal, a litigant experiences both sunk cost effects and anchoring effects, as well as procrastination and agency problems. *Graph 14* shows the sum of these individual effects (legal processing cost problems, sunk cost effects, and anchoring effects). This hybrid effect comprehensively explains the high number of appeals.

Another interesting issue is how different attorneys’ fee systems would affect appeals and satisfaction ratings for PI and merits cases. Relative to a contingency fee system, it is likely that an indemnity rule would significantly increase the number of appeals because of these effects. Further research is required on this issue.

*Graph 14*  
Hybrid.  
\[ x = 100, \ l = 25 + p \times 10, \ d = 1.1 \]  
(the sunk costs effect leads the litigant to expect an easy win in the appeals court)
ABSTRACT
Satisfaction with preliminary injunctions (PIs) exceeds satisfaction with merits in the Japanese civil courts. This has resulted in the ratio of the ongoing merit process of PIs being below the appeals ratio of merits. Apparently, the more accurate and cautious examination given in the merits court is not easily accepted, while the faster and simpler decisions of PIs are accepted. This may be because of the costs of legal processes for PIs and merits. Furthermore, given the low probability of winning a suit in an appeals court in practice, the approach of behavioral economics is recommended in this situation.

ZUSAMMENFASSUNG

(Die Red.)