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Downsizing and Value Creation at General Dynamics: A PE-Like Solution for Industries That Must Shrink

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It may seem surprising that a company in a declining industry could be managed successfully for shareholder value, but it has been done. During the three-year period starting January 1, 1991, and thus coming on the heels of the end of the Cold War and expected sharp cutbacks in U.S. defense spending, William Anders and his mostly new management team found ways to increase the wealth of the public shareholders of defense contractor General Dynamics (GD) by over 500%! In so doing, the company may well have provided at least a partial template for other companies in declining industries—think of today's tobacco companies, and oil and gas majors like ExxonMobil—now facing an unambiguous "market mandate" to shrink.

For companies in industries with excess capacity that are earning returns on operating capital well below the "cost of capital," economic efficiency generally requires that capital be transferred to other sectors with the promise of growth and higher returns. But recognizing that very few companies in declining industries have succeeded in "transforming" themselves into growth companies—for the simple reason that pursuing a very different investment opportunity set typically requires different corporate core competencies and experience—creating value in declining industries usually means returning much if not most of the capital to shareholders, and as expeditiously as possible.[1]

The downsizing, restructuring, and partial liquidation of General Dynamics was a remarkable economic achievement in three important respects. First, managing effectively in a declining business environment required dramatic changes in traditional corporate policies, particularly compensation policies, designed to limit the normal resistance to such changes that tends to well up in employees at all levels of the firm. Second, GD's operating changes had to be closely coordinated with a series of complicated corporate financial transactions that were unprecedented for this, and possibly any, enterprise up to that point. Third, when carrying out radical changes in corporate policy successfully, senior management had to confront extraordinary public relations, political, and labor union challenges—challenges that were made difficult in large part because GD effectively *led* the industry in shrinking, undertaking major cutbacks in investment well before any of its peers recognized either the value of or the need to do so.

Value Creation and Incentives in the Defense Industry

Traditional public company executive incentive packages are likely to work well in strong growth economies where the actions that create size and growth are closely correlated with the actions that create value. But such packages rarely provide effective incentives for downsizing, even when that is clearly the value-maximizing strategy. Because firm size or "span of control" typically establish base compensation levels

*This article is a highly condensed version of a paper that appeared in the *Journal of Financial Economics* in 1995. See Jay Dial and Kevin J. Murphy, "Incentives, downsizing, and value creation at General Dynamics," *Journal of Financial Economics* 37 (1995) 261-314.

1 Michael C. Jensen, 1986, "Agency Costs of Free Cash Flow: Corporate Finance and Takeovers," *American Economic Review* 76, no. 2.

for managers in public companies, such managers are naturally reluctant to shrink their own operations.[2] And because short-run accounting profits also often affect compensation, managers generally prefer to avoid large restructuring charges that reduce GAAP income.[3] Moving resources out of an industry reduces the value of managers' industry-specific human capital, and may ultimately cost managers their own jobs. Downsizing is also painful for managers personally, particularly those with long company tenure, since power, prestige, and community standing all tend to be more correlated with growth and firm size than efficiency gains and shareholder value.

For all these reasons, then, public company managers tend to view survival and not value creation as the ultimate objective of the organization. And this preference in turn has led a great many U.S. companies to choose ill-advised and costly diversification into sectors where they had no expertise or competitive advantage.

Precisely because of this natural corporate reaction to aim for survival at all cost, providing strong managerial incentives for value maximization is critically important in industries with excess capacity. Resistance to downsizing can be limited by explicitly adopting a corporate objective of creating shareholder value and tying managers' rewards to the same. Because the decision to downsize must come from the top of the organization, stock-based compensation can be concentrated among top managers, while using other kinds of incentives lower down.

The Hiring of Anders: Changes in GD Strategy and Structure

A former Air Force pilot and Apollo 8 astronaut with extensive military, government, and defense industry experience,[4] William Anders joined GD as a vice chairman on January 1, 1990 and succeeded the current CEO, Stanley Pace, when Pace retired one year later. GD guaranteed Anders substantial minimum base salaries over the next two years, generous lifetime retirement benefits, and a sign-on bonus in the form of restricted stock and GD stock options rather than cash. (His generous employment package notwithstanding, Anders always believed his legacy would come from recognition as the first (with two others) to circle the moon, and not from his accomplishments in rationalizing corporate America.)

In the year before he became GD's CEO, Anders devoted himself to evaluating the company's strategy, operations, markets, and financial structure. He concluded that GD was heading towards serious financial trouble. The company had lost \$578 million in 1990 on \$10.2 billion in sales, driven by over \$1.3 billion in write-offs, including \$700 million over its troubled A-12 Navy attack jet program. What's more, it announced 8,500 layoffs in 1990, and both Moody's and S&P downgraded the firm's debt ratings.

Upon becoming CEO in 1991, Anders immediately announced his goal to transform GD into a shareholder-driven enterprise. He believed he needed a new management team to alter the corporate culture fundamentally and a new compensation plan for top managers that tied their pay more directly to shareholder wealth creation.

Nevertheless, Anders still had to convince his board of directors and existing top managers that GD really was heading for a crisis. Most GD managers believed they could survive the impending industry shake-out. Views began to change after Anders brought in a Wall Street analyst who noted that GD's stock-price performance ranked 497 in the S&P 500. As such, GD's market value implied massive value destruction—that is to say, large continuing investment in low-return projects.

GD soon made wholesale management changes in its upper echelons. Eighteen of the top 25 executives were either new to GD or to their positions. Anders promoted Executive Vice President James Mellor to president and chief operating officer and brought him onto the board of directors. Anders' business plan called for dividing the company into business areas and pushing decision-making authority further down into the hierarchy. Anders introduced intensive training sessions teaching business basics and investment analysis so that GD's managers would "think like business people, not like aerospace engineers."

And as Anders went on to say,

I didn't want to take the company private, but I wanted a private-company mentality. I wanted to break out of the "hired hand" mentality. There is an enormous difference between being a smart hired hand and being a partner.

2 The pay-size relation has been institutionalized by widely utilized compensation surveys that use size as the primary determinant of pay levels. See George P. Baker, Michael C. Jensen, and Kevin J. Murphy, 1988, "Compensation and Incentives: Practice vs. Theory," *Journal of Finance*, July.

3 See Paul Healy, 1985, "The Effect of Bonus Schemes on Accounting Decisions," *Journal of Accounting and Economics* 7, no. 1-3; and See Patricia Dechow, Mark Huson, and Richard Sloan, 1994, "The Effect of Restructuring Charges on Executives" Cash Compensation," *Accounting Review* 69, no. 1 for evidence that compensation committees may implicitly adjust accounting-based bonuses for the negative consequences of restructuring charges.

4 Anders had served as executive secretary of the National Aeronautics and Space Council in Washington (1963-72), commissioner of the Atomic Energy Commission (1973-74), head of the Nuclear Regulatory Commission (1975-76), and Ambassador to Norway (1976-77). In 1977, he joined General Electric as general manager of its nuclear energy products division and then its aircraft equipment division. In 1984, Anders was named senior executive vice president for operations at Textron's defense businesses as well as several consumer products lines.

They brought me in as a hired hand and I changed it to a partnership arrangement. I wanted to develop a management/shareholder partnership and create an environment where there was no doubt in anyone's mind about what we were here to do: create shareholder value.[5]

Anders also believed that bonuses tied to earnings and other accounting-base measures of operating performance were inappropriate for a shareholder value-focused company. Managers needed equity-linked incentives. And so did people lower down in the organization.

To encourage a partnership mentality among GD's 62,000 lower-level employees, Anders and the compensation committee agreed to change the company's Savings and Stock Investment Plan (SIP) so that GD would match employees' investments in the company's stock. At the same time, GD would contribute only 50 cents for every dollar placed in any investment *other* than the GD common. Prior to the introduction of the new SIP in February 1991, GD employees held 3.7 million shares (about 8.8% of shares outstanding). By June 1992, employees held 6.2 million shares, representing almost 15% of the shares outstanding.

In addition to the SIP (covering all GD employees), GD's top 1,150 executives received options to purchase 1.6 million shares of GD stock at an exercise price of $25.5625 (the market price on the February 15, 1991 grant date), and also received $19 million in bonuses paid in a combination of cash and restricted shares. The top 1,150 executives were also allowed to exchange 1.94 million "out-of-the-money" options (with average exercise prices of about $55) for approximately 538,000 new "at the money" options with an exercise price of $25.5625. The exchange rate for each old option was determined such that the value of the old and new options would be roughly equivalent based on the Black-Scholes option formula.[6] The fact that almost all of the executives participated in the exchange program suggests that the executives, as a group, had no idea of the upside potential in GD's stock.[7]

GD's top 150 executives received option grants that were approximately three times the normal annual grant, and also received restricted stock with a promise that they'd receive approximately the same number of shares in 1992 and 1993 that they received in February 1991. In contrast to typical restricted stock awards in which the manager receives a fixed dollar value of stock each year, GD's fixed-share promise was "front-loaded," meaning that those shares provided incentives years before they were conveyed.

CEO Anders received 20,850 restricted shares and a promise that he'd receive 44,910 additional shares over the following two years. In addition, he received 271,359 stock options with an exercise price of $25.5625 (including 51,479 options under the exchange program). All told, Anders's restricted shares and the intrinsic value of his options would increase by $337,120 for each $1 increase in GD's stock price.

The Gain/Sharing Plan

The most unusual, and ultimately the most controversial, part of GD's February 1991 compensation plan was the Gain/Sharing Plan, which awarded cash bonuses for each $10 increase in GD's stock price from $25.5625. The top 25 executives (including Anders) would receive 100% of their base salary if GD's stock price increased to $35.5625 and stayed at or above this level for 10 trading days. The executives would receive a cash bonus of 200% of their base salary for each $10 increase above $35.5625 (again sustained for 10 consecutive trading days). The 25 participating executives had combined base salaries of $6.3 million, so the first $10 increase would result in a payout of $6.3 million (or about 1.5% of the $417 million gain to shareholders, based on approximately 41.7 million shares outstanding), and $12.6 million (3.0%) for each subsequent $10 increase. Half of the Gain/Sharing bonus was deferred until retirement at a favorable interest rate; the other half was paid immediately in cash but could be deferred at the recipient's request. There was no limit on the number of bonuses as long as the stock price continued to climb.[8]

The Market Reaction to GD Changes

Anders moved swiftly to streamline operations and improve profitability. He cut GD's capital expenditures from $321 million in 1990 (and $419 million in 1989) to only $82 million in 1991. Similarly, R&D spending was cut in half from the $390 million spent in 1990. GD also emphasized reductions in inventories and working capital to reduce costs and improve returns.

As shown in Figure 1, GD's stock continued to fall initially, dropping to a low of about $20 early in 1991 when

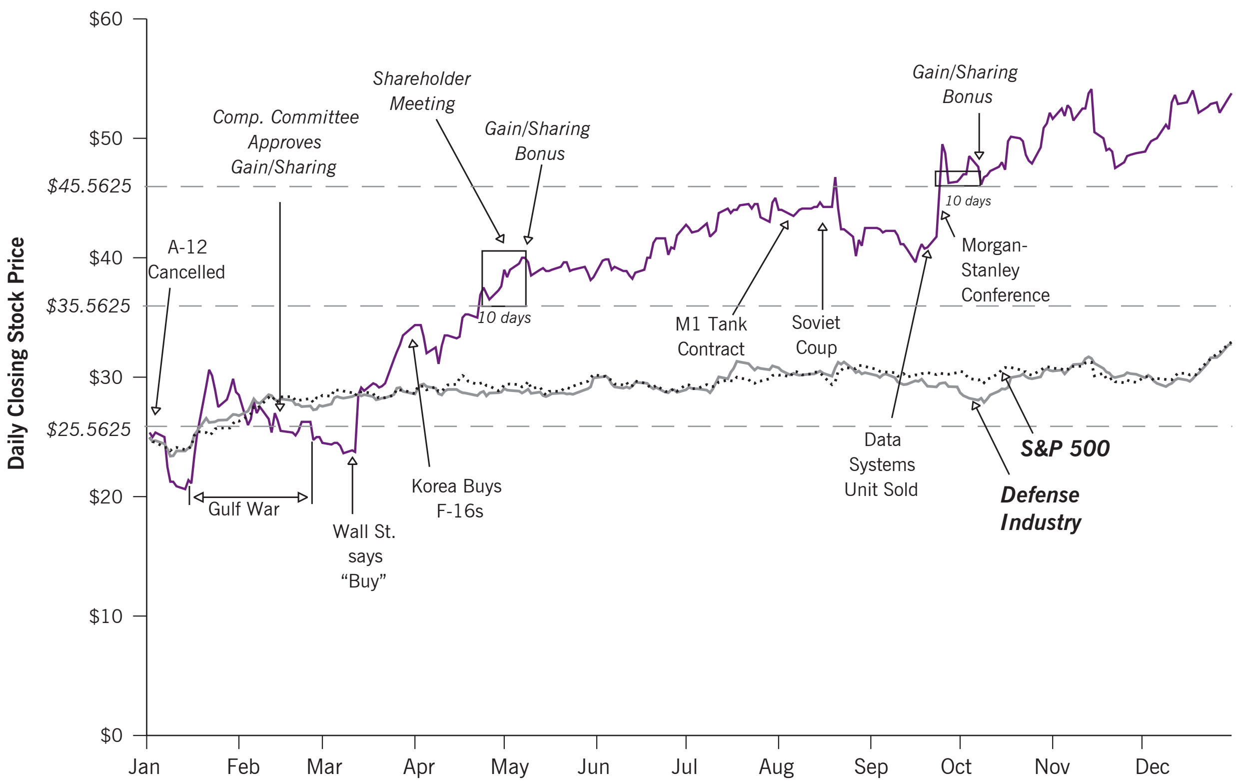
5 Kevin J. Murphy and Jay Dial, 1993, "General Dynamics: Compensation and Strategy," (A) and (B), HBS case nos. 9-494-048 and 9-494-049 (Harvard Business School, Boston, MA).

6 Although it was common for companies to reprice options following declines in stock prices, GD's option exchange program was unusual because it yielded repriced options at no additional cost to shareholders.

7 We calculated a "break-even" stock price of around $62 to $66 for most executives. Below this range, executives would be better off with the reduced number of options with the lower exercise price. Above this range, executives would be better off with the larger number of options with the higher exercise prices.

8 The expiration date of the program was February 15, 1994. Half of each award was to be deferred until retirement; the other half would be paid in cash, although the amount could be deferred at the recipient's request.

Figure 1
Stock-Price Performance of General Dynamics, 1991



Daily stock prices from Dow Jones News Retrieval and Compustat. GD-related events from company press releases, analyst reports, and the *Wall Street Journal*. Industry and S&P 500 prices are determined by appreciating GD's January 1, 1991 price by the cumulative return on the industry and S&P500 portfolios.

the Navy canceled the A-12 jet fighter program. Soon after, however, the United States and 27 other nations joined in Operation Desert Storm, in response to Iraq's August 1990 invasion of Kuwait. The air war began on January 17, and the four-day ground war ensued on February 24. GD's marquee products ("Tomahawk" cruise missiles, F-16 fighters, and M-1 "Abrams" tanks) performed spectacularly.

Nevertheless, Anders viewed these as temporary departures from the longer-term downward trend in firm profitability, arguing that the war's cost would ultimately reduce development budgets for new weapons.[9] Later that month, Anders bought 10,000 GD shares at $25.25, and Mellor bought 5,000 shares at $25.00.[10]

Market perceptions of GD's strategy began to change in mid-March 1991, when three Wall Street investment banks issued "buy" recommendations on General Dynamics. Their reports identified and emphasized three key "positives": (1) GD's new incentive plans throughout the ranks; (2) reductions in capital and R&D spending; and (3) the possibility of using large stock repurchases to return cash to shareholders. In the space of a few days after these reports, GD's stock jumped over 20%, from $23.75 to over $29. Then on April 23, following the announcement that GD would be part of the aerospace team building the Air Force's next generation advanced tactical fighter, GD's stock closed up 6.4% to $36.875, surpassing the first Gain/Sharing hurdle of $35.5625.

On May 1, 78% of shareholders approved GD's new compensation program, including the Gain/Sharing provisions. And when President Mellor made an announcement widely interpreted as predicting massive layoffs, GD's stock price closed at $39, up over 3%.[11] The next day, Anders bought another 5,000 shares at $39.50. On May 6, just

9 William Saporito, "America's Arsenal: This War Doesn't Mean a Windfall: General Dynamics," *Fortune*, February 25, 1991.

10 Alexandra Peers, "Some Insiders, Bucking Trend, Buy Stock," *Wall Street Journal*, April 10, 1991.

11 By May 6, GD's stock had closed above $35.56 for the tenth consecutive trading day, thereby triggering $5.1 million in Gain/Sharing bonuses for 19 executives.

five days after the shareholder vote, GD stock closed above $35.5625 for the tenth consecutive trading day, thereby triggering Gain/Sharing bonuses for participating executives.

As might have been predicted, the announcement of the bonuses within a week of shareholder ratification of the new compensation plan drew howls of protest. *Business Week* dubbed the company "Generous Dynamics" and quoted a Pentagon official warning Anders not to bill the "outrageous" compensation to government contracts. The media were particularly harsh to compensation committee member Harvey Kapnick, who qualified for inclusion in the bonus plan when he was named vice chairman in April 1991.[12]

But in stark contrast to the negative media reaction, the stock market reacted enthusiastically to the changes at GD. By late summer, the share price reached $44 as GD won a $750 million contract to build 641 M-1 tanks. On September 22, GD announced the sale of its Data Systems unit (GD's largest non-defense business) to Computer Sciences for $184 million. And in the meantime, GD continued to announce layoffs, 1,500 more in 1992 in addition to the 2,500 already slated for 1991.

Anders made two important announcements on September 24, 1991 in an address the *Washington Post* dubbed as the "$1.6 million speech," referring to the triggering of Anders' second Gain/Sharing payment. First, Anders dismissed diversification as a viable strategy for GD, citing a McKinsey study that claimed an 80% failure rate for nondefense acquisitions by defense contractors. Second, he predicted that GD's operating cash flows would exceed the firm's needs and so recommended returning the "excess" cash to shareholders using stock buybacks, increased dividends, special distributions, or self-tenders. These announcements caused the stock price to jump $7.75 to $49.50 over two days, achieving yet another Gain/Sharing bonus target level. And as a result, on October 8, GD announced a second Gain/Sharing payout of $1.6 million to Anders (200% of his $800,000 salary) and $12.6 million to all top managers, bringing the total payout to the 25 participants to almost $18 million, representing less than 2.2% of the $833 million increase in GD's market value.

As expected, the announcement of these Gain/Sharing payouts generated widespread criticism among politicians, labor unions, and GD employees because they came amid layoffs. Even some shareholder groups voiced concerns about the mechanics of the plan, applauding the tie of executive pay to stock-price results but questioning the shortness of the ten-day window.

Critics of GD's compensation system contended that GD's optimal strategy was obvious and that its managers should have carried out this strategy without high-powered incentives, given their already substantial salaries. Yet, even though the strategic options available to GD were also available to its competitors, GD was the *only defense contractor that responded promptly to the declining world market by taking substantial resources out of the industry.*

An outspoken critic of GD's compensation policies was former compensation consultant Graef Crystal, who claimed that "this ill-conceived plan smacks of the Marie Antoinette school of management."[13] Crystal justified his attack as follows:

> *First of all, the stock rose from a "trough," . . . and all these bonuses came while General Dynamics was "downsizing" . . . It's a scenario that hits you in the gut. This is not a case where somebody's making a lot of money because the company's doing great. This is a case of a guy getting lots of money, and he's an island of prosperity in a sea of misery.*[14]
>
> *. . . The CEO of General Dynamics must be the laziest man in the world. Look at all the incentive plans they have to give him to go to work in the morning.*[15]

The outrage over GD's Gain/Sharing bonuses illustrates the important distinction between the politics, or "optics," and the economics of executive compensation. Providing incentives to create value under excess capacity requires paying bonuses during layoffs. In addition, concentrating incentive rewards at the top management level was economically justified in GD's situation, since the decision to downsize was made exclusively by top management and accomplished without "buy-in" or meaningful incentives for rank-and-file employees.

Some critics noted that the high payments to GD executives negatively affected employee morale; but given the bleak long-term employment prospects in the defense industry, we suspect morale would have suffered at GD even if Anders worked for free.[16]

12 James E. Ellis, "More Cash than a Lottery," *Business Week*, May 20, 1991, p. 42.

13 James E. Ellis, "Layoffs on the Line, Bonuses in the Executive Suite," *Business Week*, October 21, 1991, p. 34.

14 Peter Carlson, 'Chairmen of the Bucks," *Washington Post Magazine*, April 5, 1992, p. 15.

15 Alison Leigh Cowan, "The Gadfly CEOs Want to Swat," *New York Times*, February 2, 1992.

16 Providing an interesting contrast to the GD situation, labor concessions in the steel industry were routinely coupled with cuts in top management's cash compensation. An important difference between the domestic steel industry in the 1980s and the defense industry in the 1991 is that the steel industry was already in a crisis while GD was

The GD Board Response to Political Pressure: Back to Conventional Options

GD's board of directors was bombarded by criticism even as the firm's stock price continued to climb. The compensation committee's greatest concern was now that future announcements of special distributions might cause stock prices to jump past another Gain/Sharing hurdle, further fueling the media criticism. Between February 15 and December 3, 1991, GD's stock price rose from $25.5625 to $49 per share, representing a wealth gain of nearly $1 billion for GD shareholders. But because the total Gain/Sharing payouts of $22.3 million amounted to less than 2.2% of the total shareholder gain, the shareholders themselves were not complaining.

Nevertheless, the negative public reaction to GD's Gain/Sharing bonuses drove the board to replace Gain/Sharing with conventional stock options, setting the number of options such that each $10 increase in the stock price increased the intrinsic value of the options by 200% of each executive's base salary (thus replicating the payout from Gain/Sharing). The change provides a wonderfully clear demonstration of how political forces can shape compensation policies.[17] The GD experience showed that gains from options are politically more palatable than gains paid in cash. Even though the payouts under the two plans were identical by construction, criticism of GD's compensation policies dissipated once Gain/Sharing was replaced with conventional stock options. The media focused on the $22.3 million Gain/Sharing payments to GD's top management team, while ignoring the $37 million appreciation the team realized on their options and restricted stock over the same ten months. Also eluding public notice were the huge gains of top managers and the Crown family (long-time major block shareholders) on their individual stockholdings, even though these gains were large relative to the total Gain/Sharing payments.[18]

Anders Articulates and Implements GD's Industry-Leading Strategy

By the end of 1991, and thus at the end of his first full year as CEO, Anders was publicly urging the industry both to downsize and to consolidate its businesses with the aim of "rationalizing excess capacity." He argued that only the top one or two contractors in a particular segment were likely to survive. Anders stressed that only the strongest competitors should maintain their levels of investment spending, and that most should be managing for cash and taking money out. Some should simply exit the industry.[19]

In May 1992, Anders announced that GD would remain in only those businesses where it could be #1 or #2 in the market, and only provided it could achieve "critical mass" with production large enough to justify dedicated factories. He identified four businesses that passed these two screens: military aircraft, nuclear submarines, land systems (tanks), and space systems.

To achieve the critical mass goal in GD's core businesses, Anders began discussions with Lockheed to acquire its tactical military aircraft business. Lockheed rebuffed GD's overtures but agreed that consolidation was necessary. In December 1992, Lockheed offered to acquire GD's jet business for $1.525 million, prompting speculation that GD was on a liquidation path.[20] And in December 1993, when GD agreed to sell its Space Systems to Martin Marietta for $209 million, Anders noted that GD's assets were generally being consolidated into other companies.[21]

As a result of these sales, GD was a much smaller and more-focused company with two core divisions: submarines and tanks. In 1993, GD reported sales from continuing operations of $3.2 billion, just one third of its $9.5 billion peak two years earlier. With the sale of business units, GD's work force fell dramatically. Total employment at the end of 1993 was 26,800, a 73% reduction from the 98,150 employees when Anders was appointed in 1991. Roughly 28% of GD's 1990 workforce left through attrition or were laid off (most in 1991), while 45% were active employees when their business units were sold (mostly in 1992 and 1993). The corporate headquarters staff fell from 650 to about 200 and announced plans to cut the corporate staff to just 50 by the end of 1994.

But as its sales and number of employees plunged, GD's cash balance grew from $100 million in January 1991 to over $4 billion by the end of 1993. That cash was used by GD to:

- repay $575 million (or almost 95%) of the company's debt, bringing GD's total debt to just $38 million by December 1993;

responding to early warning signs of a potential crisis in the future. But the critical question is: Could GD's ultimate performance have been obtained without the high-powered incentives that generated large bonuses?

17 For an up-to-date discussion of the role of politics in executive compensation, see Kevin J. Murphy and Michael C. Jensen, "The Politics of Pay: The Unintended Consequences of Regulating Executive Compensation." *Journal of Law, Finance, and Accounting* 3(2) (2018) 189-242.

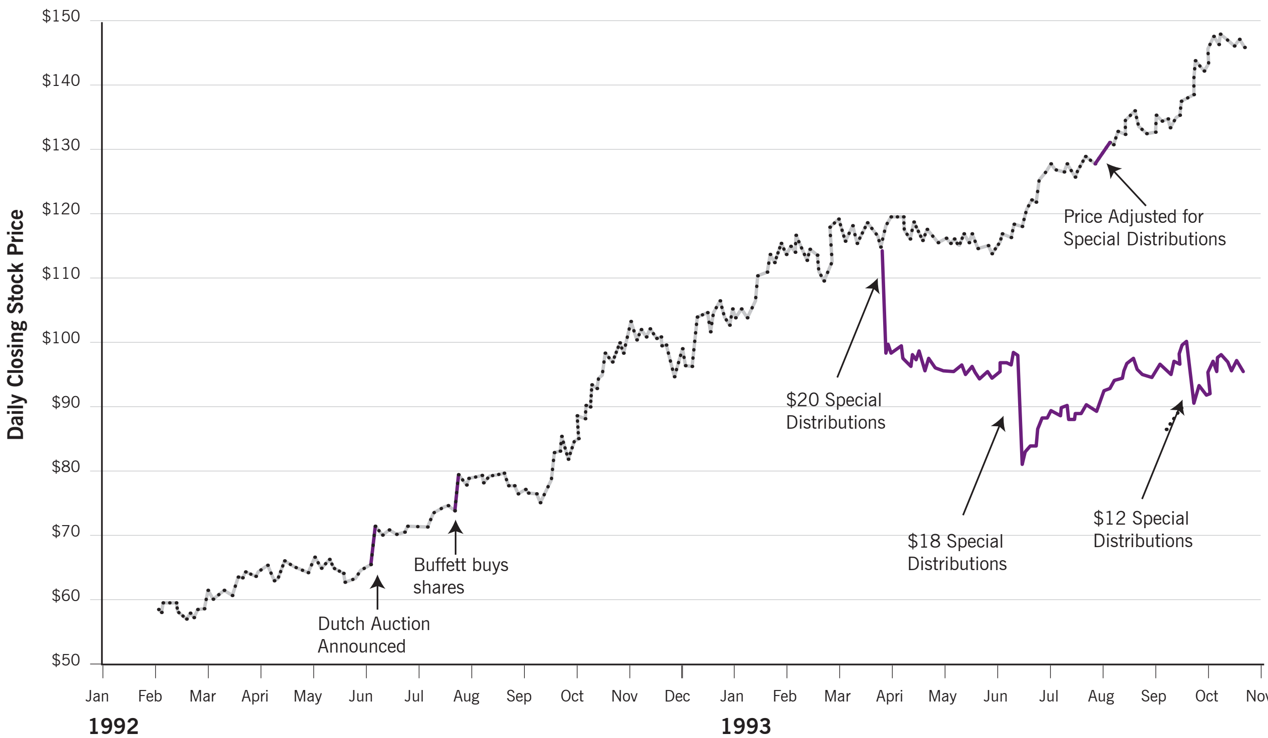
18 The Crown family's 22% ownership of GD shares appreciated by about $220 million between February 15 and December 3, 1991, nearly ten times the total Gain/Sharing payouts.

19 See, for example, William A. Anders, "Rationalizing America's Defense Industry," keynote address at the 12th annual Defense Week conference, October 30, 1991.

20 Jeff Cole, "Lockheed to Buy General Dynamics Fighter Plane Unit," *Wall Street Journal*, December 10, 1992.

21 Jeff Cole, "Swords into Shares: General Dynamics Contemplates Selling Its Remaining Units," *Wall Street Journal*, November 3, 1992.

Figure 2
Stock-Price Performance of General Dynamics, 1992-1993



Daily stock prices from Dow Jones News Retrieval and Compustat. GD-related events from company press releases, analyst reports, and the *Wall Street Journal*.

- increase annual dividends from $1 per share to $1.60 in March 1992, to $2.40 in October 1993, and to $2.80 in March 1994;
- buy back over 13.2 million shares for $960 million (at an average of $72.75 per share) through a Dutch auction in June 1992;
- return $50 per share to shareholders in 1993 through special distributions in March ($20/share), June ($18/share), and October ($12/share).

By December 1993, the company had returned $3.4 billion to shareholders and debtholders, and had a remaining cash balance of nearly $600 million (or roughly six times its cash balance on January 1, 1991).

Anders and the Buffett Imprimatur

The composition of GD's shareholders changed substantially in the summer of 1992. During the course of the Dutch auction in June, the Crown family tendered almost 4.9 million shares, reducing their stake in GD from 22% to 14.3%. Employees who held shares through GD's Savings Investment Plan were also major sellers in the auction, reducing their aggregate holdings from 14.7% to about 10% during the June auction.

But on July 24, 1992, legendary investor Warren Buffett of Berkshire Hathaway announced the *purchase* of 4.35 million shares for about $73 a share. Buffett ended up amassing a 15% stake in GD, thus displacing the Crown family as GD's largest shareholder. What's more, in an impressive display of confidence in GD's management, he gave the company his proxy to vote his shares "as long as Mr. Anders remains as chief executive officer of General Dynamics."[22]

As shown in Figure 2, during the two-year period from January 1992 and December 1993, GD's stock price rose from $55 to over $92—even after paying out $3.25/share in dividends and $50/share in special distributions. The market capitalization of GD grew from $1.05 billion in January 1991 to $2.87 billion in December 1993, during which time shareholders received $154 million in dividends, $1.55

22 "Business Brief: Warren Buffett Gives General Dynamics a Proxy to Vote Berkshire's 15% stake," *Wall Street Journal*, September 18, 1992. In May 1993, Buffett revised his grant of proxy to last "as long as Mr. Anders remains as chairman of General Dynamics."

billion in special distributions, and $960 million through the Dutch auction. Thus, those shareholders who *participated in all* of these distributions gained almost $4.5 billion from 1991 through 1993, representing a three-year return of 426%. But individual shareholders who chose *not* to participate in the repurchase and reinvested their dividends and special distributions in GD stock did considerably better, realizing a return of 553%.

The remarkable success of GD's strategy silenced many critics. Perhaps most notable was Graef Crystal, who admitted in his monthly newsletter,

if we had spent less time criticizing [Anders'] pay package and more time increasing our investment in GD [shares], we would have been a lot better off financially.[23]

Anders himself received $54 million through Gain/Sharing and appreciation of his restricted stock and options, representing about 1.1% of the total gain to shareholders. The other members of Anders' top management team realized $258 million, or roughly 5.3% of the total gain, while 1,300 lower-level executives received $144 million. The roughly 48,000 GD employee-participants in the SIP realized more than $450 million (nearly $10,000 per participant) over the 1991-1993 period, or about 9% of the total gain. The Crown family—despite selling a large part of their GD stake—gained $743 million from their GD investment. Warren Buffett gained $283 million, while holding his stake for just 17 months.

The Post-Anders Defense Industry

In March 1993, GD announced the resignation of CEO Anders, Vice Chairman Harvey Kapnick, and Executive Vice President Lester Crown. As Anders explained his decision, "We have basically done the major part of the turnaround job for which this team was assembled."[24]

By 1993, most defense companies were adopting the strategy that Anders outlined in industry speeches in late 1991. Even excluding GD, the defense industry return over 1991-1993 was more than twice the return on the S&P 500, illustrating that opportunities to create wealth exist even in declining industries.

As can be seen in Table 1,[25] five of the eight largest defense contractors adopted Anders's critical mass criterion.[26] By merging, acquiring, and consolidating businesses, these defense contractors reduced overhead costs and R&D.[27] And those acquisitions in turn created value by transferring over $10 billion from the industry to target-firm shareholders, thereby providing them the opportunity to reinvest in more productive sectors.[28]

To be sure, one 1992 survey of 148 defense companies found that more than half of the respondents reported attempts to apply defense technologies to commercial products in *other* industries, and more than three-quarters of such companies predicted successful outcomes from such commercialization.[29] Nevertheless, Martin Marietta CEO Norman Augustine cautioned his industry counterparts about wandering too far from their areas of expertise:

Our industry's record at defense conversion is unblemished by success. Why is it rocket scientists can't sell toothpaste? Because we don't know the market, or how to research, or how to market the product. Other than that, we're in good shape.[30]

Another possibility was selling U.S. built weapons abroad, a strategy unlikely to yield dramatic growth, as the demand for weapons was declining worldwide and many foreign countries were insisting on developing their own national producers who were also faced with excess capacity.

Faced with these conditions, then, all major defense contractors adopted some form of downsizing or consolidation to reduce excess capacity. But only General Electric followed GD in exiting entire key segments of the defense industry.

23 The Crystal Report on Executive Compensation, Vol. 4, No. 8, October 1992.

24 Jeff Cole, "Three Officers to Quit General Dynamics Corp.: End of Turnaround Plan Brings a Cash Payout, Cuts at Headquarters," *Wall Street Journal*, March 19, 1993.

25 General Electric and Boeing are missing because their defense operations account for less than 10% of total firm revenues.

26 GM Hughes acquired GD's missile division for $450 million in 1992, and Lockheed acquired GD's aircraft division for $1.5 billion in 1993. Martin Marietta acquired GE Aerospace for $3 billion in 1992 and GD's Space Systems for $209 million in 1994. Northrop purchased LTV's aircraft division for $225 million in 1992, and won a bidding war with Martin Marietta to acquire Grumman for $2.17 billion in 1994. Although not included in Table 1, Loral acquired Ford Aerospace for $715 million in 1990, LTV's missile business for $240 million in 1992, and IBM's Federal Systems division for $1.5 billion in 1994. Also in 1994, Lockheed and Martin Marietta agreed to a merger via a stock swap that created the U.S.'s largest defense contractor and led to further consolidation in the industry.

27 Jerrold T. Lundquist, 1992, "Shrink Fast and Smart in the Defense Industry," *Harvard Business Review*, Nov./Dec.

28 Michael C. Jensen, 1993, "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems," *Journal of Finance* 48, no. 3.

29 Hughes is applying its satellite technology in a commercial venture called satellite direct TV, designed to compete directly with cable television. Lockheed is pursuing commercial satellite and satellite launch customers, and is converting its defense systems businesses into systems for collecting child support payments and traffic tickets, and bar coding applications for the postal service. Other firms are adopting more traditional diversification strategies: Raytheon, for example, diversified into corporate jets by acquiring British Aerospace's business-jet unit. Rick Wartzman, "Peace Initiative: Lockheed Navigates the Tricky Transition to More Civilian Work," *Wall Street Journal*, February 10, 1992.

30 "Still Waiting for the Bang," *The Economist*, October 2, 1993.

Table 1

Summary of defense revenues, strategy, capital expenditures and employment of major defense contractors

	Dept. of Defense prime contracts[a] ($billions)			Capital expenditures/depreciation[c] (defense segments only)				Employment[d] (defense aerospace segments)			
Company	1989-1992	As % of total revenue	Strategy[b]	1989	1990	1991	1992	1990	1991	1992	% change 1990-92
GM Hughes	$12.3	26.1%	Critical mass, diversification, conversion, downsizing, exit	64.2%	53.5%	44.3%	48.4%	67,174	63,204	57,000	-15.1%
Grumman	$9.6	64.3%	Critical mass, downsizing, exit	56.0$	48.4%	59.1%	49.2%	26,100	23,600	21,200	-18.8%
Lockheed	$14.5	36.5%	Critical mass, conversion, globalization, downsizing	109.4%	93.4%	93.7%	93.7%	73,000	72,300	71,700	-1.8%
Martin Marietta	$11.9	49.6%	Critical mass, diversification, globalization, downsizing	127.6%	114.8%	88.8%	72.9%	32,900	32,000	[e]	N/A
McDonnell Douglas	$30.2	45.3%	Critical mass, globalization, conversion, downsizing, exit	112.2%	70.0%	37.9%	63.5%	121,190	109,123	87,377	-27.9%
Northrop	$9.5	43.4%	Conversion, downsizing	86.2%	64.6%	58.1%	65.2%	38,200	36,200	33,600	-12.0%
Raytheon	$14.8	40.6%	Conversion, globalization, downsizing	135.0%	117.1%	84.7%	71.3%				N/A
United Technologies	$12.0	14.4%	Globalization, downsizing	131.9%	136.4%	128.3%	100.7%	45,700	44,400	41,000	-10.3%
Total (w/o GD)	$114.8	34.4%		108.3%	89.4%	76.3%	78.7%	565,964	539,927	460,477	-13.6%[f]
General Dynamics	$25.5	76.3%	Downsizing, exit	108.8%	84.9%	17.9%	16.3%	98,150	80,600	35,650	-63.7%

a Department of Defense, '100 Companies Receiving the Largest Dollar Volume of Prime Contract Awards," various issues (excludes sales to foreign countries, thus defense business is understated in terms of total revenue and as a percentage of firm revenues); firm revenues from company annual reports.
b Subjectively determined from a variety of sources, including analysts reports, trade publications, business press, and company reports.
c Data from annual reports and Aircraft Owners and Pilots association Industry Sector Analysis data Base, provide to us by General Dynamics.
d Figures reported by Aerospace Industries Association.
e Segment data not available.
f Excludes Martin Marietta and Raytheon from summary total.

Incentives and Performance in the Defense Industry

The CEOs of the other major defense contractors and the various companies in the S&P 500 also had significant stock options, restricted stock, and stock ownership. But, GD executives had significantly more stock-based financial incentives than the average firm in the industry, or in the S&P 500. We conducted an analysis that focused on these three equity-linked components (while ignoring salaries, bonuses, and other cash plans). This analysis defined "incentives" as the percentage of the shareholder gain accruing to the CEO through appreciation of his stock and option holdings. Anders, for example, held stock options on 1.39% of GD's shares outstanding, which was substantially more than the amount held by the average industry CEO (0.29%) or average S&P 500 CEO (0.20%). In addition, Anders held restricted stock on 0.32% of GD's shares, as compared to industry and market averages of 0.05% and 0.03%, respectively. Summing these two components implies that Anders' received approximately 1.7% of the gains to GD shareholders, somewhere between five and seven times the average percentage in the industry (0.34%) and market (0.23%).

But how do the *changes* in CEO incentives at GD compare with those of other defense-company CEOs? Between the tenures of Stanley Pace, GD's CEO in 1988, and Anders in 1992, the incentives for GD's CEO increased almost sixfold, from 0.29% to 1.76%, representing an increase of 1.47%. By contrast, the increases in CEO incentives at the other eight largest defense firms ranged from –1.07% to 0.29%, with a median change of just 0.1%. What's more, although Anders' stock-based incentives of 1.7% may seem small in absolute value, it is worth noting that the 25 members of his top management team had stock-based incentives that together exceeded 6%. In addition, Anders's options and restricted stock were larger than those of all but 4% of the S&P 500 CEOs.[31]

Anatomy of GD's Value Added

Although part of the $4.5 billion increase in wealth for GD's shareholders from 1991-1993 reflected events not under management's control, we estimated that between $2.3 and $3.5 billion of the increase was attributable directly to actions taken by GD's managers, including announcements of earnings, distributions, downsizing, and other strategic decisions. The remainder was attributed to exogenous events—such as the Gulf War, the attempted Soviet Coup, and awards of GD contracts—with no plausible link to GD's new management team and incentives.

In sum, the stellar performance of the defense industry in 1992-1993 was driven not by an increase in weapons contracts, but by explicit managerial responses to declining demand, including mergers, consolidations, and downsizing. GD was an active player, not a passive observer, in this process. It seems very likely that, without Anders' active participation, both GD's and even the industry's returns would have been significantly lower than our estimate of $2.3 billion to $3.5 billion.

As part of this analysis, we also attempted to answer three other questions:

#1 What part of the value gain at General Dynamics came at the expense of GD workers?

With a January 1991 market capitalization of $1 billion and less than $1 billion in long-term debt, GD generated almost $4.5 billion in wealth for shareholders in less than three years. This strategy suggests that, in 1991, the stock market expected that efficient resource allocation would be unlikely. The market began anticipating cuts in future defense spending as early as 1987; indeed, GD's shareholders realized a 59% loss from January 1987 through December 1990.

The increase in GD's value reflects, in part, the gain to society from redirecting capital to more highly valued uses. In addition, part of the increase in GD's value reflects gains from channeling its own human resources to more highly valued uses, while another part reflects simply a wealth transfer from employees to shareholders.[32]

Although we made no attempt to separate quantitatively the portions of the increase in GD's shareholder wealth that reflected social gains versus transfers from employees, it's worth noting that the existence of such transfers does not imply that shareholders expropriated wealth from defense workers with "rights" to perpetual wage premiums. General Dynamics had no implicit or explicit contractual obligation to continue paying "rents" to employees following the end of the Cold War. Nevertheless, the declines in GD's market value before Anders came on the scene suggests that the market expected the company to waste resources by continuing to pay its workers such rents and keep producing products that society no longer valued.

#2 Should General Dynamics have used its excess cash to diversify or retain workers?

Proponents of company-sponsored retraining programs argue that such programs are part of the optimal implicit contract between employees and employers. But it is difficult to dispute the value, when one cannot even confirm the existence, of such implicit contracts, since they exist only in the minds of the employees and the employer.

Implicit promises by a firm to provide retraining in the event of industry-wide shocks that call for downsizing or liquidation are simply not credible. Employees with a clear demand for this type of employment insurance would not

31 The only CEO in the industry with more stock-based incentives was McDonnell Douglas' founding family member John McDonnell. Although McDonnell has no options or restricted stock, his family stock holdings account for over 3% of the outstanding stock. While his company was slow to respond to the pending industry decline, its stock price more than doubled in 1993 after it closed several fabrication plants, reduced capital expenditures by more than half, and cut employment 18% to just 72,000 by the end of 1993.

32 Employees are assumed to be worse off by the differences between their wages at GD and the wages in their next-best alternatives; however, society is better off by the differences in the employees' value at their next-best alternative and their value as defense workers at GD. To the extent that employees could earn a similar wage in the nondefense sector, the increase in GD's value represents a dollar-for-dollar increase in societal wealth. To the extent that employees must accept much lower wages, the relevant issue is why they had originally been paid a premium to work in the competitive defense industry. Presumably, this premium reflected the specialized skills required for the industry, and also reflected a compensating differential for risky employment in an industry with historically variable demand. In addition, the premium reflects the wealth transfer from taxpayers to employees that occurred when defense contractors passed high labor costs directly to taxpayers under contracts awarded on a cost-plus basis. By shifting to fixed-price contracts in the late 1980s, Congress shifted the burden of overpaid employees from taxpayers to shareholders. The elimination of the subsidized overpayment to defense employees will harm affected employees, but generally benefit shareholders and society.

have relied on implicit contracts, but would have insisted on (and taken cuts in current wages in return for) explicit contracts specifying employment guarantees, severance payments, and retraining programs in the event of liquidation. Although GD did write (and honor) explicit contracts with some union workers and top managers, these contracts did not include retraining provisions.

#3 Could General Dynamics' results have been achieved with fewer executive incentives?

Would Anders' strategy have been implemented without the large equity-linked rewards to top managers? Anders, after all, was already paid an annual salary of $800,000 to act in the interest of GD shareholders. Why did he need additional incentives to do what he was hired to do?

Perhaps the best answer is that, among the largest publicly traded U.S. defense contractors, it was GD that recognized, implemented, and then ended up leading what proved to be an industry-wide strategy of downsizing, restructuring, and return of excess cash to investors. While other contractors reduced their work forces to some degree, none took the drastic actions that GD did in 1991 and 1992. Also worth noting are the statements by Anders and other top executives that the Gain/Sharing Plan and other value creation plans were crucial to GD's ultimate success. There seems little reason to question Anders's contention of the importance of "creating the 'partnership mentality' among top managers," who began to think like owners rather than hired hands. Ultimately, the incentives had to be strong enough to make the executives willing to sacrifice their own jobs and positions.

Conclusion

GD's response to excess capacity in the defense industry, and its reception by shareholders, has important implications for many companies across a wide range of industries facing similar economic pressures. Take the case of ExxonMobil, a company faced with declining prices and demand for its products, and a drop in its market capitalization of well over 50%. In late 2020, D.E. Shaw & Company, "urged Exxon to cut capital expenditure to a maintenance level of about $13 billion from a planned $23 billion this year, and to slash its operating expenses by as much as $5 billion…by lowering its head count, shrinking its real estate footprint and other measures." The irony in this case is that even after ExxonMobil appeared committed to carrying out Shaw's recommendations, a new shareholder activist (with much smaller holdings) entered the fray, demanding that Exxon take on four new directors with expertise in renewables, presumably with the intent of undertaking diversification into and increasing investment in renewables (which Exxon's management has staunchly resisted).

The clear lesson from the General Dynamics success is that the surest path to success for shareholders is to resist the temptation to diversify outside management's core competences to preserve corporate growth. The GD case illustrates, first of all, the importance of stock-based compensation in motivating managers to shrink the firm in industries with excess capacity. GD's experience illustrates the large political costs associated with downsizing and layoffs, but suggests that these costs can be limited by relying on gains through ownership. Third, incentives should be layered as appropriate throughout all levels of management. In sum, the GD case suggests that declining industries may offer large potential opportunities for value creation—opportunities like the one now facing companies like ExxonMobil with no promising growth options ahead of them.

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