Pyramidal groups and debt

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Abstract

This paper suggests that debt should be raised by subsidiaries in order to exploit the limited liability of the holding company. However, when this behavior increases the cost of funds, the holding might prefer to raise debt to a point where it would also default when subsidiaries are insolvent.

After accounting for standard controls, we find that holding companies in Italian pyramids have higher leverage than subsidiaries and that the cash-flow share of the entrepreneur in the subsidiary does not play a significant role. These findings are consistent with the implications of our model of group capital structure.
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1. Introduction

Business groups are a common corporate organizational form in several continental European and developing countries.[2] Frequently, they have a pyramidal

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[1]The views expressed in this paper are those of the authors and do not involve the responsibility of the Bank of Italy.
[2]See Barca and Becht (2001) for Europe and Khanna (2000) for developing countries.

structure with a holding company at the top and various layers of subsidiaries below. The entrepreneur typically has the majority of voting rights in every company, either directly in the holding or indirectly in the subsidiaries. A major source of finance for groups is debt, yet no model of pyramids explains how debt is chosen and allocated across group-affiliated companies. This paper investigates theoretically group capital structure and its welfare implications, and empirically how debt is allocated within Italian groups.

Traditional capital structure theories refer to a stand-alone company. However, the capital structure of group-affiliated companies is richer since they have access to both the internal (within the group) and the external capital market. This structure might be affected, among other factors, by the law: in major jurisdictions the holding has indeed no obligation for the insolvency of its operating subsidiaries, unless it is proved that it was directly responsible, i.e., the holding enjoys limited liability.[3] Our model builds specifically on this insight—previously ignored in the corporate finance or business group literature—suggesting that subsidiaries should raise a large fraction of group debt, since limited liability insures the holding company from costly bankruptcy in adverse contingencies. However, if lenders cannot monitor the risk of projects, the entrepreneur may allocate riskier projects in the operating unit. Anticipating this, lenders might charge higher interest rates. It may therefore pay the entrepreneur to commit not to increase excessively the risk taken by subsidiaries by raising the holding company's debt to such a level that it would default together with the operating unit when the latter is insolvent.

Most of the literature on pyramidal groups emphasizes the agency problem between the group controlling agent and subsidiaries' minority shareholders, associated with the low share of cash flow that the entrepreneur is entitled to in operating subsidiaries and hence with the opportunities for their expropriation (Bebchuk, 1999; Bebchuk et al., 2000). While these theories rationalize why stock markets are underdeveloped in countries where pyramidal groups are common, they cannot explain why banking sectors are well developed in the same countries. In other words, they explain the costs of pyramidal structures but not their potential advantages. By focusing on the relationship with lenders, we take a first step in this last direction.[4]

Our empirical analysis concerns group-affiliated Italian companies, for which unconsolidated accounts are available. Thanks to these data—usually not available through major commercial data providers—we are able to distinguish between external debt, obtained from outside-the-group financiers only, and total loans obtained from other group-affiliated units. Hence our empirical analysis focuses on each company's external debt.[5] This is related to the entrepreneur's cash-flow share

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[3]See Blumberg (1989) for the US, Hadden (1996) on Britain, France, Germany and the US, and Libonati (1996) on Italy. Limited liability for the holding company sometimes requires that the subsidiary is not fully owned by the group.

[4]For analyses of investments in internal capital markets, see Gertner et al. (1994); Stein (1997) and Rajan et al. (2000) for conglomerates and Perotti and Gelfer (2001) for groups.

[5]Empirical studies of capital structure (Rajan and Zingales, 1995; Faccio et al., 2000; Booth et al., 2001) use consolidated accounts when investigating companies with subsidiaries, thus bypassing the issue of the