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Corporate Capital Structure, Agency Costs, and Ownership Control: The Case of All-Equity Firms

ANUP AGRAWAL and NANDU J. NAGARAJAN*

ABSTRACT

This paper provides evidence that all-equity firms exhibit greater levels of managerial stockholdings, more extensive family relationships among top management, and higher liquidity positions than a matched sample of levered firms. Further, top managers of all-equity firms with family involvement in corporate operations have greater control of corporate voting rights than managers of all-equity firms without family involvement. These findings are consistent with the interpretation that managerial control of voting rights and family relationships among senior managers are important factors in the decision to eliminate leverage.

OVER 100 CORPORATIONS LISTED ON major U.S. stock exchanges use no long-term debt. This paper provides evidence on factors influencing the capital structure decision of these firms by comparing their financial, managerial, and ownership characteristics with those of a control sample of levered firms. We find that all-equity firms exhibit greater equity ownership by top managers and more extensive family involvement in corporate operations than levered firms. Managerial ownership in all-equity firms is positively related to the extent of family involvement. All-equity firms are also characterized by greater liquidity positions than levered firms. Overall, the evidence suggests that managerial choice of an all-equity capital structure may be aimed at reducing the risk associated with large undiversifiable investments of personal wealth and family human capital in these firms.

The paper is organized as follows: Section I provides the sample selection criteria and data; Section II reports the empirical tests and results; and Section III concludes the analysis.

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I. Sample Selection and Data

For our analysis, we define all-equity firms to be firms which use no long-term debt¹ over a continuous five-year period. The COMPUSTAT Annual Industrial files are used to identify all firms with zero long-term debt over the period 1979–1983. There are 104 such firms. We construct a control sample by matching each all-equity firm with a levered firm having the same four-digit Standard Industrial Classification (SIC) code and with asset size close to that of the test company. We define levered firms as firms which maintain a ratio of book value of long-term debt to firm value (market value of equity plus book value of long-term debt) of at least 5% in each of the years from 1979 to 1983.² We are able to find a similar-sized levered firm in the same industry for 82 all-equity firms. In matching, when there is more than one levered firm of similar size, we choose the one with the most long-term debt. We do this to achieve the maximum contrast in capital structure and thus, presumably, in the factors determining it.

We obtain equity ownership data for each of the two highest ranked executives and for the group of “directors and officers” from the 1982 corporate proxy statements filed with the Securities and Exchange Commission (SEC) for 71 of the 82 matched pairs.³ The sample thus represents almost 70% of the population of COMPUSTAT firms that had an all-equity capital structure over the period 1979–1983.

Table I presents selected financial and operating characteristics of the all-equity and levered firms (control group) for 1981. All-equity firms tend to be relatively small, with median sales of \$83 million. While all-equity firms have a larger equity base than the control group, they have fewer shareholders. Firms in the control group display substantial leverage: their median (mean) debt/firm value ratio is 39.68% (40.07%).

All-equity firms appear averse to debt of *any* kind: their median (mean) ratio of short-term debt to total assets is 0.0% (2.59%), while for levered firms it is 2.77% (6.54%); they have lower current liabilities relative to current assets than levered firms; and they maintain a rather large cushion of liquid assets. The median (mean) ratio of cash and marketable securities to total assets for all-equity firms is 17.43% (22.57%), whereas it is 3.67% (6.25%) for the levered sample. All these differences are statistically significant at the 1% level in both the *t*-test and the Wilcoxon signed-ranks test. The all-equity capital structure and the high liquidity of these firms together suggest managerial concern for default risk.

¹ We have used the COMPUSTAT definition of long-term debt. This ignores other possible off-balance-sheet substitutes for long-term debt such as contingent liabilities, unfunded pension liabilities, etc.

² All except four of the levered firms have a debt/firm value ratio of over 10%. Dropping these four levered firms and the corresponding all-equity firms does not change the subsequent results significantly.

³ The remaining proxies for eight all-equity firms and three control firms were not available at the SEC offices in Washington, D.C.

Table I

Financial and Operating Characteristics of All-Equity Firms and an Industry-Size Matched Sample of Levered Firms

Data are reported for 71 matched pairs of all-equity and levered firms for 1981. The *t*-statistic is for the significance of the (paired) differences between the means of the two groups. The two-tailed test probability for the Wilcoxon signed-ranks test is for the equality of the medians of the two groups. Firm value equals the market value of equity plus the book value of long-term debt.

	Mean			Median		Wilcoxon Test Prob.
	All-Equity	Levered	<i>t</i> -stat.	All-Equity	Levered	
Net Sales (\$m)	332.21	375.96	-0.44	83.00	126.50	0.355
Market Value of Equity (\$m)	277.30	188.33	1.75*	73.00	33.00	0.003***
Employees (thousands)	3.54	3.94	-0.36	0.78	1.73	0.017**
Stockholders (thousands)	4.88	6.90	-1.84*	1.73	3.84	0.000***
Long-Term Debt/Firm Value (%)	0.00	40.07	-15.60***	0.00	39.68	0.000***
Short-Term Debt/Total Assets (%)	2.59	6.54	-3.52***	0.00	2.77	0.000***
Current Assets/Current Liabilities	3.83	2.28	5.15***	3.15	2.12	0.000***
(Current Assets - Inventories)/Current Liabilities	2.59	1.24	5.14***	2.10	1.17	0.000***
(Cash + Marketable Securities)/Total Assets (%)	22.57	6.25	7.03***	17.43	3.67	0.000***

*, **, and *** denote statistical significance in two-tailed tests, at the 10%, 5%, and 1% levels, respectively.

II. Empirical Tests and Results

Table II presents the average equity ownership (percentage of outstanding equity and dollar value) of senior managers of all-equity and levered firms. The table also shows the results of *t*-tests and Wilcoxon tests for mean and median paired differences. Overall, both mean and median managerial stockholdings are larger in all-equity firms than in levered firms. The mean (median) percentage equity ownership of top managers of all-equity firms is 22.41 (17.00), while it is 11.03 (5.00) for the levered sample. The dollar values of stockholdings of top managers are also larger in all-equity firms than in levered firms. For the group of all directors and officers, the mean (median) percentage stock ownership in all-equity and levered firms is 33.14 (32.00) and 19.55 (16.00), respectively. All of the differences are statistically significant at the 1% level.

DeAngelo and DeAngelo (1985) argue that the benefits of managerial vote ownership⁴ are likely to be greater when the human capital of more than one

⁴ Some of these benefits are the following: vote ownership enables managers to exercise a greater influence over the composition of the board of directors and hence on the firm's general policies. It helps them to define their property rights to on-the-job consumption and reduces the likelihood of displacement through a hostile takeover.

Table II
Equity Ownership of Managers of All-Equity Firms and an Industry-Size Matched Sample of Levered Firms

Data are reported for 71 matched pairs of all-equity and levered firms, both in terms of percentage holdings and dollar value, for 1981. The *t*-statistic is for the significance of the (paired) differences between the means of the two groups. The two-tailed test probability for the Wilcoxon signed-ranks test is for the equality of the medians of the two groups.

	Mean			Median		
	All-Equity	Levered	<i>t</i> -stat.	All-Equity	Levered	Wilcoxon Test Prob.
Percentage of Outstanding Equity Owned:						
Top Manager	22.41	11.03	4.06***	17.00	5.00	0.000***
Second Manager	5.53	3.20	1.35	0.00	1.00	0.164
Directors & Officers	33.14	19.55	4.69***	32.00	16.00	0.000***
Value of Equity Owned in \$m:						
Top Manager	18.63	3.01	3.67***	4.27	1.52	0.000***
Second Manager	6.59	0.77	2.07**	0.24	0.25	0.192
Directors & Officers	38.00	10.40	4.22***	14.53	5.01	0.000***

*, **, and *** denote statistical significance in two-tailed tests, at the 10%, 5%, and 1% levels, respectively.

family member is invested in the firm. They find that firms with dual classes of common stock exhibit substantial managerial control of voting rights, low levels of leverage, and family relationships among senior managers and Board members. Their findings suggest the possibility of family involvement in corporate operations of all-equity firms.⁵

We find that 27% of the all-equity firms have two or more senior managers who are related to each other, and 50% have at least one senior manager who is related to another senior manager or to a principal shareholder.⁶ The corresponding numbers for levered firms are 7% and 27%. The differences are significant at the 1% level in the Wilcoxon signed-ranks test. Thus, all-equity firms have greater family involvement in corporate operations than levered firms.

Jensen and Meckling (1976) argue that managers avoid leverage to reduce the risk of corporate bankruptcy and the consequent transfer of control to bondholders. The loss to managers from bankruptcy is potentially greater when members of the manager's family are also employed in the firm. On the other hand, Stulz (1988) points out that, by not issuing debt in place of equity and thereby foregoing greater control over voting rights, managers face the risk of displacement by dissident shareholders or through hostile takeovers. Therefore, given managerial risk reduction, in equilibrium, we would expect to find greater managerial control of voting rights in all-equity firms with greater family involvement.

⁵ There is only one dual class firm in our all-equity sample.

⁶ We define "senior managers" as the group (usually consisting of the five highest paid executives in the firm) whose remuneration is separately disclosed in proxy statements. "Principal shareholders" are defined as the direct or beneficial owners of five percent or more of the outstanding equity. We identified family relationships from proxy statements and *Who's Who in Finance and Industry*.

Table III
The Relation Between Managerial Ownership and Family Involvement in All-Equity and Levered Firms

Percentage of outstanding equity owned by directors and officers in all-equity firms with and without family involvement and in an industry-size matched sample of levered firms. Data are reported for 1981. The *t*-statistic is for the significance of the (paired) differences between the means of the two groups. The two-tailed test probability for the Wilcoxon signed-ranks test is for the equality of the medians of the two groups.

Mean			Median		
All-Equity	Levered	<i>t</i> -stat.	All-Equity	Levered	Wilcoxon Test Prob.
Panel A: All-Equity Firms with Senior Managers Related to Each Other and Matched Levered Firms (<i>n</i> = 19)					
47.37	27.37	3.54***	48.00	20.00	0.002***
Panel B: All-Equity Firms with Senior Managers Unrelated to Each Other and Matched Levered Firms (<i>n</i> = 51)					
28.32	17.20	3.20***	21.00	12.00	0.002***
Panel C: All-Equity Firms with Senior Managers Unrelated to Each Other or to Principal Shareholders and Matched Levered Firms (<i>n</i> = 35)					
22.38	17.18	1.36	16.00	11.00	0.153

n = sample size.

*, **, and *** denote statistical significance in two-tailed tests, at the 10%, 5%, and 1% levels, respectively.

Table III presents the average equity ownership by directors and officers of three groups of all-equity firms with different levels of family involvement, together with the corresponding values for the matched levered firms. Two interesting patterns are discernible. First, managerial ownership in all-equity firms is positively related to family involvement. In firms whose senior managers are related to each other (Panel A), the mean (median) ownership of directors and officers is as much as 47.37% (48.0%). It is significantly lower (at the 0.1% level) in Panel B, where managers are not related to each other, and in Panel C, where managers are related neither to each other nor to principal shareholders.

Second, managerial stockholdings are significantly greater in all-equity firms (than in levered firms) only when there is some family involvement (see Panels A and B). Thus, managers of all-equity firms have greater control of corporate voting rights when family human capital is at stake.⁷ These findings are consistent with the hypothesis that managers avoid leverage to reduce the risk to their personal and family human capital.

Further support for the managerial risk-reduction hypothesis is provided by evidence on the liquidity positions, as measured by the ratio of cash plus marketable securities to total assets. All-equity firms with several family members on the top management team have a mean (median) liquidity ratio of 27.06% (23.72%). The firms whose senior managers are unrelated to each other (but, in

⁷ The results for the top two managers are similar. The total number of firms in Panels A and B of Table III is 70. We could not find the family involvement data for one all-equity firm.

some cases, are related to principal shareholders) and firms with no family involvement have significantly lower (at the 10% level) mean (median) liquidity ratios of 20.80% (16.69%) and 20.97% (16.69%), respectively.

As approximately half the sample of all-equity firms (35) displays neither family involvement in corporate operations nor greater managerial stock ownership than levered firms (see Table III, Panel C), there are obviously other factors that also influence the choice of an all-equity structure. Jensen and Meckling (1976) argue that specialization in low agency costs of equity may cause firms in certain industries to choose such a capital structure. Because the all-equity firms are distributed across a wide range of industries, obvious "industry effects" do not explain the findings in this paper. Myers (1977) argues that agency costs of debt are an increasing function of growth opportunities available to firms. We do not find any evidence that these firms are characterized by greater growth opportunities as measured by the p/e ratio or the Value Line estimate of earnings growth rate. Further, the greater liquidity of all-equity firms does not suggest that these firms were aggressively pursuing investment projects.

Finally, while the all-equity firms in our sample have a stable capital structure over 1979–1983, the above analysis does not provide any evidence on their behavior over longer periods. To address this issue, we identify two groups of firms from COMPUSTAT that switched either from or to an all-equity position over the period 1969–1981. Over this period, we are able to obtain data on managerial equity ownership for 35 all-equity firms that issued debt and 25 levered firms that retired debt to become all-equity. We do not find a significant change in either the percentage of managerial stock ownership or the dollar value of managerial stockholdings in the year of the switch or in the following year. The switch firms display levels of family involvement that are similar to the all-equity sample. The proportion of firms in which senior managers are related to each other is 25% for all-equity to levered switches and 24% for levered to all-equity switches.

We find that, when all-equity firms switch to a levered position, the change is often temporary and involves relatively small levels of debt, usually under 1% of firm value. This behavior is consistent with the general reluctance of these firms to assume fixed contractual payments.

III. Summary and Conclusions

In this paper, we compare financial, managerial, and ownership characteristics of a sample of publicly held all-equity firms and a control sample of levered firms. Our main findings are that (a) managers of all-equity firms have significantly larger stockholdings than managers of similar-sized levered firms in their industry, (b) there is significantly greater family involvement in the corporate operations of all-equity firms than in levered firms, (c) managerial ownership in all-equity firms is positively related to the extent of family involvement, and (d) all-equity firms are characterized by greater liquidity positions than levered firms.

Overall, the evidence is consistent with the view that managerial choice of an all-equity capital structure is aimed at reducing the risk associated with large

undiversifiable investments of personal wealth and family human capital in these firms.

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