

Free Cash Flow, Leverage, and Investment Opportunities

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Do firms have excess financial capacity, and do they use this extra capacity to finance negative net present value (NPV) projects? A firm that has excess financial capacity has high free cash flow and excess debt capacity. To examine this question, we select a group of firms that we know tend to adopt negative NPV projects. We find that white knights lack positive NPV projects and waste free cash flow and excess debt capacity on buying value-decreasing targets rather than on pay to shareholders. On the other hand, hostile bidders generally do not have high free cash flow, and the few that do apparently do not waste it on buying bad targets.

Introduction

What do firms that do not have positive investment opportunities do with excess financial capacity? Excess financial capacity is free cash flow plus excess debt capacity. Jensen (1986) defines free cash flow as the cash flow in excess of that needed to fund all positive net present value (NPV) projects. Excess debt capacity is defined as the difference between an optimal debt level and the company's current level of debt. The optimal level of debt is that level that maximizes shareholder wealth, the minimum point on the average cost curve. We know that if a firm is financing at a less than optimal level of debt, it can increase the value of the firm by simply increasing the level of debt and using the funds to repurchase shares. This lowers the average cost of capital and increases the firm value. In addition, the tax deductibility of interest provides a debt tax shield that also increases the value of the firm. For these reasons, the difference between the optimal debt level and a less than optimal level is included in excess financial capacity along with free cash flow.

Now, what do firms that do not have positive investment opportunities do with excess financial capacity? We know that some of them pay out free cash flow to shareholders in the form of dividends, some of them repurchase shares, and some of them waste it on negative NPV investments (Jensen, 1986). We focus on the firms

that waste excess financial capacity on negative NPV projects where the negative NPV project is the acquisition of a target firm. We focus on firms that invest in negative NPV targets because this is an investment project that is easily identifiable. Do firms that invest in bad targets have excess financial capacity, and do they use this extra capacity to buy bad targets?¹

In this study we find that our sample of bidders without positive NPV projects and who buy negative NPV targets have high free cash flow and underutilized debt capacity. They have excess financial capacity before the acquisition, but spend their part of their excess financial capacity by buying negative NPV targets because their free cash flow declines after the acquisition and their debt levels increase to a level that is indistinguishable from average. With low debt levels and high free cash flow before the acquisition, these firms do not have the benefit of the monitoring role of debt. In addition, they are not obligated to pay out their free cash flow in interest. Thus, shareholder interests and manager interests diverge. It is in shareholders' best interests to increase the debt level to obligate the firm to pay out its free cash flow in interest before managers invest the excess financial capacity in value-decreasing investments. Because these firms do not generally have positive net present value investments, paying out the free cash flow in dividends and increasing debt in a leveraged recap would increase firm value. In a leveraged recap, often firms borrow and pay dividends to shareholders with the proceeds.

Free Cash Flow, Leverage, and Investment Opportunities

Many studies use Tobin's q to identify firms that do not have positive NPV projects. Bidding firms with low Tobin's q ratios, q ratios less than one, and high free cash flow invest in acquisitions with negative abnormal returns (Lang, Stulz, and Walkling, 1991; Born and McWilliams, 1993). Some firms with low q ratios and high free cash flow waste it by overpaying for target firms rather than paying it out to shareholders. Doukas (1995) shows that managers also waste free cash flow by making foreign acquisitions. The abnormal returns for q -less-than-one firms that engage in foreign acquisitions are less than the firms with q greater than one. Hanson (1992) shows that high free cash flow bidding firms waste free cash flow by buying low benefit targets, while Smith and Kim (1994) show that the total return is lower when slack poor bidders acquire high free cash flow targets. Not only do firms waste free cash flow on target firms, but they also use it for other low NPV projects. Szewczyk, Tsetsekos, and Zantout (1996) provide some evidence that high-free-cash-flow and low q firms experience insignificant abnormal returns when they

¹ We refer to an acquisition with negative abnormal returns or a negative NPV as a bad acquisition and an acquisition with positive abnormal returns or a positive NPV acquisition as a good acquisition. For a more detailed discussion of the implications of a bad acquisition, see Carroll, Griffith, and Rudolph (1998).

announce new research and development expenditures. In addition, Mann and Sicherman (1991) show that firms who have a reputation for wasting free cash flow on negative NPV projects have a more negative response to secondary equity issues. Thus, some firms with high free cash flow and low q tend to waste it on negative NPV projects, projects that include bad acquisitions.

The relationship between debt and acquisitions is positive. Bruner (1988) shows that bidders have lower leverage than average before an acquisition and the same as average after the acquisition. This increase in debt is a way that bidder shareholders can transfer the coinsurance effect (Lewellen, 1971; Levy and Sarnat, 1970; Kim and McConnell, 1977) of acquisitions to themselves (Galai and Masulis, 1976; Kim and McConnell; Asquith and Kim, 1982; Stapleton, 1982). If acquisitions are not diversifying acquisitions, however, the coinsurance effect may be small. Malony, McCormick, and Mitchell (1993) show that firms with high leverage before the acquisition commit management to pay out future cash flow and so force management to work harder to meet these payments. Higher leverage is associated with higher acquisition returns.

To assess the relationship between a firm's financial capacity and its tendency to make a negative NPV acquisition, we choose a sample of white knights and compare them with hostile bidders in the same contest. White knights are friendly bidders that are often asked by targets to enter control contests to serve as a defense against existing hostile bids. We know that white knights have low q (Carroll, Griffith, and Rudolph, 1998) and invest in negative NPV acquisitions (Carroll, Griffith, and Rudolph, 1998; Niden, 1993; Bannerjee and Owers, 1992), but they may or may not have high free cash flow. Bannerjee and Owers (1992) find that the market perceives that the white knights' actions do not benefit their shareholders. White knights sustain significant negative abnormal returns while hostile bidders experience significant positive abnormal returns. Niden (1993) also finds that white knights experience significant losses in an acquisition contest. She compares the abnormal returns of white knights to those of hostile and friendly bidders and concludes that white knights systematically overbid for their targets. Carroll, Griffith, and Rudolph find that white knights tend to overbid for target firms and have made q -less-than-one investment decisions prior to their decision to bid for the target and are, in this respect, less efficient managers than those of hostile bidders. Hostile bidders, on the other hand, tend to have efficient managers making value-increasing acquisition decisions.

We know that some firms without good investment projects and high free cash flow, a part of financial capacity, buy negative NPV targets. But do these firms have excess *financial capacity* and do they use it to buy bad targets? Or do they buy the targets with equity and retain the free cash flow and excess debt capacity to use another day? If firms retain excess financial capacity, the incentive to squander it when managers are not acting in the best interests of shareholders still exists. So it is

important to know if firms still have the excess financial capacity even after they acquire the negative NPV target.

We also know that some firms with low leverage acquire bad targets; however, we do not know if these low leverage firms have other good investment opportunities that they could have undertaken but they just chose unwisely. In other words, did they waste the debt capacity on bad acquisitions because they had no good investment projects or because they mistakenly chose a bad project?

Data

White knights are defined as friendly bidders who enter a control contest subsequent to a hostile bidder. A hostile bid is an unsolicited bid that is initially opposed by target firm management. The sample consists of 67 sets of white knights and hostile bidders in the same contest for the period 1975-1995. We analyze hostile bidders for comparison purposes. With sets of white knights and hostile bidders, the characteristics of the target firm are held constant because a hostile bidder and a white knight are bidding for the same target.

Information on cash flow and other variables is obtained from Compustat. The measure of free cash flow is operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends. To eliminate any size effect, we normalize this measure by book value of assets. This normalized calibration of free cash flow is used by Lehn and Poulson (1989) and Lang, Stulz, and Walking (1991) and provides the least noisy measure of free cash flow.

Tobin's q is calculated for the year prior to the participant's entry into the control contest. It is calculated using Perfect and Wiles' (1994) methodology and data taken from Compustat supplemented with data from annual reports. A one-tailed T-test and a Wilcoxon sign rank test are used to determine if Tobin's q is less than one.

To calculate cumulative average residuals (CAR), we use standard event study methodology with parameters for the single index market model calculated with 200 daily returns. Residuals are cumulated over the entire contest, from the announcement of entry until the bidder wins the contest or announces its withdrawal. Each bidder has a different event period because each bidder enters and exits the contest in a different number of days. Dollar amounts of abnormal returns are calculated in terms of n -day market-adjusted cumulative abnormal returns.

The debt variable is long-term debt relative to total assets. The relative amount of debt after the acquisition is not easy to calculate. Because we have pairs of hostile bidders and white knights, only one bidder wins the contest. We calculate the debt ratio based on what it would have been if the bidder had won the contest with the last bid. If the medium of exchange is predominantly cash, the new debt ratio is the bidder's debt plus the target's debt plus the total purchase price or last offer price minus free cash flow all divided by the total assets of the bidder and the target. We implicitly assume that the bidder assumes the target debt and uses its free cash flow to

acquire the target. If the medium of exchange is predominantly equity, the new debt ratio is the debt of the bidder and the debt of the target both divided by the total assets of the bidder and target. We implicitly assume that the bidder assumes the target debt.

Measuring the optimal level of debt is theoretically appealing but practically impossible. The optimal debt level is influenced by business risk and the degree of operating leverage (DOL). Business risk and DOL are industry specific. To measure excess debt capacity, we take the difference between a firm's debt-to-assets ratio and the industry average. In doing this we assume that the optimal level of debt is the industry average.

We augment the regression to examine the relationship among free cash flow, leverage, investment opportunities, and CAR with several other variables. The SIZE variable is the relative size of the bidder and the target. It is calculated as the ratio of the bidder's total assets to the target's total assets. The STOCK variable is a dummy variable with a value of one if the last bid consisted primarily of stock. The variable CASH is a dummy variable with a value of one if the last bid consisted primarily of cash. The variable LOSER is a dummy variable with a value of one if the bidder lost the contest.

The variable PREM is the highest per share price bid minus the target's share price one week prior to the entry of the first bidder. If there are no synergies, we expect a negative sign—the larger the premium, the more negative the CAR. If there are synergies, we expect the magnitude of the premium to have no relationship to CAR or possibly a positive relationship—the larger the synergies, the more positive the CAR. The relationship between the premium and the CAR will probably be insignificant because the percent of synergies captured by the target probably will depend on its bargaining power.

Making Acquisitions with Excess Financial Capacity

We want to determine if white knights have high free cash flow and low leverage and if they use the free cash flow and low leverage to buy bad targets. For hostile bidders, we want to know if they have low free cash flow but high debt capacity or if they have high free cash flow but low debt capacity (or any other combination of debt capacity and free cash flow) that they use to buy good targets. Mean and median values of the variables appear in Table 1.

Consistent with other studies, white knights have negative abnormal returns and hostile bidders have positive abnormal returns over the entire contest (Table 1). This implies that, on average, white knights make bad acquisitions, while hostile bidders make good acquisitions. White knights lose, on average, five percent when they acquire target, while hostile bidders gain four or five percent.

Also consistent with prior research, Tobin's q is significantly less than one for white knights and approximately one for hostile bidders (Table 1). The difference

Table 1—White Knight and Hostile Bidder Characteristics

	White Knight	Hostile Bidder	Difference
CAR (\$)†	-99.180***	29.980***	129.160***
	-62.430***	11.680***	74.110***
CAR (%)†	-4.980***	4.580***	9.560***
	-4.940***	3.980***	8.920***
Tobin's q††	0.760***	1.010	0.250**
	0.680***	0.980	.300**
Free Cash Flow†††	230.93***	54.610***	176.317***
	132.800***	34.710***	98.090***
New Free Cash Flow	118.10**	48.70**	69.40**
	71.20**	30.56**	40.64**
Change in Free Cash Flow	112.83***	5.91	106.92***
	61.6***	4.15	57.45***
Premium	0.570***	0.460***	0.110*
	0.58***	0.46***	0.120**
Debt/Assets -- Before	0.260***	0.300***	0.040
	0.240***	0.280***	0.040
Debt/Assets -- After	0.310***	0.360***	0.050*
	0.290***	0.350***	0.060*
Change in Debt/Assets	0.044**	0.060***	0.016
	0.038***	0.046**	0.008
Debt/Assets – Ind. Avg.	-0.364**	0.007	0.044*
New Debt/Assets – Ind. Avg.	0.002	0.060***	0.058**

† The bidders' cumulative sum of the daily average abnormal return (CAR), cumulative dollar returns, and test statistics are for one day before entry until the bidder wins the contest or announces its withdrawal for the sample period 1976-1995. Dollar figures are in millions of dollars. Sample size is 67 for each class of bidders.

††† q was tested to determine if less than one because the relevant question is whether q is less than one. Median values are shown below mean values

†† Millions of dollars

*** Significant at the 1 percent level

** Significant at the 5 percent level

* Significant at the 10 percent level

between hostile bidder's q and white knight's q is significant. White knights, on average, do not have projects worth their free cash flow.

White knights have significantly more free cash flow than do hostile bidders (Table 1). They average \$231 million while hostile bidders average only \$55 million. Hostile bidders, on average, appear to have relatively low free cash flow.

A comparison of a firm's debt ratio to the industry average also appears in Table 1. For white knights, the debt-to-assets ratio is significantly less than the industry average before the bid but not significantly different from the average after the acquisition. This implies that white knights had excess debt capacity before the acquisition but used this excess capacity to purchase the target. Hostile bidders' debt-to-assets ratio was not significantly different from the industry average before the bid but was significantly larger after the bid. This implies that hostile bidders did not have excess debt capacity before they bid for the target but assumed more debt to purchase the target. They were willing to commit themselves to work hard to make

the acquisition a success because they were willing to assume more than industry average debt.

In addition, 92 percent of hostile bidders paid or offered cash for the target, and 75 percent of the white knights offered or paid primarily cash for the target. The hostile bidders are associated with primarily cash offers.

Table 2 presents the breakdown by positive and negative abnormal returns and by white knight and hostile bidder. Not all white knights have high free cash flow, and not all hostile bidders have low free cash flow before the acquisition. High free cash flow for both hostile bidders and white knights before the acquisition is limited to bidders who make negative NPV acquisitions. While hostile bidders, on average, have low free cash flow, a small group of hostile bidders has high free cash flow. White knights who make bad acquisitions average \$256 million in free cash flow while hostile bidders who make bad acquisitions average \$112 million.

Table 2—A Comparison of White Knights' and Hostile Bidders' Stratified According to Returns

	CAR +	CAR -	Difference
FCF—WK	15.3	256	240.70***
FCF—HB	35	112	77.00***
Difference	19.70	144**	
New FCF—WK	12	129	117**
New FCF—HB	31	98	67**
Difference	19	31	
D/TA—WK	0.379	0.253	0.126
D/TA—HB	0.304	0.279	0.025
Difference	0.075	0.026	
D/TA - Ind. Avg.--WK	0.058	-0.043***	0.101
D/TA - Ind. Avg.--HB	0.011	-0.001	0.012
Difference	0.047	0.042	
New D/TA--WK	0.312	0.312	0.000
New D/TA--HB	0.388	0.304	0.084
Difference	0.076	0.008	
New D/TA - Ind. Avg.--WK	-0.012	0.003	0.015
New D/TA - Ind. Avg.--HB	0.076***	0.011	0.065
Difference	0.088	0.008	
New D/TA - Old D/TA—WK	-0.102	0.057***	0.159
New D/TA - Old D/TA—HB	0.076***	0.019	0.057**
Difference	0.188	0.038**	

*** Significant at the 1 percent level

** Significant at the 5 percent level

* Significant at the 10 percent level

Bidders of both types who make good acquisitions have low free cash flow. Bidders with low free cash flow are apparently acting in shareholders' best interests when they purchase a target, while bidders who make negative NPV acquisitions would have enhanced shareholder value by investing in a different project or paying out the cash to shareholders rather than buying the target company. Thus, firms with

low free cash flow made positive NPV acquisitions and firms with high free cash flow wasted it by buying negative NPV acquisitions.

Comparing the free cash flow for negative NPV acquirers after the acquisition with the free cash flow before the acquisition, white knights have apparently used some free cash flow to purchase a negative NPV target, but hostile bidders apparently do not primarily use free cash flow because the free cash flow is approximately the same before and after the acquisition. Before the acquisition white knights have higher free cash flow than hostile bidders, but the same free cash flow after the acquisition. White knights have reduced their free cash flow, but hostile bidders have not, although white knights' free cash flow is still high.

White knights borrowed more to make a negative NPV acquisition, while hostile bidders borrowed more to make a good acquisition. For white knights the debt-to-total-assets ratio is lower than the industry average before the acquisition but the same as the industry average after the acquisition. Before the acquisition white knights have excess debt capacity that they used to buy negative NPV targets. Not only do they have excess debt capacity, but they also have high free cash flow: they have high financial capacity. After the acquisition, white knights have the same amount of debt as the industry average. This implies that white knights borrowed more to make a bad acquisition. White knights increased the value of the firm by borrowing more, but firm value fell when white knights bought bad targets.

Making positive NPV acquisitions, hostile bidders, on the other hand, have the same amount of debt as the industry average before the acquisition but higher than industry average after the acquisition, indicating that they were confident that the acquisition would be a good one. They were willing to obligate themselves to pay more interest in the future, to pay out free cash flow in interest rather than to waste it on bad investments. They were willing to take on more debt to commit themselves to work harder on the acquisition.

White knights who make bad acquisitions also borrow significantly more than hostile bidders who make bad acquisitions. Perhaps this is due to the fact that white knights seem to have excess debt capacity before the acquisition so they can afford to assume more debt.

The breakdown by Tobin's q is presented in Table 3. For both white knights with positive investment opportunities and those without good investment opportunities, the level of free cash flow is higher than the level for hostile bidders. White knights with good investment opportunities have \$296 million in free cash flow, while white knights without good investment opportunities have \$211 million. Both have significantly higher free cash flow than hostile bidders. Again, white knights have high free cash flow. Hostile bidders without good investment opportunities have higher free cash flow than do hostile bidders with good investment opportunities. It appears that hostile bidders with q greater than one have spent their cash on good projects, while hostile bidders with q less than one may have hoarded cash.

Table 3—A Comparison of White Knights' and Hostile Bidders' Stratified According to Tobin's q

	q>1	q<1	Difference
FCF--WK	296	211	85
FCF--HB	28	83	55**
Difference	268**	128***	
New FCF--WK	181	104	77
New FCF--HB	26	64	38
Difference	155*	40	
D/TA--WK	0.318	0.241	0.077*
D/TA--HB	0.318	0.278	0.040
Difference	0.000	0.037	
D/TA - Ind. Avg.--WK	-0.046	-0.033***	0.079
D/TA - Ind. Avg.--HB	0.013	0.003	0.010
Difference	0.059	0.030	
New D/TA--WK	0.358	0.291	0.067*
New D/TA--HB	0.398***	0.334	0.064
Difference	0.040	0.043	
New D/TA - Ind. Avg.--WK	0.004	0.001	0.003
New D/TA - Ind. Avg.--HB	0.087***	0.033	0.054
Difference	0.083	0.032	
New D/TA - Old D/TA--WK	0.037	0.049***	0.012
New D/TA - Old D/TA--HB	0.081***	0.049	0.032
Difference	0.044	0.000	

*** Significant at the 1 percent level

** Significant at the 5 percent level

* Significant at the 10 percent level

The debt ratio for white knights that do not have good investment projects is lower than the industry average, indicating that these white knights have excess debt capacity. They have higher free cash flow and excess debt capacity, which indicates they have higher financial capacity. Again, hostile bidders that have positive NPV investment opportunities have higher debt ratios than industry averages after the acquisition. This indicates their willingness to work hard on the acquisition. Although the difference in the debt ratios for white knights is marginally significant, all of the other differences are insignificant.

Do white knights have excess financial capacity, and do they use this extra capacity to buy bad targets? The bivariate tests show that white knights have high financial capacity both in the form of high free cash flow and excess debt capacity, but that this excess capacity is limited to white knights that buy bad targets. White knights that make negative NPV acquisitions assume significantly more debt and have higher free cash flow than do hostile bidders who make bad acquisitions. In addition, these white knights use their excess financial capacity to invest in negative NPV projects. Their free cash flow is lower, and the debt ratio increases significantly after the acquisition.

Hostile bidders, on the other hand, generally do not have excess financial capacity. Although a small group of hostile bidders has high free cash flow that they use to

buy bad targets, hostile bidders generally have low free cash flow and no excess debt capacity. Some hostile bidders borrow more than the industry averages to make a positive NPV acquisition. Hostile bidders are willing to obligate themselves to work harder in making a good acquisition because they assume more debt to do so.

In addition to the bivariate tests, we conduct multivariate tests. The regression results are presented in Table 4. Ordinary least square regressions show heteroskedasticity, so the regressions are rerun with weighted least squares. The dependent variable is the percentage abnormal return (CAR). Because free cash flow is different for white knights and for hostile bidders and for q greater or less than 1, we take this factor into account in the regressions. We include a variable that represents the interaction of cash flow with q and with white knight and hostile bidder.

The regression results indicate that white knights that have no good investment opportunities tend to waste the free cash flow on bad acquisitions. They have high free cash flow, and they use it to buy overpriced companies rather than pay it out to shareholders. The sign of the interaction between free cash flow and hostile bidders with q less than one is negative, but, in most cases, not significant. We cannot conclude that hostile bidders waste free cash flow on negative NPV projects.

The relationship between the debt-to-assets ratio and CAR for hostile bidders is positive and significant. For hostile bidders, higher leverage is associated with better acquisitions. Higher leverage forces management to work harder to make better acquisitions.

The relationship between leverage and acquisition returns is negative and significant for white knights. The higher the leverage, the worse the acquisition returns. This is somewhat disconcerting. The very firms that should be most cognizant of making good acquisitions actually make bad acquisitions. This is consistent with a management that is overconfident.

None of the augmented variables is significant with the possible exception of LOSER. If the bidder loses the contest, it tends to gain. This is consistent with prior research.

Conclusions

In this study, we define a new measure for the ability to finance new projects, excess financial capacity. Excess financial capacity consists of free cash flow and excess debt capacity. Do firms have excess financial capacity and do they use this extra capacity on negative NPV projects? To examine this question, we select a group of firms that we know tend to adopt negative NPV projects. Are these firms wasting excess financial capacity on these value-decreasing projects?

White knights that invest in value-decreasing acquisitions have high free cash flow and underutilized debt capacity before the acquisition. In other words, they have excess financial capacity. After the acquisition they have lower, but still high, free cash flow and no excess debt capacity. Thus, they use their excess financial

Table 4—Weighted Least Squares Regressions 67 White Knights and 67 Hostile Bidders

	Regressions					
	1	2	3	4	5	6
Intercept	0.8108 (1.15)	-0.149 (-0.14)	0.377 (0.30)	0.380 (0.52)	-3.035 (-1.35)	-0.526 (-0.25)
WK*Q>1*CF	-0.0008 (-0.36)	0.0012 (0.72)	0.0012 (0.71)	-0.0007 (-0.37)	0.0015 (0.97)	0.0015 (1.02)
WK*Q<1*CF	-0.0125 (-4.01)	-0.0071 (-2.81)	-0.0069 (-2.58)	-0.0124 (-3.92)	-0.0046 (-2.61)	-0.0059 (-2.21)
HB*Q>1*CF	0.0113 (1.03)	0.0074 (0.87)	0.0058 (0.67)	0.0154 (1.46)	0.0058 (0.58)	0.0086 (0.91)
HB*Q<1*CF	-0.0032 (-0.36)	-0.0101 (-1.42)	-0.0131 (-1.81)	-0.0018 (-0.21)	-0.0131 (-1.90)	-0.0105 (-1.58)
Debt/Assets*WK		-12.540 (-3.21)			0.595 (0.10)	
Debt/Assets*HB		12.294 (3.78)			6.519 (1.58)	
New Debt/Assets*WK			-12.851 (-3.47)			-6.390 (1.27)
New Debt/Assets*HB			11.219 (3.63)			10.695 (2.71)
Change in Debt/Assets*WK				-12.973 (-2.77)		
Change in Debt/Assets*HB				13.160 (2.86)		
Premium					-2.237 (-1.44)	-1.951 (-1.31)
Stock*HB					-2.688 (-0.72)	-1.583 (-0.44)
Stock*WK					-0.961 (-0.53)	-1.754 (-1.00)
D1*Change in Debt/Assets					-8.10 (-0.77)	-5.442 (-0.55)
D2*Change in Debt/Assets					2.734 (0.77)	-2.151 (-0.59)
Relative Size					0.0239 (0.88)	0.02094 (0.81)
Loser					6.120 (2.34)	1.641 (0.64)
R-square(adjusted)	12.0%	41.7%	44.5%	19.3%	51.9%	55.7%
P-value for F-test	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Regression (1) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1. Regression (2) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1 and their debt/asset ratio prior to the announcement of their bid for the target. Regression (3) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1 and their debt/asset ratio following their acquisition of the target or withdrawal from the contest. Regression (4) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1 and the change in the bidders' debt/asset ratio following their acquisition of the target or withdrawal from the contest. Regression (5) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1, their debt/asset ratio prior to the announcement of their bid for the target, the size of the premium paid for the target, how they paid or intended to pay for the target, the bidder's relative size to the target, and whether the bidder won or lost the contest. Regression (6) explains the impact that free cash flow has on the returns of white knights and hostile bidders with q ratios < and > 1, their debt/asset ratio following their acquisition of the target or withdrawal from the contest, the size of the premium paid for the target, how they paid or intended to pay for the target, the bidder's relative size to the target, and whether the bidder won or lost the contest.

capacity to purchase the target. White knights increase firm value by using their excess debt capacity to borrow more to buy the target, but decrease firm value by buying value-decreasing targets. For white knights, the higher the leverage the more negative the acquisition returns, which indicates that the very firms that should be more careful in buying targets are apparently less concerned about maximizing shareholder wealth.

Hostile bidders that made value-increasing investments had low free cash flow and no excess debt capacity before the bid. In other words, they did not have excess financial capacity. They increased their debt levels above the industry average, indicating that they were willing to work hard to make the acquisition a success. On the other hand, hostile bidders who make value-decreasing bids apparently do not use their free cash flow to do so because they have relatively high free cash flow after the acquisition.

With low debt levels and high free cash flow before the acquisition, firms do not have the benefit of the monitoring role of debt. In addition, they are not obligated to pay out their free cash flow in interest. Thus, shareholder interests and manager interests diverge. It is in shareholders' best interests to increase the debt level to obligate the firm to pay out its free cash flow in interest before managers invest the excess financial capacity in value-decreasing investments. Because these firms generally do not have positive net present value investments, paying out the free cash flow in dividends and increasing debt in a leveraged recap would increase firm value. In a leveraged recap, firms often borrow and pay dividends to shareholders with the proceeds.

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