Audit Credibility and the Audit Purchasings Costs: A Theory and an Experimental Investigation

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Ⅰ Introduction

The audit fees have been recently at issue in Japan. They are too low compared with other developed countries and bring Japanese audit firms to financial difficulties. Despite of concerns, most public companies in Japan give the cold shoulder, since they want to spare any cost other than operating ones. Some people fear that this may compromise the credibility of auditing in Japan. The aim of this paper is to examine how the different audit purchasings costs influence the behavior of investors and managers.

We build a simple signaling model. It predicts that the higher the audit purchasings cost is, the easier is it to get to the separating equilibrium, in which any manager who makes no effort no longer purchases an audit. The experiment is conducted based on this model. Three laboratory markets are made: whether auditing is unavailable or available but at two different audit purchasings costs. The audit report's accuracy is assumed to be unchanged, regardless of the purchasings costs, since the Japanese auditors are supposed to make a benevolent effort so as to maintain the audit quality.

Contrary to our prediction, investors invest less often at the high audit purchasings cost. Managers also make an effort less frequently.　They try to cheat more often the investors, who turn out to be defensive and refrain from the investment. Perhaps they find unreasonable to get less reward and feel vexed by just looking on. So they try to reduce the investor's reward as well. This behavior could be regarded as a kind of malice that hurts investor's chance. However, it might reflect what the Japanese managers are really thinking about so far.

Similar experimental research is done by Dejong et al.(1985), Dopuch et al.(1989), Kachelmeier(1991), Dopuch and King(1992), and Wallin(1992). The more advanced study, whose objective is mainly the auditors reporting behavior, are done by Mayhew et al(2001) and Mayhew and Pike(2004). But they have never focused on the audit purchasings costs. The rest of our paper is organized as follows. We present a basic model in the section Ⅱ and extend it in the sectionⅢ. We show an experimental design and results in the section Ⅳ and a summary and conclusion are provided in the final section.

Ⅱ The Basic Model

1 The disclosure game

First we formulate a very simple disclosure model based on the prisoner's dilemma game. Suppose that a manager sells an asset to an investor. The manager can make an effort or no effort. Whenever he makes an effort, he incurs the cost(C=5), but he can certainly sell a high quality asset. On the other hand, if he makes no effort, he incurs no cost at all, but he will surely sell a low quality asset. The investor can buy this asset or boycott it. If he would like to buy it, he should always pay p(p=10) to the manager. The liquidation value of asset will amount to 15, if the quality is high. That value will be only 5, if the quality is low. Thereby the investor can get 15－10=5 in the former, while he will lose 5(5－10=－5) in the latter. The honest types who make an effort can get only 10－5=5, while those who make no effort can get 10－0=10.

Figure1 Disclosure Game

			Investor			
			Invest		Not Invest	
			Cooperate		Defect	
Manager	High Quality	Co-Operate	5	5	－5	0
	Low Quality	Defect	10	－5	0	0

Let us assume that the manager always discloses that the asset quality is high, since disclosing low leads to a boycott from the investor and hence meaningless. He knows the real quality but the investor doesn't. There exists an information asymmetry. The rational choice of the investor is to boycott it, given the probability that he buys low quality asset only to lose 5 as a sucker's payoff. Even the honest manager who

makes an effort knows that he will lose 5 due to the boycott of the investor. The reasonable solution is that he makes no effort at all. We are now facing with what Akerlof(1970) called it a lemon problem. Figure 1 sums it up.

2 The signaling game

2-1 The separating equilibrium

The audit purchase can transmit information from a manager to investors and solve the information asymmetry. We propose a signaling model through the modification of the above disclosure game. Auditing is available, but only the manager can voluntarily purchase it at the cost of 1. The key of our model is that the probability of providing a correct audit report should be higher than 9/10. This leads to relatively higher cost that the dishonest manager incurs on the audit purchase. The honest manager who wants to signal his type will have a cost advantage. Thus we can separate correctly from an honest type to a dishonest one, looking at whether he has purchased an audit or not.

Under our assumption the act of audit purchase is more important than the contents of audit report. In Japan there were many qualified audit reports for the public companies before the adoption of new auditing standards in 2003. Because changing his or her accounting policy automatically led to a qualified opinion, but now there is no more for this reason. Thereby all auditors have been issuing an almost same report for 2 years[1].

The fact that an investor will not know at which of nodes he may be located when he makes an investment is indicated by enclosing the nodes in an ellipse in Figure 2. The set of nodes enclosed by such an ellipse is called an information set. What the investor knows is simply that he is deciding at one of these two nodes in the ellipse. We assume that the audit is imperfect, so that an incorrect report is presented with probability 1/10 even if the asset quality is high.

The honest manager who always makes an effort and purchases an audit will end up gaining $4\times0.9+(-6\times0.1)=3$, since the investor is not expected to invest when the audit report says that the asset quality is low. The dishonest type who always makes no effort but purchases an audit can get a payoff of zero $(-1)\times0.9+9\times0.1=0$, because the investor is willing to invest even if the report incorrectly says that the asset quality is high.

We now examine how well our signaling model can explain those who purchase an audit should be honest types, which could be a unique Nash equilibrium in this game.

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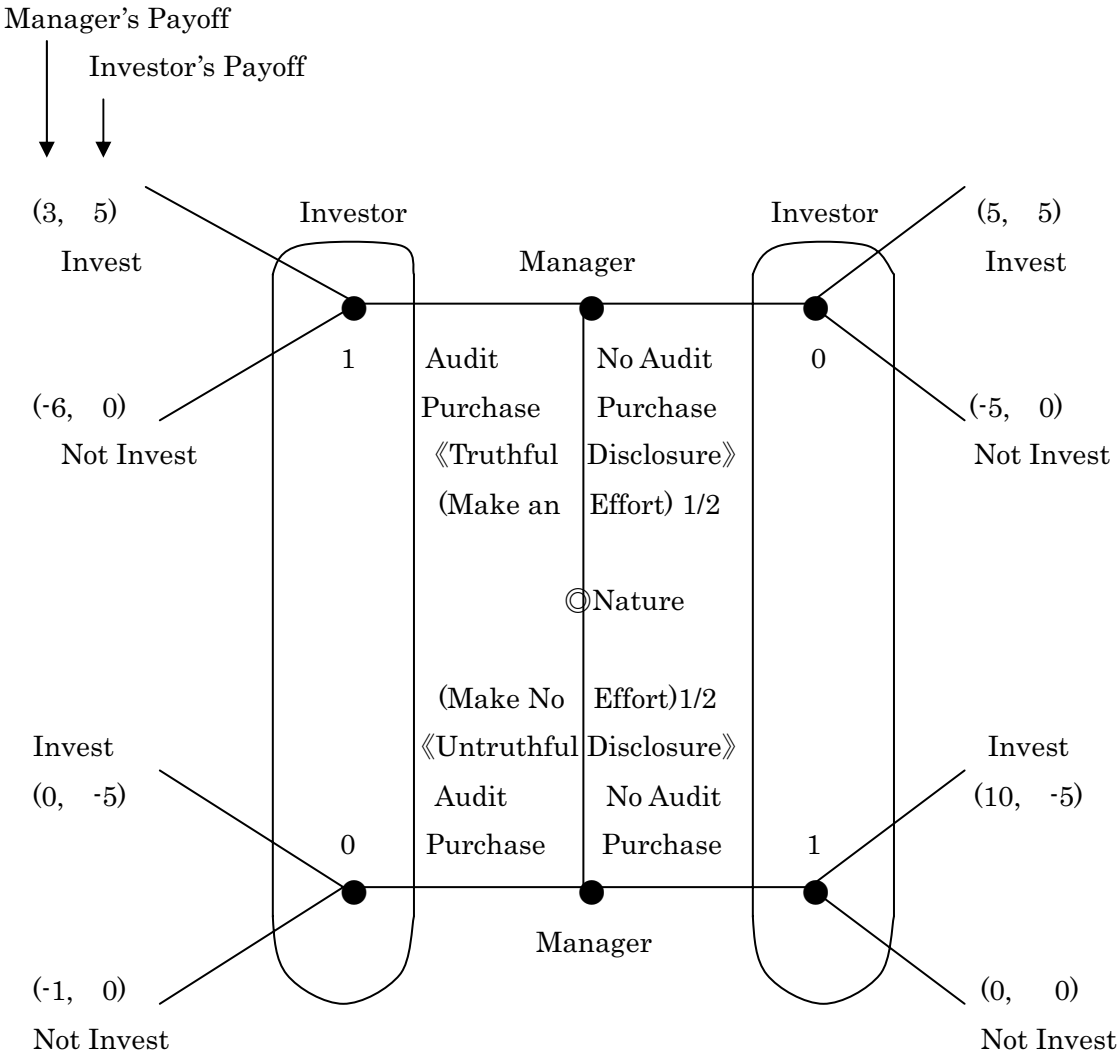
[1] The audit reports show sometimes as supplementary information important changes

In other words, let us examine whether next two conditions will be met. First the investor always invests the asset when the manager purchases an audit, while the former doesn't so when the latter doesn't purchase it. Second the manager purchases an audit whenever he makes an effort and discloses that the asset quality is high, while he doesn't so whenever he makes no effort and discloses high.

Figure 2 Signaling Game(Separating Equilibrium)



Let us suppose that the investor doesn't invest in the right information set enclosed in an ellipse, while he does invest in the left. On the upper node the manager will be better off when he purchases an audit. On the lower node the manager will get a payoff of zero, whether he purchases an audit or not. Not purchasing an audit is one

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in accounting and going concern information.

of the best replies to the investor. Thus, the second condition is indeed satisfied.

Next we examine whether or not the first condition will be met. That is, the investor's best reply is to invest whenever the manager purchases an audit and not to invest whenever he doesn't. Every time manager has purchased an audit, he should have made an effort and disclosed that the asset quality is high. Thereby the probability one could be assigned to the upper node in the left information set enclosed in an ellipse. The investor also believes to be located on the upper node. If he invests, he can get a payoff of 5, but if he doesn't, he can get nothing and hence his best reply is to invest.

In the right information set, however, we could assign the probability one to the lower node, since the manager hasn't made an effort and neither has purchased an audit. The investor also believes to be located on the lower node. If he invests, he can lose 5 and hence his best reply is not to invest. Thus, the first condition is also satisfied. We call it a separating equilibrium. It means that the uninformed player can get informed by observing what the informed one has chosen.

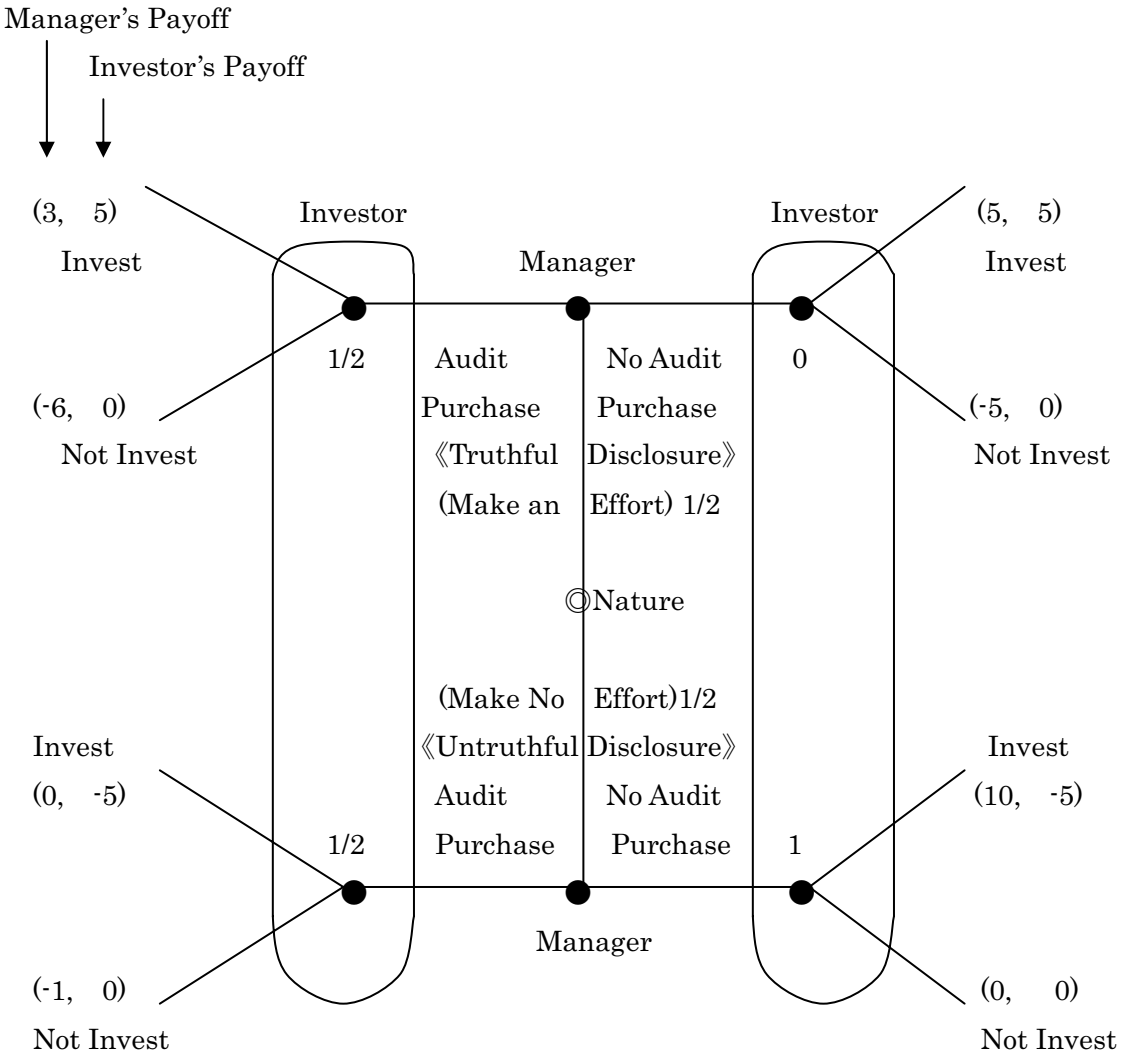
2-2 The Pooling equilibrium

Meanwhile, as Figure 3 shows, there is a possibility that both the honest and the dishonest types purchase an audit. We call it a pooling equilibrium. Suppose that the investor chooses the same strategy as in the separating equilibrium. The audit purchase both on the upper node and lower node will be the best manager's reply to the investor. The investor's belief in the right information set is as same as in the separating equilibrium.

On the other hand the things are different, as far as his belief in the left information set is concerned. The audit purchase doesn't enable the investor to judge whether or not the manager makes an effort and discloses that the asset quality is high. The probability must be divided half by half and be assigned to both upper node and lower node. If the investor invests, all he can get is a payoff of 5 when he is located on the upper node but he loses 5 when located on the lower node. His average payoff ends up zero. If he doesn't invest, he can get nothing either. It shows one of the investor's best replies to the manager and hence a Nash equilibrium.

But this equilibrium doesn't enable the uninformed player to share the information that the informed one wants to communicate. The probability of correct audit report should be a little bit more than 9/10 so as to avoid the pooling equilibrium. Even much higher probability should be necessary when the manager can imperfectly control the asset quality.

Figure 3　Signaling Game(Pooling Equilibrium)

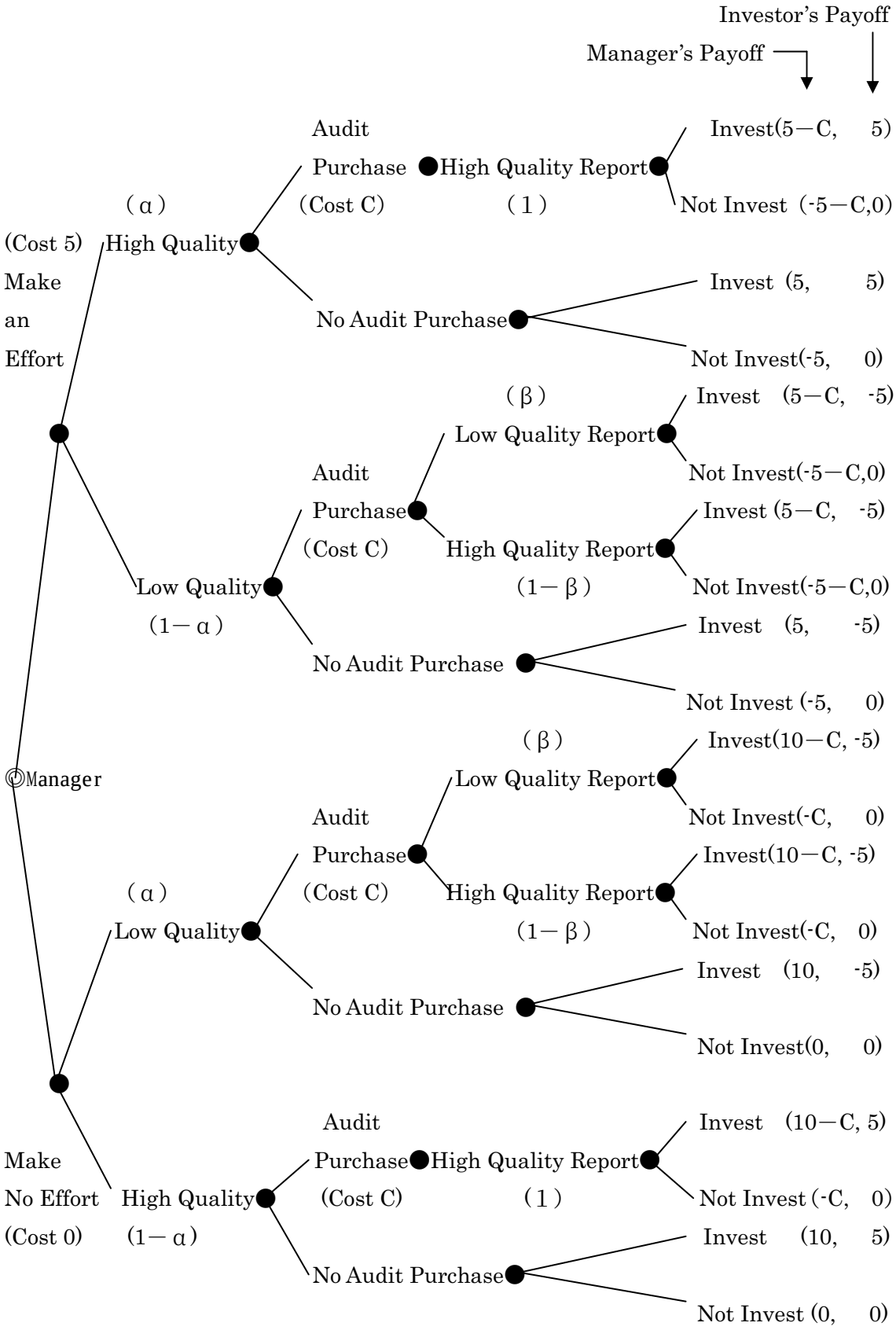


Ⅲ The extension

1 The semi-revealing equilibrium

We extend the basic model by providing two parameters α and β. The former denotes how often either an honest manager can realize a high quality asset or a dishonest manager ends up making a low quality one. The latter indicates how often a correct report will be provided on the audit purchase. The parameters α and β are uniformly distributed on[0,1]. The audit purchasings cost is denoted by *C*.

Figure 4 Extensive Form of the Game



We assume that an incorrect report is provided, only if the asset quality is actually low. It means no mistake made in the audit report when the asset quality is high. Figure 4 shows the extensive form of the game. Just to avoid the pooling equilibrium we propose another constraint, which forces the opportunistic type to abandon his dishonest behavior. We call it an incentive compatibility constraint or self-selection constraint. All we have to do is to make his expected payoff a little bit more than when he makes no effort and still purchases an audit. Except for the completely effort-averse type, he knows that he will be better off when he makes an effort even after paying the private cost that he incurs.

Making an effort cannot avoid realizing a low quality asset and hence the honest manager on the audit purchase can lose 5+C with probability $(1-\alpha)\beta$. However he can get $5-C$ with probability $(1-\alpha)(1-\beta)$, since the audit report mistakenly says that the asset quality is low and hence the investor is willing to invest. The expected payoff of the honest type is given by:

(3-1) $\Pi_{e=5} = \alpha(5-C) - (1-\alpha)\beta(5+C) + (1-\alpha)(1-\beta)(5-C)$

Suppose that a manager makes no effort and purchases an audit. He loses only C with probability $\alpha\beta$. But he can gain $10-C$ with probability $\alpha(1-\beta)$, since the audit report incorrectly says that the asset quality is high. With probability $1-\alpha$ it will be actually high and hence he can gain effortlessly $10-C$, because the audit report makes no errors. The expected payoff of dishonest type is given by:

(3-2) $\Pi_{e=0} = -\alpha\beta C + \alpha(1-\beta)(10-C) + (1-\alpha)(10-C)$

The expected payoff of honest type (3-1) should be at least as same as that of dishonest one (3-2), so that the latter may not purchase an audit. Hence we have

(3-3) $\frac{1}{2} \le 2\alpha\beta - \beta \Leftrightarrow \alpha \ge \frac{1}{4\beta} + \frac{1}{2}$

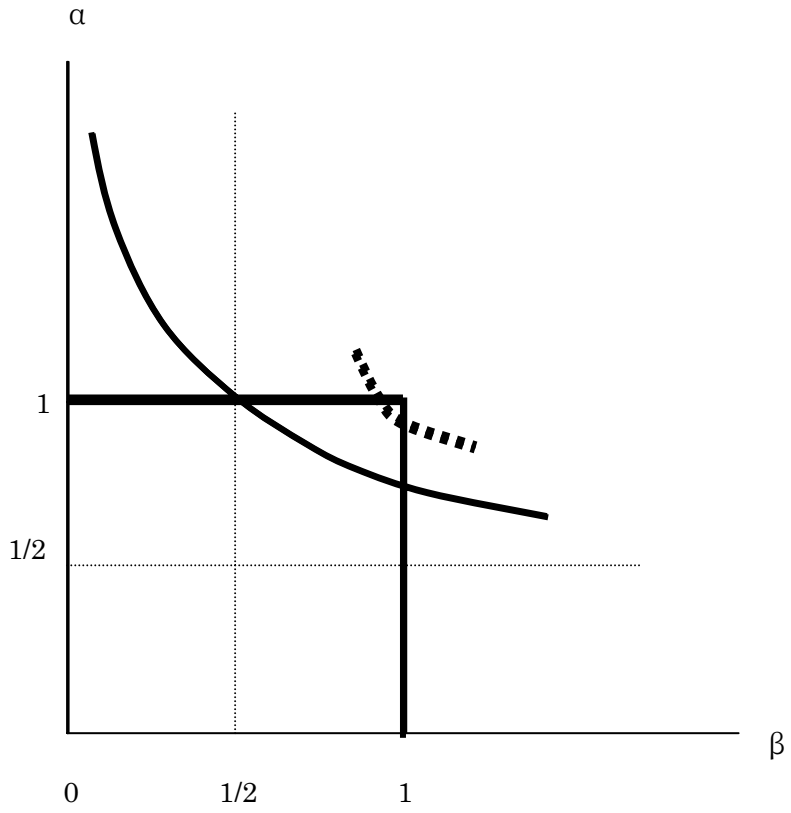
As Figure 5 shows, this condition is satisfied only inside the area of two straight lines $\alpha=1$ and $\beta=1$($0 \le \alpha \le 1$, $0 \le \beta \le 1$) and the hyperbolic curve whose asymptotic line is $\alpha=1$ and $\beta=1/2$. It is independent of the audit purchasings cost(C), which result agrees with what the cheap talk models like Crawford and Sobel(1982) and Dessein(2002) have already suggested. We call it a semi-revealing equilibrium, because the completely effort-averse type can still purchase an audit.

2 The separating equilibrium

We examine the condition in which those who purchase an audit will certainly make an effort. All we have to do is to set the expected payoff of dishonest type (3-2) as small as when he makes no effort and neither does purchase an audit, so that the investor doesn't invest.

(3-4) $$\alpha \geq \frac{10-C}{10\beta} \Leftrightarrow C \geq 10-10\alpha\beta$$

Figure 5 Semi-revealing regions and separating regions (*C*=1)



This condition is dependent of *C* and it defines the individual rationality or participation constraint for the dishonest type as well. Suppose that α and β are stable, the higher is *C*, the easier is it to reach the separating equilibrium. For example, when α=1 is given, β≧0.9 will be at least necessary at *C*=1, whereas β≧0.85 will be enough at *C*=1.5.

As Figure 5 shows, when *C*=1 is given, it is satisfied only inside the area of two straight lines α=1 and β=1(0≦α≦1, 0≦β≦1) and the dashed hyperbolic curve whose asymptotic line is α=1 and β=1. It indicated that enough smaller α or β(α <9/10 or β<9/10) can drive the investors into defection from the market, since the dishonest manager can pretend to be the honest type by purchasing an audit and benefit from it. That means that even a perfect audit can give an advantage to the dishonest type and the investors can place little trust in auditing.

3 The repetition of trade

All our models are based on one shot game. The repetition of trade could lead to another conclusion. However, it doesn't happen otherwise, as far as our disclosure game is concerned. Suppose that there are 20 periods left. Both manager and investor know that they refrain from a trade in the last repetition. After 18 repetitions, they know that no matter what happens in the 19th, they will refrain in the 20th, so they might as well refrain in the 19th too. Proceeding inductively, they refrain in every period, the unique perfect equilibrium outcome.

Although, as demonstrate Kreps et al.(1982), Kreps and Wilson(1982), Milgrom and Roberts(1982), Fudenberg and Levine(1989・1992), Schmidt(1993), and recently Crippst et al.(2004), if very small probability of honest type is expected, the things will be completely different. The dishonest type is likely to provide a high quality asset in the early periods as well.

In order to show the reasonability we come up with a very simple example. Suppose that the discount factor is always 1 and there are 3 periods left. If the dishonest type provides a low quality asset for the first, the investor will never invest for the second and the last period. So he will get only 10 and no more, while the investor's payoff will be -5 (see Figure 1). But if he provides a high quality asset for the first, the investor is willing to invest for the second period as well. So he can get at least 5+10. Disguising himself as an honest type will be better off. Then the investor can get even (5+-5=0). If more periods are left, cooperation will be strictly better than mutual defection for both players; thereby emergency of trade. The experimental examination of Andreoni and Miller (1993) shows supportive evidence.

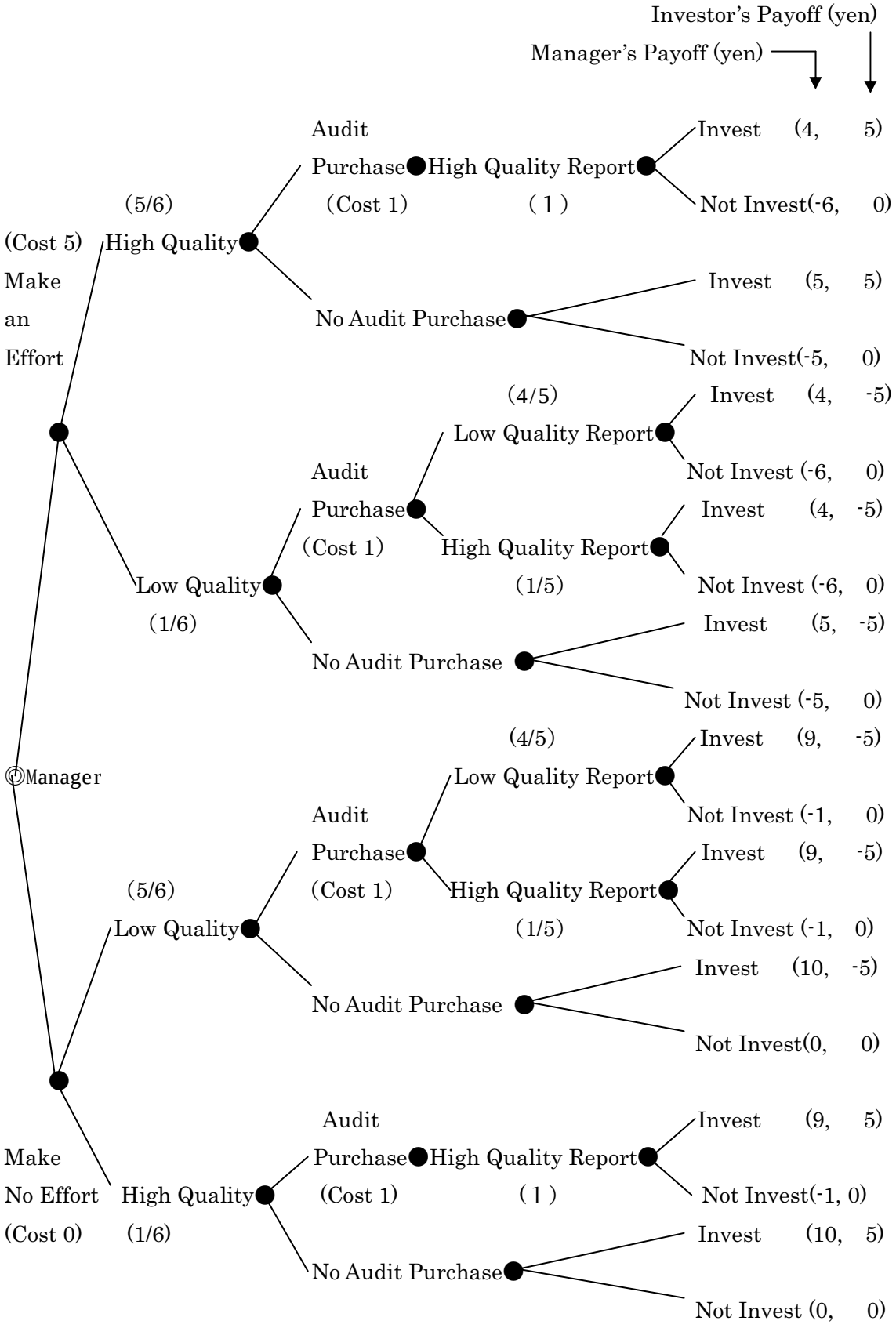
Backward induction is difficult to proceed when it comes to our signaling game. But our theory based on one shot game can serve as a basis on discussions in the repeated game.

Ⅳ The experimental investigation

1 The experimental design

The examination is also made in a laboratory setting. All subjects are undergraduate students in Japan. By using computer terminals, we conduct a matching game played by a pair of subjects: a manager and an investor. But throughout the experimentation we are using the words "seller" and "buyer" instead of "manager" and "investor" in order to be less idiosyncratic. Three laboratory markets are established. In one market auditing isn't available, while in other two each manager can voluntarily purchase it. The subjects experience all three markets.

Figure 6 Extensive Form of the Experimental Environment(C=1)



The asset quality is always disclosed high. The honest type will make an effort to increase the probability of reaching the high quality, but he doesn't know exactly which quality he has achieved. Each investor knows immediately whether or not the manager has purchased an audit and the audit report is also published at once. The incorrect report will be provided, only if the asset quality is actually low. In all markets the investor's payoff is immediately known after the choice was made, whereas the investor can observe imperfectly in which period the manager has made an effort. All he can do is to make a guess according to his payoff. Trade is repeated in the 20 periods.

The experimental design and examination are made according to our disclosure and signaling games. We set up α=5/6 in all three markets and β=4/5 in the markets where auditing available, but change the audit purchasings costs, either low(C=1 yen) or high(C=1.5 yen). Only those figures are announced to the participants beforehand. Figure 6 shows the extensive form of the experimental environment at the low audit purchasings cost.

Our previous study (Kato2004) is conducted at α=5/6, β=3/4, C=1, that is, the boundary between pooling and semi-revealing regions. The parameters α and β are set up in such a way that the expected benefit is break even between the honest and dishonest types on the audit purchase, thereby measuring its pure effect on the behavior of managers and investors. The results are mixing. While managers put strong trust in auditing, investors showed some reservation about it. We therefore make the audit report more accurate this time, hoping to get clearer results.

2 The results

Our 4 hypotheses are:

H1: The number of effort made by managers is higher when auditing available.

H2: The number of investment is higher when auditing available.

H3: The number of effort made by managers is higher at the high audit purchasings cost.

H4: The number of investment is higher at the high audit purchasings cost.

Table 1 Results(Effort and Investment)

	Auditing Unavailable		Auditing Available		Auditing Available	
α	0.833(5/6)		0.833(5/6)		0.833(5/6)	
β			0.8(4/5)		0.8(4/5)	
C			1		1.5	
n	28		28		28	
Standard Deviation of the Audit Purchase Frequency			3.179		3.336	
Average of the Audit Purchase Frequency			16.57		16.36	
	Effort	Investment	Effort	Investment	Effort	Investment
Standard Deviation	4.573	5.715	3.903	3.454	3.276	2.810
Average	6.893	9.000	14.14	13.82	12.71	12.25
t- Statistic(*T*)			6.380	3.820	5.476	2.700
p- Value(*p*)			**0.0000	**0.0002	**0.0000	**0.0046
F- Statistic(*T*)			1.372	2.738	1.949	4.136
p- Value(p)			0.416	**0.0110	0.0887	**0.0004
W- Statistic(*T*)			6.380	3.820	5.476	2.7
p- Value(*p*)			**0.0000	**0.0002	**0.0000	**0.0051
Co- efficiency						
Effort Selection and Investment	0.7978		0.7217		0.6679	
Effort Selection and Audit Purchase			0.3185		0.2063	
Audit Purchase and Investment			0.5257		0.4405	
** Significantly Different at p=0.01 * Significantly Different at p=0.05						

The comparison and the statistical examination are made between the three markets (Table1). The first two hypotheses receive very strong support, whereas the last two don't, since the number of effort and investment decreases at the high audit purchasings cost, in particular the latter does significantly (p=0.0304). The standard deviation is significantly smaller when auditing available and auditing generates a coherent behavior among investors, as far as the investment is concerned.

The digression analysis yields less convincing results. The co-efficiency between the frequency of effort and investment is lower when auditing available and lowest at the high audit purchasings cost. The very low co-efficiency between the frequency of effort and audit purchase shows that managers try to cheat the investors. The low co-efficiency between the frequency of audit purchase and investment indicates investor's defection from the market.

Table 2 Results(Payoff)

	①		②		③	
	Auditing Unavailable		Auditing Available		Auditing Available	
α	0.833(5/6)		0.833(5/6)		0.833(5/6)	
β			0.8(4/5)		0.8(4/5)	
C			1		1.5	
N	28		28		28	
Payoff(yen)	Manager	Investor	Manager	Investor	Manager	Investor
Standard Deviation	41.72	15.21	23.20	19.11	19.45	15.74
Average	55.89	-0.357	51.07	53.21	34.39	41.42

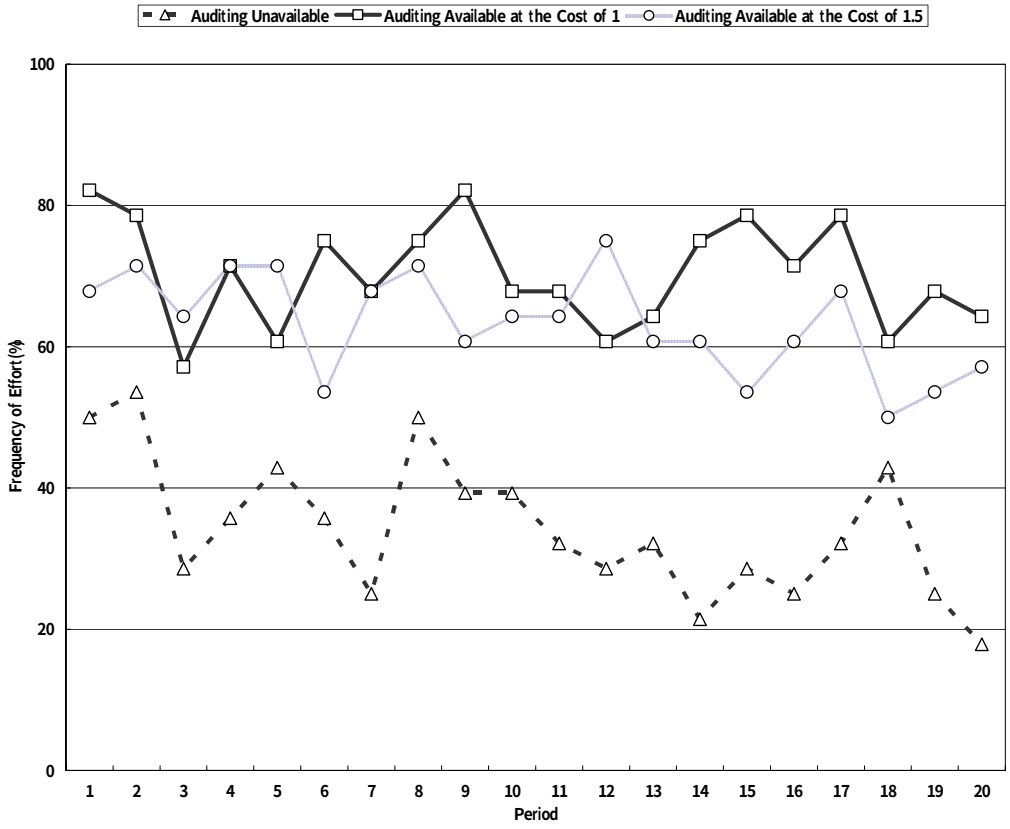
t-Test	①and②		①and③		②and③	
	Manager	Investor	Manager	Investor	Manager	Investor
t-Statistic(*T*)	0.5344	11.61	2.471	10.100	2.915	2.519
p-Value(*p*)	0.5953	**0.0000	*0.0167	**0.0000	**0.0052	**0.0148
F-Statistic(*T*)	3.234	1.579	4.603	1.071	1.423	1.473
p-Value(*p*)	**0.0033	0.2419	**0.0002	0.8590	0.3646	0.3200
W-Statistic(*T*)	0.5344	11.61	2.471	10.100	2.915	2.519
p-Value(*p*)	0.5953	**0.0000	*0.0170	**0.0000	**0.0052	**0.0149

** Significantly Different at p=0.01 * Significantly Different at p=0.05

The statistical analysis of the player's payoff shows almost same results (Table2). The average payoff of managers is highest when auditing unavailable but almost same as when auditing available at the low purchasings cost. However, the standard deviation is extremely large when auditing unavailable. It implies the possibility of two extreme cases: big gains and no gains. The average payoff of manager decreases significantly when auditing available at the high purchasings cost. It is partially due to the increasing cost of audit purchase. Moreover, investor' defections pushed by the fear of being cheated can play a very important role.

The average payoff of investors is minus when auditing unavailable. It indicates that the investors get hurt by cheating. Their payoff increases considerably when auditing available. Its impressive display demonstrates the economic efficiency achieved by auditing. But their average payoff decreases significantly at the high purchasings cost.

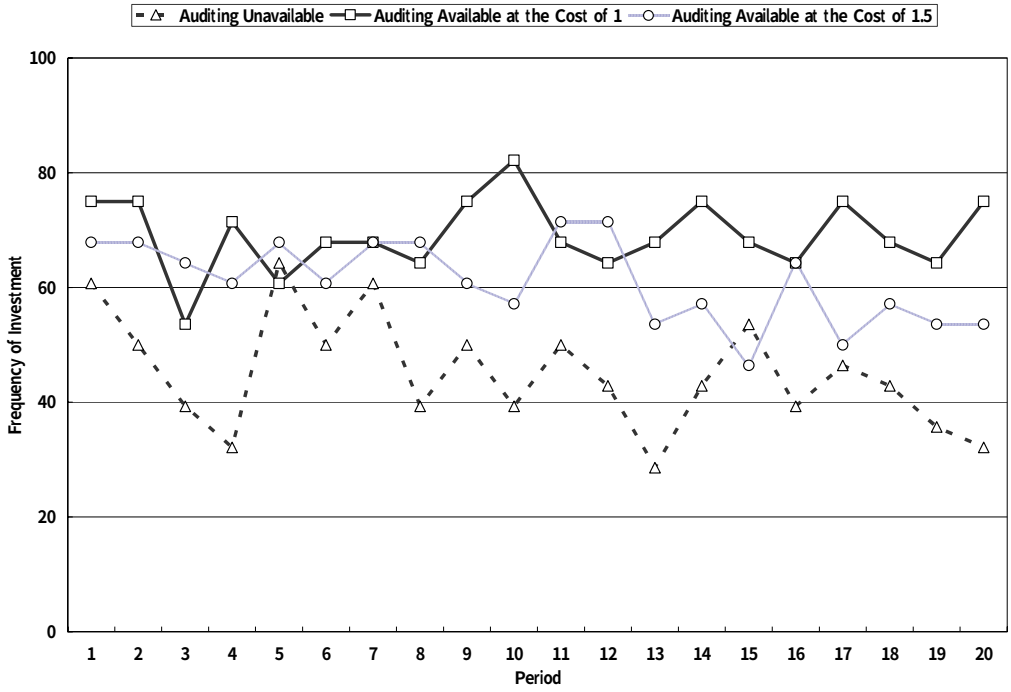
Table 2 Selection of Effort over Time



Perhaps managers find too high the total incremental costs of inducing trust on the part of the investors. They thus want to spare the cost of effort or audit purchase. Facing with this alternative, what they have chosen are to cut down on the former, more essential one. That causes investor's defections.

Reputation should form and mutual defection would decrease even towards the end because of the possible audit purchase. However, it is not much convincing, taking a look at the selection of effort and investment over time (Table 3 and 4), which shows that the frequency is always much higher when auditing available but slightly downward over time.

Table 4 Selection of Investment over Time



V Concluding remarks

The summary of the present paper is as follows.

(1) Our signaling model shows that the higher the audit purchasing costs is, the easier is it to arrive at the separating equilibrium, in which any manager who makes no effort no longer purchases an audit.

(2) An experimental investigation is also made. Contrary to our prediction, investors invest less often at the high audit purchasings cost. Managers make an effort less frequently as well.

The reasons behind this discrepancy may be numerous, but we point out only following problems.

① The condition for the separating equilibrium could not be generalized, so the effect of audit purchasings costs might be less clear.

② The results could be circumstantial to our experimental design (King and Schwartz2000), since the examination might be made at too much high audit purchasings costs. The experiment will be designed to let the players choose at least in one market alternative audit purchasing costs, which can influence the audit report's accuracy in turn.

It is nonetheless important to note that if the players find too high the total

incremental costs of creating trust, they are rather likely to spare less conspicuous one. Their frustration unconsciously leads to a malicious act of reducing the user's welfare. That provokes retaliation.

References

1. Andreoni J. and J.H. Miller, Rational Cooperation in the Finitely Repeated Prisoner's Dilemma: Experimental Evidence, *The Economic Journal*, Vol.103, No.418, (1993), pp. 570-585.
2. Boatsman, J.R., L.P. Grasso, M.B. Ormiston, and J.H. Reneau, A Perspective on the Use of Laboratory Market Experimentation in Auditing Research, *The Accounting Review,* Vol.67, No.1, (1992), pp.148-156.
3. Crawford, V and Sobel, J., Strategic Information Transmission, *Econometrica*, Vol.50, No.6, (1982), pp.1431-1452.
4. Cripps, M.W., G.J. Mailath, and L. Samuelson, Imperfect Monitoring and Impermanent Reputations, *Econometrica*, Vol.72, No.2, (2004), pp. 407-432.
5. Dejong, D.V. and R. Forsythe, A Perspective on the Use of Laboratory Market Experimentation in Auditing Research, *The Accounting Review,* Vol.67, No.1, (1992), pp.157-170.
6. —, —, R.J. Lundholm, and W.C. Uecker, A Laboratory Investigation of the Moral Hazard Problem in an Agency Relationship, *Journal of Accounting Research,* Vol.23 Supplement, (1985), pp.81-120.
7. Dessein, W., Authority and Communication in Organizations, *Review of Economic Studies*, Vol.69, No.4, (2002), pp.811-838.
8. Dopuch, N. and R. R. King, Negligence Versus Strict Liability in Auditing: An Experimental Investigation, *The Accounting Review,* Vol.67, No.1, (1992), pp. 97-120.
9. —, —, and D.E. Wallin, The Use of Experimental Markets in Auditing Research: Some Initial Finding, *Auditing: A Journal of Practice & Theory,* Vol.8, Supplement (1989), pp.98-136.
10. Fudenberg D. and D.K., Levine, Reputation and Equilibrium Selection in Games with a Patient Player, *Econometrica*, Vol.57, No.4, (1989), pp. 759-778.
11. — and —, Maintaining a Reputation When Strategies Are Imperfectly Observed, *Review of Economic Studies*, Vol.59, No.3, (1992), pp. 561-579.
12. Kachelmeier, S.J., A Laboratory Market Investigation of the Demand for Strategic Auditing, *Auditing: A journal of Practice & Theory,* Vol.10, Supplement (1991), pp.25-53.

13. Kato, T., Audit Credibility: A Theory and an Experimental Investigation, *Bulletin of Faculty of Commerce Meiji University*, Vol.86, No.4, (2004), pp. 21-37.
14. King, R.R., An Experimental Investigation of Self-Serving Biases in an Auditing Trust Game: The Effect of Group Affiliation, *The Accounting Review,* Vol.77, No.2, (2002), pp. 265-284.
15. —, Reputation Formation for Reliable Reporting, *The Accounting Review*, Vol.71, No.3, (1996), pp. 375-395.
16. — and R. Schwartz, An Experimental Investigation of Auditor's Liability: Implications for Social Welfare and Exploration of Deviations from Theoretical Predictions*, The Accounting Review,* Vol.75, No.4, (2000), pp.429-451.
17. Kreps, D.M., P. Milgrom, J. Roberts, and R. Wilson, Rational Cooperation in the Finitely Repeated Prisoner's Dilemma, *Journal of Economic Theory*, Vol.27, No.2, (1982), 245-252.
18. — and R. Wilson, Reputation and Imperfect Information, *Journal of Economic Theory*, Vol.27, No.2, (1982), 252-279.
19. Mayhew, B.W., Auditor Reputation Building*, Journal of Accounting and Economics*, Vol.39, No.3, (2001), pp.599-617.
20. —, J.W. Schatzberg, and G.R. Sevcik, The Effect of Accounting Uncertainty and Auditor Reputation on Auditor Objectivity, Auditing: *A Journal of Practice and Theory*, Vol.21, No.1, (2001), pp. 49-70.
21. —, and J.E. Pike, Does Investor Selection of Auditors Enhance Auditor Independence? *The Accounting Review*, Vol.79, No.3, (2004), pp.797-822.
22. Milgrom, P. and J. Roberts, Predation, Reputation, and Entry Deterrence, *Journal of Economic Theory*, Vol.27, No.1, (1982), pp.280-312.
23. Roth, A.E., The Economist as Engineer: Game Theory, Experimentation, and Computation as Tools for Design Economics, *Econometrica,* Vol.70, No.4*,* (2002), pp.1341-1378.
24. Schatzberg, J.W., A Laboratory Market Investigation of Low Balling in Audit Pricing, *The Accounting Review*, Vol.65, No.2, (1990), pp. 337-362.
25. Schmidt, K.M., Reputation and Equilibrium Characterization in Repeated Games with Conflicting Interests, *Econometrica*, Vol.61, No.2, (1993), pp. 325-351.
26. Smith, V.L., J. Schatzberg, and W.S. Waller, Experimental Economics and Auditing, *Auditing: A Journal of Practice & Theory,* Vol.7, No.1, (1987), pp. 71-93.
27. Wallin D., Legal Recourse and the Demand for Auditing, *The Accounting Review,* Vol.67, No.1, (1992), pp. 121-147.