Do Firms Value Financial Flexibility?

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Abstract: Do make-whole call provisions help executives clear financing restriction on the proportion of capital structure corresponding to debt? We test the hypothesis that firms managed by younger executives more frequently issue bonds with make-whole call provisions as proxy for desire for financial flexibility.

Key Words: Make-whole call, tender offer, callable bond, financial flexibility, corporate governance

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BACKGROUND

This study seeks to determine if firms issue make-whole callable bonds because managers value financial flexibility in anticipation of future changes in business conditions. Our alternative hypothesis is that firm managers are simply being herded into make-whole clauses by boilerplate in the covenant contract during the bond underwriting process. Firms in our data set tend to cluster around a few large underwriters. Hence our addition of governance variables are intended to help ferret out the cause of the effect existing in the data described in Brown and Powers (2015) that firms that issue more make-whole clauses engage in more M&A transactions.

Financial flexibility is defined by Graham and Harvey (2001 page 218) as "the ability to remain flexible in the sense of minimizing interest obligations, so that they [firm managers] do not need to shrink their business in case of an economic downturn." Graham (2000) defines financial flexibility as the ability of the firm to preserve debt capacity to make future expansions and acquisitions.

Survey evidence provided by Graham and Harvey (2001), Bancel and Mittoo (2004), and Brounen, de Jong, and Koedijk (2006) indicate that maintaining financial flexibility is one of the highest priorities of executives when forming capital structure decisions. One implication is that leverage levels are kept lower than the firm value maximizing level that would hold in a static framework. Corporate executives proactively seeking financial flexibility would be acting in accordance with a financial pecking order such as that of Myers (1984).

Maintaining low leverage, however, is just one dimension by which firms are posited to maintain financial flexibility. Another reason thought to induce the managerial desire to maintain financial flexibility is to structure financial claims, in particular debt claims, so that they are easily renegotiated.

One method for increasing financial flexibility vis-à-vis debt is to incorporate a call

provision. Mason (1984) for example, notes that this is a benefit of fixed-price call provisions. More recently, Mann and Powers (2004) and Powers and Tsyplakov (2008) highlight make-whole call provisions as a mechanism for increasing financial flexibility. Practitioners, however, generally view make-whole calls as an innocuous additions to a bond's indenture that is rarely exercised. For example, when Fitch Ratings discusses upgrades or downgrades of bonds with make-whole call provisions, they routinely include the phrase "however, use of this make-whole call provision remains highly unlikely since such a call would cost the qualified investment issuer a premium …"

A central theory in finance is that capital structure, and thus financial flexibility, is irrelevant to firm value (Miller and Modigliani (1958, 1963). Other capital structure theories insist that debt is "bad" for firm value. An argument by Myers (1977) suggests that highly levered firms miss out on positive NPV opportunities due to debt overhang — the cost of servicing bonds and loans — where collateralization is difficult. Bolton and Scharfstein (1990) envision a world where debt reduces cash leading to predation by deep-pocket companies. High leverage could also frighten away customers and suppliers from fear of insolvency (Titman (1984)). Large amounts of debt could reduce management's desire to produce a high quality product (Maksimovic and Titman (1991)). High initial levels of debt may force firms to inefficiently liquidate thus negatively affecting survival (Harris and Raviv (1990) and Stulz (1990)). Other research indicates that highly leveraged firms are less likely to survive in competitive markets (Luigi Zingales (1995)). Higher levels of debt before the deregulation of the U.S. trucking market are associated with greater probabilities of industry exit after controlling for bankruptcy. The Zingales (1995) study was performed during a time when make-whole call provisions were not widely in use. "Debt is bad" implies that firms should value financial flexibility such that managers can reduce leverage at will facilitated by a fair price to both parties.

Other researchers have posited scenarios in which debt is "good." According to Jensen

(1989) debt may discipline managers into restructuring sooner in crisis. The option-like payoff of equity has also been suggested to offer greater competitiveness to highly leveraged firms (Brander and Lewis (1986)). Myers and Majluf (1984) postulate that asymmetric information increases the cost of financing. In this scheme debt is better than equity but worse than internal financing. In each of these "debt is good" arguments financial managers favor financial flexibility that allows them to increase leverage at will.

Evidence leans toward the debt is "bad" class of theories.

Agency Issues

The desire for financial flexibility may be a vestige of the age of executives. This would facilitate the flexing of animal spirited empire building among younger corporate leaders. Or it could come from a greater desire for risk management among the older. Florian and Wagner (2014) find that older CEOs are fired less often — ditto for those with longer tenure. Performance is clearly a factor since the existence and strength of equity-based incentives are negatively related to the probability of dismissal. The study uses the variable CEO age ≥ 60, CEO Tenure, and a dummy variable of stock and stock options received to capture unobserved skill.

Risk management skills also seem to be valued. Ellul and Yeramilli (2013) construct an innovative risk management index (RMI) for bank holding companies (BHCs). They find that BHCs with CEO compensation contracts that induce greater risk taking have higher RMI levels. Higher sensitivity of a CEO compensation to volatility in stock returns (higher CEO vega) is associated with higher RMI values. BHCs with better corporate governance (lower G-Index) more independent boards, and less entrenched CEOs have higher RMI levels. Board experience and RMI seem to be substitutes as they find that BHCs that have a larger fraction of independent directors with prior financial industry experience exhibit a lower RMI. The study employs the variables; CEO Delta, the sensitivity of CEO compensation to stock price; CEO Vega, the

sensitivity of CEO compensation to stock return volatility and board experience.

Cao and Wang (2013) ask two questions. How does a firm's risk affect CEO's pay-to-performance sensitivity (PPS); the ratio of incentive pay to firm performance? The second question deals with the large increase in CEO compensation that has accompanied the increase in firm size over the past three decades. They find that as firm risks increase pay-to-performance sensitivity decreases with CEO age, CEO tenure, and firm size. Their model on page 2041 incorporates CEO age and tenure.

Von Lillenfeld-Toal and Reunzi (2014) find that firms with high CEO ownership strongly outperform firms with low managerial ownership. Their study uses a Managerial Ownership variable.

Empirical Model

For our first pass run in examining the relationship between CEO age, the propensity to acquire. We examine M&A propensity to incorporate make-whole call provisions via a logit model for dichotomous outcome variables of whether the firm was a takeover target (0,1) or an acquirer (0,1) in a particular year. The one year lagged percentage of the firm's outstanding bonds is our primary independent variable that incorporate a make-whole call provision minus the industry group (industrial, financial or utility) average for that particular year. By calculating the difference, we are able to adjust for the time trend in the percentage of outstanding bonds that have make-whole calls as well as adjust for some unique difference in debt structures that manifest in financial firms and in utilities.

The regression formula is as specified as follows...

$$MW\_Pct\_Dif = \alpha_0 + \beta_1(\text{CEO Age})_{jt} + \beta_2(\text{Ln(Assets)})_{jt} + \beta_3(\text{Excess Return})_{jt} + \beta_4(\text{Excess Return})_{jt} + \beta_5(\text{ROA})_{jt} + \beta_6(\text{Sales Growth})_{jt} + \beta_5(\text{Tobin's Q})_{jt} + \beta_5(\text{Leverage})_{jt} + \beta_5(\text{Liquidity})_{jt} + \beta_5(\text{Research Intensity})_{jt} + \beta_5(\text{Tangibility})_{jt} + \beta_5(\text{Delaware})_{jt} + \epsilon_{ijt}$$

We assume independence of errors Єijt across but not within firms.

I. Data:

a. Make-whole Bond Data

Our make-whole bond sample is culled from the Fixed Investment Securities Database (FISD). We search for bonds: (1) issued between January 1st, 1995 and December 31st, 2013, (2) with a maturity of at least one year, (3) US dollars denominated, (4) offering amount minimum of $10 million, (5) fixed semi-annual coupon, (6) no asset backing, (7) non putable, (8) with no sinking fund, (9) excluding Yankee bond, (10) not from a unit offering, (11) non convertible, and (12) is a Corporate Debenture. We eliminate replacement bonds privately issued under Rule 144a. This circumvents double counting. We also eliminate replacements for privately issued Rule 144a bonds placed within one year of the original Rule 144a bond. Rule 144A replacement bonds are identical except that they have not been registered with the Securities and Exchange Commission and cannot be publicly traded.

These screens provide an initial sample of 19,180 bonds. We then reference the FISD "redemption" file to characterize all of these combination callable bonds as fixed-price callable bonds. This filters the data into 3,802 non-callable bonds, 6,654 fixed-price callable bonds, and 6,897 make-whole callable bonds.

b. Corporate Governance Data

Governance data come from Execucomp database from January 1st, 1995 through December 31st, 2013. Execucomp includes Standard and Poor's (S&P) 1500 firms.

IV. Results and Conclusion

Once we have completed our study of CEO age we will add more regressing variables to our model and additional specifications as needed. This is the second of two academic articles that we have this make-whole bond data set — the most complete of its kind. We just gained access to

Exucomp via our relationship with The University of South Carolina. Hence we are very confident that this study will produce a submission to a top journal within the year. This article will also be submitted to the 2016 FMA conference.

Our prior work is:

Brown, Scott and Eric Powers. 2015. The Life Cycle of Make-whole Call Provisions. Currently submitted to The Journal of Financial Economics. You may download a review copy here: http://researchupr45789.s3.amazonaws.com/MWBonds/MakeWholeFinalJFOct6.pdf

Table 1: CEO, Bond, Issuer and Macro Economic Characteristics.

From Brown and Powers 2015. Means and medians (in parentheses) are presented in each cell. Maturity is years from offering date until scheduled maturity. Rating is ordinalized rating: AAA=1, AA+=2, etc. Coupon is the bond's annual coupon rate. Restrictive Covenants is the number of covenants. Offering Amount is par value in $ millions. Total Assets is issuer book assets in $ billions. Leverage is Long-Term Debt/Total Assets. ROA is Earnings before Interest, Taxes and Depreciation/Total Assets. Book-to-Market is Book Equity/Market Equity. Sales Growth is percentage growth in annual sales. Tangibility is Net PPE/Total Assets. Ten Year Yield is yield to maturity on the constant maturity ten year Treasury. Treasury Slope is Ten Year Yield minus yield on the one year Treasury. BBB Spread is average yield on ten year industrial Baa rated bonds minus Ten Year Yield. Treasury Volatility is the option implied volatility from the Merrill MORE Index. Stock Correlation is correlation between weekly stock return and changes in Ten Year Yield. Analyst Surprise is the mean absolute analyst forecast error.

	Non-Callable	Fixed-Price Callable	Make-Whole Callable
Maturity	10.20 (7.51)	9.60 (9.1)	12.49 (10.02)
Rating	7.3 (7)	13.9 (15)	8.3 (8.5)
Coupon	6.58% (6.70%)	8.63% (9.00%)	5.96% (6.05%)
Restrictive Covenants	3.1 (3)	5.8 (7)	3.42 (4)
Offering Amount	$502m ($300m)	$348m ($250m)	$488m ($350m)
Total Assets	$156.8bn ($16.6bn)	$9.2bn ($2.1bn)	$31.2bn ($10.8bn)
Leverage	33.2% (29.7%)	40.5% (40.3%)	30.3% (29.5%)
ROA	2.8% (1.8%)	1.2% (2.3%)	4.9% (4.6%)
Book-to-Market	63.2% (54.3%)	72.8% (58.2%)	69.8% (59.1%)
Sales Growth	14.8% (8.5%)	18.8% (9.4%)	14.5% (8.2%)
Tangibility	23.3% (13.7%)	39.0% (36.4%)	33.2% (28.3%)
Ten Year Treasury Yield	5.23% (5.49%)	4.12% (4.16%)	4.16% (4.22%)
Treasury Slope	1.09% (0.78%)	1.59% (1.63%)	1.58% (1.75%)
BBB Spread	1.46% (1.32%)	1.73% (1.76%)	2.02% (1.82%)
Treasury Volatility	102.92 (101.73)	93.59 (92.54)	100.44 (98.11)
Stock Correlation	-0.009	0.131	0.096

	(-0.024)	(0.128)	(0.091)
Analyst Surprise	0.047 (0.003)	0.060 (0.011)	0.013 (0.004)

Table 2: CEO, Bond, Issuer and Macro Economic Characteristics

Analysis Variable : EstAge CEO_Age						
Fiscal Year	**N Obs**	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**N**
1994	604	50.2764901	8.2112274	25.0000000	78.0000000	604
1995	647	50.3369397	8.2148536	26.0000000	79.0000000	647
1996	654	50.2094801	8.1108610	27.0000000	78.0000000	654
1997	668	50.1766467	7.8703089	28.0000000	77.0000000	668
1998	724	49.8011050	8.0013276	27.0000000	78.0000000	724
1999	778	49.6246787	7.9504908	28.0000000	79.0000000	778
2000	830	49.5759036	7.9434611	24.0000000	80.0000000	830
2001	834	49.7913669	7.6999320	25.0000000	81.0000000	834
2002	895	49.7463687	7.5497919	26.0000000	82.0000000	895
2003	965	49.6839378	7.4805835	27.0000000	83.0000000	965
2004	983	50.0966429	7.2789781	28.0000000	84.0000000	983
2005	918	50.6328976	6.9432413	29.0000000	79.0000000	918
2006	1101	50.4368756	6.7988544	30.0000000	80.0000000	1101
2007	1236	50.4983819	6.7862087	26.0000000	81.0000000	1236
2008	1211	50.7076796	6.8718204	27.0000000	82.0000000	1211
2009	1215	51.0691358	6.8077986	28.0000000	83.0000000	1215
2010	1168	51.2816781	6.5481100	29.0000000	84.0000000	1168

Table 2
Logit Analysis of M&A Activity

The dependent variable is a (0,1) indicator of whether the firm was either the target of a takeover or an acquirer of another corporation in a particular year. Takeover target regressions are presented in the first two columns. Acquirer regressions are presented in the final two columns. MW_Pct_Dif is the percentage of the firm's outstanding bonds that incorporate make-whole call provisions minus the sample average for the firm's industry group in that year. Delaware (0,1) denotes whether the firm is incorporated in Delaware. Ln(Assets) is log of total assets. Excess Return is the four year return for the firm's common stock minus the contemporaneous return for the CRSP Value-Weighted Index. ROA is return on assets calculated as Net Income divided by Assets. Sales Growth is percentage growth in annual sales. Tobin's Q is (Total Assets minus Book Equity plus Market Equity minus Deferred Taxes)/Total Assets. Leverage is Debt/Assets. Liquidity is Cash and Short Term Investments/Total Assets. Research Intensity is Research and Development Expense/Sales. Tangibility is Net Property, Plant and Equipment/Total Assets. All independent variables are lagged one year. P-values are reported in the lower cells in parentheses and statistical significance at the 10%, 5% and 1% levels is further annotated by *, **, *** respectively.

	Takeover Target		Acquirer	
MW Pct Dif	0.863 (8.57)***	0.456 (3.82)***	0.830 (22.77)***	0.349 (8.38)***
CEO Age				
Ln(Assets)		0.493 (13.96)***		0.032 (2.77)***
Excess Return		-0.138 (1.59)		0.130 (6.14)***
ROA		-1.591 (3.39)***		2.584 (7.96)***
Sales Growth		0.222 (1.11)**		0.403 (5.89)***
Tobin's Q		-0.118 (0.91)		0.025 (0.96)
Leverage		0.578 (1.88)*		-0.665 (6.06)***
Liquidity		0.828 (1.54)		0.361 (1.96)**
Research Intensity		0.628 (0.68)		1.703 (5.96)***

bonds are dropped to avoid double counting.

Tangibility		1.064 (5.28)***		-0.424 (5.51)***
Delaware		-0.239 (0.21)		0.155 (4.02)***
Constant	-4.742 (93.92)***	-9.440 (18.21)***	-2.439 (141.91)***	-2.360 (15.94)***
Observations	47,872	22,059	47,872	22,059
Pseudo R2	0.013	0.085	0.018	0.032

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REFERENCES

Altman, E., 1968 "Financial Ratios, Discriminate Analysis and the Prediction of Corporate Bankruptcy," *Journal of Finance*, 23(4).

Auerbach, A.J., 1985. Real determinants of corporate leverage. In: Freidman, B.J. (Ed.), Corporate Capital Structures in the United States. University of Chicago Press, Chicago.

Baker, M., Wurgler, J., 2002. Market timing and capital structure. *Journal of Finance* 57, 1-32.

Beaver, W., 1966 "Financial Ratios as Predictors of Failures," *Journal of Accounting Research* 4, 71-111.

Bolton, P., Scharfstein, D., 1990, A theory of predation based on agency problems in financial contracting, *American Economic Review* 80, 93-106.

Brown, S., and Powers, E., 2015 "The Life Cycle of Make-Whole Call Provisions," University of South Carolina and University of Puerto Rico Working Paper.

Cao, Melanie and Irong Wang. 2013. Optimal CEO Compensation with Search: Theory and Empirical Evidence. The Journal of Finance. Volume 68(5). 2001–2058.

Donaldson, G., 1961. Corporate Debt Capacity: A Study of Corporate Debt Policy and the Determination of Corporate Debt Capacity. Harvard Business School, Division of Research, Harvard University.

Ellul, Andrew and Vijay Yerramilli. 2013. Stronger Risk Controls, Lower Risk: Evidence from U.S. Bank Holding Companies. The Journal of Finance. Volume 68(5). 1757–1803.

Fama, E., French, K., 2002. Testing tradeoff and pecking order predictions about dividends and debt. *Review of Financial Studies* 15. 1-33.

Florian, Peters, and Alexander Wagner. 2014. The Executive Turnover Risk Premium. The Journal of Finance 69 (4). 1529–1563.

Frank, M., Goyal, V., 2003. Testing the pecking order theory of capital structure. Journal of Financial Economics 67, 217-248.

Graham, J., 2000. How big are the tax benefits of debt? Journal of Finance 55, 1901-1941.

Graham, J., Harvey, C., 2001. The theory and practice of corporate finance: evidence from the field. *Journal of Financial Economics* 60, 187–243.

Granger, C., 1969. "Investigating Causal Relations by Econometric Models and Cross-spectral Methods". Econometrica 37 (3): 424–438.

Hovakimian, A., Opler, T., Titman, S., 2001. The debt-equity choice. *Journal of Financial and Quantitative Analysis* 36 (1), 1-24.

Jalilvand, A., Harris, R., 1984. Corporate capital behavior in adjusting to capital structure and dividend targets an econometric study. *Journal of Finance* 39, 127-145.

Jensen, M. C., 1989, *The eclipse of the public corporation*, *Harvard Business Review* 67, 61-74.

Kayhan, A., Titman, S., 2007, Firms' histories and their capital structures, *Journal of Financial Economics* 83, 1-32.

Maksimovic, V., and Titman, S., 1991, Financial policy and the reputation for product quality, *Review of Financial Studies* 4, 175-200.

Merton, R., 1974, On the pricing of corporate debt: The risk structure of interest rates, *Journal of Finance* 29, 449-470.

Milton, H., and Raviv, A., 1990, Capital structure and the informational role of debt, *Journal of Finance* 45, 321-350.

Modigliani, F., Miller, M., 1958, The Cost of Capital, Corporation Finance and the Theory of Investment, *American Economic Review* 48, 261–297.

Modigliani, F., Miller, M., 1963, Corporate income taxes and the cost of capital: a correction, *American Economic Review* 53, 433–443.

Myers, S., 1977, The determinants of corporate borrowing, *Journal of Financial Economics* 5, 146-

bonds are dropped to avoid double counting.

175.
Myers, S., 1984. The capital structure puzzle. *Journal of Finance* 39, 575-592.
Myers, S., and Majluf, N., 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187–221.
Peters, Florian, and Alexander Wagner. 2014. The executive turnover risk premium. Journal of Finance 69(4). 1529-1564.
Shyam-Sunder, L. Myers, S. C., 1999. Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics* 51, 219-244.
Stulz, R., 1990, Managerial discretion and optimal financing policies, *Journal of Financial Economics* 26, 3-28.
Titman, S., 1984, The effect of capital structure on a firm's liquidation decision, *Journal of Financial Economics* 13, 137-151.
Titman, S., Wessels, R., 1988. The determinants of capital structure choice. *Journal of Finance* 43, 1-19.
Von Lilienfeld-Toal, Ulf and Stefan Ruenzi. 2014. CEO Ownership, Stock Market Performance, and Managerial Discretion. The Journal of Finance 69(3). 1013–1050.
Welch, I., 2004. Capital structure and stock returns. *Journal of Political Economy* 112, 106-131.
Zingales, L., 1998, Survival of the Fittest or Fattest? Exit and Financing in the Trucking Industry, *The Journal of Finance* 3, 905-938.

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