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Conglomerate investment under various capital market conditions

An Yan [a,*], Zaihui Yang [b], Jie Jiao [c]

[a] Schools of Business, Fordham University, New York, NY 10023, United States
[b] School of Sports Economics and Management, Central University of Finance and Economics, Beijing 10018, PR China
[c] School of Economics and Management, Tsinghua University, Beijing 100084, PR China

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ABSTRACT

This paper studies the investment of diversified and focused firms under various capital market conditions. When external capital becomes more costly at the aggregate level, investment declines in focused firms but remains unchanged in diversified firms. This investment advantage enjoyed by diversified firms could attribute to both their easy access to external capital and their ability to substitute internal capital markets for costly external markets. Consistent with the internal capital market argument, our findings show that the investment advantage exists for diversified firms even after we control for their easy access to external markets. We also find that the role of internal markets in financing investment is more important for diversified firms that are more financially constrained in external markets. Finally, we find that the segment-level investment becomes more efficient in conglomerates' internal capital markets under depressed external capital market conditions. Overall, our findings suggest that internal capital allocation functions as a valuable and efficient substitute for diversified firms in a tightened external capital market.
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1. Introduction

Capital market conditions can affect investment in diversified firms and focused firms differently. In a tight capital market, the supply of external funds decreases and the cost of external financing increases. During such market conditions, diversified firms can better finance their investment than focused firms for two reasons. First, diversified firms are less affected by depressed capital market conditions in their access to external capital markets.[1] Recently, Dimitrov and Tice (2006) study empirically this advantage and find supporting evidence. Second, when diversified firms face limited access to external funds, they can substitute their internal capital markets for costly external markets (see, e.g., Williamson, 1975; Gertner et al., 1994; Stein, 1997; Matsusaka and Nanda, 2002). In the paper, we focus on the role of internal capital markets to study the investment advantage of diversified firms, as well as their investment efficiency. We provide empirical evidence on the value creation of internal capital markets in a depressed capital market.

We first study empirically how the investments of diversified firms and focused firms are affected by financing conditions in external capital markets. Many studies in the literature have shown that diversified firms' investment is less affected by external market conditions compared to focused firms.[2] However, the insensitivity of diversified firms' investment could attribute to not only the availability of their internal capital allocation but also their easy access to external capital markets. Thus, to focus on the substitution effect of internal markets, we need to exclude the external market effect. We do so by controlling for the different external financing constraints faced by diversified and focused firms. In particular, we measure a firm's external financing constraints using three measures: bank-dependency, firm size, and the amount of cash dividends. Bank-dependent firms, small firms, and firms that do not pay cash dividends could face more external financing constraints compared to bank-independent firms, large firms, and firms that pay cash dividends. We use these three measures to disaggregate our sample into sub-samples of financially constrained firms and financially unconstrained firms. Within each subsample, diversified

* Corresponding author. Tel.: +1 212 636 7401; fax: +1 212 765 5573.
E-mail addresses: ayan@fordham.edu (A. Yan), zaihui@cufe.edu.cn (Z. Yang), jiaoj@sem.tsinghua.edu.cn (J. Jiao).

[1] For example, Jaffe and Stiglitz (1990) show that a reduction in the supply of bank loans will increase credit rationing to borrowers with marginal credit quality before it will affect firms with higher credit quality. Diversified firms usually enjoy high credit quality due to the coinsurance effect from unrelated segments (Lewellen, 1971) or the diversification effect on idiosyncratic valuation errors (Hadlock et al., 2001), thereby are less affected by credit rationing than focused firms.

[2] In an untabulated test, we also find that when the external financing cost increases at the aggregate level, the amount of investment is unaffected in diversified firms but declines in focused firms.

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and focused firms should face a similar degree of financing constraints in external capital markets.

We use these subsamples to study the investment across diversified and focused firms. We find that for those diversified firms and focused firms that face a similar degree of external financing constraints, the investment of diversified firms is still less sensitive to capital market conditions than that of focused firms. By excluding the effect from external market access, this finding is consistent with the argument that diversified firms substitute their internal markets for costly external markets in financing their investment projects.

Next, we study whether the substitution effect of internal capital markets is more important to the set of diversified firms as predicted by the internal market argument. According to the internal market argument, the availability of internal capital markets should be more beneficial to those diversified firms that have limited access to external capital markets, but may not be so for those firms that do not face financing constraints in external markets. In the paper, we study external financing under depressed external market conditions to identify the type of diversified firms that benefit more from internal capital markets. We find that for financially constrained diversified firms, the impact of negative market shocks on their external financing is similar to how focused firms are affected. In contrast, for financially unconstrained diversified firms, their external financing is less sensitive to market shocks than is the external financing of focused firms. These findings on financing sensitivities, together with our earlier findings on investment sensitivities, suggest that financially constrained and unconstrained diversified firms finance their investment in different manners during depressed external capital market conditions. In particular, our findings on financially constrained diversified firms suggest that these diversified firms rely less on their access to external markets and more on their internal markets to finance their investment when external financing becomes more costly. As a result, even if these diversified firms have the similar limited access to external markets as focused firms do, their investment is less affected by negative market shocks than is the investment of focused firms. On the other hand, according to our findings on financially unconstrained diversified firms, these firms do not have to substitute internal markets for external markets when external markets becomes more costly at the aggregate level, since their access to external markets is insensitive to negative market shocks. Simply put, our findings suggest that the dependence on internal capital markets is strongest in financially constrained diversified firms, the set of firms predicted by the internal market argument.

We further study the efficiency of internal capital allocation during depressed external market conditions. Many recent studies document evidence of cross-subsidization within conglomerates' internal capital markets (e.g., Rajan et al., 2000). It is possible that tighter external financing constraints can pressure diversified firms to emphasize more on good investment opportunities to survive the financial hardship. Thus, we hypothesize that diversified firms improve investment efficiency during tightened external markets. To test this hypothesis, we follow Rajan et al. (2000) and construct relative value added to measure the investment efficiency in internal capital markets. Our results support our hypothesis, showing that internal capital markets within diversified firms become more efficient during depressed market conditions, especially so for those financially constrained diversified firms. Finally, we confirm the findings in the literature that when the cost of external financing increases, the values of diversified firms are less adversely affected than are the values of focused firms (see Yan, 2006). This result (on the value sensitivities) is especially significant for those firms with good investment opportunities but insignificant for those firms with poor investment opportunities. Overall, our results support the argument that internal capital markets function as a valuable and efficient substitute for diversified firms in tightened external capital markets.

We also check the robustness of our empirical results. It is possible that other uncontrolled individual firm characteristics may simultaneously affect both firms' investment sensitivities and their decision to diversify. Specifically, firms that are insensitive to capital market conditions due to certain firm-specific characteristics may choose to diversify, resulting in the observed investment insensitivity in diversified firms. To address this concern, we isolate the focused firms that eventually diversify during our sample period from the focused firms that remain focused. We then compare the investment sensitivities between these two kinds of focused firms. Our comparison shows that the pre-diversifying and the non-diversifying focused firms respond to capital market conditions in a similar manner. Thus, our results on the investment insensitivities in diversified firms are unlikely to be driven by the pre-diversifying factors of these firms.[3] It is also possible that diversified firms have poorer investment opportunities and less investment needs than focused firms, thereby responding differently to external market conditions. We first address this concern by controlling for the set of investment opportunities available to a firm in all regressions. In an untabulated test, we further create subsamples of firms with similar investment opportunities and study firm investment separately within each subsample. Our results based on these subsamples show that our earlier findings on the different investment sensitivities between diversified and focused firms cannot be explained by the difference in their investment opportunities.

Our paper contributes to the literature on the impact of macroeconomic factors on firm investment. Most studies in this literature focus on firms' access to external markets. For example, Gertler and Gilchrist (1994), Kashyap et al. (1994), and Almeida and Campello (2007) find that firm investment is more sensitive to changes in credit market conditions for those firms with more limited access to capital markets (see also Guariglia, 2008). Our paper contributes by studying how internal capital markets can help diversified firms circumvent external financing constraints and finance their investment. Campello (2002) also finds evidence supporting the role of internal capital markets in relaxing credit constraints. However, our paper differs in three ways. First, unlike Campello (2002), who focuses on the internal capital markets in the financial conglomerates, we focus on the internal capital markets in the non-financial conglomerates. Thus, our study can also contribute to the diversification discount literature, which focuses primarily on the US nonfinancial diversification.[4] Our results suggest that non-financial diversification creates value when external markets become costly. Second, Campello (2002) compares the investment policies between small independent banks and small banks that are affiliated with large banks. He finds that small bank affiliates can benefit from internal capital markets only when their large partners in the affiliation are able to obtain external funds at a cost advantage. In contrast, we compare independent single-segment firms with diversified firms rather than with divisions within diversified firms. Unlike the results in Campello (2002), our results

[3] We also run regressions based on a sample of firms that have not diversified or refocused during our sample period. In this way, we can minimize the problem from the endogeneity of diversification decision by excluding the kind of firms that would most likely be affected by this problem (i.e., diversifying firms). Our robustness check based on this restricted sample produces similar results to the ones presented in the paper.

[4] Starting from Lang and Stulz (1994) and Berger and Ofek (1995), most studies in the diversification literature use the screening criteria that exclude the firms with main industry being financial services (SIC 6000-6999). Recently, Laeven and Levine (2007) study financial conglomerates and they find discount for financial conglomerates that engage in multiple activities, e.g., lending and non-lending financial services. See also Lelyveld and Knot (forthcoming).

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