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Agency costs and efficiency of business capital investment: evidence from quarterly capital expenditures

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Abstract

Using the quarterly Compustat files, we present empirical findings that business capital investment is significantly higher in the fourth quarter than in other quarters. Even after controlling for business capital investment determinants, we find that the fourth quarter capital investment is significantly larger but less sensitive to investment opportunities than other quarters' capital investment. This phenomenon is more evident for firms with larger cash holdings than for firms with smaller cash holdings, for larger firms than for smaller firms, and for diversified firms than for stand-alone firms. Our findings suggest a high level of agency costs in corporate investment decisions.

Keywords: Agency costs; Investment; Quarterly capital expenditures; Cash holdings; Firm size; Diversification

1. Introduction

Agency theory suggests that agency costs in corporations may make business fixed investment inefficient. However, Hubbard (1998) points out that there is very little empirical evidence on the effect of agency costs on the corporate investment, while a large body of literature examines the effect of asymmetric information on business fixed

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investments.[2] We investigate the effect of agency costs on business fixed investment by observing the patterns of quarterly capital expenditure changes.

Capital budgeting theories usually assume that headquarters maximize shareholders' value while divisional managers are empire builders and, therefore, prefer large projects to small projects.[3] For example, headquarters use soft capital rationing to keep managers from building empires in the model of Harris and Raviv (1996, 1998). Given the opportunity to exercise managerial discretion, one might argue that credit (soft) rationing within the firm gives divisional managers a greater incentive to use up the balance of any assigned fixed investment budget before the fiscal year-end to ensure that they have a similar or higher budget next year. In fact, it is a well-known practice among practitioners that managers of capital expenditures use up their budget because unused budgets are typically not transferable across years. Consistent with the implication, we find that corporations make more capital expenditure in the fourth quarter than other quarters.[4] Next, we investigate the relation between the level and efficiency of quarterly capital expenditures and agency costs. We find that the fourth quarter investment is greater than other quarters even after controlling for investment determinants.

Jensen (1986) and Stulz (1990) argue that firms with large cash holdings may invest more than they should. Then, do large cash holdings encourage firms with low growth opportunities to invest more than they should? We address this question to examine the efficiency of investment decisions by firms with large cash holdings. We estimate the sensitivity of the investment depending on the measurement of agency costs. We find that the sensitivity of firms' investment to growth opportunities after size-adjusted is smaller for firms with high cash holdings than for firms with low cash holdings. Furthermore, firms with large cash holdings invest more than firms with small cash holdings do. To the extent that corporate cash holdings proxy for free cash flow, our findings show the relation between capital expenditure and free cash flow. We interpret this as evidence that firms with large cash holdings are more likely to make inefficient investment decisions than firms with small cash holdings.

We also compare the quarterly capital expenditure of large firms with that of small and medium size firms. Since large firms tend to have more divisions and it is more difficult for the headquarters to allocate capital and monitor expenditures efficiently, large firms might have greater agency costs. Then, it is easier for large firm divisional managers to "cheat" the headquarters by using up the budget by the end of the fiscal year. Consistent with this argument, we find that the size-adjusted difference between the first quarter capital expenditure and the fourth quarter capital expenditure is significantly greater but less efficient for large firms than for small and medium size firms.

[2] See, for example, Jensen (1986) and Stulz (1990) for discussion and implication of agency costs in the corporate investment decision making. Recently, Opler et al. (1999) find no supportive evidence of Jensen's free-cash flow hypothesis that cash-rich firms make more investment than firms with lower cash holdings.

[3] See Berkovitch and Israel (1998), Harris and Raviv (1996, 1998) and Stein (1997) for example.

[4] Even though Majd and Pyndyck (1987), Kinney and Trezevant (1993), Bartov (1993), and Callen et al. (1996) find similar results, our focus is different from theirs since we focus on agency costs explanation of quarterly capital expenditures and their efficiencies.