Real Cost Management around Loan Financing

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Abstract

This paper examines how, if at all, managers engage in real cost management around loan financing. Compared with the matched control firms, loan financing firms reduce operating costs during pre-financing periods and exhibit an increase in post-financing operating costs. Moreover, cost management is asymmetric. Loan financing firms experiencing a sales decline manage cost downward to a greater extent than those experiencing a sales increase. In addition, the level of operating costs is negatively associated with the intensity of covenants that are based on earnings. The cost reversion post-financing is not driven by finance firms' working capital constraints, investment expenditure, sales growth or financial constraint. Portfolio analyses on buy-and-hold stock returns show that the benefits of loan financing outweigh the costs of deviating from past cost behavior. Results do not support earnings management behavior through accrual, overproduction, or abnormal asset sales. Overall, results suggest that managers engage in real cost management to improve cash flow and the preferences of banks shape their actions.

Key Words: Loan Financing, Cash Management, Cost Behavior

JEL Classification: M41, G21, G32

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1. Introduction

Cost decisions are one of the major operating choices that affect both earnings and cash flow. Real cost management refers to temporary changes in cost decisions that are not intended to be maintained by managers over the long run. It is completely under managerial discretion and difficult for outsiders to evaluate the underlying managerial incentives and its impact on future performance. Notably, real cost management is not necessarily driven by managerial short termism. Managers can temporarily adjust cost decisions to increase firm value in the long run.

In this paper, I focus on examining cost management around loan financing for three reasons. First, prior literature considers financing activities to be one of the major drivers of performance management (see Kellogg and Kellogg, 1991; Dechow et al., 1996; Dichev, Graham and Rajgopal, 2012). However, compared with studies on equity financing, there is much less evidence regarding the debt market (see Dechow, Ge, and Schrand, 2010). Second, a firm's cash flow is likely to outweigh earnings as a performance indicator in a bank's lending review. A firm's cash flow determines earnings quality and directly indicates liquidity risk. A borrower's cash flow is a key determinant of bargaining power when dealing with banks (e.g. Diamond and Rajan, 2000). Third, banks have information advantage relative to other market participants. Therefore, managers' actions are constrained by banks' monitoring ability and preferences.

Given the features of loan financing, I posit that firms manage operating costs downward to improve cash flow prior to financing and exhibit an increase in costs once obtaining loans. Moreover, cost management is asymmetric. Compared with firms experiencing a sales increase, firms experiencing a sales decline have a higher level of slack resources and therefore more potential to manage cost downward. However, the reversion in operating costs will be attenuated as banks' monitoring intensity on earnings increases.

Before loan financing, I expect that managers have incentives to engage in real cost management to improve cash flow for two reasons. First, better cash flow performance increases the likelihood of receiving loan financing and helps managers negotiate more favorable contract terms. Second, banks may view cost reduction as managerial efforts to improve cost efficiency or to reduce the likelihood of empire building. In addition, compared with other approaches to improve cash flow (such as asset sales), cost management is largely under managerial discretion and is likely the most effective way for managers to improve cash flow.

Moreover, cost management is not necessarily symmetric, given that managerial flexibility in cost management varies under different situations. Anderson et al. (2003) show that firms experiencing a sales decline have a higher level of slack resources than those experiencing a sales increase. Hence, I expect that loan financing firms experiencing a sales decline manage cost downward to a greater extent than those whose sales increase. Managers of firms with a sales decline not only have greater incentives to improve cash performance, but also have more flexibility to do so. Cutting slack resources is not likely to be viewed as value destroying because there is no model to determine the optimal level of slack resources.

I do not expect that managers prefer performance management that improves earnings but has little or negative impact on cash flow in the context of loan financing. Prior studies suggest that managers can improve reported earnings through accruals, revenue manipulation, abnormal asset sales and overproduction. Accrual management does not have cash flow effects and can only improve earnings to a limited extent without violating U.S. GAAP. Revenue manipulation and asset sales are not completely under managers' control. The effects of these approaches depend heavily on customer responses to sales promotion strategies and asset redeployability. Moreover, strategies that boost revenues do not always increase cash inflow (e.g. extending credit to

customers) and asset sales reduce the value of a firm's tangible assets that can be used as collateral. Overproduction improves reported earnings but will actually lower operating cash flow.

Once firms obtain loans, I predict operating costs will increase. Managers are likely to restore operating costs as their incentives for cash management reduce. The reversion of real cost management prior to financing will incur adjustment costs and consequently loan financing firms will exhibit an increase operating costs. However, managers will take into account covenant requirements on earnings when making their cost decisions. Firms have to comply with financial covenant requirements to avoid a lender's intervention, which can potentially interrupt a firm's operating and investment activities, even leading to management turnover. Therefore, operating costs should be negatively related to the intensity of earnings-based covenants.

I apply a difference-in-difference research design to examine the time series and cross-sectional variations in operating costs for a pooled sample, including both loan financing firms and control firms matched by the propensity to take loans. The time series variation in the cross-sectional differences between loan financing firms and control firms around financing year indicates whether there are unusual patterns in the cost behavior of firms taking loan financing. I also examine the behavior of accounts receivable, discretionary accruals, production level, operating cash flow, and each component of operating expenses. I compare the time series changes in these indicators (relative to control firms) with that of operating expenses to examine whether these indicators provide consistent evidence that managers primarily engage in cost management to improve cash flow prior to financing.

Consistent with my predictions, loan financing firms show significantly lower operating expenses prior to financing than the matched control firms. The cost reduction is not driven by overproduction or accrual management because the financing firms also report a higher operating

cash flow before financing, primarily due to the cut in SG&A expenses. However, after financing firms acquire loans, the cross-sectional difference in operating costs between loan financing firms and control firms becomes insignificant for firms experiencing a sales increase. Moreover, for those experiencing a sales increase, loan financing firms actually show higher operating costs than control firms, all else being equal. These results suggest that firms taking loans are not inherently better performers than control firms. In addition, the level of costs is negatively related to banks' monitoring intensity: the higher the covenant intensity on earnings, the lower the operating costs.

When financing firms have a sales decline prior to financing, they cut operating expenses to a greater extent than those experiencing a sales increase. Moreover, the asymmetry in cost management only exists between sales up and sales down firms but not between any other partitions of firms (e.g., firms with good versus those with bad news). The evidence suggests that greater incentives to reduce costs are not sufficient to result in the asymmetry in cost management. The main reason for this asymmetry is that sales down firms have more flexibility in managing slack resources.

I also test whether any of the following four alternative hypotheses explains the increase in post-financing operating costs. Costs increase because (1) financing firms have low working capital before financing and can spend more afterwards; (2) financing firms make a lot of investment after receiving a loan; (3) financing firms have high sales growth rates and tend to build capacity through financing or (4) financing firms have financial constraints before financing and therefore have to cut operating costs to internally generate cash. Results do not support any of these explanations.

To further support the argument that the costs associated with real cost management do not outweigh the benefits of receiving loan financing. I construct portfolios of loan financing firms by size and market to book quintiles and calculate the one-year buy and hold returns of these portfolios for each year within the event window (i.e., of two years before financing until two years after). I compare the buy and hold returns of the portfolios of financing firms with those of the matched portfolios. On average, firms that take financing underperform the matched portfolios prior to financing in terms of their one-year buy and hold returns. However, the performance of financing firms gradually improves as they approach the financing year. After the financing, there are no significant differences in performance between the portfolios of loan financing firms and the matched portfolios. The evidence implies that the reversion in operating costs post-financing does not seem to outweigh the economic benefits associated with loan financing. Firm performance in terms of stock returns, on average, improves.

Finally, I examine whether firms report abnormal activities (discretionary accruals, abnormal production level, discretionary expenses, and abnormal gains from the sale of assets) around loan financing, using traditional approaches proposed in the literature. Results show that actual expenses are consistently lower than expected under various alternative models, there being no consistent evidence regarding other performance management. Overall, results are consistent with the prediction that real cost management is the primary approach that managers rely on for loan financing.

This study contributes to the literature on performance management behavior by focusing on a special setting in debt markets. There is far less evidence of performance management in debt markets than in equity markets. The loan financing setting is unique because the incentives and flexibility of performance management are quite different from those in equity financing. In

loan financing, cash flow management is likely to outweigh earnings management. Managers' choices of actions are also constrained by banks' monitoring ability. In such a setting, managers may engage in real cost management to increase firm value. Managers tend to improve cash flow through real cost management before applying for loans. They do not engage in performance management having little or negative cash flow impacts. The differential flexibility in managing resources leads to asymmetric cost management between sales up and sales down firms. Moreover, lenders' monitoring intensity on earnings also affects real cost management.

This study also proposes a new research design to examine time series variation in operating activities around major corporate financing events. The new research design mitigates the problem of measurement errors by incorporating asymmetric cost behavior and controlling for working capital, funds available and investment activities, factors associated with loan financing and could affect operating activities. It also improves estimation efficiency since it captures both cross-sectional and time-series variation in operating performance indicators before and after financing in one step (see Hayashi, 2000).

The remainder of the paper is organized as follows: Section 2 introduces the related literature and presents the hypotheses. Section 3 describes the sample and research design. Sections 4 reports the results of main tests. Section 5 discusses alternative hypotheses, robustness checks and reconciliation with prior models. Section 6 concludes.

2. Related Literature and Hypothesis Development

Prior literature suggests that firms can manage earnings through real activities and accruals. Real activity management refers to managers deviating from normal business practices to achieve performance targets. It includes sales manipulation, overproduction, cost reduction,

and asset sales (e.g. Roychowdhury, 2006). These actions not only affect reported earnings but also operating cash flow. Accrual management mainly refers to boosting reported earnings through accounting discretion. It has no effects on cash flow.

Financing activities are considered to be one of the major drivers of earnings management (see Kellogg and Kellogg, 1991; Dechow et al., 1996; Dichev, Graham, and Rajgopal, 2012). A large body of the literature finds large positive discretionary accruals during the year around initial public offerings (IPOs) and seasoned equity offerings (e.g., Aharony, Lin and Loeb, 1993; Teoh et al., 1998a; Rangan, 1998; Cohen and Zarowin, 2010).[3]

However, there are several controversial issues on earnings management behavior around equity financing. First, it is not clear why managers would have sufficiently strong incentives to manipulate earnings at the time of equity financing to *temporarily* inflate stock prices, which will decline later when the effects of manipulation reverse. Second, the costs of accounting manipulation could outweigh the benefits. Accounting manipulation before equity financing attracts the attention of regulators or shareholders (e.g., Beneish, 1998). Ball and Shivakumar (2008) and Venkataraman et al. (2008) show that financial reporting is actually more conservative around IPOs due to increased regulatory and legal penalties for misreporting. If managers engage in real management, the actions may even have greater negative impact on future firm value (e.g., Graham et al. 2005; Kothari et al., 2012). Third, if investors anticipate earnings management, they will rationally undo the upward effects. Shivakumar (2000) shows that the negative association between accruals and future abnormal stock returns documented in prior studies is due to model misspecification. Armstrong et al. (2008) find similar results.

In contrast to equity financing, loan financing has three unique features that would have very different implications on managers' incentives and actions regarding performance

[3] Cohen and Zarowin (2010) also find real activity management around seasoned equity offerings.

management. First, the incentives of performance management for loan financing are strong because the associated economic consequences (e.g., raising funds for investment projects with favorable contract terms) apply to multiple periods and can be substantial, especially for long-term loans. Second, performance prior to financing plays an important role in loans. Creditors review a firm's past performance to approve loans and determine contract terms. Third, cash flow is likely to outweigh earnings in banks' lending review process. A firm's cash flow reflects the quality of earnings and determines liquidity risk.[4] Many finance studies show that borrowers' cash flow is a key determinant of bargaining power when dealing with banks (e.g. Diamond and Rajan, 2000) and banks offer discounts in interest rates for borrowers with high cash flow (see Santos and Winton, 2010). If firms do not have enough tangible assets, banks sometimes even use cash flow as the borrowing base. In fact, many textbooks and guidance for banking industry practitioners place great emphases on the analyses of borrowers' cash flow over earnings.[5]

Hence, I expect managers to have sufficient incentives to engage in performance management prior to loan financing. Better financial performance increases the likelihood of loan application approval and can help managers negotiate favorable contract terms. However, given the information advantage and preferences of banks, only real cost management is likely to be the most feasible and effective.

Real cost management refers to temporary cost reduction that is not intended to be maintained over the long run. Firms can improve both reported earnings and operating cash flows by cutting down resources. Compared with other performance management approaches, cost management is completely under managerial discretion and it is difficult for outsiders to evaluate the incentives and its impact on future performance. Notably, in contrast to the existing literature

[4] Graham et al (2012) provide survey evidence showing that investors consider whether earnings are backed with sufficient cash flow as one of the primary criteria to evaluate earnings quality.
[5] For example, see "Bank Lending", 2012. Hong Kong Institute of Bankers. John Wiley & Sons, Singapore Pte. Ltd.

on accrual manipulation and real activity management, I do not think the aggregate effects of real cost management on firm value is negative in loan financing context as long as the economic benefits of loan financing outweigh the costs of deviating from past cost behavior.

Some may argue that managers could engage in income decreasing management because (1) banks demand more conservative reporting; and (2) managing performance downward may potentially create greater covenant slack in the future. I do not consider this prediction to hold for two reasons. First, cost management is not necessarily mutually exclusive with conservative financial reporting choices if managers intend to improve cash flow. Second, argument (2) relies on a counter-intuitive assumption that firms will face the same initial nominal covenant requirements and costs of debt regardless of firm performance at loan initiation.

One may also predict that managers will not engage in any kind of performance management because banks have information advantages and will undo its effects. Performance management could either have no material effects on the likelihood of receiving loans with desirable contract terms or even have an adverse impact. However, this argument assumes that banks can interpret cost reduction as an unfavorable signal for a borrower's operating performance. Cost reduction increases a firm's cash liquidity and could reflect managerial efforts to improve cost efficiency. Therefore, it is an empirical question whether and how managers would engage in performance management based on their expectation on banks' preference.

To examine whether firms engage in real cost management requires both cross-sectional and time series evidence. Because banks screen borrowers based on their recent performance prior to financing, firms planning to take loans will show lower operating costs than comparable firms with similar financing needs but do not take loans if the former engage in real cost management. However, such a cross-sectional difference should not be permanent. If managers deviate from

past practices to reduce costs prior to financing (e.g. cut down research and development expenses), such actions disrupt a firm's operating activity and may incur some efficiency losses (see Gunny, 2005; Graham et al. 2005). Once firms obtain loan financing, managers' incentives to improve cash flow will drop and, therefore, they will start to restore operating capacity and incur additional adjustment costs. Moreover, because downside risk is shared with debt holders, managers are more likely to build capacity to prepare for upside risk (e.g., a sales rebound). In addition, operating costs may also arise post-financing partly because of the deviation from efficient operating decisions prior to financing. For example, cutting down machine maintenance costs by reducing the number of maintenance staff could result in higher machine attrition rates and more defective products in future production.

Therefore, if loan financing firms engage in real cost management, I expect to observe a reversion in the cost level post-financing, relative to matched control firms. The time series variation in the cross-sectional differences of operating costs reveal that firms with loan financing report lower costs prior to financing, not because they are inherently better performers but because of real cost management. The cost level post-financing is a benchmark of normal cost level for loan financing firms.

H1: Calibrated against matched control firms, firms taking loans have lower operating costs prior to financing and exhibit an increase in the cost level after they obtain loans.

Cost management is not necessarily symmetric, given that managerial flexibility in cost management varies under different situations. Recent studies beginning with the Anderson, Banker and Janakiraman (2003) show that traditional textbook models of cost behavior positing a mechanistic symmetric response of costs to increases and decreases in sales are flawed and not

empirically descriptive. A firm's cost level reflects managers' deliberate decisions on resource allocation. Firms' costs increase by a greater extent as sales rise than they decrease as sales fall by an equivalent amount. Such asymmetric cost behavior is referred to as "cost stickiness."

Prior research suggests that costs appear to be sticky as sales decline because of adjustment costs and managerial optimism. Adjustment costs are incurred when firms add to or reduce various activity resources. For example, firms have to pay severance packages to lay off workers and incur additional negotiation and political costs. Later on, when managers plan to expand production capacity and hire new workers, they have to exert effort and incur non-trivial expenses for recruitment and training (e.g., Bentolila and Bertola, 1990; Azetsu and Fukushige, 2005; Banker, Byzalov and Chen, 2013).

Agency conflicts may also partially explain managers' reluctance to cut resources. Entrenched managers could have incentives to waste resources for their personal benefit or to pursue size scale over efficiency. Chen et al. (2011) argue that asymmetry in firms' cost behavior could also be driven by managerial empire building. They advocate that superior corporate governance can contain such value-destroying behavior of managers leading to cost stickiness.

However, keeping slack resources when sales decline may reduce future adjustment costs, while it compromises concurrent earnings and operating cash flow. More recent studies (e.g., Weiss, 2010; Kama and Weiss, 2012; and Dierynck et al., 2012) show that managers cut down on slack resources as sales fall when they have incentives to meet or beat earnings targets, such as avoiding reporting losses or meeting analyst forecasts.

Although loan financing does not pose explicit earnings targets for managers, I expect firms with sales-down to manage costs downward to a greater extent than firms with sales up prior to financing for two reasons. First, firms with sales down have greater incentives to improve

performance. Second, they also have more flexibility in doing so. Empirical studies on sticky cost behavior show that firms with sales down have more slack resources than firms with sales up. It is difficult for outsiders to determine the impact of such cost reduction on future performance because there is no model to determine the optimal level of slack resources. In addition, banks may interpret cutting slack resources as a positive signal since it could mitigate the risk of managerial empire building.

Moreover, even if banks can estimate the optimal level of slack resources and firms' sales prospects, they do not necessarily prefer firms to keep a high level of slack capacity, given agency conflicts between shareholders and debt holders. A high level of slack capacity prepares firms for upside sales shocks (i.e., sales rebounds) and compromises a firm's cash liquidity as sales fall. As lenders primarily are more concerned about borrowers' downside risk than upside risk, they likely prefer firms to have sufficient cash liquidity at the expense of limited capacity in the future. Based on the aforementioned reasons, I expect that:

H2: Firms taking loans with sales down manage costs downward to a greater extent than loan financing firms with sales up prior to financing.

I posit that firms manage cost downward to improve cash flow, which is likely to outweigh earnings as a performance indicator in a bank's lending review. One may argue that cost reduction can result from accrual management, overproduction or extending credit to customers. However, accrual management has no cash flow effects and is more likely to be detected by auditors and regulators. Moreover, it can only improve short-term earnings to a limited extent without violating accounting standards. Overproduction and extending credit to customers can

improve earnings by lowering the reported cost of goods sold.[6] This approach will likely negatively affect operating cash flow because firms need to increase the purchase of inputs for a higher level of production. Hence, the cost reduction is not due to performance management approaches that improve earnings, but have either zero or negative cash flow effects.

H3: The reduction in operating costs for firms taking loans prior to financing is not driven by performance management approaches that improve earnings but have either no cash flow effects or negative cash flow effects.

When a firm takes a loan, its cost level is subject to covenant restrictions. Loan contracts usually include financial covenants, which stipulate borrowers' acceptable financial performance after financing. Financial covenants can be constructed based on earnings-related ratios (e.g., interest coverage or debt-to-EBITDA ratio) or ratios not related to earnings (e.g., leverage or current ratio). If firms fail to meet the requirements, lenders will have control rights over the firms' business decisions (see Bolton and Dewatripont, 2005). Creditor intervention could result in the early termination of positive net present value projects, the liquidation of assets (see Thadden, 1995; Nini, Smith and Sufi, 2012) and management turnover. As managers are very likely to be forced to cut capacity and resources when lenders intervene, they are better off managing the capacity level to avoid covenant violation and lender intervention. Beneish and Press (1993) show that managers engage in earnings management to avoid violating covenants. Also, as discussed in

[6] These two approaches can lower reported cost of goods sold because managers can allocate overheads over a greater volume.

Dierynck et al. (2012), one of the two main reasons that managers of Belgian firms reduce cost stickiness is to avoid bank intervention.[7]

Therefore, I expect that the higher the percentage of covenants that are based on earnings, the greater the banks' monitoring intensity on earnings and, therefore, the pressure on managers to reduce costs and meet the requirement thresholds. The cost level will be attenuated by the covenant intensity on earnings.

H4: The cost level is negatively associated with the percentage of covenants that are based on earnings

3. Sample and Research Design

3.1 Sample Selection

The information on loan financing deals is collected from Dealscan. I focus on the deals made between 1996 and 2008 for public firms, as the coverage of Dealscan becomes much more complete since the mid-1990s.[8] The total number of deals for firms with financial information available in COMPUSTAT is 37,791. I exclude loan deals with a maturity shorter than three years. This is because (1) the costs of deviating from normal business practices are likely to be higher than the benefits of acquiring a short-term loan, and (2) banks face a much lower risk for short-term loans, and improvement in firms' financial performance may not play a very important role in loan approval. The remaining number of deals is 22,525. The number of observations for unique firm-deal year is 17,344. If a firm takes multiple loans within the same year, I add up the loan amounts raised in that year as the total loan financing amounts. I further exclude firms that

[7] Belgian firms are heavily bank-oriented, and reporting losses in two consecutive years will often lead to bank intervention.

[8] One of the reasons is that firms have been required to file electronically through EDGAR since 1996, and loan contract information has become easier to collect.

are in financial (SIC codes 6000-6999) or utility industry (SIC codes 4000-4999). The remaining number of observations for unique firm-deal year is 12302. Among these observations, 8,223 deals include at least one covenant, as reported by Dealscan. I focus on this set of deals because Drucker and Puri (2009) show that the information on loan deals without any covenants in Dealscan may be missing. Table 1 reports the sample selection process.

I apply a difference-in-difference research design to examine cross-sectional and time-series variation in cost behavior before and after financing. The treatment group includes firms taking loans and the control group includes firms matched by the propensity of loan financing. I select these propensity matched control firms in order to control for other impacts on managerial costs decisions when firms have similar financing tendency. I estimate a firm's propensity to take loan financing in each year by the following logistic model:

$$P(Loan_{it}) = \beta_0 + \beta_1 logSize_{it-1} + \beta_2 MTB_{it-1} + \beta_3 Leverage_{it-1} + \beta_4 ZSCORE_{it-1} + \beta_5 ROA_{it-1} + \beta_6 Investment_{it-1} + \beta_7 PP\&E_{it-1} + \beta_8 NEI_{i,t-1} + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon_{it}.$$

I control for firm size, investment opportunities (measured by market-to-book, *MTB*), financial risk (measured by *Leverage* and *ZSCORE*), performance (measured by return on assets, *ROA*), and investment (measured by the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment). Both investment and net plant, property, and equipment (*PP&E*) are scaled by beginning assets. *NEI* is the net equity issuance. Prior literature identifies these factors as common determinants of loan financing decisions (e.g., Shyam-Sunder and Myers, 1999; Baker and Wurgler, 2002; Frank and Goyal, 2009).

For each firm-deal year observation, I require the difference in propensity scores between the treatment firm and control firms to be less than 0.01. The control firms do not take loans

within two years of the deal year of the treatment firm. Moreover, controls firms cannot be in either financial or utility industry. The loan sample includes 3,883 unique firms, and the control sample includes 5,823 unique firms (by caliper matching).

3.2 Main Tests

I retrieve the financial information for loan sample firms and control firms from the COMPUSTAT database. For each firm-deal year, I extract the financial data from two years preceding the deal to two years after financing and use the same duration for the matched control firms. I truncate the top and bottom 1% of observations for all variables.

The model is based on the modified level regression of cost stickiness from Banker, Basu, Byzalov, and Chen (2012). I do not use the original change regression in Anderson et al. (2003) since the model cannot be directly applied in estimating the level of costs.[9] The main model is specified as follows:

$$\begin{aligned} OPEX_{i,t} = {} & \beta_0 + \beta_1 Revenue_{i.t} + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\ & + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\ & + \beta_9 MaxEarning\_sCov\%_{i,t} + \beta_{10} MaxEarning\_sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\ & + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\ & + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t}, \end{aligned}$$

where *OPEX* is the operating costs, excluding depreciation and amortization, and $Revenue_{i,t}$ is firm *i*'s total sales in year *t*, both scaled by the beginning market value. $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0

[9] For example, if sales first increase by one unit and then decrease by one unit, the ABJ stickiness model implies that the level of costs should increase—even though sales will return to the original level. Similarly, if sales first decrease by one unit and then increase by one unit, the ABJ stickiness model implies that the level of costs should increase (see Banker, Basu and Byzalov, 2012).

otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*.[10]

To avoid repeatedly using the same firm-year observations, I focus on the loan deals initiated at least five years apart for the same firm. By doing so, firm-year observations used in the pre- and post-periods for each financing deal do not overlap. To control for the incentives associated with debt financing in consecutive years, I include four dummies indicating whether a firm has other debt financing around each firm-year observation. *PriorLoan* =1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan* =1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. Bond financing is another common type of debt financing, for which managers may also have incentives to manage performance.

I also control for firm size (i.e., $1/Assets_{i,t-1}$) and the log value of total loan amount raised by firm *i* in year *t* to beginning book equity loan amounts (i.e., $LoanAmt_{i,t} / Equity_{i,t-1}$). I control for loan size relative to the beginning book equity since managers have incentives to show better financial performance when they plan to take larger loans. The potential benefits are higher for more material financing. I also control for funds available (*Funds* = the sum of beginning cash holding and net equity issuance), investment activities (as defined in the propensity matching

[10] I also use the percentage of earnings based covenants from the most recent deal and results remain the same.

model), and other documented earnings management incentives (i.e., avoiding reporting losses and earnings decline).[11]

I am primarily interested in the coefficients on the variables regarding the relative cost behavior between treatment firms and control firms around the financing period. The coefficients on *Loan* and *Loan*SD* are expected to be negative, suggesting that loan sample firms show lower operating costs before loan financing than control firms and financing firms with sales-down cut costs to a greater extent. The coefficient on *Loan*PostDeal* is expected to be positive, suggesting that loan sample firms exhibit an increase in the cost level after financing. The coefficient on *MaxEarningsCov%* is expected to be negative. The more negative the coefficient is, the lower the cost level will be.

I do not use traditional real activity management models to estimate abnormal operating activities because funds available and investment activities may significantly change around financing period and could result in variations in a firm's operating and investment activities. Models based on an average industry-year relation are very likely to contain large measurement errors. Ball and Shivakumar (2008) argue that external financing is by definition associated with changes in net operating assets. Shan, Taylor, and Walter (2012) show that accrual management models contain significant errors without controlling for financing activities.

There are two main advantages of the difference-in-difference research design. First, it captures both cross-sectional and time-series variations in operating performance in one step. In contrast to prior models, which estimate abnormal performance in two steps (i.e., constructing an expectation model and then examining the residual of the model), this approach improves estimation efficiency (see Hayashi, 2000). Second, the difference-in-difference research design

[11] I also use working capital to replace funds available to control for liquidity and results are very similar.

can control for financing related to factors that could affect operating decisions. It mitigates the problem of measurement errors due to major corporate events.

To further examine whether managers intend to improve cash flow through cost management prior to financing but not through other performance management approaches, I examine five alternative indicators: discretionary accruals, production, accounts receivable, operating expense, and operating cash flow (see Ahearne et al. 2012): all the indicators are scaled by sales, except for discretionary accruals (estimated by modified Jones Model). I use sales as deflators to capture the time series changes in the policies of credit sale and production, which are usually proportional to sales in practice and textbooks.[12] I use discretionary accruals estimated by modified Jones Model to examine additional accrual management, excluding the effects of changes in credit sale policy on accrual level.

If cash flow is the primary goal that managers tend to improve, I expect to observe patterns that are consistent with the incentive of improving cash flows for all five indicators. That is, compared with control firms, firms taking loans should show (1) lower operating costs and accounts receivable (i.e., managers accelerating cash collection) prior to financing and exhibit an increase in costs and accounts receivable after financing; (2) no accrual management or overproduction; and (3) higher operating cash flow prior to financing and exhibit a decrease in the cash flow post financing, given the sales level.

3.3 Additional Tests

First, to investigate how managers make cost decisions around financing with respect to each component of operating expenses, I decompose operating expenses into cost of goods sold

[12] For example, Managerial Accounting, Second Edition, 2012, John Wiley & Sons, Inc., by R. Balakrishnan, K. Sivaramakrishnan, and G. Sprinkle (ISBN 9781118763841).

and *SG&A* expenses, which is then divided into research and development expenses (*R&D*) , advertising (*Advert*) and other *SG&A* expenses. I scale these variables by concurrent sales and examine the changes in the cost structure around financing.

Second, I examine whether the asymmetry in real cost management between sales-up and sales-down firms exists in other partitions of firms. I argue that such an asymmetry arises primarily because sales-down firms have more flexibility to cut costs. To empirically support this argument, I divide firms based on whether they have bad news (measured by compounded annual stock return), approach reporting losses and are likely to experience an earnings decline. In those cases, managers also have incentives to manage cost downward to a greater extent but they do not have the same flexibility as in the case of sales decline. Hence, I do not expect to observe the asymmetry in cost management in these alternative cases.

4. Results

4.1 Descriptive Statistics

Table 2 reports descriptive statistics on the matching variables for firms taking loans and control firms prior to financing. The average difference in the propensity scores is 0.002. Compared with firms in the control sample, loan financing firms are larger and have higher leverage ratio. They also have higher *PP&E* and investment expenditure. Both samples have similar financial performance (i.e., *ROA* and *ZSCORE*) and market-to-book ratio. Firms taking loans have less equity issuance than control firms. In addition, for loan financing firms, the median length of loans is about five years. The median ratio of total loan amount raised to the beginning equity is 0.645. The median of covenant intensity on earnings is 0.25.

4.2 Empirical Results

Table 3 reports the results on the time series variation in cross-sectional difference in operating expenses between firms taking loans and control firms. Columns 1 to 4 report the results with different control variables. The results are very similar under alternative models. First, consistent with the asymmetric cost literature, the coefficient on the sales-down dummy, *SD*, is significantly positive at the 1% significance level. The coefficients on *Loan* and *Loan*SD* are significantly negative, suggesting that loan sample firms show a lower level of costs before loan financing than control firms and financing firms with sales-down cut costs to a greater extent. The coefficients on *Loan*Dealyear, Loan*Dealyear*SD, Loan*PostDeal* and *Loan*PostDeal*SD* are all positive, suggesting that loan sample firms exhibit an increase in the cost level since the year of financing.

Notably, although loan financing firms report lower expenses prior to financing than control firms, the difference in costs exhibits a very different pattern after financing. For example, as shown in Column 4, the coefficients on *Loan* and *Loan*SD* are -0.017 and -0.028 respectively, suggesting that loan financing firms report lower expenses for both sales-up and sales-down firms before financing. Further, the coefficients on *Loan*PostDeal* and *Loan*PostDeal*SD* are 0.023 and 0.067, respectively. Combining the evidence together, I find that (1) the expenses of loan financing firms with sales-up are not significantly different from those of control firms during the post financing periods (-0.017+0.023 = 0.006), and (2) the operating expenses of loan financing firms with sales down are significantly higher than control firms (i.e. the cross-sectional difference in costs during the post-financing period for sales down firms is (-0.017 - 0.028 + 0.023 + 0.067 = 0.045). These results suggest that loan financing firms are not inherently better performers than control firms.

Moreover, the coefficient on *MaxEarningsCov%* is -0.042, consistent with the prediction that costs will be lower when the covenant intensity on earnings is higher. The coefficient on *MaxEarningsCov%*SD* is -0.122 at 1% significance level, suggesting the cost level is even lower when firms have a sales decline. This evidence suggests that the pressure of meeting covenant requirements provides managers with strong incentives to further cut down costs.

In addition, coefficients on loan refinancing and bond issue indicators are also consistent with the predictions that managers engage in cost management for financing. The coefficients on *PostDeal*FutureLoan*, *PreDeal*PriorBond* and *PostDeal*FutureBond* are all significantly negative, respectively. These results suggest that managers tend to keep costs low if they plan to refinance by taking loans or issuing bonds within a short period.

Table 4 shows the time-series and cross-sectional differences in discretionary accruals, production, accounts receivable, operating expenses, and operating cash flow. Column (1) shows that discretionary accruals are not significantly positive for loan financing firms prior to financing. After taking loans, financing firms report lower discretionary accruals, perhaps reflecting increased accounting conservatism. Column (2) shows that production for loan financing firms is not significantly different from control firms before and after financing. This evidence is consistent with the prediction that financing firms do not take the overproduction approach, which improves earnings but lowers operating cash flow. Column (3) shows that the accounts receivable to sales ratio is significantly lower for loan financing firms than for control firms prior to financing and increases after firms take loans. The difference in the ratio between loan financing firms and control firms is not significant during the post-financing period. This evidence suggests that managers accelerate the cash collection prior to financing and revert to the original level after acquiring loans. Column (4) shows that operating expenses to sales ratio is significantly lower for

loan financing firms than for control firms. The ratio is even lower for financing firms with sales down. However, after financing, firms taking loans report an increase in the ratio. This pattern is consistent with the main model. Column (5) shows that financing firms have significantly higher operating cash flow than control firms prior to financing, especially for those with sales down. In the post-financing periods, operating cash flows show a significant decrease, a pattern consistent with the evidence that both operating expenses and accounts receivable exhibit increases post financing, as shown in Column (3) and (4).

The evidence on the effects of covenant intensity on the five operating indictors is also consistent with the prediction that managers choose performance management approaches to improve cash flow. Financing firms reduce operating expenses and credit sale as covenant intensity on earnings increases. As a result, the level of operating cash flow is positively associated with the covenant intensity on earnings.

Table 5 reports the results on the changes in cost structure around financing. I find that the reduction in operating costs prior to financing is primarily driven by changes in *SG&A* expenses. *SG&A* expenses are significantly lower for loan financing firms experiencing both sales up and sales down before financing and exhibit an increase after financing. In fact, cost of goods sold is significantly higher for loan financing firms before financing and exhibit a decrease after financing. This evidence suggests that managers also adjust cost structure around loan financing.

Table 6 shows the results on operating expenses when the sample is partitioned based on alternative performance management related incentives. Panel A reports the linear correlation between each cases. The correlation between sales-down case and other cases is very low. This evidence is assuring that the alternative partitions of firms do not generate subsamples that significantly overlap with each other. In Panel B, I find that the asymmetry in real cost

management between firms with sales up and those with sales down do not hold under these alternative partitions. Firms with bad news, high risk of reporting losses or earnings decline do not appear to manage costs downward to a greater extent. Moreover, in the bad news case, the cost level is even higher for loan financing firms. This evidence supports the argument that the flexibility in cost management plays an important role in managers' ability to manage cash flow in loan financing setting.

5. Additional Discussions

5.1 Alternative Hypotheses

Although I attribute the increase in cost level post-financing to reduced managerial incentives of performance management and cost reversion to a more efficient level, there are four alternative explanations for such an increase in the cost level:

(1) Working Capital Constraint:

Costs are increasing because financing firms have low working capital prior to financing and are able to spend more after financing since they are no longer constrained.

(2) Increasing Investment:

Costs are increasing because financing firms make large investments after financing.

(3) Capacity Building for High Growth Firms:

Costs are increasing because financing firms have high sales growth and tend to buildup capacity.

(4) Financial Constraint :

Funds available defined in the model does not capture the impact of financial constraint on firm operating activities. Loan financing firms may be financially constrained and therefore have to cut costs to internally generate cash flow to fund their investment.

To test whether the results are driven by these alternative hypotheses, I repeat the main tests on the following subsamples:

(1) For working capital constraint hypothesis, I select the loan financing firms whose average working capital is in the top quartile of firms in the same industry and size quintile prior to financing and the corresponding control firms.[13] Compared to their peers, these treatment firms have sufficient working capital. If this alternative hypothesis holds, I should not observe cost management for this set of firms.

(2) For large investment hypothesis, I select the loan financing firms with changes in investment (investment from post-financing periods minus that from pre-financing period) in the top quartile of financing firms and the corresponding control firms. This set of firms has the highest investment expenditure. If the increasing costs are driven largely by investment activities, the increase in costs should be the most prominent for these firms.

(3) For the hypothesis on capacity building for high growth firms, I select the loan financing firms with sales growth rate (based on average sales from post-financing periods and pre financing periods) in the bottom quartile of financing firms and the corresponding control firms. If this alternative hypothesis holds, I should not observe cost management for this set of firms since they are not likely to build up capacity when sales are sluggish.

(4) For financial constraint hypothesis, I remove the firms (both treatment and control firms) that are financially constrained during the pre-financing periods and repeat the test. If this alternative hypothesis holds, I should not observe the same time series variation in the cross-sectional difference in operating costs between the remaining financing firms and control firms. I use Kaplan-Zingales financial constraint index to identify the firms that are financially constrained, following Lamont, Polk, and Saa-Requejo (2001).

[13] Industries are classified based on Fama-French 38 industry classification.

For alternative hypotheses (1) to (3), results are shown in Table 7. Evidence based on the subsample tests does not support any of the alternative hypotheses. In the first case, I observe a very similar pattern in cost management for the subsample as I do for the full sample. Firms with a high level of working capital still exhibit significantly lower costs than control firms prior to financing and an increase in cost level post-financing. In the second case, firms with high investment expenditure do not show any increase in operating costs after taking loans, a result contradictory to the alternative hypothesis. In the third case, firms with low sale growth also report lower cost level than matched control firms prior to financing and a significant reversion in costs at the 1% level. For alternative hypothesis (4), I find that about 23% of firm-year observations are classified as financially constrained for both financing firms and matched control firms during pre-financing periods. Table 8 reports the empirical results for firms that are not financially constrained. Results of the sub-sample test are very similar to those of the full sample tests. The evidence suggests that financial constraint cannot explain the time series variation in the cross-sectional differences in operating costs between treatment firms and control firms.

5.2 Is it Worthwhile to Engage in Real Cost Management?

One may question that whether managers are short-sighted to engage in real cost management and such actions would eventually reduce firm value. However, this argument will not hold if the economic benefits of receiving financing with favorable terms outweigh the costs associated with real cost management. To examine whether real cost management prior to financing is value destroying, I investigate the stock return performance of financing firms. Notably, in the setting of loan financing, the standard approaches to estimate expected stock returns do not apply. Major corporate events, such as loan financing, will change firm risk. The

coefficients of return expectation model estimated based on historical returns prior to financing do not capture the impact of financing activities on firm risk (see Kothari and Warner, 2007; Shivakumar, 2000).

Therefore, instead of firm level analyses, I analyze stock returns at portfolio level. I construct portfolios of loan financing firms by size and market to book quintiles and calculate the value weighted one-year buy and hold returns of these portfolios for each year within the event window (i.e., from two years before financing until two years after), respectively. I compare the buy and hold returns of the portfolios of financing firms with those of the matched portfolios.[14] Analyses of returns at portfolio level are less susceptible to the problem of misspecified expected returns at firm level and capture the impact of financing on stock returns due to changes in size and market to book, main pricing factors that are related to expected returns.

Results are reported in Table 9. On average, loan financing firms underperform the matched portfolios prior to financing in terms of one-year buy and hold returns. However, the performance of the portfolios of loan financing firms gradually improves towards the financing year. After the financing, there are no significant differences in performance between the portfolios of loan financing firms and the matched portfolios. The evidence implies that the reversion in operating costs post financing does not seem to outweigh the economic benefits associated with loan financing. Firm performance in terms of stock returns on average improves for financing firms.

5.3 Robustness Checks

I also conduct four sets of robustness tests. First, I conduct a pseudo-financing test. I shift the loan initiation year by a randomly generated number of years and examine whether the differences in

[14] The data on value weighted returns of the matched portfolios are from the website of Ken French.

the cost behavior between the loan sample firms and the control firms still exist. However, I do not observe the same time series and cross-sectional variation in operating costs when the event window shifts. Second, I extend the pre-financing period up to four years prior to the deal year. Results show that the cross-sectional differences in operating costs between loan financing firms and control firms appear to the most apparent for the two years within the deal year.

Third, for every firm-loan observation, I construct a portfolio of control firms, matched by industry, size decile, and market-to-book quintile as of the year before loan initiation.[15] I construct the matching sample in this way so that control firms have similar growth options and investment opportunities as do the loan sample firms. Fourth, I use the original cost stickiness model by Anderson et al. (2003) and control for GDP growth and managerial incentives to avoid reporting losses and earnings decline and assets and employee intensities.

$$\begin{aligned}\Delta \log OPER_{i,t} = {} & \beta_0 + \beta_1 \Delta \log Revenue_{i.t} + \beta_2 SD_{i,t} * \Delta \log Revenue_{i.t} + \beta_3 Loan * SD_{i,t} * \Delta \log Revenue_{i.t} \\ & + \beta_4 Post * SD_{i,t} * \Delta \log Revenue_{i.t} + \beta_5 Loan * Post * SD_{i,t} * \Delta \log Revenue_{i.t} + \\ & + \beta_6 EarningsCo\ v\%_{i,t} * SD * \Delta \log Revenue_{i.t} + \beta_7 \Delta GDP_t * SD * \Delta \log Revenue_{i.t} \\ & + \beta_8 AvoidLoss_{i,t} * SD * \Delta \log Revenue_{i.t} + \beta_9 AvoidED_{i,t} * SD_{i,t} * \Delta \log Revenue_{i.t} \\ & + \beta_{10} AssetInt * SD_{i,t} * \Delta \log Revenue_{i.t} + \beta_{11} EmpInt * SD_{i,t} * \Delta \log Revenue_{i.t} + \varepsilon_{i,t},\end{aligned}$$

where $\Delta logOPER_{i,t} = log\ (OPER_{i,t}/OPER_{i,t-1})$. $\Delta log\ Revenue_{i,t} = log\ (Revenue_{i,t}/Revenue_{i,t-1})$. *GDPgw* is the GDP growth in year *t. AssetInt* is the asset intensity for firm *i* in year *t,* computed as the log of the ratio of total assets to sales. *EmpInt* is the employee intensity for firm *i* in year *t,* computed as the log of the ratio of the number of employees to sales. The results remain the same in both tests.

5.3 Reconciliation with Prior Models

To compare the results from models proposed in prior literature, I examine abnormal

[15] The industry is matched by the first two digits of the SIC code.

activities (discretionary accruals, abnormal production level, discretionary expenses, and abnormal gains from the sale of assets) following traditional approaches. All variables are scaled by the beginning assets. The expected activities are estimated by the following models, estimated by industry and year:

Expected accruals by the modified Jones model (Dechow, Sloan and Sweeney, 1995)

$$\frac{TAC_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{\Delta SALES_{it} - \Delta AR_{i,t}}{Assets_{i,t-1}} + k_3 \frac{PPE_{i,t}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (1)$$

Expected production level (Roychowdury, 2006)

$$\frac{PROD_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (2)$$

Expected expenses (Roychowdury, 2006)

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (3)$$

Expected sale of assets (Gunny, 2010)

$$\frac{GAIN_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{ASALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{ISALES_{it}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (4)$$

where *TAC* stands for the total accrual level, excluding extraordinary items. *AR* is accounts receivable. *PPE* is gross property, plant, and equipment. *PROD* is the production costs, defined as the sum of the costs of goods sold and change in inventory during the year. *DISX* is *SG&A* expenses, including research and development and advertising expenses. *Gain* is the income from asset sales, multiplied by -1 (negative for gains and positive for losses, according to COMPUSTAT). *MV* is the natural log of market value. *Q* is Tobin's Q, defined as (market value of equity + book value preferred stock + book value of long-term debt in current liabilities) / total

assets. *INTFunds* is the sum of beginning cash holding, net debt issuance and net equity issuance.[16] *ASALES* is the long-lived assets sales, and *ISALES* is the long-lived investment sales.

I further use three modified models for expected expenses to estimate abnormal accruals and real activities. Following Kothari, Leone and Wasley (2005) and Cohen, Pandit, Wasley and Zach (2011), I estimate the abnormal accruals and real activities using the performance-matched approach proposed by these two studies. In addition, I also follow the model by Gunny (2010), who incorporates the asymmetric cost behavior theory in estimating expected *SG&A* expenses:

Expected expenses (Gunny, 2010)

$$\frac{Expenses_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} * SD + \varepsilon_{it} \quad (5)$$

Banker et al. (2012) suggest that sticky cost theory implies that the level of expenses will be different given the same sales level, depending on whether prior sales are higher or lower than current sales. Interacting sales-down dummy with changes in sales ignores the path of sales changes and therefore cannot be used to estimate the level of expected expenses. Given their arguments, I modify Gunny's model as follows:

Expected expenses by the modified Gunny's Model:

$$\frac{Expenses_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{SALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_6 SD + \varepsilon_{it} \quad (6)$$

Roychowdury (2006) uses the lagged sales in the model to estimate the current expenses. However, according to cost stickiness theory, the expected expenses level should be largely determined by concurrent sales and whether sales increase or decrease from year *t-1* to year *t.* Using only the information of past sales in the regression cannot capture the non-linear relation

[16] The original definition of "*INTFunds*" in Gunny's model is the sum of net income before extraordinary items, R&D expenses, and depreciation and amortization. I use the alternative measure since the sum of cash holding and capital raised through financing activities is a direct measure of internal funds available for operating and investment activities. The measure is commonly used in the literation on corporate financing polices.

between expenses and sales. To better compare with the results by the model in this paper, I modify Roychowdury's model to incorporate the cost stickiness effect and estimate the performance-matched abnormal expenses, following Cohen et al. (2011).

Expected expenses by the modified Roychowdury's Model:

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t}}{Assets_{i,t-1}} + k_3 SD + \varepsilon_{it} . \quad (7)$$

Panel A of Table 10 reports the abnormal expenses level under alternative models. Discretionary expenses are all significantly negative around financing. Although the magnitude of abnormal expenses varies under different models, average abnormal expenses are all negative. That is, actual expenses are significantly lower than expected levels under various models. Moreover, the time series variation of abnormal expenses follows a similar pattern across the models for models controlling for sales-down effects. That is, abnormal expenses become more negative as a firm approaches the financing year and less negative once it obtains the loan. These results are consistent with the multivariate results that costs reverse back once a firm obtains the external financing.

Panel B and C shows the univariate results on other abnormal activities. In Panel B, discretionary accruals based on the modified Jones' Model are significantly positive around financing and the magnitude is lower after financing than prior to financing. Abnormal production and abnormal gains from asset sales are all significantly negative. Panel C reports the average abnormal accruals and other real activities that are based on performance matching. In contrast, discretionary accruals are significantly negative around financing and become more negative after financing than prior to financing. This result is similar to the results on abnormal accruals around IPO by Ball and Shivakumar (2008), who show that equity financing firms report more conservatively. In addition, abnormal production is positive only after financing. Abnormal gains

from asset sales are insignificant from zero. These results are not consistent with income-increasing accrual management, overproduction and abnormal assets conjectures.

The sale of assets depends on the redeployability of the assets and the market may not even exist for many firm or industry specific assets (Pindyck, 1991).[17] Moreover, gains from abnormal sales of assets are very easy for banks to identify since (1) they are recognized as a separate item in income statements, and (2) banks can require detailed information on the sold assets to evaluate the nature of such transactions.

6. Conclusion

I examine firms' cost behavior surrounding loan financing. I find that managers engage in real cost management to improve cash flow prior to loan financing. Moreover, cost management is not symmetric for loan financing. Financing firms with sales down exhibit a greater reduction in operating expenses than those with sales up. Once firms obtain financing, there is a reversal in cost level. The overall cost level is negatively related to the intensity of covenants that are based on earnings. Results suggest that managers tend to restore capacity post financing and are less willing to cut back resources once incentives of performance management reduce. However, they are still under pressure to meet covenant requirements with respect to earnings. Additional analyses based on other operating indicators (e.g., operating cash flow and production level) further confirm that managers' cost decisions are determined by banks' monitoring ability and they do not take performance management approaches that improve earnings but have none or negative cash flow effects.

[17] For example, a steel plant is industry specific as it can only be used to produce steel. The redeployability of such an asset is very low.

I also propose a new research design to examine variations in operating activities around major corporate financing events. The new research design incorporates the theory on asymmetric cost behavior and control for factors that are related to financing activities and could affect firms' operating activities. It improves estimation efficiency and mitigates the problem of measurement errors. Overall, results from prior models and the modified models support the predictions that managers primarily engage in cost management for loan financing but not for other performance management.

This study contributes to the literature on performance management with debt market. Loan financing is a unique setting, where cash flow is likely to outweigh earnings in determining managers' incentives and choices of performance management approaches. I provide evidence suggesting that managers improve cash flow through asymmetric cost management, under close bank monitoring. Stock return analyses at portfolio levels imply that real cost management is not necessarily value destroying because the benefits of receiving loan financing outweigh the costs related to temporary deviation from past cost behavior.

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Appendix Variable Definitions

Main Variables	**Definition**
Revenue	Total sales, deflated by beginning market value
OPEX	Operating expenses excluding depreciation and amortization, deflated by beginning market value
CFO	Cash flows from operations, deflated by concurrent sales.
TAC	Total accrual level excluding extraordinary items, scaled by beginning market value
COGS	Cost of goods sold and *SG&A*, scaled by concurrent sales
SG&A	Selling, general and administrative expenses, scaled by concurrent sales
R&D	Research and development expenses, deflated by concurrent sales
Advert	Advertising expenses, deflated by concurrent sales
Other SG&A	Other SG&A expenses, deflated by concurrent sales
PROD	Production costs, defined as the sum of the costs of goods sold and change in inventory during the year, deflated by concurrent sales
Funds	The sum of beginning cash holding and net equity issuance, scaled by beginning market value
Investment	The sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value
SD	= 1 if total sales for firm *i* decrease from *t-1* to *t*, and 0 otherwise
AvoidLoss	=1 if earnings deflated by beginning market value for firm *i* in year *t* are between 0 and 0.01, and 0 otherwise
AvoidED	=1 if the ratio of the change in net income deflated by beginning market value for firm *i* in year *t* is between 0 and 0.01, and 0 otherwise
$LoanAmt_{i,t}$	Total loan amount raised by firm *i in year t*
$Equity_{i,t}$	Book equity of firm *i in year t*
Loan	=1 if a firm is from the loan sample, 0 otherwise
Dealyear	=1 if the observation is from the fiscal year that a firm has loan financing, 0 otherwise
PostDeal	=1 if the observation is from the periods after a firm takes loan financing, 0 otherwise
PreDeal	=1 if the observation is from the periods before a firm has loan financing, 0 otherwise
PriorLoan	=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise
FutureLoan	=1 if a firm has other loan financing within two years after the data year and 0 otherwise
PriorBond	=1 if a firm has a bond issue within two years prior to the data year and 0 otherwise.
FutureBond	=1 if a firm has bond issue within two years after the data year and 0 otherwise.
MaxEarningsCov%	The maximum ratio of the number of earnings related covenants to total number of covenants across outstanding loans.

Table 1: Loan Financing Deals

	No. of Loan Deals
Loan deals for public firms with financial information available (1996-2008)	37791
Subtract deals with a maturity shorter than 3 years	
=	22525
Number of observations with unique firm-deal year	17344
Subtract deals for firms in financial and utility industries	
=	12302
Subtract deals without any reported covenants	
=	8223

Table 2: Sample Statistics

This table reports the descriptive evidence of firms during pre-financing period. *LogSize* is the log value of firm size. MTB is market-to-book ratio. *Leverage* is the debt to total assets. *ROA* is return on assets and *ZSCORE* is the Altman bankruptcy risk measure. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment. *PP&E* is net plant, property, and equipment. *NEI* is the net equity issuance. Both *Investment, PP&E* and *NEI* are scaled by beginning assets. *MaxEarningsCov%* is the maximum ratio of the number of earnings related covenants to total number of covenants across outstanding loans.

Panel A

The average difference in the propensity to take loans: 0.002

	Loan Sample Firms		**Control Sample Firms**	
Variable	**Median**	**Std Dev**	**Median**	**Std Dev**
LogSize	5.441	1.893	4.736	2.204
MTB	2.493	2.833	2.496	4.351
Leverage	0.176	1.137	0.104	1.242
ROA	0.043	0.206	0.032	0.136
ZSCORE	2.546	2.783	2.323	2.076
Investment	0.074	0.187	0.055	0.181
PP&E	0.235	0.224	0.186	0.222
NEI	0.004	0.103	0.005	0.159

Panel B

	Loan Sample Firms	
Variable	**Median**	**Mean**
Maturity (years)	5.072	4.990
$LoanAmt_{i,t} / Equity_{i,t-1}$	0.645	1.783
MaxEarningsCov%	0.250	0.280

Table 3: Cross-Sectional and Time Series Variations in Operating Expenses

This table shows the results of difference-in-difference tests. The treatment group is the firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

$$
\begin{aligned}
OPEX_{i,t} = {} & \beta_0 + \beta_1 Revenue_{i.t} + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\
& + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\
& + \beta_9 MaxEarning\ sCov\%_{i,t} + \beta_{10} MaxEarning\ sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\
& + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\
& + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t},
\end{aligned}
$$

where *OPEX* is operating expenses excluding depreciation and amortization and $Revenue_{i,t}$ is the firm *i*'s total sales in year *t*, both scaled by beginning market value. $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. $LoanAmt_{i,t}$ = the total loan amount raised by firm *i in year t.* $Equity_{i,t}$ = book equity of firm *i in year t. Funds* is the sum of beginning cash holding and net equity issuance, scaled by beginning market value. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. $AvoidLoss_{i,t}$=1 if the earnings per share of firm *i* deflated by beginning price of year *t* are between 0 and 0.01 and 0 otherwise. $AvoidED_{i,t}$ =1 if the change in earnings per share of firm *i* deflated by beginning price of year *t* is between 0 and 0.01 and 0 otherwise. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e. year-2, year-1, year 0, year+1, year+2).

	Predicted Sign	OPEX	OPEX	OPEX	OPEX
Revenue		0.963***	0.961***	0.961***	0.965***
		(556.74)	(540.95)	(539.83)	(578.94)
SD	+	0.117***	0.112***	0.112***	0.098***
		(12.49)	(13.12)	(13.22)	(13.27)
Loan	**H1: -**	-0.029***	-0.023***	-0.022***	-0.017***
		(-3.73)	(-3.37)	(-3.26)	(-2.75)
*Loan*SD*	**H2: -**	-0.030***	-0.027**	-0.027**	-0.028**
		(-2.87)	(-2.51)	(-2.53)	(-2.58)
*Loan*Dealyear*		0.023**	0.021*	0.021*	0.024**
		(2.11)	-0.042	(1.88)	(2.24)
*Loan*Dealyear*SD*		0.067***	0.068***	0.068***	0.048***
		(4.11)	(4.04)	(4.06)	(2.90)
*Loan*PostDeal*	**H1: +**	0.031***	0.028***	0.028***	0.023***
		(2.79)	(2.74)	(2.73)	(2.60)
*Loan*PostDeal*SD*		0.072***	0.071***	0.071***	0.067***
		(4.49)	(4.38)	(4.37)	(4.09)
MaxEarningsCov%	**H4: -**	-0.069***	-0.057***	-0.057***	-0.042***
		(-7.79)	(-6.54)	(-6.51)	(-4.80)
*MaxEarningsCov%*SD*		-0.120***	-0.117***	-0.117***	-0.122***
		(-6.52)	(-6.50)	(-6.49)	(-6.77)
$1/Assets_{i,t-1}$		0.050**	0.050**	0.050**	0.047**
		(1.97)	(1.99)	(1.98)	(2.01)
*PreDeal*PriorLoan*		-0.017***	-0.013*	-0.012*	-0.008
		(-2.66)	(-1.94)	(-1.89)	(-1.29)
*PostDeal*FutureLoan*		-0.050***	-0.043***	-0.043***	-0.032***
		(-6.54)	(-5.84)	(-5.81)	(-4.34)
*PreDeal*PriorBond*		-0.043***	-0.043***	-0.043***	-0.044***
		(-3.87)	(-3.80)	(-3.74)	(-4.04)
*PostDeal*FutureBond*		-0.042***	-0.041***	-0.041***	-0.025**
		(-3.97)	(-4.02)	(-4.03)	(-2.40)
$Log(LoanAmt_{i,t}/Equity_{i,t-1})$*Dealyear*		-0.029**	-0.030**	-0.031**	
		(-1.98)	(-2.00)	(-2.06)	
$Log(LoanAmt_{i,t}/Equity_{i,t-1})$*PostDeal*		-0.010	-0.009	-0.009	
		(-1.42)	(-1.32)	(-1.36)	
Funds			0.092***	0.093***	0.121***
			(6.21)	(6.29)	(9.52)
Investment					-0.318***
					(-13.08)
AvoidLoss				0.007	
				(1.32)	
AvoidED				0.003	
				(0.25)	
Constant		-0.043***	-0.066***	-0.066***	-0.051***
		(-5.92)	(-7.49)	(-7.45)	(-6.35)
S.E. Clustered by Firm		Yes	Yes	Yes	Yes
S.E. Clustered by Year		Yes	Yes	Yes	Yes
Financing Timing Fixed Effects		Yes	Yes	Yes	Yes
R2		0.99	0.99	0.99	0.99
N		58122	58122	58038	58122

* p<0.10, ** p<0.05, *** p<0.01

Table 4: Cross-Sectional and Time Series Variations in Alternative Operating Indicators

This table shows the results of difference-in-difference tests. The treatment group is the firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

$$
\begin{aligned}
OPER_{i,t} = {} & \beta_1 + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\
& + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\
& + \beta_9 MaxEarning\ sCov\%_{i,t} + \beta_{10} MaxEarning\ sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\
& + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\
& + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t},
\end{aligned}
$$

where *OPER* stands for the indicators of operating performance, *OPEX*, *AR*, Discretionary Accruals, *PROD* and *CFO. OPEX* is operating expenses excluding depreciation and amortization. *AR* is accounts receivable and PROD is the sum of cost of goods sold and changes in inventory. *CFO* stands for operating cash flows and the total accrual level, excluding extraordinary items. All the indicators are scaled by sales, except for discretionary accruals (estimated by modified Jones Model). $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. *Funds* is the sum of beginning cash holding and net equity issuance, scaled by beginning market value. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e. year-2, year-1, year 0, year+1, year+2).

	Discretionary Accruals	PROD/Sales	AR/Sales	OPEX/Sales	CFO/Sales
SD	-0.027***	0.024**	-0.004	0.092***	-0.045***
	(-9.27)	(2.49)	(-1.29)	(14.67)	(-5.64)
Loan	0.004	-0.003	-0.013***	-0.024***	0.030**
	(0.86)	(-0.30)	(-3.35)	(-3.71)	(2.44)
*Loan*SD*	-0.018*	-0.011	0.002	-0.029***	0.031***
	(-1.68)	(-0.89)	(0.35)	(-4.36)	(6.73)
*Loan*Dealyear*	-0.014**	0.014	0.019***	0.041***	-0.027**
	(-2.09)	(1.22)	(3.48)	(2.69)	(-2.39)
*Loan*Dealyear*SD*	0.012	0.003	-0.010	0.019	-0.028**
	(1.18)	(0.12)	(-1.24)	(1.11)	(-2.13)
*Loan*PostDeal*	-0.017***	0.015	0.014***	0.042***	-0.024**
	(-3.38)	(1.34)	(3.17)	(5.43)	(-2.49)
*Loan*PostDeal*SD*	0.018	-0.007	0.003	0.026***	-0.027***
	(1.60)	(-0.49)	(0.45)	(3.05)	(-3.24)
MaxEarningsCov%	0.017**	0.024	-0.038***	-0.057***	0.029***
	(2.39)	(1.31)	(-6.25)	(-4.70)	(2.85)
*MaxEarningsCov%*SD*	-0.009	-0.035	0.006	-0.076***	0.052***
	(-1.24)	(-1.44)	(0.47)	(-3.91)	(2.63)
$1/Assets_{i,t-1}$	0.020	0.065***	-0.016***	0.115***	-0.088***
	(1.30)	(4.60)	(-6.34)	(5.58)	(-4.76)
*PreDeal*PriorLoan*	-0.003	0.002	-0.010***	-0.023***	0.013**
	(-0.66)	(0.25)	(-4.39)	(-3.82)	(2.41)
*PostDeal*FutureLoan*	0.005	0.024***	-0.008***	-0.044***	0.027***
	(1.08)	(3.26)	(-2.59)	(-5.63)	(2.67)
*PreDeal*PriorBond*	-0.010*	-0.082***	-0.011**	-0.053***	0.043***
	(-1.67)	(-5.86)	(-2.28)	(-7.36)	(6.25)
*PostDeal*FutureBond*	-0.008**	-0.069***	0.001	-0.039***	0.033***
	(-2.26)	(-7.05)	(0.23)	(-4.71)	(4.45)
Funds	0.032***	0.084***	0.012**	0.172***	-0.172***
	(7.40)	(4.11)	(2.49)	(12.73)	(-13.77)
Investment	-0.063***	0.041**	0.001	-0.200***	0.177***
	(-6.18)	(2.22)	(0.19)	(-11.41)	(9.87)
Constant	0.040***	0.635***	0.182***	0.904***	0.065***
	(6.45)	(56.89)	(56.41)	(78.81)	(6.34)
S.E. Clustered by Firm	Yes	Yes	Yes	Yes	Yes
S.E. Clustered by Year	Yes	Yes	Yes	Yes	Yes
Financing Timing Fixed Effects	Yes	Yes	Yes	Yes	Yes
R2	0.01	0.01	0.01	0.08	0.06
N	55997	55861	56068	56411	55073

* p<0.10, ** p<0.05, *** p<0.01

Table 5: Cross-Sectional and Time Series Variations in Cost Components

This table shows the results of difference-in-difference tests. The treatment group is the firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

$$
\begin{aligned}
COST_{i,t} = {} & \beta_1 + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\
& + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\
& + \beta_9 MaxEarning\ sCov\%_{i,t} + \beta_{10} MaxEarning\ sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\
& + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\
& + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t},
\end{aligned}
$$

where C*OST* stands for the indicators of different cost categories, *COGS*, *SG&A*, *R&D*, *Advert* and Other SG&A. *COGS* is the cost of goods sold and *SG&A* is selling, general and administrative expenses. *R&D* is research and development expenses and *Advert* is advertising expenses. *OtherSG&A* is all the other *SG&A* expenses excluding *R&D* and *Advert*. These variables are scaled by a firm's total sales. $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $EarningsCov\%_{i,t}$ is the percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. *Funds* is the sum of beginning cash holding and net equity issuance, scaled by beginning market value. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e. year-2, year-1, year 0, year+1, year+2).

	COGS	SG&A	R&D	Advert	Other SG&A
SD	0.065***	0.032***	0.002	-0.001	0.029***
	(11.02)	(5.37)	(0.70)	(-1.53)	(5.83)
Loan	0.033***	-0.035***	-0.019***	0.001	-0.016**
	(4.24)	(-4.05)	(-5.47)	(1.25)	(-2.38)
*Loan*SD*	0.005	-0.021**	-0.006	0.000	-0.017**
	(0.30)	(-1.96)	(-1.19)	(0.39)	(-2.01)
*Loan*Dealyear*	-0.022**	0.048***	0.022***	0.000	0.025***
	(-2.26)	(3.74)	(4.47)	(0.67)	(2.93)
*Loan*Dealyear*SD*	-0.008	0.002	0.000	-0.000	0.000
	(-0.36)	(0.14)	(0.02)	(-0.71)	(0.01)
*Loan*PostDeal*	-0.017**	0.041***	0.016***	-0.000	0.024***
	(-1.98)	(3.77)	(4.14)	(-0.27)	(2.74)
*Loan*PostDeal*SD*	-0.012	0.024**	0.009	-0.000	0.018*
	(-0.73)	(1.97)	(1.59)	(-0.09)	(1.88)
MaxEarningsCov%	0.070***	-0.107***	-0.050***	-0.000	-0.060***
	(3.92)	(-7.54)	(-9.15)	(-0.31)	(-5.57)
*MaxEarningsCov%*SD*	-0.038*	-0.028*	-0.003	0.003	-0.023*
	(-1.86)	(-1.74)	(-0.53)	(1.53)	(-1.72)
$1/Assets_{i,t-1}$	0.006	0.143***	-0.020***	0.001	0.150***
	(0.71)	(8.11)	(-3.17)	(0.39)	(8.10)
*PreDeal*PriorLoan*	0.024***	-0.032***	-0.013***	0.000	-0.022***
	(3.94)	(-4.24)	(-4.00)	(0.31)	(-4.45)
*PostDeal*FutureLoan*	0.032***	-0.064***	-0.025***	0.000	-0.041***
	(5.22)	(-9.23)	(-11.13)	(0.06)	(-7.22)
*PreDeal*PriorBond*	-0.048***	0.007	0.032***	0.003*	-0.024***
	(-3.74)	(0.66)	(3.85)	(1.73)	(-3.73)
*PostDeal*FutureBond*	-0.045***	0.013	0.031***	0.002	-0.016**
	(-4.41)	(1.33)	(6.10)	(1.55)	(-2.50)
Funds	-0.011	0.112***	0.041***	0.000	0.072***
	(-0.95)	(10.44)	(6.66)	(0.22)	(9.53)
Investment	0.130***	-0.242***	-0.089***	-0.007***	-0.147***
	(7.91)	(-19.35)	(-17.89)	(-7.37)	(-16.78)
Constant	0.558***	0.322***	0.064***	0.011***	0.253***
	(57.97)	(26.54)	(21.72)	(17.91)	(43.66)
S.E. Clustered by Firm	Yes	Yes	Yes	Yes	Yes
S.E. Clustered by Year	Yes	Yes	Yes	Yes	Yes
Financing Timing Fixed Effects	Yes	Yes	Yes	Yes	Yes
R2	0.03	0.12	0.08	0.00	0.11
N	51672	51449	51729	51729	51444

* p<0.10, ** p<0.05, *** p<0.01

Table 6: Time Series Variation in Operating Expenses by Alternative Firm Divisions

This table shows the results of difference-in-difference tests. The treatment group is the firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

Instead of dividing firms by the direction of sales change, I divide firms based on whether they have bad news (measured by compounded annual stock return) and high risk of reporting losses or earnings decline. *Bad New*=1 if compounded annual stock return is negative and 0 otherwise. $AvoidLoss_{i,t}$=1 if the earnings per share of firm *i* deflated by beginning price of year *t* are between 0 and 0.01 and 0 otherwise. $AvoidED_{i,t}$ =1 if the change in earnings per share of firm *i* deflated by beginning price of year *t* is between 0 and 0.01 and 0 otherwise. *Bad New*, *AvoidLoss* and *AvoidED* are three different incentive indicators.

OPEX is operating expenses excluding depreciation and amortization and $Revenue_{i,t}$ is the firm *i*'s total sales in year *t*, both scaled by beginning market value. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. *Funds* is the sum of beginning cash holding and net equity issuance, scaled by beginning market value. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e. year-2, year-1, year 0, year+1, year+2).

Panel A Correlation Among Incentive Indictors

	Sales Decline	Bad News	Avoid Losses	Avoid Earnings Decline
Sales Decline	1.0000			
Bad News	0.1104	1.0000		
Avoid Losses	0.0148	0.0694	1.0000	
Avoid Earnings Decline	0.0105	0.0251	0.1382	1.0000

Panel B

	OPEX	OPEX	OPEX
	Bad News	**Avoid Losses**	**Avoid Earnings Decline**
Revenue	0.963***	0.966***	0.966***
	(406.81)	(574.23)	(572.65)
Loan	-0.022***	-0.029***	-0.028***
	(-4.16)	(-4.34)	(-4.08)
*Loan*Dealyear*	0.035***	0.041***	0.039***
	(3.91)	(3.47)	(3.28)
*Loan*PostDeal*	0.025***	0.046***	0.045***
	(2.98)	(3.81)	(3.66)
MaxEarningsCov%	-0.030***	-0.078***	-0.076***
	(-3.15)	(-7.60)	(-7.53)
Incentive Indicator	0.052***	-0.000	0.005
	(11.78)	(-0.05)	(0.46)
*Loan*Incentive Indicator*	0.019**	0.024	-0.042
	(2.33)	(1.34)	(-0.97)
*Loan*Dealyear*Incentive Indicator*	-0.010	-0.030	0.051
	(-0.94)	(-1.58)	(1.27)
*Loan*PostDeal*Incentive Indicator*	-0.008	-0.038*	0.035
	(-0.79)	(-1.76)	(0.83)
*MaxEarningsCov%*Incentive Indicator*	-0.022*	0.058***	0.047
	(-1.85)	(3.74)	(1.63)
$1/Assets_{i,t-1}$	0.555***	0.048**	0.048**
	(8.19)	(1.99)	(1.99)
*PreDeal*PriorLoan*	0.003	-0.008	-0.007
	(0.46)	(-1.18)	(-1.13)
*PostDeal*FutureLoan*	-0.015***	-0.036***	-0.036***
	(-3.20)	(-4.93)	(-4.93)
*PreDeal*PriorBond*	-0.026***	-0.044***	-0.043***
	(-4.88)	(-4.19)	(-4.10)
*PostDeal*FutureBond*	-0.002	-0.029***	-0.028***
	(-0.31)	(-2.84)	(-2.82)
Funds	0.147***	0.136***	0.136***
	(11.12)	(10.51)	(10.53)
Investment	-0.279***	-0.345***	-0.345***
	(-12.70)	(-13.02)	(-13.09)
Constant	-0.094***	-0.019**	-0.020**
	(-16.88)	(-2.23)	(-2.23)
S.E. Clustered by Firm	Yes	Yes	Yes
S.E. Clustered by Year	Yes	Yes	Yes
Financing Timing Fixed Effects	Yes	Yes	Yes
R2	0.99	0.99	0.99
N	42585	58122	58038

* p<0.10, ** p<0.05, *** p<0.01

Table 7: Time Series Variation in Operating Expenses for Subsamples

This table shows the results of difference-in-difference tests. The treatment group is the selected firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

For the subsample of firms with high working capital, I select the loan financing firms with an average working capital in the top quartile of firms in the same industry and size quintile prior to financing and the corresponding matched control firms. For the subsample of firms with high investment hypothesis, I select the loan financing firms with changes in investment (investment from post financing periods minus that from pre financing period) in the top quartile of financing firms and the corresponding matched control firms. For the subsample of firms with low sales growth, I select the loan financing firms with sales growth rate (based on average sales from post financing periods and pre financing period) in the bottom quartile of financing firms and the corresponding matched control firms.

$$
\begin{aligned}
OPEX_{i,t} = {} & \beta_0 + \beta_1 Revenue_{i,t} + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\
& + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\
& + \beta_9 MaxEarning\ sCov\%_{i,t} + \beta_{10} MaxEarning\ sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\
& + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\
& + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t},
\end{aligned}
$$

where *OPEX* is operating expenses excluding depreciation and amortization and $Revenue_{i,t}$ is the firm *i*'s total sales in year *t*, both scaled by beginning market value. $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. *Funds* is the sum of beginning cash holding and net equity issuance, scaled by beginning market value. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e. year-2, year-1, year 0, year+1, year+2).

	OPEX	OPEX	OPEX
	High Working Capital	**High Investment**	**Low Sales Growth**
Revenue	0.966***	0.965***	0.964***
	(408.35)	(390.54)	(366.57)
SD	0.109***	0.091***	0.115***
	(16.64)	(14.79)	(10.83)
Loan	-0.042***	-0.026***	-0.074***
	(-3.07)	(-4.06)	(-4.66)
*Loan*SD*	-0.007	-0.028**	-0.013
	(-0.45)	(-2.50)	(-0.45)
*Loan*Dealyear*	0.033**	0.041**	0.067***
	(2.20)	(2.11)	(2.81)
*Loan*Dealyear*SD*	0.044*	0.093***	-0.043**
	(1.88)	(2.58)	(-2.09)
*Loan*PostDeal*	0.029**	0.021	0.085***
	(2.27)	(1.10)	(4.52)
*Loan*PostDeal*SD*	0.047**	0.083	0.028
	(2.15)	(1.57)	(0.85)
MaxEarningsCov%	-0.030***	-0.032***	-0.039***
	(-2.67)	(-2.70)	(-2.75)
*MaxEarningsCov%*SD*	-0.081***	-0.140***	-0.112***
	(-3.05)	(-2.84)	(-3.47)
$1/Assets_{i,t-1}$	0.077**	0.239**	0.041**
	(2.52)	(2.12)	(2.54)
*PreDeal*PriorLoan*	-0.014	0.009	-0.012
	(-1.29)	(0.69)	(-1.30)
*PostDeal*FutureLoan*	-0.029***	-0.020*	-0.040***
	(-3.17)	(-1.80)	(-3.73)
*PreDeal*PriorBond*	-0.062**	-0.054***	-0.094***
	(-2.36)	(-6.25)	(-2.86)
*PostDeal*FutureBond*	-0.014*	-0.022	-0.019
	(-1.74)	(-1.52)	(-1.62)
Funds	0.114***	0.108***	0.117***
	(4.87)	(5.24)	(6.25)
Investment	-0.306***	-0.309***	-0.310***
	(-8.98)	(-8.60)	(-12.54)
Constant	-0.054***	-0.058***	-0.050***
	(-7.92)	(-6.93)	(-3.70)
S.E. Clustered by Firm	Yes	Yes	Yes
S.E. Clustered by Year	Yes	Yes	Yes
Financing Timing Fixed Effects	Yes	Yes	Yes
R2	0.99	0.99	0.99
N	16829	16024	15750

* p<0.10, ** p<0.05, *** p<0.01

Table 8: Time Series Variation in Operating Expenses for Financially Unconstrained Firms

This table shows the results of difference-in-difference tests. The treatment group is the selected firms with loan financing and control firms are matched by the propensity to take loan financing as of the year prior to the loan initiation year of the treatment firm. For each firm-loan observation, I obtain the financial data of the treatment firm two years before and after the loan initiation year. The financial data of matched control firms is from the same period.

The subsample includes firms that are financially unconstrained during the pre-financing periods. I use Kaplan and Zingales Index to measure financial constraints, following Lamont, Polk, and Saa-Requejo (2001). The index is measured as –1.001909[(*ib* + *dp*)/lagged *ppent*] + 0.2826389[(*at* + *prcc_f*×*csho* - *ceq* - *txdb*)/*at*] + 3.139193[(*dltt* + *dlc*)/(*dltt* + *dlc* + *seq*)] – 39.3678[(*dvc* +*dvp*)/lagged *ppent*] – 1.314759[*che*/lagged *ppent*]. Following convention, firms are sorted into terciles based on their index values in the previous year. Firms in the top tercile are coded as constrained and those in bottom tercile are coded as unconstrained.

$$
\begin{aligned}
OPEX_{i,t} = {} & \beta_0 + \beta_1 Revenue_{i,t} + \beta_2 SD_{i,t} + \beta_3 Loan + \beta_4 Loan * SD_{i,t} + \beta_5 Loan * Dealyear \\
& + \beta_6 Loan * Dealyear * SD_{i,t} + \beta_7 Loan * PostDeal + \beta_8 Loan * PostDeal * SD_{i,t} \\
& + \beta_9 MaxEarning\ sCov\%_{i,t} + \beta_{10} MaxEarning\ sCov\%_{i,t} * SD_{i,t} + \beta_{11} PreDeal * Prior\ Loan \\
& + \beta_{12} PostDeal * FutureLoan + \beta_{13} PreDeal * Prior\ Bond + \beta_{14} PostDeal * Future\ Bond \\
& + Other\ Controls + Financing\ Timing\ Fixed\ Effect + \varepsilon_{i,t},
\end{aligned}
$$

where *OPEX* is operating expenses excluding depreciation and amortization and $Revenue_{i,t}$ is the firm *i*'s total sales in year *t*, both scaled by beginning market value. $SD_{i,t}$=1 if sales of firm *i* decreased from prior year. *Loan*=1 if a firm is from loan sample (treatment group) and 0 otherwise. *Dealyear* =1 if an observation is from the fiscal year that a firm has loan financing, 0 otherwise. *PostDeal* =1 if an observation is from the periods after a firm takes loan financing, 0 otherwise. *PreDeal* =1 if an observation is from the periods before a firm takes loan financing, 0 otherwise. $MaxEarningsCov\%_{i,t}$ is the maximum percentage of covenants that are earnings related for firm *i* at any year *t*. *PriorLoan*=1 if a firm has other loan financing within two years prior to the data year and 0 otherwise. *FutureLoan*=1 if a firm has other loan financing within two years after the data year and 0 otherwise. *PriorBond* =1 if a firm has a bond issue within two years prior to the data year and 0 otherwise. *FutureBond* =1 if a firm has a bond issue within two years after the data year and 0 otherwise. *Investment* is the sum of capital expenditure, acquisition expenses, increases in investment minus the total of sale of investment and sale of property, plant and equipment, scaled by beginning market value. Standard errors are clustered by firm and year. I include financing timing fixed effect by creating five dummies indicating how far the data year is from deal year (year 0), respectively (i.e., year-2, year-1, year 0, year+1, year+2).

	OPEX
Revenue	0.971***
	(439.72)
SD	0.106***
	(15.75)
Loan	-0.017**
	(-2.49)
*Loan*SD*	-0.031***
	(-2.97)
*Loan*Dealyear*	0.026**
	(2.25)
*Loan*Dealyear*SD*	0.045*
	(1.79)
*Loan*PostDeal*	0.018*
	(1.82)
*Loan*PostDeal*SD*	0.084***
	(3.20)
MaxEarningsCov%	-0.034***
	(-5.23)
*MaxEarningsCov%*SD*	-0.125***
	(-5.20)
$1/Assets_{i,t-1}$	0.158***
	(6.64)
*PreDeal*PriorLoan*	-0.013*
	(-1.95)
*PostDeal*FutureLoan*	-0.043***
	(-6.08)
*PreDeal*PriorBond*	-0.023***
	(-2.72)
*PostDeal*FutureBond*	-0.031**
	(-2.14)
Investment	-0.269***
	(-9.51)
Constant	-0.052***
	(-9.07)
S.E. Clustered by Firm	Yes
S.E. Clustered by Year	Yes
Financing Timing Fixed Effects	Yes
R2	0.99
N	47415

* p<0.10, ** p<0.05, *** p<0.01

Table 9 One-Year Buy and Hold Portfolio Returns

The table reports the average difference in the value weighted one–year buy and hold stock returns between portfolios of financing firms and those matched by size and market to book quintiles. The value weighted one-year buy and hold returns of these portfolios are calculated for each year within the event window (i.e., from two years before financing till two years after it), respectively. The data on value weighted returns of the matched portfolios are from the website of Ken French. *Dealyear* is from the fiscal year that a firm has loan financing. BHR_{Loan} (BHR_{FF}) is the value weighted one –year buy and hold return for the portfolio of loan financing firms (matched portfolio)

Year	$\boldsymbol{BHR_{Loan}-BHR_{FF}}$	**t-Statistics**
DealYear -2	-0.114	-6.91***
DealYear -1	-0.072	-3.49***
DealYear	-0.053	-3.17***
DealYear +1	0.009	0.17
DealYear +2	0.014	0.58

Table 10: Abnormal Operating Activities from Prior Research

This table reports the mean of abnormal activities for loan financing firms from two years before financing to two years after. *Abnormal_Activities* include four measures defined in prior literature: discretionary accruals, abnormal production level, discretionary expenses and abnormal gains from the sale of assets. All variables are scaled by beginning assets. Expected activities are estimated by the following models, estimated by industry and year.

Expected accruals by the modified Jones model (Dechow, Sloan and Sweeney, 1995)

$$\frac{TAC_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{\Delta SALES_{it} - \Delta AR_{i,t}}{Assets_{i,t-1}} + k_3 \frac{PPE_{i,t}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (1)$$

Expected production level (Roychowdury, 2006)

$$\frac{PROD_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (2)$$

Expected expenses (Roychowdury, 2006)

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (3)$$

Expected sale of assets (Gunny, 2010)

$$\frac{GAIN_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{ASALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{ISALES_{it}}{Assets_{i,t-1}} + \varepsilon_{it}, \quad (4)$$

Expected expenses (Gunny, 2010)

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta SALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} * SD + \varepsilon_{it} \quad (5)$$

Expected expenses by the modified Gunny's Model:

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_0 + k_1 \frac{1}{Assets_{i,t-1}} + k_2 MV_t + k_3 Q_t + k_3 \frac{INTFunds_{it}}{Assets_{i,t-1}} + k_4 \frac{SALES_{i,t}}{Assets_{i,t-1}} + k_5 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + k_6 SD + \varepsilon_{it} \quad (6)$$

Expected expenses by the modified Roychowdury's Model:

$$\frac{DISX_{it}}{Assets_{i,t-1}} = k_1 \frac{1}{Assets_{i,t-1}} + k_2 \frac{SALES_{i,t}}{Assets_{i,t-1}} + k_3 \frac{\Delta SALES_{i,t}}{Assets_{i,t-1}} + k_4 SD + \varepsilon_{it}. \quad (7)$$

where *TAC* stands for the total accrual level, excluding extraordinary items. *AR* is accounts receivable. *PPE* is gross property, plant, and equipment. *PROD* is the production costs, defined as the sum of the costs of goods sold and change in inventory during the year. *DISX* is *SG&A* expenses, including research and development and advertising expenses. *Gain* is the income from asset sales, multiplied by -1 (negative for gains and positive for losses, according to COMPUSTAT). *MV* is the natural log of market value. *Q* is Tobin's Q, defined as (market value of equity + book value preferred stock + book value of long-term debt in current liabilities)/total assets. *INTFunds* is the sum of beginning cash holding, net debt issuance and net equity issuance. *ASALES* is the long-lived assets sales, and *ISALES* is the long-lived investment sales.

Panel A Abnormal Discretionary Expenses for Loan Financing Firms by Alternative Models

	Year -2	Year -1	Year 0	Year+1	Year +2
Discretionary Expenses (by Roychowdury's Model)	**-0.101**	**-0.102**	**-0.100**	**-0.111**	**-0.121**
t-test: μ=0	*-38.74****	*-40.36****	*-39.63****	*-44.2****	*-47.9****
Discretionary Expenses (by Roychowdury's Model with Performance Matching)	**-0.004**	**-0.014**	**-0.009**	**-0.026**	**-0.030**
t-test: μ=0	*-0.76*	*-2.71****	*-1.87**	*-5.32****	*-5.9****
Discretionary Expenses (by Gunny's Model)	**-0.001**	**-0.001**	**-0.009**	**-0.001**	**0.006**
t-test: μ=0	*-0.45*	*-0.42*	*-3.74****	*-0.63*	*2.43***
Discretionary Expenses (by Modified Gunny's Model)	**-0.011**	**-0.012**	**-0.020**	**-0.007**	**-0.005**
t-test: μ=0	*-4.93****	*-5.65****	*-9.08****	*-3.26****	*-2.45***
Discretionary Expenses (by Modified Roychowdury's Model with Performance Matching)	**-0.004**	**-0.009**	**-0.018**	**-0.021**	**-0.016**
t-test: μ=0	*-1.01*	*-2.06***	*-4.27****	*-4.90****	*-3.71****

Panel B Raw Abnormal Activities for Loan Financing Firms

	Year -2	Year -1	Year 0	Year+1	Year +2
Discretionary Accrual	**0.027**	**0.030**	**0.026**	**0.024**	**0.024**
t-test: μ=0	*21.07****	*24.14****	*20.89****	*19.27****	*18.88****
Abnormal Production	**-0.013**	**-0.012**	**-0.004**	**-0.007**	**-0.004**
t-test: μ=0	*-5.32****	*-4.9****	*-1.62*	*-3.26****	*-1.71**
Abnormal Asset Sales	**-0.0004**	**-0.0004**	**-0.0003**	**-0.0004**	**-0.0004**
t-test: μ=0	*-6.05****	*-6.37****	*-3.54****	*-5.17****	*-5.00****

Panel C Performance Matched Abnormal Activities for Loan Financing Firms

	Year -2	Year -1	Year 0	Year+1	Year +2
Discretionary Accrual	**-0.014**	**-0.011**	**-0.015**	**-0.016**	**-0.016**
t-test: μ=0	*-8.41****	*-6.62****	*-9.31****	*-9.76****	*-10.31****
Abnormal Production	**0.004**	**0.007**	**0.017**	**0.015**	**0.024**
t-test: μ=0	*0.71*	*1.36*	*3.17****	*2.74****	*4.55****
Abnormal Asset Sales	**0.0002**	**0.0000**	**-0.0001**	**-0.0001**	**0.0000**
t-test: μ=0	*0.67*	*-0.01*	*-0.33*	*-0.59*	*0.03*