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Raising Capital Amid Uncertainty about Financial Market Conditions

Michael S. Weisbach*

The ability of financial markets to provide capital to firms as efficiently as the textbooks describe is an important factor in determining corporate profitability, and economic welfare more broadly. Equally important, the recent “Financial Crisis” has shown that financial markets vary substantially over time in their ability to provide capital: sometimes they get “overheated” and provide too much capital, while at other times they slow down and do not provide enough capital. Much of my recent research is related to this topic. I study both the factors that affect firms’ access to capital and the implications of uncertain access to capital for corporate behavior.

Factors that Affect Access to Capital

The Financial Crisis substantially reduced firms’ ability to access capital markets. Using data from before the Crisis, Isil Erel, Brandon Julio, Woojin Kim, and I consider whether this was an isolated occurrence, or an extreme example of a more general phenomenon.¹ Do macroeconomic conditions affect firms’ abilities to raise capital, and if so, how do they affect the manner in which the capital is raised? We address these questions using a large sample of publicly-traded debt issues, seasoned equity offers, bank loans, and private placements of equity and debt. Our results suggest that a borrower’s credit quality significantly affects its ability to raise capital during macroeconomic downturns. For non-investment-grade borrowers, raising capital tends to be pro-cyclical; for investment-grade borrowers, it is countercyclical. Moreover, the proceeds raised by invest-

ment-grade firms are more likely to be held in cash during recessions than in expansions. Poor market conditions also affect the structure of securities offered, shifting them towards shorter maturities and more safety. Overall, our results suggest that macroeconomic conditions influence the securities that firms issue to raise capital, the way in which these securities are structured, and indeed firms’ ability to raise capital at all. This influence likely occurs primarily through the effect of macroeconomic conditions on the supply of capital.

The Financial Crisis also made evident the importance of financial innovation, and in particular securitization, in the ability of firms to access capital markets. Taylor Nadauld and I directly estimate the effect of securitization on firms’ cost of capital.² Our results suggest that loan facilities which are subsequently securitized are associated with a 17-basis-point lower interest cost than loan facilities which are not subsequently securitized. We also consider what characteristics are associated with the likelihood of securitization and then estimate how these characteristics are related to interest rate spreads. Our research shows that Term Loan B facilities, facilities of B-Rated firms, and facilities originated by banks that issue Collateralized Loan Obligations (CLOs) are securitized more frequently than other facilities. The facilities that we estimate to be more likely to be subsequently securitized have lower spreads than otherwise similar facilities. These results are consistent with the view that securitization reduces the cost of capital.

One change in the financial markets in recent years has been the increasing importance of institutional investors, who have played a significant role in providing capital. Jongha Lim, Bernadette Minton, and I study the way in which institutions, when they are equity holders

in a firm, increasingly have become lenders to the firm as well.³ We argue that in this situation, institutions have provided capital to firms in situations in which they could not otherwise access the capital market. In our sample of 11,137 tranches of institutional “leveraged loans” occurring between 1997 and 2007, over 2,000 of them (18 percent) have a non-commercial bank institution that also owns at least 0.1 percent of the firm’s equity. Such “dual holder” loan tranches have higher spreads than otherwise similar loan tranches without participation of an equity holder. The premium is present for both revolver and term loans, and exists within all non-investment grade rating classes. Contrary to risk-based explanations of this finding, we find that a dual holder tranche is priced at a premium to other tranches of the same loan package, after controlling for tranche specific characteristics, even though they share the same underlying fundamentals. Dual holding premiums are higher when the equity-holder’s stake is larger and when the equity holder is a hedge fund or a private equity fund. These findings are consistent with the view that equity holding institutions provide capital to firms in situations in which they are having difficulty accessing capital markets, and that the premiums represent compensation they receive in exchange for providing capital in these circumstances.

The Impact of Uncertain Access to Capital on Firms’ Activities

Given that firms’ access to capital is substantially more uncertain in practice than is predicted by standard economic textbook models, how should firms react? What aspects of their operational and financing decisions are likely to be affected? Heitor Almeida, Murillo Campello, and I study this question in a model of firm’s investment behavior in

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the presence of potential future financing constraints.⁴ Our model suggests that a greater likelihood of future financing constraints leads firms to have a preference for investments with shorter payback periods, investments with less risk, and investments that use more assets that can be pledged. The model also shows how investment distortions towards more liquid, safer assets vary with the marginal cost of external financing and with the firms' internal cash flows. Our theory helps us to reconcile and interpret a number of patterns reported in the empirical literature, in areas such as risk-taking behavior, capital structure choices, hedging strategies, and cash management policies. For example, consistent with the empirical evidence of Andrade and Kaplan (1998) and Rauh (2009) but contrary to the famous arguments of Jensen and Meckling (1976), we show that firms are likely to reduce rather than to increase risk when leverage exogenously increases.⁵ Furthermore, firms in economies with less developed financial markets will not only undertake less investment, but they will also undertake different kinds of investment by focusing on safer, short-term projects that are potentially less profitable. We also point to several predictions that have not been examined empirically. For example, our model predicts that investment safety and liquidity are complementary: constrained firms are especially likely to decrease the risk of their most liquid investments.

Our evidence on behavior in the face of financial constraints suggests one way that economists can identify which firms are likely to face such constraints. In particular, this theory along with earlier work I did with Almeida and Campello suggests that constrained firms, unlike unconstrained firms, will save a positive fraction of the cash flows they generate to finance their future investment.⁶ This "cash flow sensitivity of cash" provides an easy method for evaluating whether a particular firm's managers believe that they will be facing financial constraints in the future. A positive estimate of the marginal propensity for a firm to

save cash out of incremental cash flows indicates that a firm is likely to be constrained, while a zero estimate indicates that it is likely to be unconstrained. Our empirical work, as well as that of others, indicates that this approach leads to a classification of constrained firms that is consistent with other evidence on firms' financial constraints.

Erel, Yeejin Jang, and I use this methodology to measure the extent to which financial constraints are relieved when firms are acquired.⁷ This is an interesting question because managers often claim that an important source of value in acquisitions is the acquiring firm's ability to finance investments for the target firm. This claim implies that targets are financially constrained prior to being acquired and that these constraints are eased following the acquisition. We evaluate the extent to which mergers lower financial constraints using a sample of 5,418 European acquisitions occurring between 2001 and 2008. Each of these targets remains a subsidiary of its new parent, so we can observe the target's financial policies following the acquisition. We ask whether these post-acquisition financial policies reflect improved access to capital. We find that the level of cash held by target firms, the sensitivity of cash to cash flow, and the sensitivity of investment to cash flow all decline significantly, while investment increases significantly, following the acquisition. These findings are consistent with the view that easing financial frictions is a source of value that motivates acquisitions.

One sector that appears to be particularly sensitive to financial market conditions is private equity. Liquid debt markets are widely believed to be important drivers of the buyout booms in both the 1980s and 2000s. Ulf Axelson, Per Stromberg, and I develop a model that explains the relation between capital market conditions and buyout activity.⁸ This model also has a number of additional predictions that explain how private equity contracts are structured in response to, among other things, the uncertainty about future capital mar-

ket conditions. In our model the financial structure minimizes agency conflicts between fund managers and investors. Relative to financing each deal separately, raising a fund in which the manager receives a fraction of aggregate excess returns reduces incentives to make bad investments. Efficiency is further improved by requiring funds to also use deal-by-deal debt financing, which becomes unavailable in states where internal discipline fails. In this model, private equity investment is highly sensitive to economy-wide availability of credit, and investments in bad states outperform investments in good states. The model, which is derived from agency and information problems in the presence of uncertainty about financial market conditions, explains a number of observed stylized facts about the private equity industry, both in terms of the contractual structure between limited partners, general partners, and portfolio firms, and around the quantity and performance of their investments over time.

Axelson, Tim Jenkinson, Stromberg, and I test the prediction of this model using detailed data on the financing of 1,157 worldwide private equity deals occurring between 1980 and 2008.⁹ We find that buyout leverage is cross-sectionally unrelated to the leverage of matched public firms and is largely driven by factors other than what explains leverage in public firms. In particular, the economy-wide cost of borrowing is the main driver of both the quantity and composition of debt in these buyouts. Credit market conditions also have a strong effect on prices paid in buyouts, even after controlling for prices of equivalent public market companies. Finally, we find evidence that highly leveraged transactions tend to be associated with lower fund returns, controlling for fund vintage and other relevant characteristics. The results are consistent with the view that the availability of financing affects booms and busts in the private equity market, and agency problems between private equity funds and their investors can have an effect on buyout capital structures.

Summary

My research has examined both the factors affecting firms' access to capital and the implications of potential future financial constraints on firms' behavior. Macroeconomic conditions have a large impact on the way in which firms raise capital, and on how much capital they raise. In addition, financial innovation and the identity of a firm's equity holders can be an important influence on firms' access to capital markets.

Uncertainty about whether a firm will be able to raise capital in the future can influence firms' financial policies, as well as its real investments. Particularly noteworthy is the effect of uncertainty about future capital market conditions on a firm's cash policy; the firm's "cash flow sensitivity of cash" will vary systematically depending on managers' perceptions of future financial market conditions. In addition, this uncertainty about financial markets affects the very boundaries of the firm, because it appears to be an important driver of acquisition decisions. Finally, uncertainty in capital market conditions is an important factor in understanding private equity firms, both in terms of how they are structured contractually and also about the tim-

ing, pricing, and performance of their investments.

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² T. Nadauld and M. S. Weisbach, "Did Securitization Affect the Cost of Corporate Debt?" NBER Working Paper No. 16849, March 2011, and Journal of Financial Economics, forthcoming.

³ J. Lim, B. Minton, and M. S. Weisbach, "Equity-Holding Institutional Lenders: Do They Receive Better Terms?" NBER Working Paper No. 17856, February 2012.

⁴ H. Almeida, M. Campello, and M. S. Weisbach, "Corporate Financial and Investment Policies when Future Financing is not Frictionless," NBER Working Paper No. 12773, December 2006, and Journal of Corporate Finance, 17, June 2011, pp. 675–93.

⁵ G. Andrade and S. Kaplan, "How Costly is Financial (not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed," NBER Working Paper No. 6145, August

1997, and Journal of Finance 53, 1998, pp. 1443–94; J. Raub, "Risk Shifting versus Risk Management: Investment Policy in Corporate Pension Plans," NBER Working Paper No. 13240, July 2007, and Review of Financial Studies 22(7), 2009, pp. 2687–2734; M. Jensen and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics, (1976).

⁶ H. Almeida, M. Campello, and M. S. Weisbach, "The Cash Flow Sensitivity of Cash," NBER Working Paper No. 9253, October 2002, and Journal of Finance, 59, August 2004, pp. 1777–804.

⁷ I. Erel, Y. Jang, and M. S. Weisbach, "Financing-Motivated Acquisitions," NBER Working Paper No. 17867, February 2012.

⁸ U. Axelson, P. Stromberg, and M. S. Weisbach, "Why Are Buyouts Levered? The Financial Structure of Private Equity Firms," NBER Working Paper No. 12826, January 2007, and Journal of Finance, 64, August 2009, pp. 1549–82.

⁹ U. Axelson, P. Stromberg, and M. S. Weisbach, "Borrow Cheap, Buy High? The Determinants of Pricing and Leverage in Buyouts," NBER Working Paper No. 15952, April 2010.

NBER Profile: Gita Gopinath

Gita Gopinath is a Research Associate in the NBER's Programs on Economic Fluctuations and Growth, Monetary Economics, and International Finance and Macroeconomics. She also is also a Professor of Economics at Harvard University.

Gopinath received her Ph.D. in economics from Princeton University in 2001. She taught at the University of Chicago's Booth School of Business from 2001–5 before coming to Harvard.

Gopinath currently serves on the

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Gopinath lives in Weston, MA with her husband and 9-year old son. Her hobbies are reading and watching films.

