Debt as a Bonding Mechanism: Evidence from the Relations Between Employee Productivity, Capital Structure, and Outside Employment Opportunities

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Summery of the paper

• This paper focuses on the disciplining role of debt
  – Examines the relationship between leverage and employee productivity
• It emphasizes the impact of outside employment opportunities on the disciplining role of debt
Main ideas

• Employees have incentive to work hard to minimize the possibility of default
  – Capital structure arises as a bonding mechanism where the managers commit to improving performance by working harder
  – This predicts the productivity rises with the degree of leverage

• Employees can leave the firm under financial stress instead of bearing the personal cost
  – In the event of financial distress, this decreases the productivity of the firm

• In the presence of outside employment opportunities, productivity is a concave function of debt

• The magnitude of outside employment option affects the significance of this concave relation
The intuition behind

• Employees face a trade-off
  – Personal cost in case of default and the cost of extra efforts
  – Search cost of finding a new job
• When search cost dominates personal distress cost
  – Employees work hard to avoid potential default
  – Productivity increases in leverage
• When personal cost of financial distress dominates the search cost
  – Employees do not work hard (they try to find other jobs)
  – Productivity decreases in leverage
• As leverage increases, personal cost of financial distress rises
  – Productivity first increases, and then decreases in leverage
Research design

- Sample period: 1970-2005
- 16,482 Compustat firms
  - Large sample: Not restricted to LBOs
- Measures of leverage
- Measures of productivity for all employees
- Measures of cost of leaving the current job: Industry-specific factors
  - Outside employment environment
    - Industry Quit Rate
    - Industry Hire Rate
    - Industry Homogeneity
  - Firm-specific switch cost
    - Excessive labor cost per employee
    - High pay dummy
  - Economic-specific factor
    - Exogenous shock to employment opportunities: NAFTA (1994)
Empirical evidence

• Control for endogeneity, other factors known to affect leverage and productivity

• Findings
  – Employee productivity is a concave function of leverage
    • In a quadratic specification
  – The magnitude of employee outside opportunities matters
    • Favorable outside employment opportunities reduce the disciplining role of debt
    • Unfavorable outside employment opportunities improve the disciplining role of debt
Comments: The presence of zero/negative debt firms (I)

- The main theme: by imposing potential threat of financial distress, debt serves a disciplining role to generate more productivity
- Table 1 suggests that the sample includes firms with zero debt
- The construction of leverage variable appears to not take into account of cash reserves many firms hold
  - Firms with large cash reserves and little debt can be interpreted as holding negative debt
Comments: The presence of zero/negative debt firms (II)

• They are not a trivial set of firms (Strebulaev and Yang 2006)
  – Between 1987 and 2003, 11% firms show no debt in their capital structure, 36% have zero or negative net debt
  – Higher market-to-book, cash balance, profitability and tax bill, similar in age

• They are good performers (Mikkelson and Partch 2003)
  – Firms persistently holding large cash reserves perform comparable or better
  – They have greater investment (R&D), growth opportunities, and little debt

• May want to explore this dimension (e.g., How do these types of firms fit the current story)
Comments: Who sets the capital structure?

• Is the bonding effect of debt the same across all employees?
  – Outside opportunity sets differ among different types of employees
  – CEOs/CFOs can set the capital structure, but the lower tier managements and employees cannot affect capital structure

• Sub-sample analysis for CEOs, and CFOs
  – Can trace the CEO and CFOs compensations and turnovers
  – Easier to evaluate individual’s outside options
  – Can still use some of the existing proxies in the current framework
Comments: Additional robustness

• Piecewise linear specification
  – Currently in a quadratic specification
  – Spline regressions

• Alternative definition of productivity
  – Current structure assumes each employee has the same productivity

• Alternative measure of industry competitiveness
  – International competition: industries relying on outsourcing, etc.

• Estimating the peak points
  – Favorable outside employment opportunities not only weaken the relationship between debt and productivity, but also potentially shift the peak point of the concave function to the left