Going Concern Note, Downsizing and Exit

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Abstract

This paper investigates the effect of accounting standard requiring financial statement going concern notes on subsequent bankruptcy as well as the effects on subsequent corporate downsizing. We examine that extreme poor performing firms are more likely to disclose going concern uncertainties with a restructuring plan announcement. But firms with more financial institutional ownership, more managerial ownership hesitate to disclose uncertainties about business survival. The average going concern note effect on subsequent bankruptcy is statistically and economically significant. In particular, there are aggressive downsizing in assets, borrowings and labor workforce for survival firms as results of proposed solutions to mitigate disclosed adverse conditions and events. Our going concern note effects estimators are in comparison with potential outcomes if the going concern note had not been disclosed. We provide important evidence that newly adopted management going concern disclosure requirement works as a means to enhance downsizing or exit of extreme poor performing firms by informing market participants.

Keywords: going-concern note; accounting standards; downsizing; exit

JEL classification: M41, M48, G33, G34.

1. Introduction

In US-GAAP, there was no guidance about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern or to provide related footnote disclosures. However, the FASB published an update of the accounting standard ASU 2014-15 (August 2014). The standard update came into force in the late 2016. The FASB updating accounting standard is similar to international accounting standard IAS 1. It mandates going concern disclosures as part of the financial report. After the Norwalk Agreement, we have seen international convergence of accounting standards, though there are still differences between IFRS, Unites States and other countries (Misawa, 2005; Bar-Hava and Katz, 2016).

In comparison, the US auditing standards requiring auditors to issue going concern opinions have existed for several decades. Accordingly, since the beginning of the 1980s studies have mainly focused on auditing standards requiring going concern opinions in United States. Earlier studies document that quite a number of bankrupt companies did not have a prior going-concern opinion (Altman, 1968, 1982; Menon and Schwartz 1987; Hopwood, McKeown and Mutchler 1989; Mutchler, Hopwood, and McKeown 1997; Shumway 2001). The predict accuracy of the going concern opinion has been one of the most important agenda in accounting research.

After the sensational Enron and WorldCom bankruptcies, Raghunandan and Subramanyam (2003) find that a model that uses both financial statement and market information is an unambiguously superior predictor of bankruptcy than the going concern opinion. However, the going concern opinion has incremental predictive ability for bankruptcy beyond both financial statement and market-driven variables. Also, auditors appear to underweight stock price information and overweight conventional financial ratios and firm size when issuing going concern opinions. Recently, Carson, Fargher, Geiger, Lennox, Raghunandan, and Willekens(2013) show that the percentage of US public companies received a going concern opinion has risen and that there is a high probability that a going concern audit report indeed leads to a survival problem.

Audit going concern reporting is known as its self-fulfilling prophecy effect. The self-fulfilling prophecy effect is the adverse effects of the auditor's public expression of doubt about a client's ability to remain a going concern itself on the company's fate. This leads auditors to issue fewer going-concern opinions. Regarding this issue, Kida's (1980) survey suggests that a going concern opinion might bring a company to financial distress. Tucker, Matsumura and Subramanyam (2003) argue that a firm can attempt to avoid a going concern opinion for its potential self-fulfilling prophecy effect by switching auditors when the auditor conveys the intention to issue a going-concern

opinion. In the regulatory context of Belgium, Vanstraelen (2003) examines the self-fulfilling prophecy effect.

On the other hand, given quite a number of bankruptcies without prior warning from either the management or the auditors, it is debated that more information is needed from management to inform investors and creditors of pressing firm failure. Conversely, it is argued that voluntary management MD&A disclosures provide sufficient information in predicting a firm's ability to continue as a going concern. Mayew, Sethuraman and Venkatachalam (2015) find that both management's opinion about going concern reported in the MD&A and the linguistic tone of the MD&A together provide significant explanatory power in predicting whether a firm will cease as a going concern. Moreover, the predictive ability of MD&A disclosure is incremental to financial ratios, market-based variables, and even the auditor's going concern opinion. In contrast, only 27% had specific going concern disclosure in their MD&A prior to bankruptcy in Canada where accounting standard mandates management going concern disclosure (Ontario Securities Commission, 2010). In addition, Uang, Citron, Sudarsanam and Taffler (2006) find that the mandatory management going concern statements do not provide incrementally information for predicting bankruptcy.

Therefore, it remains controversial whether mandatory management going concern

disclosure is appropriate. In this paper, we investigate the effect of accounting standard requiring management going concern notes on subsequent corporate restructurings as well as the effects on subsequent bankruptcy filings. In response to a spate of bankruptcies without voluntary warning in MD&A disclosure or audit reports expressing doubt as a going concern around 2000, Japan enacted a requirement for disclosure on concerning going concern uncertainties. Since the March 1st,2003, the top management of a listed company has been required to disclose its going concern status. Additionally, the top management is required to work out a restructuring plan to improve continuing ability in case of going concern uncertainties. The firm receives an audit opinion regarding both financial statements and going concern disclosure. The auditors are also required to collect sufficient evidence to assess effects and feasibility of the restructuring plan if doubt exists about going concern status.

   We examine that extreme poor performing firms are more likely to disclose going concern uncertainties with a restructuring plan announcement. Interestingly, firms with more financial institutional ownership, with more managerial ownership are less likely to disclose uncertainties about business survival. The average going concern note effect on subsequent bankruptcy is statistically and economically significant. Bankruptcy is only one of the possible outcomes for a firm received a going concern

opinion. Downsizing is also a significant feature of management going concern disclosure. Importantly, we find that assets, debt and workforce shrink sharply as results of proposed restructuring solutions to mitigate disclosed adverse conditions and events about going concern uncertainties. This suggests that managers of firms disclosing uncertainties about business survival recognize that they themselves must downsize sharply; otherwise they have to exit.

This paper contributes to empirical literature on going concern disclosures as follows. First, we provide important evidence on the efficiency of accounting standard requiring management's disclosure regarding going concern uncertainties. More importantly, the mandatory management going concern disclosure requirement applied in Japan provides a solution with the aim of forcing extreme poor performing firms to restructure or to exit by informing market participants in due time, whereas impaired banks and troubled firms have perverse incentives to avoid or to delay bankruptcy. In an environment of excess capacity, extreme poor performing firms ought to downsize or exit. Mandatory management going concern disclosure requirement works as a part of market mechanisms by informing market participants in selecting firms. Also, we find that a firm with more financial institutional ownership, with more management ownership is less likely to disclose uncertainties about business survival. This suggests

incidence of perverse incentives of financial institutions and top management with more

stakes. Finally, we explore more appropriate methodologies to deal with the endogeneity

of going concern notes. Our estimators are robust in an environment with endogeneity

and omitted variables.

The paper is organized as follows. In Section 2, we review the introduction of going

concern disclosure in Japan. In Section 3, we describe our econometric methodologies.

Section 4 describes the data and empirical results. In Section 5, we conclude.

2. Restructuring, Bankruptcy and Going Concern Disclosure in Japan

It was viewed as a striking aspect of the Japanese main bank system: it provided a

flexible and more effective private alternative to bankruptcy reorganization, for dealing

with financial distress and debt restructurings. Till the early the 1990s, bankruptcy

resolutions were rarely employed for large Japanese firms. Most financially distressed

large firms in Japan restructured troubled debt privately with main bank intervention,

rather than through formal bankruptcy.

Since the late 1990s, bankruptcy filings in Japan substantially increased and this is

quite similar to the bankruptcy wave in the 1980s US downturn of economy. Most of

bankruptcy filings of listed industrial firms are clustered in the years 1997–2002, as

Appendix indicates. This is consistent with the timing of the 1990s' recession in Japan. Even worse, to avoid, or to delay bankruptcy, impaired banks "evergreened" loans by funding distressed firms to enable them to meet interest payments on outstanding loans (Peek and Rosengren, 2000). As a result, the banks had healthier looking balance sheets, because the banks reported fewer problem loans and make smaller loan loss provisions. Eventually, quite a number of troubled firms filed for bankruptcy without any prior warnings triggered by bank failures.

The deteriorating banking system was owing to insufficient disclosures. Misawa (2005) pointed out that there would have no delay in disclosures of bad loans if the "net realizable value" (fair value) method according to U.S. accounting standard had been applied. In the late 1990s, there was a general international mistrust among investors in Japanese capital markets and the inclusion of a legend such as; "This is prepared based on the Japanese accounting standards, not on international standards" was requested by the Big Five accounting firms in the United States (Misawa 2005)[1]. Accordingly, harmonization with international accounting standards including mandatory management disclosure and audit reporting about going concern

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[1] Misawa (2005) also noted that the legends of cautionary statements were required only for the English version of financial statements based on the Japanese Securities Exchange Law, not in any financial statements of SEC registered Japanese companies prepared based on the U.S. Accounting Standards.

uncertainties emerged as an important issue for revising accounting and auditing standards in 1999. For details, Misawa (2005) analyzed the Japanese government's positions and makes comments on the problems and issues indicated in the MOF (Ministry of Finance) Memorandum entitled "Adoption of International Accounting Standards in Japan".

The Accounting Standards Board of Japan enacted a requirement for both management disclosure and audit opinions about going concern uncertainties since March 1st 2003[2].. After that, the top management of a list company has been required to disclose its going concern status. And the auditors assess the top management's disclosure on going concern uncertainties. In 2002, the JICPA (Japanese Institute of Certified Public Accountants) Audit Standard Committee Report 74 provides detailed guidance regarding adverse conditions and events that may raise substantial doubt about an entity's ability to continue as a going concern. Management should disclose going concern uncertainties in financial statement notes with proposed solutions if adverse conditions and events exist and continue. Besides going concern note, related information is also required to be adequately disclosed in the parts of "risks of business,

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[2] Without any audit standards on going concern uncertainties, auditors had to issue special notes to express doubt about a client's business continuance ability. Till 1999, the Japan Corporate Accounting Principles placed importance on the profit and loss calculation for a particular period, assuming that the particular period and the particular corporation was of on-going concern, as augured in Misawa (2005).

etc." and "analysis of financial position, operating results, and cash flows" under the "business condition" section in the Annual Securities Report if a firm is at the risk of adverse conditions and events. This is also mandatory requirement in accordance with the Security Exchange Law.

The Report 74 also provides specific going concern risk indications related to (1) financial ratios, (2) financial difficulties, (3) operating activities, (4) others as follows. First, the management should consider the risk of the validity of the going concern assumption by examining warning signs from the financial statements, such as, substantial decline in sales, consecutive operating losses or consecutive negative operating cash flow, substantial operating losses, ordinary losses or net losses, substantial negative operating cash flow, total liability exceeding assets. Regarding financial difficulties, management should assess going concern risk if it is difficult to repay operating debt, to meet covenants of loans, to pay off corporate bonds, to raise new money, to sell major asset as scheduled, or, to pay dividends. Also, a firm should evaluate its ability to continue operations in cases of the termination of transactions or withdrawing trade credits by the main suppliers, substantial losses of market share or favorite customers, lapses of indispensable patents, losses of core personnel, damages, losses, or, disposal of indispensable assets, or, substantial regulatory imposition on

business. Significant likelihoods of losses from litigation such as damages, substantial

deteriorations of brand image are other adverse conditions and events that may cast

doubt on ability to continue as going concern. The auditor issues an unqualified opinion,

or a qualified opinion, or an adverse opinion or disclaimer by assessing management's

going concern disclosure and proposed solution to mitigate adverse conditions and

events.

   As mentioned above, impaired banks and troubled firms have perverse incentives to

avoid or to delay bankruptcy. Since the late 1990s, Japan has been experiencing excess

capacity, and the requirement for downsizing and exit. The lost two decades in Japan

indicate the conventional banking system has failed to deal effectively with the

requirement for downsizing and exit, as known zombie lending phenomena in Caballero,

Hoshi and Kashyap (2008). Also, Jensen (1993) addressed the failure of internal control

systems in the U.S. 1980s. The aim of Japan mandatory management going concern

disclosure is to provide important information to market participants regarding

potential restructuring, reorganization or liquidation. More importantly, extreme poor

performing firms are required to prove solvency and feasibility of proposed solution to

mitigate the adverse conditions and events. Informed market participants should make

careful decisions whether to leave the company to the judgement of the court. It works

as a means to force extreme poor performing firms to downsize or to exit. Along the line

of this, we investigate the effects of management going concern note on downsizing and

exit.

3. Methodologies and Hypotheses

Now we turn to our econometric methodologies and hypotheses. Some firms issue

financial statement notes about going concern uncertainties and the rest do not issue

going concern notes. We would like to know the likelihoods of exit for firms with

financial statement going concern notes. However, it is not possible to observe what

would have happened to firms that disclosed going concern uncertainties if had they not

disclosed them. Moreover, management going concern uncertainty disclosures are

endogenously determined. In this paper, we employ methodologies which estimators are

robust in an environment with endogeneity and omitted variables as follows.

Treatment-effects estimation

It would be ideal for us to observe the bankruptcy probability when a firm issues a

going concern financial statement note (which we denote as P_{gcn}), and the bankruptcy

probability conditional on no going concern financial statement note (which we denote

as P_{clean}). We could then average the difference between P_{gcn} and P_{clean} across all the sample firms to obtain a measure of the average impact of going concern notes. Unfortunately, it is impossible to observe a specific firm having a going concern note and having a clean note. Also, it is impossible to observe the firm's bankruptcy probability under both circumstances.

We employ the treatment-effect estimators to estimate the efficacy of going concern notes using observational data. Consider firm i which has a clean note so that we observe outcome $y_{clean,i}$. What would $y_{gcn,i}$ be for the same firm if it issues a note on going concern uncertainties? We call $y_{gcn,i}$ the potential outcome or counterfactual for that firm with a clean report. For firm j with a going concern note, we observe $y_{gcn,j}$, so $y_{clean,j}$ would be the counterfactual outcome. Treatment-effect methods can account for this missing-data problem.

We estimate three parameters. The potential-bankruptcy means (POmeans) are the means of y_{gcn} and y_{clean}. The average going concern note effect (ATE) is the mean of the difference (y_{gcn}-y_{clean}). Finally, the average conditional effect on bankruptcy of a going concern note (ATET) is the mean of the difference (y_{gcn}-y_{clean}) among the firms that actually report a going concern note.

y_{gcn} or y_{clean} is the observed outcome variable, t (1 for a going concern note, 0 for a clean

note) is the going concern note variable, x is a vector of covariates that affect

bankruptcy outcome, and z is a vector of covariates that are related to disclosure on

going concern uncertainties. The bankruptcy functional forms conditionally on going

concern disclosures are.

$$y_{clean} = \begin{cases} 1 & if \ x'\beta_0 + \epsilon_0 > 0 \\ 0 & if \ x'\beta_0 + \epsilon_0 \le 0 \end{cases}$$

$$y_{gcn} = \begin{cases} 1 & if \ x'\beta_1 + \epsilon_1 > 0 \\ 0 & if \ x'\beta_1 + \epsilon_1 \le 0 \end{cases}$$

where β_0 and β_1 are coefficients to be estimated, ϵ_0 and ϵ_1 are error terms that are

not related to x or z. This potential-outcome model separates each potential outcome

into a predictable component, $x'\beta_t$, and an unobservable error term, ϵ_t . We let $\mu(x, t, \beta_t)$

denote a conditional-mean bankruptcy probability $E(y|x, t)$ conditional on covariates x

and going concern disclosure t. The bankruptcy functional form for $\mu(x, t, \beta_t)$ is $\Phi(x\beta_t)$.

$\Phi(\cdot)$ is the cumulative function of normal distribution.

The going concern disclosure t depends on both financial statement and market

information which is related to bankruptcy probabilities as follows

$$t = \begin{cases} 1 & if \ z'\gamma + \eta > 0 \\ 0 & otherwise \end{cases}$$

where γ is a coefficient vector, and is η an unobservable error term that is not related

to either x or z. $p(z, t, \gamma)$ denotes the conditional probability model for the probability that a firm has a going concern note conditional on covariates z. The functional form is the normal cumulative distribution function $\Phi(z\gamma)$.

The three parameters of interest are

(1) the potential-bankruptcy mean (POmean) $\alpha_0 = E(y_0)$

(2) the average going concern note affect (ATE) $\tau = E(y_1 - y_0)$; and

(3) the average going concern note effect conditional on going concern note (ATET)

$\delta = E(y_t | t = 1)$.

The potential bankruptcy estimators and the average going concern note effect estimators use normalized inverse probability weights. The unnormalized weights for firm i and going concern disclosure t are $d_i(t) = t_i(t)/p(z_i, t, \hat{\gamma})$, and the normalized weights are $\bar{d}_i(t) = N_t d_i(t)/\sum_i^N d_i(t)$. Here, N_t is the number of observations in going concern disclosure t, and $t_i(t) = 1$ if $t_i(t) = t$; $t_i(t) = 0$ if $t_i(t) \neq t$.

The unnormalized conditional inverse probability weights are $f_i = p(z_i, \tilde{t}, \hat{\gamma})/p(z_i, t, \hat{\gamma})$, and the normalized conditional inverse probability weights are $\bar{f}_i = Nf d_i/\sum_i^N f_i$. The normalized conditional inverse probability weights are used to estimate the average going concern note effect conditional on disclosing going concern uncertainties.

The downsizing functional forms conditionally on going concern disclosures are.

$$y_{clean} = x'\beta_0 + \epsilon_0$$

$$y_{gcn} = x'\beta_1 + \epsilon_1$$

where β_0 and β_1 are coefficients to be estimated, ϵ_0 and ϵ_1 are error terms that are

not related to x or z. This potential-outcome model separates each potential outcome

into a predictable component, $x'\beta_t$, and an unobservable error term, ϵ_t. We let $\mu(x, t, \beta_t)$

denote a conditional-mean downsizing $E(y|x, t)$ conditional on covariates x and going

concern disclosure t.

We implement inverse probability weighted regression-adjustment (IPWRA)

estimators for the effects of going concern notes on exit and downsizing as described

above. The IPWRA estimators are known as "Wooldridge's double-robust" estimators

(Wooldridge, 2007, 2010). Our estimators are robust in an environment with

endogeneity and omitted variables.

Hypotheses: downsizing effects of going concern notes

According to mandatory management going concern disclosure requirement in Japan,

the top manage should also work out a restructuring plan to mitigate adverse events

and conditions that may influence the likelihood of business survival in addition to

going concern note. This means that the management disclosing going concern problems

is also required to find solutions such as downsizing of excess capacities and debt restructurings to avoid bankruptcy. Bankruptcy is essentially an institution for forcing downsizing excess capacity or exit as a part of market mechanisms that are supposed to help market participants in selecting firms. To avoid bankruptcy, the management is more likely to undertake actions to restore its financial position. And only firms failing to restructure their debt have to exit eventually.

The downsizing feature regarding going concern opinions and disclosures has not been fully explored. So far, extant studies mainly focus on the explanatory power in predicting subsequent firm failure of auditing opinions, management opinions or management disclosures about going concern. Exceptionally, Nogler (1995) find significant linkage of debt restructuring activities of going concern opinion firms to subsequent successful long-term resolution defined as subsequent receipt of an unqualified opinion. This evidence strongly suggests that viable firms receiving going concern opinions would have had filed for bankruptcy if they had not restructured debt. In other words, we should take into account the benefits of downsizing efforts in measuring accuracy of going concern notes.

Conventionally, the potential costs of Type I errors and Type II errors are considered. If a going concern note firm has restructured debt and regained viability, the

management was not necessarily wrong to disclose doubt about its ability to continue as going concern. Such subsequent viability is an outcome of successful downsizing and debt restructurings rather than a wrong management going concern disclosure. The point is that whether management going concern disclosures not only provide early warnings but also inform investors by working out solutions for going concern problems. In this paper, we examine subsequent corporate restructuring activities as well as subsequent viability status of firms following going concern notes. We develop our hypotheses as follows.

If a firm is facing with extreme poor performance such as substantial decline in sales, consecutive operating losses or consecutive negative operating cash flow, total liability exceeding assets, the management has to disclose going concern issues in accordance with the Report 74 as mentioned above. Otherwise, the management would risk civil liability and criminal responsibility for inappropriate disclosures according to the Security Exchange Law. Our first hypothesis is on the relationship between firm performance and going concern disclosures.

H1: Extreme poor performing firms are more likely to disclose going concern uncertainties in financial statement notes.

Facing costs of civil liability and criminal responsibility, the management still has incentives not to or delay to disclose its ability to continue as going concern. Going concern problems also mean that assets in place are of exposure to high risks but low return. Therefore, the asset substitution agency problem (Jensen and Meckling,1976) is much more severe for firms with going concern uncertainties. The management may choose to risk creditors' interests if managerial ownership level is high. For perverse incentives, banks may exercise control over management to delay going concern disclosures. Our second hypothesis is on effects of managerial ownership and financial institutional ownership on decisions to disclose going concern issues as follows.

H2: Firms with high managerial ownership and high financial institutional ownership are less likely to disclose doubts about going concern.

In the literature of corporate finance[3], extreme poor performance implies needs to downsize, to restructure debt or to exit. To regain viability, the firm fist needs to downsize and restructure debt. Also, it is possible that the firm is forced to exit regardless of downsizing efforts. For going concern note firms, it is required for the

[3] As mentioned above, extreme poor performing firms are more likely to file for bankruptcy. Empirical studies on bankruptcy resolution and private debt restructurings all show that downsizing and debt restructurings in distressed firms to regain viability. For details, see Gilson (1989, 1990), Gilson et al. (1990), Weiss (1990), Franks and Torous(1994) and Xu(1997).

management to work out solutions in order to undertake actions to restore its financial positions. Our final hypothesis is on subsequent downsizing and exit of going concern note firms.

H3: Going concern note firms downsize more and exit more subsequently.

4. Data and Descriptive Statistics

To test our hypotheses, we use FINANCIALQUEST database to identify listed and OTC non-financial firms with first time going-concern uncertainty disclosure for the fiscal years 2002 through 2015. Since we are interested in bankruptcy filings subsequent to the going concern disclosure, we obtain our sample of bankrupt firms from TSR bankruptcy database in the period from April 2003 through March 2016.

We use rolling estimations in all our analyses. Each estimation period have a one year window and the two subsequent years for downsizing. The first estimation period includes firm-years with fiscal years ending on March 31, 2003 and the associated subsequent period includes firm years ending on March 31, 2005. Correspondingly, the last estimation period includes firm-years ending during the period April 30, 2013 to March 31, 2014 with the associated holdout period including firm-years with fiscal years ending during April 30, 2015 to March 31, 2016. The subsequent bankruptcy for

every firm year is examined over a twelve-month period starting on the date of the

going concern note. Thus firms' bankruptcy status is examined up to March 2016. As

seen in the first row of Table 1A, starting from 55799 all available firm*years, 613 firms

issued first time going-concern financial statement notes. 138 firms filed for bankruptcy

and 60 firms (43.4%) went bankrupt without prior going concern financial statement

notes.

To examine H1 that going concern note firms are extreme poor performing, we

select poor performing firms in the same industry as control firms for each firm with the

first time going concern note. Control firms are defined as industrial peers suffering

from loss at the same fiscal year, in addition to firms with liability in excess of assets,

firms with negative surplus. Suffering from loss is a significant sign for downsizing.

Also, it is a sign for investors to pay attentions to corporate business viability. Firms

with liability in excess of assets are deeply financially distressed. And firms with

negative surplus are not allowed to pay dividends. Intuitively, investors pay more

attentions to such deeply distressed firms regarding bankruptcy risk. However,

subsequent annual data of firms with first time going concern notes are excluded from

control firms. This yields 6213 firm years. We examine that bankrupt firms were all

poor performing. Thus it is less likely to introduce unnecessary selection bias due to

ignoring data on healthy firms that eventually go bankrupt (Shumway, 2001).

The purpose of this paper is to figure out what would have happened to firms disclosing going concern uncertainties if had they not disclosed them. In the real world, researchers use matching methodologies to impute the missing potential outcome for each firm by using an average of the outcomes of similar firms[4] that do not disclose business viability issues. The sampling schemes are in the spirit of matching methodologies. According to recently developed treatment estimation methodologies, the going concern note effect is computed by taking the average of the difference between the observed and imputed potential outcomes using inverse probability weighted regression-adjustment estimators as mentioned above. One of the assumptions required to use the IPWRA estimators is the overlap assumption, which states that each firm has a positive probability of disclosing going concern uncertainties and a positive probability of no going concern disclosures. Including healthy firms with a zero probability of disclosing going concern issues would violate the overlap assumption. Obviously, healthy firms also do not match going concern note firms because they are much different from extreme poor performing firms.

Out of the 613 firms with first time going concern notes, 37 firms filed for

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[4] Similarity between firms is based on a weighted function of the firm characteristic covariates or estimated going concern note probabilities (propensity scores).

bankruptcy within the following year. And 60 firms in the poor performing sample filed

for bankruptcy within the following year did not disclose going-concern uncertainties in

the immediately preceding financial statements. The fraction of bankrupt firms without

going concern notes the immediately preceding financial statements is much higher

than that reported in earlier research for going concern audit report (e.g., Hopwood,

McKeown, and Mutchler, 1989, 1994; Raghunandan and Subramanyam, 2003, Carson

et al., 2013). In a longer horizon, 78 out of 138 bankrupt firms (56.52 %) had a prior

going concern note. To achieve robust going concern note effect on subsequent

bankruptcy filings, next we turn to IPWRA estimation models.

Descriptive Statistics

Table 2 presents variables used in our IPWRA estimation models. In addition to

variables used in well-known bankruptcy hazard models mentioned above, we include

financial institutional ownership and managerial ownership to control for perverse

incentives of banks and management. After excluding firm years without data

availability, we have 365 firm years with first time going concern note and 3708 control

firm years. Table 3 presents descriptive statistics for the variables defined in Table 2.

The two profitability measures indicate more than half of the going concern note

sample firms report a loss in two consecutive years (DEF_FP2) and that on average they

have negative cash flow (ROA) in the prior year. Also, going concern note firms have

lower sales/assets (TRNVR) than control firms. Regarding ability to pay dividends, 73%

of going concern sample firms were not able to pay dividends for negative retained

earnings (DEF_SURP), whereas 37% of control firms do not have enough surplus to pay

dividends. Mean leverage (LEV, BORROW) indicates a high incidence of debt,

borrowing on average and 8% of going concern note sample firms had liability exceeding

assets (EXDEBT). The mean liquidity measures (RCASH) indicates that control firms

have more cash than going concern note sample firms. Overall, in comparison with the

control firms, the going concern note firms are extreme poor performing, extreme high

leveraged and extreme illiquid. In other words, going concern note firms all have some

problems. The mean firm size, measured in natural logarithms of total assets (LASSET)

show that control firms are larger than going concern note sample firms. Going concern

note firms use more bonds (RBOND) than do control firms.

Regarding market information, mean abnormal twelve month stock return

(ABROR12M) is -18.5% for our going concern note sample firms, in comparison with

+3.2% mean of control firm years. Also, going concern note firms have higher

idiosyncratic risks (SSSE) and These differences mean extreme poor performing stock

prices and high exposure to risk of the going concern note firms. Finally, our going

concern note sample firms have lower managerial ownership (RMNG) and financial

institutional ownership (RFIN). However, on average going concern note firms have

higher market to book ratio (TOBINQ) than control firms. As indicated in Table 4,

T-tests and median tests of differences across firms with going concern notes and control

firms indicates statistically significant differences in most variables at the one percent

level.

Looking at subsequent changes in assets, tangible assets, debt, borrowing and work

force, Table 3 exhibits that firms with going concern notes restructure their assets, debt,

borrowings and labor force (Δ ASSET, Δ TASSET, Δ DEBT, Δ BORROWINGS, Δ

LABOR) aggressively more than their poor performing industrial peers. As indicated in

Table 4, T-tests and median tests of differences across firms with going concern notes

and control firms indicates statistically significant differences in all variables at the one

percent level. In sum, the going concern note firms downsize more subsequently.

Empirical Results

To examine whether management going concern disclosure works as a means to

force extreme poor performing firms to downsize or to exit, now we implement IPWRA

estimators for the effects of going concern notes on exit and downsizing. First, Table 5

indicates that extreme poor performing firms are more likely to disclose going concern

uncertainties. Market information is significantly related to going concern disclosure.

This supports our hypothesis H1 that extreme poor performing firms are more likely to

disclose uncertainties about their ability to continue as a going concern. Consistent with

hypothesis H2, firms with high financial institutional ownership, with high managerial

ownership are less likely to disclose going concern uncertainties.

Potential outcome estimation for going concern notes suggest that subsequent

bankruptcy filings are relying more on market information than financial ratios. This

indicates that market participants make informed decisions whether to leave the firm

to the jurists. This is consistent with hypothesis H3. More importantly, the average

bankruptcy probability among all sample firms would have been 4.1% (ATE) higher

with significance at the one percent level if all of them had disclosed going concern

uncertainties. In comparison with potential mean bankruptcy probability of 0.2% if all

of them had not disclosed doubt about going concern, the impact of management going

concern disclosure is also economically significant. This impact is very robust. The

average bankruptcy probability would have been 5.2% (ATET) lower significantly at the

one percent level if going concern note firms had not disclosed doubt about going

concern. This is in support of our hypothesis H3.

Prior studies have found that around 80-90 percent of companies receiving a going concern opinion do not file for bankruptcy in the subsequent year for USA, UK. Australia, Belgium (Carson et al., 2013). We find that only 5 percent of going concern note firms file for bankruptcy in the subsequent year. Even taking endogeneity and omitted variable issues into account, the effect of going concern note on bankruptcy filing in the subsequent year is only 4-5 percent. Thus, the Japan mandatory going concern disclosure requirement seems have higher Type I errors. However, as noted in Carson et al. (2013), bankruptcy is only one of the possible outcomes for a firm receiving a going concern opinion. Similarly, exit is one of the possible consequences for a firm disclosing a going concern issues in financial statement note. So far, downsizing efforts or debt restructurings around going concern opinions or disclosures have not been fully explored. Now we turn to the impacts of going concern disclosure on downsizing.

Table 6 shows that firms with going concern disclosure restructure assets more aggressively than their counterparts. Even suffering of losses, Japanese firms would cut only 5-6 percent of tangible assets if they had not disclosed going concern uncertainties. By contrast, disclosing doubt about its ability to continue as a going concern forces a firm to restructure one quarter of its assets. The treated effect among going concern

note sample firms is -33% with significance at the one percent level. IPWRA estimators in Table 7 indicate a similar pattern for downsizing tangible assets. Going concern note firms cut about one third tangible assets in comparison with potential outcome without a going concern note. Similarly, poor performing firms would have cut 25% of tangible assets if they had disclosed going concern issues.

At the same time, Table 8 exhibits that debt would have declined by 25.2% (ATE) if all sample firms had disclosed going concern uncertainties. In comparison, all firms would only cut 2.3% of debt if they had no financial statement going concern notes. Firms disclosing going concern problems would have cut 10.2% of debt even they had not disclosed going concern notes. The going concern note effect among firms with going concern doubt is stronger as ATET indicates. Similarly, Table 9 indicates that firms with going concern note aggressively restructure borrowings in comparison with counterfactual restructuring if they had not disclosed doubt on business survival. But it is the case for all firms.

Pomean of cut on labor force is 0.4%, 1% respectively without significance at the ten percent level in Table 10. This means that poor performing firms without going concern notes tend to maintain employment. Also, extreme poor performing firms would have not cut back labor force if they had not disclosed them. This strong suggests that firms

still resist to layoff workforce regardless of extreme poor performance, inability to pay

dividends and deep financial distress. This is consistent with Jensen(1993)'s argument

that managers tend to buy labor peace even facing with technical innovation and

worldwide competition. However, the treated effect is -12.9% among all sample firms

and on average going concern note sample firms cut 20.6% of workforce around

disclosure, in comparison with counterfactual outcomes. These strongly suggest

disclosing going concern uncertainties enhances extreme poor performing firms to lay

off employees aggressively.

We find that extreme poor performing firms are more likely to disclose going concern

uncertainties in financial statement notes. The firms with a going concern uncertainty

note are more likely to subsequently file for bankruptcy in comparison with potential

outcomes without a going concern note. More importantly, the firms disclosing going

concern uncertainties restructure assets, debt and workforce much more aggressively

subsequently. Noteworthy is that viable firms undertake aggressive corporate

restructurings in order to regain viability. This implies that the management accurately

recognizes going concern issues as disclosed in financial statement notes and is eager to

downsize to regain viability. It is not the case that the decision to disclose doubt on going

concern becomes sensitive, while the management disclosing going concern issues

seems to undertake no actions to mitigate adverse conditions. Rather, we examine

aggressive downsizing and debt restructurings around disclosures to regain viability.

Overall, our results suggest that the mandatory management going concern disclosure

requirement works as a means to force extreme poor performing firms to downsize or to

exit by informing market participants.

5. Conclusions

In this paper, we investigate the effect of accounting standard requiring

management going concern notes on subsequent bankruptcy as well as the effects on

subsequent corporate restructurings in comparison with potential outcomes when the

management had not disclosed. We examine that extreme poor performing firms are

more likely to disclose going concern uncertainties with a restructuring plan. However,

a firm with more financial institutional ownership, more managerial ownership is less

likely to disclose uncertainties about business survival. The average going concern note

effect on subsequent bankruptcy is statistically and economically significant. As results

of proposed restructuring solutions, assets shrink, borrowings contract and workforce

declines aggressively around disclosing going concern uncertainties. Nonetheless, the

proportion of bankrupt firms that disclose going concern issues in the immediately

preceding year is only 38.19%.

Recently, there is convergence to mandatory management going concern disclosures as part of the financial report. We provide important evidence on effects of mandatory management going concern disclosure, along the line of requirement of downsizing and exit in economies with excess capacity. Our evidence strongly suggests that management going concern disclosure requirement works as a means to force extreme weak firms to downsize or to exit by informing market participants.

Our research is subject to several caveats. First, we do not control for audit opinions though most audit opinions are unqualified in Japan. Second, it is not possible to observe downsizing in firms filing for bankruptcy in the subsequent year because bankrupt firms often do not make timely filings. Also, we do not control for the voluntary linguistic tone of the MD&A. Recent studies find that the linguistic data in the MD&A provides significant explanatory power in predicting corporate survivals. Our project in this study, however, is not to develop a bankruptcy prediction model. Our purpose is to estimate whether the bankruptcy probability and downsizing activities of a going concern note firm would have differed if it had not disclosed survival risk.

Limited to our best knowledges, it is the first to provide important evidence that companies disclosing business survival issues engage in aggressive downsizing and debt restructurings. Further research can investigate the impact of downsizing and debt

restructuring efforts on subsequent viability over a longer horizon. Aggressive

downsizing and debt restructurings could mitigate adverse conditions and events to

regain viability and thus to increase conventional Type I errors. Researchers should

take into account downsizing feature of going concern opinions or disclosures.

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Going Concern Note, Downsizing and Exit

Table1 Sample, Going Concern Notes and Bankruptcies

Table 1A Sample and Incidence of Going-Concern Opinion and Subsequent Bankruptcies

	Sample N	Fail later N	%	Fail in a year N	%
All Available Firm Years	55799				
Distressed Firm Years	6826	138	2.02%	49	0.72%
Going-concern (1st time)	613	78	12.72%	37	6.04%
Controlled Firm Years	6213	60	0.97%	12	0.19%

Note: "Distressed" includes both Going-concern Firms and Controlled samples.
See text for details of Controlled Firms.

Table 1B Financailly Distressed and Going-Concern Firms by Year

(firms)

Year	Sample	Distressed			Going-concern (1st time)		
		All	Fail later	Fail in a year	All	Fail later	Fail in a year
2002	4307	971	37	12	101	18	6
2003	4266	584	17	4	66	10	4
2004	4221	425	11	3	42	6	3
2005	4185	347	7	1	46	1	0
2006	4162	448	12	1	71	7	1
2007	4111	554	27	17	125	22	14
2008	4079	1049	15	8	77	10	6
2009	3945	703	5	1	22	1	1
2010	3823	445	3	0	18	0	0
2011	3731	291	2	0	8	1	0
2012	3709	224	1	1	4	1	1
2013	3737	228	1	1	13	1	1
2014	3783	284	0	0	12	0	0
2015	3740	273	0	0	8	0	0
	55799	6826	138	49	613	78	37

Note: "Distressed" includes both Going-concern Firms and Controlled samples.
See text for details of Controlled Firms.

Table 2   Variable Definitions

GCN	An indicator variable that takes the value of 1 for firms that disclose going concern uncertainties in financial statement notes, and zero otherwise
FAIL1	An indicator variable that takes the value of 1 when the firm fails within a year, and zero otherwise
ASSET	Total asset
TASSET	Tangible asset
DEBT	Debt
BORROWINGS	Borrowings
LABOR	Employment
TQ1	Tobin's q ratio
TRNVR	Sales / total asset
ROA	EBITDA / total asset at the end of the previous year
DEF_FP2	An indicator variable that takes the value of 1 when the firm runs net income loss for 2 terms in row, and zero otherwise
DEF_SURP	An indicator variable that takes the value of 1 when the firm runs negative retained earnings, and zero otherwise
EXDEBT	An indicator variable that takes the value of 1 for firms whose liability exceeds its asset, and zero otherwise
LEV	Debt/total asset
RBORROW	Borrowings / Debt
LASSET	Logarithm of total asset
RCASH	Cash / total asset
RMNG	Share-holding ratio of managers
RFIN	Share-holding ratio of financial institutions
ABROR12M	Abnormal return relative to the averages of TSE 1st section over the past 12 months
SSSE	Idiosyncratic error derived from "event study regression" for each event's abnormal return
RBOND	Bond / debt

Table 3 Descriptive Statistics

	Fimrs with GC Notes					Controlled Firms				
	p75	mean	p25	sd	N	p75	mean	p25	sd	N
GCN	1	1	1	0	365	0	0	0	0	3708
FAIL1	0.00	0.05	0.00	0.23	365	0.00	0.00	0.00	0.04	3708
ΔASSET	-0.09	-0.31	-0.67	0.45	305	0.09	-0.01	-0.12	0.26	3416
ΔTASSET	-0.05	-0.26	-0.65	0.77	298	0.03	-0.06	-0.17	0.41	3398
ΔDEBT	-0.11	-0.39	-0.79	0.50	305	0.10	-0.02	-0.17	0.36	3416
ΔBORROWINGS	-0.11	-0.54	-0.93	0.81	265	0.04	-0.15	-0.35	0.61	2948
ΔLABOR	-0.04	-0.22	-0.49	0.41	301	0.06	0.00	-0.10	0.25	3402
TQ1	1.27	1.22	0.65	1.77	365	0.99	0.92	0.49	1.12	3708
TRNVR	1.30	1.04	0.57	0.81	365	1.39	1.13	0.70	0.69	3708
ROA	0.03	-0.03	-0.06	0.11	365	0.06	0.03	0.01	0.06	3708
DEF_FP2	1	0.53	0	0.50	365	1	0.36	0	0.48	3708
DEF_SURP	1	0.73	0	0.45	365	1	0.37	0	0.48	3708
EXDEBT	0	0.08	0	0.28	365	0	0.00	0	0.02	3708
LEV	0.90	0.74	0.58	0.28	365	0.75	0.57	0.39	0.24	3708
RBORROW	0.72	0.54	0.40	0.25	365	0.60	0.40	0.21	0.25	3708
LASSET	6.2	5.1	3.9	1.8	365	6.6	5.6	4.5	1.7	3708
RCASH	0.3	0.4	0.1	0.9	365	0.5	0.7	0.1	2.4	3708
RMNG	0.04	0.06	0.00	0.12	365	0.08	0.07	0.00	0.12	3708
RFIN	0.16	0.09	0.00	0.11	365	0.24	0.16	0.04	0.14	3708
ABROR12M	-2.9	-18.5	-50.0	65.1	365	17.2	3.2	-26.5	58.4	3708
SSSE	5.2	4.2	3.0	1.7	365	3.7	3.0	2.1	1.4	3708
RBOND	0.07	0.06	0	0.12	365	0.03	0.04	0	0.09	3708

note:

Controlled firms are:(i) running net income loss

(ii) belonging to the same 2 digit industry as GC firms in the same year.

Table 4 Difference Tests between GCN and Controlled Firms]

	Mean Comparison Test			Rank-sum Test	Median Test
	With GCN	Controlled Samples	diff.	Between GCN & Controlled	Between GCN & Controlled
	A	B	A-B	z-value	Pearson's χ2
FAIL1	0.054	0.002	0.052 ***	12.3 ***	152.3 ***
ΔASSET	-0.312	-0.006	-0.306 ***	-16.3 ***	142.4 ***
ΔTASSET	-0.257	-0.058	-0.199 ***	-9.8 ***	66.2 ***
ΔDEBT	-0.392	-0.014	-0.378 ***	-15.5 ***	139.6 ***
ΔBORROWINGS	-0.547	-0.154	-0.393 ***	-9.9 ***	51.3 ***
ΔLABOR	-0.217	-0.002	-0.215 ***	-13.1 ***	97.0 ***
TQ1	1.236	0.951	0.285 ***	8.1 ***	58.1 ***
TRNVR	1.042	1.133	-0.091 **	-3.8 ***	8.0 ***
ROA	-0.029	0.032	-0.061 ***	-12.6 ***	81.6 ***
DEF_FP2	0.530	0.354	0.176 ***	6.7 ***	45.0 ***
DEF_SURP	0.727	0.376	0.351 ***	13.1 ***	172.2 ***
EXDEBT	0.089	0.001	0.088 ***	17.7 ***	312.8 ***
LEV	0.739	0.563	0.176 ***	12.2 ***	77.7 ***
RBORROW	0.543	0.402	0.141 ***	10.2 ***	63.1 ***
LASSET	5.093	5.599	-0.506 ***	-5.7 ***	26.2 ***
RCASH	0.392	0.723	-0.331 ***	-7.8 ***	41.2 ***
RMNG	0.057	0.072	-0.015 **	-6.6 ***	19.0 ***
RFIN	0.092	0.157	-0.065 ***	-10.3 ***	58.1 ***
ABROR12M	-18.471	4.460	-22.931 ***	-11.2 ***	70.2 ***
SSSE	4.217	3.039	1.178 ***	13.1 ***	111.5 ***
RBOND	0.062	0.039	0.023 ***	4.8 ***	22.3 ***

* p<0.1; ** p<0.05; *** p<0.01

Note:Based on observations used for FAIL1 regression

Table 5 GC note and subsequent bankruptcy

		Effects of GC note on FAIL1 (bankrupt in a year)			
Treatment effect estimator		(1)		(2)	
ATE	r1vs0.gcn	0.041			
		(2.85)***			
ATET	r1vs0.gcn			0.052	
				(4.38)***	
POmean	0.gcn	0.002		0.002	
		(2.45)**		(2.26)**	
		OME0 (non-treated)	OME1 (treated)	OME0 (non-treated)	OME1 (treated)
Outcome Model Eq.					
	TQ1	0	0.002	0	-0.002
		(0.35)	(0.44)	(0.53)	(0.44)
	TRNVR	0	0.024	0	0.001
		(0.26)	(1.09)	(0.14)	(0.12)
	ROA	-0.006	-0.041	0.01	-0.077
		(0.67)	(0.40)	(0.96)	(0.69)
	DEF_FP2	-0.002	-0.026	-0.004	-0.017
		(1.42)	(1.71)*	(1.77)*	(0.73)
	DEF_SURP	0.002	-0.044	0.004	-0.042
		(1.99)**	(1.69)*	(1.44)	(1.38)
	EXDEBT	-0.007	0.027	-0.003	0.04
		(2.07)**	(0.45)	(1.58)	(0.75)
	RBORROW	0.001	0.036	-0.004	-0.028
		(0.54)	(0.63)	(0.73)	(0.53)
	LASSET	0.001	0.027	0	0.016
		(1.48)	(2.23)**	(0.54)	(1.62)
	RCASH	0	0.001	0	-0.017
		(1.45)	(0.07)	(0.67)	(1.82)*
	RMNG	-0.005	-0.026	-0.005	-0.115
		(1.85)*	(0.27)	(1.49)	(2.06)**
	RFIN	-0.001	-0.182	0.014	-0.052
		(0.10)	(2.54)**	(0.93)	(0.43)
	ABROR12M	-0.00000	-0.00031	0.00002	-0.00012
		(0.20)	(2.84)***	(1.09)	(1.17)
	SSSE	0.001	0.021	0	0.006
		(1.15)	(2.08)**	(0.92)	(0.77)
	RBOND	-0.008	-0.067	-0.005	-0.075
		(1.40)	(0.42)	(0.96)	(1.03)
Treatment Model Eq.	ROA	-3.801			
		(7.41)***			
	DEF_FP2	0.209			
		(3.16)***			
	DEF_SURP	0.252			
		(3.46)***			
	EXDEBT	1.681			
		(3.84)***			
	LEV	1.265			
		(6.27)***			
	RBORROW	0.568			
		(3.36)***			
	RCASH	-0.028			
		(0.88)			
	LASSET	0.005			
		(0.17)			
	RMNG	-0.966			
		(3.22)***			
	RFIN	-2			
		(5.04)***			
	ABROR12M	-0.004			
		(3.17)***			
	SSSE	0.128			
		(5.45)***			
	RBOND	0.533			
		(1.64)			
N		4073			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Table 6 GC note and asset restructuring

Effects of GC note on Δln(ASSET) [t , t+2]				
IPWRA Treatment effect estimator		(1)		(2)
ATE	r1vs0.gcn	-0.259		
		(11.46)***		
ATET	r1vs0.gcn			-0.331
				(10.95)***
POmean	0.gcn	-0.005		0.019
		(1.05)		(0.78)
		OME0 (non-treated)	OME1 (treated)	OME0 (non-treated)	OME1 (treated)
Outcome Model Eq.	TQ1	0.064	0.097	0.079	0.099
		(3.78)***	(11.26)***	(6.85)***	(6.29)***
	TRNVR	-0.002	0.017	-0.006	0.074
		(0.26)	(0.74)	(0.31)	(2.58)***
	ROA	0.369	0.934	0.138	0.729
		(3.10)***	(3.13)***	(0.60)	(3.36)***
	DEF_FP2	-0.023	-0.125	-0.031	-0.05
		(2.41)**	(2.68)***	(1.05)	(1.04)
	DEF_SURP	-0.018	0.004	-0.04	-0.021
		(1.43)	(0.07)	(1.96)*	(0.40)
	EXDEBT	1.203	0.15	1.154	0.128
		(32.04)***	(1.48)	(16.75)***	(1.28)
	RBORROW	-0.112	-0.131	-0.096	-0.099
		(4.66)***	(1.26)	(1.05)	(0.98)
	LASSET	-0.026	-0.082	-0.042	-0.073
		(5.65)***	(3.86)***	(2.69)***	(3.89)***
	RCASH	-0.001	0.028	0.013	0.002
		(0.37)	(1.80)*	(0.73)	(0.08)
	RMNG	0.062	0.015	0.033	-0.22
		(1.18)	(0.09)	(0.16)	(1.28)
	RFIN	0.196	0.911	0.263	0.76
		(4.47)***	(7.00)***	(1.91)*	(3.70)***
	ABROR12M	0.001	0	0.001	0
		(4.86)***	(1.75)*	(3.05)***	(0.50)
	SSSE	-0.018	0.002	-0.036	-0.004
		(4.00)***	(0.13)	(3.23)***	(0.27)
	RBOND	0.009	0.334	-0.351	0.209
		(0.13)	(1.28)	(2.29)**	(1.09)
Treatment Model Eq.	ROA	-3.94			
		(7.11)***			
	DEF_FP2	0.244			
		(3.45)***			
	DEF_SURP	0.291			
		(3.69)***			
	EXDEBT	1.799			
		(3.09)***			
	LEV	1.24			
		(5.60)***			
	RBORROW	0.475			
		(2.59)***			
	RCASH	-0.045			
		(1.07)			
	LASSET	-0.02			
		(0.65)			
	RMNG	-1.01			
		(3.10)***			
	RFIN	-1.784			
		(4.05)***			
	ABROR12M	-0.004			
		(2.89)***			
	SSSE	0.112			
		(4.30)***			
	RBOND	0.355			
		(0.98)			
N		3718			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Table 7 GC note and tangible asset restructuring

		Effects of GC note on Δln(TASSET) [t , t+2]			
Treatment effect estimator		(1)		(2)	
ATE	r1vs0.gcn	-0.248			
		(4.81)***			
ATET	r1vs0.gcn			-0.324	
				(5.26)***	
POmean	0.gcn	-0.05		0.063	
		(6.25)***		(1.51)	
Outcome Model Eq.		OME0 (non-treated)	OME1 (treated)	OME0 (non-treated)	OME1 (treated)
	TQ1	0.041	0.104	-0.002	0.104
		(2.03)**	(3.96)***	(0.06)	(4.03)***
	TRNVR	0.001	-0.009	-0.009	-0.011
		(0.04)	(0.16)	(0.31)	(0.19)
	ROA	0.593	2.34	0.277	0.333
		(2.42)**	(1.88)*	(0.50)	(0.55)
	DEF_FP2	-0.029	0.02	-0.013	-0.079
		(1.67)*	(0.21)	(0.24)	(0.95)
	DEF_SURP	0.005	-0.225	-0.022	-0.152
		(0.27)	(2.03)**	(0.65)	(1.51)
	EXDEBT	2.362	0.164	2.407	-0.004
		(34.17)***	(0.94)	(20.81)***	(0.03)
	RBORROW	-0.066	0.109	0.215	-0.13
		(1.55)	(0.48)	(1.68)*	(0.63)
	LASSET	-0.025	-0.114	-0.018	-0.081
		(3.50)***	(1.80)*	(0.83)	(2.54)**
	RCASH	-0.01	-0.07	0.059	-0.117
		(1.22)	(1.33)	(1.38)	(2.02)**
	RMNG	0.127	-0.096	0.381	-0.187
		(1.34)	(0.26)	(1.18)	(0.61)
	RFIN	0.029	-0.555	-0.363	0.222
		(0.40)	(1.84)*	(1.41)	(0.55)
	ABROR12M	0	-0.001	0.001	-0.001
		(1.36)	(5.46)***	(1.74)*	(2.31)**
	SSSE	-0.022	-0.019	-0.04	0.046
		(2.98)***	(0.53)	(2.25)**	(1.40)
	RBOND	0.067	0.763	-0.171	0.629
		(0.55)	(1.83)*	(0.46)	(1.42)
Treatment Model Eq.	ROA	-3.861			
		(6.74)***			
	DEF_FP2	0.248			
		(3.49)***			
	DEF_SURP	0.288			
		(3.63)***			
	EXDEBT	1.791			
		(3.07)***			
	LEV	1.257			
		(5.57)***			
	RBORROW	0.498			
		(2.67)***			
	RCASH	-0.052			
		(1.07)			
	LASSET	-0.019			
		(0.60)			
	RMNG	-0.96			
		(2.93)***			
	RFIN	-1.79			
		(4.06)***			
	ABROR12M	-0.004			
		(2.87)***			
	SSSE	0.11			
		(4.25)***			
	RBOND	0.353			
		(0.98)			
N		3693			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Table 8 GC note and debt restructuring

		Effects of GC note on Δln(DEBT) [t , t+2]			
Treatment effect estimator		(1)		(2)	
ATE	r1vs0.gcn	-0.252 (7.11)***			
ATET	r1vs0.gcn			-0.288 (9.14)***	
POmean	0.gcn	-0.023 (3.61)***		-0.102 (5.56)***	
Outcome Model Eq.		OME0 (non-treated)	OME1 (treated)	OME0 (non-treated)	OME1 (treated)
	TQ1	0.06 (5.21)***	0.083 (6.16)***	0.058 (5.94)***	0.063 (3.10)***
	TRNVR	-0.02 (2.24)**	0.032 (0.87)	-0.013 (0.68)	0.054 (1.59)
	ROA	0.286 (1.91)*	0.804 (1.33)	0.293 (1.02)	0.746 (2.72)***
	DEF_FP2	-0.053 (4.17)***	-0.09 (1.44)	-0.044 (1.38)	-0.075 (1.21)
	DEF_SURP	-0.05 (3.46)***	-0.15 (2.03)**	-0.077 (3.70)***	-0.101 (1.57)
	EXDEBT	0.554 (13.30)***	-0.095 (0.89)	0.599 (7.54)***	-0.088 (0.93)
	RBORROW	-0.255 (7.61)***	-0.486 (3.17)***	-0.218 (2.12)**	-0.325 (2.63)***
	LASSET	-0.028 (5.11)***	-0.108 (2.81)***	-0.037 (2.31)**	-0.064 (2.78)***
	RCASH	0.024 (3.45)***	-0.104 (1.87)*	0.074 (3.35)***	-0.013 (0.30)
	RMNG	0.066 (0.96)	-0.209 (0.79)	-0.064 (0.35)	-0.223 (1.17)
	RFIN	0.223 (3.91)***	0.862 (3.96)***	0.355 (2.42)**	0.515 (2.01)**
	ABROR12M	0.001 (3.60)***	0 (1.75)*	0.001 (1.87)*	0 (0.32)
	SSSE	-0.027 (4.80)***	0.005 (0.26)	-0.037 (3.30)***	-0.004 (0.26)
	RBOND	-0.052 (0.61)	0.484 (1.41)	-0.455 (2.59)***	-0.055 (0.21)
Treatment Model Eq.	ROA	-3.94 (7.11)***			
	DEF_FP2	0.244 (3.45)***			
	DEF_SURP	0.291 (3.69)***			
	EXDEBT	1.799 (3.09)***			
	LEV	1.24 (5.60)***			
	RBORROW	0.475 (2.59)***			
	RCASH	-0.045 (1.07)			
	LASSET	-0.02 (0.65)			
	RMNG	-1.01 (3.10)***			
	RFIN	-1.784 (4.05)***			
	ABROR12M	-0.004 (2.89)***			
	SSSE	0.112 (4.30)***			
	RBOND	0.355 (0.98)			
N		3718			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Table 9 GC note and borrowing restructuring

		Effects of GC note on Δln(BORROWINGS) [t , t+2]			
Treatment effect estimator		(1)		(2)	
ATE	r1vs0.gcn	0.02			
		-0.27			
ATET	r1vs0.gcn			-0.31	
				(5.74)***	
POmean	0.gcn	-0.161		-0.233	
		(14.39)***		(9.40)***	
		OME0	OME1	OME0	OME1
Outcome Model Eq.		(non-treated)	(treated)	(non-treated)	(treated)
	TQ1	0.055	-0.004	0.064	0.031
		(2.15)**	(0.10)	(3.61)***	(0.92)
	TRNVR	-0.056	-0.075	-0.07	-0.081
		(2.98)***	(1.24)	(2.11)**	(1.30)
	ROA	0.451	1.802	0.345	0.672
		(1.56)	(1.68)*	(0.89)	(0.85)
	DEF_FP2	-0.095	-0.149	-0.105	-0.104
		(4.02)***	(1.23)	(2.27)**	(0.99)
	DEF_SURP	-0.022	-0.236	-0.058	-0.326
		(0.83)	(1.90)*	(1.73)*	(3.46)***
	EXDEBT	0.805	-0.044	0.742	-0.179
		(11.69)***	(0.24)	(6.47)***	(1.06)
	RBORROW	-0.513	-1.704	-0.395	-1.141
		(6.33)***	(3.64)***	(2.25)**	(3.80)***
	LASSET	-0.022	-0.06	-0.023	-0.086
		(2.22)**	(1.80)*	(1.17)	(2.76)***
	RCASH	-0.012	0.42	-0.065	0.079
		(0.26)	(2.27)**	(0.91)	(0.40)
	RMNG	0.305	0.338	0.177	0.356
		(2.48)**	(0.76)	(0.84)	(1.03)
	RFIN	0.144	0.347	0.053	0.733
		(1.28)	(1.01)	(0.26)	(1.87)*
	ABROR12M	0	-0.001	0	0
		(0.18)	(1.97)**	(0.41)	(0.34)
	SSSE	-0.034	-0.031	-0.043	-0.018
		(3.13)***	(0.81)	(2.39)**	(0.67)
	RBOND	-0.003	0.328	-0.58	-0.405
		(0.02)	(0.64)	(1.60)	(0.81)
Treatment Model Eq.	ROA	-3.345			
		(5.06)***			
	DEF_FP2	0.227			
		(3.03)***			
	DEF_SURP	0.293			
		(3.44)***			
	EXDEBT	1.83			
		(3.14)***			
	LEV	1.238			
		(4.62)***			
	RBORROW	0.661			
		(3.14)***			
	RCASH	-0.091			
		(0.72)			
	LASSET	-0.019			
		(0.58)			
	RMNG	-1.013			
		(2.98)***			
	RFIN	-1.833			
		(4.01)***			
	ABROR12M	-0.004			
		(2.54)**			
	SSSE	0.111			
		(4.12)***			
	RBOND	0.373			
		(1.02)			
N		3214			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Table 10 GC note and layoff of workforce

Treatment effect estimator		(1)		(2)	
		Effects of GC note on Δln(LABOR) [t , t+2]			
ATE	r1vs0.gcn	-0.129			
		(4.91)***			
ATET	r1vs0.gcn			-0.206	
				(7.39)***	
POmean	0.gcn	-0.004		-0.01	
		(0.95)		(0.65)	
Outcome Model Eq.		OME0 (non-treated)	OME1 (treated)	OME0 (non-treated)	OME1 (treated)
	TQ1	0.033	0.017	-0.003	0.046
		(2.21)**	(1.03)	(0.17)	(2.65)***
	TRNVR	-0.016	0.054	-0.046	-0.002
		(2.31)**	(2.15)**	(2.68)***	(0.06)
	ROA	0.377	0.589	0.174	0.442
		(2.62)***	(2.17)**	(0.70)	(2.20)**
	DEF_FP2	-0.035	-0.051	-0.081	-0.105
		(3.45)***	(0.95)	(2.89)***	(2.18)**
	DEF_SURP	-0.004	-0.092	0.005	0.035
		(0.33)	(1.71)*	(0.22)	(0.68)
	EXDEBT	0.553	-0.014	0.583	-0.047
		(13.37)***	(0.19)	(12.12)***	(0.67)
	RBORROW	-0.046	-0.188	-0.087	-0.125
		(1.90)*	(1.44)	(1.19)	(1.28)
	LASSET	-0.012	-0.044	-0.017	-0.062
		(3.00)***	(2.17)**	(1.60)	(3.90)***
	RCASH	0.008	0.002	0.017	-0.03
		(1.83)*	(0.14)	(1.22)	(1.44)
	RMNG	0.03	0.114	0.321	-0.238
		(0.59)	(0.47)	(1.82)*	(1.35)
	RFIN	0.005	0.245	-0.209	0.852
		(0.12)	(1.38)	(1.62)	(3.72)***
	ABROR12M	0	0.002	0.001	0.001
		(2.81)***	(14.98)***	(2.47)**	(3.14)***
	SSSE	-0.009	0.01	-0.03	-0.009
		(2.06)**	(0.53)	(3.14)***	(0.71)
	RBOND	0.107	1.16	0.02	0.584
		(1.63)	(3.69)***	(0.12)	(2.18)**
Treatment Model Eq.	ROA	-3.973			
		(7.12)***			
	DEF_FP2	0.258			
		(3.63)***			
	DEF_SURP	0.301			
		(3.78)***			
	EXDEBT	1.78			
		(3.06)***			
	LEV	1.28			
		(5.75)***			
	RBORROW	0.433			
		(2.34)**			
	RCASH	-0.045			
		(1.07)			
	LASSET	-0.023			
		(0.72)			
	RMNG	-1.044			
		(3.17)***			
	RFIN	-1.801			
		(4.04)***			
	ABROR12M	-0.004			
		(2.85)***			
	SSSE	0.112			
		(4.27)***			
	RBOND	0.216			
		(0.59)			
N		3700			

* p<0.1; ** p<0.05; *** p<0.01. Constant terms exist for OMEs and TMEs.

Appendix

Time series of bankruptcy filings under Corporate Reorganization Law,
Civil Rehabilitation Law and Liquidation Law of Japan in the years of 1987 - 2002

Year	Number of Corporate Reorganization filing	Number of Civil Rehabilitation filing	Number of Liquidation filing	Total
'87-'96	10	-	0	10
'97	6	-	0	6
'98	4	-	3	7
'99	2	-	0	2
'00	3	7	1	11
'01	3	12	1	15
'02	8	14	5	27

Banks, security companies, housing loan companies and insurance companies are excluded