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Earnings management, capital structure, and the role of institutional environments ☆

Zhe An [a], Donghui Li [b,*], Jin Yu [c,d]

[a] Monash Business School, Monash University, Australia
[b] Management School, Jinan University, China
[c] School of Finance, Shanghai University of Finance and Economics, China
[d] School of Banking and Finance, The University of New South Wales, Australia

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ABSTRACT

This paper examines the effect of earnings management on financial leverage and how this relation is influenced by institutional environments by employing a large panel of 25,777 firms across 37 countries spanning the years 1989–2009. We find that firms with high earnings management activities are associated with high financial leverage. More importantly, this positive relation is attenuated by strong institutional environments. Our results lend strong support to the notions that (1) both corporate debt and institutional environments can be served as external control mechanisms to alleviate the agency cost of free cash flow; and (2) it is less costly to rely on institutional environments than debt. After meticulously addressing the possible endogeneity issues and conducting various robustness tests, our main conclusions remain confirmed.

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1. Introduction

One primary question in corporate finance is how firms make their capital-structure decisions. The trade-off theory predicts that the optimal financial leverage should be chosen based on a trade-off between the benefits and costs of debt.[1] The former includes, for example, tax savings, reduced agency cost between manager and shareholder. The latter includes, for example, bankruptcy costs/financial distress costs, agency conflicts between shareholder and debtholder (Graham and Leary, 2011). The pecking order theory by Myers and Majluf (1984) suggests that "…firms follow a financing hierarchy designed to minimize adverse selection costs of security issuance" (Graham and Leary, 2011, p.310). The existing empirical capital-structure studies have endeavored to use firm and industry characteristics to explain the variation of financial leverage.[2] Earnings management, as an important proxy for information quality presented by insiders to outsiders (Ng, 2011), is surprisingly ignored from the existing literature.

Understanding the role of earnings management in determining leverage is important, because, as Leuz et al. (2003) mention, "…insiders, in an attempt to protect their private control benefits, use earnings management to conceal firm performance from outsiders" (p.505). Debtors, like banks, rely on earnings quality to issue bank loans and charge the corresponding loan prices (Bharath, Sunder and Sunder, 2008). Shareholders' wealth are influenced by the linkage not only between earnings and stock returns,[3] but also between earnings management and firm values (higher liquidity or lower cost of equity capital).[4] This paper tries to fill this gap by investigating the impact of earnings management on leverage at firm level across the world.

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* Corresponding author at: 601 Huangpu West Road, Tianhe District, Guangzhou 510632, China. Tel.: +86 (20) 8522 0178.

E-mail address: lidonghui@jnu.edu.au (D. Li).

[1] Kraus and Litzenberger (1973), Leland (1994) and Fischer et al. (1989).

[2] For example, Titman and Wessels (1988), Lemmon et al. (2008) and Frank and Goyal (2009) study how United States (U.S.) firms' leverage variations are explained by firm and industry characteristics, including, for example, firm size, market-to-book ratio, profitability, tangibility, and industry-median leverage.

[3] Sloan (1996), Ball et al. (2003), Kothari et al. (2006) and He and Hu (forthcoming).

[4] Ng (2011) and Lang et al. (2012).

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There is growing research that highlights the important role of institutional environments in determining capital-structure decisions. As Rajan and Zingales (1995) point out, "...the view of institutions is important because they may affect the within-country cross-sectional correlation between leverage and factors..." (p.1422). These studies find that firms operating in stronger institutional environments tend to use lower financial leverage.[5] One possible explanation for this finding is that strong investor protection and legal enforcement mitigate agency conflicts (La Porta et al., 1998, 2002). Furthermore, relying on institutional environments in mitigating agency conflicts does not carry incremental costs for individual firms because institutional environments are broadly thought to be set beyond firms' control. Instead, using financial leverage may result in bankruptcy costs and agency cost of debt (i.e., debt overhang and asset substitution problems),[6] though financial leverage may serve as an external control mechanism in reducing the agency conflicts arisen from the separation of ownership and control in associating with earnings management.[7]

In sum, if investor protection is a costless substitute for financial leverage in terms of their roles in reducing the agency conflicts between managers and shareholders, then one should hypothesize that financial leverage is higher among firms with more severe agency conflicts and this relation should become less pronounced in countries with stronger investor protection. On the contrary, if investor protection and financial leverage are complements, then one should expect the relation between leverage and the severity of agency problem to be more pronounced in countries with stronger investor protection.

We use earnings management as a proxy for agency conflicts between inside managers and outside investors. Earnings management is frequently used as a measure for information quality in the literature. For instance, Leuz et al. (2003) argue that reported accounting earnings are managed to disguise insider private control benefits, so that external monitoring and reputation loss can be avoided. In addition, Giannetti and Jayaraman (2012) argue that the opaque firm disclosure policy can help retain insider private control and extract benefits independent on firm performance, and they employ earnings management as a measure of informativeness of financial statements. Bhattacharya et al. (2003) and Lang et al. (2012) employ this proxy to measure information asymmetry faced by the outside investors, compared to insiders. Francis et al. (2005) and Ng (2011) also employ earnings management to proxy for information quality in their studies. Managerial discretion/judgment in reported earnings may make firms' true underlying economic performance (i.e., operating cash flow) available only to insiders. Therefore, earnings management allows managers to finance *sub-optimal investments* that maximize their own utilities at the expense of some informationally disadvantaged stakeholders. Similarly, earnings management may facilitate insiders' *tunneling* activities.

Based on the agency cost of free cash flow theory, we study whether financial leverage is higher for firms with more earnings management, which exacerbates the information asymmetry of free cash flow.[8] Next, we examine how institutional environments influence the impact of earnings management on financial leverage. Leuz et al. (2003) suggest that strong institutional environments can attenuate the agency conflicts by reducing managers' earnings management activities. They argue that strong institutional settings, in particular, strong investor protection and legal enforcement, limit the managers' ability to acquire private control benefits, thus, reducing the likelihood of earnings management activities. We argue that strong institutional environments mitigate agency conflicts by granting investors rights in preventing managers from expropriating their investments and ensuring investors' rights can be implemented in the time of need. Thus, to reduce the costs of debt financing, investors of firms operating in countries with stronger institutional environments become more reliant on "free" macro-level investor protection than using debt as a control mechanism. Therefore, we expect the earnings management – capital structure relation to be less pronounced in countries with strong institutional settings.

To address these questions empirically, we employ a sample of 37 countries spanning the years 1989–2009 to investigate how financial-leverage decisions are determined by the level of earnings management across countries. The multi-country sample also allows us to test how country-level characteristics can affect the relation between earnings management and capital-structure decisions.

Consistent with our hypotheses, we have two novel empirical findings. First, we show that earnings management is significantly and positively correlated with firms' leverage. Combined with the notion that a firm's earnings management reflects the agency conflicts of information asymmetry between managers and investors, this finding is consistent with the disciplining function of debt to reduce the agency cost of free cash flow.

Second, we examine the role of institutional environments in reshaping the relation between earnings management and capital-structure decisions. We study this effect by adding an interaction of earnings management and institutional environments to our model. We document that strong institutional environments tend to attenuate the positive relation between earnings management and financial leverage. This evidence indicates that strong institutional environments grant and enforce investor rights in mitigating the impact of earnings management on corporate decisions, which make earnings management less sensitive to capital-structure decisions.

We find the above results are robust to three earnings management measures based on the magnitude of accruals or earnings smoothing (Leuz et al., 2003) and to two measures of leverage ratio. We also perform other robustness checks. We estimate our results by employing three different estimation methods. We use (1) an instrumental-variable approach, where our regression coefficient estimators are based on either two-stage least squares (2SLS) or generalized method of moments (GMM), to address endogeneity, (2) a dynamic model of capital structure to account for the partial adjustment behavior (Flannery and Rangan, 2006), and (3) a doubly-censored Tobit model as leverage ratios are bounded between zero and one (Elsas and Florysiak, forthcoming). In addition, we document that our results hold for different subsamples where we (1) remove firms from the U.S., the U.K., and Japan, (2) include firms from developed countries only, and (3) include firms from developing countries only. Finally, the results prevail not only for our primary institutional-environment variables – legal origin and the first principle component of five legal enforcement proxies – but also for alternative macro-level institutional-environment variables, including shareholder rights, accounting information quality, governance indicators, and governance index based on corporate ethics.

One challenge for this paper is the endogeneity and reverse causality issues. The former arises when both leverage and earnings management may be influenced by unobservable omitted variable(s). The latter happens when leverage appears to be a determinant of earnings manipulations in the literature. The

[5] For example, Demirguc-Kunt and Maksimovic (1998, 1999), Booth et al. (2001), Giannetti (2003), Antoniou et al. (2008) and Fan et al. (2012) examine the associations between institutional environments and capital structure by employing multi-country data.

[6] See Burkart et al. (2003) for a similar argument based on the comparison between costly monitoring and costless country-wide legal protection.

[7] See Jensen and Meckling (1976) and Jensen (1986) for theoretical justification and Harvey et al. (2004) for empirical evidence on emerging market firms.

[8] In addition, the above prediction is also consistent with pecking order theory (Myers, 1984 and Myers and Majluf, 1984). That is, earnings management increases firms' external financing costs; external equity financing becomes disproportionally less desirable than debt when external funding is needed for investment.

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