

Mergers & Acquisitions

If you enter the search phrase, "do mergers create or destroy value," on Google, the overwhelming response suggests that mergers destroy value. Many highly respected business reporters, Wall Street analysts, notable consulting firms such as BCG and McKinsey, and even some finance professors, question whether mergers, in general, create value.

"When Microsoft (MSFT) agreed to pay \$26.2 billion to acquire LinkedIn (LNKD) last month, I—along with many others was left scratching our heads. Why would Microsoft pay such a high premium for a money-losing company with slowing growth and the worst user engagement of any major social media platform?"

Microsoft claims the deal has massive synergies that will justify the purchase price. It seems much more likely, however, that the software giant will end up taking a major write-down on LinkedIn, just as it did last year with Nokia (\$7.5 billion) and in 2012 with aQuantive (\$6.2 billion). The company has an established track record of destroying value by overpaying for acquisitions.

Of course, Microsoft is far from the only company to destroy shareholder value by overpaying to acquire other companies. Most studies find that acquisitions fail to create value for shareholders between 70-90% of the time. We've emphasized time and time again that big acquisitions can be accretive to GAAP earnings but actually destroy shareholder value."¹

The focus by many commentators on mergers tends to be on various large-scale mergers which have failed. But the same is true of many projects, whether they are new product offerings, marketing programs, R&D, and joint ventures. Many projects fail, and it is challenging to create the right benchmark, as each project is different. And this is especially true for mergers. Based on my experience in mergers, not only as a researcher for the past few decades, but also from the board level and from direct involvement in various mergers, my view is that when you look at the overall record of mergers, rather than just focusing on mergers which fail after the fact, mergers create value. Nonetheless, the data is extremely messy, and documenting conclusive evidence of the creation of value resulting from mergers is a difficult task.

¹ "Why Companies Overpay for Acquisitions," *Forbes*, July 21, 2016.

The purpose of this lecture note is to provide a high-level overview of mergers and acquisitions, from the perspective of corporate finance. The goal is not to learn a lot of facts about mergers, but rather to enhance and deepen our understanding of corporate finance theory and practice.

MERGERS AS A PROJECT

Consider two firms, ACQUIRER and TARGET. ACQUIRER has a market value of \$20 billion, and TARGET has a market value of \$10 billion. Neither firm has any debt. ACQUIRER and TARGET decide to merge; ACQUIRER will change its name after the merger to COMBINED. For the merger to create economic value, the following must be true:

$$\text{Eq. 1} \quad V_{\text{COMBINED}} > V_{\text{ACQUIRER}} + V_{\text{TARGET}}$$

That is, if the value of the combined firm exceeds the values of the two merging parties on a standalone basis, there is economic justification for the merger. The gains from the merger arise from economies of scale, eliminating inefficiencies, revenue synergies, etc. Suppose ACQUIRER and TARGET are in the same industry, and the rationale for the merger is to achieve economies of scale. Assume the merger is expected to generate cost savings over a period of several years, with a present value of \$2 billion. Thus, the value of COMBINED is \$32 billion, that is, \$20 billion + \$10 billion + \$2 billion.

From the view of ACQUIRER's management team, the question is whether the merger generates +NPV. That is,

$$\text{Eq. 2} \quad \text{NPV}_{\text{MERGER}} = V_{\text{COMBINED}} - V_{\text{ACQUIRER}} - \text{Purchase Price}_{\text{TARGET}}$$

ACQUIRER should proceed not only if there are gains from the proposed merger -- that is, that it satisfies Eq. 1, but also that it receives part of the merger gains such that the NPV is positive in Eq. 2; in other words that it does not overpay for TARGET. In the example above, assume the merging parties split the value creation evenly. Thus, the NPV of the merger is \$1 billion from ACQUIRER's perspective as it acquires TARGET for \$11 billion. In this case, the merger creates overall value, and each firm realizes part of the merger gains. Of course, if ACQUIRER had paid \$13 billion, the merger could have created value, yet ACQUIRER would have overpaid. In this case not only would TARGET receive all the merger gains, but it also would have received an extra \$1 billion due to the overpayment by ACQUIRER.² The above example of a bidder overpaying for a target company might appear to be a silly textbook exercise, but it is quite common in the real world.

² Hypothetically, it is possible that ACQUIRER decides to proceed with the merger even if it does not satisfy Eq. 1 and hence does not produce overall economic value. But in this scenario ACQUIRER would need to underpay for TARGET by an amount sufficient to offset the overall value destruction from the merger. In other words, the merger could create +NPV for ACQUIRER simply because it bought TARGET below its standalone value, accounting for the value destruction. In a competitive market for corporate control, this scenario is highly unlikely.

MEASURING THE GAINS/LOSSES FROM MERGERS

Announcement Period Abnormal Returns

The cleanest evidence on whether mergers create value for shareholders comes from short-term event studies, where the average abnormal stock market reaction at merger announcement is a gauge of value creation or destruction. In efficient capital markets, stock prices immediately adjust to a merger announcement, incorporating any expected value changes. Table 1 displays abnormal returns measured over a three-day window surrounding the merger announcement for both targets and acquirers, as well as for the targets and acquirers combined.

Table 1
Announcement-Period Abnormal Returns for Mergers³

	Target	Acquirer	Combined
1973-1998	+16.0%	-0.70%	+1.80%
1980-2005	+14.6%	+0.73%	+1.06%

Target firm shareholders are clear winners in merger transactions. Target firms realize significant increases in shareholder value -- +16.0% average abnormal return during the 1973-1998 period, and slightly less, +14.6% average abnormal return, for the period from 1980-2005. In results not shown here, the average target abnormal return increases to 25% for longer windows of time, which start about a month before the merger announcement and go through the closing of the merger transaction. The purpose of the long window, roughly four months, is to reflect rumors and leaks before the merger announcement, and to capture the resolution of uncertainty at the merger closing date.

The evidence for value creation for acquirers is not clear cut. Over the 1973-1998 period, the average abnormal return to acquirers is -0.70%, versus +0.73% for the period from 1980-2005. In terms of statistical significance, neither of these estimates is significant. Thus, acquirers don't appear to be losers, but they aren't clear winners, based on the evidence above. It is also worth pointing out there is a substantial amount of cross-sectional variation in the acquirer returns across the acquisitions. I am just reporting the averages here. While the average acquirer return does not appear to be statistically different from zero, there are cases in which the acquirer return is hugely positive, as well as other cases where it is hugely negative. Moreover, a significant positive stock price reaction to an acquirer does not guarantee future success with the acquisition. as it is simply a reaction at the time of the acquisition announcement. Actual results can diverge widely from the initial expectations. The same is true for mergers in which the stock market's initial assessment is negative.

³ These results are summarized from two influential review studies. Andrade, Gregor (Booth Ph.D. and now at AQR Capital), Mark Mitchell, and Erik Stafford (Booth Ph.D. and now at HBS), "New Evidence and Perspectives on Mergers," *Journal of Economic Perspectives*, 2001 and Betton, Sandra, Espen Eckbo, and Karin Thorburn, "Corporate Takeovers," *Handbook of Corporate Finance: Empirical Corporate Finance*, 2008.

On a combined basis, the returns are positive for both periods, +1.80% for the 1973-1998 period and +1.06% for the 1980-2005 period. Moreover, these results hold up after 2005, based on announcement-period returns of mergers from our proprietary merger database at AQR Arbitrage. Thus, mergers appear to create value for shareholders overall. But the announcement period gains from mergers seem to accrue mainly to shareholders of target firms. Due to competitive markets with auctions, bidding wars, and the threat of potential bidders, it is intuitive that target management extracts most of the unexpected value creation resulting from merger announcements. Also, remember that the management of target firms are not eager to give up their senior leadership positions. Higher premiums are one method to convince management to agree to the merger.

The skeptical view of mergers by the financial community that I mentioned at the beginning of this lecture note stems in part from three observations. First, many mergers fail after the fact, and are thus roundly criticized. Second, in many cases, the acquirer's stock price takes a beating at the time of the merger announcement, a point that this lecture note covers below. Third, the average return to acquirers, as shown above, appears minuscule. In other words, why go through all the trouble of a significant corporate event if it only generates a small increase in the stock price, on average?

The expectation in the marketplace is that managers of public corporations engage in projects which create value. Thus, the stock price of corporations reflects the expectation of +NPV project announcements often several years into the future. Given this, the reaction of the stock price to a project announcement reflects two components: relative size and timing. If the project announcement reveals a +NPV that is larger than expected, a positive reaction in terms of the stock price will occur. In terms of timing, when a firm announces a project there is a resolution of uncertainty; that is, the project is announced today rather than at an expected later date. Put differently, it is challenging for corporate management to manufacture unexpected alpha in real asset markets. For example, if a management team has a fantastic track record of investing in +NPV projects, the firm's stock price will reflect their talents (and results) even before their next acquisition announcement.

Form of Payment and Mergers

The full sample results, as described above, hide an important distinction based on the financing of mergers. Specifically, mergers financed with stock, have different value effects than mergers funded with cash.

From the acquirer's perspective, a stock-financed merger consists of two simultaneous transactions, a merger, and an equity issue. Recall from the *Information Asymmetry and Capital Structure* lecture note, equity issues generate negative abnormal returns averaging -2 to -3 percent during a short period around the equity issue announcement. As discussed, theoretical models can explain this finding, mostly focusing on information differences between managers and outside investors. The basic idea is that managers are more likely to issue equity when they perceive the stock market overvalues the firm's shares. The issue is not so much that management wishes to issue overvalued shares; instead, they want to avoid issuing undervalued stock. Consequently, rational investors downwardly adjust their expectations of future cash

flows when equity issues are announced, thereby triggering a stock price decline. Because of that, it is essential to separate stock-financed mergers from mergers financed with debt or retained earnings, to have a better appreciation of the merger wealth gains from the acquirer's perspective.

Table 2 displays the announcement-period returns based on the form of financing. Interestingly, the negative announcement-period return for acquiring firms is limited to those that finance with stock. Acquiring firms that use at least some stock to finance their mergers have reliably negative average abnormal returns of -1.5%, versus +0.40% for acquirers that don't use any stock in the funding of their mergers. These findings are consistent with the notion that the reaction to the announcement-period stock price for the acquirer to a stock-financed merger represents a combination of a merger announcement and an equity issue which may signal over-priced stock.

Table 2
Announcement-Period Abnormal Returns for Mergers⁴

	Target	Acquirer	Combined
Stock	+13.0%	-1.5%	+0.6%
Non-Stock	+20.1%	+0.4%	+3.6%

Target firm shareholders also do better when there is no equity financing. Financing has a significant impact on inferences about the overall value creation from mergers. The combined average abnormal returns for stock-financed mergers are +0.6% -- in other words, close to zero; it increases to +3.6% for non-stock financed mergers. Looking at value creation on the left-hand-side of the balance sheet from mergers, the analyst will give more weight to the +3.6% estimate for the non-stock financed mergers. Moreover, as indicated above, these stock price reactions reflect the resolution of uncertainty; that is, the stock price already incorporates the expectation of merger announcements.

The Impact of Merger Arbitrage on Acquirer Returns⁵

Soon after launching a merger-arbitrage practice at AQR Arbitrage⁶ in 2001 based on our academic research, we started to notice a phenomenon which is counter to one of the underlying assumptions in perfect capital markets -- that is, the assumption traders do not have an impact on market prices. In our anecdotal observation, the negative reaction to the stock price for stock mergers on the announcement date appeared to be negatively correlated to the amount of shorting taking place by merger arbitrageurs in the acquirer's stock price. To better understand our anecdotal observation, a cursory description of merger arbitrage is provided below.

⁴ These results are summarized from the two earlier-mentioned review studies.

⁵ If you have interest in a non-technical reading of merger arbitrage, check out Chapter 21 from a textbook I co-authored on mergers. A copy of the chapter is located on the Canvas page.

⁶ AQR Arbitrage operated as CNH Partners (Chicago, Northwestern, and Harvard) during 2001-2021.

Merger arbitrage is a specialized investment strategy which amounts to providing insurance to target firm shareholders against deal failures. As noted earlier, target shareholders realize large wealth increases when mergers are announced. As a result, the target shareholders may have an outsized weight in the target firm, depending on their investment objectives. Second, the future return distribution of the target firm is dramatically altered, as the target's stock price trades at a small discount to the acquirer's offer. If the merger is successful, this discount diminishes as the merger approaches consummation, generating a small positive return during the period between merger announcement and the merger closing. However, if the merger fails, the target's stock price usually plummets, generating a large negative return. Merger arbitrageurs receive compensation, via the deal spread, for providing liquidity to target shareholders and for bearing this risk of deal failure.⁷

In the case of stock mergers, the arbitrageur not only buys shares in the target firm, but also shorts the stock of the acquiring firm to isolate the deal risk. Fixed-exchange ratio stock mergers are the most straightforward of stock-financed mergers. At the merger announcement, the acquirer agrees to exchange a fixed number of acquirer shares for each target share. Consequently, for each target share purchased, the merger arbitrageur sells short the fixed number of acquirer shares per the merger agreement. These trades are typically placed simultaneously to minimize mis-hedging risk.

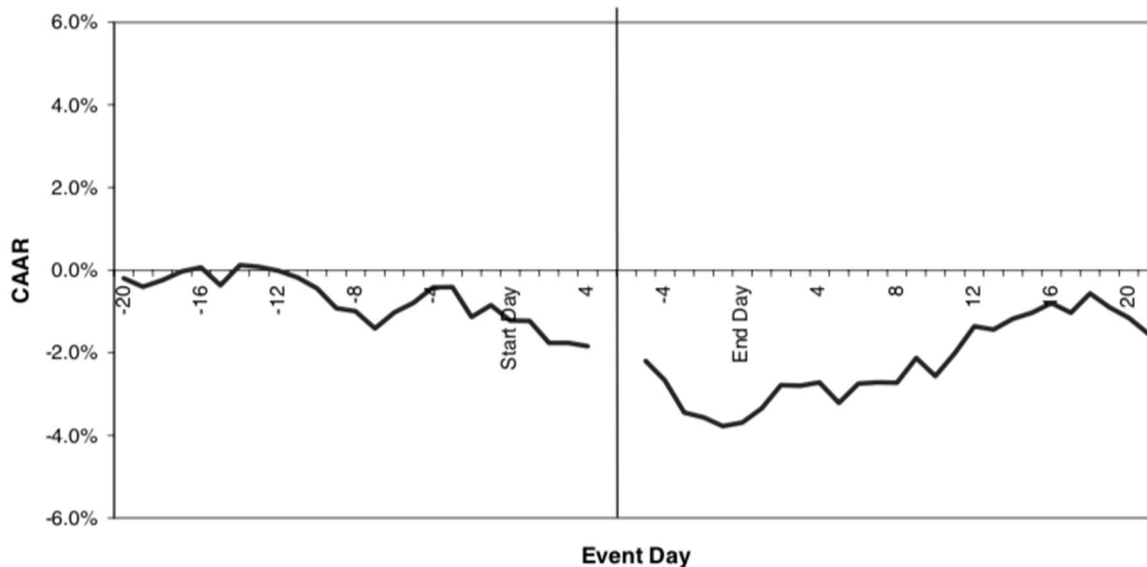
Not surprisingly, management of the acquiring firm often criticizes the short selling around the merger period, as they view it as negative sentiment regarding the merger. The reality is that merger arbitrageurs are facilitating the merger, and playing a useful role in corporate finance, by their willingness to hold the shares of the target firm until the acquirer can consummate the merger. And when the merger closes, the short position in the acquirer collapses against the long position in the acquirer (which was long on the target until the merger closed).

Our research documents that nearly half of the negative stock price response to fixed-exchange stock mergers is due to the short-selling pressure by merger arbitrageurs at the time of the merger announcement.⁸ In a different type of stock merger, floating-exchange stock mergers, the number of acquiring shares is unknown until just before the merger closing. For example, the acquirer will offer \$20 in their stock, and the exchange ratio is set based on the acquirer's stock price just before the merger is consummated, typically a few months after the merger announcement. Consequently, arbitrageurs don't short the acquiring stock until a pricing period immediately before merger closing, which determines the hedge ratio. Interestingly, in these stock mergers, the acquirer's stock price increases 0.58% at the merger announcement, versus declining 2.73% for acquiring companies with fixed-exchange ratios. However, near the merger completion when the exchange ratio is provided, the acquirer's stock price declines 3.18% for acquirers using a floating exchange ratio. That is, for a floating-rate stock merger, the stock price of the acquirer increases at the announcement just like for a cash merger, even though the stock market has full information that stock will be the form of payment. But near the end of the merger, arbitrageurs began to short the stock of the acquirer once the exchange ratio is revealed. The graph on the next page shows the cumulative average abnormal return around merger closings for floating ratio stock mergers.

⁷ Mitchell, Mark and Todd Pulvino, Characteristics of Risk and Return in Risk Arbitrage, *Journal of Finance*, 2001.

⁸ Mitchell, Mark, Todd Pulvino, and Erik Stafford, "Price Pressure around Mergers," *Journal of Finance*, 2004.

Pricing Period CAAR for Floating Ratio Stock Mergers



The pricing period is set once the merger completion date is known and there is no new merger information around the closing date. However, as shown above, the stock price declines significantly during this period when there is substantial short selling by arbitrageurs to hedge their merger arbitrage positions. There appears to be strong evidence that price pressure caused by merger arbitrageurs is a significant driver of the negative stock price reaction to stock mergers. There is also strong evidence that traders can have a substantive impact on stock prices, a fact that is at odds with perfect capital markets, which assumes prices are perfectly elastic.

Pre- and Post-Merger Profitability

Many academic studies have focused on various measures of operating performance to identify the sources of gains from mergers, and to determine whether the expected gains at the merger announcement are ever actually realized. If mergers create value for shareholders, the benefits should eventually show up in the cash flows of the firms. To test this hypothesis, a highly-cited study by Andrade, Mitchell, and Stafford focus on operating margins, specifically cash flows to sales.⁹ We create a measure of average abnormal operating performance, which is the difference between the combined firm's operating margin and the corresponding industry median operating margin. On average, there is an improvement of roughly 1 percent in operating margins following the merger, which is statistically significant. As discussed later, industry shocks are a primary source of merger activity. To the extent the industry benchmark firms are also undertaking value-enhancing mergers or otherwise restructuring internally in response to industry shocks, the measured change in operating performance will be biased downwards.

⁹ Andrade, Gregor, Mark Mitchell, and Erik Stafford, "New Evidence and Perspectives on Mergers," *Journal of Economic Perspectives*, 2001.

Overall, the improvement in post-merger operating performance is consistent with the positive announcement-period stock market returns to the combined acquirer and target returns.

MERGER WAVES

Mergers tend to occur in waves, rather than evenly through time. There has been a total of six waves in U.S. corporate history:

1st Wave (1895-1904)

Horizontal mergers which resulted in the monopolization of industries. The U.S. Congress created the Sherman Antitrust Act to halt these mergers.

2nd Wave (1922-1929)

During a high growth period, vertical integration occurred, driven by developments in transportation, communications, and merchandising.

3rd Wave (1965-1969)

Firms began to diversify outside of their core industries, many of them creating large conglomerates.

4th Wave (1981-1989)

The 1980s was the decade of the big deal, hostile takeovers, and leveraged buyouts. Roughly half of all large firms received a takeover offer.

5th Wave (1993-1999)

Strategic mergers dominated this period, with many stock-financed megamergers and a high number of global mergers.

6th Wave (2003-2007)

A period of high liquidity and leveraged friendly acquisitions by private equity firms.

For each of the above waves, different forces seem to be at work in different environments. However, two broad generalizations can be made about them. First there were large underlying economic and technological changes taking place during the various merger waves. Second, the waves occurred mostly during periods of high stock market valuations.

There are two leading hypotheses to explain merger waves. The first is a neoclassical explanation, namely that merger waves are driven by economic shocks, positive and negative, to various industries. The theory is that these shocks to industries cause shifts in industry structure, and mergers are often the least-costly way to adapt to the new structure. Harold Mulherin and I laid the early work for this theory back in the

mid-1990s and supported it with empirical evidence that a large proportion of merger activity is driven by economic, financial, regulatory and technological shocks to industries.¹⁰

The alternative theory is that managers time market overvaluations of their firms and thus buy other firms when their stock prices are high. In other words, there is a behavioral story behind such activity. There has been some anecdotal and systematic support for the overvaluation story. However, when researchers have compared and tested the two hypotheses, the conclusion has been mainly that it is the clustering of shocks to industries that results in the merger waves, and credit tends to be given to my research with Mulherin. Nonetheless, the behavioral story has considerable merit and may explain numerous mergers.

FREE CASH FLOWS AND AGENCY COSTS

The *Agency Costs and Capital Structure* lecture note describes how agency costs results in company management not always acting on behalf of the shareholders. Before the seminal work by Jensen and Meckling in 1976, the academic literature largely ignored agency costs. And indeed, the initial response to their work was not well received when they presented their paper before publication as it upset the status quo in a significant way. Since the publication of the Jensen and Meckling paper, the agency cost theory literature has exploded, and it continues to be a vibrant area of both academic research and practitioner research as well. In effect, its influence has been to see the world of “profit maximization” as more aligned with the real world, where sometimes managers are inclined to make decisions which are at odds with maximizing shareholder wealth.

Jensen and Meckling suggest that one way to avoid the agency costs associated with issuing equity is for the owner to raise all external funds via debt. Indeed, they proposed the leveraged buyout (LBO) years in advance of the LBO movement among many U.S. corporations. Given the prevalence of shareholders who are not part of the corporation’s management team, Jensen and Meckling recognized there must be agency issues that come into play regarding the debt taken on in the LBO model.

One benefit of going to the capital markets to finance new projects is that the management team is forced to convince the capital markets that the project merits the necessary capital. In contrast, for firms which have plenty of retained earnings to invest in the project, the management team doesn’t face the same level of outside scrutiny for the project under consideration.

Managers often have an incentive to grow their firms larger than the optimal size. Increased compensation, power, and prestige are all associated with larger firms. Thus, it is logical for many managers to focus on making their firm larger, even if it might mean investing in –NPV projects. Many

¹⁰ Mitchell, Mark, and Harold Mulherin, “The Impact of Industry Shocks on Takeover and Restructuring Activity,” *Journal of Financial Economics*, 1996. This paper had a huge influence on subsequent academic research soon after it was published and continues to be highly influential to this day.

corporations, especially large corporations, will sometime generate large amounts of free cash flow -- cash flow over and beyond that necessary to finance all +NPV projects.¹¹

Jensen developed a highly influential theory, published in 1986, by which debt can be used to monitor and motivate managers, especially those managers with free cash flow.¹² Consider a firm which has invested in several past +NPV projects and it now generate excess free cash flow. As discussed in the *Dividend Policy* lecture note, management could choose to increase the dividend, and or repurchase stock, to pay out the excess cash. It is also possible that there are no further +NPV projects to invest in, and management chooses to invest in -NPV projects, perhaps consistent with empire building.

The beauty of debt, according to Jensen's free-cash flow theory, is that it

"enables managers to effectively bond their promise to pay out future cash flows. Thus, debt can be an effective substitute for dividends, something not generally recognized in the corporate finance literature. By issuing debt in exchange for stock, managers are bonding their promise to payout future cash flows in a way that cannot be accomplished by simple dividend increases. In doing so, they give shareholder recipients of the debt to take the firm into bankruptcy court if they do not maintain their promise to make the interest and principal repayments. Thus, debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers. These control effects of debt are a potential determinant of capital structure." (p. 324)

Jensen's point is that debtholders have contractual means of imposing discipline on management which shareholders do not possess. For shareholders to remove management, they must do so via a costly proxy battle or takeover. But if the firm is levered, the debtholders can more easily remove management, in certain states of the world, for instance, if they miss their interest and principal payments.

Consider, for example, the market-value balance sheets for ALLEQUITY and LEVER below. Assume that both firms are presented with a +NPV project opportunity which requires an investment of 1,000. ALLEQUITY could undertake the investment via existing retained earnings. In contrast, LEVER would have to seek external financing via the debt or equity markets to undertake the +NPV opportunity. The discipline of having to seek external funds will more likely dissuade the firm from accepting the project if it were -NPV rather than +NPV. And even aside from having to go to the capital markets to raise financing for new ventures, the higher leverage at LEVER, versus the considerable "financial slack"¹³ at

¹¹ Note that this definition is different from the accounting definition of free cash flow which is simply operating cash flow minus capital expenditures. Here, when accounting for agency costs, free cash flow is operating cash flow minus capital expenditures on +NPV projects which is an important distinction.

¹² Jensen, Michael, "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers," *American Economic Review* (1986).

¹³ *Information Asymmetry and Capital Structure* covers the benefits of "financial slack," especially for growth firms with high information asymmetries.

ALLEQUITY, also results in more careful decision making and cost controls for the existing assets-in-place, as the margin for error is much slimmer due to the mandatory interest payments.

Table 2: Project Selection at ALLEQUITY vs LEVER

	ALLEQUITY	LEVER		ALLEQUITY	LEVER
Cash	1,000	25	Debt	0	3,000
Other Assets	5,000	5,000	Equity	6,000	2,025
Total Assets	6,000	5,025	Total Liabilities & Equity	6,000	5,025

Jensen’s free cash flow theory predicts that leverage can lead to improved managerial decision making. Academic research has generally provided considerable support for Jensen’s free cash flow theory. For example, the stock market responds more positively to acquisition announcements by acquirers with higher leverage than with zero or low leverage.¹⁴ The results are consistent with the logic that levered firms must go to the capital markets if they are to expand the firm via acquisition, and thus are subject to external monitoring due to the need to raise external funds. But for unlevered firms with excess cash, the management team is not under pressure to seek outside funding, and thus is more immune from external forces. The results imply that agency costs are a major detractor to shareholder wealth creation, and that capital structure adapts to account for them. These results do not necessarily mean that companies should always increase leverage. Instead, the point is that agency costs are real, and debt is one mechanism which is used to control them. Yet debt is not used nearly as much as Jensen’s free cash flow hypothesis might imply. This seemingly underutilization of debt suggests there are some substantive costs to having too much debt, as discussed in the lecture notes *Agency Costs and Capital Structure* and *Information Asymmetry and Capital Structure*.

FREE CASH FLOW THEORY AND DISCIPLINARY MERGERS

One major critique of mergers has to do with managerial motives. Various studies have shown that self-interested managers may pursue mergers which benefit them personally, at the expense of their shareholders. To the extent that management compensation is positively correlated with overall firm size, there is an incentive for management to pursue a merger even if it has negative net present value. Is there enough scrutiny to ensure that this negative outcome doesn’t happen? According to Jensen’s free cash flow theory, the market will force debt, a leveraged buyout at the extreme, on firms which have free cash flows -- that is, profitable firms which invest their retained earnings in –NPV projects.

¹⁴ Maloney, Michael, Robert McCormick, and Mark Mitchell, “Managerial Decisions and Capital Structure, *Journal of Business*, 1993. This paper was written when I was an Assistant Professor at the University of Chicago. My co-authors, Maloney and McCormick spent most of their career in the Department of Economics at Clemson University. McCormick was also Dean of Clemson’s Business School for a few years. Maloney and McCormick were intellectual giants at Clemson, and both recently passed away, McCormick most recently in September 2023.

My first research agenda after graduate school and initial foray into understanding mergers was to focus on this very question.¹⁵ This research took place at the end of the 1980s, a period of very high merger activity, particularly in terms of hostile attempts to acquire large firms. Indeed, the hostile activity against large mainstream corporations was so prevalent that many of the corporations enlisted various states and the federal government to intervene to reduce hostile mergers. My co-author, Ken Lehn, and I took the approach of looking at the historical merger record of those corporations which were subject to merger pressure, often hostile pressure.

Goodyear Tire provides anecdotal evidence of this. During the 1980s, Goodyear decided to diversify into the petroleum industry, supposedly to hedge its exposure to oil (petroleum is the second leading component in the production of tires). When Goodyear announced its intention to acquire a large oil and gas exploration firm, its stock price dropped nearly 15% over a few days surrounding the acquisition announcement. A few years later, Sir James Goldsmith attempted a hostile takeover of Goodyear, intending to divest all of Goodyear's non-tire businesses. With the help of the Ohio State Legislature, Goodyear was able to stymie the hostile takeover by Sir James Goldsmith. Yet it was still forced to divest its non-tire assets, and to recapitalize the firm via a debt-financed share repurchase.

Lehn and I find that what happened at Goodyear is representative of what happened in a large sample of mergers. Our research documents that acquirers which made value-reducing acquisitions, based on their announcement-period stock price reactions, were subsequently subject to hostile takeover pressure, often with the intent on unwinding those bad acquisitions, at least judged by their initial stock price response. Firms which made acquisition announcements that didn't result in a negative stock price response were less likely to be subject to takeover pressure. Our finding was that the market for corporate control served as a useful mechanism to ensure that good mergers were more likely to occur than bad mergers. In our words, "takeovers can be both a problem and a solution."

The hostile role of discipline via takeovers was played out by the likes of T Boone Pickens, Sir James Goldsmith, and Carl Icahn during the 1980s. Today we are witnessing a significant revision of the role by activist hedge funds. Today's hedge fund activists target poorly performing firms, many of which had been acquirers previously. Overall, hedge fund activists have brought about higher stock returns and operating performance for the targeted firms. And Carl Icahn, mentioned above for his disciplinary role in the 1980s, is still at it in today's market for corporate control.

¹⁵ Mitchell, Mark and Ken Lehn, "Do Bad Bidders Become Good Targets?" *Journal of Political Economy* 1990. This paper received a lot of attention not only in academia, but also in the mainstream press where it was significantly highlighted by *The Wall Street Journal* and *The New York Times*.